

# **Mapping the Fuel Characteristics of Mount Rainier National Park: A Fusion of Field, Environmental and LiDAR Data**

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## **Executive Summary**

Fuel maps are needed by Pacific Northwest forest managers to model fire behavior and anticipate wildland fire effects on managed lands. Resource specialists have used broad-scale fuel classes (e.g. meadows verses mixed conifer forest) to classify and compare fire hazards across Mount Rainier National Park. However, the need for finer-scale fuel maps has increased for mesic Pacific Northwest forests due to climate change, particularly with respect to the increased likelihood of longer fire seasons and larger areas burned. Finer-scale fuel classes would enhance fire behavior models and planning for new climate and fuel conditions. Higher resolution fuel maps also would be useful today where fire severity is more variable such as the drier east-side of the park.

We used dead and downed surface fuel data from 151 plots to define high/low surface fuel classes based on median values for organic, 1 to 100 hour, and 1000 hour time-lag classes. Random forest modeling with environmental data and canopy structure data from airborne LiDAR mapped these classes across the park with accuracies between 62% and 75%. We used the LiDAR data to define six canopy structure classes that were also mapped across the park.

In work derived from this study, these results were combined with canopy characteristics from 262 field plots to define and map fuel beds assign surface fire behavior, crown fire potential, and available fuel potential for each fuel bed.

Our work demonstrates the fusion of field, LiDAR, and environmental setting data with machine learning algorithms like random forests to create maps to guide management of forests under a changing climate.

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## Introduction

We mapped forest structure and surface fuel loadings across Mount Rainier National Park using a combination of field, LiDAR and environmental data. The primary purpose of this undertaking was to use these products to construct an accurate and scale-appropriate fuel map for the park. Our secondary objective was to determine the applicability of LiDAR for surface and canopy fuel mapping projects.

The project to develop finer scale fuel maps was undertaken at Mount Rainier National Park in collaboration with a vegetation mapping project for this same park. Traditionally, fuel maps have reflected either the 13-class system developed by Anderson (Anderson 1982) or the more recent 40-class system developed by Scott and Burgan (2005). Both of these systems were developed from a national perspective, so that at the park scale only a handful of classes apply. We chose, instead, to create and map fuel classes (*fuel beds*) that represent structural characteristics and surface fuel loadings scaled to the utility of resource management at Mount Rainier National Park.

The structural characteristics were detected with airborne LiDAR (Light Detection and Ranging). Acquisition of LiDAR data across MORA provided us an opportunity to link canopy characteristics to our plot data, and to determine whether this technology could be used to substantially improve fuel maps. LiDAR is an active remote sensing technology that scans the canopy and ground surface with laser pulses to develop a three dimensional map of vegetation structure. Because a portion of the LiDAR pulses penetrate into and through the canopy, information on vegetation structure below the canopy surface frequently can be measured.

While several studies have used LiDAR data to predict some characteristics of vegetation structure related to fuel maps (e.g. Erdody & Moskal 2010), no study has systematically determined the usefulness of LiDAR for predicting the full suite of fuel characteristics and fuel models used for fire modeling.

In work derived from this study, Karen Kopper (North Cascades National Park) combined the surface fuel and canopy structure classes and matched them to canopy characteristics on 262 field plots to define and map fuel beds across the park. The Fuels Characteristic Classification System (FCCS) was used to determine surface fire behavior, crown

fire potential, and available fuel potential for each fuel bed. The fuel beds as well as the mapping of the underlying forest structure and surface fuel classification described in this report will be published as a peer-reviewed scientific paper.

## Methods

The methods are presented in four parts: study area and data collection (2.1), preparation and mapping of predictors for modeling (2.2), and modeling of surface fuels and forest structure (2.3). Figure 1 shows the relationship of the different data sets to the overall study.

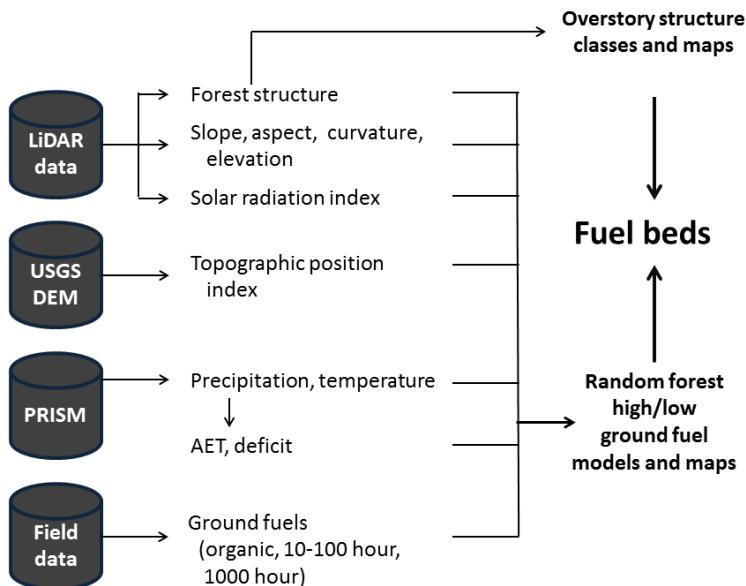


Figure 1. Overview of data sources and processing methods used in our research. Models were created that allowed the mapping of predicted surface fuel classes (high, above median, and low, below median). Six forest overstory classes were also created and mapped to represent canopy fuel characteristics. Fuel beds were defined using a combination of surface fuel classes and overstory structure classes.

### *2.1 Study area and data collection*

#### 2.1. 1 Study area

Mount Rainier National Park is centered on a large volcano that rises to 4267 m. The mountain was subjected to extensive Pleistocene glaciation that carved four major drainages in each corner of the park as well as a number of minor drainages. As a result, slope, aspect, and elevation can change rapidly within short distances creating distinct microclimates. Soils are

mainly developed from volcanic tephra and glacial and fluvial activity(Hobson 1976). The soils are generally deep, well drained, and coarse-textured (Thornburgh 1967b)).

The park lies along the crest of the Cascade Range, with the central peak lying west of the crest. Locations on the western half are wetter than those on the eastern half, although the latter are still more mesic than the eastern slope of the Cascade Range. Precipitation generally increases with elevation due to orographic effects. The park experiences an extended rainy season that typically lasts from mid fall into early summer. The intervening summer and fall months are usually warm and dry with little precipitation. Within the lower elevations of the drainages, precipitation can be mixed rain or snow while precipitation at higher elevations falls almost exclusively as snow.

Vegetation cover in the park has been mapped several times (Brockman 1931; Franklin 1966; Franklin et al. 1979; Thornburgh 1967a). Franklin et al. (1988) mapped potential climax successional species and current dominant understory species. The most recent vegetation map by Nielsen et al. (unpublished, completed 2012) mapped current dominant species and differentiated among forest types based on climatic differences and in one case, successional stage. Because this is the map currently used by the National Park System, and the fuel mapping data was collected in conjunction with the vegetation mapping data, we use its classification except as noted. We tested the Franklin et al. (1988) vegetation maps to see if they provided more accurate fuels mapping and found that they did not. In addition, these maps focused on forested areas only and mapped forests over a smaller extent than the Nielsen et al. (unpublished) maps.

From lowest to highest elevation, forests are first dominated by western hemlock (*Tsuga heterophylla*) and Douglas fir (*Pseudotsuga menziesii*). Nielsen et al. divided these forests into dry, mesic, wet, and early successional. The next forest zone was dominated by Pacific silver fir (*Abies amabilis*) and western hemlock and divided into warm and cold types. This elevation range could also have a wet mesic Pacific silver fir type. The mountain hemlock (*T. mertensiana*)-Pacific silver fir occurred in the next elevation zone. Subalpine fir (*Abies lasiocarpa*) and subalpine fir-whitebark pine (*Pinus albicaulis*) woodlands are found close to timberline (typically 1600 to 2000 m).

Forests at Mount Rainier typically experience infrequent, large, high severity fires. The natural fire rotation for the whole park was calculated at 465 years for the period prior to Euro-

American settlement (1200-1850) (Hemstrom and Franklin 1982). Hemstrom and Franklin (1982) also calculated the natural fire rotations for the settlement period (1850-1900) and modern fire suppression era (1900 – 1978) as 226 and 2583 years respectively; however, they concede that these calculations are less reliable given the smaller time-periods associated with these analyses. Despite the lack of precision, analyses of the more recent time-periods suggest that more acres were burned during the settlement period, and fewer during the modern fire suppression era, than prior to Euro-American settlement. Although fire frequency was attenuated due to fire suppression, the impact of fire suppression on fuel accumulation is negligible given the long natural fire rotation (Hemstrom and Franklin 1982, McKenzie et al. 2004).

Despite the predominance of high severity fire in the park, there is evidence of mixed and low severity fire as well. Hemstrom and Franklin (1982) note that fire severity was highest at low to mid-elevations, and was less lethal and more frequent at high elevation meadows and woodlands. This is supported by the fire record in the Wildland Fire Management Information database (US DOI 2013). In a study of whitebark pine across Crater Lake, Mount Rainier and North Cascades National Parks, Siderius and Murray (2005) found the widest variety of fire regimes at Mount Rainier; high through low severity fires, and others sites with no evidence of fire. Siderius and Murray (2005) recognized a preponderance of mixed-severity fire along the eastern edge of the park, presumably due to the orographic effect on vegetation and fuels.

Chronic disturbances such as windthrow, disease, insects, small fires, and avalanches create fine-scale patchiness within stands with clumps dominated by tree cohorts of different ages. As elevation increases, forests transition from near continuous canopy with small gaps, to an interspersion of trees and with increasingly large openings, and finally to woodlands with scattered individual trees and tree clumps (Kane unpublished analysis of LiDAR data).

Nielsen et al. (unpublished) differentiated among a number of different shrub and meadow vegetation types. We combined these into single shrub and meadow vegetation types because the field plots (see 2.1.2) did not adequately sample the types identified by Nielsen et al. (unpublished) for our modeling to differentiate them.

### 2.1.2 Field data collection

Fuel and vegetation data were collected on 291 field plots (Figure 2). These data were collected in conjunction with a vegetation classification and mapping project which took place between 2005 and 2007 (Crawford et al 2009). Additional fuels data were also collected in 2010.

Sampling locations were selected subjectively based on plant community type and canopy homogeneity and represent the wide diversity of plant communities found in the park. In each location, a 400 m<sup>2</sup> plot was established. To document live fuels, the canopy was divided into three strata; subcanopy, canopy and emergent. Total cover and average height was recorded for each stratum. For subsample of up to 5 trees within each stratum, species, height, height to live

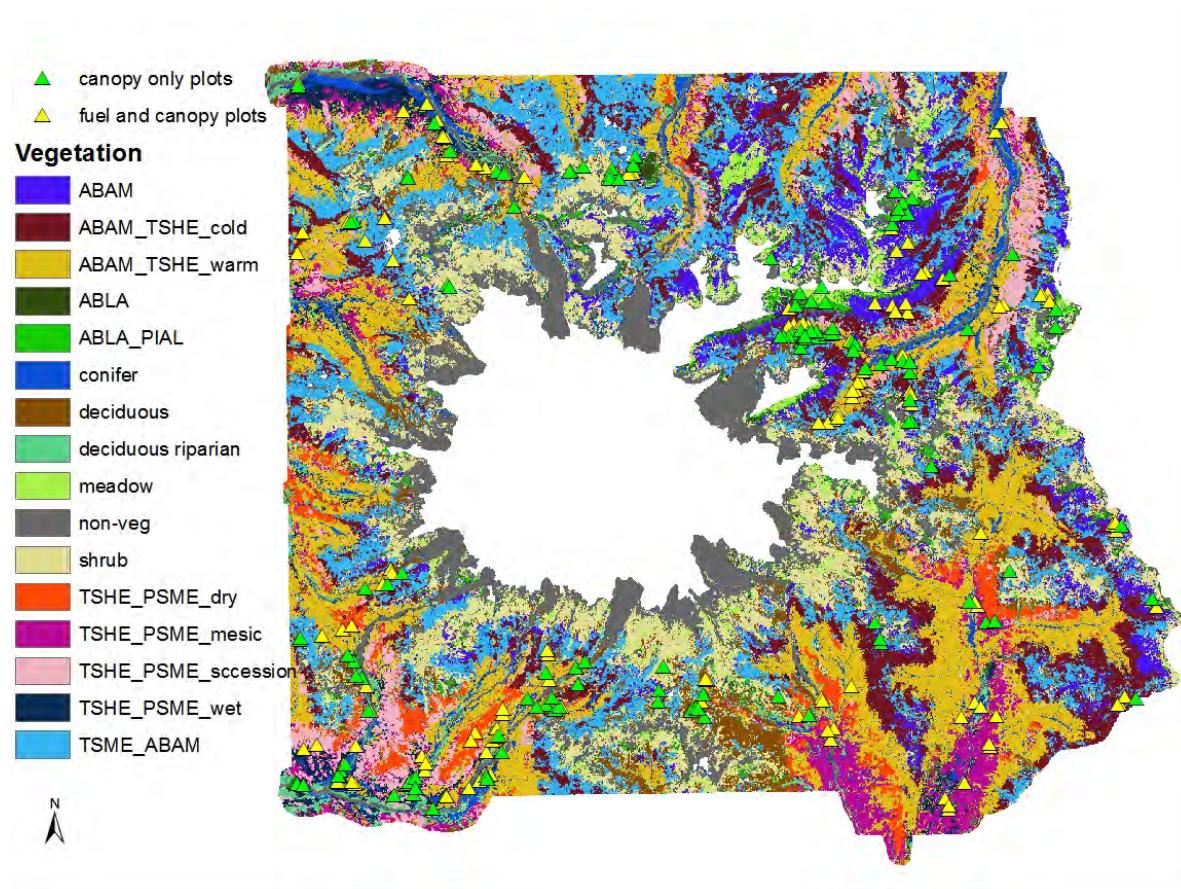


Figure 2. Map of field plot locations by vegetation map class (Nielson et al. *unpublished*) where; ABAM=*Abies amabilis*, ABLA=*A. lasiocarpa*, PIAL=*Pinus albicaulis*, PSME=*Pseudotsuga menziesii*, TSHE=*Tsuga heterophylla*, and TSME=*T. mertensiana*. 262 of 291 fuel and canopy plots were used to define canopy characteristics for the fuel beds. 151 canopy only plots were used in the surface fuel analysis.

crown and diameter at breast height (DBH) were recorded. Understory shrub cover was recorded for the plot. Snags were recorded in one of three classes based on degree of decay. One of either 13 or 40 fuel models (Anderson, 1982, Scott and Burgan 2005) models was selected for the

stand. If ladder fuels, defined as continuous fuels that start within 1-2 feet of the ground and continue to the canopy, were present in 50% or more of the stand, this was noted.

Modified Brown's transects were used to characterize dead and down fuels. Transects were sampled for 50 feet starting at a random azimuth, with the second transect oriented to the first. The standard Brown's transect protocol was used (Brown et al. 1982). The 1, 10, 100 and 1000 hour time-lag fuels were tallied for 6 ft., 6 ft., 12 ft., and 50 ft. along the transect. Litter and duff depth and derivation were recorded in 5 locations. The litter arrangement (normal, fluffy or perched) was recorded. Duff derivation was determined for upper layers as either dead moss or litter and for lower layers as humus or muck.

GPS coordinates were collected in each plot for a minimum of three minutes using the MobileMapper Pro GPS receivers. Locations were post-processed using MobileMapper Office software (Version 3.4). The software downloads daily files from fixed ground-based reference stations (base stations) and matches them to the field-collected GPS files. These differential corrections reduce measurement error for the GPS locations and quantify the horizontal and vertical error.

The field plots were not equally distributed amongst vegetation types. The majority were located in pacific silver fir dominated forests, western hemlock / Douglas-fir lowlands, and shrub-dominated subalpine meadows. None of the plot locations coincided with the subalpine fir vegetation type, although subalpine fir was prominent in the woodland fuel beds. Plot locations were restricted to areas within 1 kilometer from trails for accessibility. None were located in the forests due west of the mountain, and few were located in the south east corner.

All of the field data was entered into the NPS Fire Effects Assessment Tool Version 2.0 database (an earlier version of FEAT/FIREMON Integrated (Systems for Environmental Management, Missoula, MT) and then exported into Excel spreadsheets for manual calculation of surface fuel loadings and canopy characteristics. Surface fuels were lumped into three classes; 1) litter and duff (organic), 2) 1 – 100 hour time-lag class (small woody fuel), and 3) 1000 hour time-lag class (large woody fuel).

### 2.1.3 LiDAR data collection and processing

Watershed Sciences, Inc. (Corvallis, OR) collected LiDAR data for the park and a 100 m buffer surrounding the park (241,585 acres). The company began data collection in September 2007 but suspended operations when early snow fall occurred. The data collected that year was

for the highest elevations and little if any vegetated areas would have been included. Data collection resumed in September 2008, was suspended for a time again because of early snow fall, and was completed in October 2008. The season and the early cold spells meant that portions of the area could have been collected leaf-on and other portions leaf-off for deciduous species. Because of this, we have excluded the small amount of park classified as riparian where deciduous species are common to predominant.

Watershed Sciences used a dual Leica ALS50 Phase II LiDAR system with a scan angle of  $\pm 15^\circ$  off nadir. The Leica system recorded up to four discrete returns per LiDAR pulse. For most of the park, data was acquired at a mean  $5.73 \text{ points m}^{-1}$  and at a higher mean rate of  $7.27 \text{ points m}^{-1}$  for the three of the four largest drainages in the park that were park management focus areas. This resulted in substantial portions of the lower elevation, higher canopy cover forests being measured at the higher pulse rate. The one major drainage not measured at the higher rate was the Ohanapecosh in the southeast corner of the park.

Watershed Sciences created a one-meter resolution digital terrain model (DTM) from the LiDAR data using the TerraScan v.8.001 and Terra Modeler v7.006 software (Terrasolid, Helsinki, Finland). We used this DTM as our ground model except for calculating the topographic position indices. For forest structure metrics, we subtracted the elevation of the ground model from all LiDAR return elevations to measure return height above ground.

We processed the LiDAR return point cloud data to generate forest structure and topographic metrics using the U.S. Forest Service's Fusion software package, version 3.21 (<http://forsys.cfr.washington.edu/fusion.html>). We mapped metrics using 30 m grid cells, which had a mean 6532 pulses per grid cell over most of the park and a mean 8288 pulses in the three focus drainages.

We found that the LiDAR pulses appeared to partially penetrate the snow and ice or crevices at higher elevations, producing chaotic LiDAR metrics. We masked out all elevations above 2000 m (above tree line) to eliminate all permanent snow and ice fields and did not include them in the study.

## *2.2 Calculation of predictor metrics*

### *2.2.1 Canopy LiDAR metrics*

We analyzed canopy structure for vegetation > 2 m in height, which eliminated any

returns from the ground or low lying ground cover or shrubs. While measurement of this vegetation layer would be useful for analyzing fuels, the overstory canopy cover was dense (>90%) over large areas of the park. Analysis showed that many areas lacked sufficient return density <2 m in height to ensure consistent measurement of ground cover or to enable an accurate enough ground model (approximately  $\pm 0.5$  m) to distinguish low-stature vegetation from fine-scale ground surface rugosity.

We calculated two sets of canopy metrics from the LiDAR data (Table 1). The first set were statistical measures of return height as measurements of canopy structure >2 m. Ninety-fifth percentile height, for example, correlates with dominant tree height while 25th percentile height has been found to correlate with height to live crown. We calculated standard deviation and coefficient of variation of return height >2 m as measures of canopy structural complexity. A measure of canopy heterogeneity, rumple, measured the rugosity of the outer canopy surface (Kane et al. 2010b; Ogunjemiyo et al. 2005; Parker et al. 2004). Unlike standard deviation of return height, rumple measures canopy heterogeneity in both vertical and horizontal dimensions (Kane et al. 2010b), making it a more sensitive measure of tree clumping within different height strata (Kane et al. 2011). Rumple was calculated as the ratio of the canopy surface area modeled in a 1 m resolution canopy height model to the underlying ground surface area. The Fusion software created the surface model by assigning the maximum return height within each 1 m grid cell to that cell.

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Table 1. Predictors used to classify surface fuel loads.

LiDAR metrics for canopy structure	Abbreviation*	Scales, ranges, or breaks
Return height percentiles (m)	p95, etc.	95th, 75th, 50th, 25 <sup>th</sup>
Standard deviation return height (m)	stdev	
Coefficient of variance for return height (m)	cv	
Canopy cover > 2 m (%)	cvr.gt2	
Canopy cover by height strata (%)	cvr.2to8, etc.	2 to 8 m, 8 to 16 m, 16 to 32 m, >32 m
Rumple (canopy rugosity), ratio	rumple	
<hr/>		
Forest classifications		
Current overstory(Nielsen et al. <i>unpublished</i> )	Nielsen	
Time since last stand replacing fire (Hemstrom et al.1982.)	age	100, 200, 300, 400, 500, 600, 700, 1000, >1000 years
<hr/>		
Environmental		
Precipitation, annual (mm)	precip	
Available evapotranspiration, annual (mm)	aet	
Deficit, annual (mm)	deficit	
January temperature, mean (°C)	jan.t	
July temperature, mean (°C)	july.t	
Solar radiation index (relative value)	sri.30, etc.	30 m, 90 m, 270 m
<hr/>		
Topographic		
Elevation, (m)	elev.30m	30 m
Aspect, (cosine)	aspect.30, etc.	30 m, 90 m, 270 m
Slope	slope.30, etc.	30 m, 90 m, 270 m
Slope curvature (concavity or convexness)	curvature.30, etc.	30 m, 90 m, 270 m
Topographic position index (Jenness 2006)	topo.100, etc.	100 m, 250 m, 500 m, 1000 m, 2000 m

\*Example abbreviation given for groups of metrics calculated with different scales, ranges, or breaks

The second set of metrics calculated canopy cover metrics as the proportion of returns within several height stratum >2 m, such as 2-16 m, divided by all returns in that stratum and below. For these measurements returns below 2 m were used to account for the proportion ground and shrub surface area visible to the sky (e.g., openings between branches and gaps between trees).

## 2.2.2 Topographic metrics

We hypothesized that variations in surface fuel might be related to topography and that

those relationships might vary based on the scale at which the topography was measured. All topographic measurements were reported using a 30 m grid, although for some scales, the calculation of the metric used DTM data from the neighborhood around each 30 m grid cell.

We used the Fusion software to calculate a number of topographic metrics using the vendor-supplied 1 m DTM (Table 1). Fusion reported elevation at the center point for each grid cell and this measurement would not vary with scale, so we used elevation calculated for each 30 m grid cell. For slope, aspect, and curvature, Fusion calculated the metrics using an equally spaced 3×3 grid of points. We set the spacing of the grid points so that they would sample topography within a grid cell scale (e.g., 30×30 m) so that the outer points would lie between the center point and the edge of the area defined by the scale. We used point spacing of 10 m (30 m scale), 30 m (90 m scale), and 90 m (270 m scale) spacing. When we used aspect as an independent term, we transformed it by taking the cosine to create a continuous scale. Fusion also calculated curvature, which measured whether the surface is convex (positive values) or concave (negative values) and was calculated using the algorithm described by Zevenbergen and Thorne (1987).

Fusion calculated an integrated solar radiation index (SRI), which modeled the solar radiation on each grid cell during the hour surrounding noon on the equinox (Keating et al. 2007):

$$\text{SRI} = 1 + \cos(\text{latitude}) * \cos(\text{slope}) + \sin(\text{latitude}) * \sin(\text{slope}) * \cos(\text{aspect}) \quad (1)$$

where latitude is in degrees with north latitudes positive and south latitudes negative, slope is the inclination of the surface from the horizontal position in degrees, and aspect is the surface azimuth angle in degrees relative to south (180.0 – calculated aspect).

The topographic position indices (TPI) were calculated based on the algorithm developed by Weiss (2000) and implemented by Jenness (2006) as an ArcMap 10.1 (citation) extension. The TPI algorithm compares the elevation of each grid cell to the elevation of grid cells in a user-defined circular radius. More negative values indicate a position towards a valley or canyon bottom, values around zero indicate flat areas or mid-slope, and more positive values indicate a hill or ridge top. We calculated TPI using neighborhoods of 100 m, 250 m, 500 m, 1000 m, and 2000 m. So that areas outside the park and beyond the LiDAR acquisition could be included in the neighborhood calculations, we used a 10 m US Geological Survey DEM that included the park and surrounding areas.

### 2.2.3 Climate metrics

We based our climate metrics on the PRISM monthly and annual climatological averages (1971 to 2000) mapped at 30 arc-second (~800 m) resolution (Daly et al. 2008). The PRISM climate modeling project combines data from several sets of weather stations and interpolates annual and monthly precipitation, monthly mean temperatures based on reported weather and local elevation. We used the annual precipitation and January and July mean temperatures as independent predictors in our modeling.

We modeled annual actual evapotranspiration (AET) and annual climatic water deficit hereafter ‘deficit’) using the PRISM monthly climatological precipitation and temperatures with a modified Thornthwaite water balance model (Thornthwaite 1948; Thornthwaite and Mather 1955). Thornthwaite models calculate available water by considering whether precipitation is likely to be rain or snow, calculating snow pack accumulation and melt (if any), runoff, water holding capacity of the soil, and potential evapotranspiration (PET) by vegetation. The evolved Thornthwaite model (Dingman 2002; Hamon 1963) has been modified for mountainous terrain by including terms for slope and aspect (Stephenson 1998) or a heat load index (Lutz et al. 2010; McCune and Keon 2002). We used the water balance algorithm implemented by Lutz et al. (2010, see their on-line supplemental information for details of the algorithm.) Preliminary modeling showed that including the heat load index within the calculation resulted in poor results. We therefore removed the heat load index from the water balance calculation, but retained the SRI metrics as independent predictors correlated with heat load. For the soil water holding capacity, we used soil maps from the US Department of Agriculture’s Soil Survey Geographic (SSURGO) database (<http://soils.usda.gov/survey/geography/ssurgo/>).

## 2.3 Modeling and mapping surface fuels and forest structure

### 2.3.1 Random forest modeling

Random forest modeling is an extension of non-parametric classification and regression trees (CART) (Breiman et al. 1984). A CART model recursively partitions observations into statistically more homogeneous groups based on binary rule splits using predictor variables, which can be categorical or continuous. CART models deal effectively with non-linear and

multivariate response to the predictors and impose no assumptions on the normality of the response or predictor variables. CART models are particularly suited to problems with large numbers of predictors. However, CART models are prone to over-fitting the data and to instability with small numbers of samples.

Breiman (2001) proposed random forest modeling as a solution to the limitations of CART models. Random forest uses multiple random subsets of the data (bagging) and develops a “forest” of regression trees from each random sample. For each tree a random portion of the training data is used to develop the model and the remaining data are used for cross validation to assess accuracy. Random subset of predictors is selected for each node to ensure that the effects of all predictors are tested. The results of all the trees within a model are averaged to report overall accuracy of the model and to predict values for new data. The relative importance of each predictor variable to model accuracy is reported. Partial dependence plots can be used to examine the response of the model to changes in individual predictors while values for all other predictors are held to their mean values. (As a result, partial dependence plots do not show interactions between predictors.)

We used random forest models for both regression with continuous response variables and classification with categorical response variables. We assigned to each field plot the LiDAR, topographic, and climate values found in the corresponding 30×30 m grid cell for maps of each predictor based on the plot GPS coordinates. We used the randomForest and partialPlot functions in the randomForest package (<http://cran.r-project.org/web/packages/randomForest/index.html>) for the R statistical package (release 2.6.1) (R Development Core Team 2007) to develop and analyze our models. We used the AsciiGridPredict function in the R yaImpute package (Crookston and Finley 2008) (<http://cran.r-project.org/web/packages/ yaImpute>) to apply our models to map predicted forest structure classes and fuel classes across the park.

### 2.3.2 Surface fuel modeling

For the surface fuel modeling, we took three approaches to modeling the three surface fuels reported for the plots. In the first, we used multivariate linear and random forest regression to attempt to model each surface fuel load as a continuous response variable. In the second, we used random forest classification for the 13 and 40 surface fuel models (Anderson 1982, Scott and Burgan 2005) assigned to the plots. In the third, we defined classes for each surface fuel based on ranges of values for that fuel.

We are unaware of any research that establishes ranges of surface fuels that result in distinct differences in fire behavior that are consistent across mesic forests of the Pacific Northwest to guide us in setting boundaries for classes of surface fuels within Mt. Rainier National Park. Other researchers have noted that random forest will favor classification into the class with the largest membership in the training data if the training set is small and the class numbers differ substantially (Grossmann et al. 2010). We confirmed this in our preliminary analysis. We therefore used median values for each surface fuel to define high and low fuel classes, which resulted in equal numbers of plots in each class.

We experimented extensively with the use of random forest as a tool for classifying fuel models and fuel classes given the relatively small number of training plots (n=116 for fuel models and n=151 for fuel classes) and the wide range of forest types and environmental conditions. We found that varying the number of trees or the number of predictors randomly picked to select from at each tree node had little to no effect on classification accuracy. As a result, we used the defaults for the Random Forest function (500 trees and 5 predictors for each node given our set of 34 predictors).

We found that repeating classifications using the same training data resulted in differences in classification accuracy of 2% to 10% between runs. For example, in one set of 250 models for organic fuel classes, the lowest classification error rate was 0.272 and the highest error rate was 0.351. We modified our methods in two ways to account for this. First, we developed 250 random forest models for each classification, and retained the one with the lowest classification error to use for predicting classes across the park. Because each random forest model is based on a number of random selections, this approach had the effect creating 250 random “mutations” and allowed us to select the “fittest”. Second, we performed leave-one-out cross validations and created 100 models for each left out plot to create an average classification accuracy based on 15100 tests ( $100 \times 151$  plots) per fuel type.

The maps of fuel classes produced from the random forest models had moderate fine-grain interspersion of one class within an area dominated by the other class. To simplify our maps for use by fire managers, we removed this “salt and pepper” appearance using the majority filter for the eight surrounding grid cells in ArcMap 10.1.

### 2.3.3. Modeling forest structure classes

Previous work by (Kane et al. 2010b) has shown that LiDAR variables describing canopy structure co-vary. This allows canopy structure classes to be defined that each represents a distinct range of structures that have been found to correspond to different developmental stages, disturbance histories, and climatic conditions (Kane et al. 2010a; Kane et al. 2011; Kane et al. 2013). We chose three metrics that describe the overall canopy height structure within 30 m grid cells: 95th percentile return height (dominant tree height), 25th percentile return height (canopy base height (Andersen et al. 2005; Erdody and Moskal 2010)) and rumple (a rugosity measurement of the heterogeneity of heights both vertically and horizontally (Kane et al. 2010a)). To approximate the canopy profile, we used canopy cover measurements for four height strata: 2 to 8 m, 8 to 16 m, 16 to 32 m, and >32 m.

We based the class definitions on a random sample of 25000 grid cells within areas mapped as conifer forest. We identified nine statistically distinct structure classes using hierarchical clustering with Euclidean distances and Ward's linkage method within the `hclust` function of the R statistical package (release 2.6.1) (R Development Core Team 2007). We created a random forest model relating the classes to predictors and used the `Impute` R statistical package (Crookston and Finley 2008) to map the classes across the park.

## Results

### 3.1 Surface fuel models

Linear regression and random forest regression for continuous values for each surface fuel had variances that explained less than 0.29 (Table 2). Linear regressions produced better results than random forest regression.

For the 13 Anderson (1982) fuel models, random forest classification produced an overall error rate of 0.327 (Table 3). Best accuracies were achieved for models 8 (closed timber litter), 1 (grass, 1 foot), and 5 (brush, 2 feet) in that order. The classification was unable to distinguish among forest fuel models (models 8, 9, and 10). The five models represented by <4 plots each were never correctly predicted.

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Table 2. Results of regressions and classifications for surface fuels with median values for each fuel type shown. Regressions showed poor ability to predict absolute values for surface fuels, while classification of surface fuels into High/Low classes based on median values with random forest (RF) classification was more successful. Leave-one-out cross validation repeated 100 times showed that most plots were always classified into the correct fuel class, while a substantial minority was never correctly classified, and a small minority of plots had varying results. Random forest variance explained and out-of-box results are for best model selected from 250 models built for each fuel type.

	Median value tons/acre	Regressions		Random forest High/Low classification accuracy	
		RF variance explained	Linear $R^2$	Internal out of box	Cross validation
Fuel models				67.2%	
High/low models					
Organic	22.6	0.15	0.18	78.2%	73.8%
1 to 100 hr	2.8	0.08	0.32	68.2%	61.6%
1000 hr	10.8	0.19	0.24	77.5%	74.8%

Significant ( $p \leq 0.05$ ) linear regression predictors

Organic	270 m	St. dev. return height, p75 return height, precipitation, aspect
1 to 100 hr	Canopy cover >2 m, slope 270 m	
1000 hr	p75 return height	

Table 3. Results of random forest classification of plots for Anderson (1982) fuel models. Best accuracies were achieved for models 1, 5, and 8. The classification was unable to distinguish among forest fuel models (models 8, 9, and 10). Per the protocol, Anderson fuel models were subjectively assigned to each plot. Correct predictions are underlined.

Model	Actual										Class error	Model description
	1	2	4	5	6	7	8	9	10			
predicted	1	<u>5</u>	0	0	0	0	0	1	0	0	0.167	Short grass (1 foot)
	2	0	0	0	0	0	0	2	0	0	1.000	Timber (grass and understory)
	4	0	0	0	1	0	0	0	0	0	1.000	Chaparral (6 feet)
	5	1	0	0	<u>13</u>	1	0	4	0	0	0.316	Brush (2 feet)
	6	0	0	0	3	0	0	0	0	0	1.000	Dormant brush, hardwood slash
	7	0	0	0	0	0	0	1	0	0	1.000	Southern rough
	8	0	0	0	1	0	0	<u>59</u>	1	0	0.033	Closed timber litter
	9	0	0	0	0	0	0	19	<u>1</u>	0	0.950	Hardwood litter
	10	0	0	0	0	0	0	2	1	0	1.000	Timber (litter and understory)
	Overall internal OOB error rate										0.327	
Overall cross validation error rate												

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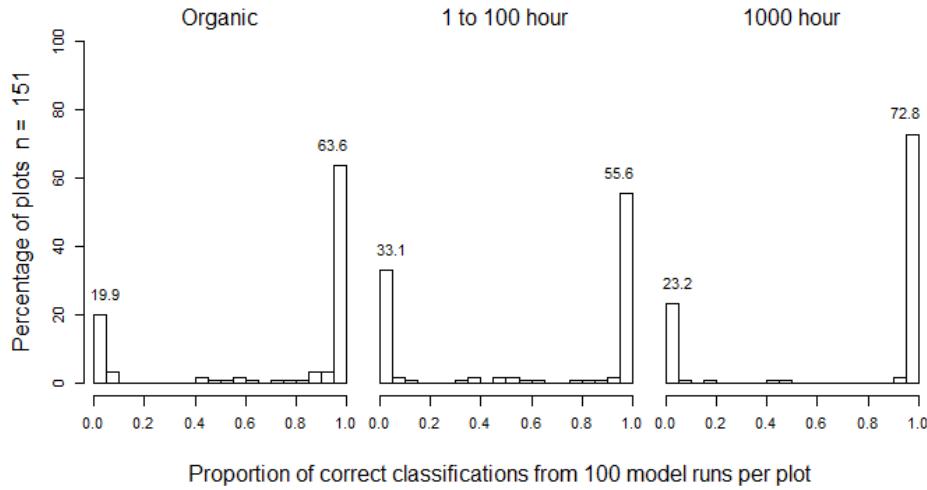


Figure 3. Proportion of times that plots were correctly classified for each surface fuel type based on 100 random forest model runs per plot. Most plots were either correctly classed in each run or were always incorrectly classified.

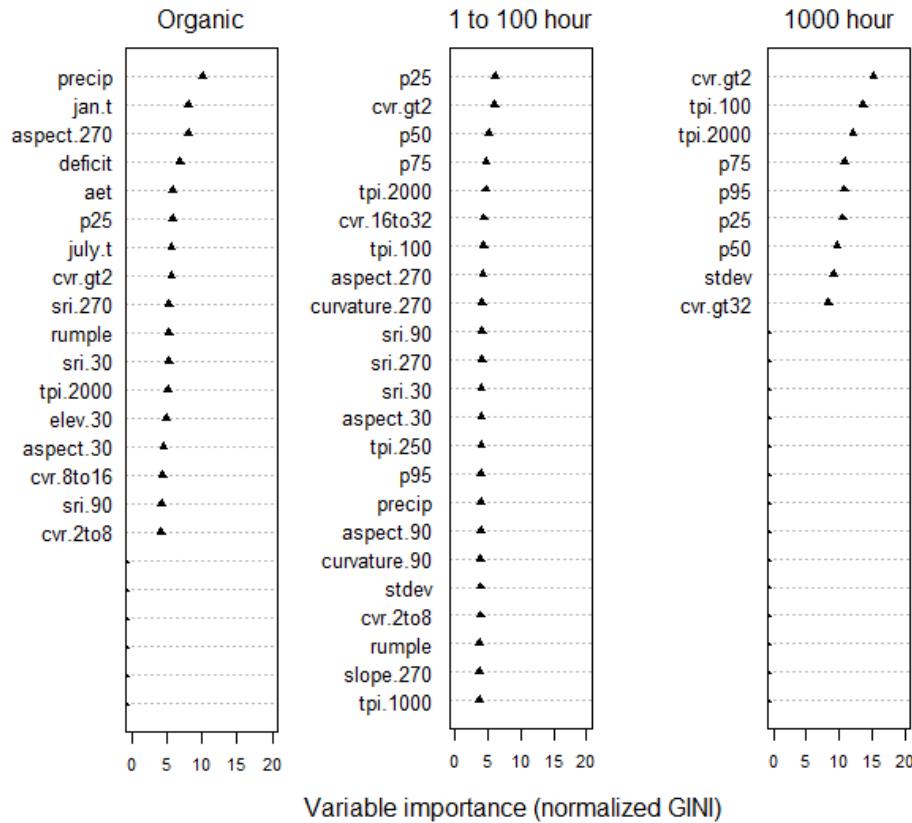


Figure 4. Relative importance of predictors to classification of surface fuels into High and Low classes (larger value indicates greater importance). GINI is a measure of how well a predictor results in node splits in which the resulting subdivision of the training data are homogeneous (either all High or all Low). Order of predictors shown is for random forest model with the highest correct classification rates selected from 250 models.

Classification of plots into High and Low classes (based on median values) using random forest produced cross validation accuracies of 61% to 70%. Based on 100 leave-one-out cross validation models for each plot, the surface fuel class for each plot was generally either always predicted correctly or never predicted correctly (Figure 3). The most influential predictors for litter and duff fuel classes (organic) were related to water balance (precipitation, AET, deficit), temperature, and aspect measured at the 270 m scale (Fig. 4). The most influential predictors for the 1 to 100 hour fuel classes (small diameter woody fuels) were related to height of the canopy, overall canopy cover, curvature measured at the 270 m scale, and topographic position measured at the 100 m scale. The most influential predictors for the 1000 hour fuel classes (large diameter woody fuels) were related to measures of canopy cover, canopy height, and variance in canopy height. The order of predictors based on variable importance would change somewhat between model runs, but the set of most influential predictors showed little change between model runs. Experiments with subsets of predictors showed that overall classification accuracy could be replicated by using only the four to six most influential predictors. Examination of the effects of the most influential predictors on classification showed that many had nonlinear relationships with the fuel classes (Fig. 5).

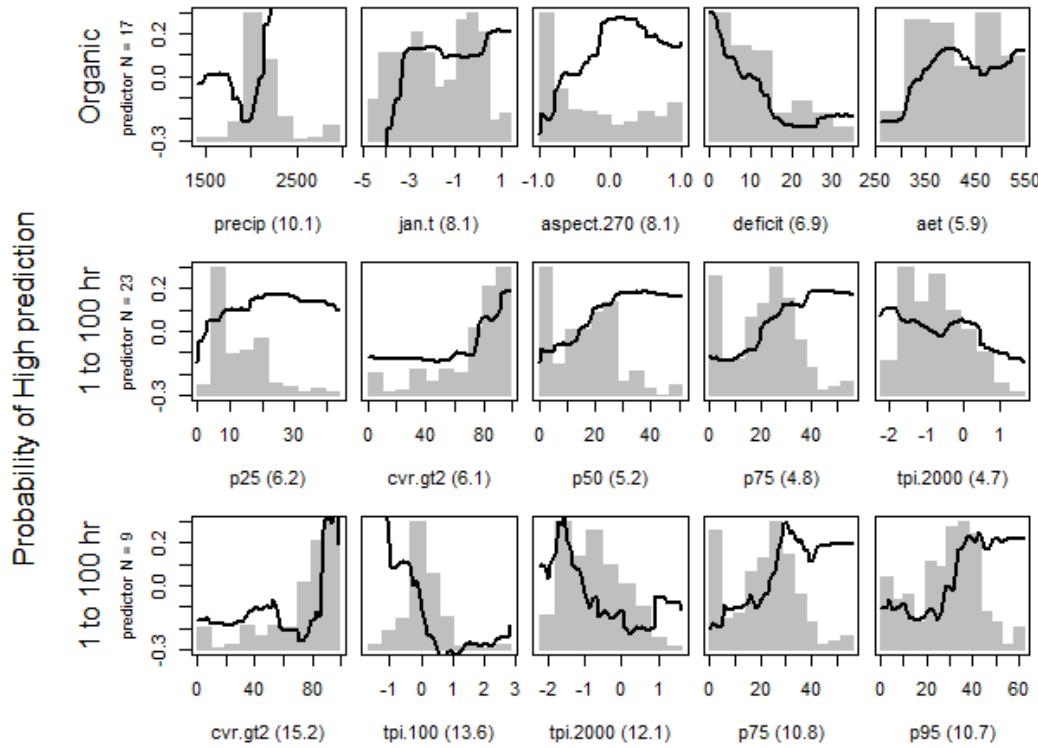


Figure 5. Partial dependence plots from random forest classification for the five most influential predictors for each model. These plots give a graphical depiction of the marginal effect of a predictor on the classification of plots, in this case into the high class (greater than median fuel value). Histograms within each panel show distribution of predictor values. Proportional GINI values for each predictor shown with predictor name below panel. Plots are created by holding all other predictors at mean values while varying the values of the predictor being examined. Interactions between changing values of predictors are not examined.

### 3.3 Forest structure classes

Six final structure classes (Figure 6) were formed from 9 original classes; 1) woodland, 2) short partly closed forest, 3) short to mid-height multistory from short multistory and mid-height closed, 5) mid-height partly closed from two mid-height partially closed forest types, 7) tall multistory from tall and taller multistoried, and 8) mid-height partly closed forest. Two original classes were lumped in each of final structure classes 3, 5 and 7 due to their common characteristics and expected responses to wildfire.

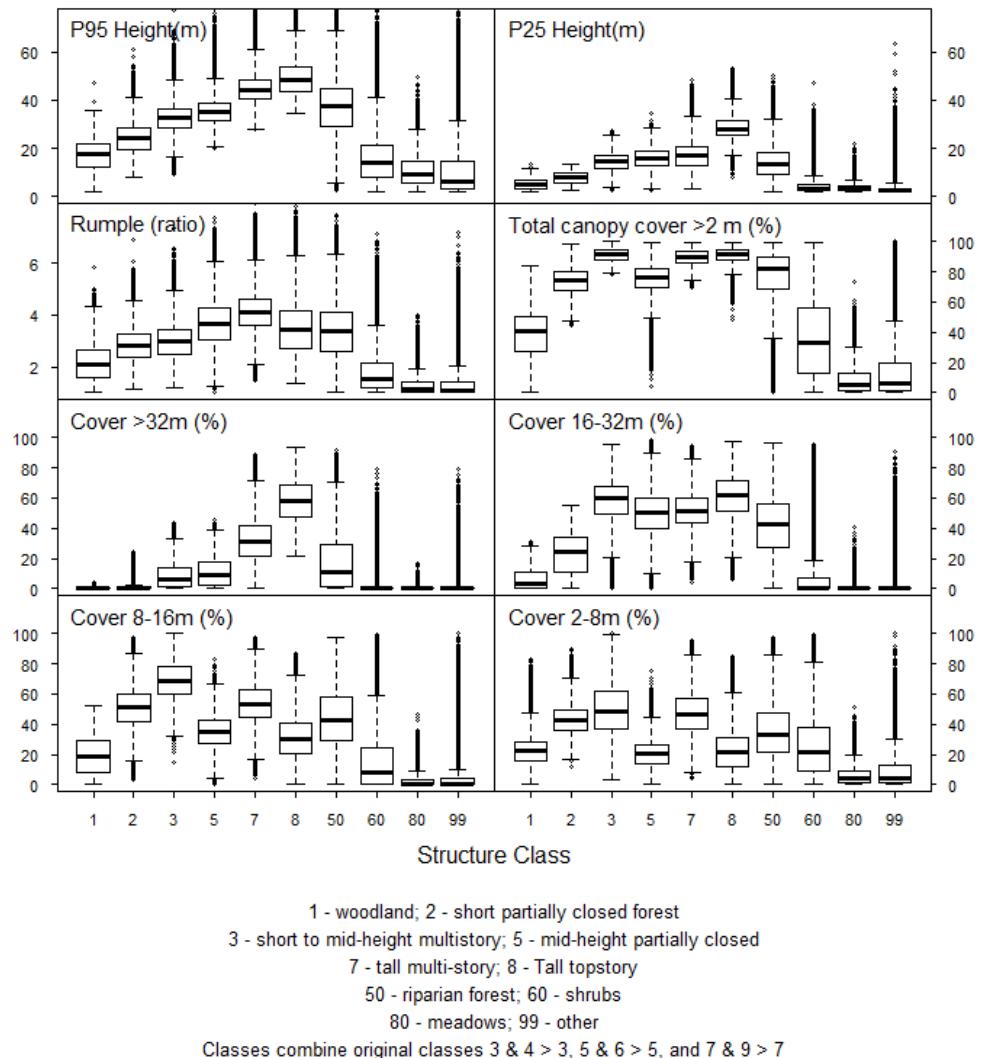


Figure 6. Height and canopy cover characteristics of the combined structural classes. Structure classes defined only for non-riparian forests (combined classes 1 to 8); other cover types shown for reference. Total canopy cover >2 m was not used in the classification but is shown to aid in interpretation of the classes. Bold lines in box plots show median values; the bottom and top of the boxes show the 25th and 75th percentile values; the upper and lower whiskers show either minimum and maximum values or 1.5 times the interquartile range (approximately two standard deviations), whichever is nearer to the mean; and circles show outliers.

## Discussion

We defined forest structure classes and high/low surface fuel classes across Mount Rainier National Park. These products were combined to develop fuel bed classes at the scale and level of accuracy needed for land managers to manage wildfires appropriately and anticipate fire effects. For example, fires that occur in areas with high organic and small diameter fuels and

dense multi-storied canopies are likely to be managed more aggressively than fires occurring in areas with low surface fuel loadings and more open and/or single-storied canopies. The map products currently available (13- and 40- fuel models) do not differentiate between these fuel types at the same level of detail or precision. Furthermore, our fuel and structure classes are derived from real data points and LiDAR metrics at Mount Rainier, whereas the 13- and 40- fuel model maps are not. The final fuel beds developed using the results described in this report by Karen Kopper of the North Cascades National Park will be reported separately in a peer-reviewed scientific paper.

LiDAR was an invaluable tool for mapping the structural classes. Although some of the LiDAR metrics could have been derived from other means (i.e. canopy cover, height to live crown), others could not have been (i.e. p-25, p-95, rumple). It may not always be realistic to purchase LiDAR for the purpose of fuel-mapping, but we recommend using it where it is available.

## Literature Cited

- Agee, J.K. (1993). Fire Ecology of Pacific Northwest Forests. Island Press, Washington, D.C. 493 pages.
- Anderson, H.E., (1982). Aids to determining fuel models for estimating fire behavior. *Gen. Tech. Rep. INT-122*. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 28 p.
- Anderson, H.E., McGaughey, R.J., & Reutebuch, S.E. (2005). Estimating forest canopy fuel parameters using LIDAR data. *Remote Sensing of Environment*, 94, 441-449
- Breiman, L. (2001). Random forests. *Machine Learning*, 45, 5-32
- Breiman, L., Friedman, J.H., Olshen, R.A., & Stone, C.J. (1984). *Classification and regression trees*. New York: Chapman & Hall
- Brockman, C.F. (1931). Forests and timber types of Mount Rainier National Park. In. Seattle, WA: University of Washington
- Brown J.K., R.D. Oberhue, & C.M. Johnston. (1982). Inventorying surface fuels and biomass in the Interior West. *Gen. Tech. Rep. INT-129*. Ogden, UT: U.S. Department of Agriculture, Forest Service. Intermountain Forest and Range Experiment Station. 48 p.
- Cottone, N., & G.J. Ettl. (2001). Estimating populations of whitebark pine in Mount Rainier National park, Washington, using aerial photography. Washington State University Press.

Task agreement J8W07100017 Final Report

- Crawford, R. C., C. B. Chappell, C. C. Thompson, & F. J. Rocchio. 2009. Vegetation Classification of Mount Rainier, North Cascades, and Olympic National Parks. Natural Resource Technical Report NPS/NCCN/NRTR—2009/D-586. National Park Service, Fort Collins, Colorado.
- Crookston, N.L., & Finley, A.O. (2008). yaImpute: An R package for kNN imputation. *Journal of Statistical Software*, 23
- Daly, C., Halbleib, M., Smith, J.I., Gibson, W.P., Doggett, M.K., Taylor, G.H., Curtis, J., & Pasteris, P.P. (2008). Physiographically sensitive mapping of climatological temperature and precipitation across the conterminous United States. *International Journal of Climatology*, 28, 2031-2064
- Dingman, S.L. (2002). *Physical Hydrology*. Upper Saddle River, NJ: Prentice Hall
- Erdody, T.L., & Moskal, L.M. (2010). Fusion of LiDAR and imagery for estimating forest canopy fuels. *Remote Sensing of Environment*, 114, 725-737
- Franklin, J.F. (1966). Vegetation and soils in the sub-alpine forests of the southern Washington Cascade Range. In. Pullman, WA: Washington State University
- Franklin, J.F., Moir, W.H., Hemstrom, M.A., & Greene, S.E. (1979). Forest ecosystems of Mount Rainier National Park. Unpublished report on file at Forestry Sciences Laboratory, Corvallis, OR. In
- Franklin, J.F., Moir, W.H., Hemstrom, M.A., Greene, S.E., & Smith, B.G. (1988). The Forest Communities of Mount Rainier National Park. Scientific Monograph Series No. 19. In N.P.S. U.S. Department of the Interior (Ed.). 1988
- Grossmann, E., Ohmann, J., Kagan, J., May, H., & Gregory, M. (2010). Mapping ecological systems with a random forest model: tradeoffs between errors and bias. *Gap Analysis Bulletin*, 17, 16-22
- Hamon, W.R. (1963). Computation of direct runoff amounts from storm rainfall. *International Association of Scientific Hydrology, Paris, Publication No. 63*, 62-62
- Hemstrom, M.A., & Franklin, J.F. (1982). Fire and other disturbances of the forests in Mount Rainier National Park. *Quaternary Research*, 18, 32-51
- Hobson, F.D. (1976). Classification system for the soils of Mount Rainier National Park. In. Pullman, WA: Washington State University
- Jenness, J. (2006). Topographic Position Index (tpi\_jen.avx) extension for ArcView 3.x version 1.2. In. Flagstaff, AZ: Jenness Enterprises
- Kane, V.R., Bakker, J.D., McGaughey, R.J., Lutz, J.A., Gersonde, R.F., & Franklin, J.F. (2010a). Examining conifer canopy structural complexity across forest ages and elevations with LiDAR data. *Canadian Journal of Forest Research*, 40, 774-787
- Kane, V.R., Gersonde, R.F., Lutz, J.A., McGaughey, R.J., Bakker, J.D., & Franklin, J.F. (2011). Patch dynamics and the development of structural and spatial heterogeneity in Pacific Northwest forests. *Canadian Journal of Forest Research*, 41, 2276-2291

Task agreement J8W07100017 Final Report

- Kane, V.R., Lutz, J.A., Roberts, S.L., Smith, D.F., McGaughey, R.J., Povak, N.A., & Brooks, M.L. (2013). Landscape-scale effects of fire severity on mixed-conifer and red fir forest structure in Yosemite National Park. *Forest Ecology and Management*, 287, 17-31.
- Kane, V.R., McGaughey, R.J., Bakker, J.D., Gersonde, R.F., Lutz, J.A., & Franklin, J.F. (2010b). Comparisons between field- and LiDAR-based measures of stand structural complexity. *Canadian Journal of Forest Research*, 40, 761-773.
- Keane, R.E., S.F. Arno, J.K. Brown, & D.F. Tomback. (1990). Modelling stand dynamics in whitebark pine (*Pinus albicaulis*) forests. *Ecological Modelling* 51:73-95.
- Keane, R.E., & S.F. Arno. (1993). Rapid decline of whitebark pine in western Montana: evidence from 20-year remeasurements. *Western Journal of Applied Forestry* 8(2):44-47.
- Keating, K.A., Gogan, P.J.P., Vore, J.M., & Irby, L.R. (2007). A Simple Solar Radiation Index for Wildlife Habitat Studies. *The Journal of Wildlife Management*, 71, 1344-1348.
- Lutz, J.A., J.W. van Wagtendonk,, & J. F. Franklin. (2010). Climatic water deficit, tree species ranges, and climate change in Yosemite National Park. *Journal of Biogeography*, 37, 936-950.
- McCune, B., & Keon, D. (2002). Equations for potential annual direct incident radiation and heat load. *Journal of Vegetation Science*, 13, 603-606.
- Ogunjemiyo, S., Parker, G., & Roberts, D. (2005). Reflections in bumpy terrain: Implications of canopy surface variations for the radiation balance of vegetation. *IEEE Geoscience and Remote Sensing Letters*, 2, 90-93.
- Parker, G.G., Harmon, M.E., Lefsky, M.A., Chen, J.Q., Van Pelt, R., Weis, S.B., Thomas, S.C., Winner, W.E., Shaw, D.C., & Franklin, J.F. (2004). Three-dimensional structure of an old-growth *Pseudotsuga-tsuga* canopy and its implications for radiation balance, microclimate, and gas exchange. *Ecosystems*, 7, 440-453.
- R Development Core Team (2007). R: A language and environment for statistical computing. In. Vienna, Austria: R Foundation for Statistical Computing.
- Reeves, M.C., J.R. Kost, & K.C. Ryan. (2006). Fuels products of the LANDFIRE Project. In P.L. Andrews & B.W. Butler (Eds.), *Fuels Management-How to Measure Success: Conference Proceedings*. RMRS-P-41. Portland, OR: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 239-252.
- Roberts, S.L., J.W. van Wagtendonk, A.K. Miles, & D.A. Kelt. (2011). Effects of fire on spotted owl site occupancy in a late-successional forest. *Biological Conservation*. 144:610-619.
- Rollins, M.G., & C.K. Frame. (2006). The LANDFIRE Prototype Project: nationally consistent and locally relevant geospatial data for wildland fire management. *Gen. Tech. Rep. RMRS-GTR-175*. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 416 pp.
- Scott, J.H., & R.E. Burgan, (2005). Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model. *Gen. Tech. Rep. RMRS-GTR-153*, Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 72 p.

Task agreement J8W07100017 Final Report

- Stephenson, N.L. (1998). Actual evapotranspiration and deficit: biologically meaningful correlates of vegetation distribution across spatial scales. *Journal of Biogeography*, 25, 855-870
- Siderius, J, and M.P. Murray. (2005). Fire knowledge for managing Cascadian Whitebark Pine ecosystems. National park Service and Crater Lake National Park, Seattle, WA, 1-44
- Thornburgh, D.A. (1967a). Dynamics of true fir-hemlock forests of western Washington. In. Seattle, WA: University of Washington
- Thornthwaite, C.W. (1948). An approach towards a rational classification of climate. *Geographical Review*, 38, 55-102
- Thornthwaite, C.W., & Mather, J.R. (1955). The water balance. *Publications in Climatology*, 8
- Tombak, D.F., A.J. Andries, K.S. Carsey, M.L. Powell, & S. Mellmann-Brown. (2001). Delayed seed germination in whitebark pine and regeneration patterns following the Yellowstone fires. *Ecology* 82(9):2587-2600.
- Ucitel, D., D.P. Christian, & J.M. Graham (2003). Vole use of coarse woody debris and implications for habitat and fuel management. *The Journal of Wildlife Management*. 67: 165-72.
- US Department of Interior (2013). Wildland Fire Management Information, Bureau of Land Management, National Interagency Fire Center. [www.nifc.blm.gov](http://www.nifc.blm.gov) accessed December, 2013.
- Weiss, A.D. (2000). A GIS algorithm for topographic position index. In, *ESRI Users' Conference*. San Diego, CA
- Zevenbergen, L.W., & Thorne, C.R. (1987). Quantitative analysis of land surface topography. *Earth Surface Processes and Landforms*, 12, 47-5

## Appendix A: Unsuccessful Avenues of Research

The original task agreement envisioned three avenues of research that proved unsuccessful:

- Create maps of 13 original fuel models (Anderson 1982) and 40 new fuel models (Scott and Burgan 2005)
- Develop regressions to predict and map stand and canopy characteristics related to ground fuel loading (e.g. crown bulk density, mean diameter at breast height (DBH), and basal area)
- Use LiDAR data to map coarse woody debris and low-lying shrubs

We were unsuccessful in mapping the original 13 fuel models (Anderson 1982) and as a result did not attempt to map the even finer-scale 40 new fuel models (Scott and Burgan 2005). The overall classification accuracy (67%) for the 13 fuel models was reasonable (Table 3). However, this apparent accuracy resulted from the successful classification of the two dominant fuel classes. Accuracies for the other classes were poor. These results are in line with the results reported by Jakubowski et al. (2013) and by Peterson et al. (2013). Jakubowski et al. (2013) used airborne LiDAR data and multispectral imagery while Peterson et al. (2013) used Landsat remote sensing data and environmental data to map fuel models. As with our results, these researchers were unsuccessful in distinguishing within similar classes of fuel models. We can offer two possible explanations for these difficulties in mapping the classic fuel models. First, the canopy structure that is remotely sensed simply could have little correlation with the characteristics that distinguish surface fuels and hence fuel models except between broad classes. Second, remote sensing may accurately distinguish fuel characteristics important to fire management that are lumped and split among the different fuel models, which were developed without remote sensing data. The fuel classes we defined are based on characteristics that could be distinguished using environmental and LiDAR data.

Attempts to develop regressions to predict and map stand and canopy characteristics generally produced poor results as measured by the coefficient of variance ( $R^2$ ) (Table A1). The field protocol for this study did not measure the diameter of all trees, but only a subjectively selected sub-sample. This methodology may have lead to the poor regression results. Jakubowski et al. (2013) similarly had poor results for their surface fuel regressions.

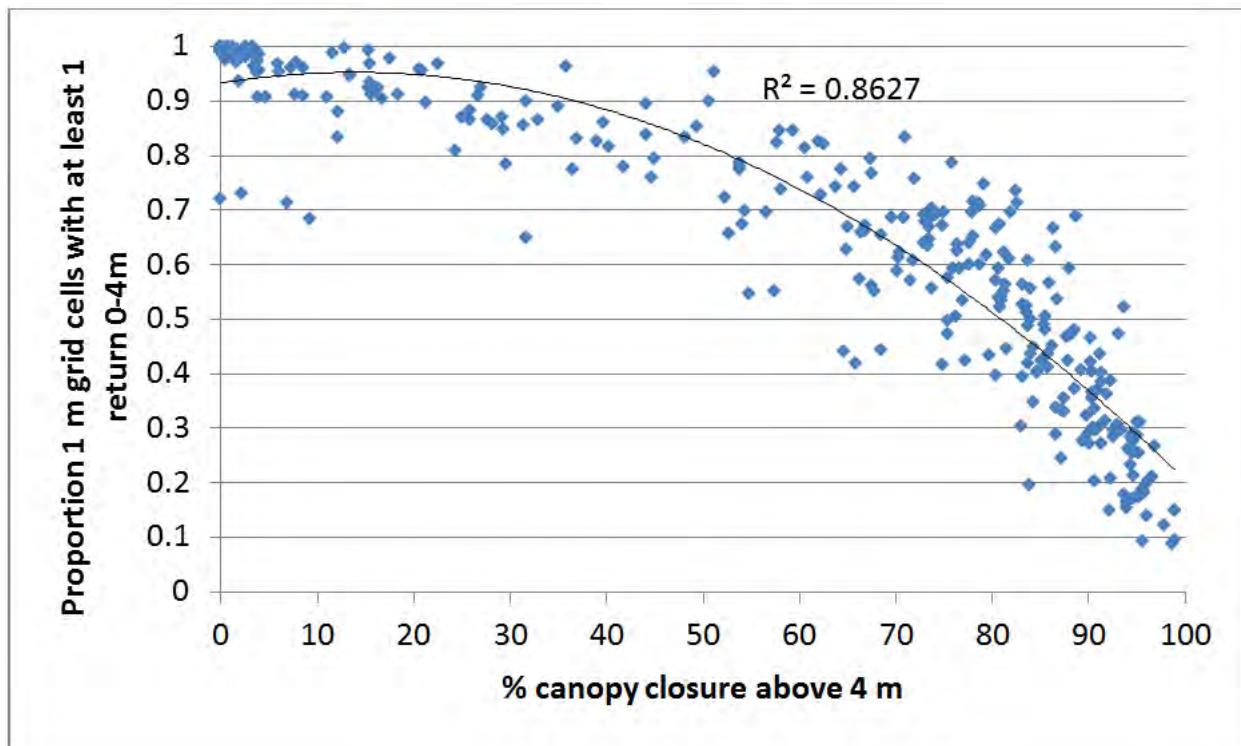
We had hoped to map low-lying shrubs and saplings since these are important fuel types. A portion of LiDAR pulses will penetrate even dense canopies to reach the shrub layer and the ground. However, our experiments led us to believe that we could not reliably interpret the data from these lower strata. First, as overstory canopies become denser, the proportion of area in the shrub and sapling layer (0 to ~4 m) stratum that receives at least one pulse per square meter drops quickly after as canopy cover exceeds ~60% (Fig. A1). Many of the lower elevation forests in the park have canopy cover exceeding 80%. As a result, a substantial proportion of the park that had too few returns across the 0 to 4 m shrub stratum to reliably characterize shrubs and saplings (Fig. A2).

We examined the relationship between the subjective estimates of shrub cover in each field plot with the LiDAR measure of the percent canopy closure in 1 to 4 m stratum and found only a

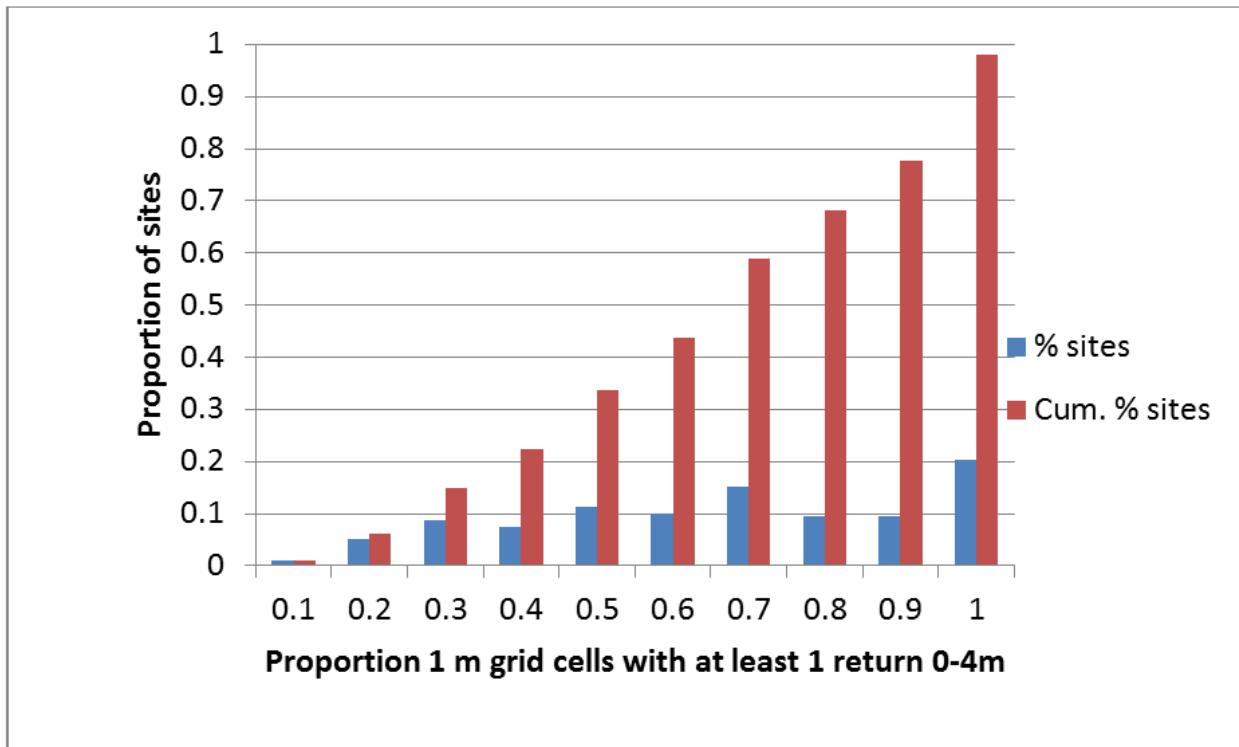
weak relationship (Fig. A3). However, the LiDAR-measured canopy closure in this stratum was not correlated with the proportion of area within random samples that had at least one LiDAR return per square meter (Fig. A4). This suggests two possibilities. First, for areas with high overstory canopy cover, LiDAR may be reliably detecting the presence or absence of a shrub layer only in small gaps and the remaining area under dense canopy may not be well sampled. Alternately, LiDAR may be able to characterize the presence or absence of a shrub layer even under dense canopies but our field data does not allow us to test this. Distinguishing between these two alternatives would require a new study that carefully maps the shrub and sapling cover within field plots to provide ground truth data concurrent with a LiDAR acquisition.

**Table A1.** Results of linear regressions. Names of responses are the same as those used in the spreadsheets of data prepared for this study. Table 1 defines acronyms for predictors.

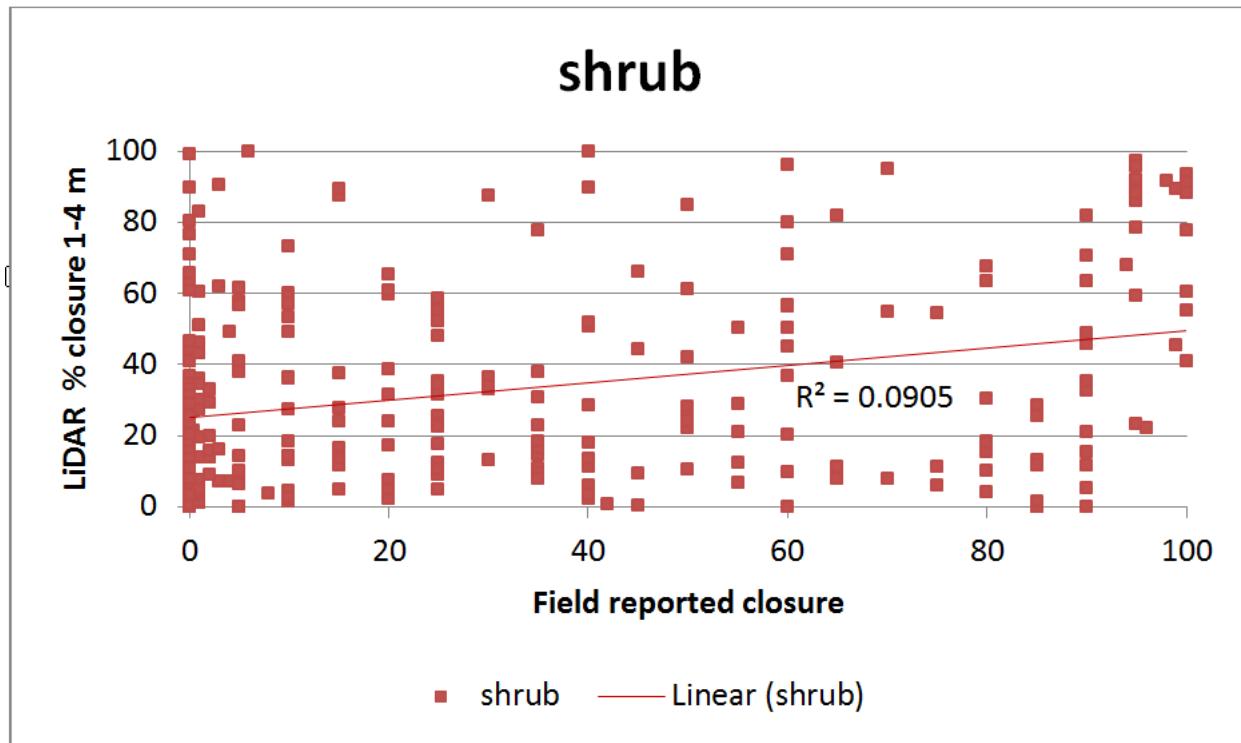
Response	Equation	R <sup>2</sup>	N
newAll.Bam2ha -- Basal area m <sup>2</sup> /ha	$ba^{0.54} = 5.6596 + 0.2223 * (stdev)^{1.23}$	0.2	101
CanTree.DBH.cm – Diameter at breast height of canopy trees (cm)	$dbh^{0.28} = 2.26927 - 0.01564 * (p25) + 0.03494 * (p75) + 0.10950 * (tpi.2000)$	0.48	171
NEW.XCanHLC.m -- Canopy trees height to live crown (m)	$hlc^{0.47} = -5.4305 + 6.6552 * (cv)^{-0.12} + 0.1278 * (p75)^{0.73}$	0.55	136
Tree.perAC – Trees per acre	$tree^{0.1} = -0.3077 + 0.2301 * (p95)^{0.5} + 0.3187 * (cvr.8to16)^{0.34} - 0.3376 * (cvr.16to32)^{0.24}$	0.25	205
TonAc.Organic – Organic surface fuels, tons per acre	$ton^{0.3} = 2.244465 + 0.006246 * (cvr.gt2)^{1.11} - 0.204964 * (deficit)^{0.39}$	0.18	174
TonAc.1to100 – 1 to 100 hour surface fuels, tons per acre	$ton^{0.29} = 0.629999 + 0.008468 * (cvr.gt2) - 0.001804 * (aspect.90)^{0.82} + 0.027938 * (slope.270)^{0.68}$	0.32	174
TonsA.1000 – 1000 hour surface fuels, tons per acre	$ton^{0.18} = 0.096990 + 0.092911 * (p75)^{0.66} + 0.086513 * (cvr.2to8)^{0.41} + 0.004562 * (aspect.270)^{0.79}$	0.24	175



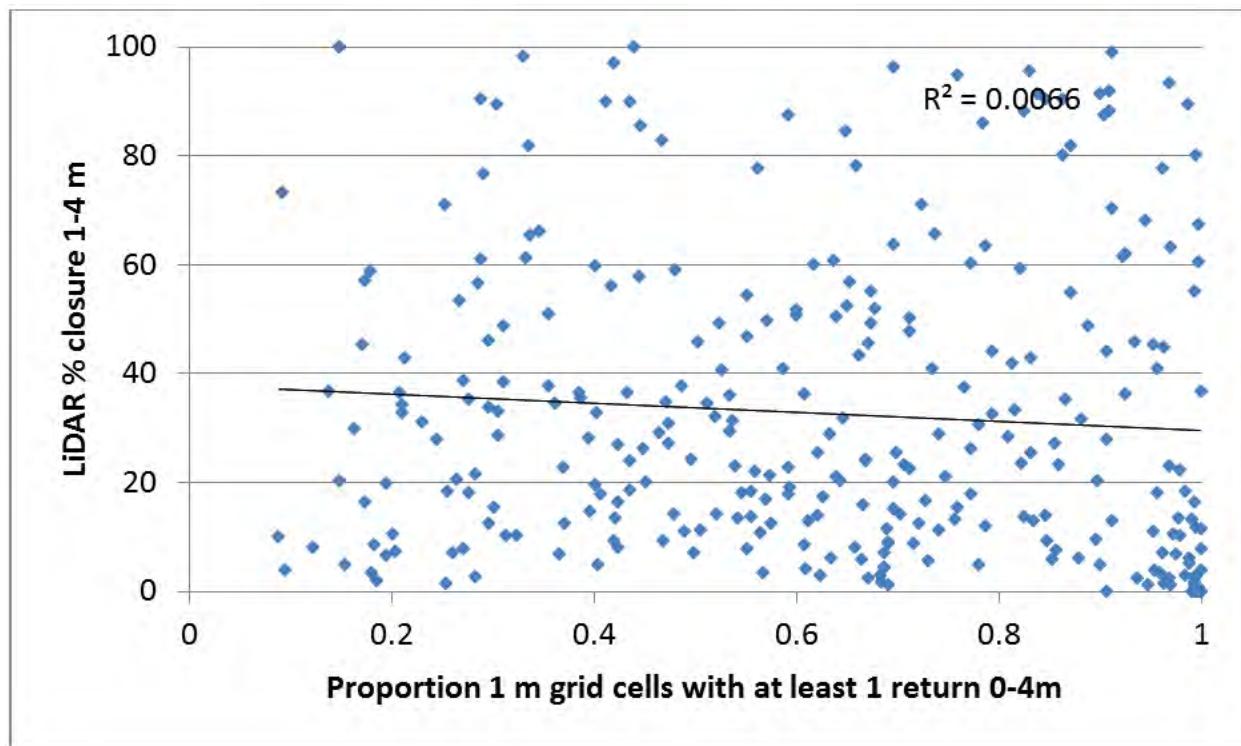
**Figure A1.** Proportion of one-meter grid cells in the 0 to 4 m stratum that had at least one LiDAR return under different canopy cover densities. Above approximately 80% canopy cover, too little of the area in the 0 to 4 m stratum had at least one return to reliably characterize the shrub layer. Data based on a random sample of  $30 \times 30$  m ( $900 \text{ m}^2$ ) grid cells across Mount Rainier National Park.



**Figure A2.** Proportion of a random sample of 30×30 m grid cells from across Mount Rainier National Park that had different proportions one square meter areas within them that had at least one return in the 0 to 4 m shrub stratum. Substantial portions of the sample had too few returns in this stratum to reliably characterize shrubs and saplings.



**Figure A3.** Correlation of subjective estimate of shrub cover reported for field plots and LiDAR measured canopy closure in the 1 to 4 m shrub stratum. No meaningful relationship was found.



**Figure A4.** Relationship between the proportion of area within a random sample of 30×30 m grid cells from across Mount Rainier National Park and the LiDAR measured canopy closure in the 1 to 4 m stratum. No relationship was found.

## Appendix A: Literature Cited

- Anderson, H.E. (1982). Aids to determining fuel models for estimating fire behavior. In (p. 22): U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station
- Scott, J.H., & Burgan, R.E. (2005). Standard fire behavior models: A comprehensive set for use with Rothermel's surface fire spread model. In (p. 72): U. S. Department of Agriculture, Forest Service, Rocky Mountain Research Station
- Jakubowski, M.K., Guo, Q.H., Collins, B., Stephens, S., & Kelly, M. (2013). Predicting Surface Fuel Models and Fuel Metrics Using Lidar and CIR Imagery in a Dense, Mountainous Forest. *Photogrammetric Engineering and Remote Sensing*, 79, 37-49
- Peterson, S.H., Franklin, J., Roberts, D.A., & van Wagendonk, J.W. (2013). Mapping fuels in Yosemite National Park. *Canadian Journal of Forest Research-Revue Canadienne De Recherche Forestiere*, 43, 7-17

## **Appendix B: Description of LiDAR Vegetation Metric Raster Layers**

### **Task agreement J8W07100017, Using LiDAR and Field Data to Map Fuel Characteristics at Mount Rainier National Park**

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In partial fulfilment of this task agreement, copies of the LiDAR vegetation metric raster layers produced for this project are being delivered to the National Park Service. The raster layers are the final set produced for this project and were used to calculate final results. This delivery supersedes the informal delivery of these metrics previously to Karen Kopper and Catharine Copass of the National Park Service.

The metrics produced are designed to measure characteristics of vegetation. Other sets of metrics and processing will be more appropriate for studies of geomorphology and hydrology.

These metrics measure a number of characteristics of vegetation structure, with most metrics measuring structure greater than 2 m high. This height cutoff was selected to separate forest canopies from understory vegetation structure. Because of the dense forest canopies over much of the park, reliable measurement of vegetation below 2 m was not assured.

#### **Recommended Metrics to Work with First**

Many of the metrics are highly redundant (the 20th percentile, 25th percentile, and 30th percentile metrics, for example, are highly correlated). It helps to have a rich set of metrics for creating regressions with the highest coefficient of variation ( $R^2$ ), but for general exploration of the data set and forest structure, a smaller set is easier to work with (Table 1).

Table 1. Recommended metrics to initially explore forest canopy characteristics

Raster Layer	Vegetation characteristic
Height_P95_all_returns_above	Approximates height of dominant trees
Height_P25_all_returns_above_2m	Often correlated with height of canopy base above ground
Height_mean_all_returns_above_2m	Approximate height of exposed canopy surface modified by multiple returns from lower canopy layers
Stat_stddev_all_returns_above_2m	Structural heterogeneity of canopy height in vertical dimension
CSM_Rumple	Integrated vertical and horizontal structural heterogeneity of exposed canopy surface
Cover_All_returns_above_2m	Canopy cover >2 m

### Fusion Software

The LiDAR metrics were computed using the Fusion toolset provided by the U.S. Forest Service's Pacific Northwest Research Station using version, 3.21. The Fusion Software is available online at no charge at: <http://forsys.cfr.washington.edu/fusion.html>. Online training is available from the U.S. Forest Service's Remote Sensing Application Center at: [http://www.fs.fed.us/eng/rsac/lidar\\_training/](http://www.fs.fed.us/eng/rsac/lidar_training/).

### File Formats, Projection, and Units

Raster layers are provided in the ESRI ArcMap ASCII format. The ASCII layers can be read by a wide range of software packages (e.g., the R sp and raster packages). However, this format needs to be converted to be read properly by ArcMap using its ASCIitoraster tool.

The layers are projected in the UTM 10N projection.

All layers are in 30 m (98.4252 feet) grid cells to match Landsat pixel size. Height measurements are in meters.

### Ground Surface Model

The LiDAR vendor's ground surface model was used for calculating metrics.

### Point Cloud Versus Canopy Surface Model Metrics

The vegetation metrics are calculated from either the LiDAR point cloud or a 1 m resolution canopy surface model (CSM).

The CSM was generated using the highest return height in each 1 m grid cell. It's common for some 1 m grid cells to have been in the LiDAR instrument's shadow and therefore have no returns. Flying birds can also create returns above the vegetation height. To address both problems, the CSM used for the metrics were generated using a 3x3 smoothing filter that filled in missing data and "pulled down" abnormally high returns.

The canopy surface models are generally very large (>4GB is not unusual) and are generally broken into many tiles to reduce file size. This makes working with the raw CSMs difficult. Because of this, the CSMs are not provided. I will provide the CSM tiles if requested (please provide a hard drive with the request).

### **Layer Names**

The file name for each layer describes the category of measurement (e.g., 'height') and describes the measurement. File names generally are self descriptive (e.g., 'percentage\_all\_returns\_above\_mean').

### **Apparently Anomalous Data**

Areas of returns in a number of data layers have what may appear to be anomalous data from four sources:

1. LiDAR pulses in the snow and ice fields on the mountain peak appear to have partially penetrated the surface in some places. As a result metrics from these areas can have anomalous values.
2. The LiDAR data was collected over the months of September and October when deciduous vegetation was transitioning from leaf on to leaf off. LiDAR vegetation metrics can have significantly different values for leaf on and leaf off. As a result of the acquisition timing, therefore, significantly different values for deciduous vegetation may be present.
3. The tool used to process the CSM metrics will extrapolate missing data (e.g., for bodies of water where LiDAR returns are rare) and 'fill in' results. The tool also extrapolates data beyond the extent of the data, resulting in an apparent ring of values around the study area. For any analysis you perform, you may want to mask off these areas.
4. A number of metrics, particularly those related to height and intensity, were calculated using only returns  $>2$  m in height so that the metrics reflect only overstory structure. The Fusion tool that produces these metrics will mark any 30 m grid cell with no returns  $>2$  m as NoData.

### **Use of LiDAR Returns $<2$ m**

Most of the metrics are designed to measure forest canopy structure and metrics were calculated using returns only with a height  $\geq 2$  m above the calculated ground model. For some measurements, using all LiDAR returns, including 0 m to 2, m is appropriate. All returns were used for; all cover metrics, all canopy surface model metrics, strata metrics labeled for height ranges below 2 m, and some count metrics. The 30 m CSM metrics were calculated using the highest heights in each underlying 1 m grid cell, including heights below 2 m

### **Groups of Metrics**

The metrics fall into several groups: canopy height, canopy cover, canopy surface models, count, strata, intensity, and topographic.

**Canopy height metrics.** (File name begins with 'height'.) For these metrics, the elevation of the ground model beneath each LiDAR return is first subtracted from the elevation of the LiDAR return. The resulting metrics, therefore, report height relative to the ground. For all height metrics, the metrics are calculated only for returns with heights greater than or equal to 2 m. This is done so that the height metrics reflect characteristics of the overstory canopy and are not skewed by understory and ground returns. The height of 2 m is a processing choice based on common heights for taller shrubs and shorter tree regeneration.

**Canopy cover metrics.** (File name begins with 'cover'.) These metrics report the percentage of returns above a height cutoff divided by the total number of returns from all heights including ground returns. Cover is reported above 2 m (to exclude shrub cover), above mean and mode heights relative to the heights of returns for each grid cell, and within height strata. Cover values are computed both using only first returns and all returns generated by a LiDAR pulse (up to four returns per pulse). The cover reported using first and all returns typically are highly correlated (for example,  $R^2 = \sim 0.98$ , in some data sets), so there is little difference in the two measurement approaches. Canopy cover within height strata was calculated using the strata count metrics and used all returns.

**Canopy surface model (CSM) metrics.** The canopy surface model was calculated using the highest elevation within each 1 m grid cell. The CSM metrics are smoothed with a 3x3 moving window to eliminate micro gaps within the canopy at the scale of a single meter. Rumple was calculated as the surface area of the smoothed CSM model divided by the area of the underlying ground surface ( $900 \text{ m}^2$  for a 30 m x 30 m grid cell) as a measure of the outer canopy surface rugosity. FPV is the filled potential volume and was calculated as the volume beneath the CSM divided by the volume of a block that is 30 m x 30 m times the maximum height of the CSM within the grid cell.

**Count metrics.** (File name begins with 'count'.) These metrics report return counts for either all returns or first returns. Counts can either be above a height cutoff or for all heights including ground. Typically, these metrics are used to understand the characteristics of the data underlying the height and cover metrics and are not used for vegetation analysis.

**Intensity metrics.** (File begins with 'Int'.) The LiDAR instrument records both the height of each return and the intensity of the return. These intensity data were not normalized by the LiDAR vendor for change in height relative to the ground, changes in pulse intensity, or changes in the LiDAR instruments' gain sensitivity.

**Statistical height metrics.** (File name begins with 'stat'.) A number of metrics that are statistical descriptions of the distribution of LiDAR return heights as statistical height metrics are included in this group (e.g., standard deviation of LiDAR return height). For kurtosis and skewness statistics, the Fusion software calculates both the traditional measurements and alternative L-moments measurements that allow for multiple peaks and are not as sensitive to assumptions of normality. For a description of these metrics,

please see <http://en.wikipedia.org/wiki/L-moment> or Hosking, J.R.M. 1990. L-moments: analysis and estimation of distributions using linear combinations of order statistics. Journal of the Royal Statistical Society. Series B (Methodological). 52(1):105-124.

While there are a number of equivalent statistical measures of intensity, these are rarely used and they are included with the intensity metrics.

**Strata metrics.** (File name begins with 'strata'.) These metrics are calculated based on returns within specific height strata. The proportion metrics can be used to calculate cover within height layers. These metrics have not been verified against field measurements. A reported return represents a return from an object within the height strata. However, trees block light transmission and may prevent LiDAR returns from reaching the ground. Strata counts may have errors of omission in which canopy within the layers are not measured below dominant canopies. The strata metrics were computed in this study using height breaks of 2, 8, 16, and 32 m.

**Topographic metrics.** (File begins with 'topo'.) The Fusion software was used to calculate a number of topographic metrics at scales of 30 m, 90 m, and 270 m. The solar radiance index (SRI) reports the solar radiance given the latitude of the study area on the summer solstice based on the slope and aspect of each 30 m x30 m grid cell. Please refer to the Fusion software manual for details on how these metrics were calculated.

### **LiDAR Metrics provided:**

Please refer to the Fusion software manual for details on the calculation of metrics.

Abbreviations used in raster layer names

aad - average absolute deviation  
cv – coefficient of variation  
gt – greater than  
iq – interquartile distance  
lt – less than  
mad\_median - median of the absolute deviations from the overall median  
mad\_mod - median of the absolute deviations from the overall mode  
max - maximum  
min - minimum  
pNN – percentile value (e.g., p95 – 95th percentile)  
sd, stdev – standard deviation

Count of LiDAR returns

count\_all\_returns\_above\_mean  
count\_all\_returns\_above\_mode  
count\_first\_returns\_above\_mean  
count\_first\_returns\_above\_mode  
count\_other\_return\_count\_above\_2m

count\_return\_1\_count\_above\_2m  
count\_return\_2\_count\_above\_2m  
count\_return\_3\_count\_above\_2m  
count\_return\_4\_count\_above\_2m  
count\_total\_all\_returns  
count\_total\_first\_returns  
count\_total\_return\_count\_above\_2m

#### Canopy cover metrics

cover\_all\_returns\_above\_2m\_divided\_total\_first\_returns  
cover\_all\_returns\_above\_mean\_divided\_total\_first\_returns  
cover\_all\_returns\_above\_mode\_divided\_total\_first\_returns  
cover\_count\_all\_returns\_above\_2m  
cover\_count\_first\_returns\_above\_2m  
cover\_percentage\_16to32m.asc (calculated post hoc from strata count metrics)  
cover\_percentage\_1to2m.asc (calculated from strata count metrics)  
cover\_percentage\_2to4m.asc (calculated from strata count metrics)  
cover\_percentage\_2to8m.asc (calculated from strata count metrics)  
cover\_percentage\_32to48m.asc (calculated from strata count metrics)  
cover\_percentage\_4to8m.asc (calculated from strata count metrics)  
cover\_percentage\_8to16.asc (calculated from strata count metrics)  
cover\_percentage\_8to16m.asc (calculated from strata count metrics)  
cover\_percentage\_all\_returns\_above\_2m  
cover\_percentage\_all\_returns\_above\_mean  
cover\_percentage\_all\_returns\_above\_mode  
cover\_percentage\_first\_returns\_above\_2m  
cover\_percentage\_first\_returns\_above\_mean  
cover\_percentage\_first\_returns\_above\_mode  
cover\_percentage\_gt16m.asc (calculated from strata count metrics)  
cover\_percentage\_gt32m.asc (calculated from strata count metrics)  
cover\_percentage\_gt48m.asc (calculated from strata count metrics)

#### Canopy surface model metrics

csm\_fp (filled potential volume. See explanation above)  
csm\_sd  
csm\_max\_height (m)  
csm\_mean\_height (m)  
csm\_rumple (see explanation above)

#### Return height metrics (m)

height\_maximum\_all\_returns\_above\_2m  
height\_mean\_all\_returns\_above\_2m  
height\_minimum\_all\_returns\_above\_2m  
height\_mode\_all\_returns\_above\_2m  
height\_p01\_all\_returns\_above\_2m  
height\_p05\_all\_returns\_above\_2m

height\_p10\_all\_returns\_above\_2m  
height\_p20\_all\_returns\_above\_2m  
height\_p25\_all\_returns\_above\_2m  
height\_p30\_all\_returns\_above\_2m  
height\_p40\_all\_returns\_above\_2m  
height\_p50\_all\_returns\_above\_2m  
height\_p60\_all\_returns\_above\_2m  
height\_p70\_all\_returns\_above\_2m  
height\_p75\_all\_returns\_above\_2m  
height\_p80\_all\_returns\_above\_2m  
height\_p90\_all\_returns\_above\_2m  
height\_p95\_all\_returns\_above\_2m  
height\_p99\_all\_returns\_above\_2m

Intensity metrics (intensity measured on a 0 to 255 scale)

int\_aad\_all\_returns  
int\_cv\_all\_returns  
int\_iq\_all\_returns  
int\_kurtosis\_all\_returns  
int\_l1\_all\_returns (L-moments)  
int\_l2\_all\_returns (L-moments)  
int\_l3\_all\_returns (L-moments)  
int\_l4\_all\_returns (L-moments)  
int\_l\_cv\_all\_returns (L-moments)  
int\_l\_kurtosis\_all\_returns (L-moments)  
int\_l\_skewness\_all\_returns (L-moments)  
int\_maximum\_all\_returns  
int\_mean\_all\_returns  
int\_minimum\_all\_returns  
int\_mode\_all\_returns  
int\_p01\_all\_returns  
int\_p05\_all\_returns  
int\_p10\_all\_returns  
int\_p20\_all\_returns  
int\_p25\_all\_returns  
int\_p30\_all\_returns  
int\_p40\_all\_returns  
int\_p50\_all\_returns  
int\_p60\_all\_returns  
int\_p70\_all\_returns  
int\_p75\_all\_returns  
int\_p80\_all\_returns  
int\_p90\_all\_returns  
int\_p95\_all\_returns  
int\_p99\_all\_returns  
int\_skewness\_all\_returns

int\_stddev\_all\_returns  
int\_variance\_all\_returns

Statistical description of LiDAR return heights

stat\_aad\_all\_returns\_above\_2m  
stat\_canopy\_relief\_ratio  
stat\_cubic\_mean  
stat\_cv\_all\_returns\_above\_2m (coefficient of variation)  
stat\_iq\_all\_returns\_above\_2m (interquartile distance)  
stat\_kurtosis\_all\_returns\_above\_2m  
stat\_l1\_all\_returns\_above\_2m (L-moments)  
stat\_l2\_all\_returns\_above\_2m (L-moments)  
stat\_l3\_all\_returns\_above\_2m (L-moments)  
stat\_l4\_all\_returns\_above\_2m (L-moments)  
stat\_l\_cv\_all\_returns\_above\_2m (L-moments)  
stat\_l\_kurtosis\_all\_returns\_above\_2m (L-moments)  
stat\_l\_skewness\_all\_returns\_above\_2m (L-moments)  
stat\_mad\_median (Median of the absolute deviations from the overall median)  
stat\_mad\_mod (Median of the absolute deviations from the overall mode)  
stat\_quadratic\_mean  
stat\_skewness\_all\_returns\_above\_2m  
stat\_stddev\_all\_returns\_above\_2m  
stat\_variance\_all\_returns\_above\_2m

Measurements within height strata

Strata\_1-2m\_CV.asc  
Strata\_1-2m\_kurtosis.asc  
Strata\_1-2m\_max.asc  
Strata\_1-2m\_mean.asc  
Strata\_1-2m\_median.asc  
Strata\_1-2m\_min.asc  
Strata\_1-2m\_mode.asc  
Strata\_1-2m\_return\_proportion.asc  
Strata\_1-2m\_skewness.asc  
Strata\_1-2m\_stddev.asc  
Strata\_1-2m\_total\_return\_count.asc  
Strata\_16-32m\_CV.asc  
Strata\_16-32m\_kurtosis.asc  
Strata\_16-32m\_max.asc  
Strata\_16-32m\_mean.asc  
Strata\_16-32m\_median.asc  
Strata\_16-32m\_min.asc  
Strata\_16-32m\_mode.asc  
Strata\_16-32m\_return\_proportion.asc  
Strata\_16-32m\_skewness.asc  
Strata\_16-32m\_stddev.asc

Strata\_16-32m\_total\_return\_count.asc  
strata\_2-16m\_CV.asc  
strata\_2-16m\_kurtosis.asc  
strata\_2-16m\_max.asc  
strata\_2-16m\_mean.asc  
strata\_2-16m\_median.asc  
strata\_2-16m\_min.asc  
strata\_2-16m\_mode.asc  
strata\_2-16m\_return\_proportion.asc  
strata\_2-16m\_skewness.asc  
strata\_2-16m\_stddev.asc  
strata\_2-16m\_total\_return\_count.asc  
Strata\_2-4m\_CV.asc  
Strata\_2-4m\_kurtosis.asc  
Strata\_2-4m\_max.asc  
Strata\_2-4m\_mean.asc  
Strata\_2-4m\_median.asc  
Strata\_2-4m\_min.asc  
Strata\_2-4m\_mode.asc  
Strata\_2-4m\_return\_proportion.asc  
Strata\_2-4m\_skewness.asc  
Strata\_2-4m\_stddev.asc  
Strata\_2-4m\_total\_return\_count.asc  
Strata\_32-48\_CV.asc  
Strata\_32-48\_kurtosis.asc  
Strata\_32-48\_max.asc  
Strata\_32-48\_mean.asc  
Strata\_32-48\_median.asc  
Strata\_32-48\_min.asc  
Strata\_32-48\_mode.asc  
Strata\_32-48\_return\_proportion.asc  
Strata\_32-48\_skewness.asc  
Strata\_32-48\_stddev.asc  
Strata\_32-48\_total\_return\_count.asc  
Strata\_4-8m\_CV.asc  
Strata\_4-8m\_kurtosis.asc  
Strata\_4-8m\_max.asc  
Strata\_4-8m\_mean.asc  
Strata\_4-8m\_median.asc  
Strata\_4-8m\_min.asc  
Strata\_4-8m\_mode.asc  
Strata\_4-8m\_return\_proportion.asc  
Strata\_4-8m\_skewness.asc  
Strata\_4-8m\_stddev.asc  
Strata\_4-8m\_total\_return\_count.asc  
Strata\_8-16m\_CV.asc

Strata\_8-16m\_kurtosis.asc  
Strata\_8-16m\_max.asc  
Strata\_8-16m\_mean.asc  
Strata\_8-16m\_median.asc  
Strata\_8-16m\_min.asc  
Strata\_8-16m\_mode.asc  
Strata\_8-16m\_return\_proportion.asc  
Strata\_8-16m\_skewness.asc  
Strata\_8-16m\_stddev.asc  
Strata\_8-16m\_total\_return\_count.asc  
strata\_gt16m\_CV.asc  
strata\_gt16m\_kurtosis.asc  
strata\_gt16m\_max.asc  
strata\_gt16m\_mean.asc  
strata\_gt16m\_median.asc  
strata\_gt16m\_min.asc  
strata\_gt16m\_mode.asc  
strata\_gt16m\_return\_proportion.asc  
strata\_gt16m\_skewness.asc  
strata\_gt16m\_stddev.asc  
strata\_gt16m\_total\_return\_count.asc  
Strata\_gt48\_CV.asc  
Strata\_gt48\_kurtosis.asc  
Strata\_gt48\_max.asc  
Strata\_gt48\_mean.asc  
Strata\_gt48\_median.asc  
Strata\_gt48\_min.asc  
Strata\_gt48\_mode.asc  
Strata\_gt48\_return\_proportion.asc  
Strata\_gt48\_skewness.asc  
Strata\_gt48\_stddev.asc  
Strata\_gt48\_total\_return\_count.asc  
Strata\_lt1m\_CV.asc  
Strata\_lt1m\_kurtosis.asc  
Strata\_lt1m\_max.asc  
Strata\_lt1m\_mean.asc  
Strata\_lt1m\_median.asc  
Strata\_lt1m\_min.asc  
Strata\_lt1m\_mode.asc  
Strata\_lt1m\_return\_proportion.asc  
Strata\_lt1m\_skewness.asc  
Strata\_lt1m\_stddev.asc  
Strata\_lt1m\_total\_return\_count.asc  
strata\_lt2m\_CV.asc  
strata\_lt2m\_kurtosis.asc  
strata\_lt2m\_max.asc

strata\_lt2m\_mean.asc  
strata\_lt2m\_median.asc  
strata\_lt2m\_min.asc  
strata\_lt2m\_mode.asc  
strata\_lt2m\_return\_proportion.asc  
strata\_lt2m\_skewness.asc  
strata\_lt2m\_stddev.asc  
strata\_lt2m\_total\_return\_count.asc

Topographic metrics

Topo\_270m\_Aspect\_degrees\_azimuth\_all\_returns.asc (degrees, south = 0/360)  
Topo\_270m\_Curvature\_all\_returns.asc  
Topo\_270m\_Elevation\_all\_returns.asc (m)  
Topo\_270m\_Plan\_curvature\_all\_returns.asc  
Topo\_270m\_Profile\_curvature\_all\_returns.asc  
Topo\_270m\_Slope\_degrees\_all\_returns.asc (degrees)  
Topo\_270m\_Solar\_Radiation\_Index\_all\_returns.asc  
Topo\_30m\_Aspect\_degrees\_azimuth\_all\_returns.asc (degrees, south = 0/360)  
Topo\_30m\_Curvature\_all\_returns.asc  
Topo\_30m\_Elevation\_all\_returns.asc (m)  
Topo\_30m\_Plan\_curvature\_all\_returns.asc  
Topo\_30m\_Profile\_curvature\_all\_returns.asc  
Topo\_30m\_Slope\_degrees\_all\_returns.asc (degrees)  
Topo\_30m\_Solar\_Radiation\_Index\_all\_returns.asc  
Topo\_90m\_Aspect\_degrees\_azimuth\_all\_returns.asc (degrees, south = 0/360)  
Topo\_90m\_Curvature\_all\_returns.asc  
Topo\_90m\_Elevation\_all\_returns.asc (m)  
Topo\_90m\_Plan\_curvature\_all\_returns.asc  
Topo\_90m\_Profile\_curvature\_all\_returns.asc  
Topo\_90m\_Slope\_degrees\_all\_returns.asc (degrees)  
Topo\_90m\_Solar\_Radiation\_Index\_all\_returns.asc

## Appendix C: LiDAR Processing Batch Files

Several batch files were used to process the vendor-supplied LiDAR data into the vegetation metric raster layers. The batch files called software routines included in the USDA Forest Service's Fusion software package, version, 3.21. The Fusion Software is available online at no charge at: <http://forsys.cfr.washington.edu/fusion.html>. Online training is available from the U.S. Forest Service's Remote Sensing Application Center (RSAC) at: [http://www.fs.fed.us/eng/rsac/lidar\\_training/](http://www.fs.fed.us/eng/rsac/lidar_training/).

Except as noted, the batch files were written by Van R. Kane, Ph.D., University of Washington. For clarity, some experimental processing commands not used to produce results used in this study have been edited out.

Brief descriptions of the batch files follows. Readers will need to become familiar with the Fusion software package to fully understand these batch files and are referred to the Fusion software manual and training (see above). Some familiarity with Microsoft DOS batch file language is also assumed. The logic used in these batch files pre-dates the batch files used in the RSAC training and therefore have a substantially different processing style than the latter.

These routines were last modified on June 30, 2013 and last run on August 21, 2013 to produce the final raster layers used in the study and supplied to the National Park Service as partial fulfillment of the Task Agreement. The batch files were based on a generic set of batch files completed on May 24, 2013. The full names of the batch files as used are provided so that in the case of any future inquiries, Dr. Kane can refer to the specific batch files used.

**Call\_Process\_MORA\_2013-05-24script\_2013-06-30.bat** – This batch file was created by the Fusion software LTKProcessor utility. The vendor supplied LiDAR data tiles (.LAS format) contained variable numbers of LiDAR returns, and some files had too many returns to be processed by the Fusion software. The LTKProcessor utility examines the vendor-supplied LiDAR tiles and calculated a new tiling arrangement. This batch file called the Pre-process\_MORA\_2013-05-24script\_2013-06-30.bat batch file at the start of processing, called the Process\_MORA\_2013-05-24script\_2013-06-30.bat for each new LiDAR return tile to be processed, and then called the Post-process\_MORA\_2013-05-24script\_2013-06-30.bat at the end of processing.

**Pre-process\_MORA\_2013-05-24script\_2013-06-30.bat** – This batch file was used to set parameters used for processing the LiDAR data in the Process\_MORA\_2013-05-24script\_2013-06-30.bat and Post-process\_MORA\_2013-05-24script\_2013-06-30.bat batch files.

**Process\_MORA\_2013-05-24script\_2013-06-30.bat** – This batch file was used to call Fusion utilities to create the new LiDAR return files and to calculate vegetation and topographic metrics on a 30 m raster grid.

**Post-process\_MORA\_2013-05-24script\_2013-06-30.bat** – This batch file was used to assemble the file LiDAR metric raster layers from temporary files created through the Process\_MORA\_2013-05-24script\_2013-06-30.bat batch file. This batch file called two batch

files, **extract\_intensity\_metric.bat** and **extract\_elev\_metric.bat** batch files that in turn called the **doextractmetric.bat** batch file. This batch file also called the **extract\_strata\_layer.bat** batch file that in turn called the **extract\_strata\_layer.bat** batch file.

**clipplot\_cloudmetrics\_2013-08-17.bat** – This batch file was used to calculate vegetation metrics for each field plot used in this study (including several that were subsequently eliminated for various reasons such as an obvious mismatch between vegetation metrics calculated by Fusion and vegetation characteristics recorded by field crews indicating that incorrect coordinates had been recorded for the field plot).

*Call\_Process\_MORA\_2013-05-24script\_2013-06-30.bat*

```
@ECHO OFF
REM LTKProcessor -- Version 1.98
REM Batch file created by LTKProcessor on 07/01/13 at 10:11:22

REM Data processing extent--LL(581370.00,5173470.00) UR(618870.00,5206290.00)
REM Analysis tile size: variable
REM Overall analysis tile grid is 9 columns by 8 rows
REM Individual tile sizes were computed using return density information from:
    G:\MORA\Catalog_return_count.dtm
REM Analysis grid is aligned to cell size
REM Analysis cell size is: 30.000000
REM Buffer width: 60.00
REM Target returns per tile: 55000000
REM Using LAS format for output files

REM define base name for the processing
SET BASENAME=Call_Process_MORA_2013-05-24script_2013-06-30

REM start the status monitor
START "" "C:\FUSION\LTKStatusMonitor"

IF "%1"=="" (
    REM update status using start to clear tile status codes
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" start
) ELSE (
    REM update status to use current status of all tile
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" message "Status"
)

REM clear LTK error variable
SET LTKERROR=

SET LTKLOG=I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.log

REM set working drive and directory
I:
CD I:\MORA_new

:PRE
REM call for pre-processing
CALL "I:\MORA_new\Pre-process_MORA_2013-05-24script_2013-06-30.bat"
```

## Task agreement J8W07100017 Final Report

REM Variables for tile processing batch file:

```
REM 1 Name of the buffered tile containing LIDAR data
REM 2 Minimum X value for the unbuffered tile
REM 3 Minimum Y value for the unbuffered tile
REM 4 Maximum X value for the unbuffered tile
REM 5 Maximum Y value for the unbuffered tile
REM 6 Minimum X value for the buffered tile
REM 7 Minimum Y value for the buffered tile
REM 8 Maximum X value for the buffered tile
REM 9 Maximum Y value for the buffered tile
REM 10 Name of the text file containing a list of all data files
REM 11 Buffer size
REM 12 Width of the unbuffered analysis tile
REM 13 Height of the unbuffered analysis tile
```

REM See if we are restarting a job or jumping to a specific tile

```
IF /I "%1""=="restart" (
    REM restarting a run...jump to tile
    GOTO %2
) ELSE (
    REM see if we are jumping to a specific tile
    IF NOT "%1""==" GOTO %1
)
```

:TILE\_C00001\_R00001\_S00001

ECHO Processing analysis tile for column: 1 row: 1 subtile: 1

TILE\_C00001\_R00001\_S00001

ECHO Tile 1 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 0 1 TILE_C00001_R00001_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00001_R00001_S00001 581370.0000 5173470.0000 585990.0000
5175780.0000 581370.0000 5173470.0000 586050.0000 5175840.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 0 1 TILE_C00001_R00001_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 0 1 TILE_C00001_R00001_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 0 1 TILE_C00001_R00001_S00001
)
)
IF "%1"=="TILE_C00001_R00001_S00001" GOTO END
```

```
:TILE_C00001_R00001_S00002
ECHO Processing analysis tile for column: 1 row: 1 subtile: 2
    TILE_C00001_R00001_S00002
ECHO Tile 2 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 0 2 TILE_C00001_R00001_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00002 581370.0000 5175780.0000 583680.0000
    5178090.0000 581370.0000 5175720.0000 583740.0000 5178150.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 0 2 TILE_C00001_R00001_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKEERROR%"=="" (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 0 2 TILE_C00001_R00001_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 0 2 TILE_C00001_R00001_S00002
)
)
)
IF "%1"=="TILE_C00001_R00001_S00002" GOTO END
```

```
:TILE_C00001_R00001_S00003
ECHO Processing analysis tile for column: 1 row: 1 subtile: 3
    TILE_C00001_R00001_S00003
ECHO Tile 3 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 0 3 TILE_C00001_R00001_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00001_R00001_S00003 583680.0000 5175780.0000 585990.0000  
      5178090.0000 583620.0000 5175720.0000 586050.0000 5178150.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 0 3 TILE_C00001_R00001_S00003
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    IF NOT "%LTKERROR%"==""  
        ("C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 0 3 TILE_C00001_R00001_S00003
```

```
        SET LTKERROR=
```

```
) ELSE (
```

```
        ("C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 0 3 TILE_C00001_R00001_S00003
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00001_R00001_S00003" GOTO END
```

:TILE\_C00001\_R00002\_S00001

```
ECHO Processing analysis tile for column: 1 row: 2 subtile: 1
```

```
    TILE_C00001_R00002_S00001
```

```
ECHO Tile 4 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 1 1 TILE_C00001_R00002_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
    TILE_C00001_R00002_S00001 581370.0000 5178090.0000 583680.0000
```

```
    5180400.0000 581370.0000 5178030.0000 583740.0000 5180460.0000
```

```
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 0 1 1 TILE_C00001_R00002_S00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 1 1 TILE_C00001_R00002_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 0 1 1 TILE_C00001_R00002_S00001
)
)
IF "%1""=""TILE_C00001_R00002_S00001" GOTO END

:TILE_C00001_R00002_S00002
ECHO Processing analysis tile for column: 1 row: 2 subtile: 2
    TILE_C00001_R00002_S00002
ECHO Tile 5 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 1 2 TILE_C00001_R00002_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00002_S00002 583680.0000 5178090.0000 585990.0000
    5179230.0000 583620.0000 5178030.0000 586050.0000 5179290.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 1 2 TILE_C00001_R00002_S00002
    SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 1 2 TILE_C00001_R00002_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 1 2 TILE_C00001_R00002_S00002
)
)
IF "%1""=""TILE_C00001_R00002_S00002" GOTO END
```

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```
:TILE_C00001_R00002_S00003
ECHO Processing analysis tile for column: 1 row: 2 subtile: 3
    TILE_C00001_R00002_S00003
ECHO Tile 6 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 1 3 TILE_C00001_R00002_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00002_S00003 583680.0000 5179230.0000 585990.0000
    5180400.0000 583620.0000 5179170.0000 586050.0000 5180460.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 1 3 TILE_C00001_R00002_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 1 3 TILE_C00001_R00002_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 0 1 3 TILE_C00001_R00002_S00003
)
)
IF "%1"=="TILE_C00001_R00002_S00003" GOTO END
```

```
:TILE_C00001_R00002_S00004
ECHO Processing analysis tile for column: 1 row: 2 subtile: 4
    TILE_C00001_R00002_S00004
ECHO Tile 7 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 1 4 TILE_C00001_R00002_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00002_S00004 581370.0000 5180400.0000 583680.0000
    5182710.0000 581370.0000 5180340.0000 583740.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 1 4 TILE_C00001_R00002_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 1 4 TILE_C00001_R00002_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 1 4 TILE_C00001_R00002_S00004
)
)
IF "%1"=="TILE_C00001_R00002_S00004" GOTO END

:TILE_C00001_R00002_S00005
ECHO Processing analysis tile for column: 1 row: 2 subtile: 5
    TILE_C00001_R00002_S00005
ECHO Tile 8 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 0 1 5 TILE_C00001_R00002_S00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00002_S00005 583680.0000 5180400.0000 585990.0000
    5181540.0000 583620.0000 5180340.0000 586050.0000 5181600.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 1 5 TILE_C00001_R00002_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 1 5 TILE_C00001_R00002_S00005
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 1 5 TILE_C00001_R00002_S00005
```

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```
)  
)  
IF "%1"]=="TILE_C00001_R00002_S00005" GOTO END  
  
:TILE_C00001_R00002_S00006  
ECHO Processing analysis tile for column: 1 row: 2 subtile: 6  
    TILE_C00001_R00002_S00006  
ECHO Tile 9 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 0 1 6 TILE_C00001_R00002_S00006  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00001_R00002_S00006 583680.0000 5181540.0000 585990.0000  
    5182710.0000 583620.0000 5181480.0000 586050.0000 5182770.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 1170.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 1 6 TILE_C00001_R00002_S00006  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 1 6 TILE_C00001_R00002_S00006  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 0 1 6 TILE_C00001_R00002_S00006  
    )  
)  
IF "%1"]=="TILE_C00001_R00002_S00006" GOTO END  
  
:TILE_C00001_R00003_S00001  
ECHO Processing analysis tile for column: 1 row: 3 subtile: 1  
    TILE_C00001_R00003_S00001  
ECHO Tile 10 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 0 2 1 TILE_C00001_R00003_S00001  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

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```
TILE_C00001_R00003_S00001 581370.0000 5182710.0000 583680.0000  
5185020.0000 581370.0000 5182650.0000 583740.0000 5185080.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 2 1 TILE_C00001_R00003_S00001  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 2 1 TILE_C00001_R00003_S00001  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 0 2 1 TILE_C00001_R00003_S00001  
    )  
)  
IF "%1"=="TILE_C00001_R00003_S00001" GOTO END
```

```
:TILE_C00001_R00003_S00002  
ECHO Processing analysis tile for column: 1 row: 3 subtile: 2  
    TILE_C00001_R00003_S00002  
ECHO Tile 11 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 0 2 2 TILE_C00001_R00003_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00001_R00003_S00002 583680.0000 5182710.0000 585990.0000  
    5185020.0000 583620.0000 5182650.0000 586050.0000 5185080.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 2 2 TILE_C00001_R00003_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 2 2 TILE_C00001_R00003_S00002
```

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```
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 0 2 2 TILE_C00001_R00003_S00002
)
)
IF "%1"=="TILE_C00001_R00003_S00002" GOTO END

:TILE_C00001_R00003_S00003
ECHO Processing analysis tile for column: 1 row: 3 subtile: 3
    TILE_C00001_R00003_S00003
ECHO Tile 12 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 2 3 TILE_C00001_R00003_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00003_S00003 581370.0000 5185020.0000 583680.0000
    5187330.0000 581370.0000 5184960.0000 583740.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 0 2 3 TILE_C00001_R00003_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 2 3 TILE_C00001_R00003_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 0 2 3 TILE_C00001_R00003_S00003
)
)
IF "%1"=="TILE_C00001_R00003_S00003" GOTO END

:TILE_C00001_R00003_S00004
ECHO Processing analysis tile for column: 1 row: 3 subtile: 4
    TILE_C00001_R00003_S00004
ECHO Tile 13 of 217

REM update status
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 2 4 TILE_C00001_R00003_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00001_R00004 583680.0000 5185020.0000 585990.0000
5187330.0000 583620.0000 5184960.0000 586050.0000 5187390.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 2 4 TILE_C00001_R00003_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 2 4 TILE_C00001_R00003_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 2 4 TILE_C00001_R00003_S00004
)
)
IF "%1"=="TILE_C00001_R00003_S00004" GOTO END

:TILE_C00001_R00004_S00001
ECHO Processing analysis tile for column: 1 row: 4 subtile: 1
    TILE_C00001_R00004_S00001
ECHO Tile 14 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 3 1 TILE_C00001_R00004_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00001_R00004_S00001 581370.0000 5187330.0000 585990.0000
5189640.0000 581370.0000 5187270.0000 586050.0000 5189700.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 3 1 TILE_C00001_R00004_S00001
    SET LTKERROR=
```

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```
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 3 1 TILE_C00001_R00004_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 0 3 1 TILE_C00001_R00004_S00001
)
)
IF "%1""=="TILE_C00001_R00004_S00001" GOTO END

:TILE_C00001_R00004_S00002
ECHO Processing analysis tile for column: 1 row: 4 subtile: 2
    TILE_C00001_R00004_S00002
ECHO Tile 15 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 3 2 TILE_C00001_R00004_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00004_S00002 581370.0000 5189640.0000 583680.0000
    5191950.0000 581370.0000 5189580.0000 583740.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 3 2 TILE_C00001_R00004_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 3 2 TILE_C00001_R00004_S00002
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 0 3 2 TILE_C00001_R00004_S00002
)
)
IF "%1""=="TILE_C00001_R00004_S00002" GOTO END

:TILE_C00001_R00004_S00003
ECHO Processing analysis tile for column: 1 row: 4 subtile: 3
```

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TILE\_C00001\_R00004\_S00003  
ECHO Tile 16 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 3 3 TILE_C00001_R00004_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00001_R00004_S00003 583680.0000 5189640.0000 585990.0000  
      5191950.0000 583620.0000 5189580.0000 586050.0000 5192010.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 3 3 TILE_C00001_R00004_S00003  
  SET LTKERROR=
```

```
) ELSE (  
  IF NOT "%LTKERROR%"=="" (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 3 3 TILE_C00001_R00004_S00003  
    SET LTKERROR=  
) ELSE (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 3 3 TILE_C00001_R00004_S00003  
)  
)
```

```
IF "%1"=="TILE_C00001_R00004_S00003" GOTO END
```

```
:TILE_C00001_R00005_S00001  
ECHO Processing analysis tile for column: 1 row: 5 subtile: 1  
      TILE_C00001_R00005_S00001  
ECHO Tile 17 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 4 1 TILE_C00001_R00005_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00001_R00005_S00001 581370.0000 5191950.0000 583680.0000  
      5194260.0000 581370.0000 5191890.0000 583740.0000 5194320.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

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```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 4 1 TILE_C00001_R00005_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 4 1 TILE_C00001_R00005_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 4 1 TILE_C00001_R00005_S00001
)
)
IF "%1"=="TILE_C00001_R00005_S00001" GOTO END
```

```
:TILE_C00001_R00005_S00002
ECHO Processing analysis tile for column: 1 row: 5 subtile: 2
    TILE_C00001_R00005_S00002
ECHO Tile 18 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 0 4 2 TILE_C00001_R00005_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00005_S00002 583680.0000 5191950.0000 585990.0000
    5194260.0000 583620.0000 5191890.0000 586050.0000 5194320.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 4 2 TILE_C00001_R00005_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 4 2 TILE_C00001_R00005_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 4 2 TILE_C00001_R00005_S00002
)
)
```

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```
IF "%1"=="TILE_C00001_R00005_S00002" GOTO END
```

```
:TILE_C00001_R00005_S00003
```

```
ECHO Processing analysis tile for column: 1 row: 5 subtile: 3
```

```
    TILE_C00001_R00005_S00003
```

```
ECHO Tile 19 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 4 3 TILE_C00001_R00005_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
    TILE_C00001_R00005_S00003 581370.0000 5194260.0000 585990.0000
```

```
    5196570.0000 581370.0000 5194200.0000 586050.0000 5196630.0000
```

```
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    4620.0000 2310.0000
```

```
REM update status
```

```
IF ERRORLEVEL 1 (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 4 3 TILE_C00001_R00005_S00003
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    IF NOT "%LTKERROR%"=="" (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 4 3 TILE_C00001_R00005_S00003
```

```
        SET LTKERROR=
```

```
) ELSE (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 4 3 TILE_C00001_R00005_S00003
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00001_R00005_S00003" GOTO END
```

```
:TILE_C00001_R00006_S00001
```

```
ECHO Processing analysis tile for column: 1 row: 6 subtile: 1
```

```
    TILE_C00001_R00006_S00001
```

```
ECHO Tile 20 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 5 1 TILE_C00001_R00006_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
    TILE_C00001_R00006_S00001 581370.0000 5196570.0000 583680.0000
```

```
    5198880.0000 581370.0000 5196510.0000 583740.0000 5198940.0000
```

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```
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 5 1 TILE_C00001_R00006_S00001  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (   
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 5 1 TILE_C00001_R00006_S00001  
        SET LTKERROR=  
) ELSE (   
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 0 5 1 TILE_C00001_R00006_S00001  
    )  
)  
IF "%1"=="TILE_C00001_R00006_S00001" GOTO END
```

:TILE\_C00001\_R00006\_S00002

ECHO Processing analysis tile for column: 1 row: 6 subtile: 2

TILE\_C00001\_R00006\_S00002

ECHO Tile 21 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 0 5 2 TILE_C00001_R00006_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00001_R00006_S00002 583680.0000 5196570.0000 585990.0000  
5198880.0000 583620.0000 5196510.0000 586050.0000 5198940.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 5 2 TILE_C00001_R00006_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (   
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 5 2 TILE_C00001_R00006_S00002  
        SET LTKERROR=  
) ELSE (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 5 2 TILE_C00001_R00006_S00002
)
)
IF "%1"=="TILE_C00001_R00006_S00002" GOTO END

:TILE_C00001_R00006_S00003
ECHO Processing analysis tile for column: 1 row: 6 subtile: 3
    TILE_C00001_R00006_S00003
ECHO Tile 22 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 5 3 TILE_C00001_R00006_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00006_S00003 581370.0000 5198880.0000 583680.0000
    5201190.0000 581370.0000 5198820.0000 583740.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 5 3 TILE_C00001_R00006_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKEERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 5 3 TILE_C00001_R00006_S00003
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 5 3 TILE_C00001_R00006_S00003
    )
)
IF "%1"=="TILE_C00001_R00006_S00003" GOTO END

:TILE_C00001_R00006_S00004
ECHO Processing analysis tile for column: 1 row: 6 subtile: 4
    TILE_C00001_R00006_S00004
ECHO Tile 23 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 5 4 TILE_C00001_R00006_S00004
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00006_S00004 583680.0000 5198880.0000 585990.0000
    5200020.0000 583620.0000 5198820.0000 586050.0000 5200080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 5 4 TILE_C00001_R00006_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 5 4 TILE_C00001_R00006_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 5 4 TILE_C00001_R00006_S00004
)
)
IF "%1"=="TILE_C00001_R00006_S00004" GOTO END
```

```
:TILE_C00001_R00006_S00005
ECHO Processing analysis tile for column: 1 row: 6 subtile: 5
    TILE_C00001_R00006_S00005
ECHO Tile 24 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 0 5 5 TILE_C00001_R00006_S00005
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00006_S00005 583680.0000 5200020.0000 585990.0000
    5201190.0000 583620.0000 5199960.0000 586050.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 5 5 TILE_C00001_R00006_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""

```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 5 5 TILE_C00001_R00006_S00005
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 5 5 TILE_C00001_R00006_S00005
)
)
IF "%1"=="TILE_C00001_R00006_S00005" GOTO END
```

```
:TILE_C00001_R00007_S00001
ECHO Processing analysis tile for column: 1 row: 7 subtile: 1
    TILE_C00001_R00007_S00001
ECHO Tile 25 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 6 1 TILE_C00001_R00007_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00007_S00001 581370.0000 5201190.0000 583680.0000
    5203500.0000 581370.0000 5201130.0000 583740.0000 5203560.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 6 1 TILE_C00001_R00007_S00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKEERROR%"=="" (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 6 1 TILE_C00001_R00007_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 6 1 TILE_C00001_R00007_S00001
)
)
)
IF "%1"=="TILE_C00001_R00007_S00001" GOTO END
```

```
:TILE_C00001_R00007_S00002
ECHO Processing analysis tile for column: 1 row: 7 subtile: 2
    TILE_C00001_R00007_S00002
ECHO Tile 26 of 217
```

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REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 6 2 TILE_C00001_R00007_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00001_R00007_S00002 583680.0000 5201190.0000 585990.0000  
      5202330.0000 583620.0000 5201130.0000 586050.0000 5202390.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 6 2 TILE_C00001_R00007_S00002  
  SET LTKERROR=
```

```
) ELSE (
```

```
  IF NOT "%LTKERROR%"==""  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 0 6 2 TILE_C00001_R00007_S00002  
    SET LTKERROR=
```

```
) ELSE (
```

```
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 0 6 2 TILE_C00001_R00007_S00002  
)  
)
```

```
IF "%1"=="TILE_C00001_R00007_S00002" GOTO END
```

```
:TILE_C00001_R00007_S00003
```

```
ECHO Processing analysis tile for column: 1 row: 7 subtile: 3
```

```
      TILE_C00001_R00007_S00003
```

```
ECHO Tile 27 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 0 6 3 TILE_C00001_R00007_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00001_R00007_S00003 583680.0000 5202330.0000 584820.0000  
      5203500.0000 583620.0000 5202270.0000 584880.0000 5203560.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      1140.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 0 6 3 TILE_C00001_R00007_S00003
SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 6 3 TILE_C00001_R00007_S00003
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 0 6 3 TILE_C00001_R00007_S00003
    )
)
IF "%1"=="TILE_C00001_R00007_S00003" GOTO END

:TILE_C00001_R00007_S00004
ECHO Processing analysis tile for column: 1 row: 7 subtile: 4
    TILE_C00001_R00007_S00004
ECHO Tile 28 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 0 6 4 TILE_C00001_R00007_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00007_S00004 584820.0000 5202330.0000 585990.0000
    5203500.0000 584760.0000 5202270.0000 586050.0000 5203560.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    1170.0000 1170.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 6 4 TILE_C00001_R00007_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 6 4 TILE_C00001_R00007_S00004
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 0 6 4 TILE_C00001_R00007_S00004
    )
)
IF "%1"=="TILE_C00001_R00007_S00004" GOTO END
```

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```
:TILE_C00001_R00007_S00005
ECHO Processing analysis tile for column: 1 row: 7 subtile: 5
    TILE_C00001_R00007_S00005
ECHO Tile 29 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 6 5 TILE_C00001_R00007_S00005
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00005 581370.0000 5203500.0000 583680.0000
    5204640.0000 581370.0000 5203440.0000 583740.0000 5204700.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 6 5 TILE_C00001_R00007_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 0 6 5 TILE_C00001_R00007_S00005
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 0 6 5 TILE_C00001_R00007_S00005
)
)
IF "%1"=="TILE_C00001_R00007_S00005" GOTO END
```

```
:TILE_C00001_R00007_S00006
ECHO Processing analysis tile for column: 1 row: 7 subtile: 6
    TILE_C00001_R00007_S00006
ECHO Tile 30 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 0 6 6 TILE_C00001_R00007_S00006
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00006 581370.0000 5204640.0000 583680.0000
    5205810.0000 581370.0000 5204580.0000 583740.0000 5205870.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 6 6 TILE_C00001_R00007_S00006
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 6 6 TILE_C00001_R00007_S00006
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 6 6 TILE_C00001_R00007_S00006
)
)
IF "%1"=="TILE_C00001_R00007_S00006" GOTO END

:TILE_C00001_R00007_S00007
ECHO Processing analysis tile for column: 1 row: 7 subtile: 7
    TILE_C00001_R00007_S00007
ECHO Tile 31 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 0 6 7 TILE_C00001_R00007_S00007

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00001_R00007_S00007 583680.0000 5203500.0000 584820.0000
    5204640.0000 583620.0000 5203440.0000 584880.0000 5204700.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    1140.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 0 6 7 TILE_C00001_R00007_S00007
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 0 6 7 TILE_C00001_R00007_S00007
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 0 6 7 TILE_C00001_R00007_S00007
```

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```
)  
)  
IF "%1"]=="TILE_C00001_R00007_S00007" GOTO END  
  
:TILE_C00001_R00007_S00008  
ECHO Processing analysis tile for column: 1 row: 7 subtile: 8  
    TILE_C00001_R00007_S00008  
ECHO Tile 32 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 0 6 8 TILE_C00001_R00007_S00008  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00001_R00008 584820.0000 5203500.0000 585990.0000  
    5204640.0000 584760.0000 5203440.0000 586050.0000 5204700.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    1170.0000 1140.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 6 8 TILE_C00001_R00007_S00008  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 6 8 TILE_C00001_R00007_S00008  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 0 6 8 TILE_C00001_R00007_S00008  
    )  
)  
IF "%1"]=="TILE_C00001_R00007_S00008" GOTO END  
  
:TILE_C00001_R00007_S00009  
ECHO Processing analysis tile for column: 1 row: 7 subtile: 9  
    TILE_C00001_R00007_S00009  
ECHO Tile 33 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 0 6 9 TILE_C00001_R00007_S00009  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

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```
TILE_C00001_R00007_S00009 583680.0000 5204640.0000 585990.0000  
5205810.0000 583620.0000 5204580.0000 586050.0000 5205870.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 6 9 TILE_C00001_R00007_S00009  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 6 9 TILE_C00001_R00007_S00009  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 0 6 9 TILE_C00001_R00007_S00009  
)  
)  
IF "%1"=="TILE_C00001_R00007_S00009" GOTO END
```

:TILE\_C00001\_R00008

```
ECHO Processing analysis tile for column: 1 row: 8 TILE_C00001_R00008  
ECHO Tile 34 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 0 7 0 TILE_C00001_R00008
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00001_R00008 581370.0000 5205810.0000 585990.0000 5206284.1000  
581370.0000 5205750.0000 586050.0000 5206284.1000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
4620.0000 474.1000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 0 7 0 TILE_C00001_R00008  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 0 7 0 TILE_C00001_R00008  
        SET LTKERROR=
```

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```
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 0 7 0 TILE_C00001_R00008
)
)
IF "%1"=="TILE_C00001_R00008" GOTO END
```

```
:TILE_C00002_R00001_S00001
ECHO Processing analysis tile for column: 2 row: 1 subtile: 1
    TILE_C00002_R00001_S00001
ECHO Tile 35 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 0 1 TILE_C00002_R00001_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00001_S00001 585990.0000 5173470.0000 590610.0000
    5175780.0000 585930.0000 5173470.0000 590670.0000 5175840.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 0 1 TILE_C00002_R00001_S00001
    SET LTKERROR=
)
ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 0 1 TILE_C00002_R00001_S00001
        SET LTKERROR=
)
ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 0 1 TILE_C00002_R00001_S00001
)
)
IF "%1"=="TILE_C00002_R00001_S00001" GOTO END
```

```
:TILE_C00002_R00001_S00002
ECHO Processing analysis tile for column: 2 row: 1 subtile: 2
    TILE_C00002_R00001_S00002
ECHO Tile 36 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" processing 1 0 2 TILE_C00002_R00001_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00002_R00001_S00002 585990.0000 5175780.0000 588300.0000  
      5178090.0000 585930.0000 5175720.0000 588360.0000 5178150.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 1 0 2 TILE_C00002_R00001_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 1 0 2 TILE_C00002_R00001_S00002  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 1 0 2 TILE_C00002_R00001_S00002  
)  
)  
IF "%1"=="TILE_C00002_R00001_S00002" GOTO END
```

:TILE\_C00002\_R00001\_S00003

```
ECHO Processing analysis tile for column: 2 row: 1 subtile: 3  
      TILE_C00002_R00001_S00003
```

```
ECHO Tile 37 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 1 0 3 TILE_C00002_R00001_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00002_R00001_S00003 588300.0000 5175780.0000 590610.0000  
      5178090.0000 588240.0000 5175720.0000 590670.0000 5178150.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 1 0 3 TILE_C00002_R00001_S00003  
    SET LTKERROR=  
) ELSE (
```

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```
IF NOT "%LTKERROR%"=="" (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 0 3 TILE_C00002_R00001_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 0 3 TILE_C00002_R00001_S00003
)
)
IF "%1"=="TILE_C00002_R00001_S00003" GOTO END

:TILE_C00002_R00002_S00001
ECHO Processing analysis tile for column: 2 row: 2 subtile: 1
    TILE_C00002_R00002_S00001
ECHO Tile 38 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 1 1 TILE_C00002_R00002_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00002_S00001 585990.0000 5178090.0000 588300.0000
    5180400.0000 585930.0000 5178030.0000 588360.0000 5180460.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 1 1 TILE_C00002_R00002_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 1 1 TILE_C00002_R00002_S00001
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 1 1 1 TILE_C00002_R00002_S00001
    )
)
)
IF "%1"=="TILE_C00002_R00002_S00001" GOTO END

:TILE_C00002_R00002_S00002
ECHO Processing analysis tile for column: 2 row: 2 subtile: 2
    TILE_C00002_R00002_S00002
```

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ECHO Tile 39 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 1 2 TILE_C00002_R00002_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00002_R00002_S00002 588300.0000 5178090.0000 590610.0000
5180400.0000 588240.0000 5178030.0000 590670.0000 5180460.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 1 2 TILE_C00002_R00002_S00002
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
IF NOT "%LTKERROR%"=="" (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 1 2 TILE_C00002_R00002_S00002
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 1 1 2 TILE_C00002_R00002_S00002
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00002_R00002_S00002" GOTO END
```

:TILE\_C00002\_R00002\_S00003

ECHO Processing analysis tile for column: 2 row: 2 subtile: 3

TILE\_C00002\_R00002\_S00003

ECHO Tile 40 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 1 3 TILE_C00002_R00002_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00002_R00002_S00003 585990.0000 5180400.0000 588300.0000
5181540.0000 585930.0000 5180340.0000 588360.0000 5181600.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 1 3 TILE_C00002_R00002_S00003
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 1 3 TILE_C00002_R00002_S00003
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 1 3 TILE_C00002_R00002_S00003
)
)
IF "%1"=="TILE_C00002_R00002_S00003" GOTO END

:TILE_C00002_R00002_S00004
ECHO Processing analysis tile for column: 2 row: 2 subtile: 4
    TILE_C00002_R00002_S00004
ECHO Tile 41 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 1 4 TILE_C00002_R00002_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00002_S00004 585990.0000 5181540.0000 588300.0000
    5182710.0000 585930.0000 5181480.0000 588360.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 1 4 TILE_C00002_R00002_S00004
    SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 1 4 TILE_C00002_R00002_S00004
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 1 4 TILE_C00002_R00002_S00004
)
)
IF "%1"=="TILE_C00002_R00002_S00004" GOTO END
```

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```
:TILE_C00002_R00002_S00005
ECHO Processing analysis tile for column: 2 row: 2 subtile: 5
    TILE_C00002_R00002_S00005
ECHO Tile 42 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 1 5 TILE_C00002_R00002_S00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00005 588300.0000 5180400.0000 590610.0000
    5182710.0000 588240.0000 5180340.0000 590670.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 1 1 5 TILE_C00002_R00002_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 1 5 TILE_C00002_R00002_S00005
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 1 1 5 TILE_C00002_R00002_S00005
)
)
IF "%1"=="TILE_C00002_R00002_S00005" GOTO END

:TILE_C00002_R00003_S00001
ECHO Processing analysis tile for column: 2 row: 3 subtile: 1
    TILE_C00002_R00003_S00001
ECHO Tile 43 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 2 1 TILE_C00002_R00003_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00003_S00001 585990.0000 5182710.0000 588300.0000
    5185020.0000 585930.0000 5182650.0000 588360.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
```

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2310.0000 2310.0000

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 2 1 TILE_C00002_R00003_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 2 1 TILE_C00002_R00003_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 2 1 TILE_C00002_R00003_S00001
)
)
IF "%1"=="TILE_C00002_R00003_S00001" GOTO END
```

```
:TILE_C00002_R00003_S00002
ECHO Processing analysis tile for column: 2 row: 3 subtile: 2
    TILE_C00002_R00003_S00002
ECHO Tile 44 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 2 2 TILE_C00002_R00003_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00003_S00002 588300.0000 5182710.0000 590610.0000
    5185020.0000 588240.0000 5182650.0000 590670.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 2 2 TILE_C00002_R00003_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 2 2 TILE_C00002_R00003_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" complete 1 2 2 TILE_C00002_R00003_S00002
)
)
IF "%1"=="TILE_C00002_R00003_S00002" GOTO END

:TILE_C00002_R00003_S00003
ECHO Processing analysis tile for column: 2 row: 3 subtile: 3
    TILE_C00002_R00003_S00003
ECHO Tile 45 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 2 3 TILE_C00002_R00003_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00003_S00003 585990.0000 5185020.0000 588300.0000
    5187330.0000 585930.0000 5184960.0000 588360.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 2 3 TILE_C00002_R00003_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 2 3 TILE_C00002_R00003_S00003
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 1 2 3 TILE_C00002_R00003_S00003
    )
)
IF "%1"=="TILE_C00002_R00003_S00003" GOTO END

:TILE_C00002_R00003_S00004
ECHO Processing analysis tile for column: 2 row: 3 subtile: 4
    TILE_C00002_R00003_S00004
ECHO Tile 46 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 2 4 TILE_C00002_R00003_S00004
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00002_R00003_S00004 588300.0000 5185020.0000 590610.0000
5187330.0000 588240.0000 5184960.0000 590670.0000 5187390.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 2 4 TILE_C00002_R00003_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 2 4 TILE_C00002_R00003_S00004
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 2 4 TILE_C00002_R00003_S00004
)
)
IF "%1"=="TILE_C00002_R00003_S00004" GOTO END
```

```
:TILE_C00002_R00004_S00001
ECHO Processing analysis tile for column: 2 row: 4 subtile: 1
    TILE_C00002_R00004_S00001
ECHO Tile 47 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 3 1 TILE_C00002_R00004_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00002_R00004_S00001 585990.0000 5187330.0000 588300.0000
5189640.0000 585930.0000 5187270.0000 588360.0000 5189700.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 3 1 TILE_C00002_R00004_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 1 3 1 TILE_C00002_R00004_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 3 1 TILE_C00002_R00004_S00001
)
)
IF "%1"=="TILE_C00002_R00004_S00001" GOTO END

:TILE_C00002_R00004_S00002
ECHO Processing analysis tile for column: 2 row: 4 subtile: 2
    TILE_C00002_R00004_S00002
ECHO Tile 48 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 3 2 TILE_C00002_R00004_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00004_S00002 588300.0000 5187330.0000 590610.0000
    5189640.0000 588240.0000 5187270.0000 590670.0000 5189700.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 1 3 2 TILE_C00002_R00004_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 3 2 TILE_C00002_R00004_S00002
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 3 2 TILE_C00002_R00004_S00002
    )
)
IF "%1"=="TILE_C00002_R00004_S00002" GOTO END

:TILE_C00002_R00004_S00003
ECHO Processing analysis tile for column: 2 row: 4 subtile: 3
    TILE_C00002_R00004_S00003
ECHO Tile 49 of 217
```

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REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 3 3 TILE_C00002_R00004_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00002_R00004_S00003 585990.0000 5189640.0000 588300.0000  
      5191950.0000 585930.0000 5189580.0000 588360.0000 5192010.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 3 3 TILE_C00002_R00004_S00003  
  SET LTKERROR=
```

```
) ELSE (
```

```
  IF NOT "%LTKERROR%"==""  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 3 3 TILE_C00002_R00004_S00003  
    SET LTKERROR=
```

```
) ELSE (
```

```
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 1 3 3 TILE_C00002_R00004_S00003  
)
```

```
)  
IF "%1"=="TILE_C00002_R00004_S00003" GOTO END
```

:TILE\_C00002\_R00004\_S00004

```
ECHO Processing analysis tile for column: 2 row: 4 subtitle: 4  
      TILE_C00002_R00004_S00004
```

```
ECHO Tile 50 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 3 4 TILE_C00002_R00004_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00002_R00004_S00004 588300.0000 5189640.0000 590610.0000  
      5191950.0000 588240.0000 5189580.0000 590670.0000 5192010.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 3 4 TILE_C00002_R00004_S00004
```

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```
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 3 4 TILE_C00002_R00004_S00004
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 3 4 TILE_C00002_R00004_S00004
)
)
IF "%1"=="TILE_C00002_R00004_S00004" GOTO END
```

```
:TILE_C00002_R00005_S00001
ECHO Processing analysis tile for column: 2 row: 5 subtile: 1
    TILE_C00002_R00005_S00001
ECHO Tile 51 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 4 1 TILE_C00002_R00005_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00005_S00001 585990.0000 5191950.0000 588300.0000
    5194260.0000 585930.0000 5191890.0000 588360.0000 5194320.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 4 1 TILE_C00002_R00005_S00001
    SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 4 1 TILE_C00002_R00005_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 4 1 TILE_C00002_R00005_S00001
)
)
IF "%1"=="TILE_C00002_R00005_S00001" GOTO END

:TILE_C00002_R00005_S00002
```

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ECHO Processing analysis tile for column: 2 row: 5 subtile: 2  
TILE\_C00002\_R00005\_S00002  
ECHO Tile 52 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 4 2 TILE_C00002_R00005_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00002_R00005_S00002 588300.0000 5191950.0000 590610.0000  
5194260.0000 588240.0000 5191890.0000 590670.0000 5194320.0000  
\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 4 2 TILE_C00002_R00005_S00002  
SET LTKERROR=  
) ELSE (  
IF NOT "%LTKERROR%"=="" (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 4 2 TILE_C00002_R00005_S00002  
SET LTKERROR=  
) ELSE (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 1 4 2 TILE_C00002_R00005_S00002  
)  
)  
IF "%1"=="TILE_C00002_R00005_S00002" GOTO END
```

:TILE\_C00002\_R00005\_S00003  
ECHO Processing analysis tile for column: 2 row: 5 subtile: 3  
TILE\_C00002\_R00005\_S00003  
ECHO Tile 53 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 4 3 TILE_C00002_R00005_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00002_R00005_S00003 585990.0000 5194260.0000 590610.0000  
5196570.0000 585930.0000 5194200.0000 590670.0000 5196630.0000  
\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
4620.0000 2310.0000
```

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REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 4 3 TILE_C00002_R00005_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 4 3 TILE_C00002_R00005_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 4 3 TILE_C00002_R00005_S00003
)
)
IF "%1"=="TILE_C00002_R00005_S00003" GOTO END
```

:TILE\_C00002\_R00006\_S00001

ECHO Processing analysis tile for column: 2 row: 6 subtile: 1

TILE\_C00002\_R00006\_S00001

ECHO Tile 54 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 5 1 TILE_C00002_R00006_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00006_S00001 585990.0000 5196570.0000 588300.0000
    5198880.0000 585930.0000 5196510.0000 588360.0000 5198940.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 5 1 TILE_C00002_R00006_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 5 1 TILE_C00002_R00006_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 5 1 TILE_C00002_R00006_S00001
)
```

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```
)  
IF "%1"]=="TILE_C00002_R00006_S00001" GOTO END  
  
:TILE_C00002_R00006_S00002  
ECHO Processing analysis tile for column: 2 row: 6 subtile: 2  
    TILE_C00002_R00006_S00002  
ECHO Tile 55 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 1 5 2 TILE_C00002_R00006_S00002  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00002_R00006_S00002 588300.0000 5196570.0000 590610.0000  
    5198880.0000 588240.0000 5196510.0000 590670.0000 5198940.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 1 5 2 TILE_C00002_R00006_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 1 5 2 TILE_C00002_R00006_S00002  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" complete 1 5 2 TILE_C00002_R00006_S00002  
)  
)  
IF "%1"]=="TILE_C00002_R00006_S00002" GOTO END  
  
:TILE_C00002_R00006_S00003  
ECHO Processing analysis tile for column: 2 row: 6 subtile: 3  
    TILE_C00002_R00006_S00003  
ECHO Tile 56 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 1 5 3 TILE_C00002_R00006_S00003  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00002_R00006_S00003 585990.0000 5198880.0000 588300.0000
```

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```
5200020.0000 585930.0000 5198820.0000 588360.0000 5200080.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 5 3 TILE_C00002_R00006_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 5 3 TILE_C00002_R00006_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 5 3 TILE_C00002_R00006_S00003
)
)
IF "%1"=="TILE_C00002_R00006_S00003" GOTO END
```

:TILE\_C00002\_R00006\_S00004

```
ECHO Processing analysis tile for column: 2 row: 6 subtile: 4
    TILE_C00002_R00006_S00004
ECHO Tile 57 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 5 4 TILE_C00002_R00006_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00006_S00004 585990.0000 5200020.0000 588300.0000
    5201190.0000 585930.0000 5199960.0000 588360.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 5 4 TILE_C00002_R00006_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 5 4 TILE_C00002_R00006_S00004
        SET LTKERROR=
```

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```
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 5 4 TILE_C00002_R00006_S00004
)
)
IF "%1"=="TILE_C00002_R00006_S00004" GOTO END

:TILE_C00002_R00006_S00005
ECHO Processing analysis tile for column: 2 row: 6 subtile: 5
    TILE_C00002_R00006_S00005
ECHO Tile 58 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 5 5 TILE_C00002_R00006_S00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00006_S00005 588300.0000 5198880.0000 590610.0000
    5200020.0000 588240.0000 5198820.0000 590670.0000 5200080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 5 5 TILE_C00002_R00006_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 5 5 TILE_C00002_R00006_S00005
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 5 5 TILE_C00002_R00006_S00005
)
)
IF "%1"=="TILE_C00002_R00006_S00005" GOTO END

:TILE_C00002_R00006_S00006
ECHO Processing analysis tile for column: 2 row: 6 subtile: 6
    TILE_C00002_R00006_S00006
ECHO Tile 59 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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24script\_2013-06-30.bat" processing 1 5 6 TILE\_C00002\_R00006\_S00006

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00006_S00006 588300.0000 5200020.0000 590610.0000
    5201190.0000 588240.0000 5199960.0000 590670.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 5 6 TILE_C00002_R00006_S00006
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 5 6 TILE_C00002_R00006_S00006
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 5 6 TILE_C00002_R00006_S00006
)
)
IF "%1"=="TILE_C00002_R00006_S00006" GOTO END
```

:TILE\_C00002\_R00007\_S00001

```
ECHO Processing analysis tile for column: 2 row: 7 subtile: 1
    TILE_C00002_R00007_S00001
```

```
ECHO Tile 60 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 6 1 TILE_C00002_R00007_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00007_S00001 585990.0000 5201190.0000 588300.0000
    5202330.0000 585930.0000 5201130.0000 588360.0000 5202390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 6 1 TILE_C00002_R00007_S00001
    SET LTKERROR=
) ELSE (
```

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```
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 6 1 TILE_C00002_R00007_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 6 1 TILE_C00002_R00007_S00001
)
)
IF "%1"=="TILE_C00002_R00007_S00001" GOTO END

:TILE_C00002_R00007_S00002
ECHO Processing analysis tile for column: 2 row: 7 subtile: 2
    TILE_C00002_R00007_S00002
ECHO Tile 61 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 6 2 TILE_C00002_R00007_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00007_S00002 585990.0000 5202330.0000 588300.0000
    5203500.0000 585930.0000 5202270.0000 588360.0000 5203560.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 6 2 TILE_C00002_R00007_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 6 2 TILE_C00002_R00007_S00002
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 6 2 TILE_C00002_R00007_S00002
)
)
IF "%1"=="TILE_C00002_R00007_S00002" GOTO END

:TILE_C00002_R00007_S00003
ECHO Processing analysis tile for column: 2 row: 7 subtile: 3
    TILE_C00002_R00007_S00003
```

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ECHO Tile 62 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 6 3 TILE_C00002_R00007_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00002_R00007_S00003 588300.0000 5201190.0000 590610.0000
5202330.0000 588240.0000 5201130.0000 590670.0000 5202390.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 6 3 TILE_C00002_R00007_S00003
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
IF NOT "%LTKERROR%"=="" (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 1 6 3 TILE_C00002_R00007_S00003
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 1 6 3 TILE_C00002_R00007_S00003
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00002_R00007_S00003" GOTO END
```

:TILE\_C00002\_R00007\_S00004

ECHO Processing analysis tile for column: 2 row: 7 subtile: 4

TILE\_C00002\_R00007\_S00004

ECHO Tile 63 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 1 6 4 TILE_C00002_R00007_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00002_R00007_S00004 588300.0000 5202330.0000 590610.0000
5203500.0000 588240.0000 5202270.0000 590670.0000 5203560.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 6 4 TILE_C00002_R00007_S00004
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 6 4 TILE_C00002_R00007_S00004
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 6 4 TILE_C00002_R00007_S00004
)
)
IF "%1"=="TILE_C00002_R00007_S00004" GOTO END

:TILE_C00002_R00007_S00005
ECHO Processing analysis tile for column: 2 row: 7 subtile: 5
    TILE_C00002_R00007_S00005
ECHO Tile 64 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 6 5 TILE_C00002_R00007_S00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00007_S00005 585990.0000 5203500.0000 588300.0000
    5204640.0000 585930.0000 5203440.0000 588360.0000 5204700.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 6 5 TILE_C00002_R00007_S00005
    SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 1 6 5 TILE_C00002_R00007_S00005
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 1 6 5 TILE_C00002_R00007_S00005
)
)
IF "%1"=="TILE_C00002_R00007_S00005" GOTO END
```

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```
:TILE_C00002_R00007_S00006
ECHO Processing analysis tile for column: 2 row: 7 subtile: 6
    TILE_C00002_R00007_S00006
ECHO Tile 65 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 6 6 TILE_C00002_R00007_S00006

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00006 585990.0000 5204640.0000 588300.0000
    5205810.0000 585930.0000 5204580.0000 588360.0000 5205870.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 1 6 6 TILE_C00002_R00007_S00006
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 6 6 TILE_C00002_R00007_S00006
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 1 6 6 TILE_C00002_R00007_S00006
)
)
IF "%1"=="TILE_C00002_R00007_S00006" GOTO END

:TILE_C00002_R00007_S00007
ECHO Processing analysis tile for column: 2 row: 7 subtile: 7
    TILE_C00002_R00007_S00007
ECHO Tile 66 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 6 7 TILE_C00002_R00007_S00007

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00007_S00007 588300.0000 5203500.0000 590610.0000
    5204640.0000 588240.0000 5203440.0000 590670.0000 5204700.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
```

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2310.0000 1140.0000

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 6 7 TILE_C00002_R00007_S00007
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 6 7 TILE_C00002_R00007_S00007
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 6 7 TILE_C00002_R00007_S00007
)
)
IF "%1"=="TILE_C00002_R00007_S00007" GOTO END
```

```
:TILE_C00002_R00007_S00008
ECHO Processing analysis tile for column: 2 row: 7 subtile: 8
    TILE_C00002_R00007_S00008
ECHO Tile 67 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 1 6 8 TILE_C00002_R00007_S00008

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00007_S00008 588300.0000 5204640.0000 590610.0000
    5205810.0000 588240.0000 5204580.0000 590670.0000 5205870.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 6 8 TILE_C00002_R00007_S00008
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 1 6 8 TILE_C00002_R00007_S00008
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" complete 1 6 8 TILE_C00002_R00007_S00008
)
)
IF "%1"=="TILE_C00002_R00007_S00008" GOTO END

:TILE_C00002_R00008
ECHO Processing analysis tile for column: 2 row: 8 TILE_C00002_R00008
ECHO Tile 68 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 1 7 0 TILE_C00002_R00008

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00002_R00008 585990.0000 5205810.0000 590610.0000 5206284.1000
    585930.0000 5205750.0000 590670.0000 5206284.1000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 474.1000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 1 7 0 TILE_C00002_R00008
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 1 7 0 TILE_C00002_R00008
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 1 7 0 TILE_C00002_R00008
    )
)
IF "%1"=="TILE_C00002_R00008" GOTO END

:TILE_C00003_R00001_S00001
ECHO Processing analysis tile for column: 3 row: 1 subtile: 1
    TILE_C00003_R00001_S00001
ECHO Tile 69 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 0 1 TILE_C00003_R00001_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

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```
TILE_C00003_R00001_S00001 590610.0000 5175780.0000 592920.0000  
5178090.0000 590550.0000 5175720.0000 592980.0000 5178150.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 2 0 1 TILE_C00003_R00001_S00001  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 2 0 1 TILE_C00003_R00001_S00001  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 2 0 1 TILE_C00003_R00001_S00001  
    )  
)  
IF "%1"=="TILE_C00003_R00001_S00001" GOTO END
```

```
:TILE_C00003_R00001_S00002  
ECHO Processing analysis tile for column: 3 row: 1 subtile: 2  
    TILE_C00003_R00001_S00002  
ECHO Tile 70 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 2 0 2 TILE_C00003_R00001_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00003_R00001_S00002 592920.0000 5175780.0000 595230.0000  
    5178090.0000 592860.0000 5175720.0000 595290.0000 5178150.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 2 0 2 TILE_C00003_R00001_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 2 0 2 TILE_C00003_R00001_S00002
```

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```
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 0 2 TILE_C00003_R00001_S00002
)
)
IF "%1"=="TILE_C00003_R00001_S00002" GOTO END

:TILE_C00003_R00002_S00001
ECHO Processing analysis tile for column: 3 row: 2 subtile: 1
    TILE_C00003_R00002_S00001
ECHO Tile 71 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 1 1 TILE_C00003_R00002_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00002_S00001 590610.0000 5178090.0000 592920.0000
    5180400.0000 590550.0000 5178030.0000 592980.0000 5180460.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 2 1 1 TILE_C00003_R00002_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 1 1 TILE_C00003_R00002_S00001
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 2 1 1 TILE_C00003_R00002_S00001
)
)
)
IF "%1"=="TILE_C00003_R00002_S00001" GOTO END

:TILE_C00003_R00002_S00002
ECHO Processing analysis tile for column: 3 row: 2 subtile: 2
    TILE_C00003_R00002_S00002
ECHO Tile 72 of 217

REM update status
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 1 2 TILE_C00003_R00002_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00003_R00002_S00002 592920.0000 5178090.0000 595230.0000
5180400.0000 592860.0000 5178030.0000 595290.0000 5180460.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 1 2 TILE_C00003_R00002_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 1 2 TILE_C00003_R00002_S00002
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 1 2 TILE_C00003_R00002_S00002
)
)
IF "%1"=="TILE_C00003_R00002_S00002" GOTO END

:TILE_C00003_R00002_S00003
ECHO Processing analysis tile for column: 3 row: 2 subtile: 3
    TILE_C00003_R00002_S00003
ECHO Tile 73 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 1 3 TILE_C00003_R00002_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00003_R00002_S00003 590610.0000 5180400.0000 592920.0000
5182710.0000 590550.0000 5180340.0000 592980.0000 5182770.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 1 3 TILE_C00003_R00002_S00003
    SET LTKERROR=
```

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```
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 1 3 TILE_C00003_R00002_S00003
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 1 3 TILE_C00003_R00002_S00003
)
)
IF "%1"=="TILE_C00003_R00002_S00003" GOTO END

:TILE_C00003_R00002_S00004
ECHO Processing analysis tile for column: 3 row: 2 subtile: 4
    TILE_C00003_R00002_S00004
ECHO Tile 74 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 1 4 TILE_C00003_R00002_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00002_S00004 592920.0000 5180400.0000 595230.0000
    5182710.0000 592860.0000 5180340.0000 595290.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 1 4 TILE_C00003_R00002_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 1 4 TILE_C00003_R00002_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 1 4 TILE_C00003_R00002_S00004
)
)
IF "%1"=="TILE_C00003_R00002_S00004" GOTO END

:TILE_C00003_R00003_S00001
ECHO Processing analysis tile for column: 3 row: 3 subtile: 1
```

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TILE\_C00003\_R00003\_S00001  
ECHO Tile 75 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 2 1 TILE_C00003_R00003_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00003_R00003_S00001 590610.0000 5182710.0000 592920.0000  
      5185020.0000 590550.0000 5182650.0000 592980.0000 5185080.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 2 1 TILE_C00003_R00003_S00001  
  SET LTKERROR=
```

```
) ELSE (
```

```
  IF NOT "%LTKERROR%"=="" (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 2 1 TILE_C00003_R00003_S00001  
    SET LTKERROR=
```

```
) ELSE (
```

```
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 2 1 TILE_C00003_R00003_S00001  
)
```

```
)
```

```
IF "%1"=="TILE_C00003_R00003_S00001" GOTO END
```

:TILE\_C00003\_R00003\_S00002

ECHO Processing analysis tile for column: 3 row: 3 subtitle: 2

  TILE\_C00003\_R00003\_S00002

ECHO Tile 76 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 2 2 TILE_C00003_R00003_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00003_R00002 592920.0000 5182710.0000 595230.0000  
      5185020.0000 592860.0000 5182650.0000 595290.0000 5185080.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

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```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 2 2 TILE_C00003_R00003_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 2 2 2 TILE_C00003_R00003_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 2 2 2 TILE_C00003_R00003_S00002
)
)
IF "%1"=="TILE_C00003_R00003_S00002" GOTO END
```

```
:TILE_C00003_R00003_S00003
ECHO Processing analysis tile for column: 3 row: 3 subtile: 3
    TILE_C00003_R00003_S00003
ECHO Tile 77 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 2 2 3 TILE_C00003_R00003_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00003_S00003 590610.0000 5185020.0000 592920.0000
    5187330.0000 590550.0000 5184960.0000 592980.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 2 3 TILE_C00003_R00003_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 2 2 3 TILE_C00003_R00003_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 2 2 3 TILE_C00003_R00003_S00003
)
)
```

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```
IF "%1"=="TILE_C0003_R0003_S0003" GOTO END
```

```
:TILE_C0003_R0003_S0004
```

```
ECHO Processing analysis tile for column: 3 row: 3 subtile: 4
```

```
    TILE_C0003_R0003_S0004
```

```
ECHO Tile 78 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 2 4 TILE_C0003_R0003_S0004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
    TILE_C0003_R0004 592920.0000 5185020.0000 595230.0000
```

```
    5187330.0000 592860.0000 5184960.0000 595290.0000 5187390.0000
```

```
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000
```

```
REM update status
```

```
IF ERRORLEVEL 1 (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 2 4 TILE_C0003_R0003_S0004
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    IF NOT "%LTKERROR%"=="" (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 2 4 TILE_C0003_R0003_S0004
```

```
        SET LTKERROR=
```

```
) ELSE (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 2 4 TILE_C0003_R0003_S0004
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C0003_R0003_S0004" GOTO END
```

```
:TILE_C0003_R0004_S0001
```

```
ECHO Processing analysis tile for column: 3 row: 4 subtile: 1
```

```
    TILE_C0003_R0004_S0001
```

```
ECHO Tile 79 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 3 1 TILE_C0003_R0004_S0001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
    TILE_C0003_R0004_S0001 590610.0000 5187330.0000 592920.0000
```

```
    5189640.0000 590550.0000 5187270.0000 592980.0000 5189700.0000
```

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```
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 2 3 1 TILE_C00003_R00004_S00001  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (   
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 2 3 1 TILE_C00003_R00004_S00001  
        SET LTKERROR=  
) ELSE (   
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 2 3 1 TILE_C00003_R00004_S00001  
    )  
)  
IF "%1"=="TILE_C00003_R00004_S00001" GOTO END
```

:TILE\_C00003\_R00004\_S00002

ECHO Processing analysis tile for column: 3 row: 4 subtile: 2

TILE\_C00003\_R00004\_S00002

ECHO Tile 80 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 2 3 2 TILE_C00003_R00004_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00003_R00004_S00002 592920.0000 5187330.0000 595230.0000  
5189640.0000 592860.0000 5187270.0000 595290.0000 5189700.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 2 3 2 TILE_C00003_R00004_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (   
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 2 3 2 TILE_C00003_R00004_S00002  
        SET LTKERROR=  
) ELSE (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 3 2 TILE_C00003_R00004_S00002
)
)
IF "%1"=="TILE_C00003_R00004_S00002" GOTO END

:TILE_C00003_R00004_S00003
ECHO Processing analysis tile for column: 3 row: 4 subtile: 3
    TILE_C00003_R00004_S00003
ECHO Tile 81 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 3 3 TILE_C00003_R00004_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00004_S00003 590610.0000 5189640.0000 592920.0000
    5191950.0000 590550.0000 5189580.0000 592980.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 3 3 TILE_C00003_R00004_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 3 3 TILE_C00003_R00004_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 3 3 TILE_C00003_R00004_S00003
)
)
IF "%1"=="TILE_C00003_R00004_S00003" GOTO END

:TILE_C00003_R00004_S00004
ECHO Processing analysis tile for column: 3 row: 4 subtile: 4
    TILE_C00003_R00004_S00004
ECHO Tile 82 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 3 4 TILE_C00003_R00004_S00004
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00004_S00004 592920.0000 5189640.0000 595230.0000
    5191950.0000 592860.0000 5189580.0000 595290.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 3 4 TILE_C00003_R00004_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 2 3 4 TILE_C00003_R00004_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 2 3 4 TILE_C00003_R00004_S00004
)
)
IF "%1"=="TILE_C00003_R00004_S00004" GOTO END
```

```
:TILE_C00003_R00005_S00001
ECHO Processing analysis tile for column: 3 row: 5 subtile: 1
    TILE_C00003_R00005_S00001
ECHO Tile 83 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 2 4 1 TILE_C00003_R00005_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00005_S00001 590610.0000 5191950.0000 595230.0000
    5194260.0000 590550.0000 5191890.0000 595290.0000 5194320.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 4 1 TILE_C00003_R00005_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""

```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 4 1 TILE_C00003_R00005_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 4 1 TILE_C00003_R00005_S00001
)
)
IF "%1"=="TILE_C00003_R00005_S00001" GOTO END
```

```
:TILE_C00003_R00005_S00002
ECHO Processing analysis tile for column: 3 row: 5 subtile: 2
    TILE_C00003_R00005_S00002
ECHO Tile 84 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 4 2 TILE_C00003_R00005_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00005_S00002 590610.0000 5194260.0000 592920.0000
    5196570.0000 590550.0000 5194200.0000 592980.0000 5196630.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 4 2 TILE_C00003_R00005_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKEERROR%"=="" (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 4 2 TILE_C00003_R00005_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 4 2 TILE_C00003_R00005_S00002
)
)
)
IF "%1"=="TILE_C00003_R00005_S00002" GOTO END
```

```
:TILE_C00003_R00005_S00003
ECHO Processing analysis tile for column: 3 row: 5 subtile: 3
    TILE_C00003_R00005_S00003
ECHO Tile 85 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 4 3 TILE_C00003_R00005_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00003_R00005_S00003 592920.0000 5194260.0000 595230.0000  
      5196570.0000 592860.0000 5194200.0000 595290.0000 5196630.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 4 3 TILE_C00003_R00005_S00003  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 4 3 TILE_C00003_R00005_S00003  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 4 3 TILE_C00003_R00005_S00003  
    )  
)  
IF "%1"=="TILE_C00003_R00005_S00003" GOTO END
```

:TILE\_C00003\_R00006\_S00001

ECHO Processing analysis tile for column: 3 row: 6 subtile: 1

    TILE\_C00003\_R00006\_S00001

ECHO Tile 86 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 5 1 TILE_C00003_R00006_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00003_R00006_S00001 590610.0000 5196570.0000 592920.0000  
      5198880.0000 590550.0000 5196510.0000 592980.0000 5198940.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 2 5 1 TILE_C00003_R00006_S00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 5 1 TILE_C00003_R00006_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 5 1 TILE_C00003_R00006_S00001
)
)
IF "%1"=="TILE_C00003_R00006_S00001" GOTO END

:TILE_C00003_R00006_S00002
ECHO Processing analysis tile for column: 3 row: 6 subtile: 2
TILE_C00003_R00006_S00002
ECHO Tile 87 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 5 2 TILE_C00003_R00006_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00003_R00006_S00002 592920.0000 5196570.0000 595230.0000
5198880.0000 592860.0000 5196510.0000 595290.0000 5198940.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 5 2 TILE_C00003_R00006_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 5 2 TILE_C00003_R00006_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 5 2 TILE_C00003_R00006_S00002
)
)
IF "%1"=="TILE_C00003_R00006_S00002" GOTO END
```

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```
:TILE_C00003_R00006_S00003
ECHO Processing analysis tile for column: 3 row: 6 subtile: 3
    TILE_C00003_R00006_S00003
ECHO Tile 88 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 5 3 TILE_C00003_R00006_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00006_S00003 590610.0000 5198880.0000 592920.0000
    5201190.0000 590550.0000 5198820.0000 592980.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 5 3 TILE_C00003_R00006_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 5 3 TILE_C00003_R00006_S00003
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 5 3 TILE_C00003_R00006_S00003
    )
)
IF "%1"=="TILE_C00003_R00006_S00003" GOTO END
```

```
:TILE_C00003_R00006_S00004
ECHO Processing analysis tile for column: 3 row: 6 subtile: 4
    TILE_C00003_R00006_S00004
ECHO Tile 89 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 5 4 TILE_C00003_R00006_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00006_S00004 592920.0000 5198880.0000 595230.0000
    5201190.0000 592860.0000 5198820.0000 595290.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 5 4 TILE_C00003_R00006_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 2 5 4 TILE_C00003_R00006_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 2 5 4 TILE_C00003_R00006_S00004
)
)
IF "%1"=="TILE_C00003_R00006_S00004" GOTO END

:TILE_C00003_R00007_S00001
ECHO Processing analysis tile for column: 3 row: 7 subtile: 1
    TILE_C00003_R00007_S00001
ECHO Tile 90 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 2 6 1 TILE_C00003_R00007_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00007_S00001 590610.0000 5201190.0000 592920.0000
    5202330.0000 590550.0000 5201130.0000 592980.0000 5202390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 6 1 TILE_C00003_R00007_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 2 6 1 TILE_C00003_R00007_S00001
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 2 6 1 TILE_C00003_R00007_S00001
```

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```
)  
)  
IF "%1"]=="TILE_C00003_R00007_S00001" GOTO END  
  
:TILE_C00003_R00007_S00002  
ECHO Processing analysis tile for column: 3 row: 7 subtile: 2  
    TILE_C00003_R00007_S00002  
ECHO Tile 91 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 2 6 2 TILE_C00003_R00007_S00002  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00003_R00002 590610.0000 5202330.0000 591750.0000  
    5203500.0000 590550.0000 5202270.0000 591810.0000 5203560.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    1140.0000 1170.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 2 6 2 TILE_C00003_R00007_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"==""  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 2 6 2 TILE_C00003_R00007_S00002  
    SET LTKERROR=  
) ELSE (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" complete 2 6 2 TILE_C00003_R00007_S00002  
)  
)  
IF "%1"]=="TILE_C00003_R00007_S00002" GOTO END  
  
:TILE_C00003_R00007_S00003  
ECHO Processing analysis tile for column: 3 row: 7 subtile: 3  
    TILE_C00003_R00007_S00003  
ECHO Tile 92 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 2 6 3 TILE_C00003_R00007_S00003  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

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```
TILE_C00003_R00007_S00003 591750.0000 5202330.0000 592920.0000  
5203500.0000 591690.0000 5202270.0000 592980.0000 5203560.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
1170.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 2 6 3 TILE_C00003_R00007_S00003  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 2 6 3 TILE_C00003_R00007_S00003  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 2 6 3 TILE_C00003_R00007_S00003  
    )  
)  
IF "%1"=="TILE_C00003_R00007_S00003" GOTO END
```

```
:TILE_C00003_R00007_S00004  
ECHO Processing analysis tile for column: 3 row: 7 subtile: 4  
    TILE_C00003_R00007_S00004  
ECHO Tile 93 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 2 6 4 TILE_C00003_R00007_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00003_R00007_S00004 592920.0000 5201190.0000 595230.0000  
    5203500.0000 592860.0000 5201130.0000 595290.0000 5203560.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 2 6 4 TILE_C00003_R00007_S00004  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 2 6 4 TILE_C00003_R00007_S00004
```

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```
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 6 4 TILE_C00003_R00007_S00004
)
)
IF "%1"=="TILE_C00003_R00007_S00004" GOTO END

:TILE_C00003_R00007_S00005
ECHO Processing analysis tile for column: 3 row: 7 subtile: 5
    TILE_C00003_R00007_S00005
ECHO Tile 94 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 6 5 TILE_C00003_R00007_S00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00005 590610.0000 5203500.0000 591750.0000
    5204640.0000 590550.0000 5203440.0000 591810.0000 5204700.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    1140.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 2 6 5 TILE_C00003_R00007_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 2 6 5 TILE_C00003_R00007_S00005
        SET LTKERROR=
) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 2 6 5 TILE_C00003_R00007_S00005
    )
)
IF "%1"=="TILE_C00003_R00007_S00005" GOTO END

:TILE_C00003_R00007_S00006
ECHO Processing analysis tile for column: 3 row: 7 subtile: 6
    TILE_C00003_R00007_S00006
ECHO Tile 95 of 217

REM update status
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 6 6 TILE_C00003_R00007_S00006

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00003_R00007_S00006 591750.0000 5203500.0000 592920.0000
5204640.0000 591690.0000 5203440.0000 592980.0000 5204700.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
1170.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 6 6 TILE_C00003_R00007_S00006
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 6 6 TILE_C00003_R00007_S00006
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 2 6 6 TILE_C00003_R00007_S00006
)
)
IF "%1"=="TILE_C00003_R00007_S00006" GOTO END

:TILE_C00003_R00007_S00007
ECHO Processing analysis tile for column: 3 row: 7 subtile: 7
    TILE_C00003_R00007_S00007
ECHO Tile 96 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 2 6 7 TILE_C00003_R00007_S00007

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00003_R00007_S00007 590610.0000 5204640.0000 592920.0000
5205810.0000 590550.0000 5204580.0000 592980.0000 5205870.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1170.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 2 6 7 TILE_C00003_R00007_S00007
    SET LTKERROR=
```

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```
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 6 7 TILE_C00003_R00007_S00007
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 6 7 TILE_C00003_R00007_S00007
)
)
IF "%1"=="TILE_C00003_R00007_S00007" GOTO END

:TILE_C00003_R00007_S00008
ECHO Processing analysis tile for column: 3 row: 7 subtile: 8
    TILE_C00003_R00007_S00008
ECHO Tile 97 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 2 6 8 TILE_C00003_R00007_S00008

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00003_R00007_S00008 592920.0000 5203500.0000 595230.0000
    5205810.0000 592860.0000 5203440.0000 595290.0000 5205870.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 6 8 TILE_C00003_R00007_S00008
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 2 6 8 TILE_C00003_R00007_S00008
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 2 6 8 TILE_C00003_R00007_S00008
)
)
IF "%1"=="TILE_C00003_R00007_S00008" GOTO END

:TILE_C00004_R00001
ECHO Processing analysis tile for column: 4 row: 1 TILE_C00004_R00001
```

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ECHO Tile 98 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 0 0 TILE_C00004_R00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00004_R00001 595230.0000 5173470.0000 599850.0000 5178090.0000  
595170.0000 5173470.0000 599910.0000 5178150.0000  
\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
4620.0000 4620.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 0 0 TILE_C00004_R00001
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
IF NOT "%LTKERROR%"=="" (
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 0 0 TILE_C00004_R00001
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 3 0 0 TILE_C00004_R00001
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00004_R00001" GOTO END
```

:TILE\_C00004\_R00002\_S00001

ECHO Processing analysis tile for column: 4 row: 2 subtile: 1

TILE\_C00004\_R00002\_S00001

ECHO Tile 99 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 1 1 TILE_C00004_R00002_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00004_R00002_S00001 595230.0000 5178090.0000 597540.0000  
5180400.0000 595170.0000 5178030.0000 597600.0000 5180460.0000  
\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 1 1 TILE_C00004_R00002_S00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 1 1 TILE_C00004_R00002_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 1 1 TILE_C00004_R00002_S00001
)
)
IF "%1"=="TILE_C00004_R00002_S00001" GOTO END

:TILE_C00004_R00002_S00002
ECHO Processing analysis tile for column: 4 row: 2 subtile: 2
TILE_C00004_R00002_S00002
ECHO Tile 100 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 3 1 2 TILE_C00004_R00002_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00004_R00002_S00002 597540.0000 5178090.0000 599850.0000
5180400.0000 597480.0000 5178030.0000 599910.0000 5180460.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 1 2 TILE_C00004_R00002_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 1 2 TILE_C00004_R00002_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 1 2 TILE_C00004_R00002_S00002
)
)
IF "%1"=="TILE_C00004_R00002_S00002" GOTO END
```

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```
:TILE_C00004_R00002_S00003
ECHO Processing analysis tile for column: 4 row: 2 subtile: 3
    TILE_C00004_R00002_S00003
ECHO Tile 101 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 3 1 3 TILE_C00004_R00002_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00002_S00003 595230.0000 5180400.0000 597540.0000
    5182710.0000 595170.0000 5180340.0000 597600.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 3 1 3 TILE_C00004_R00002_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 1 3 TILE_C00004_R00002_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 3 1 3 TILE_C00004_R00002_S00003
)
)
IF "%1"=="TILE_C00004_R00002_S00003" GOTO END

:TILE_C00004_R00002_S00004
ECHO Processing analysis tile for column: 4 row: 2 subtile: 4
    TILE_C00004_R00002_S00004
ECHO Tile 102 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 3 1 4 TILE_C00004_R00002_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00002_S00004 597540.0000 5180400.0000 599850.0000
    5182710.0000 597480.0000 5180340.0000 599910.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
```

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2310.0000 2310.0000

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 1 4 TILE_C00004_R00002_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 1 4 TILE_C00004_R00002_S00004
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 3 1 4 TILE_C00004_R00002_S00004
)
)
IF "%1"=="TILE_C00004_R00002_S00004" GOTO END

:TILE_C00004_R00003_S00001
ECHO Processing analysis tile for column: 4 row: 3 subtile: 1
    TILE_C00004_R00003_S00001
ECHO Tile 103 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 3 2 1 TILE_C00004_R00003_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00003_S00001 595230.0000 5182710.0000 597540.0000
    5185020.0000 595170.0000 5182650.0000 597600.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 2 1 TILE_C00004_R00003_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 2 1 TILE_C00004_R00003_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" complete 3 2 1 TILE_C00004_R00003_S00001
)
)
IF "%1"=="TILE_C00004_R00003_S00001" GOTO END

:TILE_C00004_R00003_S00002
ECHO Processing analysis tile for column: 4 row: 3 subtile: 2
    TILE_C00004_R00003_S00002
ECHO Tile 104 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 3 2 2 TILE_C00004_R00003_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00003_S00002 597540.0000 5182710.0000 599850.0000
    5185020.0000 597480.0000 5182650.0000 599910.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 2 2 TILE_C00004_R00003_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 2 2 TILE_C00004_R00003_S00002
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 3 2 2 TILE_C00004_R00003_S00002
    )
)
IF "%1"=="TILE_C00004_R00003_S00002" GOTO END

:TILE_C00004_R00003_S00003
ECHO Processing analysis tile for column: 4 row: 3 subtile: 3
    TILE_C00004_R00003_S00003
ECHO Tile 105 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 3 2 3 TILE_C00004_R00003_S00003
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00003_S00003 595230.0000 5185020.0000 597540.0000
    5187330.0000 595170.0000 5184960.0000 597600.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 2 3 TILE_C00004_R00003_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 2 3 TILE_C00004_R00003_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 3 2 3 TILE_C00004_R00003_S00003
)
)
IF "%1"=="TILE_C00004_R00003_S00003" GOTO END
```

:TILE\_C00004\_R00003\_S00004

ECHO Processing analysis tile for column: 4 row: 3 subtile: 4

TILE\_C00004\_R00003\_S00004

ECHO Tile 106 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 3 2 4 TILE_C00004_R00003_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00003_S00004 597540.0000 5185020.0000 599850.0000
    5187330.0000 597480.0000 5184960.0000 599910.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 2 4 TILE_C00004_R00003_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 3 2 4 TILE_C00004_R00003_S00004
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 2 4 TILE_C00004_R00003_S00004
)
)
IF "%1""=="TILE_C00004_R00003_S00004" GOTO END

:TILE_C00004_R00004_S00001
ECHO Processing analysis tile for column: 4 row: 4 subtile: 1
    TILE_C00004_R00004_S00001
ECHO Tile 107 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 3 3 1 TILE_C00004_R00004_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00004_S00001 595230.0000 5187330.0000 597540.0000
    5188470.0000 595170.0000 5187270.0000 597600.0000 5188530.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 3 3 1 TILE_C00004_R00004_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 3 1 TILE_C00004_R00004_S00001
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 3 3 1 TILE_C00004_R00004_S00001
)
)
IF "%1""=="TILE_C00004_R00004_S00001" GOTO END

:TILE_C00004_R00004_S00002
ECHO Processing analysis tile for column: 4 row: 4 subtile: 2
    TILE_C00004_R00004_S00002
ECHO Tile 108 of 217
```

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REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 3 2 TILE_C00004_R00004_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00004_R00004_S00002 595230.0000 5188470.0000 597540.0000  
      5189640.0000 595170.0000 5188410.0000 597600.0000 5189700.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 3 2 TILE_C00004_R00004_S00002  
  SET LTKERROR=
```

```
) ELSE (
```

```
  IF NOT "%LTKERROR%"==""  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 3 2 TILE_C00004_R00004_S00002  
    SET LTKERROR=
```

```
) ELSE (
```

```
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 3 3 2 TILE_C00004_R00004_S00002
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00004_R00004_S00002" GOTO END
```

```
:TILE_C00004_R00004_S00003
```

```
ECHO Processing analysis tile for column: 4 row: 4 subtitle: 3  
      TILE_C00004_R00004_S00003
```

```
ECHO Tile 109 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 3 3 TILE_C00004_R00004_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00004_R00004_S00003 597540.0000 5187330.0000 599850.0000  
      5189640.0000 597480.0000 5187270.0000 599910.0000 5189700.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 3 3 TILE_C00004_R00004_S00003
```

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```
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 3 3 TILE_C00004_R00004_S00003
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 3 3 TILE_C00004_R00004_S00003
)
)
IF "%1"=="TILE_C00004_R00004_S00003" GOTO END
```

```
:TILE_C00004_R00004_S00004
ECHO Processing analysis tile for column: 4 row: 4 subtile: 4
    TILE_C00004_R00004_S00004
ECHO Tile 110 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 3 3 4 TILE_C00004_R00004_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00004_S00004 595230.0000 5189640.0000 597540.0000
    5191950.0000 595170.0000 5189580.0000 597600.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 3 4 TILE_C00004_R00004_S00004
    SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 3 4 TILE_C00004_R00004_S00004
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 3 4 TILE_C00004_R00004_S00004
)
)
IF "%1"=="TILE_C00004_R00004_S00004" GOTO END

:TILE_C00004_R00004_S00005
```

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ECHO Processing analysis tile for column: 4 row: 4 subtile: 5  
TILE\_C00004\_R00004\_S00005  
ECHO Tile 111 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 3 5 TILE_C00004_R00004_S00005
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00004_R00005 597540.0000 5189640.0000 599850.0000  
5191950.0000 597480.0000 5189580.0000 599910.0000 5192010.0000  
\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 3 5 TILE_C00004_R00004_S00005  
SET LTKERROR=  
) ELSE (  
IF NOT "%LTKERROR%"=="" (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 3 5 TILE_C00004_R00004_S00005  
SET LTKERROR=  
) ELSE (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 3 3 5 TILE_C00004_R00004_S00005  
)  
)  
IF "%1"=="TILE_C00004_R00004_S00005" GOTO END
```

:TILE\_C00004\_R00005\_S00001  
ECHO Processing analysis tile for column: 4 row: 5 subtile: 1  
TILE\_C00004\_R00005\_S00001  
ECHO Tile 112 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 4 1 TILE_C00004_R00005_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00004_R00005_S00001 595230.0000 5191950.0000 597540.0000  
5194260.0000 595170.0000 5191890.0000 597600.0000 5194320.0000  
\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

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REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 4 1 TILE_C00004_R00005_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 4 1 TILE_C00004_R00005_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 3 4 1 TILE_C00004_R00005_S00001
)
)
IF "%1""=="TILE_C00004_R00005_S00001" GOTO END
```

:TILE\_C00004\_R00005\_S00002

```
ECHO Processing analysis tile for column: 4 row: 5 subtile: 2
    TILE_C00004_R00005_S00002
ECHO Tile 113 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 3 4 2 TILE_C00004_R00005_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00005_S00002 597540.0000 5191950.0000 599850.0000
    5194260.0000 597480.0000 5191890.0000 599910.0000 5194320.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 4 2 TILE_C00004_R00005_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 4 2 TILE_C00004_R00005_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 3 4 2 TILE_C00004_R00005_S00002
)
```

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```
)  
IF "%1"]=="TILE_C00004_R00005_S00002" GOTO END  
  
:TILE_C00004_R00005_S00003  
ECHO Processing analysis tile for column: 4 row: 5 subtile: 3  
    TILE_C00004_R00005_S00003  
ECHO Tile 114 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 3 4 3 TILE_C00004_R00005_S00003  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00004_R00003 595230.0000 5194260.0000 597540.0000  
    5196570.0000 595170.0000 5194200.0000 597600.0000 5196630.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 3 4 3 TILE_C00004_R00005_S00003  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"==""  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 3 4 3 TILE_C00004_R00005_S00003  
    SET LTKERROR=  
) ELSE (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" complete 3 4 3 TILE_C00004_R00005_S00003  
)  
IF "%1"]=="TILE_C00004_R00005_S00003" GOTO END  
  
:TILE_C00004_R00005_S00004  
ECHO Processing analysis tile for column: 4 row: 5 subtile: 4  
    TILE_C00004_R00005_S00004  
ECHO Tile 115 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 3 4 4 TILE_C00004_R00005_S00004  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00004_R00004 597540.0000 5194260.0000 599850.0000
```

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```
5196570.0000 597480.0000 5194200.0000 599910.0000 5196630.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 4 4 TILE_C00004_R00005_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 4 4 TILE_C00004_R00005_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 3 4 4 TILE_C00004_R00005_S00004
)
)
IF "%1"=="TILE_C00004_R00005_S00004" GOTO END
```

```
:TILE_C00004_R00006_S00001
ECHO Processing analysis tile for column: 4 row: 6 subtile: 1
    TILE_C00004_R00006_S00001
ECHO Tile 116 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 3 5 1 TILE_C00004_R00006_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00006_S00001 595230.0000 5196570.0000 597540.0000
    5198880.0000 595170.0000 5196510.0000 597600.0000 5198940.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 5 1 TILE_C00004_R00006_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 5 1 TILE_C00004_R00006_S00001
        SET LTKERROR=
```

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```
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 5 1 TILE_C00004_R00006_S00001
)
)
IF "%1"=="TILE_C00004_R00006_S00001" GOTO END
```

```
:TILE_C00004_R00006_S00002
ECHO Processing analysis tile for column: 4 row: 6 subtile: 2
    TILE_C00004_R00006_S00002
ECHO Tile 117 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 3 5 2 TILE_C00004_R00006_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00006_S00002 597540.0000 5196570.0000 599850.0000
    5198880.0000 597480.0000 5196510.0000 599910.0000 5198940.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 5 2 TILE_C00004_R00006_S00002
    SET LTKERROR=
```

```
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 5 2 TILE_C00004_R00006_S00002
        SET LTKERROR=
    )
)
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 5 2 TILE_C00004_R00006_S00002
)
```

```
)
IF "%1"=="TILE_C00004_R00006_S00002" GOTO END
```

```
:TILE_C00004_R00006_S00003
ECHO Processing analysis tile for column: 4 row: 6 subtile: 3
    TILE_C00004_R00006_S00003
ECHO Tile 118 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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24script\_2013-06-30.bat" processing 3 5 3 TILE\_C00004\_R00006\_S00003

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00006_S00003 595230.0000 5198880.0000 597540.0000
    5201190.0000 595170.0000 5198820.0000 597600.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 5 3 TILE_C00004_R00006_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 3 5 3 TILE_C00004_R00006_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 3 5 3 TILE_C00004_R00006_S00003
)
)
IF "%1"=="TILE_C00004_R00006_S00003" GOTO END
```

```
:TILE_C00004_R00006_S00004
ECHO Processing analysis tile for column: 4 row: 6 subtile: 4
    TILE_C00004_R00006_S00004
ECHO Tile 119 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 3 5 4 TILE_C00004_R00006_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00006_S00004 597540.0000 5198880.0000 599850.0000
    5201190.0000 597480.0000 5198820.0000 599910.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 3 5 4 TILE_C00004_R00006_S00004
    SET LTKERROR=
) ELSE (
```

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```
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 5 4 TILE_C00004_R00006_S00004
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 5 4 TILE_C00004_R00006_S00004
)
)
IF "%1"=="TILE_C00004_R00006_S00004" GOTO END

:TILE_C00004_R00007_S00001
ECHO Processing analysis tile for column: 4 row: 7 subtile: 1
    TILE_C00004_R00007_S00001
ECHO Tile 120 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 3 6 1 TILE_C00004_R00007_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00004_R00007_S00001 595230.0000 5201190.0000 599850.0000
    5203500.0000 595170.0000 5201130.0000 599910.0000 5203560.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 6 1 TILE_C00004_R00007_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 6 1 TILE_C00004_R00007_S00001
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 6 1 TILE_C00004_R00007_S00001
)
)
IF "%1"=="TILE_C00004_R00007_S00001" GOTO END

:TILE_C00004_R00007_S00002
ECHO Processing analysis tile for column: 4 row: 7 subtile: 2
    TILE_C00004_R00007_S00002
```

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ECHO Tile 121 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 6 2 TILE_C00004_R00007_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00004_R00007_S00002 595230.0000 5203500.0000 599850.0000
5205810.0000 595170.0000 5203440.0000 599910.0000 5205870.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 6 2 TILE_C00004_R00007_S00002
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
IF NOT "%LTKERROR%"=="" (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 3 6 2 TILE_C00004_R00007_S00002
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 3 6 2 TILE_C00004_R00007_S00002
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00004_R00007_S00002" GOTO END
```

:TILE\_C00004\_R00008

ECHO Processing analysis tile for column: 4 row: 8 TILE\_C00004\_R00008

ECHO Tile 122 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 3 7 0 TILE_C00004_R00008
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
TILE_C00004_R00008 595230.0000 5205810.0000 599850.0000 5206284.1000
```

```
595170.0000 5205750.0000 599910.0000 5206284.1000
```

```
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 474.1000
```

REM update status

```
IF ERRORLEVEL 1 (
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 3 7 0 TILE_C00004_R00008
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 3 7 0 TILE_C00004_R00008
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 3 7 0 TILE_C00004_R00008
)
)
IF "%1""=="TILE_C00004_R00008" GOTO END
```

```
:TILE_C00005_R00001
ECHO Processing analysis tile for column: 5 row: 1 TILE_C00005_R00001
ECHO Tile 123 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 4 0 0 TILE_C00005_R00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00005_R00001 599850.0000 5173470.0000 604470.0000 5178090.0000
599790.0000 5173470.0000 604530.0000 5178150.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 4620.0000
```

```
REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 0 0 TILE_C00005_R00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 0 0 TILE_C00005_R00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 0 0 TILE_C00005_R00001
)
)
IF "%1""=="TILE_C00005_R00001" GOTO END
```

```
:TILE_C00005_R00002_S00001
```

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ECHO Processing analysis tile for column: 5 row: 2 subtile: 1  
TILE\_C00005\_R00002\_S00001  
ECHO Tile 124 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 4 1 1 TILE_C00005_R00002_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00005_R00002_S00001 599850.0000 5178090.0000 602160.0000  
5180400.0000 599790.0000 5178030.0000 602220.0000 5180460.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 1 1 TILE_C00005_R00002_S00001  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 1 1 TILE_C00005_R00002_S00001  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 4 1 1 TILE_C00005_R00002_S00001  
    )  
)  
IF "%1"=="TILE_C00005_R00002_S00001" GOTO END
```

:TILE\_C00005\_R00002\_S00002  
ECHO Processing analysis tile for column: 5 row: 2 subtile: 2  
TILE\_C00005\_R00002\_S00002  
ECHO Tile 125 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 4 1 2 TILE_C00005_R00002_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00005_R00002_S00002 602160.0000 5178090.0000 604470.0000  
5180400.0000 602100.0000 5178030.0000 604530.0000 5180460.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

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REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 1 2 TILE_C00005_R00002_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 1 2 TILE_C00005_R00002_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 1 2 TILE_C00005_R00002_S00002
)
)
IF "%1"=="TILE_C00005_R00002_S00002" GOTO END
```

:TILE\_C00005\_R00002\_S00003

```
ECHO Processing analysis tile for column: 5 row: 2 subtile: 3
    TILE_C00005_R00002_S00003
ECHO Tile 126 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 1 3 TILE_C00005_R00002_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00002_S00003 599850.0000 5180400.0000 602160.0000
    5181540.0000 599790.0000 5180340.0000 602220.0000 5181600.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 1 3 TILE_C00005_R00002_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 1 3 TILE_C00005_R00002_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 1 3 TILE_C00005_R00002_S00003
)
```

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```
)  
IF "%1"]=="TILE_C00005_R00002_S00003" GOTO END  
  
:TILE_C00005_R00002_S00004  
ECHO Processing analysis tile for column: 5 row: 2 subtile: 4  
    TILE_C00005_R00002_S00004  
ECHO Tile 127 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 4 1 4 TILE_C00005_R00002_S00004  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00005_R00004 599850.0000 5181540.0000 602160.0000  
    5182710.0000 599790.0000 5181480.0000 602220.0000 5182770.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 1170.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 4 1 4 TILE_C00005_R00002_S00004  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"==""  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 4 1 4 TILE_C00005_R00002_S00004  
    SET LTKERROR=  
) ELSE (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" complete 4 1 4 TILE_C00005_R00002_S00004  
)  
IF "%1"]=="TILE_C00005_R00002_S00004" GOTO END  
  
:TILE_C00005_R00002_S00005  
ECHO Processing analysis tile for column: 5 row: 2 subtile: 5  
    TILE_C00005_R00002_S00005  
ECHO Tile 128 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 4 1 5 TILE_C00005_R00002_S00005  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00005_R00005 602160.0000 5180400.0000 604470.0000
```

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```
5182710.0000 602100.0000 5180340.0000 604530.0000 5182770.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 1 5 TILE_C00005_R00002_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 1 5 TILE_C00005_R00002_S00005
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 1 5 TILE_C00005_R00002_S00005
)
)
IF "%1"=="TILE_C00005_R00002_S00005" GOTO END
```

:TILE\_C00005\_R00003\_S00001

```
ECHO Processing analysis tile for column: 5 row: 3 subtile: 1
    TILE_C00005_R00003_S00001
ECHO Tile 129 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 2 1 TILE_C00005_R00003_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00003_S00001 599850.0000 5182710.0000 602160.0000
    5185020.0000 599790.0000 5182650.0000 602220.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 2 1 TILE_C00005_R00003_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 2 1 TILE_C00005_R00003_S00001
        SET LTKERROR=
```

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```
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 2 1 TILE_C00005_R00003_S00001
)
)
IF "%1"=="TILE_C00005_R00003_S00001" GOTO END
```

```
:TILE_C00005_R00003_S00002
ECHO Processing analysis tile for column: 5 row: 3 subtile: 2
    TILE_C00005_R00003_S00002
ECHO Tile 130 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 2 2 TILE_C00005_R00003_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00003_S00002 602160.0000 5182710.0000 604470.0000
    5185020.0000 602100.0000 5182650.0000 604530.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 2 2 TILE_C00005_R00003_S00002
    SET LTKERROR=
```

```
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 2 2 TILE_C00005_R00003_S00002
        SET LTKERROR=
```

```
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 2 2 TILE_C00005_R00003_S00002
)
```

```
)
IF "%1"=="TILE_C00005_R00003_S00002" GOTO END
```

```
:TILE_C00005_R00003_S00003
ECHO Processing analysis tile for column: 5 row: 3 subtile: 3
    TILE_C00005_R00003_S00003
ECHO Tile 131 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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24script\_2013-06-30.bat" processing 4 2 3 TILE\_C00005\_R00003\_S00003

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00003_S00003 599850.0000 5185020.0000 604470.0000
    5187330.0000 599790.0000 5184960.0000 604530.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 2 3 TILE_C00005_R00003_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 2 3 TILE_C00005_R00003_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 2 3 TILE_C00005_R00003_S00003
)
)
IF "%1"=="TILE_C00005_R00003_S00003" GOTO END
```

:TILE\_C00005\_R00004\_S00001

```
ECHO Processing analysis tile for column: 5 row: 4 subtile: 1
    TILE_C00005_R00004_S00001
```

```
ECHO Tile 132 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 3 1 TILE_C00005_R00004_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00004_S00001 599850.0000 5187330.0000 604470.0000
    5189640.0000 599790.0000 5187270.0000 604530.0000 5189700.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 3 1 TILE_C00005_R00004_S00001
    SET LTKERROR=
) ELSE (
```

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```
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 3 1 TILE_C00005_R00004_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 3 1 TILE_C00005_R00004_S00001
)
)
IF "%1"=="TILE_C00005_R00004_S00001" GOTO END

:TILE_C00005_R00004_S00002
ECHO Processing analysis tile for column: 5 row: 4 subtile: 2
    TILE_C00005_R00004_S00002
ECHO Tile 133 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 4 3 2 TILE_C00005_R00004_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00004_S00002 599850.0000 5189640.0000 602160.0000
    5191950.0000 599790.0000 5189580.0000 602220.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 3 2 TILE_C00005_R00004_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 3 2 TILE_C00005_R00004_S00002
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 3 2 TILE_C00005_R00004_S00002
)
)
IF "%1"=="TILE_C00005_R00004_S00002" GOTO END

:TILE_C00005_R00004_S00003
ECHO Processing analysis tile for column: 5 row: 4 subtile: 3
    TILE_C00005_R00004_S00003
```

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ECHO Tile 134 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 4 3 3 TILE_C00005_R00004_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00005_R00004_S00003 602160.0000 5189640.0000 604470.0000
5191950.0000 602100.0000 5189580.0000 604530.0000 5192010.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 3 3 TILE_C00005_R00004_S00003
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 3 3 TILE_C00005_R00004_S00003
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 4 3 3 TILE_C00005_R00004_S00003
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00005_R00004_S00003" GOTO END
```

:TILE\_C00005\_R00005\_S00001

ECHO Processing analysis tile for column: 5 row: 5 subtile: 1

TILE\_C00005\_R00005\_S00001

ECHO Tile 135 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 4 4 1 TILE_C00005_R00005_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00005_R00005_S00001 599850.0000 5191950.0000 602160.0000
5194260.0000 599790.0000 5191890.0000 602220.0000 5194320.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 4 1 TILE_C00005_R00005_S00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 4 1 TILE_C00005_R00005_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 4 1 TILE_C00005_R00005_S00001
)
)
IF "%1"=="TILE_C00005_R00005_S00001" GOTO END

:TILE_C00005_R00005_S00002
ECHO Processing analysis tile for column: 5 row: 5 subtile: 2
TILE_C00005_R00005_S00002
ECHO Tile 136 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 4 4 2 TILE_C00005_R00005_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00005_R00005_S00002 602160.0000 5191950.0000 604470.0000
5194260.0000 602100.0000 5191890.0000 604530.0000 5194320.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 4 2 TILE_C00005_R00005_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 4 2 TILE_C00005_R00005_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 4 2 TILE_C00005_R00005_S00002
)
)
IF "%1"=="TILE_C00005_R00005_S00002" GOTO END
```

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```
:TILE_C00005_R00005_S00003
ECHO Processing analysis tile for column: 5 row: 5 subtile: 3
    TILE_C00005_R00005_S00003
ECHO Tile 137 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 4 4 3 TILE_C00005_R00005_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00003 599850.0000 5194260.0000 602160.0000
    5195400.0000 599790.0000 5194200.0000 602220.0000 5195460.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 4 4 3 TILE_C00005_R00005_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 4 3 TILE_C00005_R00005_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 4 4 3 TILE_C00005_R00005_S00003
)
)
IF "%1"=="TILE_C00005_R00005_S00003" GOTO END

:TILE_C00005_R00005_S00004
ECHO Processing analysis tile for column: 5 row: 5 subtile: 4
    TILE_C00005_R00005_S00004
ECHO Tile 138 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 4 4 4 TILE_C00005_R00005_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00004 599850.0000 5195400.0000 602160.0000
    5196570.0000 599790.0000 5195340.0000 602220.0000 5196630.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
```

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2310.0000 1170.0000

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 4 4 TILE_C00005_R00005_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 4 4 TILE_C00005_R00005_S00004
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 4 4 TILE_C00005_R00005_S00004
)
)
IF "%1"=="TILE_C00005_R00005_S00004" GOTO END

:TILE_C00005_R00005_S00005
ECHO Processing analysis tile for column: 5 row: 5 subtile: 5
    TILE_C00005_R00005_S00005
ECHO Tile 139 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 4 5 TILE_C00005_R00005_S00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00005_S00005 602160.0000 5194260.0000 604470.0000
    5196570.0000 602100.0000 5194200.0000 604530.0000 5196630.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 4 5 TILE_C00005_R00005_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 4 5 TILE_C00005_R00005_S00005
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" complete 4 4 5 TILE_C00005_R00005_S00005
)
)
IF "%1"=="TILE_C00005_R00005_S00005" GOTO END

:TILE_C00005_R00006_S00001
ECHO Processing analysis tile for column: 5 row: 6 subtile: 1
    TILE_C00005_R00006_S00001
ECHO Tile 140 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 5 1 TILE_C00005_R00006_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00006_S00001 599850.0000 5196570.0000 602160.0000
    5198880.0000 599790.0000 5196510.0000 602220.0000 5198940.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 5 1 TILE_C00005_R00006_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 5 1 TILE_C00005_R00006_S00001
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 4 5 1 TILE_C00005_R00006_S00001
    )
)
IF "%1"=="TILE_C00005_R00006_S00001" GOTO END

:TILE_C00005_R00006_S00002
ECHO Processing analysis tile for column: 5 row: 6 subtile: 2
    TILE_C00005_R00006_S00002
ECHO Tile 141 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 5 2 TILE_C00005_R00006_S00002
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00005_R00006_S00002 602160.0000 5196570.0000 604470.0000
5198880.0000 602100.0000 5196510.0000 604530.0000 5198940.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 5 2 TILE_C00005_R00006_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 4 5 2 TILE_C00005_R00006_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 4 5 2 TILE_C00005_R00006_S00002
)
)
IF "%1"=="TILE_C00005_R00006_S00002" GOTO END
```

:TILE\_C00005\_R00006\_S00003

ECHO Processing analysis tile for column: 5 row: 6 subtile: 3

TILE\_C00005\_R00006\_S00003

ECHO Tile 142 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 4 5 3 TILE_C00005_R00006_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00005_R00006_S00003 599850.0000 5198880.0000 602160.0000
5201190.0000 599790.0000 5198820.0000 602220.0000 5201250.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 4 5 3 TILE_C00005_R00006_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

# Task agreement J8W07100017 Final Report

```
24script_2013-06-30.bat" error 4 5 3 TILE_C00005_R00006_S00003
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 5 3 TILE_C00005_R00006_S00003
)
)
IF "%1""=="TILE_C00005_R00006_S00003" GOTO END

:TILE_C00005_R00006_S00004
ECHO Processing analysis tile for column: 5 row: 6 subtile: 4
    TILE_C00005_R00006_S00004
ECHO Tile 143 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 4 5 4 TILE_C00005_R00006_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00006_S00004 602160.0000 5198880.0000 604470.0000
    5201190.0000 602100.0000 5198820.0000 604530.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 5 4 TILE_C00005_R00006_S00004
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 5 4 TILE_C00005_R00006_S00004
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 5 4 TILE_C00005_R00006_S00004
)
)
IF "%1""=="TILE_C00005_R00006_S00004" GOTO END

:TILE_C00005_R00007_S00001
ECHO Processing analysis tile for column: 5 row: 7 subtile: 1
    TILE_C00005_R00007_S00001
ECHO Tile 144 of 217
```

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REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 4 6 1 TILE_C00005_R00007_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00005_R00007_S00001 599850.0000 5201190.0000 604470.0000  
      5203500.0000 599790.0000 5201130.0000 604530.0000 5203560.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 6 1 TILE_C00005_R00007_S00001  
  SET LTKERROR=
```

```
) ELSE (
```

```
  IF NOT "%LTKERROR%"==""  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 6 1 TILE_C00005_R00007_S00001  
    SET LTKERROR=
```

```
) ELSE (
```

```
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 4 6 1 TILE_C00005_R00007_S00001
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00005_R00007_S00001" GOTO END
```

```
:TILE_C00005_R00007_S00002
```

```
ECHO Processing analysis tile for column: 5 row: 7 subtile: 2  
      TILE_C00005_R00007_S00002
```

```
ECHO Tile 145 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 4 6 2 TILE_C00005_R00007_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00005_R00007_S00002 599850.0000 5203500.0000 602160.0000  
      5205810.0000 599790.0000 5203440.0000 602220.0000 5205870.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 6 2 TILE_C00005_R00007_S00002
```

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```
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 6 2 TILE_C00005_R00007_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 6 2 TILE_C00005_R00007_S00002
)
)
IF "%1"=="TILE_C00005_R00007_S00002" GOTO END
```

```
:TILE_C00005_R00007_S00003
ECHO Processing analysis tile for column: 5 row: 7 subtile: 3
    TILE_C00005_R00007_S00003
ECHO Tile 146 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 4 6 3 TILE_C00005_R00007_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00005_R00007_S00003 602160.0000 5203500.0000 604470.0000
    5205810.0000 602100.0000 5203440.0000 604530.0000 5205870.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 6 3 TILE_C00005_R00007_S00003
    SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 4 6 3 TILE_C00005_R00007_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 4 6 3 TILE_C00005_R00007_S00003
)
)
IF "%1"=="TILE_C00005_R00007_S00003" GOTO END

:TILE_C00005_R00008
```

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ECHO Processing analysis tile for column: 5 row: 8 TILE\_C00005\_R00008  
ECHO Tile 147 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 4 7 0 TILE_C00005_R00008
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00005_R00008 599850.0000 5205810.0000 604470.0000 5206284.1000  
      599790.0000 5205750.0000 604530.0000 5206284.1000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      4620.0000 474.1000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 7 0 TILE_C00005_R00008  
  SET LTKERROR=  
) ELSE (  
  IF NOT "%LTKERROR%"==""  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 4 7 0 TILE_C00005_R00008  
    SET LTKERROR=  
) ELSE (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 4 7 0 TILE_C00005_R00008  
)  
)  
IF "%1"=="TILE_C00005_R00008" GOTO END
```

:TILE\_C00006\_R00001\_S00001

ECHO Processing analysis tile for column: 6 row: 1 subtitle: 1

TILE\_C00006\_R00001\_S00001

ECHO Tile 148 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 0 1 TILE_C00006_R00001_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00006_R00001_S00001 604470.0000 5173470.0000 609090.0000  
      5175780.0000 604410.0000 5173470.0000 609150.0000 5175840.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      4620.0000 2310.0000
```

REM update status

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```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 0 1 TILE_C00006_R00001_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 0 1 TILE_C00006_R00001_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 0 1 TILE_C00006_R00001_S00001
)
)
IF "%1"=="TILE_C00006_R00001_S00001" GOTO END
```

```
:TILE_C00006_R00001_S00002
ECHO Processing analysis tile for column: 6 row: 1 subtile: 2
    TILE_C00006_R00001_S00002
ECHO Tile 149 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 5 0 2 TILE_C00006_R00001_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00001_S00002 604470.0000 5175780.0000 606780.0000
    5178090.0000 604410.0000 5175720.0000 606840.0000 5178150.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 0 2 TILE_C00006_R00001_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 0 2 TILE_C00006_R00001_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 0 2 TILE_C00006_R00001_S00002
)
)
```

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```
IF "%1"=="TILE_C00006_R00001_S00002" GOTO END
```

```
:TILE_C00006_R00001_S00003
```

```
ECHO Processing analysis tile for column: 6 row: 1 subtile: 3  
TILE_C00006_R00001_S00003
```

```
ECHO Tile 150 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 5 0 3 TILE_C00006_R00001_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00006_R00001_S00003 606780.0000 5175780.0000 609090.0000  
5178090.0000 606720.0000 5175720.0000 609150.0000 5178150.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

```
REM update status
```

```
IF ERRORLEVEL 1 (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" error 5 0 3 TILE_C00006_R00001_S00003
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    IF NOT "%LTKERROR%"=="" (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 5 0 3 TILE_C00006_R00001_S00003
```

```
        SET LTKERROR=
```

```
) ELSE (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" complete 5 0 3 TILE_C00006_R00001_S00003
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00006_R00001_S00003" GOTO END
```

```
:TILE_C00006_R00002_S00001
```

```
ECHO Processing analysis tile for column: 6 row: 2 subtile: 1  
TILE_C00006_R00002_S00001
```

```
ECHO Tile 151 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 5 1 1 TILE_C00006_R00002_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00006_R00002_S00001 604470.0000 5178090.0000 606780.0000  
5180400.0000 604410.0000 5178030.0000 606840.0000 5180460.0000
```

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```
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 5 1 1 TILE_C00006_R00002_S00001  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 5 1 1 TILE_C00006_R00002_S00001  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 5 1 1 TILE_C00006_R00002_S00001  
    )  
)  
IF "%1"=="TILE_C00006_R00002_S00001" GOTO END
```

:TILE\_C00006\_R00002\_S00002

ECHO Processing analysis tile for column: 6 row: 2 subtile: 2

TILE\_C00006\_R00002\_S00002

ECHO Tile 152 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 5 1 2 TILE_C00006_R00002_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00006_R00002_S00002 606780.0000 5178090.0000 609090.0000  
    5180400.0000 606720.0000 5178030.0000 609150.0000 5180460.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 5 1 2 TILE_C00006_R00002_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 5 1 2 TILE_C00006_R00002_S00002  
        SET LTKERROR=  
) ELSE (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 1 2 TILE_C00006_R00002_S00002
)
)
IF "%1"=="TILE_C00006_R00002_S00002" GOTO END

:TILE_C00006_R00002_S00003
ECHO Processing analysis tile for column: 6 row: 2 subtile: 3
    TILE_C00006_R00002_S00003
ECHO Tile 153 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 1 3 TILE_C00006_R00002_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00003 604470.0000 5180400.0000 606780.0000
    5182710.0000 604410.0000 5180340.0000 606840.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 1 3 TILE_C00006_R00002_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKEERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 1 3 TILE_C00006_R00002_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 1 3 TILE_C00006_R00002_S00003
)
)
IF "%1"=="TILE_C00006_R00002_S00003" GOTO END

:TILE_C00006_R00002_S00004
ECHO Processing analysis tile for column: 6 row: 2 subtile: 4
    TILE_C00006_R00002_S00004
ECHO Tile 154 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 1 4 TILE_C00006_R00002_S00004
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00002_S00004 606780.0000 5180400.0000 609090.0000
    5182710.0000 606720.0000 5180340.0000 609150.0000 5182770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 1 4 TILE_C00006_R00002_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 1 4 TILE_C00006_R00002_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 1 4 TILE_C00006_R00002_S00004
)
)
IF "%1"=="TILE_C00006_R00002_S00004" GOTO END
```

```
:TILE_C00006_R00003_S00001
ECHO Processing analysis tile for column: 6 row: 3 subtile: 1
    TILE_C00006_R00003_S00001
ECHO Tile 155 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 5 2 1 TILE_C00006_R00003_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00003_S00001 604470.0000 5182710.0000 606780.0000
    5185020.0000 604410.0000 5182650.0000 606840.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 2 1 TILE_C00006_R00003_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""

```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 2 1 TILE_C00006_R00003_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 2 1 TILE_C00006_R00003_S00001
)
)
IF "%1"=="TILE_C00006_R00003_S00001" GOTO END
```

```
:TILE_C00006_R00003_S00002
ECHO Processing analysis tile for column: 6 row: 3 subtile: 2
    TILE_C00006_R00003_S00002
ECHO Tile 156 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 2 2 TILE_C00006_R00003_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00003_S00002 606780.0000 5182710.0000 609090.0000
    5185020.0000 606720.0000 5182650.0000 609150.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 2 2 TILE_C00006_R00003_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKEERROR%"=="" (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 2 2 TILE_C00006_R00003_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 2 2 TILE_C00006_R00003_S00002
)
)
)
IF "%1"=="TILE_C00006_R00003_S00002" GOTO END
```

```
:TILE_C00006_R00003_S00003
ECHO Processing analysis tile for column: 6 row: 3 subtile: 3
    TILE_C00006_R00003_S00003
ECHO Tile 157 of 217
```

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REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 2 3 TILE_C00006_R00003_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00006_R00003_S00003 604470.0000 5185020.0000 609090.0000  
      5187330.0000 604410.0000 5184960.0000 609150.0000 5187390.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 2 3 TILE_C00006_R00003_S00003  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 2 3 TILE_C00006_R00003_S00003  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 2 3 TILE_C00006_R00003_S00003  
    )  
)  
IF "%1"=="TILE_C00006_R00003_S00003" GOTO END
```

:TILE\_C00006\_R00004\_S00001

ECHO Processing analysis tile for column: 6 row: 4 subtile: 1

    TILE\_C00006\_R00004\_S00001

ECHO Tile 158 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 3 1 TILE_C00006_R00004_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00006_R00004_S00001 604470.0000 5187330.0000 606780.0000  
      5189640.0000 604410.0000 5187270.0000 606840.0000 5189700.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 5 3 1 TILE_C00006_R00004_S00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 5 3 1 TILE_C00006_R00004_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 5 3 1 TILE_C00006_R00004_S00001
)
)
IF "%1"=="TILE_C00006_R00004_S00001" GOTO END

:TILE_C00006_R00004_S00002
ECHO Processing analysis tile for column: 6 row: 4 subtile: 2
TILE_C00006_R00004_S00002
ECHO Tile 159 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 5 3 2 TILE_C00006_R00004_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00006_R00004_S00002 606780.0000 5187330.0000 609090.0000
5189640.0000 606720.0000 5187270.0000 609150.0000 5189700.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 5 3 2 TILE_C00006_R00004_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 5 3 2 TILE_C00006_R00004_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 5 3 2 TILE_C00006_R00004_S00002
)
)
IF "%1"=="TILE_C00006_R00004_S00002" GOTO END
```

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```
:TILE_C00006_R00004_S00003
ECHO Processing analysis tile for column: 6 row: 4 subtile: 3
    TILE_C00006_R00004_S00003
ECHO Tile 160 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 5 3 3 TILE_C00006_R00004_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00003 604470.0000 5189640.0000 606780.0000
    5191950.0000 604410.0000 5189580.0000 606840.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 5 3 3 TILE_C00006_R00004_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 3 3 TILE_C00006_R00004_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 5 3 3 TILE_C00006_R00004_S00003
)
)
IF "%1"=="TILE_C00006_R00004_S00003" GOTO END
```

```
:TILE_C00006_R00004_S00004
ECHO Processing analysis tile for column: 6 row: 4 subtile: 4
    TILE_C00006_R00004_S00004
ECHO Tile 161 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 5 3 4 TILE_C00006_R00004_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00004_S00004 606780.0000 5189640.0000 609090.0000
    5191950.0000 606720.0000 5189580.0000 609150.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 3 4 TILE_C00006_R00004_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 3 4 TILE_C00006_R00004_S00004
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 3 4 TILE_C00006_R00004_S00004
)
)
IF "%1"=="TILE_C00006_R00004_S00004" GOTO END

:TILE_C00006_R00005_S00001
ECHO Processing analysis tile for column:   6 row:   5 subtile:   1
    TILE_C00006_R00005_S00001
ECHO Tile 162 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 5 4 1 TILE_C00006_R00005_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00005_S00001 604470.0000 5191950.0000 606780.0000
    5194260.0000 604410.0000 5191890.0000 606840.0000 5194320.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 4 1 TILE_C00006_R00005_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 4 1 TILE_C00006_R00005_S00001
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 4 1 TILE_C00006_R00005_S00001
```

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```
)  
)  
IF "%1""=="TILE_C00006_R00005_S00001" GOTO END  
  
:TILE_C00006_R00005_S00002  
ECHO Processing analysis tile for column: 6 row: 5 subtile: 2  
    TILE_C00006_R00005_S00002  
ECHO Tile 163 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 5 4 2 TILE_C00006_R00005_S00002  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00006_R00005_S00002 606780.0000 5191950.0000 609090.0000  
    5194260.0000 606720.0000 5191890.0000 609150.0000 5194320.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 5 4 2 TILE_C00006_R00005_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKEERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 5 4 2 TILE_C00006_R00005_S00002  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 5 4 2 TILE_C00006_R00005_S00002  
    )  
)  
IF "%1""=="TILE_C00006_R00005_S00002" GOTO END  
  
:TILE_C00006_R00005_S00003  
ECHO Processing analysis tile for column: 6 row: 5 subtile: 3  
    TILE_C00006_R00005_S00003  
ECHO Tile 164 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 5 4 3 TILE_C00006_R00005_S00003  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

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```
TILE_C00006_R00005_S00003 604470.0000 5194260.0000 606780.0000  
5195400.0000 604410.0000 5194200.0000 606840.0000 5195460.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 5 4 3 TILE_C00006_R00005_S00003  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 5 4 3 TILE_C00006_R00005_S00003  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" complete 5 4 3 TILE_C00006_R00005_S00003  
    )  
)  
IF "%1"=="TILE_C00006_R00005_S00003" GOTO END
```

```
:TILE_C00006_R00005_S00004  
ECHO Processing analysis tile for column: 6 row: 5 subtile: 4  
    TILE_C00006_R00005_S00004  
ECHO Tile 165 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 5 4 4 TILE_C00006_R00005_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00006_R00005_S00004 604470.0000 5195400.0000 606780.0000  
    5196570.0000 604410.0000 5195340.0000 606840.0000 5196630.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 5 4 4 TILE_C00006_R00005_S00004  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 5 4 4 TILE_C00006_R00005_S00004
```

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```
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 5 4 4 TILE_C00006_R00005_S00004
)
)
IF "%1"=="TILE_C00006_R00005_S00004" GOTO END

:TILE_C00006_R00005_S00005
ECHO Processing analysis tile for column: 6 row: 5 subtile: 5
    TILE_C00006_R00005_S00005
ECHO Tile 166 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 5 4 5 TILE_C00006_R00005_S00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00005_S00005 606780.0000 5194260.0000 609090.0000
    5195400.0000 606720.0000 5194200.0000 609150.0000 5195460.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 5 4 5 TILE_C00006_R00005_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 4 5 TILE_C00006_R00005_S00005
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 5 4 5 TILE_C00006_R00005_S00005
)
)
)
IF "%1"=="TILE_C00006_R00005_S00005" GOTO END

:TILE_C00006_R00005_S00006
ECHO Processing analysis tile for column: 6 row: 5 subtile: 6
    TILE_C00006_R00005_S00006
ECHO Tile 167 of 217

REM update status
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 4 6 TILE_C00006_R00005_S00006

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00006_R00005_S00006 606780.0000 5195400.0000 609090.0000
5196570.0000 606720.0000 5195340.0000 609150.0000 5196630.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1170.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 4 6 TILE_C00006_R00005_S00006
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 4 6 TILE_C00006_R00005_S00006
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 4 6 TILE_C00006_R00005_S00006
)
)
IF "%1"=="TILE_C00006_R00005_S00006" GOTO END

:TILE_C00006_R00006_S00001
ECHO Processing analysis tile for column: 6 row: 6 subtile: 1
    TILE_C00006_R00006_S00001
ECHO Tile 168 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 5 1 TILE_C00006_R00006_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00006_R00006_S00001 604470.0000 5196570.0000 606780.0000
5198880.0000 604410.0000 5196510.0000 606840.0000 5198940.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 5 1 TILE_C00006_R00006_S00001
    SET LTKERROR=
```

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```
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 5 5 1 TILE_C00006_R00006_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 5 5 1 TILE_C00006_R00006_S00001
)
)
IF "%1"=="TILE_C00006_R00006_S00001" GOTO END

:TILE_C00006_R00006_S00002
ECHO Processing analysis tile for column: 6 row: 6 subtile: 2
    TILE_C00006_R00006_S00002
ECHO Tile 169 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 5 5 2 TILE_C00006_R00006_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00006_S00002 606780.0000 5196570.0000 609090.0000
    5198880.0000 606720.0000 5196510.0000 609150.0000 5198940.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 5 5 2 TILE_C00006_R00006_S00002
SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 5 5 2 TILE_C00006_R00006_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 5 5 2 TILE_C00006_R00006_S00002
)
)
IF "%1"=="TILE_C00006_R00006_S00002" GOTO END

:TILE_C00006_R00006_S00003
ECHO Processing analysis tile for column: 6 row: 6 subtile: 3
```

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TILE\_C00006\_R00006\_S00003  
ECHO Tile 170 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 5 3 TILE_C00006_R00006_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00006_R00006_S00003 604470.0000 5198880.0000 606780.0000  
5201190.0000 604410.0000 5198820.0000 606840.0000 5201250.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 5 3 TILE_C00006_R00006_S00003  
SET LTKERROR=
```

```
) ELSE (  
IF NOT "%LTKERROR%"=="" (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 5 3 TILE_C00006_R00006_S00003  
SET LTKERROR=  
) ELSE (  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 5 3 TILE_C00006_R00006_S00003  
)  
)
```

```
IF "%1"=="TILE_C00006_R00006_S00003" GOTO END
```

```
:TILE_C00006_R00006_S00004  
ECHO Processing analysis tile for column: 6 row: 6 subtitle: 4  
TILE_C00006_R00006_S00004  
ECHO Tile 171 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 5 4 TILE_C00006_R00006_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00006_R00006_S00004 606780.0000 5198880.0000 609090.0000  
5201190.0000 606720.0000 5198820.0000 609150.0000 5201250.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

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```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 5 4 TILE_C00006_R00006_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 5 4 TILE_C00006_R00006_S00004
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 5 4 TILE_C00006_R00006_S00004
)
)
IF "%1"=="TILE_C00006_R00006_S00004" GOTO END
```

```
:TILE_C00006_R00007_S00001
ECHO Processing analysis tile for column: 6 row: 7 subtile: 1
    TILE_C00006_R00007_S00001
ECHO Tile 172 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 5 6 1 TILE_C00006_R00007_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00006_R00007_S00001 604470.0000 5201190.0000 609090.0000
    5203500.0000 604410.0000 5201130.0000 609150.0000 5203560.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 6 1 TILE_C00006_R00007_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 6 1 TILE_C00006_R00007_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 6 1 TILE_C00006_R00007_S00001
)
)
```

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```
IF "%1"=="TILE_C00006_R00007_S00001" GOTO END
```

```
:TILE_C00006_R00007_S00002
```

```
ECHO Processing analysis tile for column: 6 row: 7 subtile: 2
```

```
    TILE_C00006_R00007_S00002
```

```
ECHO Tile 173 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 6 2 TILE_C00006_R00007_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
    TILE_C00006_R00007_S00002 604470.0000 5203500.0000 609090.0000
```

```
    5205810.0000 604410.0000 5203440.0000 609150.0000 5205870.0000
```

```
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    4620.0000 2310.0000
```

```
REM update status
```

```
IF ERRORLEVEL 1 (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 6 2 TILE_C00006_R00007_S00002
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    IF NOT "%LTKERROR%"=="" (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 5 6 2 TILE_C00006_R00007_S00002
```

```
        SET LTKERROR=
```

```
) ELSE (
```

```
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 5 6 2 TILE_C00006_R00007_S00002
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00006_R00007_S00002" GOTO END
```

```
:TILE_C00006_R00008
```

```
ECHO Processing analysis tile for column: 6 row: 8 TILE_C00006_R00008
```

```
ECHO Tile 174 of 217
```

```
REM update status
```

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 5 7 0 TILE_C00006_R00008
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

```
    TILE_C00006_R00008 604470.0000 5205810.0000 609090.0000 5206284.1000
```

```
    604410.0000 5205750.0000 609150.0000 5206284.1000
```

```
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
```

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4620.0000 474.1000

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 5 7 0 TILE_C00006_R00008
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 5 7 0 TILE_C00006_R00008
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 5 7 0 TILE_C00006_R00008
)
)
IF "%1"=="TILE_C00006_R00008" GOTO END
```

```
:TILE_C00007_R00001_S00001
ECHO Processing analysis tile for column: 7 row: 1 subtile: 1
    TILE_C00007_R00001_S00001
ECHO Tile 175 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 0 1 TILE_C00007_R00001_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00001_S00001 609090.0000 5173470.0000 613710.0000
    5175780.0000 609030.0000 5173470.0000 613770.0000 5175840.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 0 1 TILE_C00007_R00001_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 0 1 TILE_C00007_R00001_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" complete 6 0 1 TILE_C00007_R00001_S00001
)
)
IF "%1"=="TILE_C00007_R00001_S00001" GOTO END

:TILE_C00007_R00001_S00002
ECHO Processing analysis tile for column: 7 row: 1 subtile: 2
    TILE_C00007_R00001_S00002
ECHO Tile 176 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 0 2 TILE_C00007_R00001_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00001_S00002 609090.0000 5175780.0000 611400.0000
    5178090.0000 609030.0000 5175720.0000 611460.0000 5178150.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 0 2 TILE_C00007_R00001_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 0 2 TILE_C00007_R00001_S00002
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 6 0 2 TILE_C00007_R00001_S00002
    )
)
IF "%1"=="TILE_C00007_R00001_S00002" GOTO END

:TILE_C00007_R00001_S00003
ECHO Processing analysis tile for column: 7 row: 1 subtile: 3
    TILE_C00007_R00001_S00003
ECHO Tile 177 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 0 3 TILE_C00007_R00001_S00003
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00001_S00003 611400.0000 5175780.0000 613710.0000
    5178090.0000 611340.0000 5175720.0000 613770.0000 5178150.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 0 3 TILE_C00007_R00001_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 0 3 TILE_C00007_R00001_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 0 3 TILE_C00007_R00001_S00003
)
)
IF "%1"=="TILE_C00007_R00001_S00003" GOTO END
```

:TILE\_C00007\_R00002\_S00001

ECHO Processing analysis tile for column: 7 row: 2 subtile: 1

TILE\_C00007\_R00002\_S00001

ECHO Tile 178 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 1 1 TILE_C00007_R00002_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00002_S00001 609090.0000 5178090.0000 611400.0000
    5180400.0000 609030.0000 5178030.0000 611460.0000 5180460.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 1 1 TILE_C00007_R00002_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 6 1 1 TILE_C00007_R00002_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 1 1 TILE_C00007_R00002_S00001
)
)
IF "%1"=="TILE_C00007_R00002_S00001" GOTO END

:TILE_C00007_R00002_S00002
ECHO Processing analysis tile for column: 7 row: 2 subtile: 2
    TILE_C00007_R00002_S00002
ECHO Tile 179 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 1 2 TILE_C00007_R00002_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00002_S00002 611400.0000 5178090.0000 613710.0000
    5180400.0000 611340.0000 5178030.0000 613770.0000 5180460.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 1 2 TILE_C00007_R00002_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"=="" (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 1 2 TILE_C00007_R00002_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 1 2 TILE_C00007_R00002_S00002
)
)
IF "%1"=="TILE_C00007_R00002_S00002" GOTO END

:TILE_C00007_R00002_S00003
ECHO Processing analysis tile for column: 7 row: 2 subtile: 3
    TILE_C00007_R00002_S00003
ECHO Tile 180 of 217
```

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REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 1 3 TILE_C00007_R00002_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00007_R00002_S00003 609090.0000 5180400.0000 611400.0000  
      5182710.0000 609030.0000 5180340.0000 611460.0000 5182770.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 1 3 TILE_C00007_R00002_S00003  
  SET LTKERROR=
```

```
) ELSE (
```

```
  IF NOT "%LTKERROR%"==""  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 1 3 TILE_C00007_R00002_S00003  
    SET LTKERROR=
```

```
) ELSE (
```

```
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 6 1 3 TILE_C00007_R00002_S00003
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00007_R00002_S00003" GOTO END
```

```
:TILE_C00007_R00002_S00004
```

```
ECHO Processing analysis tile for column: 7 row: 2 subtitle: 4  
      TILE_C00007_R00002_S00004
```

```
ECHO Tile 181 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 1 4 TILE_C00007_R00002_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
      TILE_C00007_R00002_S00004 611400.0000 5180400.0000 613710.0000  
      5182710.0000 611340.0000 5180340.0000 613770.0000 5182770.0000  
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
      2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 1 4 TILE_C00007_R00002_S00004
```

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```
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 1 4 TILE_C00007_R00002_S00004
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 1 4 TILE_C00007_R00002_S00004
)
)
IF "%1"=="TILE_C00007_R00002_S00004" GOTO END

:TILE_C00007_R00003_S00001
ECHO Processing analysis tile for column: 7 row: 3 subtile: 1
    TILE_C00007_R00003_S00001
ECHO Tile 182 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 2 1 TILE_C00007_R00003_S00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00003_S00001 609090.0000 5182710.0000 611400.0000
    5185020.0000 609030.0000 5182650.0000 611460.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 2 1 TILE_C00007_R00003_S00001
    SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 2 1 TILE_C00007_R00003_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 2 1 TILE_C00007_R00003_S00001
)
)
IF "%1"=="TILE_C00007_R00003_S00001" GOTO END

:TILE_C00007_R00003_S00002
```

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ECHO Processing analysis tile for column: 7 row: 3 subtile: 2  
TILE\_C00007\_R00003\_S00002  
ECHO Tile 183 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 2 2 TILE_C00007_R00003_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00007_R00003_S00002 611400.0000 5182710.0000 613710.0000  
5185020.0000 611340.0000 5182650.0000 613770.0000 5185080.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 2 2 TILE_C00007_R00003_S00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 2 2 TILE_C00007_R00003_S00002  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 6 2 2 TILE_C00007_R00003_S00002  
    )  
)  
IF "%1"=="TILE_C00007_R00003_S00002" GOTO END
```

:TILE\_C00007\_R00003\_S00003  
ECHO Processing analysis tile for column: 7 row: 3 subtile: 3  
TILE\_C00007\_R00003\_S00003  
ECHO Tile 184 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 2 3 TILE_C00007_R00003_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
TILE_C00007_R00003_S00003 609090.0000 5185020.0000 611400.0000  
5187330.0000 609030.0000 5184960.0000 611460.0000 5187390.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
2310.0000 2310.0000
```

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REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 2 3 TILE_C00007_R00003_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 2 3 TILE_C00007_R00003_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 2 3 TILE_C00007_R00003_S00003
)
)
IF "%1"=="TILE_C00007_R00003_S00003" GOTO END
```

:TILE\_C00007\_R00003\_S00004

ECHO Processing analysis tile for column: 7 row: 3 subtile: 4

TILE\_C00007\_R00003\_S00004

ECHO Tile 185 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 2 4 TILE_C00007_R00003_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00003_S00004 611400.0000 5185020.0000 613710.0000
    5187330.0000 611340.0000 5184960.0000 613770.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 2 4 TILE_C00007_R00003_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 2 4 TILE_C00007_R00003_S00004
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 2 4 TILE_C00007_R00003_S00004
)
```

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```
)  
IF "%1"]=="TILE_C00007_R00003_S00004" GOTO END  
  
:TILE_C00007_R00004_S00001  
ECHO Processing analysis tile for column: 7 row: 4 subtile: 1  
    TILE_C00007_R00004_S00001  
ECHO Tile 186 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 6 3 1 TILE_C00007_R00004_S00001  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00007_R00001 609090.0000 5187330.0000 611400.0000  
    5189640.0000 609030.0000 5187270.0000 611460.0000 5189700.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    2310.0000 2310.0000  
  
REM update status  
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 6 3 1 TILE_C00007_R00004_S00001  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"=="" (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" error 6 3 1 TILE_C00007_R00004_S00001  
        SET LTKERROR=  
) ELSE (  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" complete 6 3 1 TILE_C00007_R00004_S00001  
)  
)  
IF "%1"]=="TILE_C00007_R00004_S00001" GOTO END  
  
:TILE_C00007_R00004_S00002  
ECHO Processing analysis tile for column: 7 row: 4 subtile: 2  
    TILE_C00007_R00004_S00002  
ECHO Tile 187 of 217  
  
REM update status  
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
24script_2013-06-30.bat" processing 6 3 2 TILE_C00007_R00004_S00002  
  
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00007_R00002 611400.0000 5187330.0000 613710.0000
```

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```
5189640.0000 611340.0000 5187270.0000 613770.0000 5189700.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 3 2 TILE_C00007_R00004_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 3 2 TILE_C00007_R00004_S00002
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 3 2 TILE_C00007_R00004_S00002
)
)
IF "%1"=="TILE_C00007_R00004_S00002" GOTO END
```

:TILE\_C00007\_R00004\_S00003

```
ECHO Processing analysis tile for column: 7 row: 4 subtile: 3
    TILE_C00007_R00004_S00003
ECHO Tile 188 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 3 3 TILE_C00007_R00004_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00004_S00003 609090.0000 5189640.0000 611400.0000
    5191950.0000 609030.0000 5189580.0000 611460.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 3 3 TILE_C00007_R00004_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 3 3 TILE_C00007_R00004_S00003
        SET LTKERROR=
```

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```
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 3 3 TILE_C00007_R00004_S00003
)
)
IF "%1"=="TILE_C00007_R00004_S00003" GOTO END
```

```
:TILE_C00007_R00004_S00004
ECHO Processing analysis tile for column: 7 row: 4 subtile: 4
    TILE_C00007_R00004_S00004
ECHO Tile 189 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 3 4 TILE_C00007_R00004_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00004_S00004 611400.0000 5189640.0000 613710.0000
    5191950.0000 611340.0000 5189580.0000 613770.0000 5192010.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 3 4 TILE_C00007_R00004_S00004
    SET LTKERROR=
)
ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 3 4 TILE_C00007_R00004_S00004
        SET LTKERROR=
)
ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 3 4 TILE_C00007_R00004_S00004
)
)
IF "%1"=="TILE_C00007_R00004_S00004" GOTO END
```

```
:TILE_C00007_R00005_S00001
ECHO Processing analysis tile for column: 7 row: 5 subtile: 1
    TILE_C00007_R00005_S00001
ECHO Tile 190 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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24script\_2013-06-30.bat" processing 6 4 1 TILE\_C00007\_R00005\_S00001

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00005_S00001 609090.0000 5191950.0000 611400.0000
    5193090.0000 609030.0000 5191890.0000 611460.0000 5193150.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 4 1 TILE_C00007_R00005_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 4 1 TILE_C00007_R00005_S00001
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 4 1 TILE_C00007_R00005_S00001
)
)
IF "%1"=="TILE_C00007_R00005_S00001" GOTO END
```

:TILE\_C00007\_R00005\_S00002

```
ECHO Processing analysis tile for column: 7 row: 5 subtile: 2
    TILE_C00007_R00005_S00002
```

```
ECHO Tile 191 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 4 2 TILE_C00007_R00005_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00005_S00002 609090.0000 5193090.0000 611400.0000
    5194260.0000 609030.0000 5193030.0000 611460.0000 5194320.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 4 2 TILE_C00007_R00005_S00002
    SET LTKERROR=
) ELSE (
```

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```
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 4 2 TILE_C00007_R00005_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 4 2 TILE_C00007_R00005_S00002
)
)
IF "%1"=="TILE_C00007_R00005_S00002" GOTO END

:TILE_C00007_R00005_S00003
ECHO Processing analysis tile for column: 7 row: 5 subtile: 3
    TILE_C00007_R00005_S00003
ECHO Tile 192 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 4 3 TILE_C00007_R00005_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00005_S00003 611400.0000 5191950.0000 613710.0000
    5194260.0000 611340.0000 5191890.0000 613770.0000 5194320.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 4 3 TILE_C00007_R00005_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 4 3 TILE_C00007_R00005_S00003
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 4 3 TILE_C00007_R00005_S00003
)
)
IF "%1"=="TILE_C00007_R00005_S00003" GOTO END

:TILE_C00007_R00005_S00004
ECHO Processing analysis tile for column: 7 row: 5 subtile: 4
    TILE_C00007_R00005_S00004
```

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ECHO Tile 193 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 4 4 TILE_C00007_R00005_S00004
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00007_R00005_S00004 609090.0000 5194260.0000 611400.0000
5195400.0000 609030.0000 5194200.0000 611460.0000 5195460.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1140.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 4 4 TILE_C00007_R00005_S00004
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
IF NOT "%LTKERROR%"=="" (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 4 4 TILE_C00007_R00005_S00004
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 6 4 4 TILE_C00007_R00005_S00004
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00007_R00005_S00004" GOTO END
```

:TILE\_C00007\_R00005\_S00005

ECHO Processing analysis tile for column: 7 row: 5 subtile: 5

TILE\_C00007\_R00005\_S00005

ECHO Tile 194 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 4 5 TILE_C00007_R00005_S00005
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00007_R00005_S00005 609090.0000 5195400.0000 611400.0000
5196570.0000 609030.0000 5195340.0000 611460.0000 5196630.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 1170.0000
```

REM update status

```
IF ERRORLEVEL 1 (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 4 5 TILE_C00007_R00005_S00005
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 4 5 TILE_C00007_R00005_S00005
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 4 5 TILE_C00007_R00005_S00005
)
)
IF "%1"=="TILE_C00007_R00005_S00005" GOTO END
```

```
:TILE_C00007_R00005_S00006
ECHO Processing analysis tile for column: 7 row: 5 subtile: 6
TILE_C00007_R00005_S00006
ECHO Tile 195 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 4 6 TILE_C00007_R00005_S00006
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00007_R00005_S00006 611400.0000 5194260.0000 613710.0000
5196570.0000 611340.0000 5194200.0000 613770.0000 5196630.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 4 6 TILE_C00007_R00005_S00006
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 4 6 TILE_C00007_R00005_S00006
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 4 6 TILE_C00007_R00005_S00006
)
)
IF "%1"=="TILE_C00007_R00005_S00006" GOTO END
```

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```
:TILE_C00007_R00006_S00001
ECHO Processing analysis tile for column: 7 row: 6 subtile: 1
    TILE_C00007_R00006_S00001
ECHO Tile 196 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 5 1 TILE_C00007_R00006_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00006_S00001 609090.0000 5196570.0000 611400.0000
    5197710.0000 609030.0000 5196510.0000 611460.0000 5197770.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 1140.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 6 5 1 TILE_C00007_R00006_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 5 1 TILE_C00007_R00006_S00001
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 6 5 1 TILE_C00007_R00006_S00001
)
)
IF "%1"=="TILE_C00007_R00006_S00001" GOTO END
```

```
:TILE_C00007_R00006_S00002
ECHO Processing analysis tile for column: 7 row: 6 subtile: 2
    TILE_C00007_R00006_S00002
ECHO Tile 197 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 5 2 TILE_C00007_R00006_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00006_S00002 609090.0000 5197710.0000 611400.0000
    5198880.0000 609030.0000 5197650.0000 611460.0000 5198940.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
```

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2310.0000 1170.0000

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 5 2 TILE_C00007_R00006_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 5 2 TILE_C00007_R00006_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 5 2 TILE_C00007_R00006_S00002
)
)
IF "%1"=="TILE_C00007_R00006_S00002" GOTO END

:TILE_C00007_R00006_S00003
ECHO Processing analysis tile for column: 7 row: 6 subtile: 3
    TILE_C00007_R00006_S00003
ECHO Tile 198 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 5 3 TILE_C00007_R00006_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00006_S00003 611400.0000 5196570.0000 613710.0000
    5198880.0000 611340.0000 5196510.0000 613770.0000 5198940.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 5 3 TILE_C00007_R00006_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 5 3 TILE_C00007_R00006_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" complete 6 5 3 TILE_C00007_R00006_S00003
)
)
IF "%1"=="TILE_C00007_R00006_S00003" GOTO END

:TILE_C00007_R00006_S00004
ECHO Processing analysis tile for column: 7 row: 6 subtile: 4
    TILE_C00007_R00006_S00004
ECHO Tile 199 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 5 4 TILE_C00007_R00006_S00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00006_S00004 609090.0000 5198880.0000 611400.0000
    5201190.0000 609030.0000 5198820.0000 611460.0000 5201250.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 5 4 TILE_C00007_R00006_S00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 5 4 TILE_C00007_R00006_S00004
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" complete 6 5 4 TILE_C00007_R00006_S00004
    )
)
IF "%1"=="TILE_C00007_R00006_S00004" GOTO END

:TILE_C00007_R00006_S00005
ECHO Processing analysis tile for column: 7 row: 6 subtile: 5
    TILE_C00007_R00006_S00005
ECHO Tile 200 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 5 5 TILE_C00007_R00006_S00005
```

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```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00007_R00006_S00005 611400.0000 5198880.0000 613710.0000
5201190.0000 611340.0000 5198820.0000 613770.0000 5201250.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 5 5 TILE_C00007_R00006_S00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 6 5 5 TILE_C00007_R00006_S00005
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 5 5 TILE_C00007_R00006_S00005
)
)
IF "%1"=="TILE_C00007_R00006_S00005" GOTO END
```

```
:TILE_C00007_R00007_S00001
ECHO Processing analysis tile for column: 7 row: 7 subtile: 1
    TILE_C00007_R00007_S00001
ECHO Tile 201 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 6 6 1 TILE_C00007_R00007_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00007_R00007_S00001 609090.0000 5201190.0000 611400.0000
5203500.0000 609030.0000 5201130.0000 611460.0000 5203560.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 6 1 TILE_C00007_R00007_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" error 6 6 1 TILE_C00007_R00007_S00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 6 1 TILE_C00007_R00007_S00001
)
)
IF "%1"=="TILE_C00007_R00007_S00001" GOTO END

:TILE_C00007_R00007_S00002
ECHO Processing analysis tile for column: 7 row: 7 subtile: 2
    TILE_C00007_R00007_S00002
ECHO Tile 202 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 6 6 2 TILE_C00007_R00007_S00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00007_R00007_S00002 611400.0000 5201190.0000 613710.0000
    5203500.0000 611340.0000 5201130.0000 613770.0000 5203560.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 6 6 2 TILE_C00007_R00007_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 6 6 2 TILE_C00007_R00007_S00002
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 6 6 2 TILE_C00007_R00007_S00002
    )
)
IF "%1"=="TILE_C00007_R00007_S00002" GOTO END

:TILE_C00007_R00007_S00003
ECHO Processing analysis tile for column: 7 row: 7 subtile: 3
    TILE_C00007_R00007_S00003
ECHO Tile 203 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 6 3 TILE_C00007_R00007_S00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
      TILE_C00007_R00007_S00003 609090.0000 5203500.0000 613710.0000
      5205810.0000 609030.0000 5203440.0000 613770.0000 5205870.0000
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
      4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 6 3 TILE_C00007_R00007_S00003
  SET LTKERROR=
```

```
) ELSE (
```

```
  IF NOT "%LTKERROR%"==""
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 6 3 TILE_C00007_R00007_S00003
    SET LTKERROR=
```

```
) ELSE (
```

```
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 6 6 3 TILE_C00007_R00007_S00003
)
```

```
)
```

```
IF "%1"=="TILE_C00007_R00007_S00003" GOTO END
```

:TILE\_C00007\_R00008

ECHO Processing analysis tile for column: 7 row: 8 TILE\_C00007\_R00008

ECHO Tile 204 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 6 7 0 TILE_C00007_R00008
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
      TILE_C00007_R00008 609090.0000 5205810.0000 613710.0000 5206284.1000
      609030.0000 5205750.0000 613770.0000 5206284.1000
      "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
      4620.0000 474.1000
```

REM update status

```
IF ERRORLEVEL 1 (
  "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 6 7 0 TILE_C00007_R00008
  SET LTKERROR=
```

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```
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 6 7 0 TILE_C00007_R00008
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 6 7 0 TILE_C00007_R00008
)
)
IF "%1"=="TILE_C00007_R00008" GOTO END

:TILE_C00008_R00001
ECHO Processing analysis tile for column: 8 row: 1 TILE_C00008_R00001
ECHO Tile 205 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 7 0 0 TILE_C00008_R00001

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00008_R00001 613710.0000 5173470.0000 618330.0000 5178090.0000
613650.0000 5173470.0000 618390.0000 5178150.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 4620.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 7 0 0 TILE_C00008_R00001
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 7 0 0 TILE_C00008_R00001
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 7 0 0 TILE_C00008_R00001
)
)
IF "%1"=="TILE_C00008_R00001" GOTO END

:TILE_C00008_R00002_S00001
ECHO Processing analysis tile for column: 8 row: 2 subtile: 1
TILE_C00008_R00002_S00001
```

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ECHO Tile 206 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 7 1 1 TILE_C00008_R00002_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00008_R00002_S00001 613710.0000 5178090.0000 618330.0000
5180400.0000 613650.0000 5178030.0000 618390.0000 5180460.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 7 1 1 TILE_C00008_R00002_S00001
```

```
SET LTKERROR=
```

```
) ELSE (
```

```
IF NOT "%LTKERROR%"=="" (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" error 7 1 1 TILE_C00008_R00002_S00001
```

```
    SET LTKERROR=
```

```
) ELSE (
```

```
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" complete 7 1 1 TILE_C00008_R00002_S00001
```

```
)
```

```
)
```

```
IF "%1"=="TILE_C00008_R00002_S00001" GOTO END
```

:TILE\_C00008\_R00002\_S00002

ECHO Processing analysis tile for column: 8 row: 2 subtile: 2

TILE\_C00008\_R00002\_S00002

ECHO Tile 207 of 217

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30.bat" processing 7 1 2 TILE_C00008_R00002_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00008_R00002_S00002 613710.0000 5180400.0000 616020.0000
5182710.0000 613650.0000 5180340.0000 616080.0000 5182770.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000
```

REM update status

```
IF ERRORLEVEL 1 (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 7 1 2 TILE_C00008_R00002_S00002
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 7 1 2 TILE_C00008_R00002_S00002
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 7 1 2 TILE_C00008_R00002_S00002
)
)
IF "%1"=="TILE_C00008_R00002_S00002" GOTO END

:TILE_C00008_R00002_S00003
ECHO Processing analysis tile for column: 8 row: 2 subtile: 3
TILE_C00008_R00002_S00003
ECHO Tile 208 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 7 1 3 TILE_C00008_R00002_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00008_R00002_S00003 616020.0000 5180400.0000 618330.0000
5182710.0000 615960.0000 5180340.0000 618390.0000 5182770.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
2310.0000 2310.0000

REM update status
IF ERRORLEVEL 1 (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 7 1 3 TILE_C00008_R00002_S00003
SET LTKERROR=
) ELSE (
IF NOT "%LTKERROR%"==""
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" error 7 1 3 TILE_C00008_R00002_S00003
SET LTKERROR=
) ELSE (
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 7 1 3 TILE_C00008_R00002_S00003
)
)
IF "%1"=="TILE_C00008_R00002_S00003" GOTO END
```

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```
:TILE_C00008_R00003_S00001
ECHO Processing analysis tile for column: 8 row: 3 subtile: 1
    TILE_C00008_R00003_S00001
ECHO Tile 209 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 7 2 1 TILE_C00008_R00003_S00001
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00008_R00003_S00001 613710.0000 5182710.0000 616020.0000
    5185020.0000 613650.0000 5182650.0000 616080.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    2310.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 7 2 1 TILE_C00008_R00003_S00001
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 7 2 1 TILE_C00008_R00003_S00001
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 7 2 1 TILE_C00008_R00003_S00001
)
)
IF "%1"=="TILE_C00008_R00003_S00001" GOTO END
```

```
:TILE_C00008_R00003_S00002
ECHO Processing analysis tile for column: 8 row: 3 subtile: 2
    TILE_C00008_R00003_S00002
ECHO Tile 210 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 7 2 2 TILE_C00008_R00003_S00002
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00008_R00003_S00002 616020.0000 5182710.0000 618330.0000
    5185020.0000 615960.0000 5182650.0000 618390.0000 5185080.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
```

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2310.0000 2310.0000

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 7 2 2 TILE_C00008_R00003_S00002
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 7 2 2 TILE_C00008_R00003_S00002
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 7 2 2 TILE_C00008_R00003_S00002
)
)
IF "%1"=="TILE_C00008_R00003_S00002" GOTO END
```

```
:TILE_C00008_R00003_S00003
ECHO Processing analysis tile for column: 8 row: 3 subtile: 3
    TILE_C00008_R00003_S00003
ECHO Tile 211 of 217
```

```
REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 7 2 3 TILE_C00008_R00003_S00003

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00008_R00003_S00003 613710.0000 5185020.0000 618330.0000
    5187330.0000 613650.0000 5184960.0000 618390.0000 5187390.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 2310.0000
```

```
REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 7 2 3 TILE_C00008_R00003_S00003
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 7 2 3 TILE_C00008_R00003_S00003
    SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
```

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```
24script_2013-06-30.bat" complete 7 2 3 TILE_C00008_R00003_S00003
)
)
IF "%1"=="TILE_C00008_R00003_S00003" GOTO END

:TILE_C00008_R00004
ECHO Processing analysis tile for column: 8 row: 4 TILE_C00008_R00004
ECHO Tile 212 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 7 3 0 TILE_C00008_R00004

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00008_R00004 613710.0000 5187330.0000 618330.0000 5191950.0000
613650.0000 5187270.0000 618390.0000 5192010.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 4620.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 7 3 0 TILE_C00008_R00004
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 7 3 0 TILE_C00008_R00004
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 7 3 0 TILE_C00008_R00004
    )
)
IF "%1"=="TILE_C00008_R00004" GOTO END

:TILE_C00008_R00005
ECHO Processing analysis tile for column: 8 row: 5 TILE_C00008_R00005
ECHO Tile 213 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 7 4 0 TILE_C00008_R00005

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00008_R00005 613710.0000 5191950.0000 618330.0000 5196570.0000
```

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```
613650.0000 5191890.0000 618390.0000 5196630.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 4620.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 7 4 0 TILE_C00008_R00005
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 7 4 0 TILE_C00008_R00005
        SET LTKERROR=
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 7 4 0 TILE_C00008_R00005
)
)
IF "%1"=="TILE_C00008_R00005" GOTO END
```

:TILE\_C00008\_R00006

```
ECHO Processing analysis tile for column: 8 row: 6 TILE_C00008_R00006
ECHO Tile 214 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" processing 7 5 0 TILE_C00008_R00006
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
TILE_C00008_R00006 613710.0000 5196570.0000 618330.0000 5201190.0000
613650.0000 5196510.0000 618390.0000 5201250.0000
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
4620.0000 4620.0000
```

REM update status

```
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 7 5 0 TILE_C00008_R00006
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"==""
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
            24script_2013-06-30.bat" error 7 5 0 TILE_C00008_R00006
        SET LTKERROR=
) ELSE (
```

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```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" complete 7 5 0 TILE_C00008_R00006
)
)
IF "%1"=="TILE_C00008_R00006" GOTO END

:TILE_C00008_R00007
ECHO Processing analysis tile for column: 8 row: 7 TILE_C00008_R00007
ECHO Tile 215 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 7 6 0 TILE_C00008_R00007

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
    TILE_C00008_R00007 613710.0000 5201190.0000 618330.0000 5205810.0000
    613650.0000 5201130.0000 618390.0000 5205870.0000
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000
    4620.0000 4620.0000

REM update status
IF ERRORLEVEL 1 (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" error 7 6 0 TILE_C00008_R00007
    SET LTKERROR=
) ELSE (
    IF NOT "%LTKERROR%"=="" (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" error 7 6 0 TILE_C00008_R00007
        SET LTKERROR=
    ) ELSE (
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
        24script_2013-06-30.bat" complete 7 6 0 TILE_C00008_R00007
    )
)
IF "%1"=="TILE_C00008_R00007" GOTO END

:TILE_C00009_R00002
ECHO Processing analysis tile for column: 9 row: 2 TILE_C00009_R00002
ECHO Tile 216 of 217

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
24script_2013-06-30.bat" processing 8 1 0 TILE_C00009_R00002

CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"
```

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```
TILE_C00009_R00002 618330.0000 5178090.0000 618860.5800 5182710.0000  
618270.0000 5178030.0000 618860.5800 5182770.0000  
"\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
530.5800 4620.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 8 1 0 TILE_C00009_R00002  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"==""  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 8 1 0 TILE_C00009_R00002  
    SET LTKERROR=  
) ELSE (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" complete 8 1 0 TILE_C00009_R00002  
)  
)  
IF "%1"=="TILE_C00009_R00002" GOTO END
```

:TILE\_C00009\_R00003

```
ECHO Processing analysis tile for column: 9 row: 3 TILE_C00009_R00003  
ECHO Tile 217 of 217
```

REM update status

```
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
    24script_2013-06-30.bat" processing 8 2 0 TILE_C00009_R00003
```

```
CALL "I:\MORA_new\Process_MORA_2013-05-24script_2013-06-30.bat"  
    TILE_C00009_R00003 618330.0000 5182710.0000 618860.5800 5187330.0000  
    618270.0000 5182650.0000 618860.5800 5187390.0000  
    "\MORA_new\Call_Process_MORA_2013-05-24script_2013-06-30_filelist.txt" 60.0000  
    530.5800 4620.0000
```

REM update status

```
IF ERRORLEVEL 1 (  
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
        24script_2013-06-30.bat" error 8 2 0 TILE_C00009_R00003  
    SET LTKERROR=  
) ELSE (  
    IF NOT "%LTKERROR%"==""  
        "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-  
            24script_2013-06-30.bat" error 8 2 0 TILE_C00009_R00003  
    SET LTKERROR=
```

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```
) ELSE (
    "C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" complete 8 2 0 TILE_C00009_R00003
)
)
IF "%1"=="TILE_C00009_R00003" GOTO END

:POST
REM reset working drive and directory
I:
CD I:\MORA_new

REM call for final processing
CALL "I:\MORA_new\Post-process_MORA_2013-05-24script_2013-06-30.bat"

:END
REM clear custom log file variable
SET LTKLOG=

REM clear LTK error variable
SET LTKERROR=

REM update status
"C:\FUSION\LTKStatusUpdate" "I:\MORA_new\Call_Process_MORA_2013-05-
    24script_2013-06-30.bat" stop

REM reset working drive and directory
I:
CD I:\MORA_new

@ECHO ON
```

*Pre-process\_MORA\_2013-05-24script\_2013-06-30.bat*

Rem Pre-process\_MORA\_2013-08-08.bat

rem modified 2013-08-08 to fix problem with selecting wrong file for gridmetrics alignment

rem SET ALL PROCESSING VARIABLES HERE IN THIS ONE PLACE

set CELLSIZE=30

set TOPOCELLSIZE10m=10

set TOPOCELLSIZE30m=30

set TOPOCELLSIZE90m=90

set CANOPYCELLSIZE=1

set GRIDSURFACECELLSIZE=30

set CANOPYCELLSIZEUNSMOOTHED=1

set FILETYPE=las

set OUTLIER=-25,133

set HTCUTOFF=2

set COVERCUTOFF=2

set MAXHEIGHTSLICE=125

set MINHEIGHT=2

set MULTIPLIER=1

set BASESTRATALAYERS=3

set BASESTRATAHEIGHTS=2,16

set STRATALAYERS=8

set STRATAHEIGHTS=1,2,4,8,16,32,48

set KDEWINDOW=2.5

set KDESMOOTH=1

set UNITS=METERS

set COORDINFO=m m 1 10 2 2

set LATITUDE=46.87

SET DRIVE=g:

SET ORIGINALDRIVE=g:

set HOMEFOLDER=g:\MORA

set ORIGINALDATA=i:\MORA

set ORIGINALDTM=null

SET PROCESSINGHOME=%HOMEFOLDER%\Processing\LTK

SET CANOPIESDEST=g:\MORA\results\MORA\_2013-08-08\MORA\_merged\_canopies\_2013-08-08

SET CATALOGDEST=g:\MORA\results\MORA\_2013-08-08\MORA\_catalog\_2013-08-08

SET METRICSDEST=g:\MORA\results\MORA\_2013-08-08\MORA\_metrics\_by\_tile\_2013-08-08

SET METRICSCOMBINED=g:\MORA\results\MORA\_2013-08-08\MORA\_combined\_metrics\_2013-08-08

set PREPROCESS=Pre-process\_MORA\_2013-08-08.bat

set PROCESS=Process\_tiles\_MORA\_2013-08-08.bat

set POSTPROCESS=Post-process\_tiles\_MORA\_2013-08-08.bat

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```
set LOGFILE=g:\MORA\results\MORA_2013-08-08\MORA_combined_metrics_2013-08-08\MORA_2013-08-08.log
set JOB=MORA_2013-08-08
set TILEPREFIX=

%DRIVE%
cd %HOMEFOLDER%
mkdir %CANOPIESDEST%
mkdir %CANOPIESDEST%\3x_smoothed
mkdir %CANOPIESDEST%\not_smoothed
mkdir %CATALOGDEST%
mkdir %METRICSDEST%
mkdir %METRICSDEST%\fine_strata
mkdir %METRICSDEST%\TOPO_30m
mkdir %METRICSDEST%\TOPO_90m
mkdir %METRICSDEST%\TOPO_270m
mkdir %METRICSCOMBINED%
mkdir %METRICSCOMBINED%\1m_canopy_not_smoothed
mkdir %METRICSCOMBINED%\1m_canopy_lt2m_not_smoothed

rem pause
echo ****
echo ****
echo ****
echo ****
echo END PREPROCESSING
echo ****
echo ****
echo ****
```

*Process\_MORA\_2013-05-24script\_2013-06-30.bat*

```
rem Process_tiles_MORA_2013-08-08.bat
rem process each tile

rem modified 2013-08-08 to fix problem with selecting wrong file for gridmetrics alignment

@ECHO ON

echo **
echo **
echo **
echo ***** begin processing tile %1
*****
echo **
echo **
echo **

%DRIVE%
cd %HOMEFOLDER%

rem echo ***** test for tile and clip if necessary
*****
C:\FUSION\clipdata /verbose /las %ORIGINALDATA%\*%FILETYPE%
%HOMEFOLDER%\%1.%FILETYPE% %6 %7 %8 %9

rem echo **
rem echo **
rem echo **

echo **
echo **
echo ***** create canopy surfaces
*****
rem IF NOT EXIST %1_3x_smoothed.dtm (C:\FUSION\CanopyModel /smooth:3
/ground:i:\MORA\be*.dtm /outlier:%OUTLIER% %1_3x_smoothed.dtm
%CANOPYCELLSIZE% %COORDINFO% %HOMEFOLDER%\%1.%FILETYPE% )

mkdir %CANOPIESDEST%\3x_smoothed
rem IF NOT EXIST %CANOPIESDEST%\3x_smoothed\%1_3x_smoothed.txt (
C:\FUSION\dtm2ascii /raster %1_3x_smoothed.dtm
%CANOPIESDEST%\3x_smoothed\%1_3x_smoothed.txt )

echo **
echo **
echo ***** compute gridsurfacestats
```

```
*****
C:\FUSION\gridsurfacestats /verbose %1_3x_smoothed.dtm %METRICSDEST%\%1_30m
%GRIDSURFACECELLSIZE%
C:\FUSION\clipdtm %METRICSDEST%\%1_30m_surface_area_ratio.dtm
%METRICSDEST%\CSM_%1_1m_rumple.dtm %2 %3 %4 %5
C:\FUSION\clipdtm %METRICSDEST%\%1_30m_surface_volume_ratio.dtm
%METRICSDEST%\CSM_%1_1m_FPV.dtm %2 %3 %4 %5
C:\FUSION\clipdtm %METRICSDEST%\%1_30m_stddev_height.dtm
%METRICSDEST%\CSM_%1_1m_SD.dtm %2 %3 %4 %5
C:\FUSION\clipdtm %METRICSDEST%\%1_30m_mean_height.dtm
%METRICSDEST%\CSM_%1_1m_mean_height.dtm %2 %3 %4 %5
C:\FUSION\clipdtm %METRICSDEST%\%1_30m_max_height.dtm
%METRICSDEST%\CSM_%1_1m_max_height.dtm %2 %3 %4 %5
rem pause

echo **
echo **
echo ***** compute gridmetrics
*****
rem alignment depends on the larger clip tile being a multiple of 30 m; this alignment done to
solve the problem of gridmetrics not having any points in thin slivers at edge of tiles
when clipped back to extent of gridsurfacestats tiles; also depends on overlap switch in
merge commands in post processing
C:\FUSION\GridMetrics.exe /verbose /align:%METRICSDEST%\CSM_%1_1m_rumple.dtm
/outlier:%OUTLIER% /minht:%COVERCUTOFF% /strata:%STRATAHEIGHTS%
g:\MORA\be*.dtm %COVERCUTOFF% %CELLSIZE%
%METRICSDEST%\fine_strata\Fine_strata_%1
%HOMEFOLDER%\%1.%FILETYPE%

rem rerun gridmetrics to produce topographic metrics at different scales; 10m = 30 m scale, 30m
= 90 m scale, 90m = 270 m scale
rem also rerun gridmetrics to produce strata metrics for different strata height breaks
C:\FUSION\GridMetrics.exe /verbose /topo:%TOPOCELLSIZE10m%,%LATITUDE%
/raster:p95 /align:%METRICSDEST%\CSM_%1_1m_rumple.dtm
/outlier:%OUTLIER% /minht:%COVERCUTOFF%
/strata:%BASESTRATAHEIGHTS% g:\MORA\be*.dtm %COVERCUTOFF%
%CELLSIZE% %METRICSDEST%\%1 %HOMEFOLDER%\%1.%FILETYPE%
move %METRICSDEST%\*topo* %METRICSDEST%\TOPO_30m
C:\FUSION\GridMetrics.exe /topo:%TOPOCELLSIZE30m%,%LATITUDE%
/align:%METRICSDEST%\CSM_%1_1m_rumple.dtm /outlier:%OUTLIER%
/minht:%COVERCUTOFF% /strata:%BASESTRATAHEIGHTS% g:\MORA\be*.dtm
%COVERCUTOFF% %CELLSIZE% %METRICSDEST%\TOPO_90m\%1
%HOMEFOLDER%\%1.%FILETYPE%
C:\FUSION\GridMetrics.exe /topo:%TOPOCELLSIZE90m%,%LATITUDE%
/align:%METRICSDEST%\CSM_%1_1m_rumple.dtm /outlier:%OUTLIER%
/minht:%COVERCUTOFF% /strata:%BASESTRATAHEIGHTS% g:\MORA\be*.dtm
```

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```
%COVERCUTOFF% %CELLSIZE% %METRICSDEST%\TOPO_270m\%1  
%HOMEFOLDER%\%1.%FILETYPE%
```

```
rem pause
```

```
rem delete temporary results that will not be used to produce final rasters
```

```
del %METRICSDEST%\fine_strata\*elevation*  
del %METRICSDEST%\fine_strata\*elevation*  
del %METRICSDEST%\fine_strata\*intensity*  
del %METRICSDEST%\TOPO_90m\*elevation*  
del %METRICSDEST%\TOPO_90m\*intensity*  
del %METRICSDEST%\TOPO_90m\*strata*  
del %METRICSDEST%\TOPO_270m\*elevation*  
del %METRICSDEST%\TOPO_270m\*intensity*  
del %METRICSDEST%\TOPO_270m\*strata*
```

```
rem pause
```

```
del %METRICSDEST%\%1_30m_surface_area_ratio.dtm  
del %METRICSDEST%\%1_30m_surface_volume_ratio.dtm  
del %METRICSDEST%\%1_30m_stddev_height.dtm  
del %METRICSDEST%\%1_30m_mean_height.dtm  
del %METRICSDEST%\%1_30m_max_height.dtm
```

```
cd %HOMEFOLDER%
```

```
rem move *_not_smoothed.asc %METRICSCOMBINED%\1m_canopy_not_smoothed  
rem move *_lt2m.asc %METRICSCOMBINED%\1m_canopy_lt2m_not_smoothed
```

```
rem pause
```

```
echo *****  
echo *****  
echo ***  
echo ***  
echo END PROCESSING %1  
echo ***  
echo ***  
echo *****  
echo *****
```

*Post-process\_MORA\_2013-05-24script\_2013-06-30.bat*

```
rem Post-process_tiles_MORA_2013-08-08.bat

rem modified 2013-08-08 to fix problem with selecting wrong file for gridmetrics alignment

%DRIVE%
cd %METRICSDEST%
rem pause

echo **** merge CSM metrics
*****
rem C:\FUSION\mergedtm %METRICSCOMBINED%\CSM_rumple.dtm
%METRICSDEST%\CSM*rumple.dtm
rem C:\FUSION\dtm2ascii /raster %METRICSCOMBINED%\CSM_rumple.dtm
%METRICSCOMBINED%\CSM_rumple.txt

rem C:\FUSION\mergedtm %METRICSCOMBINED%\CSM_FPV.dtm
%METRICSDEST%\CSM*FPV.dtm
rem C:\FUSION\dtm2ascii /raster %METRICSCOMBINED%\CSM_FPV.dtm
%METRICSCOMBINED%\CSM_FPV.txt

rem C:\FUSION\mergedtm %METRICSCOMBINED%\CSM_SD.dtm
%METRICSDEST%\*CSM*SD.dtm
rem C:\FUSION\dtm2ascii /raster %METRICSCOMBINED%\CSM_SD.dtm
%METRICSCOMBINED%\CSM_FSD.txt

rem C:\FUSION\mergedtm %METRICSCOMBINED%\CSM_mean_height.dtm
%METRICSDEST%\*CSM*mean_height.dtm
rem C:\FUSION\dtm2ascii /raster %METRICSCOMBINED%\CSM_mean_height.dtm
%METRICSCOMBINED%\CSM_mean_height.txt

rem C:\FUSION\mergedtm %METRICSCOMBINED%\CSM_max_height.dtm
%METRICSDEST%\*CSM*max_height.dtm
rem C:\FUSION\dtm2ascii /raster %METRICSCOMBINED%\CSM_max_height.dtm
%METRICSCOMBINED%\CSM_max_height.txt

del *30m_max_height.dtm
del *30m_mean_height.dtm
del *30m_potential_volume.dtm
del *30m_stddev_height.dtm
del *30m_surface_area_ratio.dtm
del *30m_surface_volume.dtm
del *30m_surface_volume_ratio.dtm

cd %HOMEFOLDER%
```

# Task agreement J8W07100017 Final Report

```
move *_not_smoothed.asc %METRICS COMBINED%\1m_canopy_not_smoothed
move *_lt2m.asc %METRICS COMBINED%\1m_canopy_lt2m_not_smoothed

rem rem pause
echo **
echo **
echo **

echo **** merge all return metrics
*****
cd %METRICSDEST%
copy C:\FUSION\extract_batch_scripts\extract_elev_metric.bat %METRICSDEST%
copy C:\FUSION\extract_batch_scripts\doextractmetric.bat %METRICSDEST%
call extract_elev_metric.bat 5 Count_Total_return_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 37 Height_P95_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
rem pause
call extract_elev_metric.bat 6 Height_minimum_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 7 Height_maximum_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 8 Height_mean_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 9 Height_mode_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 10 Stat_stddev_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 11 Stat_variance_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 12 Stat_CV_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 13 Stat_IQ_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 14 Stat_skewness_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 15 Stat_kurtosis_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 16 Stat_AAD_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 17 Stat_L1_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 18 Stat_L2_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 19 Stat_L3_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
```

```
call extract_elev_metric.bat 20 Stat_L4_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 21 Stat_L_CV_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 22 Stat_L_skewness_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 23 Stat_L_kurtosis_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 24 Height_P01_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 25 Height_P05_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 26 Height_P10_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 27 Height_P20_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 28 Height_P25_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 29 Height_P30_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 30 Height_P40_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 31 Height_P50_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 32 Height_P60_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 33 Height_P70_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 34 Height_P75_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 35 Height_P80_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 36 Height_P90_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 37 Height_P95_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 38 Height_P99_all_returns_above_2m %MULTIPLIER%
    %METRICSDEST%
call extract_elev_metric.bat 39 Count_Return_1_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 40 Count_Return_2_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 41 Count_Return_3_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 42 Count_Return_4_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 43 Count_Return_5_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 44 Count_Return_6_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 45 Count_Return_7_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 46 Count_Return_8_count_above_2m 1 %METRICSDEST%
```

```
call extract_elev_metric.bat 47 Count_Return_9_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 48 Count_Other_return_count_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 49 Cover_Percentage_first_returns_above_2m 1
    %METRICSDEST%
call extract_elev_metric.bat 50 Cover_Percentage_all_returns_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 51 Cover_All_returns_above_2m_divided_Total_first_returns 1
    %METRICSDEST%
call extract_elev_metric.bat 52 Cover_count_First_returns_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 53 Cover_count_All_returns_above_2m 1 %METRICSDEST%
call extract_elev_metric.bat 54 Cover_Percentage_first_returns_above_mean 1
    %METRICSDEST%
call extract_elev_metric.bat 55 Cover_Percentage_first_returns_above_mode 1
    %METRICSDEST%
call extract_elev_metric.bat 56 Cover_Percentage_all_returns_above_mean 1
    %METRICSDEST%
call extract_elev_metric.bat 57 Cover_Percentage_all_returns_above_mode 1
    %METRICSDEST%
call extract_elev_metric.bat 58 Cover_All_returns_above_mean_divided_Total_first_returns 1
    %METRICSDEST%
call extract_elev_metric.bat 59 Cover_All_returns_above_mode_divided_Total_first_returns 1
    %METRICSDEST%
call extract_elev_metric.bat 60 Count_First_returns_above_mean 1 %METRICSDEST%
call extract_elev_metric.bat 61 Count_First_returns_above_mode 1 %METRICSDEST%
call extract_elev_metric.bat 62 Count_All_returns_above_mean 1 %METRICSDEST%
call extract_elev_metric.bat 63 Count_All_returns_above_mode 1 %METRICSDEST%
call extract_elev_metric.bat 64 Count_Total_first_returns 1 %METRICSDEST%
call extract_elev_metric.bat 65 Count_Total_all_returns 1 %METRICSDEST%
call extract_elev_metric.bat 66 Stat_MAD_median %MULTIPLIER% %METRICSDEST%
call extract_elev_metric.bat 67 Stat_MAD_mod %MULTIPLIER% %METRICSDEST%
call extract_elev_metric.bat 68 Stat_canopy_relief_ratio 1 %METRICSDEST%
call extract_elev_metric.bat 69 Stat_quadratic_mean %MULTIPLIER% %METRICSDEST%
call extract_elev_metric.bat 70 Stat_cubic_mean %MULTIPLIER% %METRICSDEST%
rem call extract_elev_metric.bat 71 KDE_modes 1 %METRICSDEST%
rem call extract_elev_metric.bat 72 KDE_min_mode 1 %METRICSDEST%
rem call extract_elev_metric.bat 73 KDE_max_mode 1 %METRICSDEST%
rem call extract_elev_metric.bat 74 KDE_mode_range 1 %METRICSDEST%

move Height* %METRICSCOMBINED%
move Count* %METRICSCOMBINED%
move Cover* %METRICSCOMBINED%
move Stat* %METRICSCOMBINED%
move KDE* %METRICSCOMBINED%
echo **
echo **
echo **
```

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```
echo **** merge all return intensity metrics
*****
cd %METRICSDEST%
copy C:\FUSION\extract_batch_scripts\extract_intensity_metric.bat %METRICSDEST%
copy C:\FUSION\extract_batch_scripts\doextractmetric.bat %METRICSDEST%
call extract_intensity_metric.bat 6 Int_minimum_all_returns 1 %METRICSDEST%
rem pause
call extract_intensity_metric.bat 7 Int_maximum_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 8 Int_mean_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 9 Int_mode_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 10 Int_stddev_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 11 Int_variance_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 12 Int_CV_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 13 Int_IQ_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 14 Int_skewness_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 15 Int_kurtosis_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 16 Int_AAD_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 17 Int_L1_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 18 Int_L2_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 19 Int_L3_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 20 Int_L4_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 21 Int_L_CV_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 22 Int_L_skewness_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 23 Int_L_kurtosis_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 24 Int_P01_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 25 Int_P05_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 26 Int_P10_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 27 Int_P20_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 28 Int_P25_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 29 Int_P30_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 30 Int_P40_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 31 Int_P50_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 32 Int_P60_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 33 Int_P70_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 34 Int_P75_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 35 Int_P80_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 36 Int_P90_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 37 Int_P95_all_returns 1 %METRICSDEST%
call extract_intensity_metric.bat 38 Int_P99_all_returns 1 %METRICSDEST%

move Int_* %METRICSCOMBINED%
rem rem pause
echo **
echo **
echo **
```

```
echo **** merge BASESTRATAHEIGHTS metrics
*****
cd %METRICSDEST%
copy C:\FUSION\extract_batch_scripts\extract_Strata_metric.bat %METRICSDEST%\%
copy C:\FUSION\extract_batch_scripts\buildStrata.bat %METRICSDEST%\%
copy C:\FUSION\extract_batch_scripts\extract_Strata_layer.bat %METRICSDEST%\%
copy C:\FUSION\extract_batch_scripts\doextractmetric.bat %METRICSDEST%\%
echo ***** copy complete
rem pause

rem extract Strata metrics from CSV files and merge into a single coverage for each layer and
metric
rem this batch file shouldn't be called unless the user specified that they were doing Strata
metrics in the setup batch file
rem %FILEIDENTIFIER% is the cell size identifier added to each file name

rem build the strings used to label layers with the cell size
set FILEIDENTIFIER=%CELLSIZE:.=p%%UNITS%
echo ***** setup complete

rem extract Strata metrics...naming is a little simple since we don't always know how many
Strata the user has specified
FOR /L %%i IN (1,1,%BASESTRATALAYERS%) DO call extract_Strata_layer.bat %%i
echo ***** extract Strata layers complete
rem pause

rem clear label variables
set FILEIDENTIFIER=

ren Strata1_CV.txt strata_lt2m_CV.txt
ren Strata1_CV_from_dtm.asc strata_lt2m_CV_from_dtm.asc
ren Strata1_CV_from_dtm.dtm strata_lt2m_CV_from_dtm.dtm
ren Strata1_kurtosis.txt strata_lt2m_kurtosis.txt
ren Strata1_kurtosis_from_dtm.asc strata_lt2m_kurtosis_from_dtm.asc
ren Strata1_kurtosis_from_dtm.dtm strata_lt2m_kurtosis_from_dtm.dtm
ren Strata1_max.txt strata_lt2m_max.txt
ren Strata1_max_from_dtm.asc strata_lt2m_max_from_dtm.asc
ren Strata1_max_from_dtm.dtm strata_lt2m_max_from_dtm.dtm
ren Strata1_mean.txt strata_lt2m_mean.txt
ren Strata1_mean_from_dtm.asc strata_lt2m_mean_from_dtm.asc
ren Strata1_mean_from_dtm.dtm strata_lt2m_mean_from_dtm.dtm
ren Strata1_median.txt strata_lt2m_median.txt
ren Strata1_median_from_dtm.asc strata_lt2m_median_from_dtm.asc
ren Strata1_median_from_dtm.dtm strata_lt2m_median_from_dtm.dtm
ren Strata1_min.txt strata_lt2m_min.txt
```

```
ren Strata1_min_from_dtm.asc strata_lt2m_min_from_dtm.asc
ren Strata1_min_from_dtm.dtm strata_lt2m_min_from_dtm.dtm
ren Strata1_mode.txt strata_lt2m_mode.txt
ren Strata1_mode_from_dtm.asc strata_lt2m_mode_from_dtm.asc
ren Strata1_mode_from_dtm.dtm strata_lt2m_mode_from_dtm.dtm
ren Strata1_return_proportion.txt strata_lt2m_return_proportion.txt
ren Strata1_return_proportion_from_dtm.asc strata_lt2m_return_proportion_from_dtm.asc
ren Strata1_return_proportion_from_dtm.dtm strata_lt2m_return_proportion_from_dtm.dtm
ren Strata1_skewness.txt strata_lt2m_skewness.txt
ren Strata1_skewness_from_dtm.asc strata_lt2m_skewness_from_dtm.asc
ren Strata1_skewness_from_dtm.dtm strata_lt2m_skewness_from_dtm.dtm
ren Strata1_stddev.txt strata_lt2m_stddev.txt
ren Strata1_stddev_from_dtm.asc strata_lt2m_stddev_from_dtm.asc
ren Strata1_stddev_from_dtm.dtm strata_lt2m_stddev_from_dtm.dtm
ren Strata1_total_return_count.txt strata_lt2m_total_return_count.txt
ren Strata1_total_return_count_from_dtm.asc strata_lt2m_total_return_count_from_dtm.asc
ren Strata1_total_return_count_from_dtm.dtm strata_lt2m_total_return_count_from_dtm.dtm
ren Strata2_CV.txt strata_2-16m_CV.txt
ren Strata2_CV_from_dtm.asc strata_2-16m_CV_from_dtm.asc
ren Strata2_CV_from_dtm.dtm strata_2-16m_CV_from_dtm.dtm
ren Strata2_kurtosis.txt strata_2-16m_kurtosis.txt
ren Strata2_kurtosis_from_dtm.asc strata_2-16m_kurtosis_from_dtm.asc
ren Strata2_kurtosis_from_dtm.dtm strata_2-16m_kurtosis_from_dtm.dtm
ren Strata2_max.txt strata_2-16m_max.txt
ren Strata2_max_from_dtm.asc strata_2-16m_max_from_dtm.asc
ren Strata2_max_from_dtm.dtm strata_2-16m_max_from_dtm.dtm
ren Strata2_mean.txt strata_2-16m_mean.txt
ren Strata2_mean_from_dtm.asc strata_2-16m_mean_from_dtm.asc
ren Strata2_mean_from_dtm.dtm strata_2-16m_mean_from_dtm.dtm
ren Strata2_median.txt strata_2-16m_median.txt
ren Strata2_median_from_dtm.asc strata_2-16m_median_from_dtm.asc
ren Strata2_median_from_dtm.dtm strata_2-16m_median_from_dtm.dtm
ren Strata2_min.txt strata_2-16m_min.txt
ren Strata2_min_from_dtm.asc strata_2-16m_min_from_dtm.asc
ren Strata2_min_from_dtm.dtm strata_2-16m_min_from_dtm.dtm
ren Strata2_mode.txt strata_2-16m_mode.txt
ren Strata2_mode_from_dtm.asc strata_2-16m_mode_from_dtm.asc
ren Strata2_mode_from_dtm.dtm strata_2-16m_mode_from_dtm.dtm
ren Strata2_return_proportion.txt strata_2-16m_return_proportion.txt
ren Strata2_return_proportion_from_dtm.asc strata_2-16m_return_proportion_from_dtm.asc
ren Strata2_return_proportion_from_dtm.dtm strata_2-16m_return_proportion_from_dtm.dtm
ren Strata2_skewness.txt strata_2-16m_skewness.txt
ren Strata2_skewness_from_dtm.asc strata_2-16m_skewness_from_dtm.asc
ren Strata2_skewness_from_dtm.dtm strata_2-16m_skewness_from_dtm.dtm
ren Strata2_stddev.txt strata_2-16m_stddev.txt
ren Strata2_stddev_from_dtm.asc strata_2-16m_stddev_from_dtm.asc
```

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```
ren Strata2_stddev_from_dtm.dtm strata_2-16m_stddev_from_dtm.dtm  
ren Strata2_total_return_count.txt strata_2-16m_total_return_count.txt  
ren Strata2_total_return_count_from_dtm.asc strata_2-16m_total_return_count_from_dtm.asc  
ren Strata2_total_return_count_from_dtm.dtm strata_2-16m_total_return_count_from_dtm.dtm  
ren Strata3_CV.txt strata_gt16m_CV.txt  
ren Strata3_CV_from_dtm.asc strata_gt16m_CV_from_dtm.asc  
ren Strata3_CV_from_dtm.dtm strata_gt16m_CV_from_dtm.dtm  
ren Strata3_kurtosis.txt strata_gt16m_kurtosis.txt  
ren Strata3_kurtosis_from_dtm.asc strata_gt16m_kurtosis_from_dtm.asc  
ren Strata3_kurtosis_from_dtm.dtm strata_gt16m_kurtosis_from_dtm.dtm  
ren Strata3_max.txt strata_gt16m_max.txt  
ren Strata3_max_from_dtm.asc strata_gt16m_max_from_dtm.asc  
ren Strata3_max_from_dtm.dtm strata_gt16m_max_from_dtm.dtm  
ren Strata3_mean.txt strata_gt16m_mean.txt  
ren Strata3_mean_from_dtm.asc strata_gt16m_mean_from_dtm.asc  
ren Strata3_mean_from_dtm.dtm strata_gt16m_mean_from_dtm.dtm  
ren Strata3_median.txt strata_gt16m_median.txt  
ren Strata3_median_from_dtm.asc strata_gt16m_median_from_dtm.asc  
ren Strata3_median_from_dtm.dtm strata_gt16m_median_from_dtm.dtm  
ren Strata3_min.txt strata_gt16m_min.txt  
ren Strata3_min_from_dtm.asc strata_gt16m_min_from_dtm.asc  
ren Strata3_min_from_dtm.dtm strata_gt16m_min_from_dtm.dtm  
ren Strata3_mode.txt strata_gt16m_mode.txt  
ren Strata3_mode_from_dtm.asc strata_gt16m_mode_from_dtm.asc  
ren Strata3_mode_from_dtm.dtm strata_gt16m_mode_from_dtm.dtm  
ren Strata3_return_proportion.txt strata_gt16m_return_proportion.txt  
ren Strata3_return_proportion_from_dtm.asc strata_gt16m_return_proportion_from_dtm.asc  
ren Strata3_return_proportion_from_dtm.dtm strata_gt16m_return_proportion_from_dtm.dtm  
ren Strata3_skewness.txt strata_gt16m_skewness.txt  
ren Strata3_skewness_from_dtm.asc strata_gt16m_skewness_from_dtm.asc  
ren Strata3_skewness_from_dtm.dtm strata_gt16m_skewness_from_dtm.dtm  
ren Strata3_stddev.txt strata_gt16m_stddev.txt  
ren Strata3_stddev_from_dtm.asc strata_gt16m_stddev_from_dtm.asc  
ren Strata3_stddev_from_dtm.dtm strata_gt16m_stddev_from_dtm.dtm  
ren Strata3_total_return_count.txt strata_gt16m_total_return_count.txt  
ren Strata3_total_return_count_from_dtm.asc strata_gt16m_total_return_count_from_dtm.asc  
ren Strata3_total_return_count_from_dtm.dtm strata_gt16m_total_return_count_from_dtm.dtm
```

echo \*\*\*\*\* rename complete

```
move Strata* %METRICS COMBINED%  
rem pause
```

```
echo **  
echo **  
echo **
```

```
echo **** merge STRATAHEIGHTS metrics
*****
cd %METRICSDEST%\fine_strata
copy C:\FUSION\extract_batch_scripts\extract_strata_metric.bat
    %METRICSDEST%\fine_strata
copy C:\FUSION\extract_batch_scripts\buildstrata.bat %METRICSDEST%\fine_strata
copy C:\FUSION\extract_batch_scripts\extract_strata_layer.bat %METRICSDEST%\fine_strata
copy C:\FUSION\extract_batch_scripts\doextractmetric.bat %METRICSDEST%\fine_strata

rem extract strata metrics from CSV files and merge into a single coverage for each layer and
metric
rem this batch file shouldn't be called unless the user specified that they were doing strata
metrics in the setup batch file
rem %FILEIDENTIFIER% is the cell size identifier added to each file name

rem build the strings used to label layers with the cell size
set FILEIDENTIFIER=%CELLSIZE:.=p%%UNITS%

rem extract strata metrics...naming is a little simple since we don't always know how many strata
the user has specified
FOR /L %%i IN (1,1,%STRATALAYERS%) DO call extract_strata_layer %%i

rem clear label variables
set FILEIDENTIFIER=
rem pause
ren Strata1_CV.txt Strata_lt1m_CV.txt
ren Strata1_kurtosis.txt Strata_lt1m_kurtosis.txt
ren Strata1_max.txt Strata_lt1m_max.txt
ren Strata1_mean.txt Strata_lt1m_mean.txt
ren Strata1_median.txt Strata_lt1m_median.txt
ren Strata1_min.txt Strata_lt1m_min.txt
ren Strata1_mode.txt Strata_lt1m_mode.txt
ren Strata1_return_proportion.txt Strata_lt1m_return_proportion.txt
ren Strata1_skewness.txt Strata_lt1m_skewness.txt
ren Strata1_stddev.txt Strata_lt1m_stddev.txt
ren Strata1_total_return_count.txt Strata_lt1m_total_return_count.txt
ren Strata2_CV.txt Strata_112m_CV.txt
ren Strata2_kurtosis.txt Strata_1-2m_kurtosis.txt
ren Strata2_max.txt Strata_1-2m_max.txt
ren Strata2_mean.txt Strata_1-2m_mean.txt
ren Strata2_median.txt Strata_1-2m_median.txt
ren Strata2_min.txt Strata_1-2m_min.txt
ren Strata2_mode.txt Strata_1-2m_mode.txt
ren Strata2_return_proportion.txt Strata_1-2m_return_proportion.txt
ren Strata2_skewness.txt Strata_1-2m_skewness.txt
```

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```
ren Strata2_stddev.txt Strata_1-2m_stddev.txt  
ren Strata2_total_return_count.txt Strata_1-2m_total_return_count.txt  
ren Strata3_CV.txt Strata_2-4m_CV.txt  
ren Strata3_kurtosis.txt Strata_2-4m_kurtosis.txt  
ren Strata3_max.txt Strata_2-4m_max.txt  
ren Strata3_mean.txt Strata_2-4m_mean.txt  
ren Strata3_median.txt Strata_2-4m_median.txt  
ren Strata3_min.txt Strata_2-4m_min.txt  
ren Strata3_mode.txt Strata_2-4m_mode.txt  
ren Strata3_return_proportion.txt Strata_2-4m_return_proportion.txt  
ren Strata3_skewness.txt Strata_2-4m_skewness.txt  
ren Strata3_stddev.txt Strata_2-4m_stddev.txt  
ren Strata3_total_return_count.txt Strata_2-4m_total_return_count.txt  
ren Strata4_CV.txt Strata_4-8m_CV.txt  
ren Strata4_kurtosis.txt Strata_4-8m_kurtosis.txt  
ren Strata4_max.txt Strata_4-8m_max.txt  
ren Strata4_mean.txt Strata_4-8m_mean.txt  
ren Strata4_median.txt Strata_4-8m_median.txt  
ren Strata4_min.txt Strata_4-8m_min.txt  
ren Strata4_mode.txt Strata_4-8m_mode.txt  
ren Strata4_return_proportion.txt Strata_4-8m_return_proportion.txt  
ren Strata4_skewness.txt Strata_4-8m_skewness.txt  
ren Strata4_stddev.txt Strata_4-8m_stddev.txt  
ren Strata4_total_return_count.txt Strata_4-8m_total_return_count.txt  
ren Strata5_CV.txt Strata_8-16m_CV.txt  
ren Strata5_kurtosis.txt Strata_8-16m_kurtosis.txt  
ren Strata5_max.txt Strata_8-16m_max.txt  
ren Strata5_mean.txt Strata_8-16m_mean.txt  
ren Strata5_median.txt Strata_8-16m_median.txt  
ren Strata5_min.txt Strata_8-16m_min.txt  
ren Strata5_mode.txt Strata_8-16m_mode.txt  
ren Strata5_return_proportion.txt Strata_8-16m_return_proportion.txt  
ren Strata5_skewness.txt Strata_8-16m_skewness.txt  
ren Strata5_stddev.txt Strata_8-16m_stddev.txt  
ren Strata5_total_return_count.txt Strata_8-16m_total_return_count.txt  
ren Strata6_CV.txt Strata_16-32m_CV.txt  
ren Strata6_kurtosis.txt Strata_16-32m_kurtosis.txt  
ren Strata6_max.txt Strata_16-32m_max.txt  
ren Strata6_mean.txt Strata_16-32m_mean.txt  
ren Strata6_median.txt Strata_16-32m_median.txt  
ren Strata6_min.txt Strata_16-32m_min.txt  
ren Strata6_mode.txt Strata_16-32m_mode.txt  
ren Strata6_return_proportion.txt Strata_16-32m_return_proportion.txt  
ren Strata6_skewness.txt Strata_16-32m_skewness.txt  
ren Strata6_stddev.txt Strata_16-32m_stddev.txt  
ren Strata6_total_return_count.txt Strata_16-32m_total_return_count.txt
```

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```
ren Strata7_CV.txt Strata_32-48_CV.txt
ren Strata7_kurtosis.txt Strata_32-48_kurtosis.txt
ren Strata7_max.txt Strata_32-48_max.txt
ren Strata7_mean.txt Strata_32-48_mean.txt
ren Strata7_median.txt Strata_32-48_median.txt
ren Strata7_min.txt Strata_32-48_min.txt
ren Strata7_mode.txt Strata_32-48_mode.txt
ren Strata7_return_proportion.txt Strata_32-48_return_proportion.txt
ren Strata7_skewness.txt Strata_32-48_skewness.txt
ren Strata7_stddev.txt Strata_32-48_stddev.txt
ren Strata7_total_return_count.txt Strata_32-48_total_return_count.txt
ren Strata8_CV.txt Strata_gt48_CV.txt
ren Strata8_kurtosis.txt Strata_gt48_kurtosis.txt
ren Strata8_max.txt Strata_gt48_max.txt
ren Strata8_mean.txt Strata_gt48_mean.txt
ren Strata8_median.txt Strata_gt48_median.txt
ren Strata8_min.txt Strata_gt48_min.txt
ren Strata8_mode.txt Strata_gt48_mode.txt
ren Strata8_return_proportion.txt Strata_gt48_return_proportion.txt
ren Strata8_skewness.txt Strata_gt48_skewness.txt
ren Strata8_stddev.txt Strata_gt48_stddev.txt
ren Strata8_total_return_count.txt Strata_gt48_total_return_count.txt

move Strata* %METRICS COMBINED%
rem pause
echo **
echo **
echo **

echo **** 30 m merge topographic metrics
*****
cd %METRICSDEST%\TOPO_30m
copy C:\FUSION\extract_batch_scripts\extract_topo_metric.bat
    %METRICSDEST%\TOPO_30m
copy C:\FUSION\extract_batch_scripts\doextractmetric.bat %METRICSDEST%\TOPO_30m
call extract_topo_metric.bat 5 Topo_30m_Elevation_all_returns %MULTIPLIER%
    %METRICSDEST%\TOPO_30m
rem pause
call extract_topo_metric.bat 6 Topo_30m_Slope_degrees_all_returns 1
    %METRICSDEST%\TOPO_30m
call extract_topo_metric.bat 7 Topo_30m_Aspect_degrees_azimuth_all_returns 1
    %METRICSDEST%\TOPO_30m
call extract_topo_metric.bat 8 Topo_30m_Profile_curvature_all_returns 1
    %METRICSDEST%\TOPO_30m
call extract_topo_metric.bat 9 Topo_30m_Plan_curvature_all_returns 1
    %METRICSDEST%\TOPO_30m
```

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```
call extract_topo_metric.bat 10 Topo_30m_Solar_Radiation_Index_all_returns 1
    %METRICSDEST%\TOPO_30m
call extract_topo_metric.bat 11 Topo_30m_Curvature_all_returns 1
    %METRICSDEST%\TOPO_30m

move Topo_* %METRICScombined%
rem rem pause
echo **
echo **
echo **

echo **** 90 m merge topographic metrics
*****
cd %METRICSDEST%\TOPO_90m
copy C:\FUSION\extract_batch_scripts\extract_topo_metric.bat
    %METRICSDEST%\TOPO_90m
copy C:\FUSION\extract_batch_scripts\doextractmetric.bat %METRICSDEST%\TOPO_90m
call extract_topo_metric.bat 5 Topo_90m_Elevation_all_returns %MULTIPLIER%
    %METRICSDEST%\TOPO_90m
rem pause
call extract_topo_metric.bat 6 Topo_90m_Slope_degrees_all_returns 1
    %METRICSDEST%\TOPO_90m
call extract_topo_metric.bat 7 Topo_90m_Aspect_degrees_azimuth_all_returns 1
    %METRICSDEST%\TOPO_90m
call extract_topo_metric.bat 8 Topo_90m_Profile_curvature_all_returns 1
    %METRICSDEST%\TOPO_90m
call extract_topo_metric.bat 9 Topo_90m_Plan_curvature_all_returns 1
    %METRICSDEST%\TOPO_90m
call extract_topo_metric.bat 10 Topo_90m_Solar_Radiation_Index_all_returns 1
    %METRICSDEST%\TOPO_90m
call extract_topo_metric.bat 11 Topo_90m_Curvature_all_returns 1
    %METRICSDEST%\TOPO_90m

move Topo_* %METRICScombined%
rem rem pause
echo **
echo **
echo **

echo **** 270 m merge topographic metrics
*****
cd %METRICSDEST%\TOPO_270m
copy C:\FUSION\extract_batch_scripts\extract_topo_metric.bat
    %METRICSDEST%\TOPO_270m
copy C:\FUSION\extract_batch_scripts\doextractmetric.bat %METRICSDEST%\TOPO_270m
call extract_topo_metric.bat 5 Topo_270m_Elevation_all_returns %MULTIPLIER%
```

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```
%METRICSDEST%\TOPO_270m
rem pause
call extract_topo_metric.bat 6 Topo_270m_Slope_degrees_all_returns 1
    %METRICSDEST%\TOPO_270m
call extract_topo_metric.bat 7 Topo_270m_Aspect_degrees_azimuth_all_returns 1
    %METRICSDEST%\TOPO_270m
call extract_topo_metric.bat 8 Topo_270m_Profile_curvature_all_returns 1
    %METRICSDEST%\TOPO_270m
call extract_topo_metric.bat 9 Topo_270m_Plan_curvature_all_returns 1
    %METRICSDEST%\TOPO_270m
call extract_topo_metric.bat 10 Topo_270m_Solar_Radiation_Index_all_returns 1
    %METRICSDEST%\TOPO_270m
call extract_topo_metric.bat 11 Topo_270m_Curvature_all_returns 1
    %METRICSDEST%\TOPO_270m

move Topo_* %METRICSCOMBINED%

rem rem pause
echo **
echo **
echo **
```

*Metric Extraction Batch Files*

extract\_elev\_metric.bat

```
REM extract_elev_metric.bat
@echo off
REM extract a specific metric from CSV files produced by Gridmetrics

if "%1""="" goto syntax
if "%2""="" goto syntax
if "%3""="" goto syntax
if "%4""="" goto syntax
goto process

:syntax
echo extractmetric column name multiplier
echo column is the column number in the GridMetrics CSV output
echo name is the name used for the merged output DTM file (don't include the .dtm extension)
echo multiplier used for each cell value (use 100 for cover col 29, 1 for all else)
echo directory is the directory with the gridmetric csv files
goto end

:process
@echo on

REM do the extraction from each tile
cd %4
del csvlist.txt
dir /b *_elevation_stats.csv > csvlist.txt
rem loop through all CSV files in folder and do processing
for /F "eol=;" tokens=1* delims=,. " %%i in (csvlist.txt) do call doextractmetric.bat %%i %1 %3

c:\fusion\mergeraster /overlap:new %2.txt *_tile.txt

rem delete ASCII raster tiles
rem pause
del *_tile.txt

cd %4

:end
@echo on
```

extract\_intensity\_metric.bat

```
REM extract_intensity_metric.bat
@echo off
REM extract a specific metric from CSV files produced by Gridmetrics

if "%1""="" goto syntax
if "%2""="" goto syntax
if "%3""="" goto syntax
if "%4""="" goto syntax
goto process

:syntax
echo extractmetric column name multiplier
echo column is the column number in the GridMetrics CSV output
echo name is the name used for the merged output DTM file (don't include the .dtm extension)
echo multiplier used for each cell value (use 100 for cover col 29, 1 for all else)
echo directory is the directory with the gridmetric csv files
goto end

:process
@echo on

REM do the extraction from each tile
cd %4
del csvlist.txt
dir /b *_intensity_stats.csv > csvlist.txt

rem loop through all CSV files in folder and do processing
for /F "eol=; tokens=1* delims=,. " %%i in (csvlist.txt) do call doextractmetric.bat %%i %1 %3

rem merge tiles...ASCII raster format
c:\fusion\mergeraster /overlap:new %2.txt *_tile.txt

rem delete ASCII raster tiles
rem pause
del *_tile.txt

cd %4

:end
@echo on
```

extract\_strata\_layer.bat

```
rem extract a single Strata layer from the overall Strata output
rem in each record for a cell, column 1 is the row# and column 2 is the column#
rem there are 11 additional variables for each layer

rem syntax extract_Strata_layer layernum
rem layernum is the layer number to extract...note this has no direct reference to the height range
of the layer

rem do math to compute the starting column
set /A COLUMN=(%1-1)*11+3

rem extract the layer
call extract_Strata_metric %COLUMN% Strata%1_total_return_count 1
echo ****Strata 1 extracted
rem pause
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_return_proportion 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_min 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_max 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_mean 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_mode 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_median 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_stddev 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_CV 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_skewness 1
set /A COLUMN+=1
call extract_Strata_metric %COLUMN% Strata%1_kurtosis 1

rem clear COLUMN variable
set COLUMN=
```

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doextractmetric.bat

rem doextractmetric.bat

rem extract cover values from CSV files to ASCII raster, then convert to DTM format

c:\fusion\CSV2Grid /multiplier:%3 %1.csv %2 %1\_tile.txt

c:\fusion\ascii2dtm %1\_tile.dtm m m 1 11 2 2 %1\_tile.txt

rem pause

extract\_strata\_metric.bat

```
REM extract_Strata_metric.bat
@echo off
REM extract a specific metric from CSV files produced by Gridmetrics

if "%1""==" goto syntax
if "%2""==" goto syntax
if "%3""==" goto syntax
goto process

:syntax
echo extractmetric column name multiplier
echo column is the column number in the GridMetrics CSV output
echo name is the name used for the merged output DTM file (don't include the .dtm extension)
echo multiplier used for each cell value (use 100 for cover col 29, 1 for all else)
goto end

:process
@echo on

REM do the extraction from each tile
cd %4
del csvlist.txt
dir /b *_Strata_stats.csv > csvlist.txt

rem loop through all CSV files in folder and do processing
for /F "eol=; tokens=1* delims=, " %%i in (csvlist.txt) do call doextractmetric.bat %%i %1 %3

c:\fusion\mergeraster /overlap:new %2.txt *_tile.txt

rem pause

rem delete ASCII raster tiles
rem pause
del *_tile.txt

cd %4

:end
@echo on
```

*clipplot\_cloudmetrics\_2013-08-17.bat*

```
g:  
cd G:\MORA  
  
SET CLASS=0,1,2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18  
set STRATAHEIGHTS=2,8,16,32  
set COVERCUTOFF=2  
set OUTLIER=-25,133  
  
mkdir G:\MORA\plot_clips\plot_clips_20m_2013-08-17  
mkdir G:\MORA\plot_clips\plot_clips_30m_2013-08-17  
rem pause  
  
rem do a test clip to check processing  
c:\fusion\clipdata /verbose /dtm:be*.dtm /height /zmin:-25 /zmax:125 *.las  
    "G:\MORA\plot_clips\plot_clips_30m_2013-08-17\ABAM2.102.30m" 616240 5187263  
    616270 5187293  
  
rem pause  
c:\fusion\clipdata /verbose /dtm:be*.dtm /height /zmin:-25 /zmax:125 *.las  
    plot_clips_20m_2013-08-17.txt  
c:\fusion\clipdata /dtm:be*.dtm /height /zmin:-25 /zmax:125 /class:%CLASS% *.las  
    plot_clips_30m_2013-08-17.txt  
  
cd G:\MORA\plot_clips\plot_clips_20m_2013-08-17  
C:\fusion\cloudmetrics /verbose /new /log:MORA_plots_20m_clips_2013-08-17.txt  
    /above:%COVERCUTOFF% /outlier:%OUTLIER% /strata:%STRATAHEIGHTS%  
    *.lda MORA_plots_20m_clips_2013-08-17.csv  
  
cd G:\MORA\plot_clips\plot_clips_30m_2013-08-17  
C:\fusion\cloudmetrics /verbose /new /log:MORA_plots_30m_clips_2013-08-17.txt  
    /above:%COVERCUTOFF% /outlier:%OUTLIER% /strata:%STRATAHEIGHTS%  
    *.lda MORA_plots_30m_clips_2013-08-17.csv
```

## Appendix D: R Classification Routines

Two separate classifications were performed in this project. The first classification identified nine statistically distinct forest overstory structure classes (later combined into the fewer final classes identified in the main report). The second classification developed a model to identify where a location (30×30 m grid cell) was likely to have low or high surface fuel quantities based on median values for organic fuels, 1 to 100 hour fuels, and 1000 hour fuels. Background on the approach taken for each classification is given in the main body of the report.

### *Overstory Forest Structure Classification*

```
# file: MORA 25K classification lidar metrics 2013-08-31.r

library("sp");
library("yaImpute");
library("vegan")
library("randomForest");
require(MASS)

r.data.directory="C:\\\\Users\\\\Kane\\\\Desktop\\\\Dropbox\\\\Work\\\\a-Projects\\\\MORA
fuels\\\\Production\\\\Combined_2013-07-26\\\\R data";
setwd(r.data.directory)

# read in data frame that holds rasters for entire park
load("MORA_working_frame_2013-08-31.rda")
frame. = MORA.working.frame.2013.08.31
rm(MORA.working.frame.2013.08.31)

# Nielsen et al. (2013 unpublished) forest types and their associated code

# 11 # western hemlock-Douglas fir dry forest
# 12 # western hemlock-Douglas fir mesic forest
# 13 # western hemlock-Douglas fir successional depauperate forest
# 14 # western hemlock-Douglas fir wet forest
# 21 # silver fir-western hemlock warm forest
# 22 # silver fir-western hemlock cold forest
# 23 # silver fir mesic subalpine forest and woodland
# 31 # mountain hemlock-silver fir forest and woodland
# 41 # subalpine fir dry subalpine forest and woodland
# 42 # subalpine fir-whitebark pine woodland

veg.names = c("TSHE-PSME dry","TSHE-PSME mesic","TSHE-PSME successional","TSHE-
PSME wet",
"ABAM-TSHE warm","ABAM-TSHE cold","ABAM wdlnd",
"TSME-ABAM","ABLA wdlnd","ABLA-PIAL wdlnd")
```

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```
veg.codes = c(11,12,13,14,21,22,23,31,41,42)
project. = "MORA"
sample.num = 25000
cluster.num = 9

# define names for output files, several hold intermediate results so that processing can be
repeated using same random sample
sample.file =
paste(project.,"_Neq_",sample.num,"_random_sample_for_classification_",Sys.Date(),".csv",sep
=""); sample.file
resorted.sample.file =
paste(project.,"_resorted_classes_Neq_",sample.num,"_random_sample_for_classification_",Sys
.Date(),".csv",sep=""); resorted.sample.file
hclust2.file = paste("hclust2_",Sys.Date(),".rda",sep=""); hclust2.file

# create data frame that will hold only the metrics used for the classification
# all metrics were created using the USDA Forest Service's Fussion software package
classify.df = frame.[,c("cvr.gt2", # canopy cover >2 m
                      "cvr.2to8", # canopy cover 2-8 m
                      "cvr.8to16", # canopy cover 8-16 m
                      "cvr.16to32", # canopy cover 16-32 m
                      "cvr.gt32", # canopy cover >32 m
                      "h.p95", # 95th percentile lidar heights, correlated with dominant tree height
                      "h.p25", # 25th percentile lidar heights, correlated with height to live crown
                      "rumple" # canopy surface rugosity, a measure of vertical and horizontal height
diversity
                    )]
classify.df$veg.type = frame.$nielsen.reclassified
rm(frame.)

#####
working.frame = classify.df
rm()
working.frame$cell.index = working.frame$mask = 1:length(working.frame[,1])

# create matrix that will hold random sample of grid cell values to be used for the classification
classify.matrix.colnames = c("Class",
                             "h.p95",
                             "h.p25",
                             "rumple",
                             "cvr.2to8",
                             "cvr.8to16",
                             "cvr.16to32",
                             "cvr.gt32",
                             "cvr.gt2",
```

```

    "veg.type",
    "Display100","Display500"
)

classify.matrix =
matrix(data=0,nrow=length(working.frame[,1]),ncol=length(classify.matrix.colnames))
colnames(classify.matrix) = classify.matrix.colnames

# note the classification can be done by directly subsetting working.frame,
# but I originally got this function to work with a matrix and have retained the original working
code
classify.matrix[,"h.p95"] = working.frame$h.p95
classify.matrix[,"h.p25"] = working.frame$h.p25
classify.matrix[,"rumple"] = working.frame$rumple
classify.matrix[,"cvr.2to8"] = working.frame$cvr.2to8
classify.matrix[,"cvr.8to16"] = working.frame$cvr.8to16
classify.matrix[,"cvr.16to32"] = working.frame$cvr.16to32
classify.matrix[,"cvr.gt32"] = working.frame$cvr.gt32
classify.matrix[,"cvr.gt2"] = working.frame$cvr.gt2
classify.matrix[,"veg.type"] = working.frame$veg.type
summary(classify.matrix)

classify.matrix = na.omit(classify.matrix); length(classify.matrix[,1])

# perform principal components ordination to evaluate the data
all.metrics.pca <- prcomp(classify.matrix[,2:8], scale = TRUE)
summary.all = summary(all.metrics.pca)

#####
# create a random sample of grid cell indices equal to sample.num (25000)
x=1:length(classify.matrix[,1])
sample.x = sample(x,sample.num,replace=FALSE); head(sample.x)
sample.matrix = classify.matrix[sample.x,]
head(sample.matrix)
length(sample.matrix[,1])

# following line reads in previously created random sample. used to restart the process
# comment out for initial run
# sample.matrix = read.csv("MORA_Neq_25000_random_sample_for_classification_2013-08-31.csv")

# create a copy of the random sample for only the metrics used in the classification
hclust.tmp.prep = cbind(sample.matrix[,"h.p95"],
                        sample.matrix[,"h.p25"],
                        sample.matrix[,"rumple"],

```

```
sample.matrix[, "cvr.2to8"],
sample.matrix[, "cvr.8to16"],
sample.matrix[, "cvr.16to32"],
sample.matrix[, "cvr.gt32"])
head(hclust.tmp.prep)

# do the classification and save class labels; labels for each class are randomly assigned and have
no ranking
# NOTE: the data.hclust2 can take a LONG time; be patient
cluster.num=9
data.dist2=vegdist(hclust.tmp.prep, method="euclidean") #create distance matrix
data.hclust2= hclust(data.dist2,"ward") #perform cluster analysis
# rm(data.dist2)

# get class names from hclust output
tmp = ((as.matrix(cutree(data.hclust2,k=cluster.num))))
tmp = as.matrix(tmp)
tmp = t(tmp)

# add class names to sample.matrix
sample.matrix[, "Class"] = tmp
head(sample.matrix)
# save(data.hclust2, file="hclust2_2013-08-31.rda")
# rm(data.hclust2)

# extract every 100th and 500th class label to use in figures
k = 1; sample.matrix[, "Display100"] = NA
while (k < nrow(sample.matrix)) {
  sample.matrix[k, "Display100"] = sample.matrix[k, "Class"]
  k = k+100
}

k = 1; sample.matrix[, "Display500"] = NA
while (k < nrow(sample.matrix)) {
  sample.matrix[k, "Display500"] = sample.matrix[k, "Class"]
  k = k+300
}

# write.csv(sample.matrix,sample.file)
# sample.matrix = read.csv(sample.file)
head(sample.matrix)

# save temporary output; note: the data.hclust2 will be a large file
# save(data.hclust2,file =
paste(project., "_classification_hclust_pairings_", Sys.Date(), ".csv", sep=""))
```

```

# print out dendrogram showing statistical relationships of classes
x11(width=10, height=10); plot.new()
par(mfrow=c(1,1),oma=c(7,7,5,5),mai=c(0,0,0,0),tck=-0.025)

plot(data.hclust2, main = " ", sub = " ", labels=sample.frame[,"Display500"], xlab = NULL,
ylab="Height", cex=c(0.7,10))
rect.hclust(data.hclust2,k=cluster.num) #produce dendrogram with groups=k identified
mtext(paste(project.,"n = ",sample.num,Sys.Date()), side=3, line=2, outer=T)

# print out boxplots showing characteristics of classes

class.num = 9

sample.frame$structure.factor <- factor(sample.frame$Class,
                                         labels=c("1","2","3","4","5","6","7","8","9"))
struct.classes = c("1","2","3","4","5","6","7","8","9")

x11(width=7, height=8); plot.new()
par(mfrow=c(4,2),oma=c(7,3,3,2.5),mai=c(0,0,0,0),tck=-0.025)

ii = 1
for(ii in 1:8) {
  # Set relevant parameters for each box
  if(ii == 1){
    ylab. <- "h.p95 Height(m)"
    yfact <- "h.p95"
    ylim. <- c(0,75)
    at. <- c(0,20,40,60)
    axis. <- 2
    metric. <- sample.frame$h.p95
  }
  if(ii == 2){
    ylab. <- "h.p25 Height(m)"
    yfact <- "h.p25"
    ylim. <- c(0,75)
    at. <- c(0,20,40,60)
    axis. <- 4
    metric. <- sample.frame$h.p25
  }
  if(ii == 3){
    ylab. <- "Rumple (ratio)"
    yfact <- "rumple"
    ylim. <- c(1,8)
    at. <- c(0,2,4,6)
  }
}

```

```
axis. <- 2
metric. <- sample.frame$rumple
}

if(ii == 4){
  ylab. <- "Total canopy cover >2 m (%)"
  yfact <- "cvr.gt2"
  ylim. <- c(0,120)
  at. <- c(0,20,40,60,80,100)
  axis. <- 4
  metric. <- sample.frame$cvr.gt2
}

if(ii == 5){
  ylab. <- "Cover >32m (%)"
  yfact <- "cvr.gt32"
  ylim. <- c(0,120)
  at. <- c(0,20,40,60,80,100)
  axis. <- 2
  metric. <- sample.frame$cvr.gt32
}

if(ii == 6){
  ylab. <- "Cover 16-32m (%)"
  yfact <- "cvr.16to32"
  ylim. <- c(0,120)
  at. <- c(0,20,40,60,80,100)
  axis. <- 4
  metric. <- sample.frame$cvr.16to32
}

if(ii == 7){
  ylab. <- "Cover 8-16m (%)"
  yfact <- "cvr.8to16"
  ylim. <- c(0,120)
  at. <- c(0,20,40,60,80,100)
  axis. <- 2
  metric. <- sample.frame$cvr.8to16
}

if(ii == 8){
  ylab. <- "Cover 2-8m (%)"
  yfact <- "cvr.2to8"
  ylim. <- c(0,120)
  at. <- c(0,20,40,60,80,100)
  axis. <- 4
  metric. <- sample.frame$cvr.2to8
}
```

```

# Boxplots
bp <- boxplot(get(yfact) ~ Class, data=sample.frame, ylim=ylim., xaxt='n', yaxt='n')

# Legends, axes and boxplot titles
legend(y=max(ylim.)+(0.075*max(ylim.)), x=-0.5, ylab., box.lty=0, cex=1.4)
axis(axis., at=at., labels=T, tick=T, outer=T, las=2)

if(ii %in% c(7,8)){
  axis(1, label=struct.classes, at=1:length(struct.classes))
} # if(ii %in% c(7,8))

} # for(ii in 1:8)
mtext(side=1, paste("Forest Structure Class",sep=""), outer=T, font=1, cex=1.0, line=3)
mtext(paste(project., "n = ", sample.num, Sys.Date()), side=3, line=1, outer=T)

# hclust assigns class names in random order
# I reassign class names by mean h.p95 height and then cvr.gt2

write.csv(sample.matrix, file="hclust_sample_matrix_pre-ordering_2013-08-31.csv")

head(sample.frame[, "Class"])

sample.frame$Class[which(sample.frame$Class==1)] = 900; range(sample.frame$Class)
sample.frame$Class[which(sample.frame$Class==2)] = 500
sample.frame$Class[which(sample.frame$Class==3)] = 600
sample.frame$Class[which(sample.frame$Class==4)] = 100
sample.frame$Class[which(sample.frame$Class==5)] = 300
sample.frame$Class[which(sample.frame$Class==6)] = 400
sample.frame$Class[which(sample.frame$Class==7)] = 700
sample.frame$Class[which(sample.frame$Class==8)] = 200
sample.frame$Class[which(sample.frame$Class==9)] = 800
range(sample.frame$Class)
sample.frame$Class = sample.frame$Class/100;

sample.matrix = as.matrix(sample.frame); head(sample.matrix)
write.csv(sample.frame, file="hclust_sample_frame_post-ordering_2013-08-31.csv")

# extract every 100th and 500th class label to use in figures

k = 1; sample.matrix[, "Display100"] = NA
while (k < nrow(sample.matrix)) {
  sample.matrix[k, "Display100"] = sample.matrix[k, "Class"]
}

```

```
k = k+100
}

k = 1; sample.matrix[,"Display500"] = NA
while (k < nrow(sample.matrix)) {
  sample.matrix[k,"Display500"] = sample.matrix[k,"Class"]
  k = k+300
}

sample.frame = data.frame(sample.matrix)

# after you order the class numbers, it's a good idea to re-run the boxplots
# to make sure you got it right and to have the figure with the final classes

# use AsciiGridPredict to predict classes across the park

training.data = as.matrix(sample.frame)

x.numeric.data = (cbind(as.numeric(training.data[, "h.p95"]),
  as.numeric(training.data[, "h.p25"]),
  as.numeric(training.data[, "rumple"]),
  as.numeric(training.data[, "cvr.2to8"]),
  as.numeric(training.data[, "cvr.8to16"]),
  as.numeric(training.data[, "cvr.16to32"]),
  as.numeric(training.data[, "cvr.gt32"]))
))

colnames(x.numeric.data) = c("h.p95",
  "h.p25",
  "rumple",
  "cvr.2to8",
  "cvr.8to16",
  "cvr.16to32",
  "cvr.gt32")
head(x.numeric.data)

# create the y matrix

y.classes.data = as.factor(as.numeric(training.data[,"Class"]))
head(y.classes.data)

# create the random forest relationships to be used to assign values to all map variables
rf = randomForest(x=x.numeric.data, y=y.classes.data)
rf
```

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```
# define the Arc ASCII grid layer inputs
cvr.gt2.file = "Cover_Percentage_all_returns_above_2m.asc"
cvr.2to8.file = "cover_percentage_2to8m.asc"
cvr.8to16.file = "cover_percentage_8to16.asc"
cvr.16to32.file = "cover_percentage_16to32m.asc"
cvr.gt32.file = "cover_percentage_gt32m.asc"
h.p95.file = "Height_P95_all_returns_above_2m.asc"
h.p25.file = "Height_P25_all_returns_above_2m.asc"
rumple.file = "CSM_rumple.asc"

xfiles = list(
  h.p95 = h.p95.file,
  h.p25 = h.p25.file,
  rumple = rumple.file,
  cvr.2to8 = cvr.2to8.file,
  cvr.8to16 = cvr.8to16.file,
  cvr.16to32 = cvr.16to32.file,
  cvr.gt32 = cvr.gt32.file
); xfiles

class.file = paste(project, "_RF_classification_9_classes_", Sys.Date(), "-c.asc", sep = "")
outfiles2 <- list(predict = class.file)

write.csv(sample.matrix, file = "hclust_sample_matrix_pre-ordering_2013-08-31-c.csv")

AsciiGridPredict(rf, xfiles, outfiles2, xtypes = NULL, rows = NULL)
```

### *Surface Fuel Classification*

```
# file: randomForest_ground_fuels_classification_MORA_2013-12-26.r

# Mt. Rainier Fuels Mapping
# History:
# Modified from
Deschutes_prepare_merged_field_and_lidar_datasets_for_analysis_201200519.R
# Writing routine began August 19, 2012
#
# This routine uses as input a file that combines data from several sources
# Source data:
# original All_VIP_2011-1-10.csv - Data supplied by Karen Kopper
# original All_Important_2011-1-10.csv - Data supplied by Karen Kopper
# raster_extract_by_coord_2013-08-29.csv - Data from various GIS layers typically supplied by
the Park Service
```

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```
# all_returns_MORA_fuel_plots_2011-1-10.csv - Fusion cludmetrics run from late 2010
# topographic_2011-1-10.csv - Fusion cludmetrics run from late 2010
# a few metrics such as rumple were calculated later and separately

# A list of the actual metrics used in the modeling can be found in the comments with
# the main body of code

# included here for convenience, the command to clear all working data; useful in debugging
rm(list = ls())

library("vegan")
library("randomForest")
library("vegan")
library("randomForest")
library("sp");
library("yaImpute");
require(MASS)
library("randomForestSRC")
library(gbm)
require(e1071)
library(raster)
library(tools)

#####
#####

# define functions

#####

# Create initial random forest model for a fuel type
# Model returned is the best of 250 as measured by minimum classification error

median.rf.explore <- function(y., predictors., label., y.continuous) {
  test.num = 250
  oob.err = matrix(data=NA, nrow=test.num, ncol=1)
  do.loop=1
  for (do.loop in 1:test.num) {
    rf = randomForest(predictors., y=y., do.trace=FALSE); rf
    if (do.loop==1) rf.min.err = rf else if (rf$err.rate[500,1]<rf.min.err$err.rate[500,1]) rf.min.err
    = rf
    oob.err[do.loop,1] = rf$err.rate[500,1]
    # print(do.loop)
    # print(paste(do.loop, "err rate =",rf$err.rate[500,1]))
  } # for (do.loop in 1:100)
```

```
return(rf.min.err)

} # TonsA.1000.factor.median = merged.data$TonsA.1000.factor.median

#####
# From the initial random forest model, select only the predictors that are most influential
# Selection is done by ordering the predictors in the initial model in order of influence
# then add each predictor to the model one at a time and test whether adding this predictor
# plus all previous predictors decreases classification error by 0.02 or not. If it does,
# new best subset of predictors includes that predictor and all previously tested predictors

find.best.predictors <- function(model, y., y.continuous) {

  # Order the predictors
  imp <- model$importance;
  imp <- round((imp/sum(imp))*100,1)
  imp <- imp[order(imp, decreasing=T), ]
  #imp <- round((imp/sum(imp))*100,2); imp
  vars <- names(imp); vars
  num.loops = length(model$importance)-1; num.loops
  class. = "H"

  plot.num = length(model$predicted); plot.num

  # loop through the list of predictors
  loop.predictors = 3
  for (loop.predictors in 2:num.loops) {

    # create matrix of data for predictors being tested (1 to loop.predictors)
    for (loop.var.names in 1:loop.predictors) {
      if (loop.var.names==1) predictor.names = vars[1] else predictor.names =
      paste(predictor.names, vars[loop.var.names])
    }; predictor.names
    label.=paste(predictor.names, Sys.Date()); label.

    predictors.tmp = matrix(data=NA, ncol=loop.predictors, nrow=plot.num);
    for (loop.build.matrix in 1:loop.predictors) {
      predictors.tmp[,loop.build.matrix] = merged.data[,vars[loop.build.matrix]]
    };
    colnames(predictors.tmp) = c(vars[1:loop.predictors])
    head(predictors.tmp)

    rf = median.rf.explore(y., predictors.tmp,label., y.continuous); rf$err.rate[500,1]
```

```

# test whether new predictor plus all previous predictors is better by 0.02 than previous best
subset
if (loop.predictors==2) rf.best.predictors.subset = rf else
if((rf$err.rate[500,1]+0.02) < rf.best.predictors.subset$err.rate[500,1]) {
  rf.best.predictors.subset = rf
  print(paste(loop.predictors, rf.best.predictors.subset$err.rate[500,1], label.)) } else
  print(paste(loop.predictors, rf.best.predictors.subset$err.rate[500,1]))}

} # for (loop.predictors in 1:(num.loops))

return(rf.best.predictors.subset)
} # find.best.predictors <- function(model, y., y.continuous)

#####
# determine the number of plots correctly and incorrectly modeled by leave one out cross
validation
# and num.predictions model runs per plot

predict.plots <- function(y., predictors., label., num.predictions) {

  store.results = matrix(data = NA, ncol=(num.predictions+2), nrow=length(merged.data[,1]))
  print(paste("Num", "Plot", "  Prediction", "% correct", "Correct result"))

  # test each plot
  do.plots = 1
  for (do.plots in 1:length(merged.data[,1])) {

    # print(paste("do.plots =",do.plots,"of",length(merged.data[,1])))

    # pull out the plot being tested from the rest of the plots
    length. = nrow(y.)
    predict.y = y.[do.plots]; predict.y
    predict.x = predictors.[do.plots,]; head(predict.x)
    response. = y.[-do.plots]; head(response.)
    x. = predictors.[-do.plots,]; head(x.)

    # test the model num.predictions times for left out plot
    do.predictions = 1
    for (do.predictions in 1:num.predictions) {

      rf = randomForest(x., y=response., do.trace=FALSE); rf
      predict. = predict(rf, predict.x); predict.
    }
  }
}

```

```

if (predict.y == predict.) store.results[do.plots,do.predictions] = 1 else
store.results[do.plots,do.predictions] = 0
  store.results[do.plots,do.predictions]
# print(paste("do.predictions =",do.predictions,"of",num.predictions))

} # for (do.predictions in 1:25)

store.results[do.plots,(num.predictions+1)] =
(sum(store.results[do.plots,1:num.predictions])/num.predictions); store.results[do.plots,]
  store.results[do.plots,(num.predictions+2)] = predict.y

print(paste(do.plots, " ",merged.data[do.plots,1], " ",as.character(predict.y),"      ",
  sum(store.results[do.plots,1:num.predictions]),"      ",
  as.numeric(store.results[do.plots,(num.predictions+1)])))

} # for (do.plots in 1:length(merged.data[,1]))

return(store.results)

} # predict.plots <- function(y., predictors., label., num.predictions)

#####
# Predict fuel classes across park and make raster map layer of predictions
# use the average prediction from 100 runs to assign final value to map

predict.fuel.map <- function (rf.map, y., y.classes.data, filenames, merged.data) {

  # create matrix with just the predictors used for each fuel class model
  imp <- rf.map$importance; imp
  vars <- rownames(imp); vars
  num.predictors = length(vars)

  for (loop.var.names in 1:num.predictors) {
    if (loop.var.names==1) predictor.names = vars[1] else
      predictor.names = paste(predictor.names, vars[loop.var.names])
  }; predictor.names

  plot.num = nrow(merged.data); plot.num
  predictors.subset = matrix(data=NA, ncol=num.predictors, nrow=plot.num);
  for (loop.build.matrix in 1:num.predictors) {
    predictors.subset[,loop.build.matrix] = merged.data[,vars[loop.build.matrix]]
  };
  colnames(predictors.subset) = c(vars[1:num.predictors])
  head(predictors.subset)
}

```

```

x.numeric.data = as.matrix(predictors.subset)
xfiles = filenames[c(vars)]

# create temporary file name for AsciiGridPredict output
class.file = paste("tmp_map.asc",sep=""); class.file
outfiles2 <- list(predict=class.file); outfiles2

# run predictions num.predicts times
num.predicts = 100
loop.predicts = 1
for (loop.predicts in 1:num.predicts) {

  # rf.tmp = randomForest(predictors.subset, y=y., do.trace=FALSE);

  sink(file="junk.txt", append=F)
  test1 = AsciiGridPredict(rf.map, xfiles, outfiles2, xtyle=NULL, rows=NULL)
  sink()

  # accumulate the number of times each grid cell is predicted to have a High fuel load
  working.arc.layer = read.asciigrid(class.file,colname="raster.data")
  tmp. = working.arc.layer$raster.data
  tmp.[which(tmp.==3)] = NA
  tmp.[which(tmp.==1)] = 0
  tmp.[which(tmp.==2)] = 1

  if (loop.predicts==1) tmp.cum = tmp. else tmp.cum = tmp.cum+tmp.
  print(loop.predicts)

} # for (loop.predicts in 1:num.predicts)

# if grid cell predicted to be high more than half the time, classify it as low
reclassify.cum = tmp.cum
reclassify.cum[which(reclassify.cum>49)] = 2000
reclassify.cum[which(reclassify.cum<50)] = 1000
reclassify.cum[which(reclassify.cum==2000)] = 2
reclassify.cum[which(reclassify.cum==1000)] = 1
sort(unique(reclassify.cum))

working.arc.layer$raster.data = reclassify.cum
write.asciigrid(working.arc.layer, "tmp.asc")

# run a model filter to minimize salt and pepper
working.raster = raster("tmp.asc")
working.raster = focal(working.raster, w=matrix(1,nrow=3,ncol=3), fun=modal)

```

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```
return(working.raster)

} # predict.fuel.map <- function (rf.map, y., y.classes.data, filenames)

#####
# create new seed for random forest
create.seed <- function() {
  integer.date = as.integer(Sys.Date()); integer.date
  time. = as.integer(Sys.time()); time.
  time.2 = as.integer(time./100000)*100000; time.2
  integer.time = time.-time.2; integer.time
  sample. = as.integer(sample(1:100000,1, replace=F)); sample.
  seed. = sample.+integer.date+integer.time; seed.
  return(seed.)
}

#####
# start main body

# list of different working data paths on all the machines I use
working.dir = "C:\\\\Users\\\\Kane\\\\Desktop\\\\Dropbox\\\\Work\\\\a-Projects\\\\MORA
fuels\\\\Production\\\\Plot_data"; setwd(working.dir)
working.dir = "W:\\\\DropBox\\\\Work\\\\a-Projects\\\\MORA fuels\\\\Production\\\\Plot_data";
setwd(working.dir)
working.dir = "W:\\\\DropBox\\\\Work\\\\a-Projects\\\\MORA fuels\\\\Production\\\\Plot_data";
setwd(working.dir)
working.dir = "C:\\\\Users\\\\vkane\\\\Desktop\\\\Dropbox\\\\Work\\\\a-Projects\\\\MORA
fuels\\\\Production\\\\Plot_data"; setwd(working.dir)

date. = Sys.Date()

# Modified on 2013-09-17 to use version of combined csv file that removed 8 duplicates found
by Karen (see spreadsheet)
merged.data = read.csv("a-fuel-models_MORA_field_lidar_plot_SELECTED_columns_09-
09_dups_idby_KK_10-05_bad_gps_removed_FmodelKK_nov2_rumple_added_12-13.csv")
dim(merged.data)
# convert aspect to continuous measurement, 0 = south
merged.data[, "aspect.90"] = cos(merged.data[, "aspect.90"]*pi/180)
merged.data[, "aspect.30"] = cos(merged.data[, "aspect.30"]*pi/180)
merged.data[, "aspect.270"] = cos(merged.data[, "aspect.270"]*pi/180)

nrow(merged.data)
```

```
new.seed = create.seed(); new.seed
set.seed(new.seed)

# set median points for each fuel load
# calculating it dynamically allows subsets of data to be created and explored
ii = 1
for (ii in 1:(length(merged.data[,1]))) {

  if (merged.data$TonAc.Organic[ii] < (median(merged.data$TonAc.Organic)))
  merged.data$TonAc.Organic.factor.median[ii] = "L" else
  merged.data$TonAc.Organic.factor.median[ii] = "H"
  if (merged.data$TonAc.1to100[ii] < (median(merged.data$TonAc.1to100)))
  merged.data$Ton.Ac.1to100.factor.median[ii] = "L" else
  merged.data$Ton.Ac.1to100.factor.median[ii] = "H"
  if (merged.data$TonsA.1000[ii] < (median(merged.data$TonsA.1000)))
  merged.data$TonsA.1000.factor.median[ii] = "L" else
  merged.data$TonsA.1000.factor.median[ii] = "H"
} # for (ii in 1:(length(merged.data[,1])))

# reclassify subcategories of riparian, shrub, meadow into single class each
# not enough field plots to retain subcategories
merged.data$nielsen[which(merged.data$nielsen == 51)] = 50 # riparian deciduous tall shrubland
merged.data$nielsen[which(merged.data$nielsen == 52)] = 50 # high elevation conifer riparian forest
merged.data$nielsen[which(merged.data$nielsen == 53)] = 50 # deciduous floodplain and swamp forest
merged.data$nielsen[which(merged.data$nielsen == 54)] = 50 # low elevation conifer riparian and swamp forest
merged.data$nielsen[which(merged.data$nielsen == 61)] = 60 # conifer shrubland
merged.data$nielsen[which(merged.data$nielsen == 62)] = 60 # crowberry-kinnikinnick-juniper dwarf shrubland
merged.data$nielsen[which(merged.data$nielsen == 63)] = 60 # alpine mountain heather dwarf shrubland
merged.data$nielsen[which(merged.data$nielsen == 64)] = 60 # high elevation dry post-fire shrubland
merged.data$nielsen[which(merged.data$nielsen == 65)] = 60 # subalpine mixed woodland and shrubland
merged.data$nielsen[which(merged.data$nielsen == 66)] = 60 # subalpine mountain heather dwarf shrubland
merged.data$nielsen[which(merged.data$nielsen == 67)] = 60 # high elevation deciduous tall shrubland
merged.data$nielsen[which(merged.data$nielsen == 68)] = 60 # low elevation deciduous tall shrubland and forest
merged.data$nielsen[which(merged.data$nielsen == 81)] = 80 # montane wet meadow
merged.data$nielsen[which(merged.data$nielsen == 82)] = 80 # valerian-hellebore-luzula mesic subalpine meadow
```

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```
merged.data$nielsen[which(merged.data$nielsen==83)] = 80 # showy sedge mesic subalpine
meadow
merged.data$nielsen[which(merged.data$nielsen==84)] = 80 # green fescue dry herbaceous
meadow
merged.data$nielsen[which(merged.data$nielsen==85)] = 80 # high elevation wet
meadow/dwarf shrubland
merged.data$nielsen[which(merged.data$nielsen==86)] = 80 # mixed forb/graminoid
herbaceous meadow

# apply labels for forest classes based on Nielsen classification
# WH - western hemlock; DF - Douglas fir; SF - Pacific silver fir; MH- mountain hemlock
nielsen.labels = c("WH-DF dry",
                  "WH-DF mesic",
                  "WH-DF success.",
                  "WH-DF wet",
                  "SF-WH warm",
                  "SF-WH cold",
                  "SF mesic",
                  "MH-SF",
                  "riparian forest",
                  "shrubland",
                  "meadow",
                  "other"); nielsen.labels
nielsen.at = c(1,2,3,4,5,6,7,8,9,10,11,12); nielsen.at
dim(merged.data)

# set up for output

base.dir = getwd(); base.dir
output.dir = paste(base.dir, "/RF_classification_", Sys.Date(), sep=""); output.dir
dir.create(output.dir)

setwd(output.dir); getwd()

save.output = paste("fuel_classification_modeling_results_", Sys.Date(), ".txt", sep="");
save.output

# prepare data that will be used for classifications

merged.data = na.omit(merged.data); dim(merged.data)

predictors. = merged.data[,c("stdev", # standard deviation heights
                           "p25", # 25th percentile heights calculated by Fusion software
                           "p50", # 50th percentile heights calculated by Fusion software
                           "p75", # 75th percentile heights calculated by Fusion software
                           "p95", # 95th percentile heights calculated by Fusion software
```

```

"rumple", # canopy rugosity calculated by Fusion software
"cvr.gt2", # canopy cover >2 m calculated by Fusion software
"cvr.2to8", # canopy cover 2 to 8 m calculated by Fusion software
"cvr.8to16", # canopy cover 8 to 16 m calculated by Fusion software
"cvr.16to32", # canopy cover 16 to 32 m calculated by Fusion software
"cvr.gt32", # canopy cover >32 m calculated by Fusion software
"nielsen", # nielsen vegetation cover classes
"aet", # actual evapotranspiration, evolved Thornthwaite model
"precip", # PRISM 1971-2000 mean precipitation
"deficit", # climatic water deficit, evolved Thornthwaite model
"jan.t", # PRISM 1971-2000 mean January temperature
"july.t", # PRISM 1971-2000 mean July temperature
"elev.30", # elevation from LiDAR data calculated for each 30 m grid cell
"aspect.30", "aspect.90", "aspect.270", # aspect from LiDAR data for 30, 90,
270 m scales
    "curvature.30", "curvature.90", "curvature.270", # curvature from LiDAR data
for 30, 90, 270 m scales
    "slope.30", "slope.90", "slope.270", # slope from LiDAR data for 30, 90, 270 m
scales
    "sri.30", "sri.90", "sri.270", # solar radiation index from LiDAR data for 30, 90,
270 m scales
    "tpi.100", "tpi.250", "tpi.500", "tpi.1000", "tpi.2000" #Jenness topographic
index at 100, 350, 500, 1000, 2000 m scales
    )]

plot.num = length(merged.data[,1]); plot.num # number of plots

# the same logic is used to classify all three fuel types
# only the first one, for organic fuels is commented

# perform classification for TonAC.Organic

y.continuous = merged.data[,"TonAc.Organic"] # continuous value for fuel
y. = merged.data[,"TonAc.Organic.factor.median"] # classified fuel, high/low
label.="Organic_Fuel"

# create initial random forest model selected as model with lowest classification error rate from
250 models
rf.best = median.rf.explore(y., predictors.,label., y.continuous); rf.best

# find best subset of predictors as measured by lowest classification error using best model from
above
model = rf.best
rf.best.predictors = find.best.predictors(model, y., y.continuous)
# compare results
rf.best

```

rf.best.predictors

```
# collect and save best predictors in a new matrix
# these will be used to in 100 test how often plots are predicted correctly in 100 classifications
# and to create maps of predicted fuel classification
# pull out list of predictors and sort in order of importance
imp <- rf.best.predictors$importance;
imp <- round((imp/sum(imp))*100,1)
imp <- imp[order(imp, decreasing=T), ]
vars <- names(imp); vars
num.predictors = length(vars)
class. = "H"

# create a vector with list of best subset of predictors
for (loop.var.names in 1:num.predictors) {
  if (loop.var.names==1) predictor.names = vars[1] else
    predictor.names = paste(predictor.names, vars[loop.var.names])
}
predictor.names

# create a matrix with just the best subset of predictors
predictors.subset = matrix(data=NA, ncol=num.predictors, nrow=plot.num);
for (loop.build.matrix in 1:num.predictors) {
  predictors.subset[,loop.build.matrix] = merged.data[,vars[loop.build.matrix]]
}
colnames(predictors.subset) = c(vars[1:num.predictors])
head(predictors.subset)

# do leave one out cross validation using best subset of predictors
# run 100 times to determine how many times plots are predicted correctly
num.predictions = 100
prediction.results = predict.plots(y., predictors.subset, label., num.predictions)

# save results from classification
# actual save statements commented out after save so file could not be overwritten if this routine
# is run again
prediction.results.organic = prediction.results
file.name = paste(label., "x_validation_best_subset_predictors_", Sys.Date(), ".csv", sep="")
file.name
# write.csv(prediction.results.organic, file.name) # saved as
"Organic_Fuelx_validation_best_subset_predictors_2013-12-21.csv"

rf.best.organic = rf.best
file.name = paste(label., "_rf_best_all_predictors_", Sys.Date(), ".rda", sep="")
file.name
# save(rf.best.organic, file=file.name) # saved as "Organic_Fuel_rf_best_all_predictors_2013-12-21.rda"

rf.best.predictors.organic = rf.best.predictors
```

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```
file.name = paste(label., "rf_best_subset_predictors_", Sys.Date(), ".rda", sep = ""); file.name
# save(rf.best.predictors.organic, file=file.name) # saved as
"Organic_Fuelrf_best_subset_predictors_2013-12-21.rda"

#####
# perform classification for 1 to 100 hour fuels

# prepare to call median.rf.explore <- function(y., predictors, label., y.continuous) {
y.continuous = merged.data[, "TonAc.1to100"]; length(y.continuous)
y. = merged.data[, "Ton.Ac.1to100.factor.median"]
label.= "1_to_100_hr_Fuel"

rf.best = median.rf.explore(y., predictors., label., y.continuous); rf.best

model = rf.best
rf.best.predictors = find.best.predictors(model, y., y.continuous)
rf.best
rf.best.predictors

imp <- rf.best.predictors$importance;
imp <- round((imp/sum(imp))*100,1)
imp <- imp[order(imp, decreasing=T), ]
vars <- names(imp); vars
num.predictors = length(vars)
class. = "H"

for (loop.var.names in 1:num.predictors) {
  if (loop.var.names==1) predictor.names = vars[1] else
    predictor.names = paste(predictor.names, vars[loop.var.names])
}; predictor.names

predictors.subset = matrix(data=NA, ncol=num.predictors, nrow=plot.num);
for (loop.build.matrix in 1:num.predictors) {
  predictors.subset[,loop.build.matrix] = merged.data[, vars[loop.build.matrix]]
};
colnames(predictors.subset) = c(vars[1:num.predictors])
head(predictors.subset)

num.predictions = 100
prediction.results = predict.plots(y., predictors.subset, label., num.predictions)

prediction.results.1to100hr = prediction.results
file.name = paste(label., "x_validation_best_subset_predictors_", Sys.Date(), ".csv", sep = "")
write.csv(prediction.results.1to100hr, file.name)
```

```

rf.best.1to100 = rf.best
file.name = paste(label_,"_rf_best_all_predictors_",Sys.Date(),".rda",sep=""); file.name
# save(rf.best.1to100, file=file.name) # saved as
"1_to_100_hr_Fuel_rf_best_all_predictors_2013-12-21.rda"

rf.best.predictors.1to100 = rf.best.predictors
file.name = paste(label_,"rf_best_subset_predictors_",Sys.Date(),".rda",sep=""); file.name
save(rf.best.predictors.1to100, file=file.name) # saved as
"1_to_100_hr_Fuel_rf_best_subset_predictors_2013-12-21.rda"

#####
# perform classification for 1000 hour fuels

# prepare to call median.rf.explore <- function(y., predictors, label., y.continuous) {
y.continuous = merged.data[,"TonsA.1000"]
y. = merged.data[,"TonsA.1000.factor.median"]
label.= "1000_hr_Fuel"

rf.best = median.rf.explore(y., predictors.,label., y.continuous)

model = rf.best
rf.best.predictors = find.best.predictors(model, y., y.continuous)
rf.best
rf.best.predictors

# prepare to call predict.plots <- function(y., predictors., label., num.predictions) {
imp <- rf.best.predictors$importance;
imp <- round((imp/sum(imp))*100,1)
imp <- imp[order(imp, decreasing=T), ]
vars <- names(imp); vars
num.predictors = length(vars)
class. = "H"

for (loop.var.names in 1:num.predictors) {
  if (loop.var.names==1) predictor.names = vars[1] else
    predictor.names = paste(predictor.names, vars[loop.var.names])
}; predictor.names

predictors.subset = matrix(data=NA, ncol=num.predictors, nrow=plot.num);
for (loop.build.matrix in 1:num.predictors) {
  predictors.subset[,loop.build.matrix] = merged.data[,vars[loop.build.matrix]]
};
colnames(predictors.subset) = c(vars[1:num.predictors])
head(predictors.subset)

```

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```
num.predictions = 100
prediction.results = predict.plots(y., predictors.subset, label., num.predictions)

prediction.results.1000hr = prediction.results
file.name = paste(label., "x_validation_best_subset_predictors_", Sys.Date(), ".rda", sep="")
write.csv(prediction.results.1000hr, file.name)

rf.best.1000 = rf.best
file.name = paste(label., "_rf_best_all_predictors_", Sys.Date(), ".rda", sep=""); file.name
# save(rf.best.1000, file=file.name) # saved as "1000_hr_Fuel_rf_best_all_predictors_2013-12-21.rda"

rf.best.predictors.1000 = rf.best.predictors
file.name = paste(label., "rf_best_subset_predictors_", Sys.Date(), ".rda", sep=""); file.name
# save(rf.best.predictors.1000, file=file.name) # "1000_hr_Fuel_rf_best_subset_predictors_2013-12-21.rda"

#####
# predict fuel classes across the park and create raster maps of predictions

# define output directory
working.dir = "C:\\Users\\Kane\\Desktop\\Dropbox\\Work\\a-Projects\\MORA
fuels\\Production\\Combined_2013-07-26\\R data"; setwd(working.dir)
library(raster)

# create list of all file names that correlate to predictors
filenames = list(
  stdev = "Stat_stddev_all_returns_above_2m.asc",
  p25 = "Height_P25_all_returns_above_2m.asc",
  p50 = "Height_P50_all_returns_above_2m.asc",
  p75 = "Height_P75_all_returns_above_2m.asc",
  p95 = "Height_P95_all_returns_above_2m.asc",
  rumple = "csm_rumple1.asc",
  cvr.gt2 = "Cover_Percentage_all_returns_above_2m.asc",
  cvr.2to8 = "cover_percentage_2to8m.asc",
  cvr.8to16 = "cover_percentage_8to16.asc",
  cvr.16to32 = "cover_percentage_16to32m.asc",
  cvr.gt32 = "cover_percentage_gt32m.asc",
  nielsen = "nielsen.reclass_use_lt50_classes_only2013-06-30.asc",
  aet = "mora_aet_noohl_2013-06-14.asc",
  precip = "mora_annual_ppt.asc",
  deficit = "mora_deficit_noohl_2013-06-14.asc",
  jan.t = "mora_january_temp.asc",
  july.t = "mora_july_temp.asc",
  elev.30 = "Topo_30m_Elevation_all_returns.asc",
```

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```
aspect.30 = "Topo_30m_Aspect_degrees_azimuth_all_returns.asc",
aspect.90 = "Topo_90m_Aspect_degrees_azimuth_all_returns.asc",
aspect.270 = "Topo_270m_Aspect_degrees_azimuth_all_returns.asc",
curvature.30 = "Topo_30m_Curvature_all_returns.asc",
curvature.90 = "Topo_90m_Curvature_all_returns.asc",
curvature.270 = "Topo_270m_Curvature_all_returns.asc",
slope.30 = "Topo_30m_Slope_degrees_all_returns.asc",
slope.90 = "Topo_90m_Slope_degrees_all_returns.asc",
slope.270 = "Topo_270m_Slope_degrees_all_returns.asc",
sri.30 = "Topo_30m_Solar_Radiation_Index_all_returns.asc",
sri.90 = "Topo_90m_Solar_Radiation_Index_all_returns.asc",
sri.270 = "Topo_270m_Slope_degrees_all_returns.asc",
tpi.100 = "tpi_100_masked_2013-08-12.asc",
tpi.250 = "tpi_250_masked_2013-08-12.asc",
tpi.500 = "tpi_500_masked_2013-08-12.asc",
tpi.1000 = "tpi_1000_masked_2013-08-12.asc",
tpi.2000 = "tpi_2000_masked_2013-08-12.asc"
)
```

```
#####
```

```
# same logic is used for all three fuel types, so only the first is commented
```

```
# map predicted organic fuel classes
```

```
rf.map = rf.best.predictors.organic # use final fuel random forest model
y. = merged.data[, "TonAc.Organic.factor.median"] # fuel values as continuous values
y.classes.data = as.factor(merged.data$TonAc.Organic.factor.median) # fuel values as High/Low
classes
```

```
# call function to make predictions and create the map and then save the raster layer
working.raster.organic = predict.fuel.map(rf.map, y., y.classes.data, filenames, merged.data)
file.name = paste0("fuel_map_organic_modal_filter_1high_2low_", Sys.Date(), ".asc");
file.name
writeRaster(working.raster.organic, filename=file.name, format="ascii", overwrite=TRUE)
# make this layer distinct from other layers in what will be a merged file
working.raster.organic = working.raster.organic*100
```

```
#####
```

```
# map predicted 1 to 100 hour fuel classes
```

```
rf.map = rf.best.predictors.1to100
y.classes.data = as.factor(merged.data[, "Ton.Ac.1to100.factor.median"])
y. = merged.data[, "Ton.Ac.1to100.factor.median"]
```

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```
working.raster.1to100 = predict.fuel.map(rf.map, y., y.classes.data, filenames, merged.data)
file.name = paste0("fuel_map_1to100_modal_filter_1high_2low_", Sys.Date(), ".asc"); file.name
writeRaster(working.raster.1to100, filename=file.name, format="ascii", overwrite=TRUE)
# make this layer distinct from other layers in what will be a merged file
working.raster.1to100 = working.raster.1to100*10

#####
# map predicted 1000 hour fuel classes

rf.map = rf.best.predictors.1000
y. = merged.data[, "TonsA.1000.factor.median"]
y.classes.data = as.factor(merged.data$TonAc.1000.factor.median)

working.raster.1000 = predict.fuel.map(rf.map, y., y.classes.data, filenames, merged.data)
file.name = paste0("fuel_map_1000_modal_filter_1high_2low_", Sys.Date(), ".asc"); file.name
writeRaster(working.raster.1000, filename=file.name, format="ascii", overwrite=TRUE)
# make this layer distinct from other layers in what will be a merged file
working.raster.1000 = working.raster.1to100*10

# 12-27-2013 for some reason, the math below resulted in only 4 combinations of classes rather
than the 8 it should have. Hmm
# did the math in ArcMap raster calculator, and it was all good

#####
# create a single raster layer that merges the classes
# 100's = organic, 10's = 10 to 100 hour, 1's = 1000 hour

working.raster.combined = working.raster.1000 + working.raster.1to100 +
working.raster.organic

file.name =
paste0("fuel_maps_combined_modal_filter_1high_2low_orgeq100s_1to100eq10s_1000eq1s_",
Sys.Date(), ".asc"); file.name
writeRaster(working.raster.combined, filename=file.name, format="ascii", overwrite=TRUE)
```