



Water Body Location and Classification

Background

Water is an essential natural resource that shapes our landscape and the life it supports. As one of the 12 core National Park Service (NPS) natural resource inventories, knowledge of the locations and characteristics of water resources in parks is fundamental to understanding park ecological and physical systems and processes.

To obtain the locations of hydrographic features in digital form, the NPS Inventory & Monitoring (I&M) Program and the Water Resources Division (WRD) partnered with the U.S. Geological Survey (USGS), states, and other federal agencies to create the high-resolution (1:24,000, 1:63,360 in Alaska) National Hydrography Dataset (NHD) for 8-digit hydrologic units/subbasins containing national park units.

The NHD is a feature-based geographic database that interconnects and uniquely identifies all the stream segments (or “reaches”) that comprise surface water drainage systems. Included in NHD are hydrographic features such as streams, rivers, canals, lakes, ponds, reservoirs, springs, wells, swamps, and other hydrologic phenomena that appear on the typical USGS 7.5 minute (15’ Alaska) topographic map series. A significant component of this inventory entailed incorporating park hydrographic data into NHD whenever a park had better data available than what was typically used to build the NHD.

In addition to location, this inventory also provides water quality use classifications and impairment status for park water bodies. Under the Clean Water Act, states are required to specify the designated beneficial uses (e.g. warm water fishery, cold water fishery, drinking water, primary contact recreation, etc.) of water bodies within their borders and promulgate legally enforceable water quality criteria that protect and preserve those uses. Water bodies that fail to achieve the specified water quality criteria are reported as ‘impaired’ on the state’s 303(d) list and measures must be taken to bring the water into compliance.

The I&M Program and WRD have partnered to create the Hydrographic and Impairment Statistics (HIS) database (NPS use only) to track NHD-generated hydrographic statistics and Clean Water Act 303(d) listed impairments for parks.



Little River at DeSoto Falls in Little River Canyon National Preserve.

Products

High-resolution NHD information is currently available for download from the USGS NHD Viewer (see link below).

Hydrographic statistics generated from the high-resolution NHD and 303(d) impairment information gleaned from state Clean Water Act reports can be obtained from the HIS database (see link below).

Status

NHD is a dynamic database and is frequently revised with new or better hydrographic information, particularly as states begin incorporating large-scale LIDAR-derived hydrography. Users are encouraged to check that they have the most recent information.

Wetland locations and state-designated beneficial use classifications for many parks are either incomplete and/or have been deferred pending more cost-effective acquisition.

More Information

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NPS Water Resources: <http://www.nature.nps.gov/water/>
Nat. Hydrography Dataset: <http://nhd.usgs.gov/>
HIS Database (NPS only): <http://www1.nrintra.nps.gov/wrd/his/>
USGS NHD Viewer: <http://nationalmap.gov/viewers.html>
EPA WQ Standards: <http://www.epa.gov/waterscience/standards/>
I&M Inventories: <http://science.nature.nps.gov/im/inventory/>