

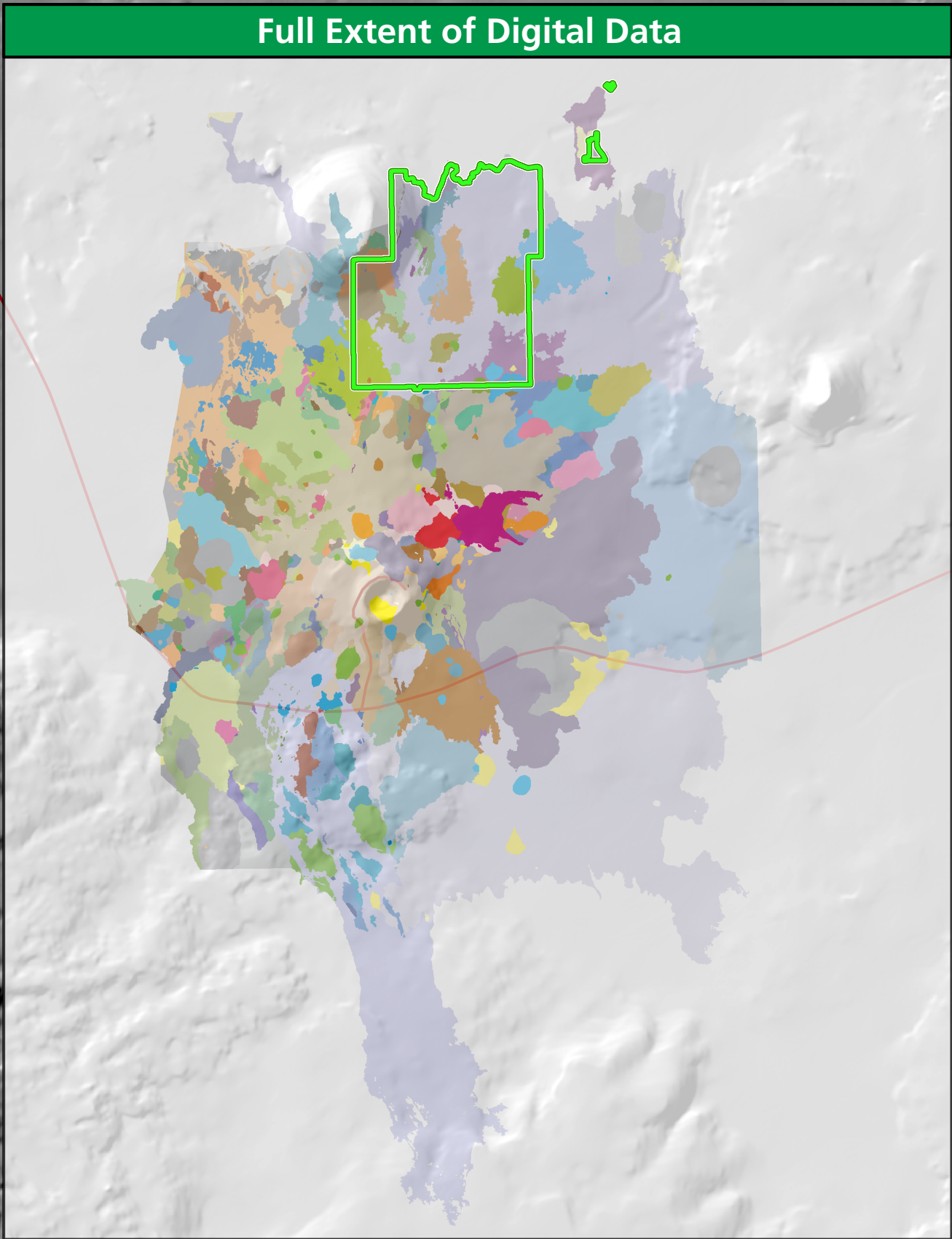
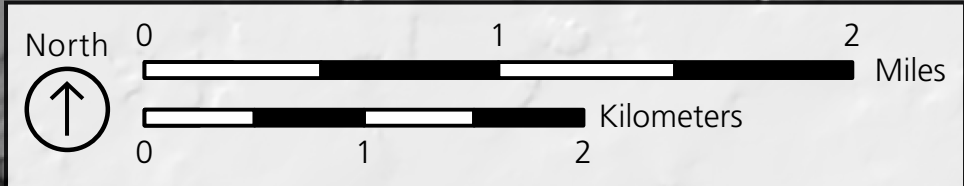
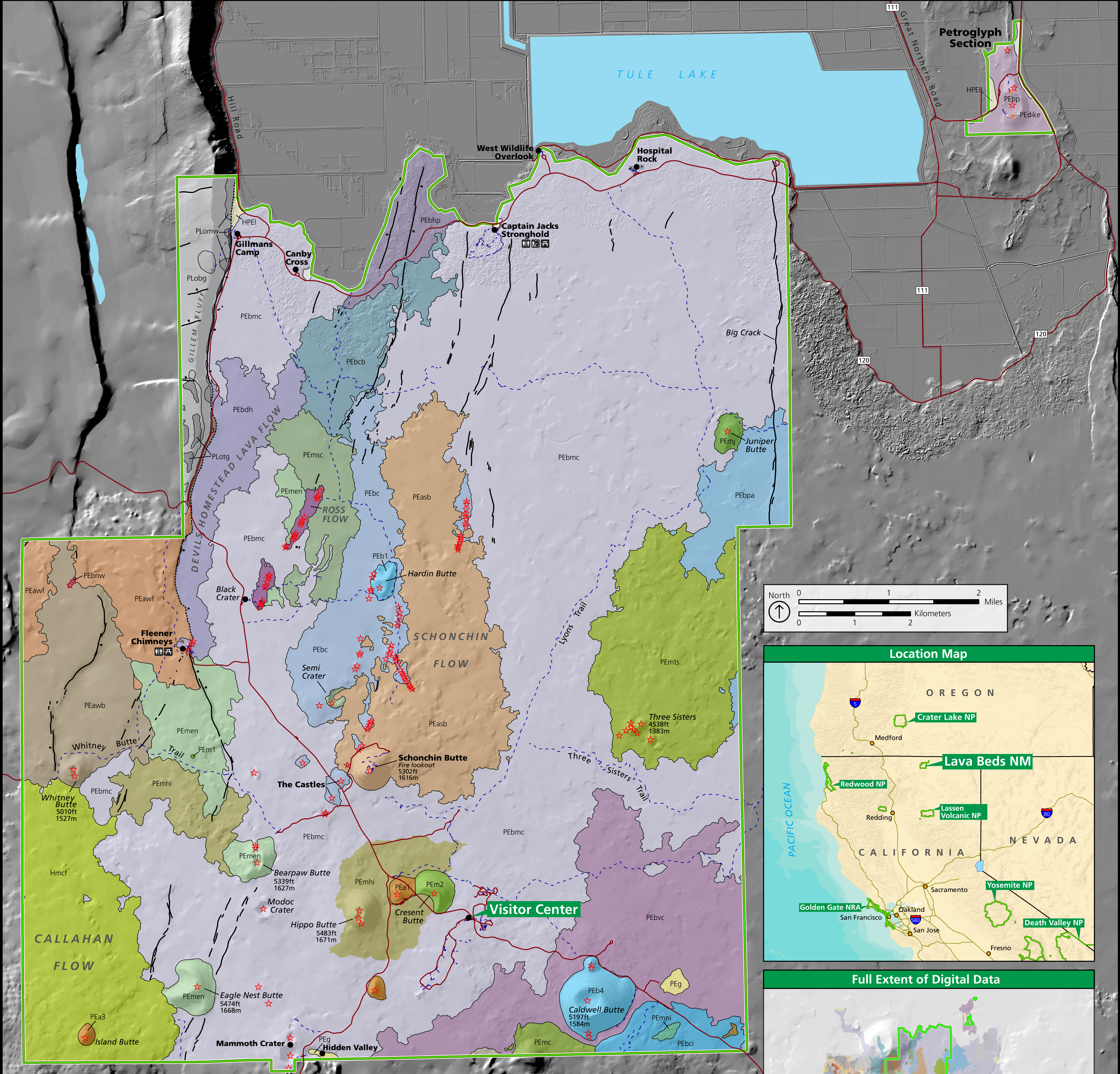
Geology of Lava Beds National Monument

California

National Park Service
U.S. Department of the Interior



Geologic Resources Inventory



NPS Boundary	Geologic Units	
	Hmcf Basaltic andesite of Callahan Flow (Holocene)	PEm2 Basaltic andesite of Crescent Butte (middle Pleistocene)
Infrastructure	Hbbr Basalt of Black Crater and Ross Chimneys (Holocene)	PEbnw Basalt north of Whitney Butte (middle Pleistocene)
cities	HPEI Lake deposits (Holocene and Pleistocene)	PEmsc Basaltic andesite of Semi Crater (middle Pleistocene)
points of interest	PEbvc Basalt of Valentine Cave (late Pleistocene)	PEanh Andesite northeast of Mount Hoffman (middle Pleistocene)
trails	PEbdh Basalt of Devils Homestead (late Pleistocene)	PEbcb Basalt of Canby Bay (middle Pleistocene)
roads	PEg Gravel (Pleistocene)	PEb4 Basalt of Caldwell Butte (middle? Pleistocene)
Volcanic Point Feature	TEbgd Basalt of Gold Digger Pass (late Pleistocene)	PEadh Andesite near Devils Homestead (middle Pleistocene)
littoral cone	PEbc Basalt of The Castles (late Pleistocene)	TEb5 Basalt cone southeast of Mammoth Crater (middle? Pleistocene)
vent	PEbmc Basalt of Mammoth Crater (late Pleistocene)	PEa3 Andesite of Island Butte (middle Pleistocene)
Dike	PEaib Andesite of Indian Butte (late Pleistocene)	PEbgf Basalt west of Canby Cross at Gillem Fault (middle Pleistocene)
PEdike - Dike, known or certain	TEbci Basalt of Caldwell Ice Caves (late Pleistocene)	PEmni Basaltic andesite north of Indian Butte (middle Pleistocene)
Fault	PEmts Basaltic andesite of Three Sisters (late? Pleistocene)	PEmc Basaltic andesite south and southwest of Caldwell Butte (middle Pleistocene)
unknown offset/displacement, known or certain	PEasb Andesite of Schonchin Butte (late Pleistocene)	PEa2 Andesite of Red Butte (middle Pleistocene)
normal fault, known or certain	TEbpa Basalt of The Panhandle (late Pleistocene)	TEb1 Basalt of Hardin Butte (middle Pleistocene)
normal fault, concealed	PEmhi Basaltic andesite of Hippo Butte (late Pleistocene)	PEbp Basalt of Prisoners Rock (middle Pleistocene)
Geologic Contacts	PEmen Basaltic andesite of Eagle Nest Butte (late Pleistocene)	PEmj Basaltic andesite of Juniper Butte (middle Pleistocene)
known or certain	PEm1 Basaltic andesite spatter vent west-northwest of Bat Butte (late or middle Pleistocene)	PEbhp Basalt of Hovey Point (middle Pleistocene)
concealed	PEawb Andesite of Whitney Butte (middle Pleistocene)	PEobp Older basalt on west side of Gillem Fault (early Pleistocene)
	TEbng Basalt northeast of Glass Mountain (middle? Pleistocene)	PLotg Older tuff of Gillem Bluff (Pliocene)
	PEa1 Andesite cone west of Crescent Butte (middle? Pleistocene)	PLomg Older basaltic andesite of Gillem Bluff (Pliocene)
	PEawf Andesite west of Fleener Chimneys (middle Pleistocene)	PLobg Older basalt of Gillem Bluff (Pliocene)
		PLomw Older basaltic andesite in western Lava Beds National Monument (Pliocene)

Geologic mapping by Donnelly-Nolan and Champion (1987), as modified by Donnelly-Nolan (2010), delineated these 43 map units in Lava Beds National Monument. A full list and description of units of Medicine Lake volcano is on the attached CD (see labe_geology.pdf). That document also includes a link to the Correlation of Map Units figure from Donnelly-Nolan (2010).

This map graphic was produced by Max Jackl (Colorado State University) in June 2013 from the following sources:

Donnelly-Nolan, J.M. 2010. Geologic Map of Medicine Lake volcano, northern California (scale 1:50,000). Scientific Investigations Map 2927. US Geological Survey, Menlo Park, California.

Ramsey, D.W., T.J. Felger, E. Lougee, P.E. Bruggman, and J.M. Donnelly-Nolan. 2010. Database for the geologic map of Medicine Lake volcano, northern California. Data to accompany J.M. Donnelly-Nolan, 2010. Geologic map of Medicine Lake volcano, northern California (scale 1:50,000). Scientific Investigations Map 2927. US Geological Survey, Menlo Park, California.

It is an overview of compiled data prepared as part of the NPS Geologic Resources Inventory. This map graphic is not a substitute for site-specific investigations.

As per source map scale and US National Map Accuracy Standards, geologic features represented here are within 25 m (83 ft) of their true location.

All digital geologic data and publications prepared as part of the Geologic Resources Inventory are available at the NPS Integrated Resource Management Applications Portal (IRMA): <https://irma.nps.gov/App/Reference/Search>. Enter "GRI" as the search text and select a park from the unit list.