



Soil Mapping (updated)

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The Natural Resource Inventory and Monitoring (I&M) Program was established to help prevent the loss or impairment of significant natural resources in more than 250 of the 368 units of the National Park System¹. Many natural resources in the system are subjected to unfavorable influences from a variety of sources, for example, air and water pollution, urban encroachment, and excessive visitation. Left unchecked, such effects can threaten the very existence of many natural communities in the units.

The principal functions of the I&M Program are the gathering of information about the resources and the development of techniques for monitoring the ecological communities in the National Park System. Ultimately, the inventory and monitoring of natural resources will be integrated with park planning, operation and maintenance, visitor protection, and interpretation to establish the preservation and protection of natural resources as an integral part of park management and improve the stewardship of natural resources by the National Park Service.

The detection of changes and the quantification of trends in the conditions of natural resources are imperative for the identification of links between changes in resource

conditions and the causes of changes and for the elimination or mitigation of such causes. Inventory and monitoring provides important feedback between natural resource conditions and management and trigger specific management and evaluation of managerial effectiveness.

Soil Mapping

Maps of selected geophysical features such as soils are being produced for each natural resource park. The National Park Service is working with the Natural Resource Conservation Service to complete Order 3 soil surveys in all parks, except where more detailed surveys are required for park management.



In addition to the baseline soil survey data, a primary product of the soil mapping program is a digital layer for specific park units. The soils data will be automated to provide flexibility in map design and production and to facilitate data management.

Partnerships

The Inventory and Monitoring Program is completing soil maps through national agreements with other federal agencies such as the Natural Resources Conservation Service and with private contractors. In 1997, I&M Program staff continued to assist parks with

identifying soil mapping needs so that park objectives could be met through appropriate data collection and scale of maps. For example, special strategies are being developed in cooperation with the Natural Resources Conservation Service to handle the large-area mapping for parks in Alaska, beginning with the Denali National Park and Preserve.

Program Status

The Natural Resources Conservation Service is conducting soil surveys in 36 parks and will continue to support soil mapping until the project is completed. Soil map digitization in Bighorn Canyon National Recreation Area was completed by the conservation service in 1997 at no cost to the National Park Service. Additional mapping was conducted by contractors in Bighorn Canyon National Recreation Area and Pecos National Historical Park.

Fieldwork and mapping were completed in Acadia, Grand Teton, Hawaii Volcanoes, Theodore Roosevelt, and Yellowstone national parks; Craters of the Moon, Dinosaur, and Hagerman Fossil Beds national monuments; Pecos National Historical Park; and the Southern Arizona Group (Chiricahua, Montezuma Castle, and Tuzigoot national monuments; Coronado National Memorial; and Fort Bowie National Historic Site).

Field mapping continues in Bighorn Canyon, Gateway, Lake Mead, and Santa Monica Mountains national recreation areas; Rocky Mountain and Yosemite national parks; and Saint Croix National Scenic Riverway.

¹ National parks and other entities of the National Park Service such as national monuments, national rivers, wild and scenic riverways, national scenic trails, and others are called *units* and collectively constitute the *National Park System*.

Soil mapping was initiated this year in Chaco Culture National Historical Park; Bandelier, Fort Union, Gila Cliff Dwellings, John Day Fossil Beds and Salinas Pueblo Missions national monuments; Carlsbad Caverns, Death Valley, and Joshua Tree national parks; and Denali National Park and Preserve. Field work is planned to begin in 1998 in Crater Lake, Grand Canyon, and Great Smoky Mountains national parks; Apostle Islands

National Lakeshore; and Chesapeake and Ohio Canal National Historical Park.

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You may also consult the worldwide I&M Program webpage at:
<http://www.aqd.nps.gov/nrid/im/>



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