



Geologic Resources Inventory

Background

Recognizing the interrelationships between the physical (geology, air, and water) and biological (plants and animals) components of the Earth is vital to understanding, managing, and protecting natural resources. The Geologic Resources Inventory (GRI) helps make this connection by providing information on the role of geology and geologic resource management in parks.

Geologic resources for management consideration include both the processes that act upon the Earth and the features formed as a result of these processes. Geologic processes include: erosion and sedimentation; seismic, volcanic, and geothermal activity; glaciation, rockfalls, landslides, and shoreline change. Geologic features include mountains, canyons, natural arches and bridges, minerals, rocks, fossils, cave and karst systems, beaches, dunes, glaciers, volcanoes, and faults.

The Geologic Resources Inventory aims to raise awareness of geology and the role it plays in the environment, and to provide natural resource managers and staff, park planners, interpreters, researchers, and other NPS personnel with information that can help them make informed management decisions.

The GRI team, working closely with the Colorado State University Earth Science Department and a variety of other partners, provides more than 270 parks with a geologic scoping meeting, digital geologic map data, and a park-specific geologic report.

Products

Scoping Meetings: These park-specific meetings bring together local geologic experts and park staff to inventory and review available geologic data and discuss geologic resource management issues. A summary document is prepared for each meeting that identifies a plan to provide digital map data for the park.

Digital Geologic Maps: These maps reproduce all aspects of traditional paper maps, including notes, legend, and cross sections. Bedrock, surficial, and special purpose maps such as coastal or geologic hazard maps may be used by the GRI to create digital data and meet park needs. These digital data allow geologic information to be easily viewed or analyzed in conjunction with a wide range of other resource management information in park geographic information systems.



GRI scoping participants examine an igneous dike during a geologic field trip to the Schoodic Peninsula of Acadia National Park in Maine.

Geologic Reports: Park-specific geologic reports identify geologic resource management issues as well as features and processes that are important to park ecosystems. In addition, these reports present a brief geologic history of the park and address specific properties of geologic units present in the park.

Status

The geologic inventory effort in the NPS began in 1998 with the goal of providing digital geologic map coverage for more than 270 identified parks with significant natural resource. Since that time, 220 parks have participated in scoping meetings, 140 geologic maps have been prepared, and 50 geologic reports have been completed.

Additionally, the GRI is partnering with the USGS, State Surveys, and academic institutions to complete field mapping in another 46 parks and has 75 geologic reports in progress.

More Information

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