USGS Mineral Resources Program

National Maps and Datasets for Research and Land Planning

The U.S. Geological Survey, the Nation’s leader in producing and maintaining such science data, serves as an advisor to Congress, the Department of the Interior, and many other Federal and State agencies. Nationwide datasets that are easily available and of high quality are critical for addressing a wide range of land-planning, resources, and environmental issues.

Four types of digital databases (geological, geophysical, geotechnical, and mineral-resource) are being compiled and upgraded by the Mineral Resources Program on regional and national scales to meet these needs. Where existing data are incomplete, new data are being collected to ensure national coverage. Maps and analyses derived from these databases provide basic information essential for mineral resource assessments and environmental studies, as well as fundamental information for regional and national land-use studies. Maps and analyses produced from the databases are instrumental in ongoing basic research, such as the identification of mineral deposit origins, determinations of regional background values of chemical elements with known environmental impact, and study of the relationships between toxic elements or mining practices to human health.

As datasets are compiled or revised, the information is made available through a variety of media, including the Internet. Much of the available information is the result of cooperative activities with State and other Federal agencies. The upgraded Mineral Resources Program datasets include geological, geophysical, geotechnical, and mineral-resource information at the State, regional, and national scales available to members of Congress, State and Federal government agencies, researchers in academia, and the general public.

The status of the Mineral Resources Program datasets is outlined below.

Geologic Datasets
Goal:
- Compile a set of digital geologic maps databases for all States, in collaboration with many State geological surveys
- Prepare new geologic maps and digital databases for Alaska and Hawaii using 1:250,000-scale and finer data
- Produce a national lithologic map
- Prepare regional-scale maps showing rocks with specific characteristics

Status:
- Digital geologic base maps are complete for most States
- Lithologic and age information has been compiled for about 70 percent of the conterminous United States
- A prototype national database has been populated with age and lithologic information for California, Nevada, and Utah
- Preliminary digital geologic maps have been published for 58 1:250,000-scale quadrangles in Alaska

Geophysical Datasets
Goal:
- Provide the best possible gravity, aeromagnetic, and seismotectonic databases for all 50 States
- Fill in existing gaps in geophysical coverage in Alaska, as appropriate to related studies

Status:
- Geophysical coverages for one quarter of the States are available on the Internet to date
- An updated gravity dataset and a new gravity map for the conterminous United States is being prepared
- Aeromagnetic data for entire U.S. have been published
- New aeromagnetic map for conterminous United States is being prepared
Geochemical Datasets

**Goal:**
- Provide a national stream-sediment and soil geochemical database for all 50 States.
- Include toxic elements, such as arsenic, selenium, and mercury, in the national geochemical dataset.

**Status:**
- To date, 35,000 samples have been analyzed for 42 elements including arsenic, selenium, and mercury.
- Data from new stream-sediment sampling in Alabama, Mississippi, Georgia, North Carolina, Louisiana, Michigan, and Alaska are being incorporated into the dataset.

---

Mineral Occurrence Datasets

**Goal:**
- Accurately locate all known mineral resources of the United States.
- Provide an updated database of all known metallic mineral occurrences in Alaska and Hawaii.
- Develop comprehensive records for significant deposits.

**Status:**
- About one third of the States have updated the Mineral Resources Data System (MRDS) records in the last few years.
- Cooperative agreements have been established with State agencies to update records of significant deposits.

For more information contact:

**Eastern U.S.**
Suzanne W. Nicholson
U.S. Geological Survey
National Center, MS 934
Reston, VA 20192
703-487-8346
swnicol@usgs.gov

**Central U.S.**
Douglas R. Scooper
U.S. Geological Survey
DNRC, PO Box 25046, MS 905
Denver, CO 80225
303-236-9017
dascooper@usgs.gov

**Western U.S.**
Stephen D. Ladlington
U.S. Geological Survey, MS 901
345 Middlefield Road
Menlo Park, CA 94025
650-328-8371
sladlington@usgs.gov

**Alaska and Hawaii**
Frederic H. Wilson
U.S. Geological Survey
6200 University Drive
Anchorage, AK 99504
907-786-6484
fwillson@usgs.gov

Data published through this effort are available at http://serdata.usgs.gov