

# 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 earth 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, resource, and environmental issues.

Four types of digital databases (geological, geophysical, geochemical, and mineral occurrence) 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 produced 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 to ongoing basic research, such as the identification of mineral deposit origins, determination 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 completed 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 make geologic, geophysical, geochemical, and mineral occurrence 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 map databases for all States, in collaboration with many State geologic 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 relational database has been populated with age and lithologic information for California, Nevada, and Utah
- Preliminary digital geologic maps have been published for 38 1:250,000-scale quadrangles in Alaska

### Geophysical Datasets

#### **Goal:**

- Provide the best possible gravity, aeromagnetic, and aeroradiometric 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
- Aeroradiometric 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, Florida, 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:**

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Data published through this effort are available at <http://mrddata.usgs.gov>

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