

BACKGROUND

The U.S. Geological Survey (USGS) Earth Resources Observation Systems (EROS) Data Center holds one of the world's largest collections of images of the Earth's land surface. EROS staff manage and distribute these data, acquired by civilian satellites and aircraft, to scientists, policy makers, educators, and the general public worldwide. These data are used to study a wide range of natural hazards, global environmental change, and economic development and conservation issues.

History

The U.S. Department of the Interior created EROS in 1966 as a program of the USGS aimed at gathering facts about the natural resources of the Earth using earth-orbiting satellites. USGS officials chose Sioux Falls as the site for the EROS Data Center because of its central location in the United States.

National Archive

EROS is home to the National Satellite Land Remote Sensing Data Archive. This Archive is an immense storehouse of land remote sensing data which provide an impartial record of the planet's land surface. EROS staff take care of:

- more than 4 million images acquired by several series of satellites
- more than 8 million photos taken by cameras aboard aircraft

Customers

EROS has a wide range of customers – from the farmer in Nebraska who wants an aerial photo of his land to the global change scientist in Nairobi, Kenya who seeks elevation data.

Applications

Earth scientists, land managers, planners, and decision makers use data from EROS to inventory, model, and monitor the changing conditions on the Earth's surface. EROS data are used to study:

- types of vegetation
- tree canopies
- wildlife habitats
- how farmers and ranchers can improve their land
- the growth of cities and towns
- damages caused by fires, volcanoes, floods, and storms



- snowpack for water supply or flood potential
- irrigation potential
- climate effects
- global environmental change
- changes along shorelines
- the levels of lakes
- the conditions of grasses, shrubs, and timber as wildfire fuels

Research

EROS scientists work closely with colleagues within USGS and staff at other government and international agencies to study a variety of earth science issues. EROS staff routinely contribute to studies ranging from the potential danger of summer wildfires to spring floods. A major program now under development at EROS is the multi-resolution land characteristics monitoring system. Data featured in this system allow scientists to look at land surface phenomena in new ways. Understanding how features on the land (vegetation type, surface water, urban areas) interact with the atmosphere may help meteorologists improve long-range weather forecasts.

Down the Road

EROS staff will continue to safeguard and expand the world's largest civilian archive of remotely sensed land data, stay current with earth system science and technologies, supply scientists, businesses and decision makers with earth information, and promote new uses and new understanding of remotely sensed data so others can better understand the Earth.

Downloads and reference material

USGS:

<http://www.usgs.gov>

EROS Data Center:

<http://edc.usgs.gov>

National Archive:

<http://edc.usgs.gov/programs/NSLRSDA.html>

Data Access via Earth Explorer:

<http://earthexplorer.usgs.gov>

Contact

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