EROS

A Space Program for Earth Resources

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

U. S. Department of the Interior
Geological Survey

USGS: INF–74–22

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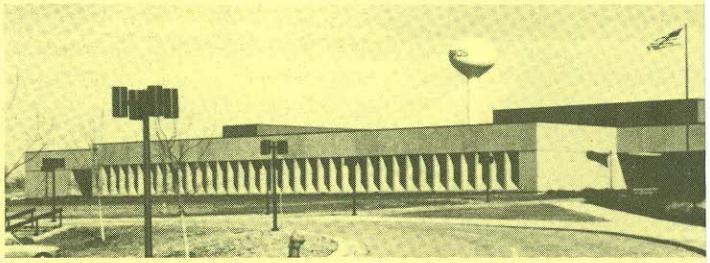
Within the technology of the space age lies a key to increased knowledge about the resources and environment of the Earth. This key is remote sensing—detecting the nature of an object without actually touching it. Although the photographic camera is the most familiar remote-sensing device, there are also other instrument systems, such as scanning radiometers and radar, that can produce photographs and images.

On the basis of the potential of this technology, and in response to the critical need for greater knowledge of the Earth and its resources, the Department of the Interior established the Earth Resources Observation Systems (EROS) Program to gather and use remotely sensed data collected by satellite and aircraft of natural and manmade features on the Earth's surface.

The EROS Program, administered by the U. S. Geological Survey, works with representatives of departmental bureaus and offices to coordinate research and application of remote-sensing technology to the day-to-day operations of the department. Most of the research and applications have been made possible by the experimental data acquisition systems of the National Aeronautics and Space Administration (NASA). In particular, the EROS Program uses data from the Earth Resources Technology Satellite (ERTS), from the Earth Resources Experiment Package (EREP) of Skylab, and from NASA's Aircraft Program.

The potential application of remote-sensing techniques for inventorying and managing the Nation's Earth resources and monitoring our environment has been demonstrated in many ways. ERTS imagery, because of its synoptic coverage, has, for example, identified previously unmapped geologic structures as targets for exploration for oil, gas, copper, and other minerals, and



is being used to inventory water impoundment areas. The repetitive coverage of satellite data provides information for land-use planning with a timeliness not previously possible. The capability of detecting changes in land use has proved effective in monitoring strip mining and reclamation of strip mines and will be useful for gaging the environmental impact of the construction of the Alaskan pipeline. It is also used for evaluating range conditions over vast areas of the

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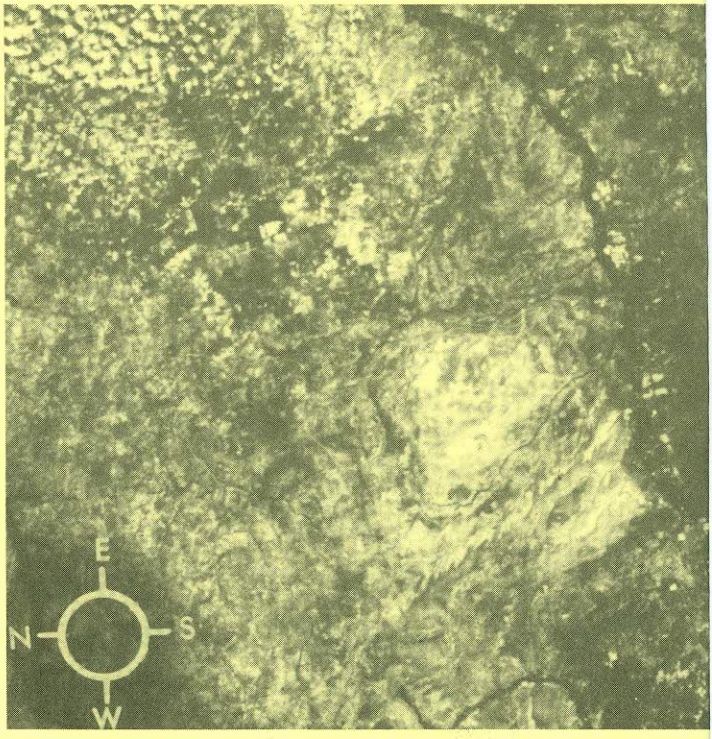

Mosaic of ERTS imagery of parts of Wyoming and Montana.