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# Meet Your EARTHWATCHING TASK FORCE

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**Left**, near Seward, the drilling of a test hole, one of the state's 3,500. Photos by Jay Fussell.

## Meet Your EARTHWATCH

By Jay Fussell

Someone once commented that in making any decision, it never hurts to have the facts.

And digging up the facts about Nebraska's natural resources is what makes the Conservation and Survey Division your earthwatching task force, a task force whose gauges, meters, recording equipment, and staff are monitoring various parts of Nebraska's natural resources on a round-the-clock basis.

Your team of earthwatchers has been at its task of collecting natural resources information for more than half a century. The results of its many surveys, investigations, and research projects are shared with all Nebraskans.

Such investigations provide basic information about Nebraska's natural resources to political leaders, scholars, businessmen, and interested citizens—all toward the end of furnishing accurate, up-to-date information useful in development, management, and conservation of the state's natural resources.

In a season of perennial shortages, when new values are placed on energy and food, it takes less than a clairvoyant to see the growing importance of Nebraska's agriculture on the world scene and to realize that the state's agriculture is in turn built on a base of natural resources.

The truly remarkable thing is not that this vision has been granted to modern citizens but

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**Right,** Robert Hansen, basic-data supervisor, takes a reading from a recorder well at the Field Laboratory at Mead.



## ING TASK FORCE

rather than farsighted statesmen in Nebraska looked ahead to this day back in 1921. For it was then, in a state barely 54 years old, that the Nebraska State Legislature saw the need for keeping a running inventory of the state's natural resources.

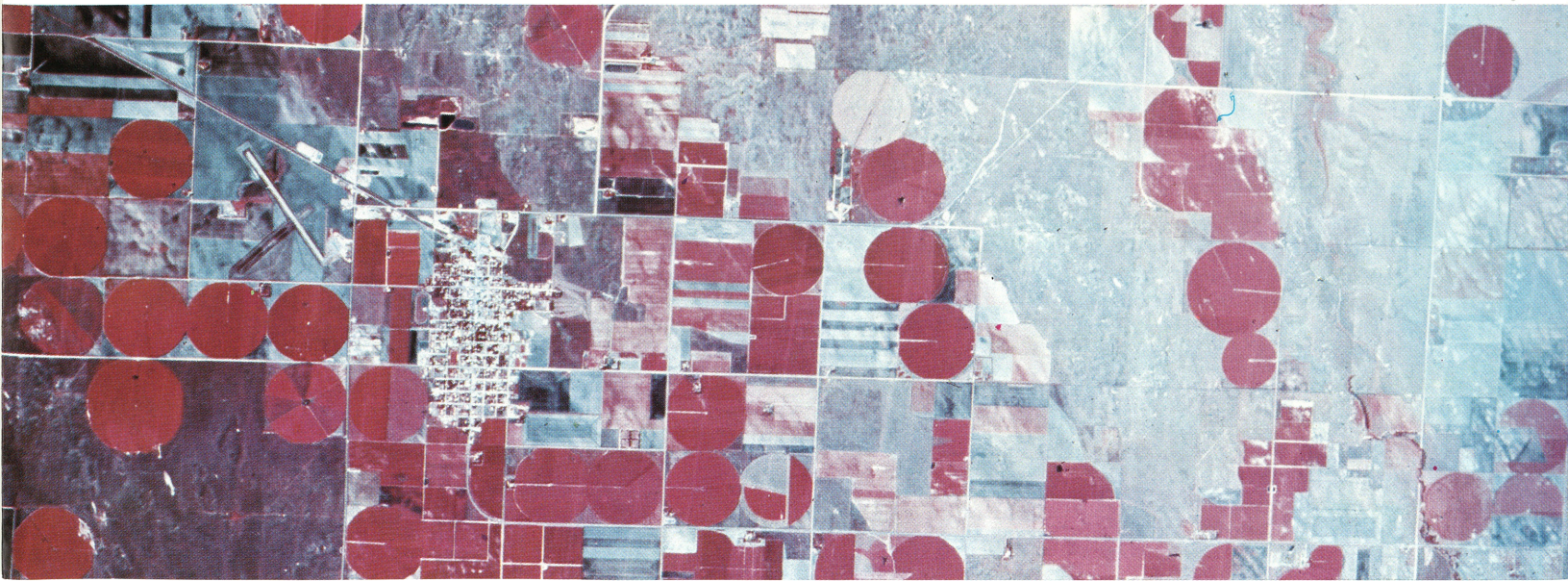
The Conservation and Survey Division was established and lodged administratively in the University of Nebraska:

- to investigate and record information about the geologically related natural resources of the state;
- to inventory, analyze, and evaluate the groundwater supplies of the state;
- to investigate and analyze the mineral and rock deposits of the state;
- to assist public, private, and government agencies working to conserve our natural resources;
- to study the geologic history of the state as an aid to growth and economic development;

*(continued on next page)*



**Above,** Research Geologist Duane Eversoll in a limestone quarry. **Below,** city of Imperial and center pivots on color infrared photograph.





## Earthwatching . . .

- to publish maps and reports about these activities.

The Conservation and Survey Division has developed a data base for a variety of natural resources in Nebraska. It provides, on the basis of geologic and natural resources surveys, information on water availability, water quality, soils and their uses, weather, mineral resources including oil and gas, and other geologic data.

In addition, the Conservation and Survey Division is a repository for samples and cores, geophysical logs, and other geologic information from approximately 12,000 deep wells drilled for oil and gas by private industry. These geologic records constitute an important part of the resource base of the Division. They are used by staff geologists in basic research projects and are frequently consulted by drillers, land owners, geologists, and others representing the private sector.

### Groundwater Studies

In 1931 this agency in cooperation with the U.S. Geological Survey began a program to study the groundwater resources of the state. This led to a program of drilling test holes throughout the state in order to gather information about groundwater supplies, mineral deposits, water levels, soil composition, rock structure, irrigation possibilities, and many other geologic matters of practical importance. Approximately 3,500 test holes have been drilled in the state since that time, putting Nebraska among the national leaders in this undertaking.

While some staffers are gathering geologic information from depths as great as 10,000 feet, others are collecting data from the first Earth Resources Technology Satellite (ERTS-1) orbiting around 565 miles above our heads. From the new Remote Sensing Center comes information that enables staff members to inventory such things as the state's center pivots, wetlands, land use activities, and fault lines important in the siting

of dams, nuclear power plants, and other large structures.

In a cooperative water program with the U.S. Geological Survey, staffers help to collect 10,000 water-level readings throughout Nebraska annually.

Soil surveys undertaken cooperatively with the Soil Conservation Service of the U.S. Department of Agriculture have been prepared in modern format for approximately half the state, with plans for completing the job for all 93 counties as soon as possible, hopefully within a decade.

*Nearly a  
century of daily  
weather records  
kept by  
climatologists.*

In the climatology office, where records go back to 1878, weather data are collected 24 hours each day to furnish today's scientists, farmers, and businessmen with weather information needed for estimating building periods in new construction, in projecting planting and harvesting times for crops, in wildlife management, in tree-planting programs, and in many other practical endeavors.

Groundwater development and management, county soil surveys, and land use inventory are examples of current programs in which the newly created Natural Resources Districts have an active interest and work cooperatively with the Conservation and Survey Division.

Computer modeling of groundwater supplies and the inventorying of natural resources through the use of satellite imagery in the Remote Sensing Center are current program uses for new data-handling tools.

"People from our Division have set foot on just about every piece of property in the state," says Vincent H. Dreeszen, Director and State Geologist.

Because the welfare of Nebraska rests largely on an agricultural economy which in turn is built on a base of natural resources, the state legislature voted in 1973 to make the Conservation and Survey Division one of the units of the newly created Institute of Agriculture and Natural Resources. It is thus strengthened administratively within the University context and, in terms of services rendered, throughout the state.

"We try to satisfy all inquiries," says Director Dreeszen. His constant admonition to his staff is: Be honest with the data. At times this leads staff members to an overkill in assembling information. But, comments Dreeszen, this is preferable to making a mistake that could be costly to the citizens of the state.

"The biggest measure of our success," he says, "is that we seldom hear about the results of our recommendations." And as State Geologist, he knows that if he or his staff should make a mistake, they would certainly hear about it. So the absence of feedback is possibly one of the greatest compliments paid these earthwatchers.

The information bureau of the Conservation and Survey Division publishes resource reports, survey papers, reports of investigations, open-file reports, bulletins, maps, atlases, educational circulars, guidebooks, flyers, audio-visual aids, articles, and news releases.

### Answers to Questions

These complement the personal counseling services and educational program consultations that research the needs and queries originating from individuals and groups. All Nebraskans who have natural resources questions are invited to visit, call, or write the Conservation and Survey Division at 113 Nebraska Hall on the campus of the University of Nebraska-Lincoln or at the University of Nebraska's Panhandle Station, 4502 Avenue I, in Scottsbluff.

"Your questions don't have to be earth-shaking," points out Dr. Marvin P. Carlson, assistant director, adding, "although we do have data on earthquakes too." □