

turning increasingly to Baker's group for advice on scientific matters. The NATIONAL JOURNAL quoted Baker at the time as saying, "There is a need for someone to serve as an interface between Washington and the scientific community." Baker said the council scientists would "nominally report through NSF but actually will consider themselves White House advisers," dealing with such matters as energy, environment and transportation.

Before the Congressional committee, Baker spoke with authority, usually saying "we decided" when speaking of Administration science policy. The shift from OST to NSF, he said, was only part of a broader program to move Federal science policy away from "performance systems" (geared to solve only specific, narrowly defined problems such as developing weapons) to "economic systems" (in which free-enterprise dictates which projects are to be pursued). "A quite different strategy of research and development is necessary—one that is close to what has been developed in private industry."

The whole scientific community must become committed to decision-making on a "free-will, free-market basis." Gone are the days of the 60's with their "widespread illusion" that society would support "research and development as ends in themselves, as the cultivation of science as a kind of new national sport."

The committee did not determine to what extent these views were indeed those of President Nixon, nor to what extent Baker and other members of the re-election council influence Administration science policy. But in light of Baker's outspokenly critical views on the Environmental Protection Agency and his ideas on overhauling the Administration's science policy apparatus, the question of his influence vitally affects the scientific community. □

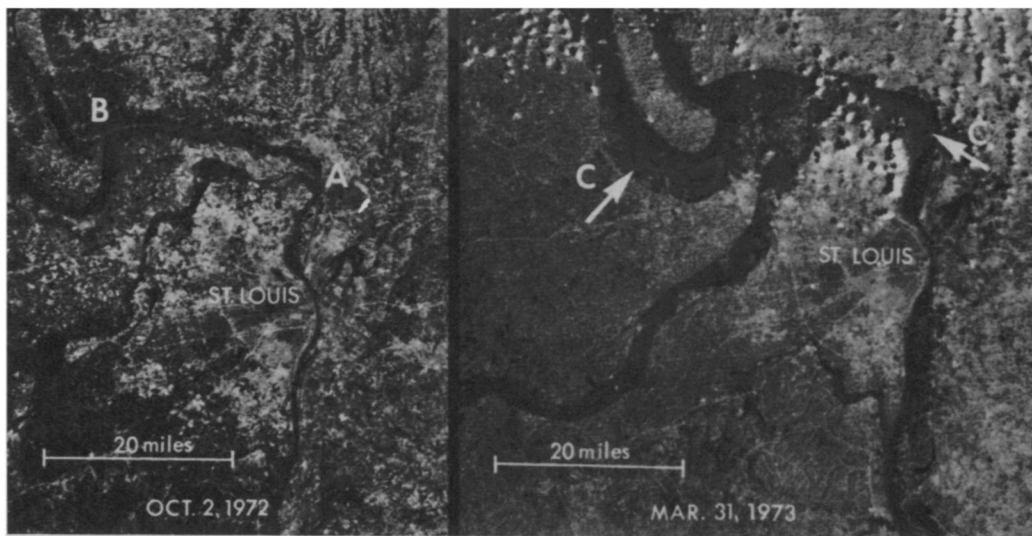
One year and 70,000 photos in space

The Earth Resources Technology Satellite is one year old this week.

Launched July 23, 1972, ERTS (SN: 6/24/72, p. 408 and 3/31/73, p. 214) has orbited the earth more than 5,000 times and produced more than 70,000 images of three-fourths the earth's surface, including all of the land mass of the United States. Three hundred investigators in the United States and 38 foreign countries are using the imagery.

At a conference this week in Philadelphia sponsored by the builders of the spacecraft (General Electric Co.'s Space Division) scientists and managers reviewed the results of this first year of earth observation from space.

July 28, 1973



NASA

Space view: The Illinois, Missouri and Mississippi rivers before and after flood.

"During its first year in orbit, ERTS has produced a wealth of scientific data that have exceeded our most ambitious prelaunch expectations," says Daniel J. Fink, GE vice president.

"We know of nothing we hoped or expected to see that we haven't seen," says John DeNoyer, head of the Department of the Interior's earth observation program. "Only the skeptics have been surprised by ERTS."

The accomplishments of the ERTS system over the past year tend to support these accolades.

For the first time, geologists and hydrologists have a complete overview of a flood: the Mississippi River and its tributaries before, during and after the disastrous spring floods this year. Since the spacecraft passes over the same area of earth every 18 days, scientists get a repetitive coverage that allows them to detect changes. They were able to make very accurate "automatic maps" of the flooded areas from the imagery, says DeNoyer. The photos were used in evaluating flood insurance claims. The government has used the photos to determine the impact of the floods on agriculture and the best methods of flood control.

The spacecraft photos allowed the entire state of Rhode Island to be divided into 11 land-use categories with 90 percent accuracy. Officials of Los Angeles County were able to differentiate high-, middle- and low-income residential areas. Synoptic views of large areas, such as the state of Alaska, could be assembled with "scissors and Scotch tape." It takes six months to produce equivalent information by normal means, according to William Nordberg of NASA.

A map of the Eastern Seaboard from New York to Virginia was made with nine ERTS images. At least 100,000 images would be required to prepare the same map with conventional aircraft.

Cropland in southern California af-

flicted with the cotton bollworm is being monitored by ERTS to ensure compliance with state regulations for dealing with diseased crops.

New faults, fractures and other geological features associated with mineral and petroleum deposits, as well as results of movements of the earth's crust, have been identified. South Africans have found features in their country resembling features present in the nickel-rich areas of Canada. As a result, new South African mining activities are expected to begin soon.

Three "utterly striking" examples of plate tectonics features can actually be seen on the imagery in the Himalayas, Alps and Alaska, says Nordberg.

ERTS also revealed a line that extends all the way from California to Canada. The line could be related to a previous episode of plate movements. Now the geologists are wondering if that line intersects somewhere another long line that begins in the Yukon and extends to that area of Canada.

ERTS imagery is going to court. A Vermont scientist has traced a pollution plume in Vermont waters to a paper mill in Ft. Ticonderoga, N.Y. The picture has been submitted, along with a NASA affidavit, to Vermont's attorney general as evidence in court. □

The Calico controversy: Artifacts or geofacts?

The oldest proposed evidence of human habitation of the New World exists in the form of several hundred flint-like rocks collected in the foothills of the Calico Mountains near Yermo, Calif. Louis Leakey and Ruth Dee Simpson exhibited the chipped stones as tools made by early Americans. Geological evidence, they said, dated the stones and the site at between 50,000 and 100,000 years old (SN: 11/7/70, p. 364). But since this theory was first put forward, a number of