

## USDA Issues Satellite Maps

The first cloud-free maps of the United States based on imagery received from a satellite are now being prepared and released to the public by the Soil Conservation Service (SCS), U.S. Department of Agriculture.

They will provide planners and others with an unparalleled overview of the physical features and natural resources of the nation.

The maps, technically known as "mosaics," offer the first image of this country not obscured by clouds and distortions.

The maps are being made by SCS under contract with the National Aeronautics and Space Administration (NASA) from images sent back to earth by the ERTS-1 (Earth Resources Technology Satellite). The satellite obtained the images by scanning the earth 565 miles below with sensing devices which measure reflectance in four different bands of the spectrum.

SCS selected images from two of these bands—the red and infra-red—to construct four mosaics of the United States. Two mosaics show summer imagery and two show winter. The images obtained from the satellite in its passes over the earth are selected and blended to obtain cloud-free "pictures." Proportions are adjusted by SCS mosaic-makers to conform to a standard map projection.

The resulting mosaics provide a view of earth features of this country from a perspective never before possible. Clearly visible are mountains, lakes, reservoirs, rivers and their tributaries, and geologic features such as faults and escarpments. Vegetation, or the lack of it, shows more clearly

on the mosaics made from the red band imagery. Water and drainage patterns are clearer on those from the infra-red band.

"It is possible to see the United States as even the astronauts never saw it," said William M. Johnson, deputy SCS administrator for soil survey, "since the view from space is always partially obscured by clouds. The Soil Conservation Service will use the new mosaics as base maps for showing the location of soils on a statewide and regional basis, and many other public and private map-makers are going to find them equally valuable."

Mr. Johnson said he also expected the mosaics to be used by scientists concerned with conservation and the environment; geographers; land and water resource planners; geologists; foresters; and teachers at all levels.

"These are the most informative base maps that SCS has ever had," the soil scientist pointed out. "All the land features are there—if you know how to read them—and, more importantly, they are there in proper spatial relationship to one another."

Three basic sets of the 48 contiguous states are being released: at a scale of 1 to 5,000,000, there is a set of six 20-by-24 inch sheets; at 1 to 1,000,000 there are sets of 17 large sheets or 54 smaller sheets. Other scales will be available from enlargements of these. A separate series of

Alaskan maps will be available in infra-red summer imagery only. Hawaii will not be available.

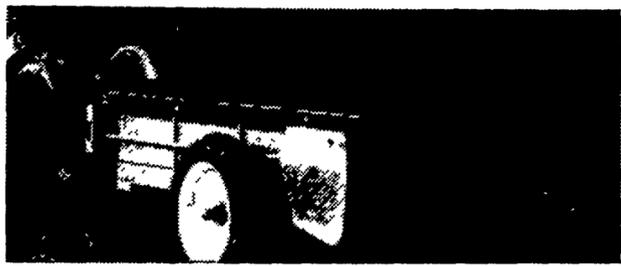
The maps are highly accurate. The maximum locational error of any feature shown on the mosaics should be one mile—approximately 1-16th of an inch on a map of the U.S. that measures 10 feet by 20 feet.

Sheets of the summer mosaics are now available for the West Coast, Rocky Mountain, and Great Plains states. Sheets showing the Mid-East, the Atlantic Coast, and New England will all be available by April 1st.

The 1:5,000,000 six-sheet mosaic is being sold for \$7.50 a sheet. The 17-sheet 1:1,000,000 set will be sold for a total of \$285, and the 54-sheet set of the same scale will be sold for \$405. Orders or requests for information should be directed to the Cartographic Division, Soil Conservation Service, Federal Center Building No. 1, Hyattsville, Maryland 20782. Check, money order, or draft should be made payable to the Soil Conservation Service, USDA.



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