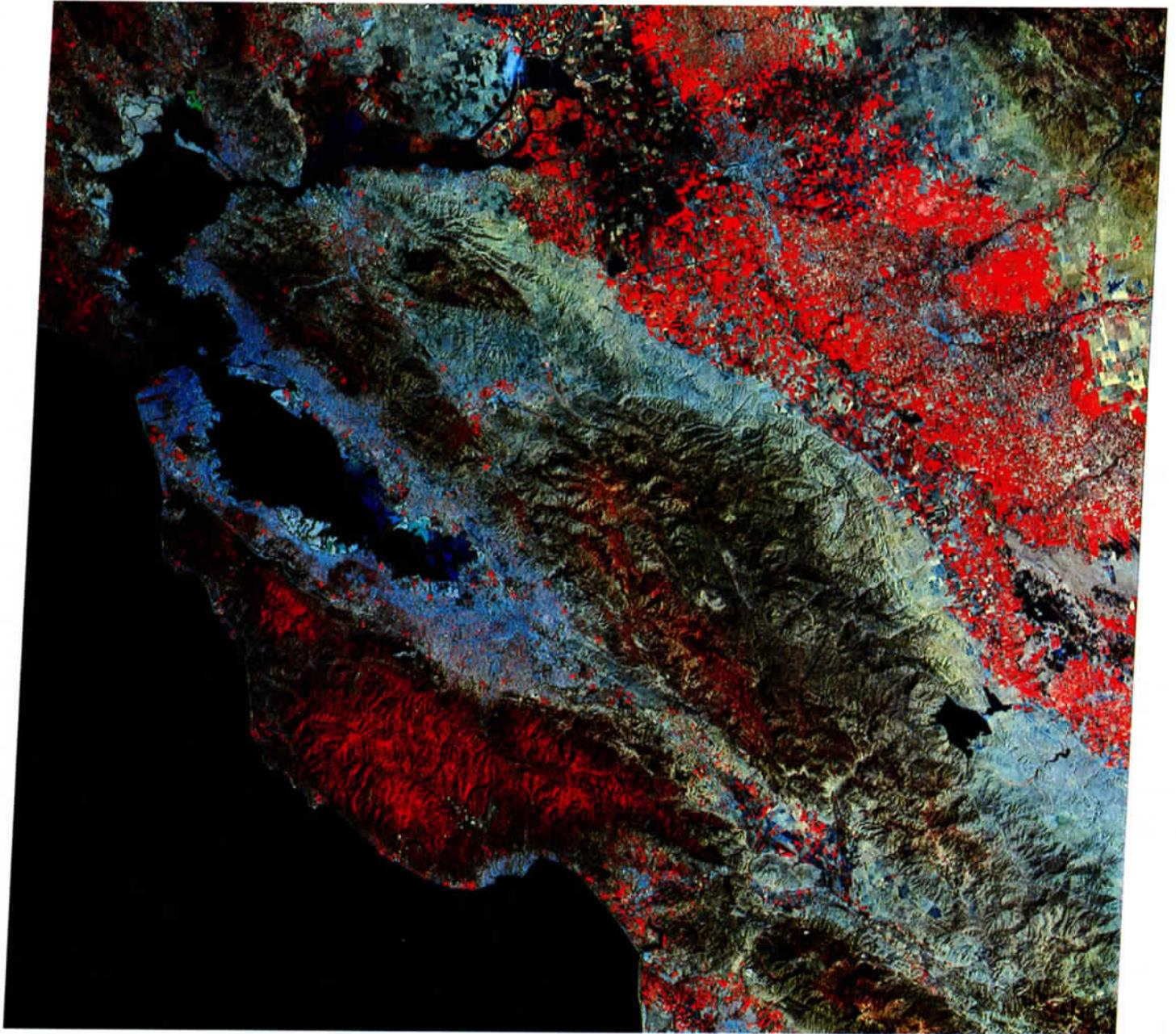


San Francisco Bay Area



06OCT72 C N37-29/W121-44 USGS-EDC N N37-27/W121-38 D SUN EL41 AZ146

NASA LANDSAT E-1075-18173

Scale: 1:1,000,000

THE EROS OFFICE of the U.S. DEPARTMENT OF THE INTERIOR

The Earth Resources Observation Systems (EROS) Office, administered by the U.S. Geological Survey for the U.S. Department of the Interior, was established in 1966 to apply remote-sensing techniques (detecting the nature of an object from a distance by recording and measuring the electromagnetic radiation energy reflected or emitted from it) to the inventory, monitoring, and management of Earth resources.

The EROS Data Center, 16 miles northeast of Sioux Falls, South Dakota, is operated by the EROS Office to provide access to remotely sensed data of the Earth's surface and to provide user assistance and training in the applications of these data to the study of natural resources and the environment. Products processed at the EROS Data Center include aerial photography obtained for the Department of the Interior; photography and imagery acquired by NASA research aircraft and the Skylab, Apollo, and Gemini spacecraft; and imagery acquired by Landsat satellites.

All products of the Data Center are available for purchase by individuals, private industry, and government agencies from any country in the world.

Each of the unmanned Landsats circles the Earth every 103 minutes at an altitude of 570 miles (920 km), and repeats its orbital path every 18 days, thus providing repetitive coverage of almost the entire globe.

A multispectral scanner (MSS) is the primary imaging system on each Landsat. It acquires images of areas of 115 miles (185 km) per side in four spectral bands in the visible and near-infrared part of the electromagnetic energy spectrum; in effect, the Earth is viewed as four different colors.

Data transmitted by the spacecraft to NASA ground receiving stations are subsequently sent to the EROS Data Center, through the NASA Goddard Space Flight Center, via domestic communication satellite. They are converted to images at the EROS Data Center for reproduction and sale to users throughout the world.

A Landsat MSS scene is available as four black and white photos, one for each spectral band. Each band has unique informational attributes for resource applications. Color composites can be produced by combined processing of more than one black and white band through color filters onto color film. A

standard Landsat color composite has the characteristics of color-infrared photography. Growing vegetation appears red, with variations in the red tones indicating different plant species, stages of growth or harvest, or relative health of the vegetation. Clear water appears black. Sediment-laden water is light blue. Cities appear blue or blue-gray and are bright because of the reflection from concrete and asphalt.

Scientists and resource managers throughout the world are gaining new knowledge about the Earth's resources and the environment from Landsat data. Analyses of the data have provided practical applications in agriculture and forest inventory for disease detection, land-use classification, planning, mapping, environmental studies, identification of geologic structures and associated deposits of minerals and mineral fuels, and monitoring of natural disasters.

Guidance in the use of remotely sensed data is available from the EROS Data Center in the form of periodically scheduled training courses and workshops. Information regarding the cost and availability of the data and training activities may be obtained from:

EROS Data Center
U.S. Geological Survey
Sioux Falls, SD 57198
Phone: (605) 594-6511
FTS: 784-7151

Landsat Image of San Francisco Bay Area, California

The image on the reverse side of this sheet is an example of images available for all areas of the United States and most of the land areas of the world and is a standard color composite of bands 4, 5, and 7 of Landsat scene AQ810751817350001, San Francisco Bay area and vicinity. The scene is 115 miles by 115 miles (185 km by 185 km) and includes the entire width of the San Joaquin Valley and a portion of the Sierra Nevada foothills in the upper right-hand corner. The checkerboard cultivation pattern in the San Joaquin Valley is readily apparent; bright red squares and rectangles represent growing vegetation, while dark blue, green, and olive drab areas represent fallow fields. The heavily forested areas of the Santa Cruz Mountains (bright red) contrast sharply with the more sparsely vegetated Diablo Mountains. The San Andreas Fault appears as a line extending southeast from the southern part of San Francisco.

