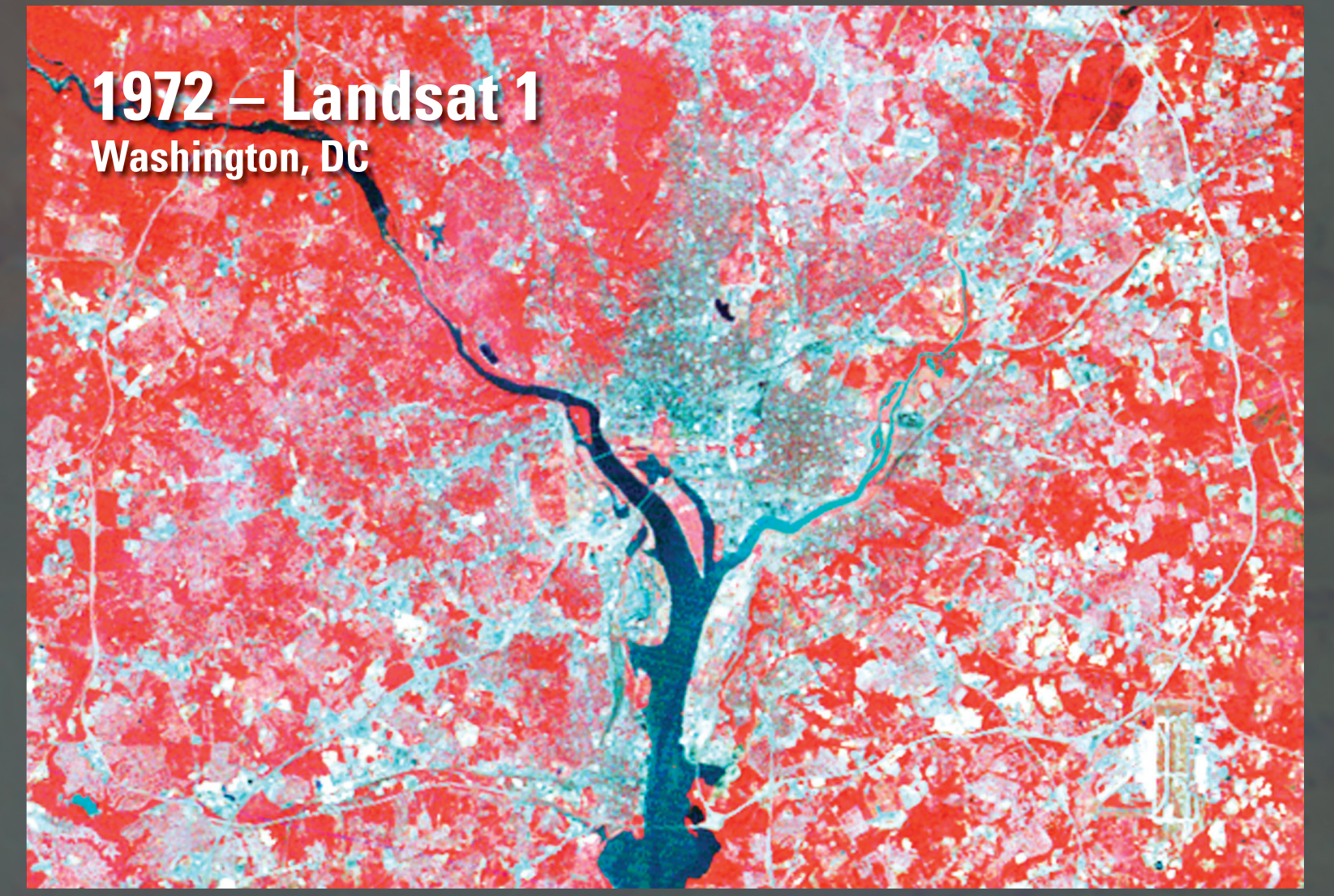
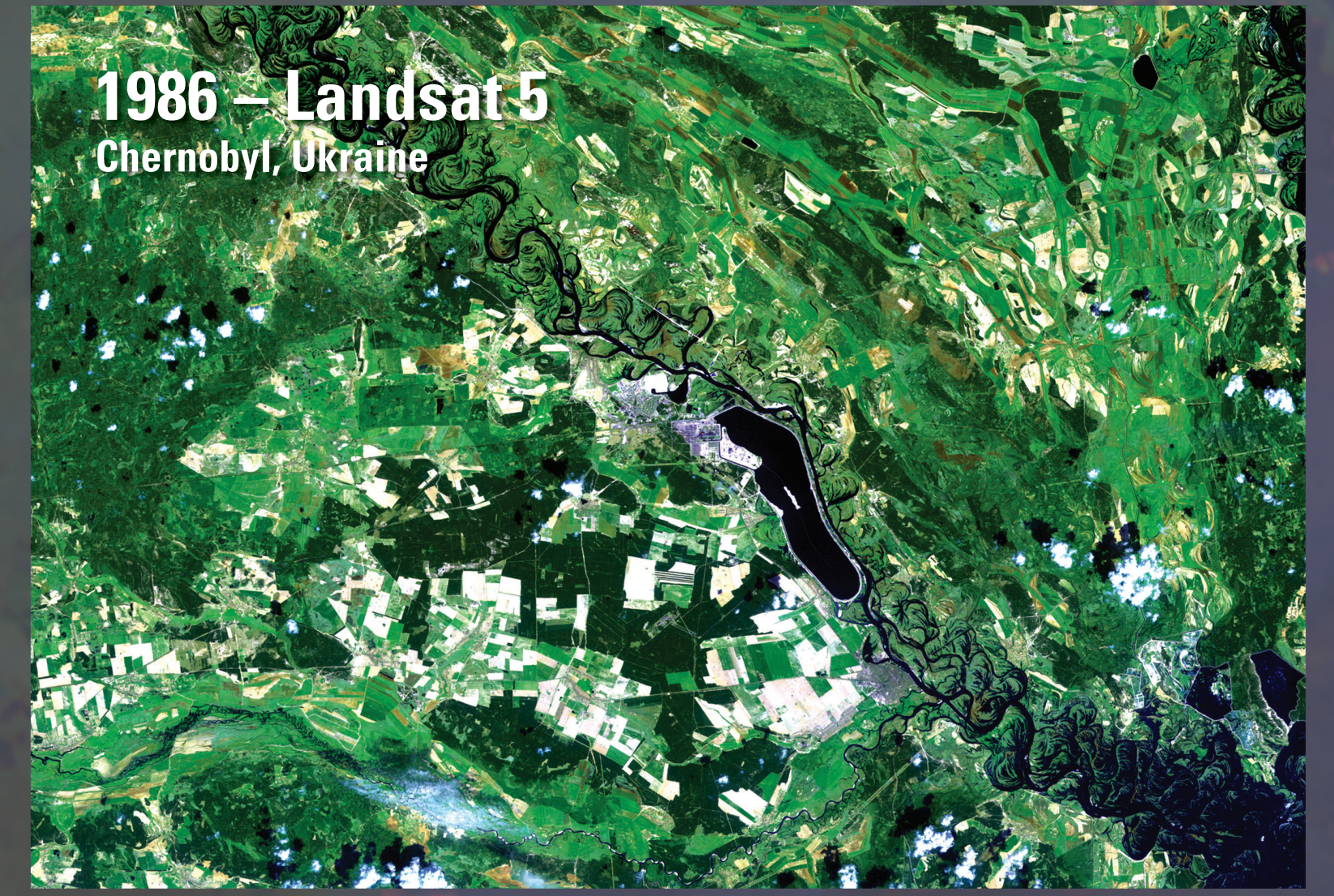
Landsat: Earth Observation from Space

The Landsat Program is a long-term series of satellite missions managed jointly by the U.S. Geological Survey and NASA. Since 1972, Landsat satellites have been orbiting Earth, acquiring millions of digital images of its continents, islands, and coastlines.

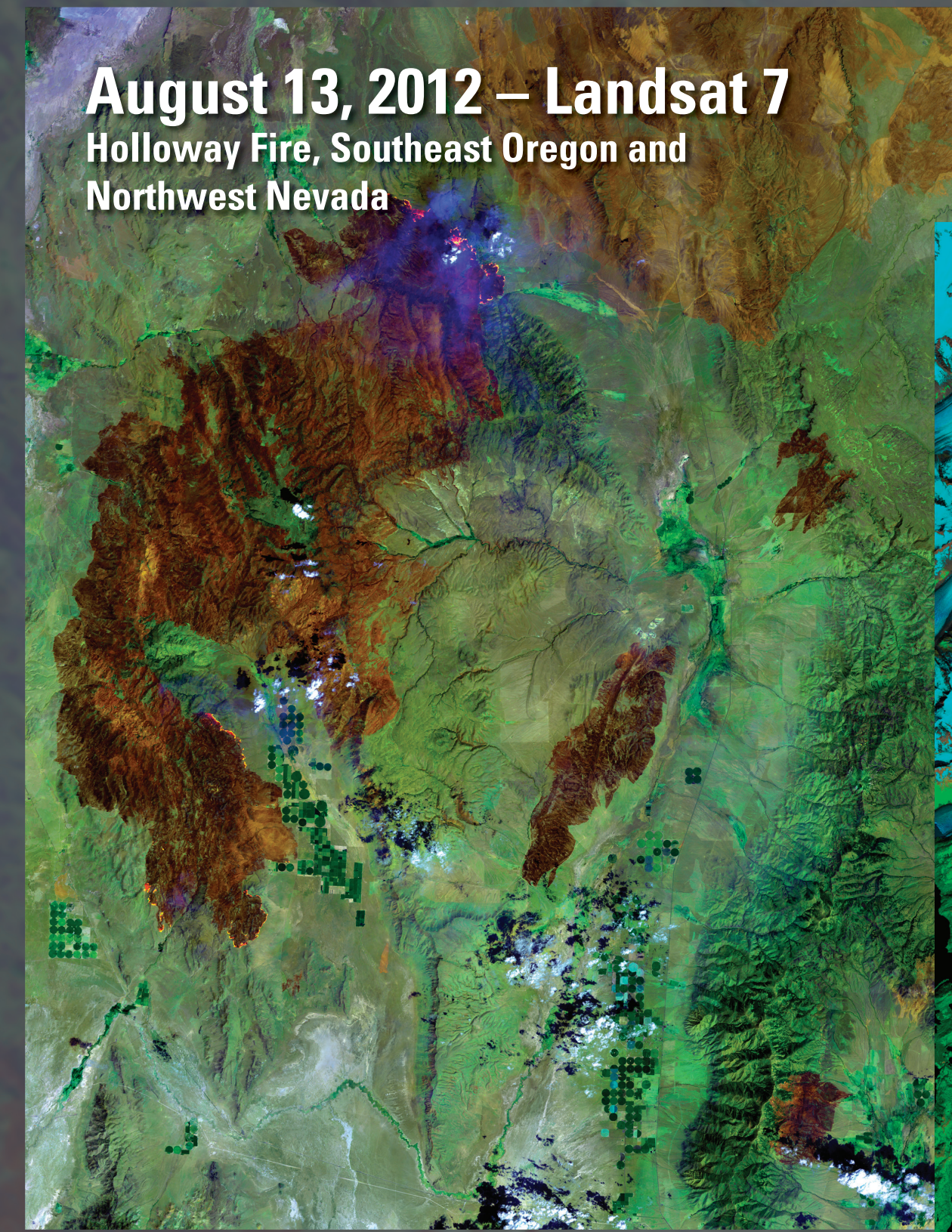

1972 – Landsat 1
Washington, DC

One of the first images taken by Landsat 1 was of our Nation's capital.

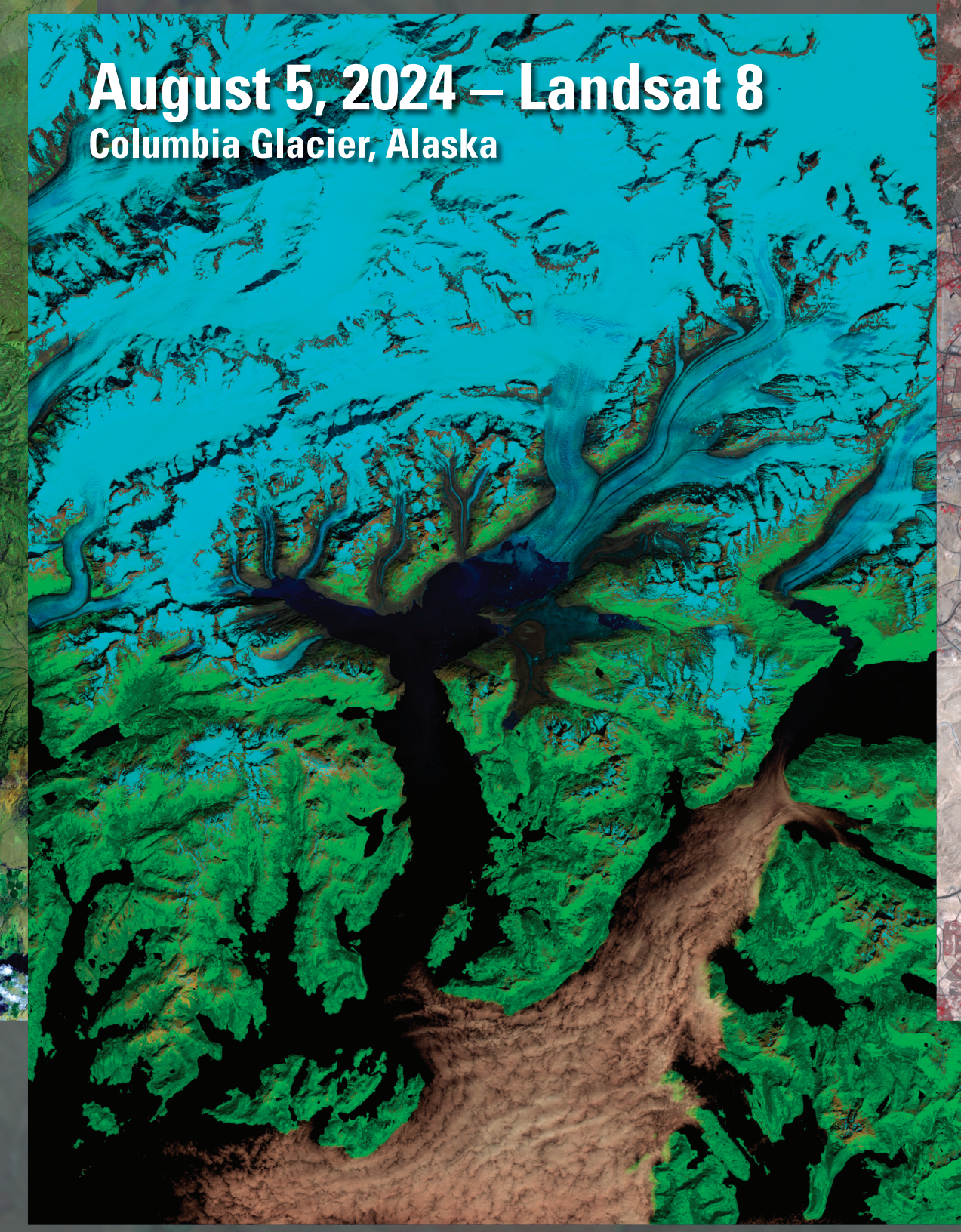

1986 – Landsat 5
Chernobyl, Ukraine

Landsat 5 captured some of the earliest satellite views of Chernobyl following its nuclear power plant disaster.

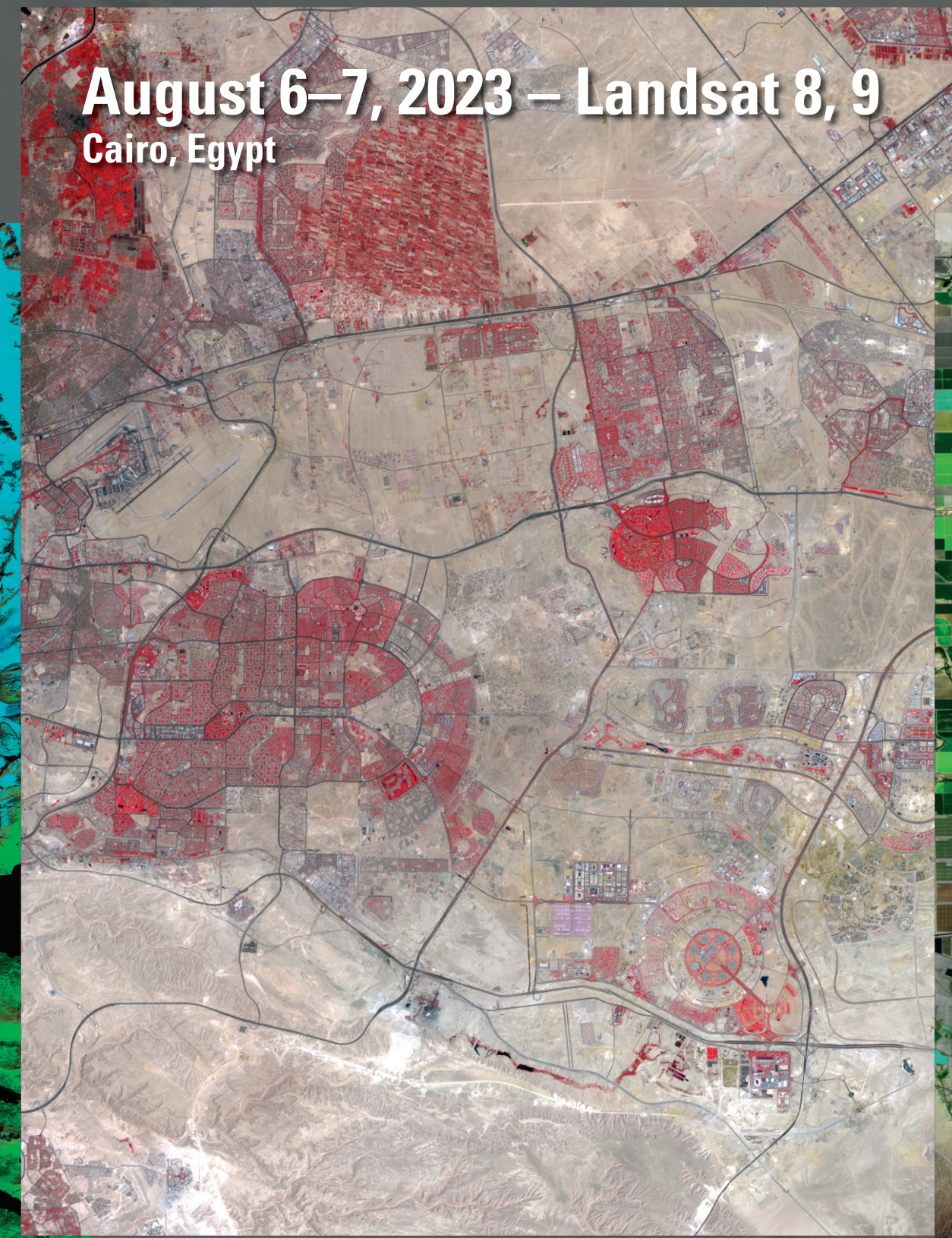
Landsat images make it possible to see and study a wide variety of Earth's features. The images play an important role in fields such as forestry, geology, mapping, and agriculture. Landsat images are also indispensable tools for assessing damage from natural disasters and planning effective relief and restoration programs.


August 13, 2012 – Landsat 7
Holloway Fire, Southeast Oregon and Northwest Nevada

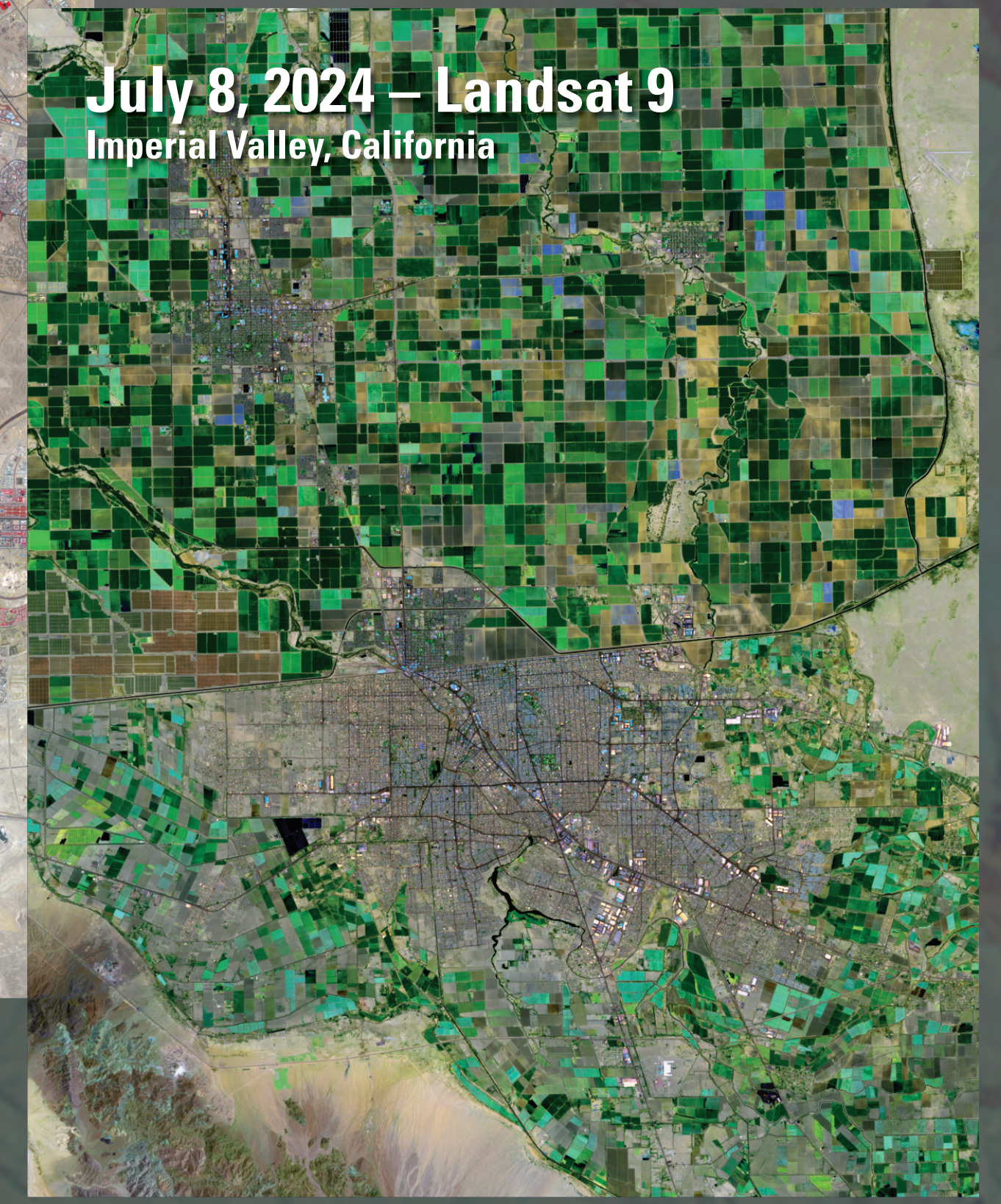
The Holloway Fire of August 2012 ravaged more than 700 square miles of land. Landsat captured two bright red spots where fires were still burning. The blue haze in the image is smoke, and the rusty colored acres across the image are burn scars left on the landscape.


August 5, 2024 – Landsat 8
Columbia Glacier, Alaska

Columbia Glacier in southern Alaska has receded 20 kilometers since 1980. Snow and ice appear blue, vegetation is green, open water is dark, and exposed bedrock is brown.


August 6–7, 2023 – Landsat 8, 9
Cairo, Egypt

Cairo is the capital city of Egypt. Red in this satellite image shows healthy vegetation against the dry desert African landscape. In the lower right corner of this image, the circular area shows the location of a new administrative capital region.

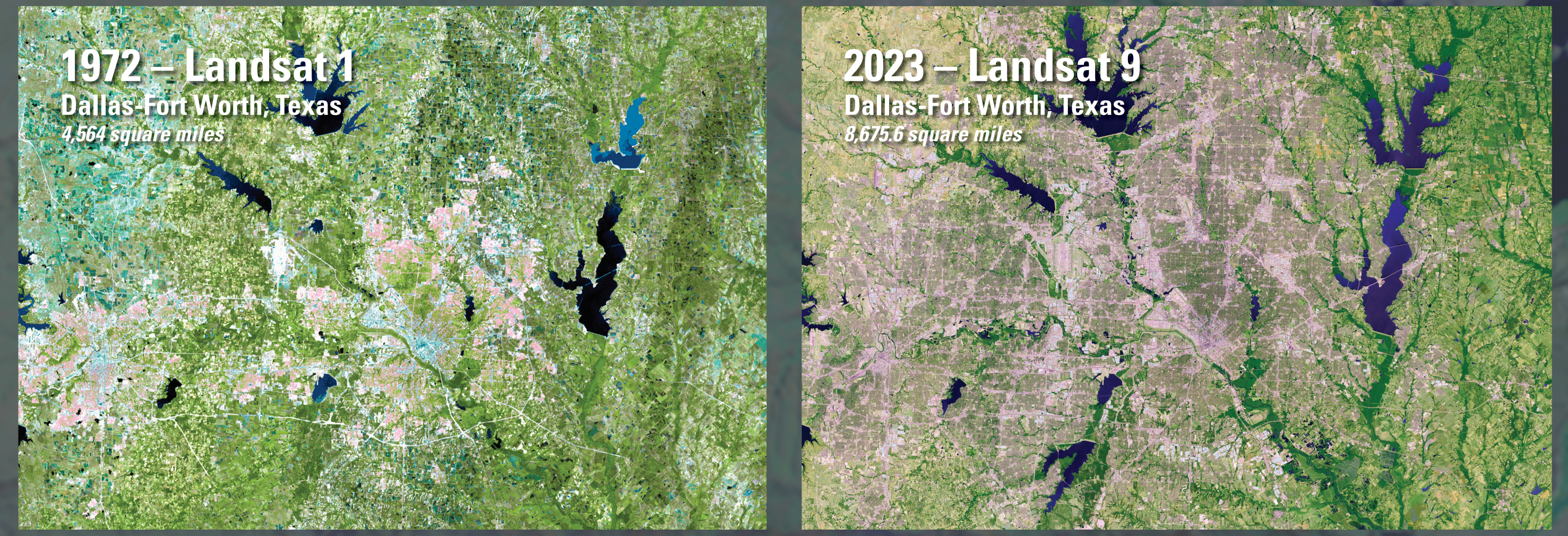

July 8, 2024 – Landsat 9
Imperial Valley, California

Irrigated farm fields surround El Centro, California. The field pattern changes across the border near Mexicali, Mexico.

Perhaps the greatest strength of the ever-expanding Landsat archive is its ability to reveal how Earth is changing over time. Comparing Landsat satellite images taken months, years, or decades apart can show the impact of both human activities and natural processes on city, state, national and even global scales. Landsat images form a continuous record of the condition of Earth's surface—an archive that now spans more than five decades.

2013 – Landsat 8
Vandenberg Air Force Base, California

Landsats 1-8 have been launched from Vandenberg Air Force Base near Santa Barbara. Landsat 9 launched in 2021 from Vandenberg Space Force Base, following its renaming.


1972 – Landsat 1
Dallas-Fort Worth, Texas
4,564 square miles

2023 – Landsat 9
Dallas-Fort Worth, Texas
8,675.6 square miles

The first image taken by Landsat 1 shows Dallas-Fort Worth and its surroundings in 1972. A Landsat 9 image taken more than five decades later reveals years of urban expansion in the same region. Dallas-Fort Worth is one of the fastest growing metropolitan areas in the United States.

1972 LANDSAT 1

1975 LANDSAT 2

1978 LANDSAT 3

1982 LANDSAT 4

1984 LANDSAT 5

1993 LANDSAT 6
(Failed to reach orbit)

1999 LANDSAT 7

2013 LANDSAT 8

2021 LANDSAT 9

2031 LANDSAT 10