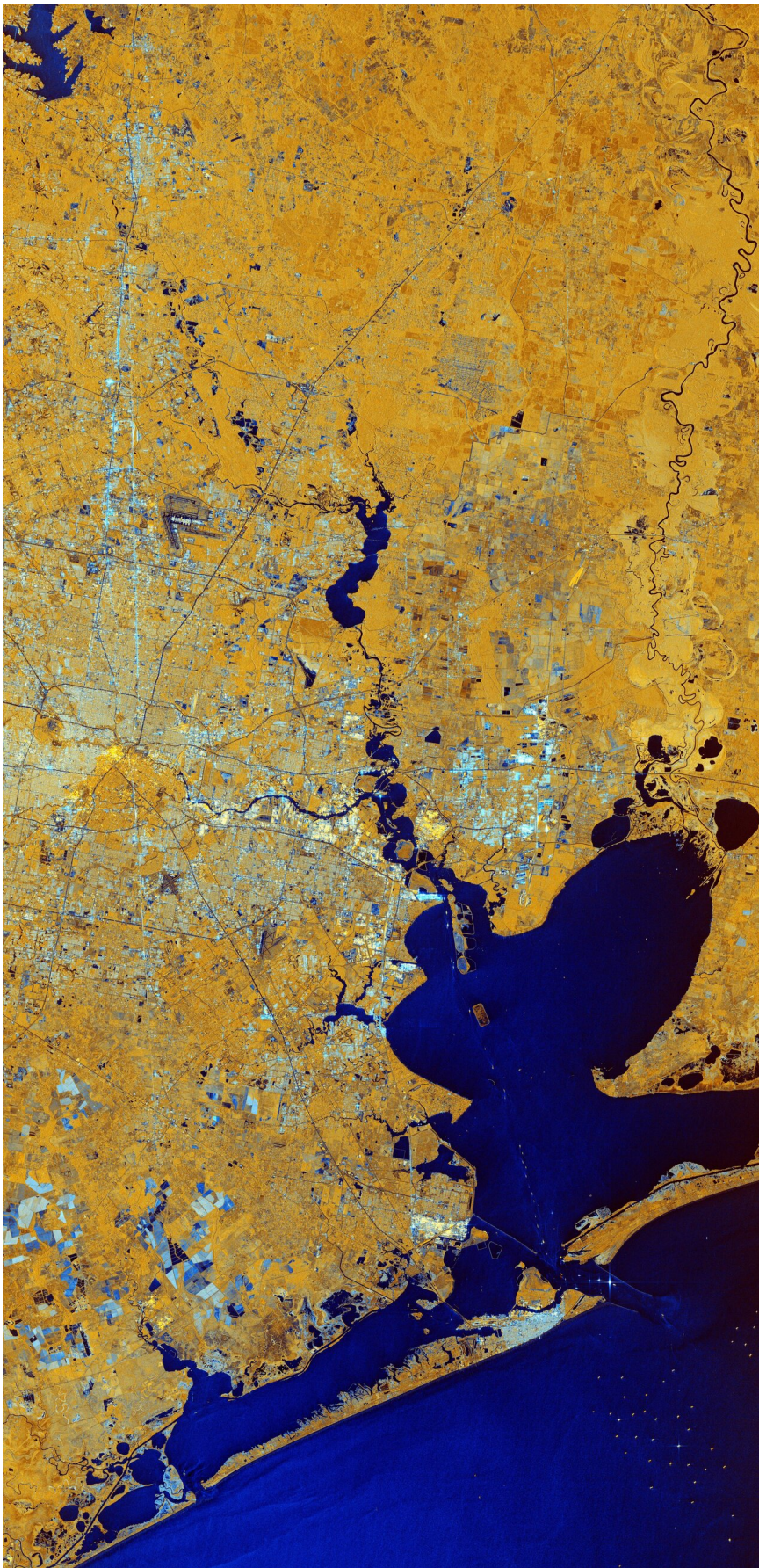


Image: Copernicus Sentinel-1 spies Houston from orbit

February 21 2020



Credit: contains modified Copernicus Sentinel data (2019), processed by ESA, CC BY-SA 3.0 IGO

Houston, Texas, U.S., is featured in this image captured by the Copernicus Sentinel-1 mission.

The two identical Copernicus Sentinel-1 satellites carry radar instruments to image Earth's surface. Images acquired with radar are interpreted by studying the intensity of the signal scattered back to the satellite—which is related to the roughness of the ground.

The colors of this week's image come from the combination of two polarizations from the Copernicus Sentinel-1 radar [mission](#), which have been converted into a single RGB image. Interpreting polarization can help scientists analyze Earth's surface.

In this composite image, captured on 21 June 2019, the city of Houston appears in shades of white and gray which contrasts with the yellow tones of the surrounding land and the dark blue waters of the Gulf of Mexico.

With a population of over two million and covering an area of over 1600 sq km, Houston is the state's most populous city and the fourth largest city in the US.

Houston is dissected by a series of bayous passing. Buffalo Bayou can be seen cutting through Houston, before joining Galveston Bay visible at the bottom of the image. Galveston Bay is around 55 km long and around 30 km wide, making it the largest estuary in Texas. The shallow

bay has an average depth of around 2 m, which is unusually shallow for its size.

The Port of Houston, which spreads across the northwest section of the bay, is one of the world's largest ports, and many ships can be seen as multi colored dots in the bottom-right of the image.

Houston is home to the NASA Lyndon B. Johnson Space Center, which lies west of Galveston Bay. The center acts as NASA's lead center for astronaut training as well as the International Space Station mission operations. It was identified as [mission control](#) or simply Houston during the Apollo, Gemini and Space Shuttle flights.

The center also collaborates with other international facilities in a variety of scientific and engineering programs related to human space flight and planetary exploration. The Johnson Space Center is where many ESA astronauts are sent as part of their training and preparation for future [space](#) missions. This is where Luca Parmitano, who recently returned to Earth, trained for his Beyond mission to the International Space Station.

Provided by European Space Agency

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