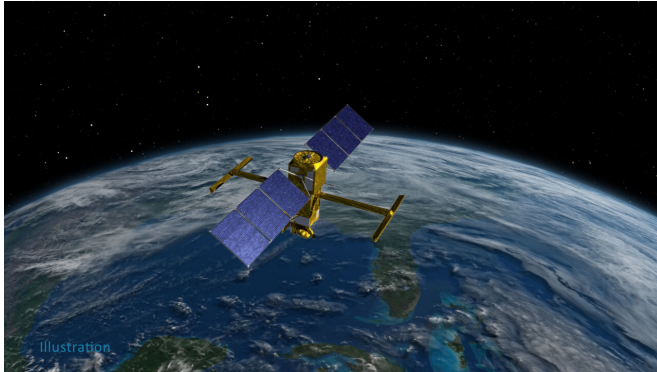


Assembly of satellite to track world's water shifts from U.S. to France

1 July 2021, by Jane J. Lee / Ian J. O'Neill



This illustration shows the SWOT satellite in orbit around Earth, with two antennas on either side of the spacecraft, as well as two large solar panels. Credit: NASA/JPL-Caltech

Set for launch next year, the Surface Water and Ocean Topography mission will help scientists monitor Earth's ocean, as well as the amount of fresh water in its lakes and rivers.

The Surface Water and Ocean Topography (SWOT) mission took a big step toward launch this week when a team at NASA's Jet Propulsion Laboratory in Southern California shipped the scientific heart of the satellite to France. A U.S. Air Force C-17 airplane carrying the hardware—which includes finely tuned research instruments—left March Air Reserve Base in Riverside County, California, on June 27. It arrived June 30 at a Thales Alenia Space clean room facility near Cannes, France, where engineers and technicians will spend the next year integrating the hardware with the rest of the satellite.

"Sunday was a long day under very hot conditions, but the team did a great job packing the hardware into the plane. Now that the payload is in France, we're a major step closer to finishing this satellite and getting to launch," said Parag Vaze, SWOT

project manager at JPL.

SWOT is a collaboration between NASA and the French space agency Centre National d'Etudes Spatial (CNES), with contributions from the Canadian Space Agency (CSA) and United Kingdom Space Agency (UKSA). The SUV-size spacecraft will make global surveys of Earth's [surface water](#). By measuring its height, researchers can track the volume and location of the finite resource around the world. The data will help with monitoring changes in flood plains and wetlands, measure how much fresh water flows into and out of lakes and rivers and back to the [ocean](#), and track regional shifts in sea level.



Part of the Surface Water and Ocean Topography (SWOT) satellite's science instrument payload sits in a clean room at NASA's Jet Propulsion Laboratory during assembly. Credit: NASA/JPL-Caltech

The information SWOT will provide on small-scale ocean currents will also support real-time ocean activities like shipping that are affected by tides, currents, storm surges, and other natural phenomena. And SWOT data will provide, for the first time, global observations of how circular

currents, called eddies, affect how the ocean stores heat and releases it into the atmosphere, as well as how carbon moves through the marine environment.

Several of JPL's engineers and technicians are following the hardware to France. Once there, they'll help their counterparts with CNES and their prime contractor, Thales Alenia Space, complete the build. Once done, SWOT will make the journey back to California, where it will launch atop a SpaceX Falcon 9 rocket from Vandenberg Air Force Base no earlier than November 2022.

More information: To learn more about the mission, visit: swot.jpl.nasa.gov/

Provided by Jet Propulsion Laboratory

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