

European-US sea level tracking satellite sends 1st readings

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A SpaceX Falcon 9 rocket carrying a U.S.-European satellite lifts off from Vandenberg Air Force Base in California on Saturday, Nov. 21, 2020. The Sentinel-6 Michael Freilich satellite was expected to deploy its solar panels and later make first contact with controllers. (David Middlecamp/The Tribune (of San Luis Obispo) via AP)

A newly launched European-U.S. satellite designed to continue a decades-long record of tracking global sea levels has sent back its first measurements, NASA said Thursday.

The [Sentinel-6 Michael Freilich](#) satellite was launched Nov. 21 from Vandenberg Air Force Base, California and controllers spent several weeks activating instruments and making sure operations were normal.

The [first measurements](#) provided information on [sea surface height](#), [wave height](#) and [wind speed](#) off the southern tip of Africa.

Josh Willis, project scientist at NASA's Jet Propulsion Laboratory, said in a statement that "the data look fantastic."

Named for a late NASA official who had a key role in developing space-based oceanography, the satellite's main instrument is an extremely accurate radar altimeter that bounces energy off the sea surface.

Space-based sea level measurements have been uninterrupted since the 1992 launch of the U.S.-French [TOPEX-Poseidon](#) satellite.

The rate of sea level rise has doubled since then to 0.16 inch (4 millimeters) per year, almost entirely due to the combination of

meltwater from land-based glaciers and ice sheets and the fact that seawater expands as it warms, NASA said.

TOPEX-Poseidon familiarized the public with the concept of [ocean surface topography](#) with data turned into brightly colored graphics of the globe showing warming and cooling water marking weather-influencing El Nino and La Nina conditions.

TOPEX-Poseidon was followed by a [series of satellites](#) including the current Jason-3.

Sometime this month, Sentinel-6 will be moved higher from an initial [orbit](#) to its operational orbit, where it will trail Jason-3 by 30 seconds so scientists can cross-check the data to ensure continuity. When that is assured, Sentinel-6 will become the primary satellite.

In addition to NASA, the mission involves the European Space Agency, the European Organization for the Exploitation of Meteorological Satellites, the European Commission, France's National Center for Space Studies, and the U.S. National Oceanic and Atmospheric Administration.

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