



PRESS RELEASE

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DATA FROM FRENCH-CHINESE CFOSAT SATELLITE ON STREAM FOR SCIENTIFIC COMMUNITY

29 October 2018, China launched the French-Chinese CFOSat satellite from its launch base in the Gobi Desert in Inner Mongolia. This first joint science mission between the two nations to study ocean winds and waves therefore recently celebrated its first year in orbit. Its new observations are now available to the world's scientific community to gain new insights into the ocean surface.

Developed jointly by CNES and the China National Space Administration (CNSA), the satellite is carrying two innovative radar instruments: SWIM (Surface Waves Investigation and Monitoring), designed and developed by France with Thales Alenia Space, which surveys the length, height and direction of waves; and SCAT (wind SCATterometer), developed by China, which measures the strength and direction of ocean surface winds. French teams are tasking and monitoring the SWIM instrument from their mission centre at CNES's facility in Toulouse, while Chinese teams are performing the same tasks for SCAT in China.

The CFOSat mission is designed to gain new insights into ocean surface characteristics (winds and waves) and their impacts on the atmosphere-ocean exchanges that play a key role in the climate system. It is shedding new light on the hitherto poorly understood role of waves in the lower layers of the atmosphere, the ocean surface and polar sea ice. Complementing other current Earth remote-sensing satellites, CFOSat is delivering crucial observations for atmospheric and sea-state forecasting and digital modelling of the coupled ocean-atmosphere system. The satellite is also providing precise data on deep-sea wave conditions, which have a bearing on the impact of waves on coastal areas.

The French scientific community is closely involved in the CFOSat mission through two research laboratories attached to the national scientific research centre CNRS: the LATMOS atmospheres, environments and space observations laboratory (CNRS/UVSQ/SU) and the LOPS physical and space oceanography laboratory (CNRS/IRD/Ifremer/UBO), which came up with the concept for the SWIM instrument, the first rotating-beam scatterometer of its kind. Working with two teams at the national weather service Météo-France, they have played a key role over the past year validating the mission's science data to generate products ready for use by the scientific community. To this end, the teams worked closely with industry partners specializing in satellite data processing and validation such as ACRI-ST, CLS and Ocean Data Lab.

Today, the French and Chinese space agencies gave the go-ahead on the recommendation of representatives of the scientific community to grant open access to the mission's science data. More than 40 science teams in France, China and around the globe—in Europe, the United States, Russia, India, Australia and Korea—have proposed projects using CFOSat observations to support research work and operational weather forecasting applications. These teams were given access to the first datasets in late July last year. With CFOSat data now freely accessible, they will be joined by other teams eager to exploit the original observations of this first French-Chinese scientific satellite.

In France, CFOSat data can be accessed through CNES's AVISO+ ocean altimetry science portal at <https://www.aviso.altimetry.fr/fr/missions/missions-en-cours/cfosat.html>.

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