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CFOSAT: AN UNPRECEDENTED COOPERATION BETWEEN FRANCE AND CHINA FOR AN INNOVATIVE SCIENTIFIC MISSION OVER THE OCEANS

Abstract

29 October 2018, China launched the French-Chinese CFOSAT oceanography satellite from Jiuquan Space Center. A deep assessment of the satellite behavior, of the instrument performance and of the science data quality has then been carried out. One year after launch, instrument data are now made available to the scientific community worldwide. The go ahead was given early 2020 by the Centre National d'Etudes Spatiales (CNES) and the China National Space Administration (CNSA) upon the recommendation of science teams from agencies and research laboratories in France, in China and around the globe. The scientific products being well within the requirements, this major milestone gives the scientific community access to winds and waves parameters so as to gain new insights into the ocean surface. Scientists and meteorology agencies will benefit from these innovative simultaneous and collocated measurements for defining the sea state at the global scale. They will also play an important role in a better knowledge of the exchanges between atmosphere and ocean and in the improvement of the related models.

The cooperation agreement between the two national agencies is a premiere. This governance has been driving the joint development of the CFOSAT mission over a decade. The satellite is carrying two innovative radar instruments: SWIM (Surface Waves Investigation and Monitoring), designed and developed by France, which assess the directional spectrum of waves; and SCAT (wind SCATterometer), developed by China, which measures the speed and the direction of ocean surface winds. French teams are tasking and monitoring the SWIM instrument from their mission center at CNES's facilities in Toulouse, France, while Chinese teams are similarly performing the same tasks for SCAT from Beijing, China.

It is now expected that the distribution of the CFOSAT data to all the users brings a highly valuable contribution to operational meteorology, to climate variables monitoring and to related scientific studies.