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Abstract Title. Current Satellite Altimetry and SAR wave data streams in Australian region, and their validation plan

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Waves have been recently identified as a key ocean variable in the context of Australian National Marine Science Plan and a priority area by the Forum for Operational Oceanography (FOO).

Globally, Satellite Remote Sensing (SRS) of oceans using altimeters (Jason-2, Jason-3, Sentinel-3, Cryosat-2, SARAL, HY-2), and Synthetic Aperture Radars (SAR) sensors (Sentinel-1A/B, and CNSA GF-3) is providing wave parameters such as significant wave height, period as well as directional ocean swell spectra. In this regard, the three-year GlobWave program (ending in 2014) provided calibrated and validated SRS wave data streams for improved uptake of satellite-derived wind-wave and swell data by the scientific, operational and commercial user community. With the recent launch of satellite missions measuring ocean waves such as ESA’s Sentinels, CNSA GF-3 and prospective future missions such as SWIM - CFOSat, there is an emerging need for continued collection, calibration/validation, and distribution of ocean surface wave data for uptake by the user groups in Australia and also globally.

Australia’s Integrated Marine Observing System (IMOS) SRS Facility is addressing this challenge with the creation of a new Surface Waves Sub-Facility, formed to collect, calibrate and distribute ocean surface waves data streams from current and next-generation satellite missions.

This paper will focus on the spatial/temporal coverage of global oceans by the current altimetry and SAR missions, and the initial results of buoy/altimeter/SAR inter-comparisons of wave parameters with a concentrated effort in the Australian region.