



Absolute calibration of the Jason-1 altimeter during the cruise along the Drake passage by ship - buoy GPS measurements.

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Several satellite altimeter missions are currently operating (ENVISAT, JASON) and others are planned for the future such as JASON-2 . With the current evolutions of global warming and mean sea level changes, these instruments are anticipated to contribute to the monitoring of global oceans, rivers, lakes and closed seas. Therefore the monitoring and precise calibration of biases and drifts of these altimeter systems by independent geodetic techniques are required.

The Drake campaign, which took place in January and February 2006, has been a very successful mission in collecting a wide range of oceanographic data along the JASON-1 altimetric ground track n°104. In order to provide a good validated altimetric data-slot for hydrographers during this mission, a sea-level GPS campaign took place all along JASON's ground track on the Drake passage during the same period of one month. These GPS sessions were performed in the harbour of Puntas Arenas during departure, in the open sea, at O'Higgins in the Antarctic peninsula during arrival and back. A set of GPS receivers installed onboard the research vessel Polarstern, and a waverider GPS buoy for the calibration of the ship's floating position, were used.

This sea level data combined with altimetric data, allow us to cross-compare the sea surface height (SSH) estimates and measure the significant wave height (SWH) during

the cruise across the Drake passage. These independent SWH measurements from GPS allow us to validate and correct the altimetric data as sea-state bias is one of the major sources of altimetric errors.