



GAVDOS project: Jason-1 altimeter calibration

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GAVDOS was jointly funded by the EU, NASA and the Swiss Federal Government as an infrastructure research project, intended to fill a recognized gap in the region of South-eastern Mediterranean. The main objective was the establishment of an absolute sea level monitoring and altimeter calibration facility applicable to many missions. The calibration facility is under a crossing point of the original ground-tracks of TOPEX/POSEIDON (T/P) which are also the current ones for Jason-1 (passes 018 and 109), and adjacent to an ENVISAT pass. The location of the island Gavdos is about 50 km to the south of the main island of Crete, Greece. The facility hosts in addition to two tide gauges, multiple GPS receivers, a DORIS beacon, a transponder for direct calibration, and is visited periodically by additional systems that collect data to control and validate the operational results. A collocation at the TUC facility site in 2003 with the French transportable laser ranging system (FTLRS) established a link and referenced the entire network of GAVDOS sites in the ITRF2000 frame. The facility has been fully operational since October of 2003. The comparison of tide gauge data collected over that period and until mid-2004 (Jason cycles 70 through 90), resulted in a Jason altimeter bias best estimate of 144.7 ± 15 mm, where the quoted standard error is three times the statistical formal error. We are now relocating to the final and originally intended location, on a new pier, which required a break in our operations during its construction. As a result of this move, we will have the ability to obtain regularly the GPS observations on a daily basis. The project has so far performed two calibration tests for JMR, using WVRs and a solar spectrometer instrument. Our future plans include the addition of a new site on the north side of mainland Crete, at Kasteli. Finally, we are extending our efforts to include the ENVISAT and GFO missions regularly.