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GAVDOS Project contributions to the Mediterranean Tsunami Warning System

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We propose the contribution of an existing network of GPS-equipped tide gauges in western Crete, Greece, to the Mediterranean Tsunami Warning System. The Gavdos permanent absolute calibration facility, initially established with joint EU, NASA, and Swiss Federal Government funding in 2002, while fully operational at the moment, it is also being expanded to a regional absolute sea level monitoring and altimeter calibration facility applicable to many missions, in the Eastern Mediterranean region. The main site which is operational since 2003, is located on the isle of Gavdos, about 50 km to the south of the main island of Crete, with a tide gauge at Porto Karave, located under a crossing point of the Jason-1 ground-tracks (passes 018 and 109) and adjacent to an ENVISAT pass. The project is now continuing under NASA's OSTM program with additional funding from the Greek government. The current plans include establishment of an identical setup at a site on the main island of Crete, at Kastelli, near the TUC site (60 km west of TUC), on a TUC-owned area and situated exactly under the descending Jason-1 pass 018. The instrumentation of that site is now complete, with an imminent commencement of measurements. We purchased a radar gauge and identical GPS receivers for the new and old location. Once tested and calibrated, we plan to replace the Karave system with an identical one since they are much less demanding in terms of maintenance, always a concern during the winter months. Currently, the main focus is the development of a reliable, real-time tide gauge and GPS data filtering so that sudden transients that can be the result of an earthquake or a tsunami event, can be isolated with confidence and relayed via a wireless connection to the

appropriate authorities. It is planned that during the next 12-month period we will be able to fine-tune and automate this process. Finally, we are now planning the deployment of an open-sea buoy (GFZ-type/class) south of Gavdos and under the JASON groundtrack for improved calibration results as well as a contribution to the Mediterranean Tsunami Warning System. This addition will be in place within 2009, pending approval of a proposed funding request to NASA.