

## **A Fiducial Reference Measurement Site for Establishing Absolute Heights for Satellite Altimetry in Crete, Greece**

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With the advent of diverse satellite altimeters and variant measuring techniques, it has become mature, in the scientific community, that an absolute reference Cal/Val site is maintained to regularly define, control and evaluate the responses of any altimetric system. This fiducial reference site for satellite altimeters will consistently and reliably determine (a) absolute altimeter biases and their drifts; (b) relative bias among diverse missions; but also (c) continuously and independently connect different missions, on a common and reliable reference. Results from this fiducial reference site should be based on historic Cal/Val site records, and would be the yardstick for building up capacity for monitoring the climate change records. This ground facility will be capable of defining and assessing any satellite altimeter measurements to known, controlled and absolute reference heights, and signals with different techniques, processes and instrumentation.

The objective of this presentation is to set the ground for the establishment of a Fiducial Reference Site for ESA satellite altimetry in Gavdos and West Crete, Greece. This research infrastructure will aim at monitoring and controlling, in an absolute sense, satellite altimetry measurements and results by (1) continuously keeping track of their quality, biases, errors and drifts; (2) by establishing an absolute reference of altimetry on a common and reliable standard for settling relations among different missions; and (3) by developing reference measures for satellite altimetry, on diverse procedures and instrumentation, as well as on ascending and descending orbits, at the same location and settings..

**Keywords:** Fiducial reference measurement, SI traceability, altimetry, satellite, transponder

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