

MEETINGS

First Coastal Altimetry Workshop

Cooperative Institute for Oceanographic Satellite Studies/National Oceanic and Atmospheric Administration Coastal Altimeter Workshop; 5–7 February 2008, Silver Spring, Maryland

Satellite radar altimeter measurements of sea surface height (SSH), significant wave height, and wind speed have many potential applications in coastal zones, despite the common perception that altimetry does not “work” near the coast. The altimeter instrument’s primary measurement, the radar travel time from the spacecraft to the sea surface, is reliable seaward of 10 kilometers from the coast, and sometimes closer. The Ocean Surface Topography Mission altimeter on Jason 2, launched on 20 June 2008, has a new tracking mode that may recover more data in the coastal zone, and the launch of CryoSat 2 next year will demonstrate the coastal capabilities of a delay-

Doppler altimeter. Turning radar travel time into accurate SSH requires ancillary water vapor radiometer measurements that may become unreliable within 50 kilometers of the coast. Interpretation of SSH data in the coastal zone is complicated where tides and other SSH corrections may change abruptly over shallow coastal shelves or near land.

A workshop on coastal altimetry was convened to explore the challenges and opportunities of altimetry in the coastal zone. Fifty-five participants, primarily from U.S. and European institutions, attended. The workshop was sponsored by the U.S. National Oceanic and Atmospheric Administration, NASA, and the Cooperative Institute

for Oceanographic Satellite Studies at Oregon State University.

Experts in altimeter and ancillary data retrieval, high-resolution regional-scale modelers, and users of data and model outputs were assigned to work together in thematic teams and were charged with developing a consensus presentation on their theme in advance of the workshop. These theme presentations, available at http://cioss.coas.oregonstate.edu/CIOSS/altimeter_workshop.html, were then used to begin the discussion of each topic. Topics covered included tracking/retracking (improving the radar travel time measurement), wet troposphere (correcting radar travel time for delay by atmospheric water), tides, inverted barometer (the ocean’s response to atmospheric forcing), sea state bias (error in SSH due to the instrument’s response to wind and waves), wave height, data sets and management, and modeling and applications. There were no breakout groups or parallel sessions so that everyone participated in discussion of each theme.

The Centre National d’Études Spatiales (CNES) and the European Space Agency (ESA) have funded coastal altimetry pro-

grams; experts from the CNES Pistach and ESA Alticore and Coastalt programs presented their preliminary findings and future plans. Also represented was the ESA Samosa project, which is using the waveform simulator for the CryoSat 2 altimeter to study altimeter-coastline interactions in conventional and delay-Doppler modes. Funding-agency program managers offered their perspectives.

The workshop’s findings, recommendations, and initial steps toward an error budget can be found in the electronic supplement to this *Eos* issue (http://www.agu.org/eos_elec/). A second coastal altimeter workshop will be held in Pisa, Italy, 6–7 November 2008 (see <http://www.coastalt.eu/pisaworkshop08>).

The information reported here does not constitute a statement of policy, decision, or position on behalf of NOAA or the U.S. government.

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