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Poster
Japan Aerospace Exploration Agency (JAXA) is working on a conceptual study of altimeter mission named Coastal and Ocean measurement Mission with Precise and Innovative Radar Altimeter (COMPIRA), which will carry a wide-swath altimeter named Synthetic aperture radar (SAR) Height Imaging Oceanic Sensor with Advanced Interferometry (SHIOSAI). Capturing meso/submeso-scale phenomena and operational oceanography are one of COMPIRA's main objectives. Orbit specifications are thus designed to be better for operational oceanography including coastal forecast. That is, a spatial grid sampling is 5km and an observation times per revisit period (about 10 days) is 2 to 3 times. In order to meet both sampling frequency and spatial coverage requirements in mid-latitudes as much as possible, orbit inclination was set relatively low, 51 degrees. Although this sampling frequency is, of course, not enough high to capture time evolution of coastal phenomena, an assimilation process would compensate its time evolution if 2D SSH fields was observed at least once within decal time scale of phenomena. JAXA has launched a framework called "Coastal forecast core team" to aim at developing coastal forecast system through pre-launch activities toward COMPIRA. Assimilation segment as well as satellite and in situ data provision will play an important role on these activities. As a first step, simulated sea surface heights (SSH) are generated from regional ocean numerical models and the COMPIRA orbit and error specifications. The several regional model data around Japan were provided by Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Kyushu University, Meteorological Research Institute (MRI). Their specifications are as follows: spatial and temporal grid interval range from 1.5km to 3km, and 30 minutes to 3 hours, respectively. Some models incorporate tidal components. The generated simulation data will be used to develop an optimal method to generate mapped data products using and tide models using COMPIRA. Identical twin experiments are also planned to not only investigate the effect of wide-swath SSH measurements on coastal forecast but also develop an assimilation method that can be applied to 2D SSH measurements. In the workshop, the characteristics of the simulated data, which include a comparison of snapshots and its temporal evolution, and effective resolutions etc., are presented.
OSTS session
Science Results from Satellite Altimetry
Meeting name
Ocean Surface Topography Science Team (OSTST) Meeting
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