Advances in Ocean Dynamics From Altimetric Measurement of Ocean Surface Topography

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ABSTRACT

The past decade has seen the most intensive observations of the global ocean surface topography from satellite altimeters. The Joint U.S./France TOPEX/Poseidon (T/P) Mission has become the longest radar mission ever flown in space, providing the most accurate measurements for the study of ocean dynamics since October, 1992. The European Space Agency's ERS-1 and –2 Mission also provided altimetric observations from 1991-2000. The combined data from T/P and ERS provide a synergestic description of the global ocean variability with higher resolution and greater coverage than the individual missions. Major advances in large-scale ocean dynamics from these observations will be reviewed in the presentation, including the evolution of the El Niño Southern Oscillation cycles as well as the emerging decadal variability, the various roles of wind forcing in large-scale ocean variability, assimilation of altimeter data by ocean general circulation models, global sea level rise, internal tides and internal gravity waves. Preliminary observations from the T/P follow-on, Jason-1, will also be presented. An animation of 10-years' observation from the T/P altimeter will be presented .