

The Mutsu Bay Experiment - An Investigation into the Physical Processes of the Ocean-Atmosphere Boundary using ATSR data and in situ measurements

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Abstract

The Mutsu Bay Experiment (MUBEX) is a series of detailed in situ field experiments devised to investigate the physical behaviour of the sea and its relationship to satellite observations, particularly sea surface temperature. This paper describes the first results of field measurements obtained in Mustu Bay, Japan (latitude 41N, longitude 141E) during a four week period in July/August 1996. Ship-borne measurements of temperature (radiometric and bulk) are compared with ATSR sea surface temperatures derived from single and dual look algorithms. Implications of resulting discrepancies are discussed. Combined with companion experiments carried out in open ocean MUBEX will provide an extensive data set for both local and (when combined with satellite data) global investigations of fluxes of heat, momentum, moisture and gases across the ocean-atmosphere interface.

Keywords: ocean-atmosphere interface, sea surface temperature, validation, skin-effect, remote-sensing