"Sea Surface Features Observed in ERS Images in the Chilean Inland Sea"

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Abstract

A set of ERS satellite images from the Chilean Inland Sea are analyzed to study the patterns of surface roughness suggesting oceanographic phenomena. Packages of internal waves and convergence regions are two typical phenomena observed in this kind of images, which seem to be associated to submarine topography and coastline, and also to the effect of a buoyancy flow derived from fresh water input to these systems. A theoretical interpretation of the patterns observed, based on oceanographic and bathymetric considerations, is provided. Field data, when available, can be correlated with the remote sensing information to provide a more consistent picture of the patterns observed.

This paper identifies radar signatures of sea surface features using ERS-1 and outlines the opportunities of using this kind of image data to complement optical data and ground information for oceanographic analysis.