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The fishery activity in the VIII Region, one of the regional division of the country, has had a constant increase, resulting in an unloading of 1,2 million of tons in 1986, which represents 22% of the total at the national scale. The pelagic fish constitutes the 90% of this unloading, principally the two species, jurel (*Trachurus murphyi*) and sardine (*Sardinops sagax*).

The most important fishing grounds in this region are in the Arauco's Gulf (37° 10' LS - 73° 11' LW). This area is characterized by the following factors:

a) Seasonal upwelling water mass in Punta Lavapie (37° 09' LS), the southern extreme of the Gulf, caused by the displacement of the upper waters during the period of south and southwest winds;
b) the discharge of the Bio-Bio river in the northern part of the Gulf, largely dependent upon the amount of rainfall; and
c) the submarine canyon of that river, affecting the residence time of the water masses in the Gulf.

Taking into account the high catch of pelagic fish in the Gulf and their great sensitivity to the oceanographic conditions, it will be interesting to evaluate the variability of the catch in relation with the factors mentioned above (a, b and c).

The present study is being carried out applying the Geographic Information System technology, more precisely, using the Earth Resources Data Analysis systems (ERDAS).

The available information consist of: AVHRR and CZC6 satellite imagery, bottom topography map of the study area and tabular data on catch of pelagic fish for the year 1986.

As one of the main conclusions of this study, it is anticipated to find the highest catch in water masses from the upwelling zone considering its content of nutrients and hence the content of phytoplankton. Indeed, the probability of encountering high catch in water masses with great phytoplankton content is known to be high.

## EXTRACTION OF DYNAMICAL INFORMATION IN SHALLOW SEAS AND ESTUARIES FROM OCEAN COLOR IMAGERY

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This paper is concerned mainly with the retrieval of dynamical information in shallow seas and estuaries from ocean color imagery. In order to achieve this objective, a Coastal Zone Color Scanner (CZCS) time series of the U.K. shelf waters was atmospherically corrected and co-registrate onto a standard map projection. An objective and fa: method of computing mean sea surface velocities from s( quential images was used. The computed satellite-derive velocity field is spatially coherent, mainly in the Englis Channel, demonstrating the applicability of the method t shallow seas dynamical studies.

In the case of an estuary, high spatial-resolution Airborn Thematic Mapper (ATM) data has been utilized to extra( information about dispersal and dynamical processes. I Southampton Water, strong blooms of *Mesodinium rubrui* (concentrations up to 3000 cells/ml) provides a distinctiv red colouration to the sea water which seems to reve: streakiness and patchiness depending on the tidal stag( Several pigment-calibrated images, covering different tid: stages, have been closely examined to infer the influenc exerted by tidal currents on the spatial variability of th bloom.

## COMPARISON OF SATELLITE TRACKED BUOY TRAJECTORY WITH GEOSTROPHIC AND WINDFORCED CIRCULATION IN BRANSFIELD STRAIT, ANTARCTICA

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An oceanographic drifting buoy developed by INPE and pc sitioned by System ARGOS (NOAA-6 and NOAA-9 satell tes), was launched on 10 March 1986, at 63° 07.13' S 60° 22.90' W (Bransfield Strait). The drifting buoy wa launched and recovered by the Brazilian Oceanographi Support Ship Barao de Teffe. Concurrent with the Lagrar gian drifter measurements, a set of hydrographic station was completed. The buoy's overall trajectory was divide( into 4 parts based on obvious differences along the traje( tory.

Geostrophic currents were computed for 10 m depth, re ferenced to 1000 dbar level. Wind driven currents for 10 r depth were also calculated, using filtered shipboard win( data. The mean current speed measured by the buoy's di: placement was 4 times greater than the geostrophic curren speed and 6.7 times greater than the mean wind driven (Ek man) current speed. Best overall agreement (speed and di rection) was found between the drifter trajectory and th geostrophic current. The movement of the drifting buo; suggested the presence of a surface front located southeas of and in proximity to Deception Island, not previousl; noted in the published literature. The front was confirme( by the temperature, salinity and density fields obtained fo the same region. INPE's drifting buoy (ARGOS compatible represents a powerful use of space age technology, for de: cribing the meso to large scale surface layer oceanic circula tion and for the detection and monitoring of surface ocea nic fronts.