accordance with their date and time of day. The system is scale independent, where the scale is given by the resolution of the data sets provided. Given latitude and longitude positions, data of any part of the world oceans can be displayed. The different type of data which can be visualised include bathymetry, CTD measurements, acoustic measurements, survey trajectories or paths of tagged fish/mammals, model data of plankton/fish distributions and a number of oceanographic data including temperature, salinity, current, ice and several biological distribution fields. In Figure 1, three different examples of three different data types at three different scales (1000 km, 100 km and 10 km) are shown. The left image simply shows a large-scale representation of the bathymetry west of Peru. The second image show a line of ctd stations in relation to bathymetry and temperature fields from oceanographic models. The third image shows an acoustic survey. The three examples illustrate how MareMaid3D can be used in its simplest form, plotting one type of data, and in an integrated way synthesizing different data sets. We will present this software as a general visualization tool for different marine ecosystems, providing examples from the Humbolt current ecosystem and other oceans. We will put focus on how different data within the same area at the same time of year can be visualize in order to better shown their relations and dependencies.

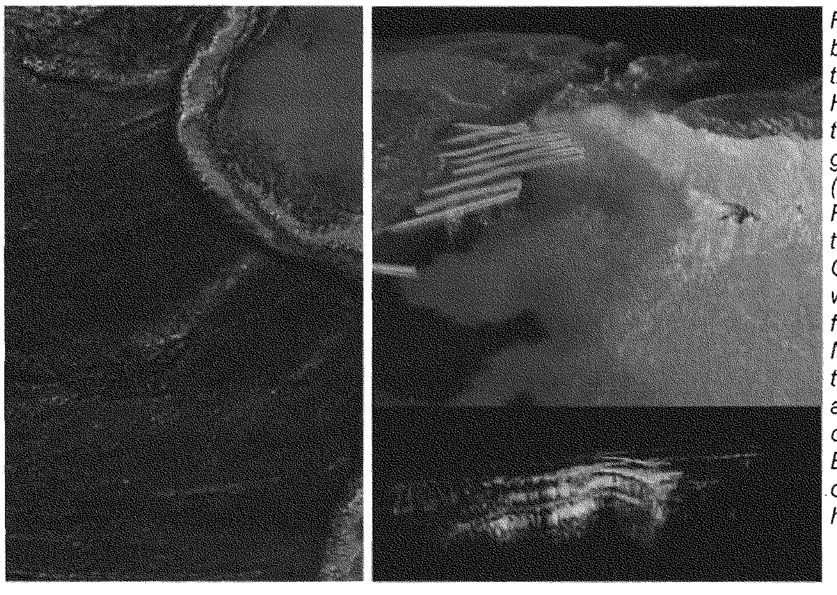

Figure 1. Left: The bathymetry west of Peru in the northern part of the Humbolt current, based on the "etopo2" 2-minute gridded global relief data set (www.ngdc.noaa.gov). Top Right: Example of temperature profile from CTD measurements together with modelled temperature field at 400 m in May in the Norwegian Sea, seen from the North. Values above 3°C are masked away to be completely transparent. Bottom Right: Visualisation of an acoustic survey on herring without bathymetry.

HCS198 - Modelled and observed variability of the atmospheric circulation the Peruvian Current System: 2000-2005

Miguel Saavedra[1], Boris Dewitte[1,2], Yamina Silva, Jose Pasapera[1] and Lionel Renault[3]

[1]*Centro de Investigaciones en Modelado Oceanográfico y Biológico Pesquero (CIMOBP). Instituto del Mar del Perú (IMARPE). Esquina Gamarra y Gral. Valle S/N. Callao-Perú.*
[2] *Institut de recherche pour la développement (IRD)*
[3] *Laboratoire d'Etudes en Géophysique et Océanographie Spatiales (LEGOS). 14 Avenue Edouard Belin Toulouse 31400. France*

The coastal upwelling of the South Eastern Boundary systems is critically dependant on the characteristics of the local equatorward atmospheric circulation. Resolving the mesoscale variability of the heat and momentum forcing is a top priority issue for modeling the oceanic regional circulation in these regions. Here we analyzed the outputs of two regional atmospheric models, the Fifth-Generation NCAR / Penn State Mesoscale Model (MM5) and Weather Research and Forecasting (WRF) that were run over the Peruvian Current System (PCS) [0N-19°S; 83°W-68°W] from November 2000- October 2005. Wind data as derived from the satellite QuickSCAT was used as a benchmark to assess the realism of the simulations for a variety of timescales: daily, monthly, seasonal, annual and interannual. The focus was on how the models resolve the cross-shore gradient of the surface circulation, which is directly related to the upwelling rate, and the along-shore propagation of the curl anomalies. The MM5 models simulate a realistic southwest mean flow throughout the coastal zone (figure 1) with a marked semi-annual cycle (maximum amplitude in summer and winter). Wind stress curl estimates are comparable in the models and the observations. However the amplitudes are smaller by ~25% for the models for the coastal (open ocean) zone as compared to the observations. These differences are attributed to the mesoscale dynamics resolved by the models but not by the Quickscat data (½ ° of resolution, figure 1). In particular, the observations exhibit a purely anticyclonic circulation near the coast, whereas the models simulate an anticyclonic circulation over the off-shore ocean and a cyclonic circulation near coast. This results in a more realistic coastal circulation as revealed by the comparison with meteorological *in situ* measurements. A 2-D spectral analysis shows that the spectral power density of the observations is comparable to the model outputs, with a dominant peak at the annual period and weaker contribution at periods of 2,5-3 months. The comparison between the two model simulations indicates the coastal mesoscale atmospheric circulation should intensity coastal upwelling variability.

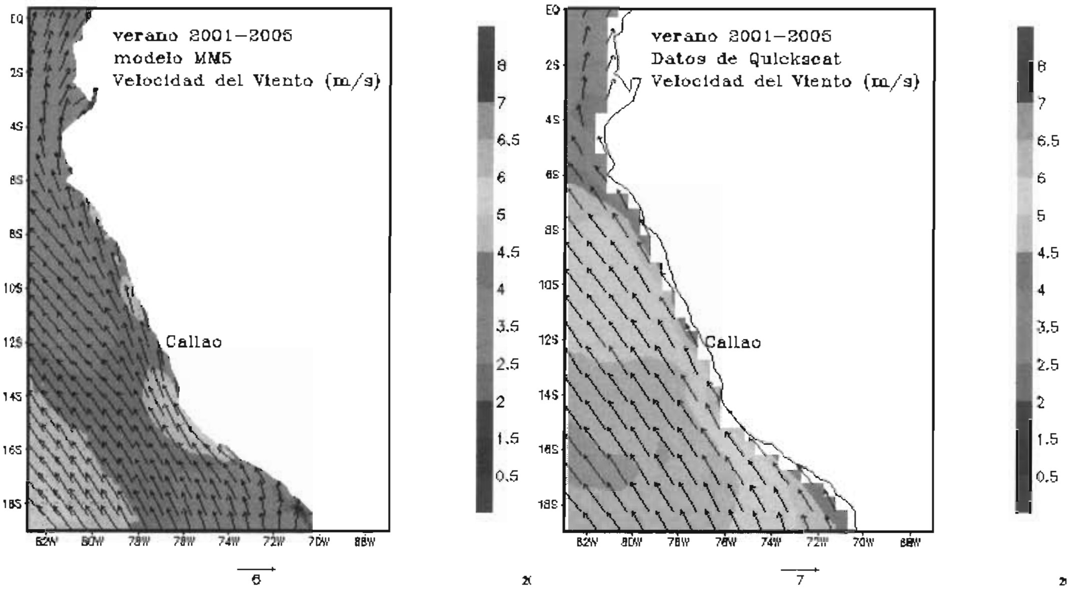

Figure1. Left, wind speed average, MM5 model; right, wind speed average, Quickscat.

HCS202 - Southward subsurface flow off the Peruvian coast (southward extension of the Cromwell Current)

Roberto Flores, José Tenorio, Noel Domínguez

Instituto del Mar del Perú, Esquina Gamarra y Gral. Valle s/n Chucuito- Callao, (Tel.511- 4297630, e- mail: rflores@imarpe.gob.pe)

Keywords: Southward Extension of the Cromwell Current, El Niño events, Perú coast

The southward subsurface flow off the Peru coast, is related with the Southward Extension Subsurface of the Cromwell Current (ESCC), among the 3 - 14° S, inside the 60 nautical miles, based on geostrophic calculations, the time series of the mean depth the 15°C isotherm (1961-2005) and of the mean oxygen (1980-2005).The geostrophic flow toward the south, calculated in the sections off Paita, Pta. Falsa, and Chicama, shown clear changes mainly summer and autumn seasons of the South Hemisphere, with a surface flow superimposed in the summer related with the propagation toward the Peru of the equatorial Kelvin waves more evident during the El Niño events. The time series the mean depth of the 15° C isotherm, along the coast, shows the biggest depth in January and May-June and being more surface in October-November; depths bigger than 100m are strongly associated with the ESCC, and with oxygen range1.0-2.0 mL/L; besides the presence of the 15° C isotherm, is associated with the demersal fishing between 3-8° S.

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