BOUSSOLE Monthly Cruise Report

Cruise 90
September 12 - 14, 2009

Duty Chiefs: Emilie Diamond (diamond@obs-vlfr.fr)
Vessel: R/V Téthys II

Laboratoire d'Océanographique de Villefranche (LOV), 06238 Villefranche sur mer cedex, FRANCE

BOUSSOLE 90 cruise was cancelled because of damages on the Téthys II.

BOUSSOLE project

ESA/ESRIN contract N° 17286/03/I-OL

Deliverable from WP#400/200

September 21, 2009

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Cruise Objectives

Routine operations

Multiple SPMR profiles are to occur within 1 hour of satellite overhead passes of MERIS around solar noon, under optimal conditions: clear blue skies and flat, calm sea surface. If the sky is clear and sea conditions are reasonably calm (no whitecaps or large swell), hand held CIMEL sun photometer measurements are to be performed consecutively where possible with SPMR profiles. If sea conditions are poor but sky is good, hand held CIMEL sun photometer measurements can be made at intervals throughout the day to measure atmospheric optical thickness. A floating platform is to be used to support the SPMR Eu sensor approximately 20cm below the surface for up to 3 minutes of stable light field before a release mechanism triggers the release of the profiler to start a descent as normal. Multiple descents ideally will be started in this way and the data will be used to assess near-surface Eu extrapolation model calculations. CTD deployments are required at the start and end of the SPMR profiling day and around noon in the longer summer days or when there is a high possibility of a satellite matchup. In addition to the depth profile from the CTD, CDOM fluorometer, Chl fluorometer and AC9, seawater samples are to be collected, filtered and stored in N_2 for HPLC pigment and particle absorption spectrophotometric filter analysis in the lab. Three replicates samples are to be collected at surface for total suspended matter (TSM) weighting in the lab. A gimbled PAR sensor positioned on the foredeck and operated from the CTD computer serves as a light field stability indicator during SPMR profiling.

For one day of each cruise, at the end of the optics measurements on site, there will be one CTD transect between the Boussole site and the Port of Nice. This transect consists of six fixed locations on-route from Boussole. The time of day of this transect should be similar for each cruise, if possible to minimise influence of diurnal variability.

For one day of each cruise, three divers will check the underwater state of the buoy structure and instrumentation, take some pictures for archiving, clean the sensor optical surface, and then take again some pictures after cleaning. Divers will also put a neoprene cap on the HS4 and on the transmissometers for acquiring three dark measurements.

Additional operations

One of the three days, Marc Picheral will test a CTD. One of the three days, Céline Bachelier will complete the MOOSE programs with a deep CTD cast with water sampling and three Plankton Net 0-100 m profiles at the DYFAMED site. The diving day, the hydrophone of the CRC (Marineland) for identification of cetaceans will be removed from the buoy. One of solar panels of buoy will be removed too.

Cruise Summary

Three days before the cruise, the sternpost of Tethys II has been damaged by a nylon line. Repairs of Téthys watertightness lasted one week so BOUSSOLE 90 cruise was cancelled.
There was a possibility to board on Téthys II one week after, on 21st September, but because of the wind and military operation between Nice and BOUSSOLE buoy, this day was also cancelled.