

CORIOLIS, A FRENCH PROJECT FOR IN SITU OPERATIONAL OCEANOGRAPHY.

S. Pouliquen¹, T. Carval¹, Y. Desaubies¹, L. Petit de la Villéon¹, G. Loaec¹, L. Goumelen²

(1) IFREMER, BP70, F29280 Plouzané - Sylvie.Pouliquen@ifremer.fr

(2) EPSHOM, BP426, F29275 Brest Cedex

Abstract

The seven French agencies concerned by ocean research are developing together a strong capability in operational oceanography based on a triad including satellite altimetry (JASON), numerical modelling with assimilation (MERCATOR), and in situ data (CORIOLIS). The CORIOLIS project aims to build a pre-operational structure to collect, valid and distribute ocean data (temperature/salinity profiles and current speeds) to the scientific community and modellers.

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(1) To build up a data management centre, part of the ARGO network for the GODAE experiment, able to provide quality-controlled data in real time and delay modes.

(2) To contribute to ARGO floats deployment mainly in the Atlantic with about 250 floats during the 2001-2004 period.

(3) To develop and improve profiling ARGO floats. PROVOR is a self-ballasted float, able to drift at a user-defined parking depth and then to dive to 2000m before profiling up to the surface where data are transmitted using the Argos system. More than 100 cycles can be performed during its 3-year lifetime.

(4) To integrate into CORIOLIS all other data presently collected at sea by French agencies from surface drifting buoys, PIRATA anchored buoys, oceanographic research vessels (XBT, thermosalinograph and ADCP transmitted on a daily basis).

CORIOLIS has three phases:

- Preparation phase (2000-2002) synchronised with MERCATOR demonstration phase, which sets up the system,

- Demonstration phase (2003-2005) during which CORIOLIS will operate in an operational mode,

- Lastly, an Evaluation Phase (2004-2005), which will provide recommendations starting from this experience, on what, should be a sustainable operational structure, in accordance with international plans that will follow the ARGO/GODAE expe

CORIOLIS data centre, already one of the two global data centres for ARGO, is the data centre for 5PrCd projects like Gyroscope and MFSTEP and is an important partner in projects within GMES et 6th PRCD calls like Mersea.

The CORIOLIS project implementation by the French agencies in charge of oceanography, will contribute to the ocean observing system, providing world coverage of the oceans in real time. CORIOLIS a multi-disciplinary pilot project is involved in new autonomous instruments development with up-to-date transmission capability, in float deployment in the Atlantic Ocean then world and in data collection, processing and distribution to users (public authorities, scientific community, industry sector.). It aims to be sustained when the world programs, to which it refer to, will have drawn their assessment for the coming years. One will then witness an evolution similar to the one observed in meteorology field twenty years ago: the deep-sea oceanography will go from science to operational for the benefit of the world population on a sustainable base. Nevertheless it will then be necessary to assume the recurring cost of such a program

