



The ROSAME tide gauge network: historical point of view

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Intégration de la station



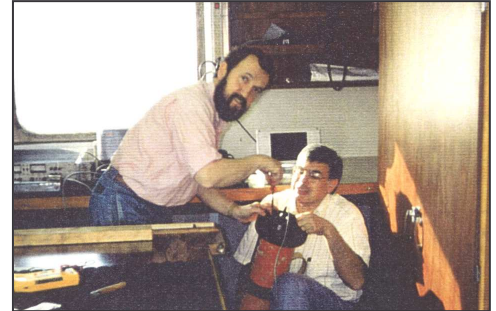
La station ARGOS de Kerguelen Port aux Français

Building of the network by Christian Le Provost

Christian Le Provost built the ROSAME tide gauge network in the beginning of the 1990s within the framework of the WOCE and GLOSS programmes. Well-known for his theoretical work on tides and for his hydrodynamic tidal model, it is also important to notice that Christian Le Provost actively participated to the collection of in situ data. ROSAME is a good example of this participation.

The first sea level measurements for scientific purpose in this region of the world probably arise in 1986 from a scientific program directed by B. Saint-Guily of the Museum d'Histoire Naturelle de Paris. At that time two moorings were deployed until 1989 North of Kerguelen and South of Amsterdam Islands in order to monitor the variability of the Antarctic Circumpolar Current. After one year of interruption in 1990 due to the immobilization of the Marion Dufresne ship, the program was restarted by C. Le Provost in 1991 with the objective to install 4 real time coastal tide gauges.

Then the real story of the ROSAME network begin during the spring of 1992, when Christian Le Provost went to the French Austral and Antarctic Islands to install the permanent tide gauge of Kerguelen (see photos on the left). He returned there in 1994 to install the Saint-Paul station and to prepare the installation of the Crozet station. All of these stations are still operating today. We will endeavour to continue the work initiate by Christian Le Provost and to maintain this network on a long term basis.



Christian Le Provost and André Lamy aboard of the Marion Dufresne ship during its first trip to the French Austral Islands preparing one of the two moorings deployed during this mission.

Since the first mission of Christian in April 1992, many volunteers went to Kerguelen and others Islands (several times for some of them), to maintain, develop and perfect the network. It is the occasion to thank them all for their participation: Benzohra M., Lyard F., Woppelmann G., Molines J.M., Pédon O., Ollivier B., Calzas M., Sangiardi P., Lefevre F., L'Herrou Y., Guillot A., Bouin M.N., Cravatte S., Fichen L.

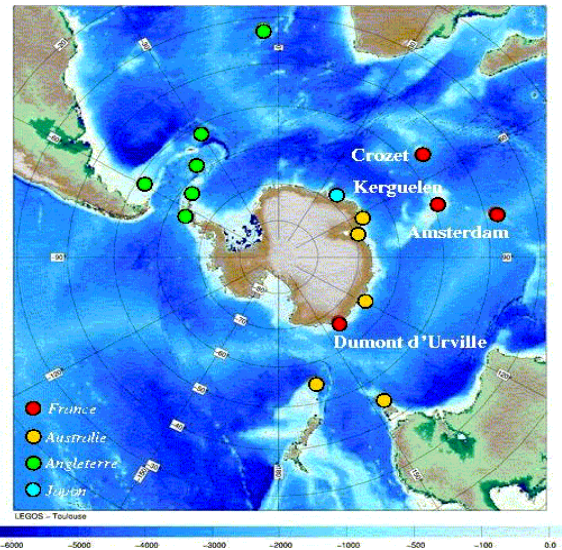
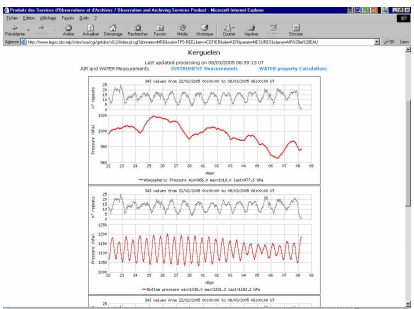
Many thanks have to be addressed to the VAT (Technical Volunteers staying over the year at the Islands) which greatly contribute to the day to day maintenance.

The ROSAME Network today

ROSAME (Réseau d'Observation Sub-antarctique et Antarctique du niveau de la MER) is a French tide gauge network complementing several national research programmes using sea level variation observations, in the peri-antarctic area of the Indian Ocean. The scientific objectives of this network are to study the variability of the sea level, with the aim to identify and understand its seasonal, interannual, decennial and secular variability and trends, in relation with the Antarctic Circumpolar Current. This programme is closely linked to the altimetric satellite missions TOPEX/POSEIDON, ERS1/2, JASON and ENVISAT.

Today four coastal pressure gauges are maintained in Kerguelen, Amsterdam/St Paul, Crozet, and Dumont d'Urville and two associated moorings are deployed near Crozet and Amsterdam Islands every year. The coastal data are delivered on a monthly basis to the fast delivery Sea Level Centre of Hawaii. The other data are archived, after validation, by the GLOSS Data Acquisition Centre of Bidston (U.K.). Great efforts have been done during the last few years to reference our tide gauges. In Kerguelen a GPS station has been installed at 50 m of the tide gauge for few months in 2004. In a near future this GPS will become a permanent GPS station. A complete levelling have been done between the tide gauge, the GPS antenna and the tide pole (already referenced to the local hydrographic zero). In between these levelling programme, a monthly tide pole lectures programme is now running at Kerguelen site for quite a year now. The installation of a radar gauge is scheduled at Kerguelen this year to replace the old one, operating for now nearly 12 years. An automatic acquisition/quality control/fast delivery software for real time follow-up of the data have been developed. This software will soon allow the data to be transmitted to Hawaii centre on a weekly basis. Real time data of all the tide gauges can be seen on the "tide gauges" menu of the ROSAME web pages of the LEGOS web site.

<http://www.legos.obs-mip.fr/en/soa/>



Location of some of the tide gauges maintained by different countries in the Austral Ocean. The four red dots constitutes the core of the ROSAME tide gauge network.

Real time sea level data of the ROSAME network

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
ker_argos													
spa_argos													
cro_argos													
ddu_argos													

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