



THE SEA LEVEL OBSERVATION NETWORK (RONIM)

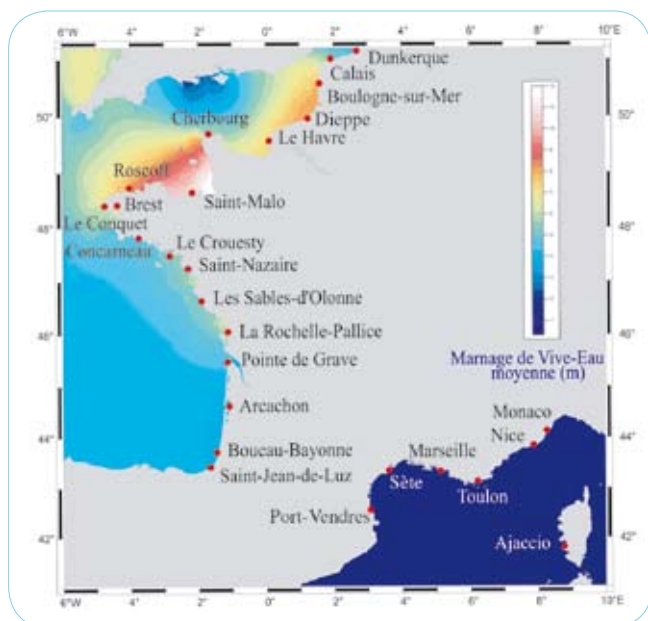
In Brief...

The goal of the RONIM project is to set up and maintain a modern tide gauge network in the standard ports of France and its overseas territories.

The data will be made available to users in near real time and time-delayed mode.

An observation network with multiple applications

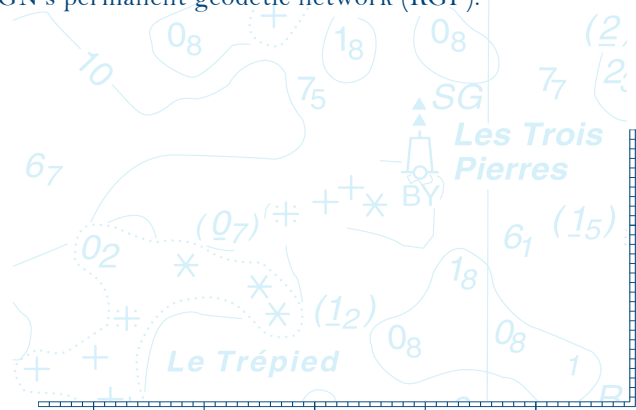
The RONIM network aims at benefiting several purposes including improving safety of navigation, computing tide predictions, validating hydrodynamic models and determining the nautical chart datums. It contributes to the GLOSS program of IOC and to the research on global sea level changes. Data are also used for the calibration of Topex-Poseidon, ERS and Jason radar altimeters, for tidal reduction of bathymetric soundings, integrated coastal zone management (ICZM), statistical studies of surges and extreme sea levels, operational coastal oceanography forecasting, and storm surge and tsunami warning systems coordinated by IOC.



Locations of the 27 tide gauges installed in mainland France as of 1 September 2010 and coastal tide model of France

A modern sea level infrastructure

- Partnership and deployment:
34 ports out of 44 are equipped and local partnership agreements have been signed;
- Performance:
 - 33 ports out of 34 are currently equipped with radar telemeters;
 - 23 ports out of 34 are currently equipped with real time transmission.
- Distribution:
 - time-delayed data and metadata are available free of charge for research purposes ;
 - data available in real time on the IOC Sea Level Station Monitoring Facility website.
- Six tide gauges are co-localized with GPS stations of the IGN's permanent geodetic network (RGP).



History

1992

First RONIM tide gauge
(acoustic sensor)

1998

First radar tide gauge

Since 2001

Data made available on
www.sonel.org

Since 2005

Participation of SHOM in ESEAS
www.eseas.org

2005

First tide gauges installed overseas
(6 in 2009)

Since 2006

Partnership with the Previmer
project www.previmer.org

Since 2007

Participation of SHOM in the
French contribution to IOTWS

2009

Participation of SHOM in
the French contribution to
NEAMTWS

End of 2013

Deployment complete
(44 tide gauges)

Glossary

IOTWS

Indian Ocean Tsunami Warning
and Mitigation System

NEAMTWS

Tsunami Early Warning and Mi-
tigation System in the North-eas-
tern Atlantic, the Mediterranean
and connected seas

ESEAS

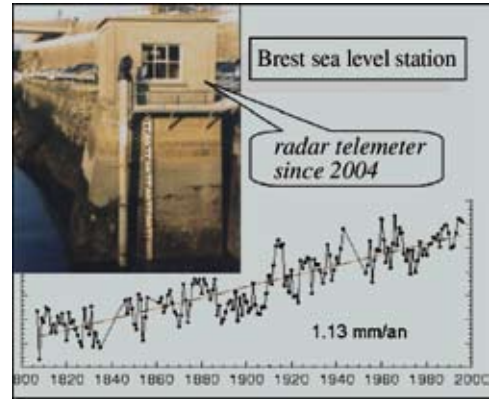
European Sea-Level Service

GLOSS

Global Sea Level Observing
System

IOC

Intergovernmental
Oceanographic Commission
of UNESCO



RONIM Observatory in Brest
and change in mean sea level
since 1806

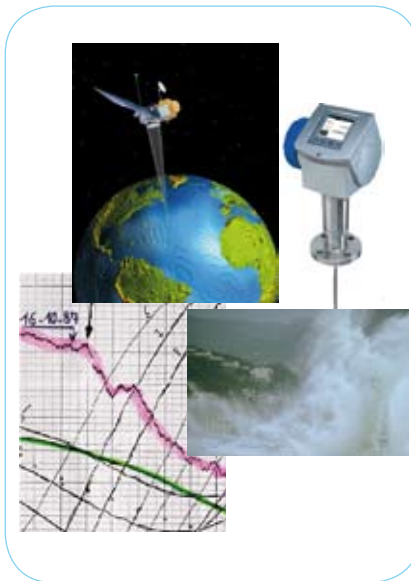


An accurate and reliable network

Instantaneous water level measurement is deduced from the time delay between the emission and reception of an electromagnetic wave by a radar telemeter.

Moreover, the advantages of radar telemeters are:

- absence of moving parts;
- low corrosion risk;
- fewer errors due to human maintenance activities.



SHOM's Partners

Projects and Partners:

- French contribution to NEAMTWS : CRATANEM project led by CEA;
- Previmer project (Ifremer-SHOM-Météo France);
- French contribution to IOTWS (led by Météo-France);
- SONEL project (University of La Rochelle-SHOM-LEGOS).

Local Partners:

- Port authorities;
- French Navy;
- IGN (Marseille);
- Météo-France.



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