

## **OCEANOGRAPHIC CAMPAIGN PIRATA-FR24**

The PIRATA annual oceanographic campaign is currently taking place in the East Tropical Atlantic. This is the 24th French campaign (hence the name PIRATA-FR24) launched through the international program PIRATA, a tripartite cooperation between the United States (NOAA), Brazil (INPE and DHN) and France (IRD and Météo-France).

In France, PIRATA is labelled as a national ocean observation service (SO) by INSU ([Institut National des Sciences de l' Univers](#)) and is a component of this institute's SOERE (System of Observation and Experimentation, on the long term, for Environmental Research)-CTDO2 (Coriolis Delayed Time Oceanic Observations). IRD is responsible for the annual maintenance of the East Tropical Atlantic moorings network. This network consists in 6 buoys for met-ocean measurements (ATLAS type) located at 23°W-0°N, 0°E-0°N, 8°E-6°S (recent buoy deployed in June 2013) and along 10°W (10°W-10°S, 10°W-6°S, et 10°W-0°N), and of 2 moorings measuring surface and 300m depth currents, located at 23°W-0°N and 10°W-0°N.

Besides replacing the buoys, this campaign enables numerous hydrological and current measurements to be collected along parallel sections (10°W off the coast of Congo, repeated every year). When stationed, profile measurements from the surface to a 2000m depth are taken. Like every year since 2006, this campaign will also be used to replace the CO2 sensor on the 6°S-10°W buoy (PI : N.Lefèvre, IRD/LOCEAN).

PIRATA-FR24, like its previous campaigns, provides an opportunity for the deployment of SVP-BS drifting buoys for INSU and CORIOLIS (PI : G.Reverdin, CNRS/LOCEAN), of 6 ARVOR-type profiling floats for CORIOLIS/ARGO, and the collection of numerous surface and deep seawater samples for salinity (contributing to [SO SSS](#)), nutritional salts, carbon parameters (CO2, C13), and primary production (pigments).

The second leg of PIRATA-FR24 (in contribution to the French LEFE "boundary layer and convection in the Gulf of Guinea" program of G. DeCoetlogon, LATMOS/IPSL) will set up a Picarro analyser (for continuous measurement of rain or water vapour isotopic composition, in order to determine their geographical origin) and deploy radiosondes in the Equatorial band.

All of this will contribute to the new EU project PREFACE (enhancing PREdiction of tropical Atlantic ClimatE and its impacts, FP7-ENV) by providing data necessary for an improved understanding of the ocean dynamics and air-sea exchanges in the Gulf of Guinea and ultimately better regional climate simulations.

Finally the PIRATA-FR24 campaign will, through scientific exchange and international collaborations, i) recover 2 deep moorings (hydrophones) for NOAA, which would otherwise have been lost (battery life) because of unavailability of USA vessel in the area, ii) deploy 2 ocean turbulence sensors on the buoys located at 23°W-0°N and 10°W-0°N for a university from the States, and finally iii) equip all buoys with acoustic sensors for monitoring marine mammals tagged by a Canadian university.

For security reasons (following recurrent acts of piracy in the North East of the Gulf of Guinea since 2011), work will be restricted to the southwest of the Gulf of Guinea (see red line on the map below).

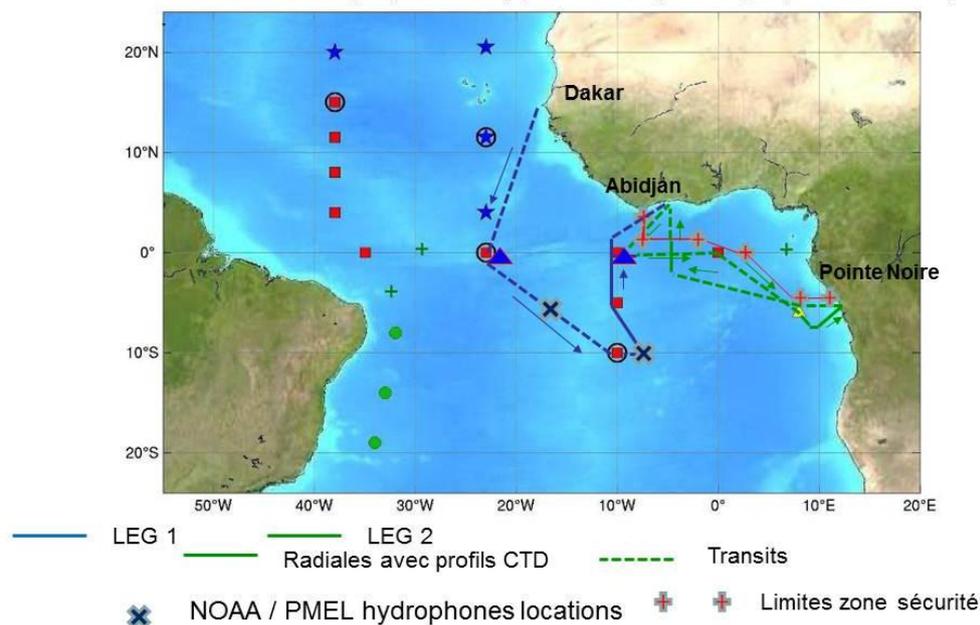
For more details on the PIRATA program and logs from previous campaigns visit: <http://www.ifremer.fr/ird/pirata>

The PIRATA-FR24 campaign is conducted aboard the R/V LE SUROIT, IFREMER. The first leg runs from April 9th to 30th between Dakar (Senegal) and Abidjan (Côte d'Ivoire), and the 2nd leg from the May 1<sup>st</sup> to 22<sup>nd</sup> from Abidjan. The team on board is composed of 10 scientists and 23 crew members.

## PIRATA FR-24 campaign chart

PIRATA FR24 : 9 April – 22 Mai, 2014. (10W-Eq au leg2)

LEG 1: Dakar-Abidjan (10-28 avril) ; LEG 2: Abidjan-Abidjan (30 avril -20 mai)



### Scientific Team:

#### LEG 1 : Dakar-Abidjan

- Yves Gouriou, chef de mission (IRD, US IMAGO, Brest)
- Jacques Grelet (IRD, US IMAGO, Brest)
- Fabrice Roubaud (IRD, US IMAGO, Brest)
- François Baurand (IRD, US IMAGO, Brest)
- Lionel Fichen (INSU, Brest)
- Yann Planton (MF, CNRM, Toulouse)
- Nicolas Derrien (IUT, Brest)
- Elisée Toualy (LAPA-MF, Univ.Abidjan)
- Clément Assemian (CRO, Abidjan)
- Benjamin Kouadio N'Guessan (CRO, Abidjan)

#### LEG 2 : Abidjan-Abidjan

- Bernard Boulès, chef de mission (IRD/LEGOS, Brest)
- Jacques Grelet (IRD, US IMAGO), Brest
- Fabrice Roubaud (IRD, US IMAGO, Brest)
- François Baurand (IRD, US IMAGO, Brest)
- Julien Jouanno (IRD/LEGOS, Toulouse)
- Nolwenn Lamande (IFREMER, Brest)
- Charlotte Feltrin (IFREMER, Brest)
- Marion Benetti (LOCEAN, Paris)
- Jérôme Demange (LOCEAN, Paris)
- Séverine Enet (SHOM, Brest)