WELCOME TO THE PIRATA 23 MEETING & 2nd TAOS REVIEW MEETING

THIS PIRATA 23 MEETING

IS DEDICATED

TO REMY CHUCHLA

From 1971 to 2013, he strongly and efficiently contributed to observations in the Tropical Atlantic, notably for the programs: CIPREA, FOCAL/SEQUAL, CITHER, ETAMBOT, EQUALANT, EGEE/AMMA, PIRATA... and to capacity building in West Africa.

He passed away on September 27th, 2018

A few words about PIRATA…

The present network:

21 years old at now…

From 10 to 18 met-ocean buoys

From Atlas to T-Flex systems

3 ADCP equatorial moorings
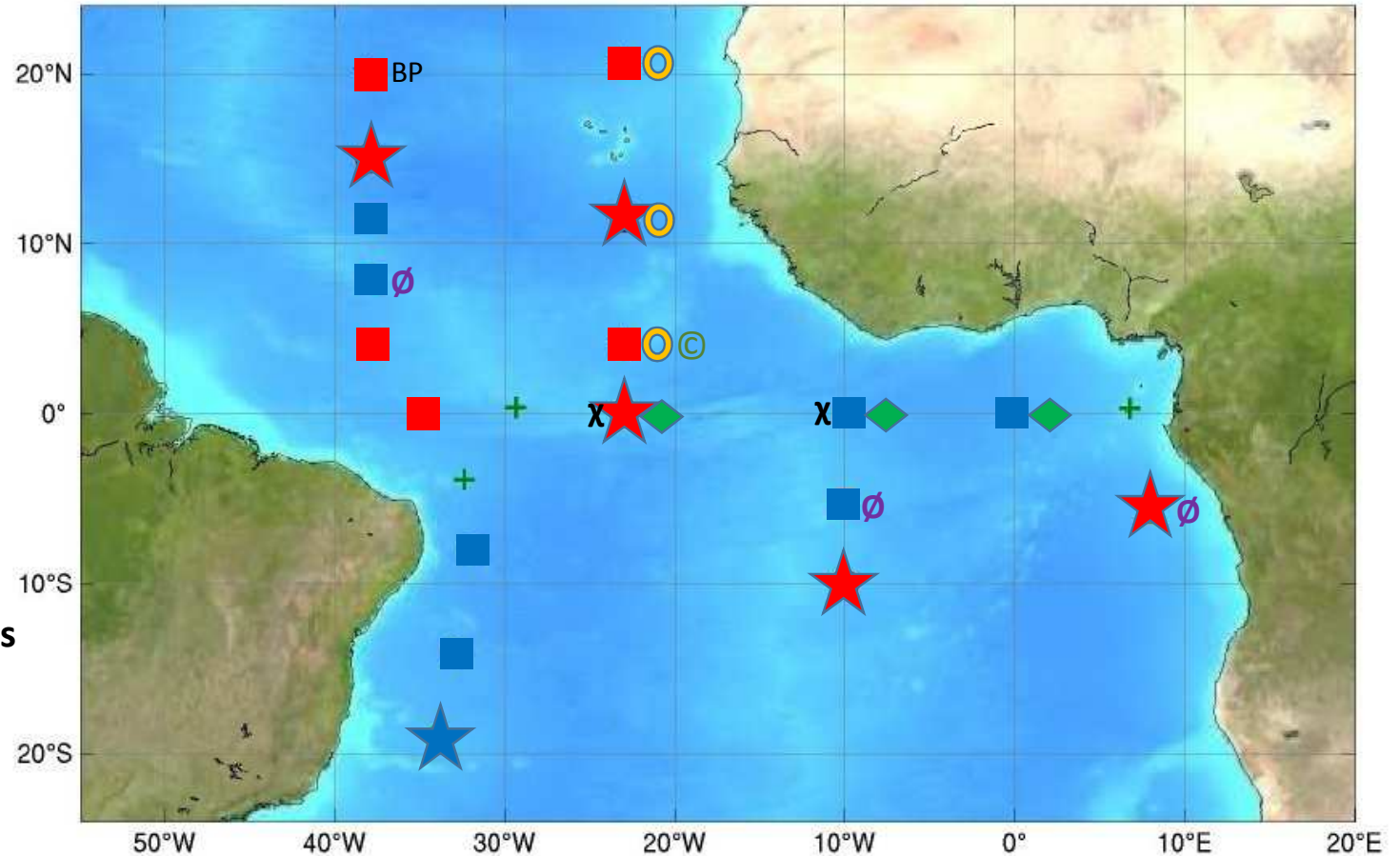
Some additionnal sensors:
T/C at some sites
Full flux at some sites
Currentmeter at some sites
CO2 at 3 sites
O2 at 3 sites
Turbulence (Xpods)
OTN

ø : CO$_2$ sensor   O : O$_2$ sensor   © : Currentmeters   χ : Turbulence sensors

BP : Barometric pressure sensor

PIRATA « 20 years » paper submitted in June 2018 in Journal of Earth & Space Sciences

(no news at now… one reviewer reponse still pending).

1   PIRATA: A SUSTAINED OBSERVING SYSTEM FOR TROPICAL ATLANTIC
2   CLIMATE RESEARCH AND FORECASTING

3   Bernard Bourlès[1], Moacyr Araujo[2], Michael J. McPhaden[3], Peter Brandt[4,5], Gregory R.
4   Foltz[6], Rick Lumpkin[6], Hervé Giordani[7], Fabrice Hernandez[8], Nathalie Lefèvre[9], Paulo
5   Nobre[10], Edmo Campos[11], Ramalingam Saravanan[12], Janice Trotte-Duhà[13], Marcus
6   Dengler[4], Johannes Hahn[4], Rebecca Hummels[4], Joke F. Lübbecke[4,5], Mathieu Rouault[14],
7   Leticia Cotrim[15], Adrienne Sutton[3], Markus Jochum[16] and Renellys C. Perez[6].

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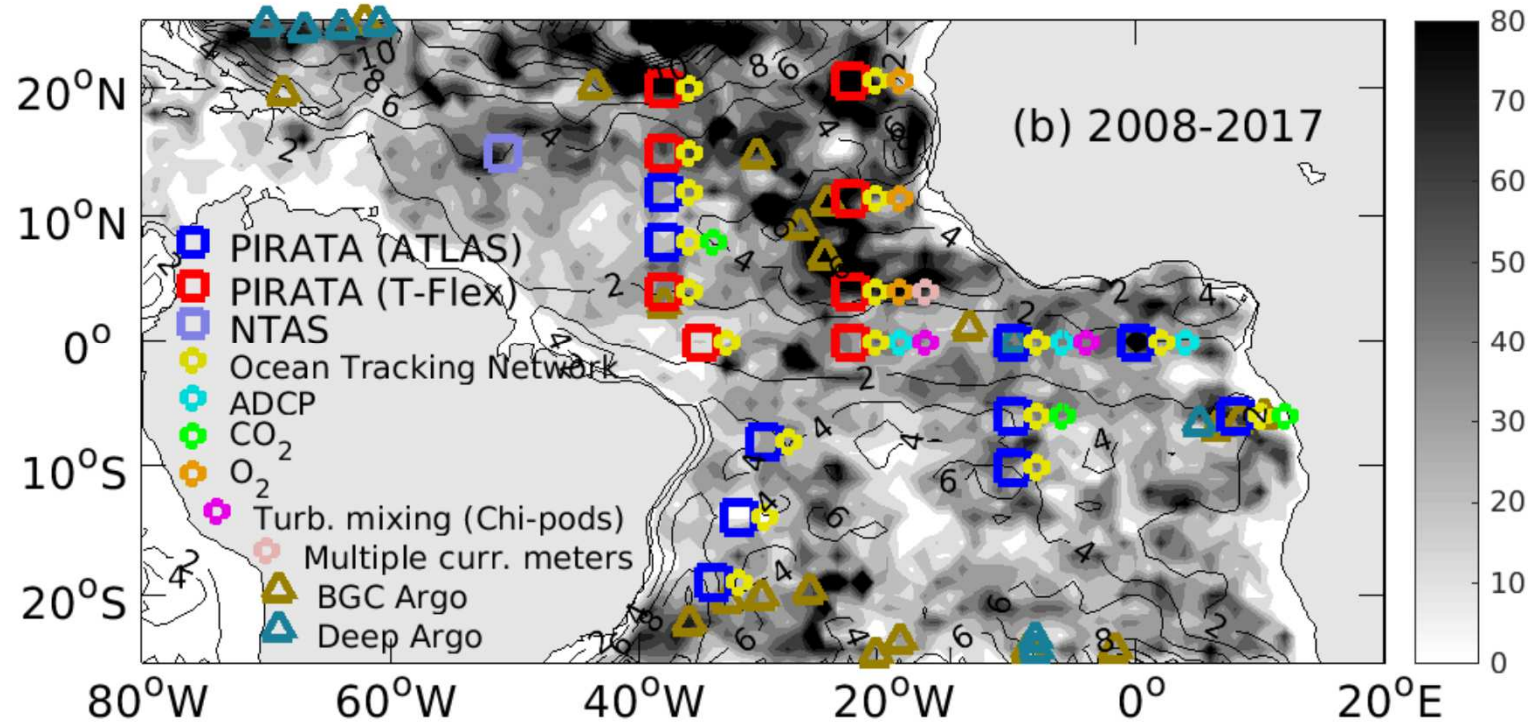24 Africa.
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PIRATA as a major component of the Tropical Atlantic Observing System...

from Foltz et al., TAOS OO WP in prep.:
Key elements of the tropical Atlantic in situ observing system during 2008-2017. Gray shading represents the number of Argo profiles made in each 1º box. Contours show the average number of hourly surface drifter observations made in each 1º box per month.

Meeting expectations:

These meetings have to be an important opportunity to gather information on the Tropical Atlantic Observing System and PIRATA data use impacts from stakeholders, specialists in satellite measurements and products, ocean-weather-climate operational prediction, ocean biogeochemistry and resources along with socio-economic impacts of climate and environmental changes. Such information are of prime importance for evaluating and valorizing observing systems and to better define their potential optimization and enhancements in the close future, but also for major services and developing agencies.

Unfortunately very few presentations in Session 4:

=> Progresses to be done in this way:
? More communication & lobbying,
for more infos on these aspects
& more support in the present « climate change » context…

Scientific sessions will be organized as follows:

Session 1 - Oceanic and Atmospheric Mechanisms Affecting Tropical Atlantic Climate

This session will focus on studies utilizing both in situ data sets and model output from process oriented simulation analyses. These should address the progress in the understanding of the different modes of tropical Atlantic Climate Variability, their physical mechanisms and time scales as identified in observations and simulations. Areas of particular focus will be a) the seasonal and interannual variability of tropical Atlantic EOVs and ECVs and b) ocean-atmosphere interaction and its effect on atmospheric deep convection over the ocean and surrounding continents.

Session 2 - Simulation and Predictability of Tropical Atlantic Climate Variability and Change

This session will address the state-of-the-art simulations of the Tropical Atlantic Climate and the improved understanding of its predictability. Validation and skills of coupled and uncoupled model studies against Tropical Atlantic Observing Systems and PIRATA array data time series are especially welcomed, as well as the responses of the tropical ocean and atmosphere systems to anthropogenic climate changes.

**Session 3 -** Physical-Biogeochemical Interaction

Climate-biogeochemistry interaction is of particular importance in the tropical oceans. The effect of global warming in the biologically highly-productive regions in the eastern tropics, deoxygenation, acidification, and the sequestration/outgassing of radiative and chemical active gases are important aspects of ongoing tropical Atlantic climate research. This session invites observational (i.e., PIRATA biogeochemical EOVs dataset...) as well as modeling studies addressing physical-biogeochemical interactions in the tropical Atlantic on all space and time scales.

Session 4 - Societal impacts and benefits of the Tropical Atlantic Observing System

Weather and climate variability impact on society in different ways: oceanic resources/fishing, marine ecosystems health, coastal areas vulnerability, human health, water supply, agriculture, renewable energy, tourism, etc. This section will focus on the importance of the tropical Atlantic data for socio-economy. Study cases involving benefits of derived products using tropical Atlantic observations (i.e., satellite products calibration, climatology, reanalyzes, etc.), as well as OSE and OSSE exercises are welcomed.

What could be PIRATA in the future????

*Adapted from the
PREFACE Deliverable 4.4
"Suggestion for a sustainable long
term monitoring system"
By B.Bourlès, P.Brandt & M.Dengler, 2018.*
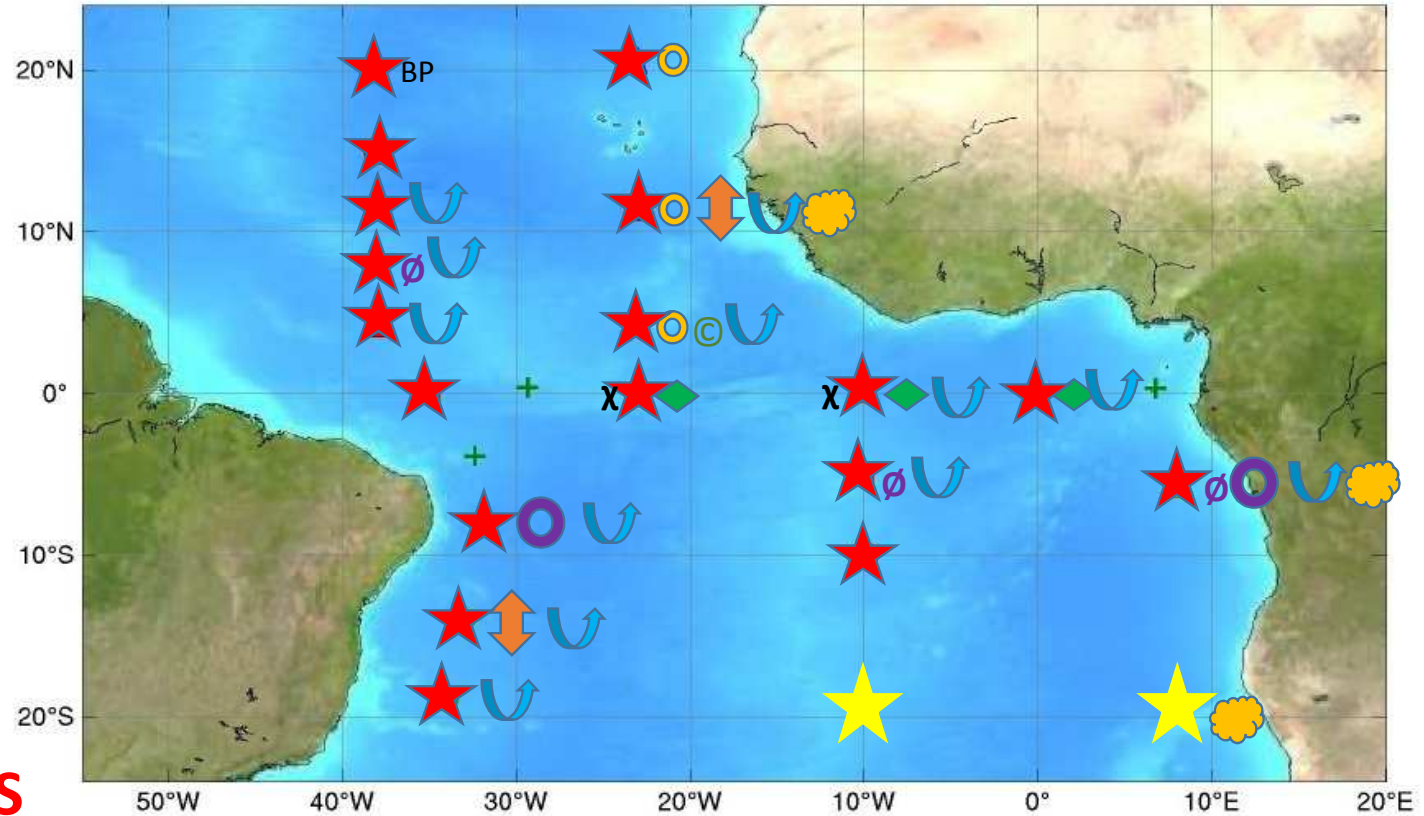
⇒**IMPORTANCE of the TAOS
2nd review meeting**

⭐ : Potential additionnal Pirata moorings ⬍: CO_2 sensor ⭕ : O_2 sensor

∪ : T/C & current in the Mixed Layer ☁ : Aerosols

All PIRATA buoys should be "full flux" equipped with T-Flex systems.