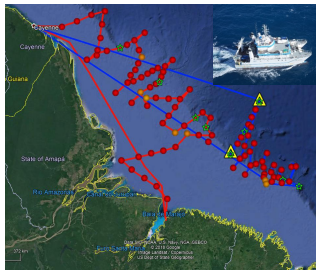


F. Hernandez, A. Koch Larrowy, M. Araujo., A. Costa, A. Lemos, M. Silva, Co-Is from AMAZOMIX, SWOT-Abrolhos experiments, MIAMAZ project

SWOT-Brésil. General circulation, mesoscale and internal tides interactions along the Brazilian coast : insights from model, in situ data, altimetry, SAR and SWOT

AMAZOMIX (September 2021)

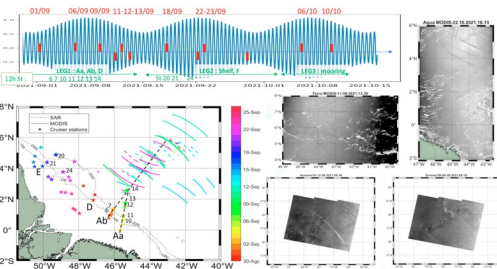


**Objectives of AMAZOMIX:**

- Internal tides (ITs)
- Propagation, dissipation & Variability
- Interaction with eddies
- Impact on T, S, Chl a and whole ecosystem

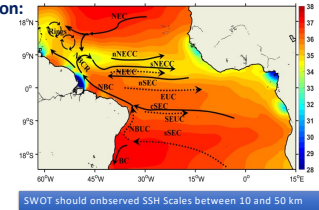
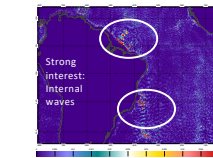
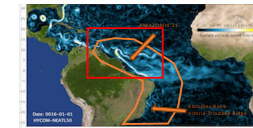
**AMAZOMIX Field Campaign:**

- R/V Antea - 3 Legs : Acoustics, VM-ADCP, TSG
- CTD casts, VMP
- Biology, biogeochemistry, water sample
- Glider
- 2 moorings (ADCP, T/S)

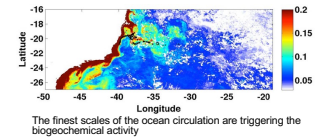


Objectives: SWOT improvements on:

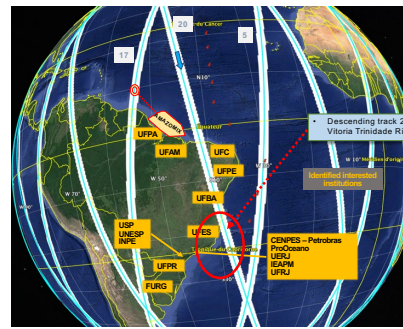
- Tropical Ocean
- Impacts on Regional Climate
- Western Boundary Current and strong mesoscale
- AMOC
- Amazon Plume
- Fine scales, internal wave
- Fine scale circulation impact on biogeochemistry



- Partnership with Brazil on satellite altimetry
- Fine scales in a Western Boundary dynamics
- Internal Waves along the Brazilian shelf
- AMAZOMIX 2021: fine scales, Amazon Plume, IW
- SWOT-ABROLHOS 2023: Cal/Val SWOT

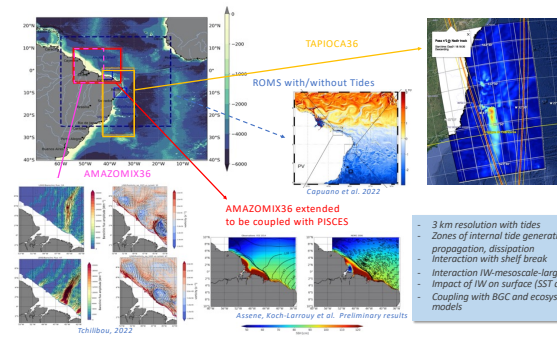


SWOT during Cal/Val

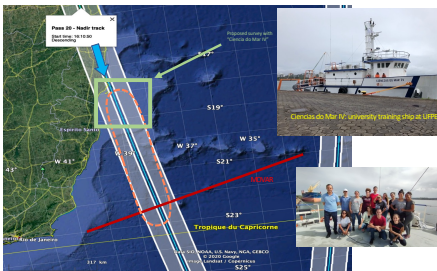


Contributing to SWOT cal/val Fast Sampling Phase (3 months from April 2023)

Modelling strategy: dedicated simulations at high resolution with and without tides



SWOT-Abrolhos (May & September 2023)



**Objectives of SWOT-Abrolhos:**

- Brazil Current dynamics and mesoscale over the shelf, on the Banks
- Banks of Abrolhos: rich ecosystem and MPA
- SSH on coastal areas
- Wave, tidal influence over the Banks
- Biogeochemistry (for Ocean Colour)

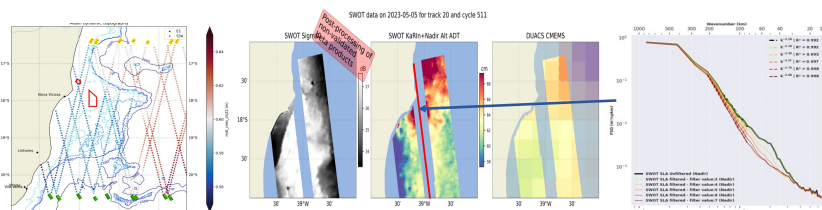
**SWOT-Abrolhos Field Campaign:**

- R/V Ciencias do Mar IV - 2 Legs : VM-ADCP, TSG
- CTD casts
- Biology, biogeochemistry, water sample
- 2 shallow water moorings (ADCP, wave)

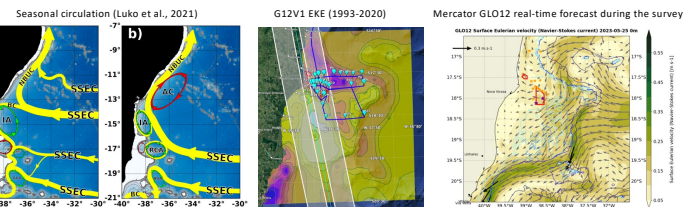


Training onboard for UFSB students:

- Satellite altimetry
- SWOT mission
- Field work



Preliminary analysis at LEGOS of reprocessed XTRACK nadir altimetry | SWOT-KarIn pre-processed swath track #20 by AdAC support to Cal/Val field campaigns | FIRST Spectral analysis of SWOT 1D repeat nadir Track 20 (A. LeBihan, LEGOS)



Perspectives under SWOT-Brésil project (and follow-on)

- First AMAZOMIX'21 results under publication: role of IWs on primary production, interactions lws-mesoscale
- AMAZOMIX mooring recover scheduled on 2024 on Brazilian ship
- Plan: Analysis of SWOT 21-day day over AMAZOMIX, together with numerical simulations
- SWOT-Abrolhos field data to be compared to 1) nadir altimetry, 2) SWOT KarIn, 3) high resolution simulations 4) Mercator forecasts
- SWOT-Abrolhos coastal dynamics: tidal signals, waves, and other ageostrophic signals to be analysed on SWOT data
- SWOT-Abrolhos: dedicated effort on high resolution bathymetry and geoid (MSS) on SWOT KarIn data