

# GEOTRACES-Related Brazilian Activities

Not reported in Washington 2009

# **1- HABITATS – Evaluation of Environmental Heterogeneity in the Campos Basin**

**2008-2011**

**Petrobras/PUC-Rio/UERJ/UENF**

## Objectives Related to Chemistry

- ✓ Organic contaminants and trace metals (Fe, Al, Ba, B, Cu, Cr, Pb, Cd, Zn, Ni, V, Mn, Hg and As) in water and sediment.
- ✓ Molecular markers and stable isotopes to determine origin and characterize organic matter in sediments .
- ✓ Sediment properties at the interface Continental Platform - Continental Margin – Deep Ocean.
- ✓ Hydrobiology (nutrients, chlorophyll and bacterioplankton) and bacterial community in sediment

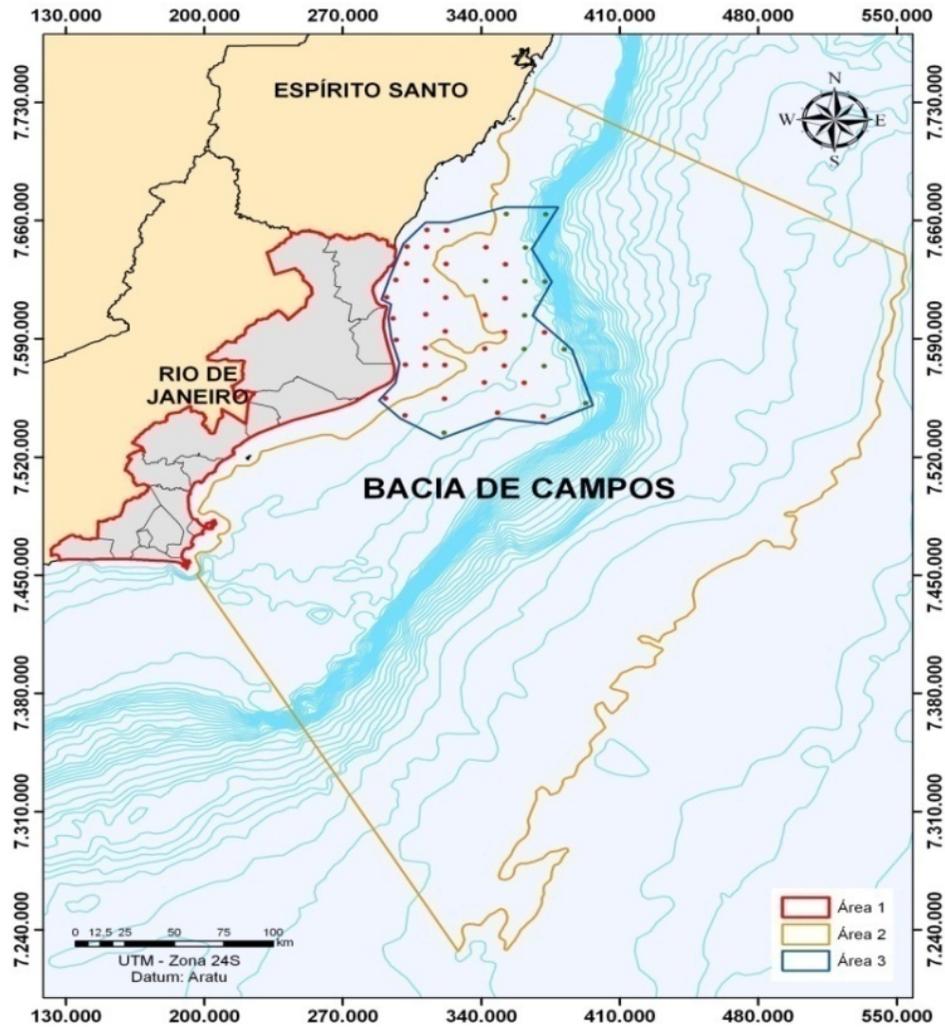
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Biological screening in waters and sediments



Study area

## Water Masses:

Tropical Waters

South Atlantic Central Water (250m)

Antarctic Intermediate Water (800 m)

Circumpolar Upper Water (1200 m)

North Atlantic Deep Water (2300 m)

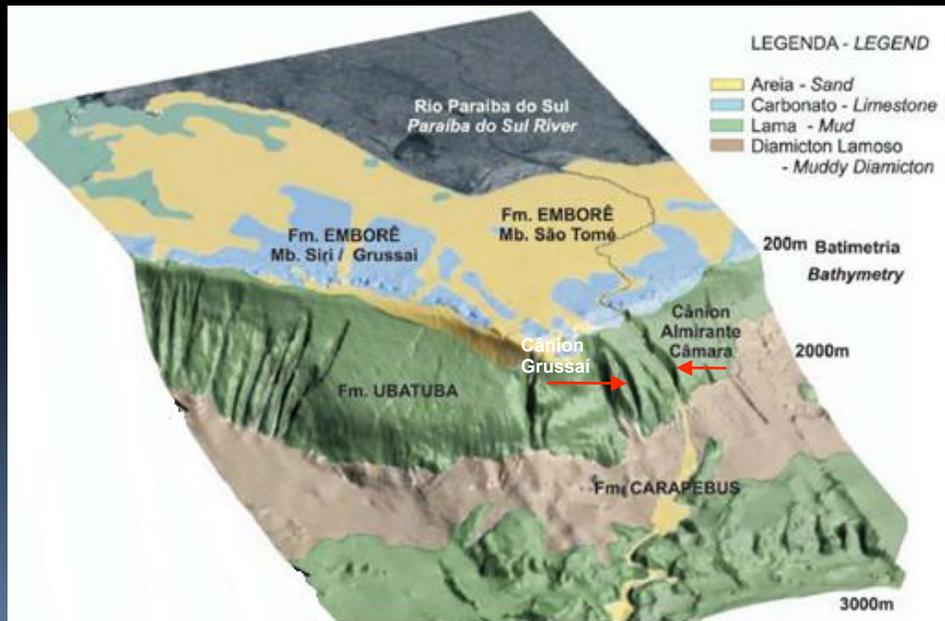
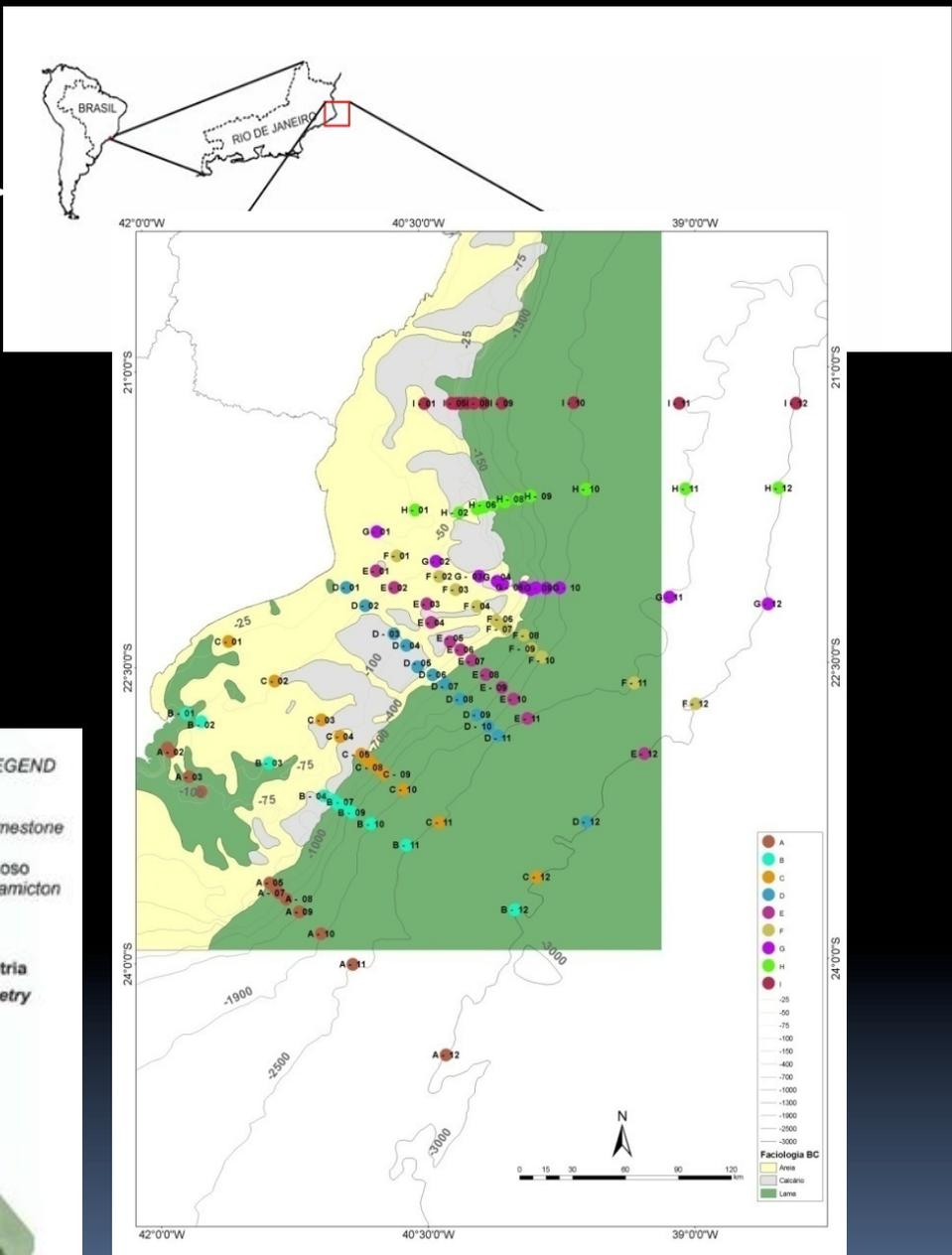
## Sampling:

Rosette + Go-Flo

Box-corer

# Campos Basin General Features:

- 100.000km<sup>2</sup> area, 3.000m max. depth
- Continental shelf: 100km wide
- Continental slope: 40km wide; 2.5°; presence of submarine canyons and channels, and deep water coral reefs



Sampling points in Campos Basin (105) (winter/2008 & summer/2009)

Canyons in the slope of Campos Basin (7 sampling points) From 24°S (Cabo Frio, RJ) to 20.5°S (Vitória, ES)

| Parameters  | Sea Water      | Sediment |
|---|----------------|----------|
| Turbidity, Salinity                                 | X <sup>1</sup> |          |
| Chromophorous Organic matter – CDOM                 | X <sup>1</sup> |          |
| Suspended particulate matter                        | X <sup>1</sup> |          |
| Dissolved oxygen (DO)                               | X <sup>1</sup> |          |
| Dissolved and Particulate Organic Carbon (DOC/ POC) | X <sup>1</sup> |          |
| CNPS and Black Carbon                               | X <sup>1</sup> | X        |
| Nutrients   | X <sup>1</sup> |          |
| Chlorophyll (45 and <20 µm filter) and Pigments     | X <sup>1</sup> |          |
| TPH, PAH, n-alkanes                                 | X <sup>2</sup> | X        |
| BTEX, Phenols                                       | X <sup>2</sup> |          |
| Metals  | X <sup>2</sup> | X        |
| Organic matter, Lignin, Amino acids                 |                | X        |
| Hopanes and Esteranes, Isotopic ratios (C, N)       |                | X        |
| Sterols, fatty acid and linear alcohol              |                | X        |
| Grain size and mineralogy                           |                | X        |
| SEM/AVS, Pesticides                                 |                | X        |

**Depth:**

**X<sup>1</sup>**  
(1, 25, 50, 75, 150,  
400, 1000, 1900,  
3000m)

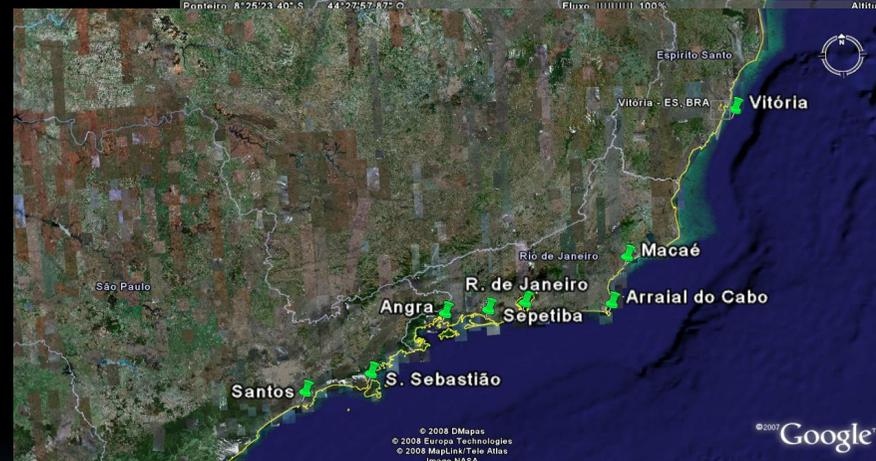
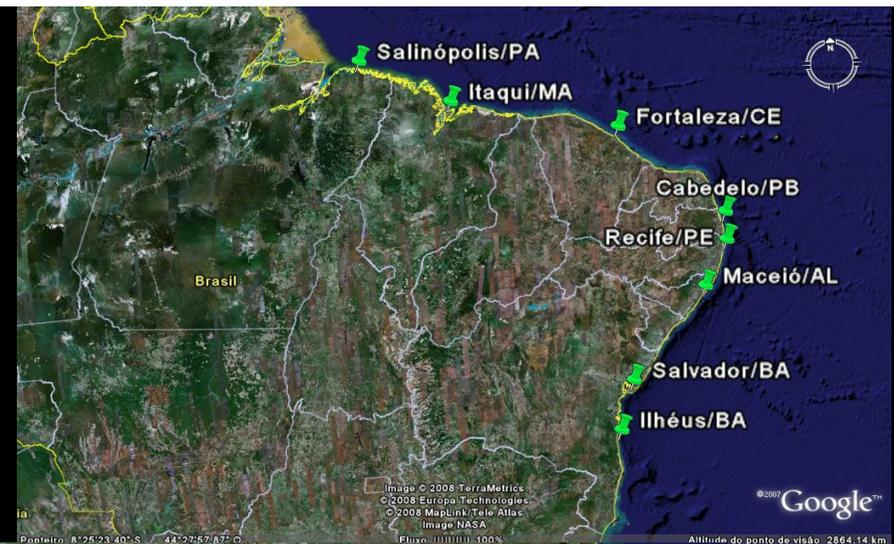
**X<sup>2</sup>**  
(1m)

## 2- Artificial Radionuclides in Brazilian Coastal Waters

$^{137}\text{Cs}$ ,  $^{90}\text{Sr}$ ,  
 $^{239+240}\text{Pu}$ , Ra isotopes

Water, sediments and biota

8 transects up to 200 m



National Nuclear Energy  
Commission and Navy



*The Meeting of the Americas*

8 to 13 August 2010, Foz do Iguassu, Brazil



### 3- Workshop on Shelf/Deep Ocean Exchange in SW South Atlantic.

Session of the AGU Meeting – Foz do Iguacu -Brazil  
13 to 14 August 2010

Sponsors: NSF and Inter American Institute for Global  
Change Research (IAI)