

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

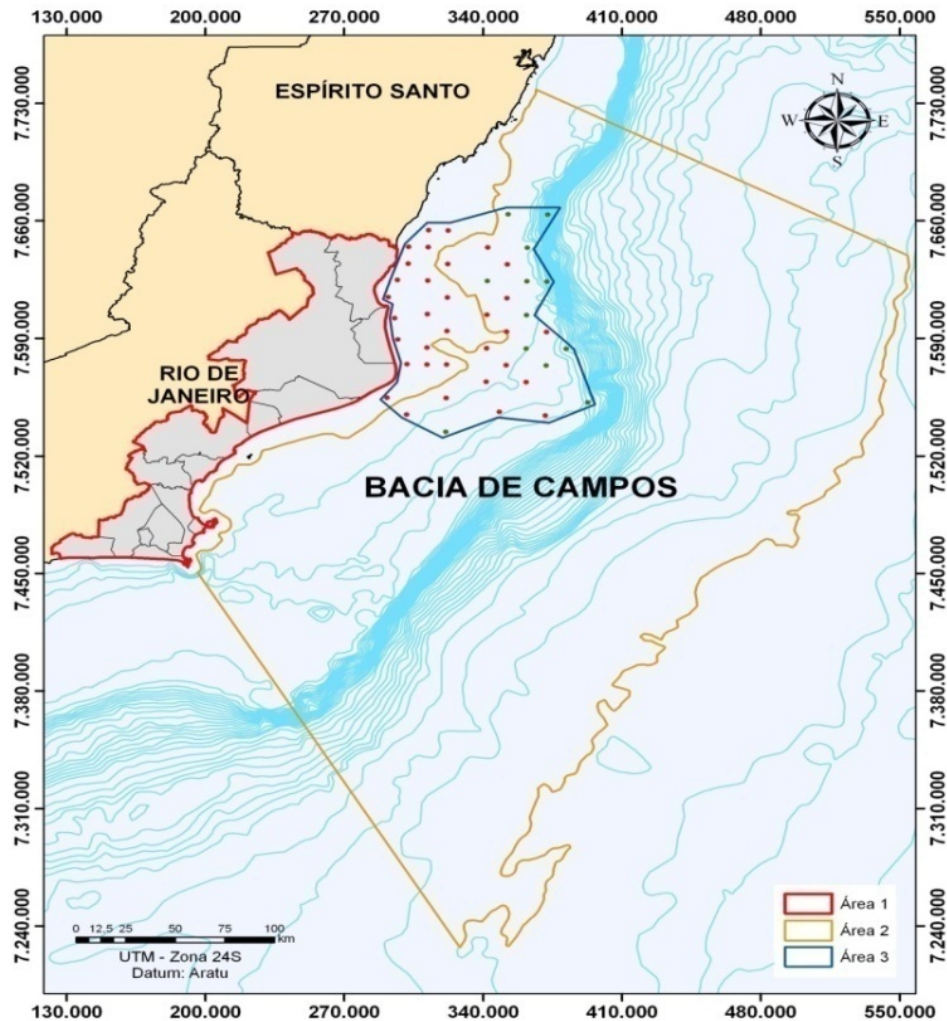
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Biological screening in waters and sediments



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)

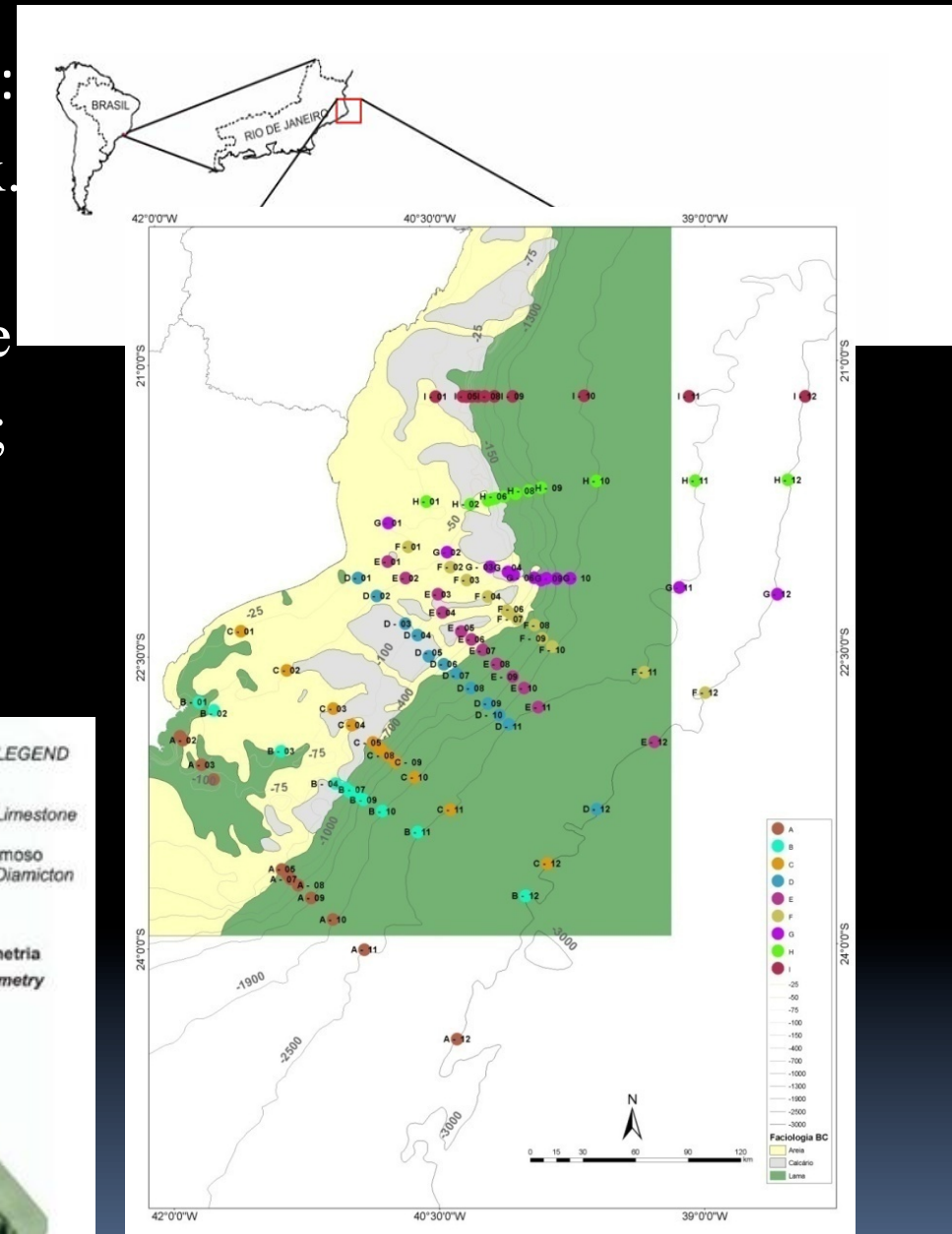
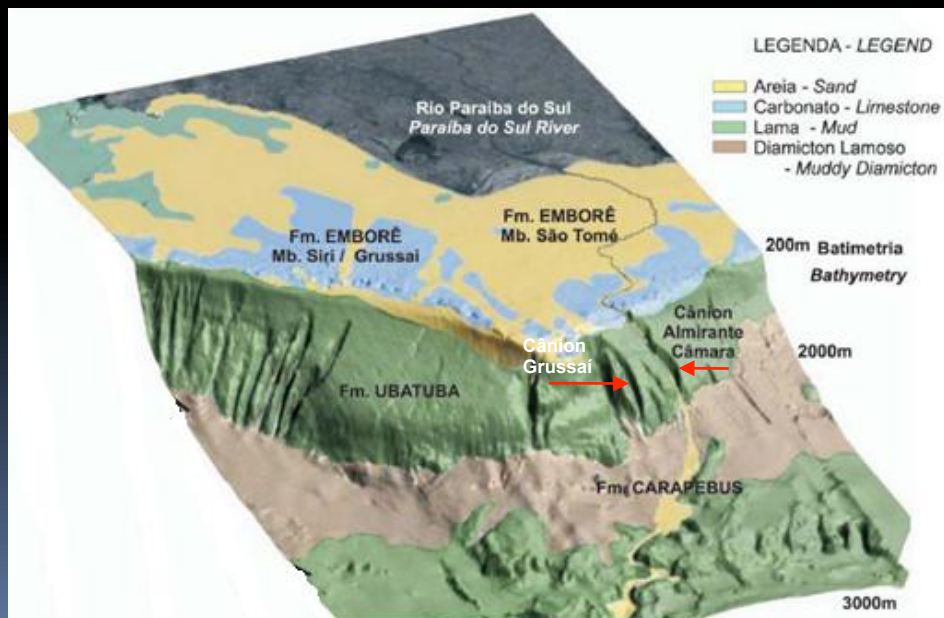
Sampling:

Rosette + Go-Flo

Box-corer

Campos Basin General Features:

- 100.000km² 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 ¹	
Chromophorous Organic matter – CDOM	X ¹	
Suspended particulate matter	X ¹	
Dissolved oxygen (DO)	X ¹	
Dissolved and Particulate Organic Carbon (DOC/ POC)	X ¹	
CNPS and Black Carbon	X ¹	X
Nutrients	X ¹	
Chlorophyll (45 and <20 µm filter) and Pigments	X ¹	
TPH, PAH, n-alkanes	X ²	X
BTEX, Phenols	X ²	
Metals	X ²	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:

X¹
(1, 25, 50, 75, 150,
400, 1000, 1900,
3000m)

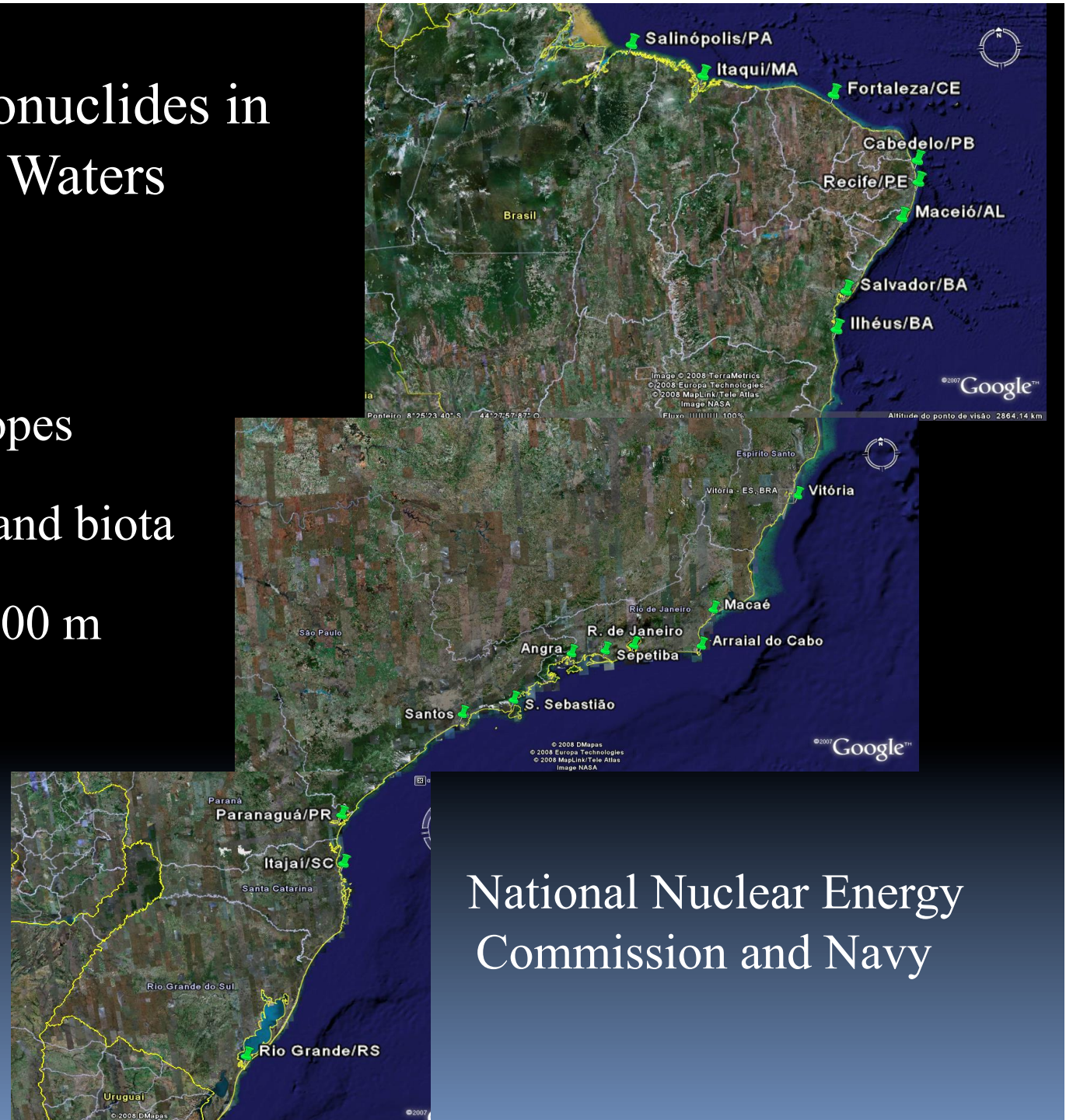
X²
(1m)

2- Artificial Radionuclides in Brazilian Coastal Waters

^{137}Cs , ^{90}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 Iguaçu -Brazil
13 to 14 August 2010

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