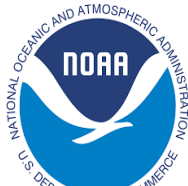


# 21<sup>th</sup> Meeting of the Meso American – Caribbean Sea Hydrographic Commission

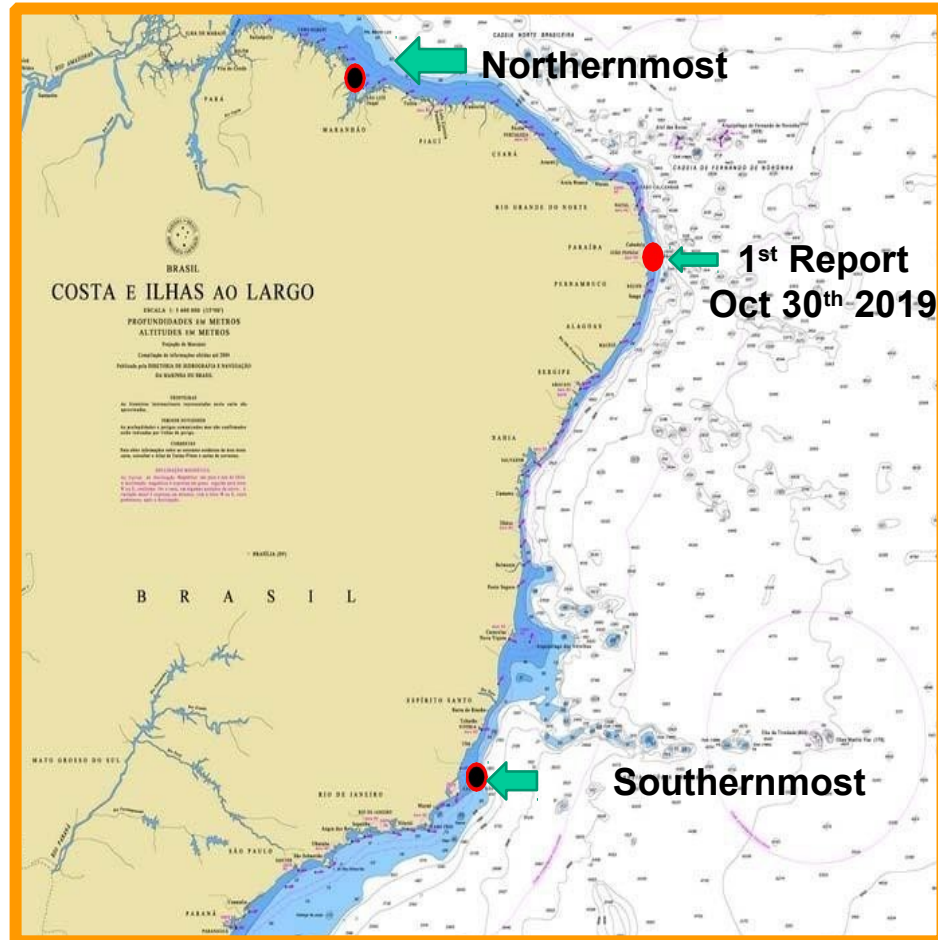
## **Oil Spill Response in Brazilian Waters: Lessons Learned**



# Organizations that supported the investigation with resources and information



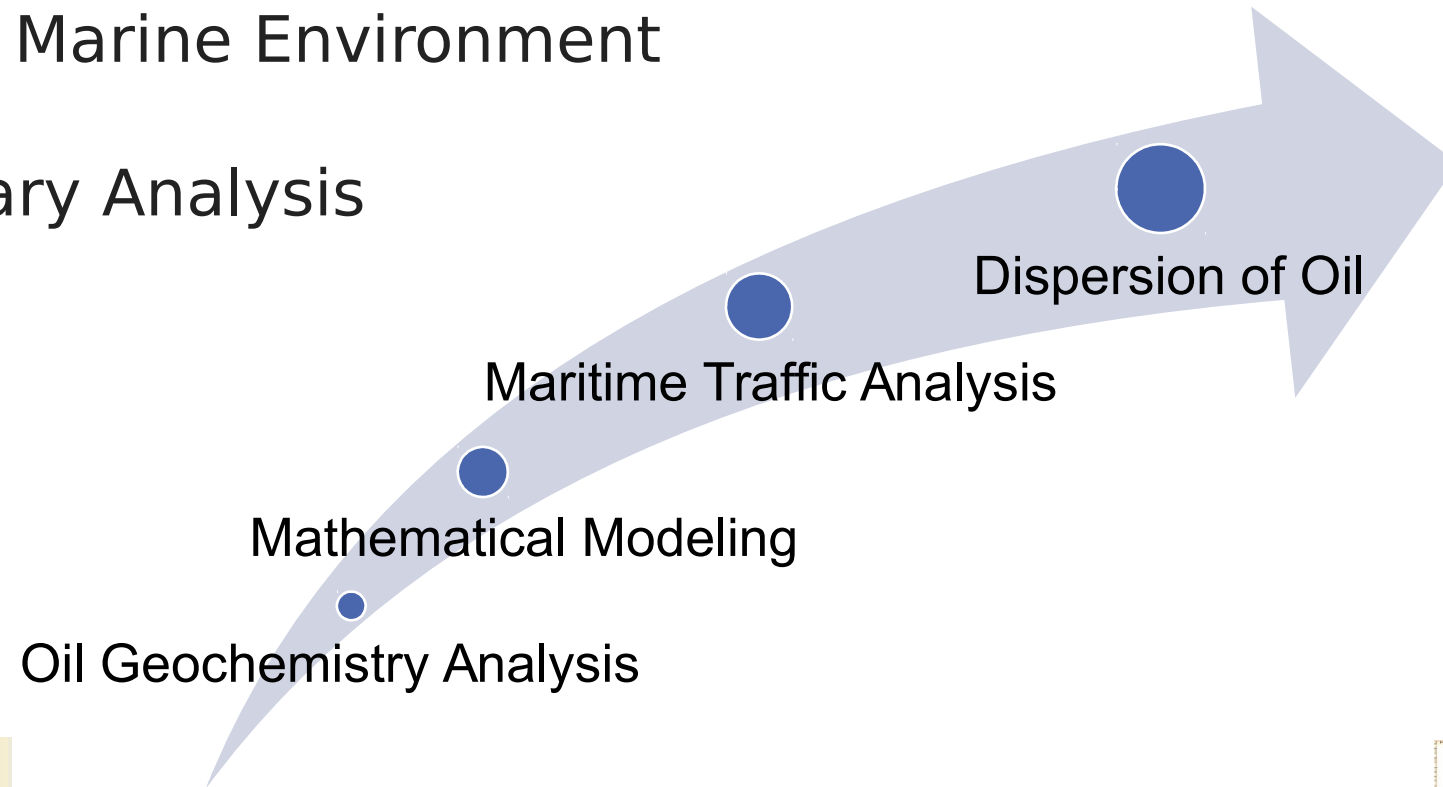
# Oil Spill Along the Brazilian Coastline



- **Northernmost incident:**  
State of Maranhão – Oct 5<sup>th</sup>
- **Southernmost incident:**  
State of Rio de Janeiro – Dec 1<sup>st</sup>
- **Coastline affected:**  
3,600 Km  
130 Cities  
11 States
- **5,340 tons of oil residues**
- **Unprecedented incident in length and duration**

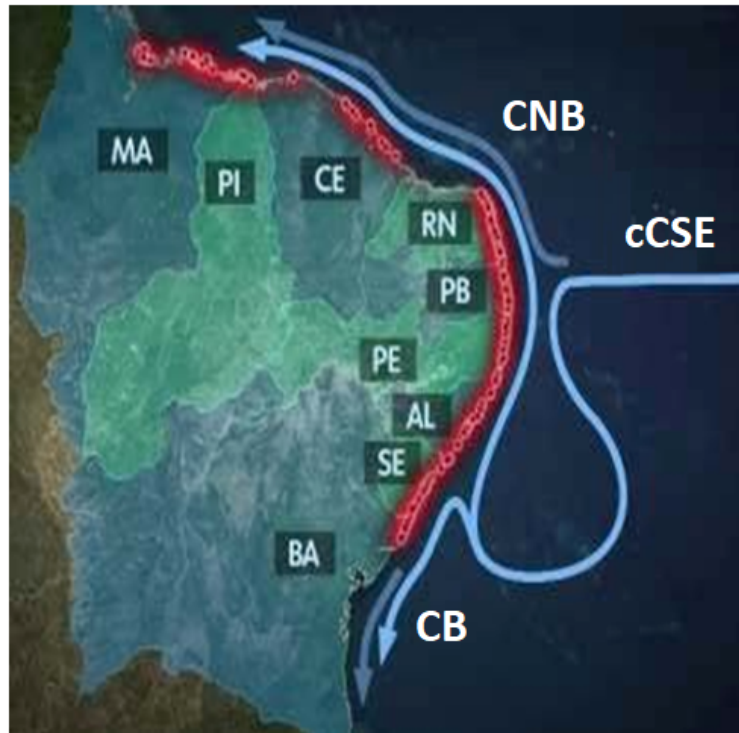
# Lessons Learned

- Director of Hydrography and Navigation was the Head of the Investigation
- Knowledge of Marine Environment
- Multidisciplinary Analysis



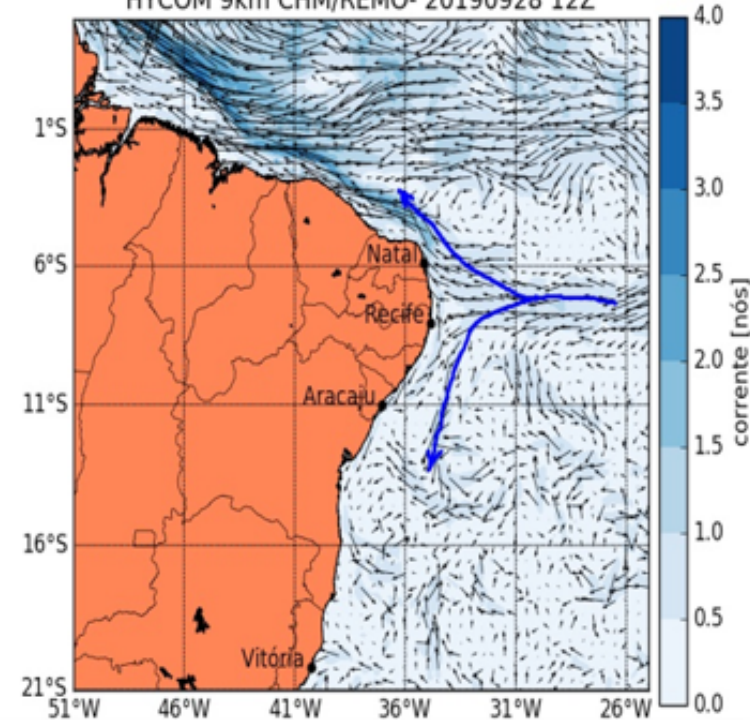
# Lessons Learned

## Knowledge of Marine Environment



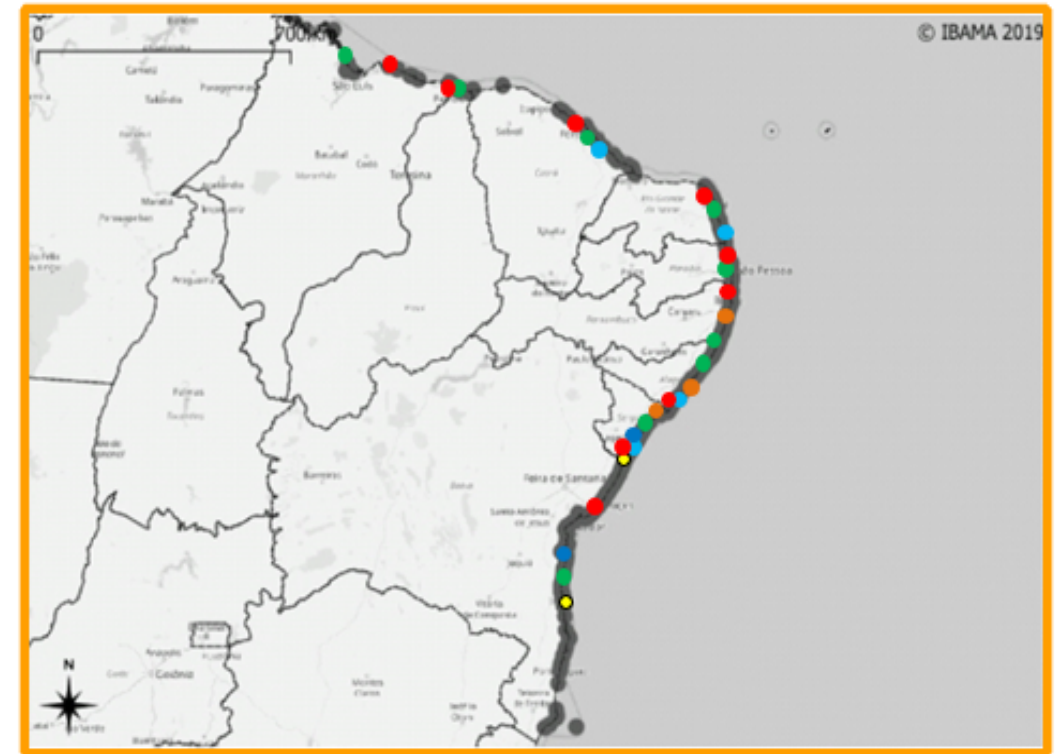
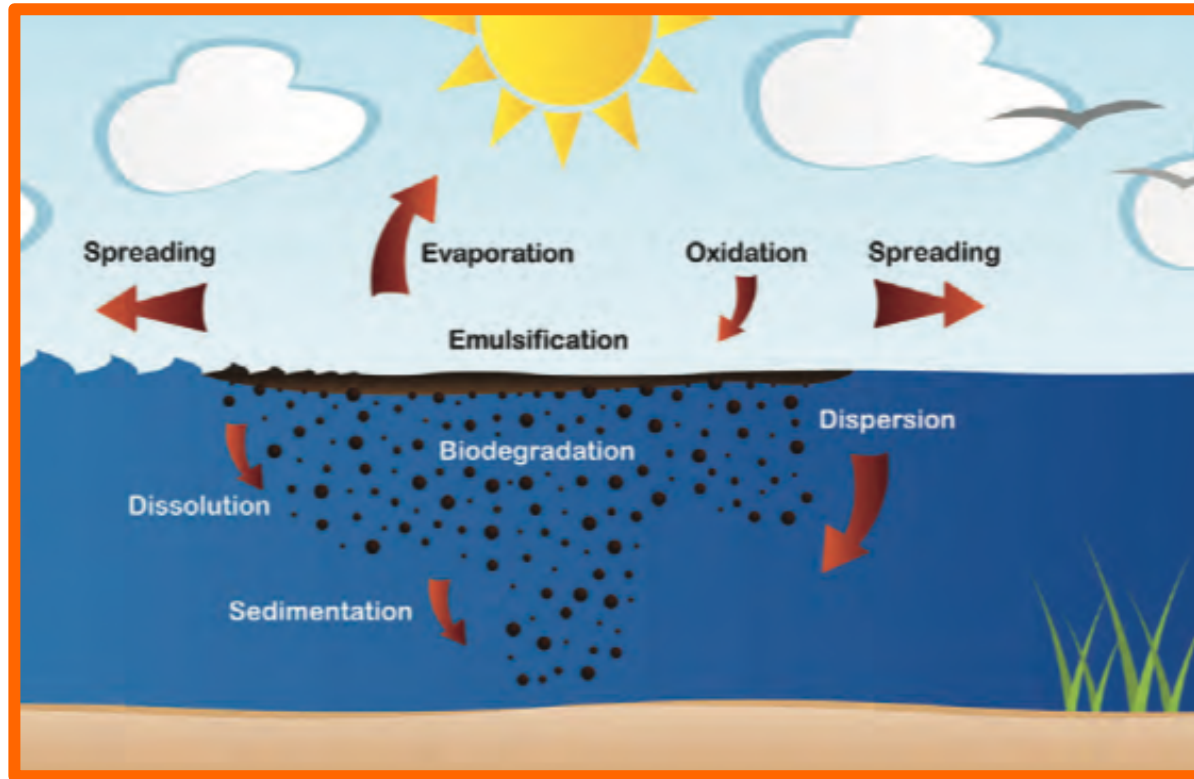
### Bifurcação de la corriente Sur-Ecuatorial

HYCOM 9km CHM/REMO- 20190928 12Z



# Lessons Learned

## Weathering Processes of Oil at Sea and the Oil Geochemistry Analysis



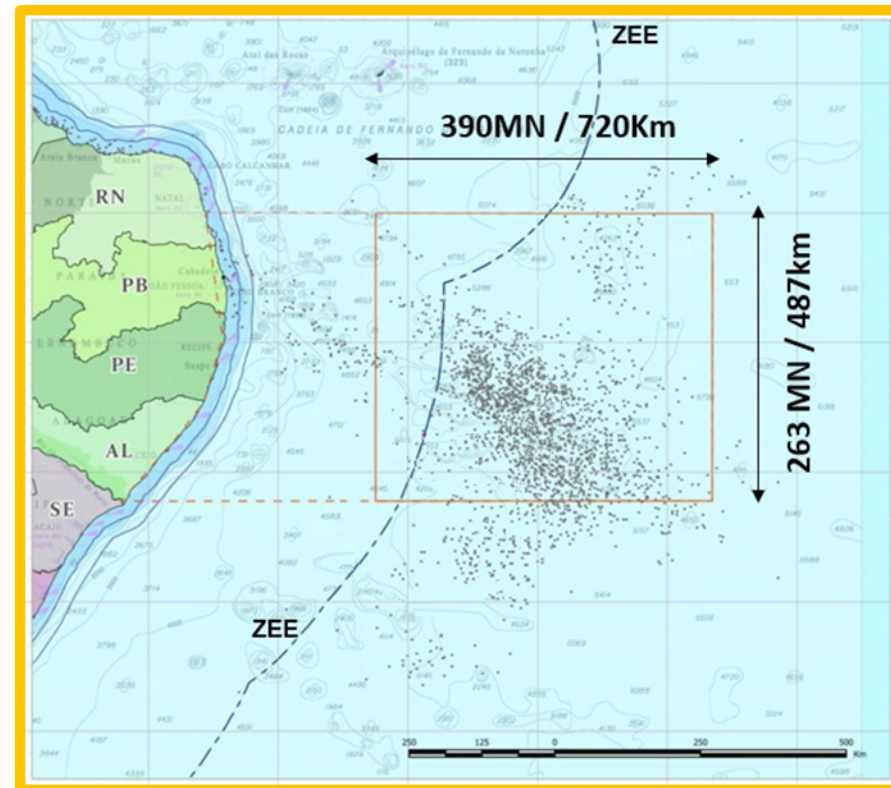
# Lessons Learned

## Dissipation of the oil at sea



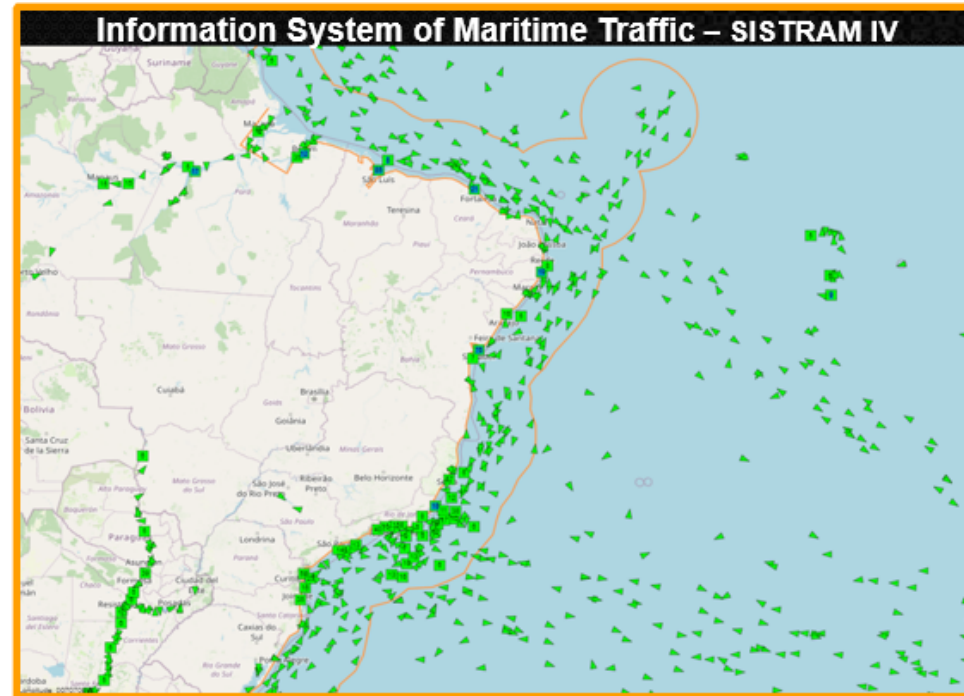
# Lessons Learned

## Mathematical Modeling



# Lessons Learned

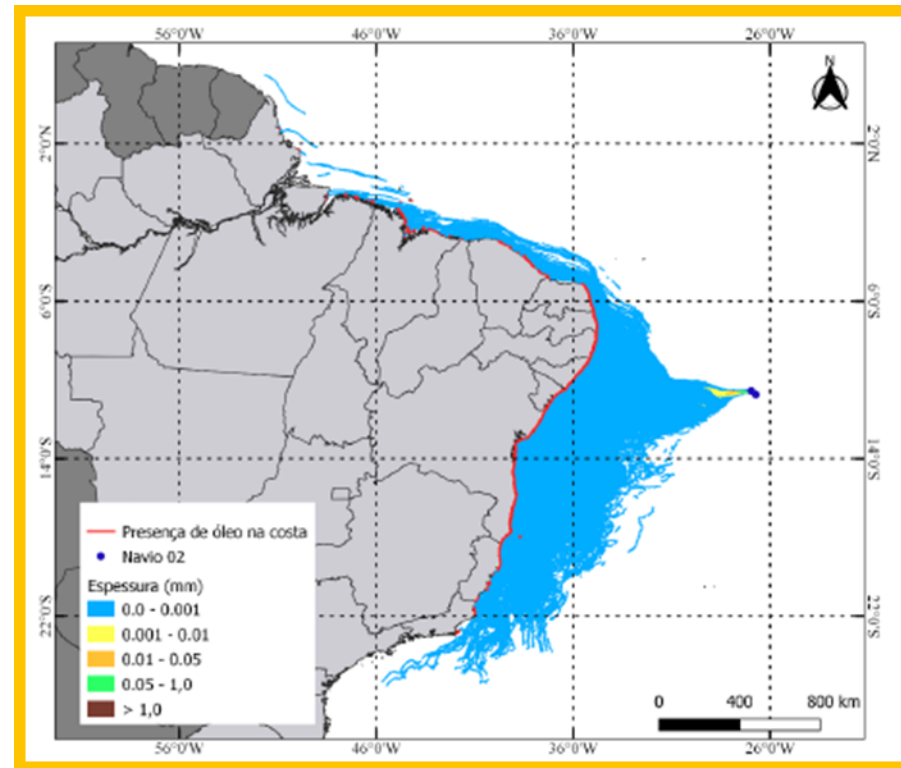
## Maritime Traffic Analysis



Areas of Interest from 1st July to 30th August,  
2019:  
1,060 vessels (Crude Oil Tankers)

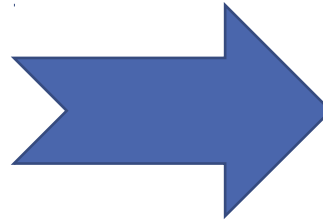
# Lessons Learned

## Dispersion of Oil (software OSCAR)

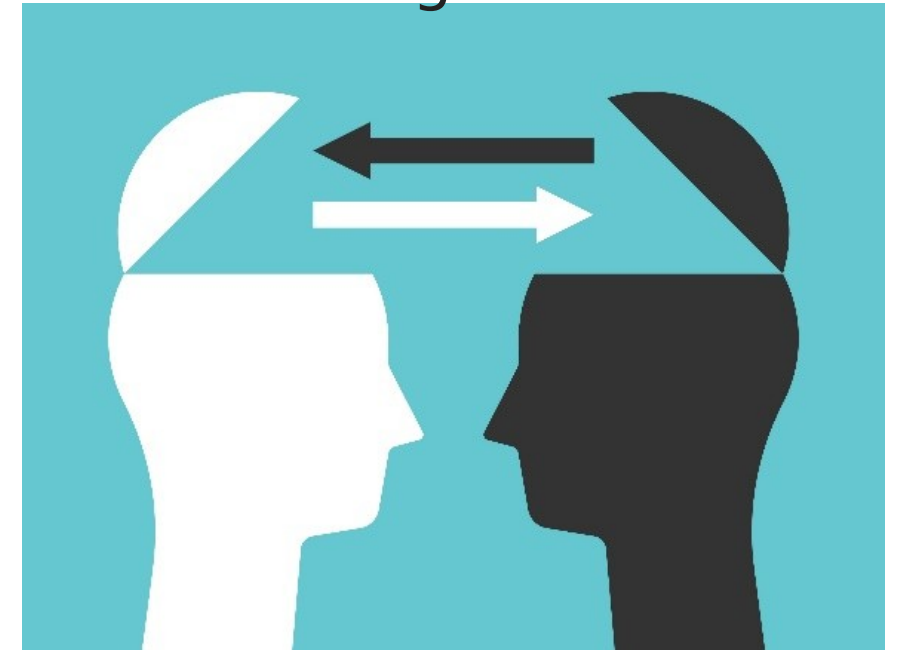


# Lessons Learned

Encouragement for exchange with partners  
(PETROBRAS / INPE / IBAMA / Academia)



Knowledge  
Management



# 21<sup>th</sup> Meeting of the Meso American – Caribbean Sea Hydrographic Commission

## **Oil Spill Response in Brazilian Waters: Lessons Learned**

