REMO Hindcasting (REMO-H) – Brazilian Modeling and Observation Network (Oceanic hindcasting)

Develop oceanographic models using data assimilation with Brazilian R&D institutions (with support of universities) that can be used for environmental licensing and offshore design (hindcasting)

Participants:	PETROBRAS and other Oil & Service companies that would be interested
Principle service provider:	Instituto Atlantis (associated with Brazilian Universities)

What is the problem:

The oceanic circulation on the S-SE Brazilian continental slope and deep water region is very complex and affected by large scale eddies and meanders. On the continental slope, the Brazil Current is flowing southward down to -400m, the Intermediate Counter-Current is flowing northward from -600 to -1500m, and the Deep Western Boundary Current is flowing southward below -2000m. On the São Paulo Plateau, the circulation is dominated by slow-evolving eddies. There is a lack of long term current and oceanographic measurements for design criteria, and the environmental agency is careful when analyzing oceanic model results for environmental purposes requiring academic evidences of presented results.

What is the solution:

A network of Brazilian Science & Technology Institutions (ICTs), including universities, was designed to develop and implement numerical models with data assimilation skills to study and simulate circulation on the Brazilian oceanic region. One of the objectives was to develop a 10-year hindcast dataset that could be used for design and environmental licensing purposes. The Brazilian environment agency approved the REMO model results for environmental licensing applications. REMO hindcast will be improved following next steps described below.

International Association of Oil & Gas Producers

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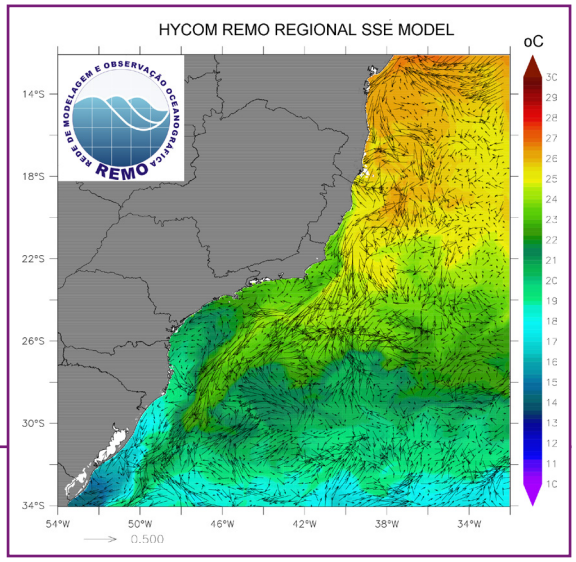
Progress to date:

The development and implementation of REMO products were executed in three phases:
Phase I (2007-2010),
Phase II (2011-2014),
Phase III (2015-2018)
to scale up the assimilative methods and gradually improve model results.



Next steps:

Submit a new JIP for Phase IV (2019-2023) of REMO network to consolidate the oceanic model results assimilating the largest dataset of available measurements (including public and private data). The proprietary data of each company would only be used for data assimilation and model evaluation. Instituto Atlantis is the ICT that will lead the hindcasting products of Phase IV, consolidating the results of university research.

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