

## Project “Reducing and Preventing Land-based Pollution in the Rio de la Plata/Maritime Front through Implementation of the FrePlata Strategic Action Programme”

**Project objective (2010-2014):** FREPLATA will contribute to strengthen regional cooperation, building capacity in both public and private sectors, and coordinated binational effort in preventing and reducing pollution to advance towards sustainability of the uses and resources of the Rio de la Plata/Maritime Front, in full agreement with SAP.

- A bi-national joint initiative of Argentina and Uruguay
- Implementation of the full phase started August 2010
- GEF funding - UNDP act as implementation agency



## Project “Reducing and Preventing Land-based Pollution in the Rio de la Plata/Maritime Front through Implementation of the FrePlata Strategic Action Programme”

### Working area

The Rio de la Plata, a transitional water system, is an estuary that links the high "Cuenca del Plata" (the second largest basin of South America) with the Atlantic Ocean. Faces considerable threats (urban pollution, agricultural and industrial) due to economic activities located in coastal. The maritime front is a large marine area (258,000 km<sup>2</sup>) influenced by the mix of fresh and salt water.

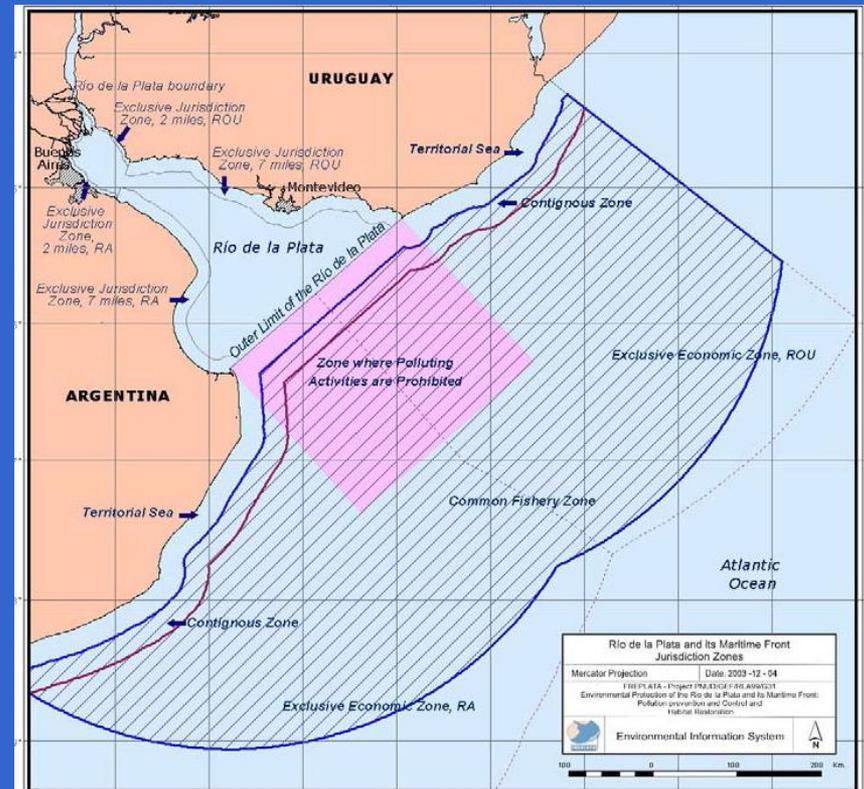
The dynamics of this system critical to understand its functionality.

### Legal Framework:

The Treaty of Rio de la Plata and its Maritime Front (signed in 1973 between Argentina and Uruguay) establishes the legal framework for environmental protection and sustainable development of the uses and resources in the RPMF.

The treaty lacks the technical tools developed to assess the environmental impact

Juridic maritime zones of the Río de la Plata and Maritime Front (Río de la Plata and Maritime Front Treaty 1973).

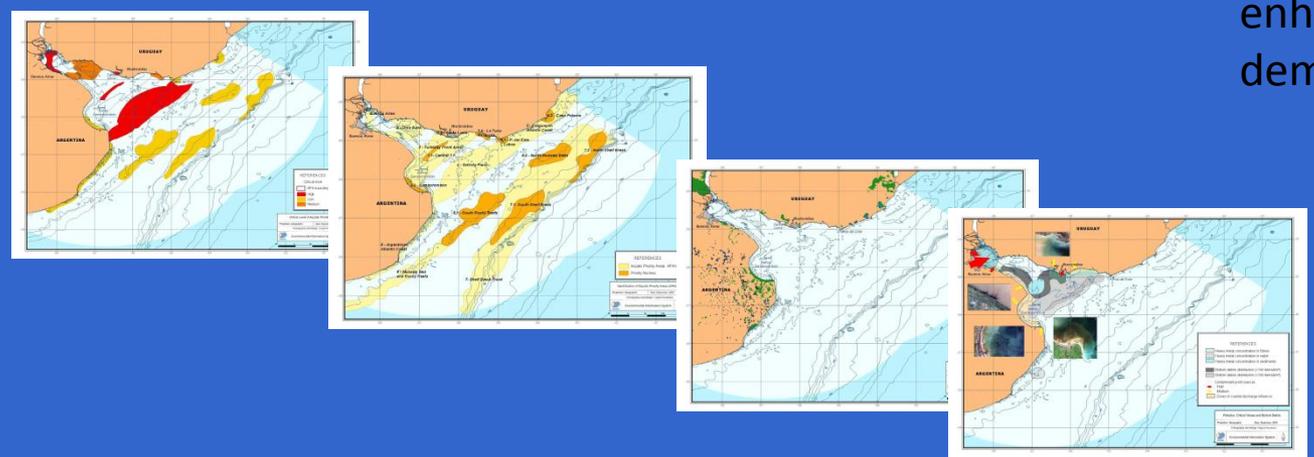
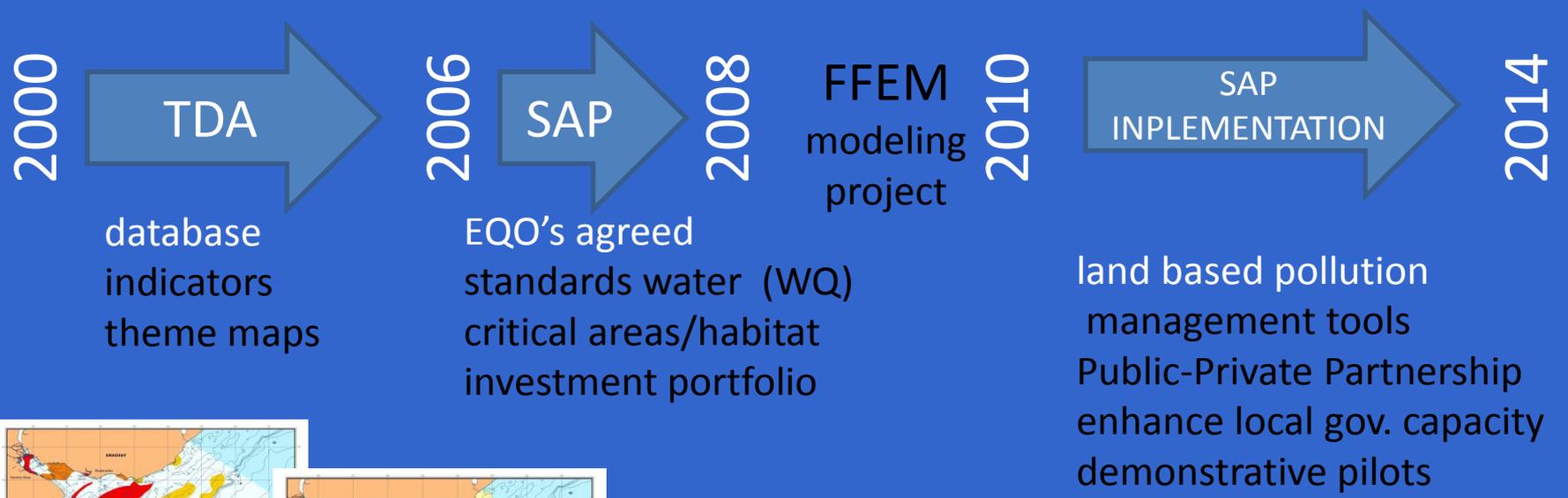


**Asymmetries** : 20 M people living in the area RDP (+17 M from Argentina) - The ratio GDP is 10 to 1 - Argentina is a federal country and Uruguay a central administration

## Project “Reducing and Preventing Land-based Pollution in the Rio de la Plata/Maritime Front through Implementation of the FrePlata Strategic Action Programme”

### Baseline

Initial program FREPLATA (2000-2008), concluded with a Transboundary Diagnostic Analysis (TDA) and a Strategic Action Programme (SAP) widely endorsed for stakeholders.



## Main expected project outcomes

1. Enhancement **capacities of local agencies** for reduction (prevention + mitigation) of land based sources of pollution, and development of new **framework for bilateral and inter-jurisdictional cooperation** (through institutional reforms).
2. Innovative platforms **to promote** collaboration between public and private sectors (**Public-Private Partnership**) and **capacity building** to local governments **in actions planning** to reduce pollution , with strong potential for replication in wide industrial sectors., with strong potential for replication in wide industrial sectors.
3. Highly replicable **pilot projects** for testing these new approaches of **land-based pollution mitigation** will be implemented. (include Cleaner Production approach , sustainable practices in agriculture, wastewater treatment through the management of wetlands, etc.)
4. A **long term Program of Monitoring** Bi-national Water Quality (share woters) and an Integrated Bi-national **Environmental Information System** implemented, to provide management tools and **support decision-making**, planning processes and technical interventions.

## key project results : Process

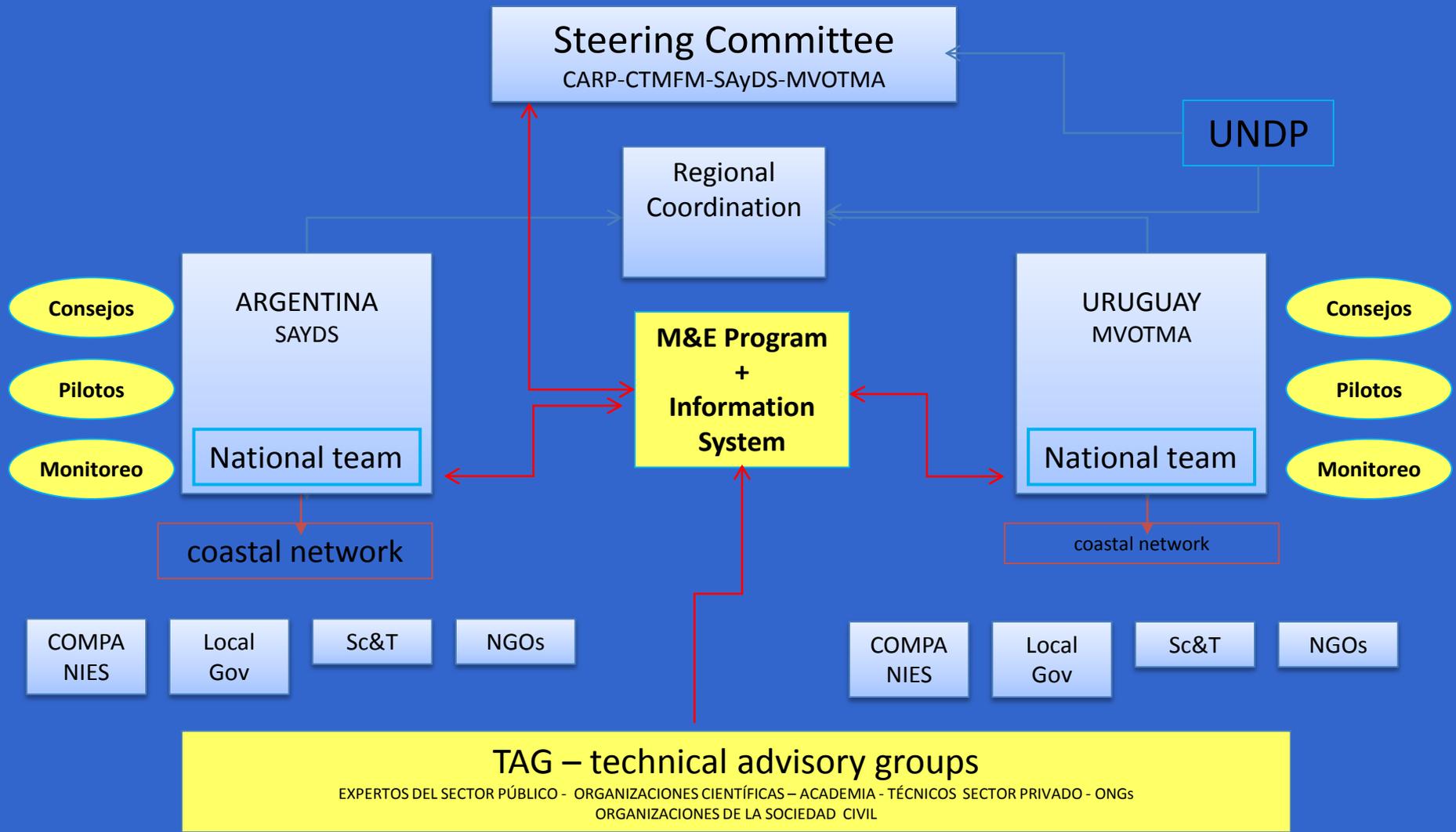
Project contributes to strengthen the institutional basis and cooperation frameworks for SAP implementation at all levels: bi-national Commissions, national agencies and local governments, all of these with mandates over land-based activities.

- **Strengthen transboundary institutions:** In the Steering Committee, **bilateral commissions** (CARP and CTMFM) - formed by the Treaty of the RPMF - and the **national environmental agencies** are involved at the **highest political level** in the leadership of the Project to ensure a sustainable implementation of SAP.

- **Effective inter-ministry national coordination:** In each country a **Inter-jurisdictional Commissions** works in order to harmonize standards in water quality controls and to develop mechanisms for pollution control and prevention, strengthening relations between the authorities at **national, provincial and local levels**.

- **Financial sustainability of transboundary waters monitoring:** The project has established funding mechanisms to ensure long term sustainability for monitoring the water quality of the RPMF. National institutions with responsibility on waters surveillance (Navy, hydrographic services), and those related to the environmental assessment (environmental and fishery agencies, universities, etc. ) have **agreed on a strategy co-financing** the monitoring program and the information system of FREPLATA.

# Strengthen transboundary institutions: Functional diagram of the project FREPLATA 2



“teams are installed into the national agencies, except a small regional coordination unit that links the outcomes and integrates the results”

## key process:

to achieve effective inter-ministerial coordination at national and also at a binational level, in the management of resources must be adopted an ecosystem approach (regional).

In 2005 FREPLATA achieved a database of environmental information, evaluating large number of chemical, physical and biological parameters, which provided the ADT.

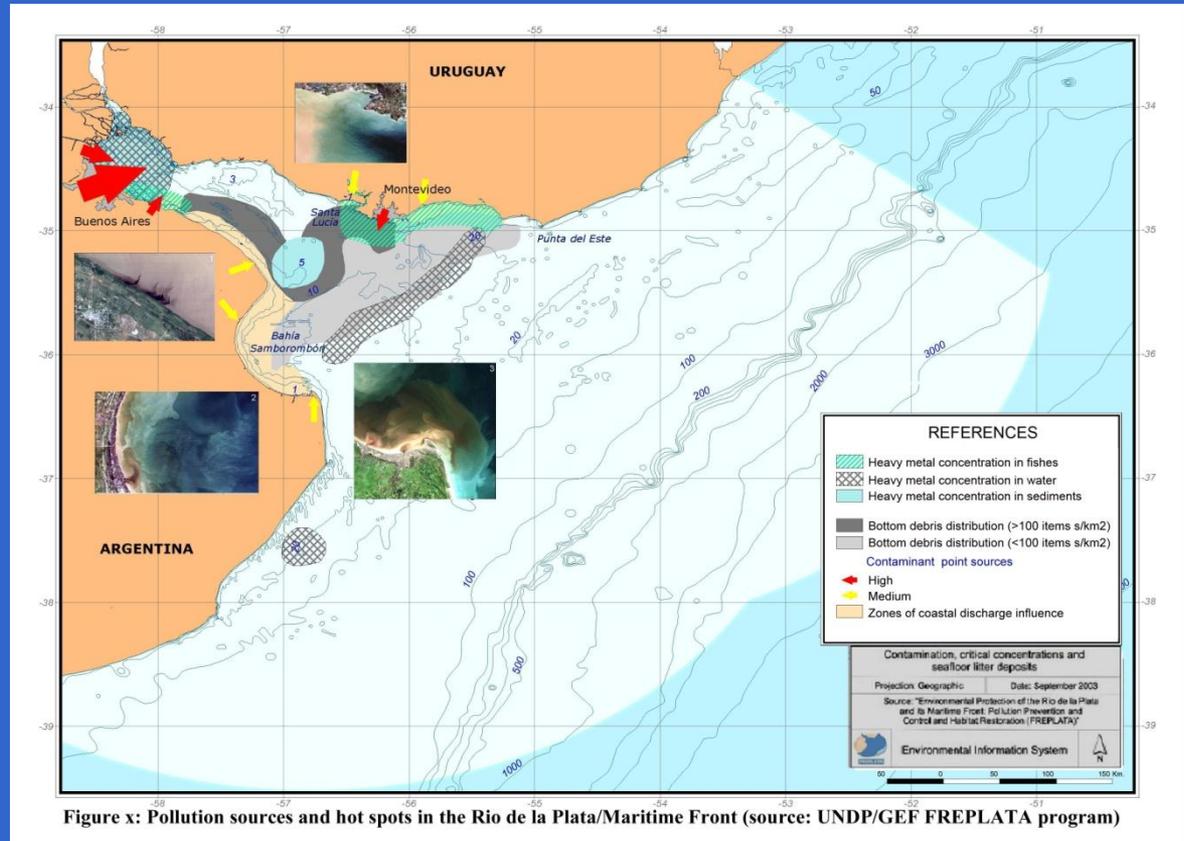


Figure x: Pollution sources and hot spots in the Rio de la Plata/Maritime Front (source: UNDP/GEF FREPLATA program)

To date, many agencies continued their plans to sampling, separately, but many issues have emerged in the information management, interpretation of data and its utility in EIA.

Although many "FREPLATA parameters" are still measured, differences in location, frequency, and techniques used, makes it hard to compare data.



Each "partial map" is just a picture that does not consider the dynamics of the system. Everyone wants their map, but do not find it useful

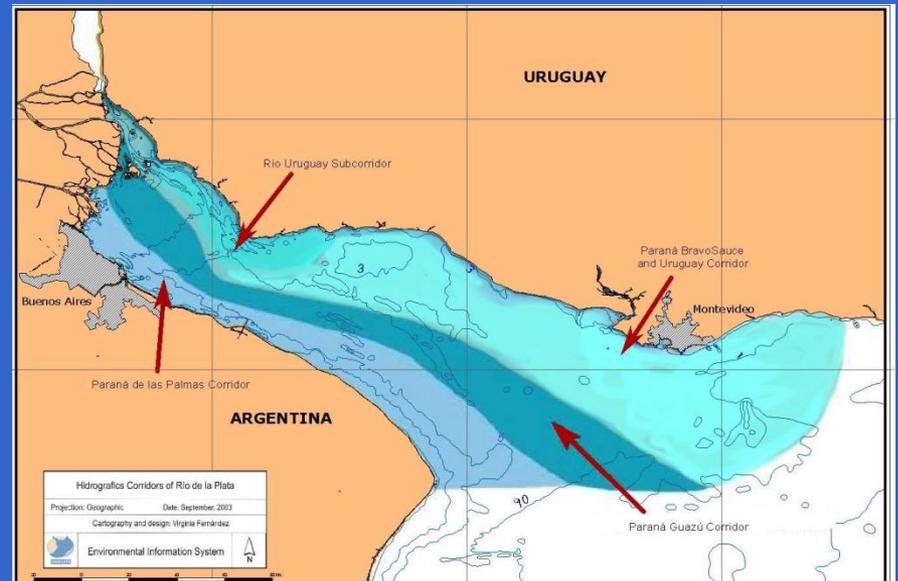
# Flow corridors Model

Some models have advanced to give an explanation of the spread of contaminants, such as runners flow models. In fact, FREPLATA also developed its own model of flow of the Rio de la Plata.

But the climatic variability is already showing impacts in the basin and the new models allow us to understand these new phenomena. Also suspended sediment dynamics explains the diffusion of many pollutants.

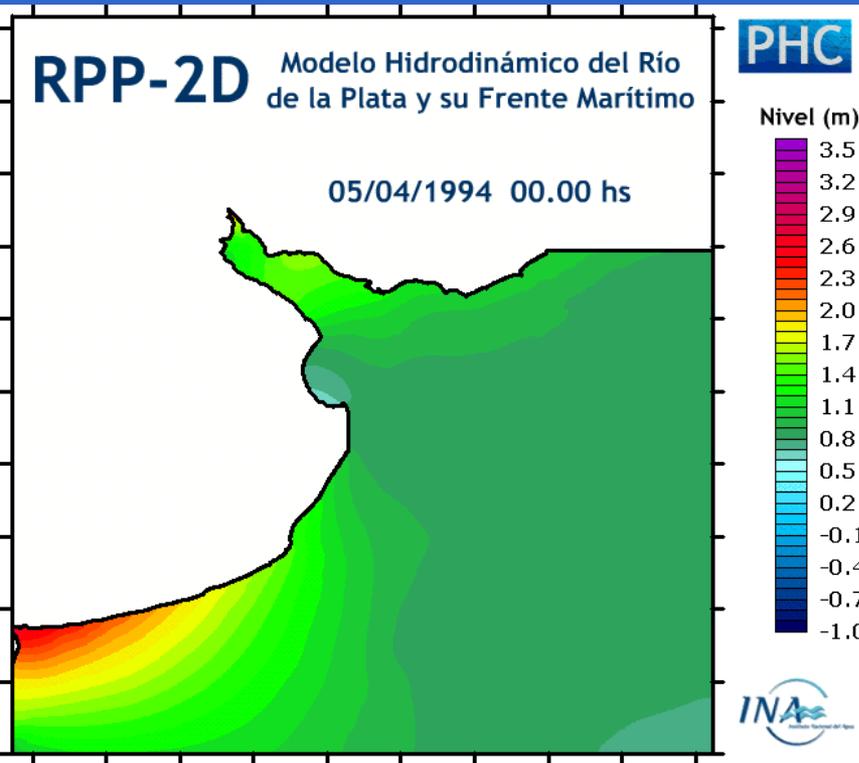


*(Image MODIS, 26-Jan-03)*

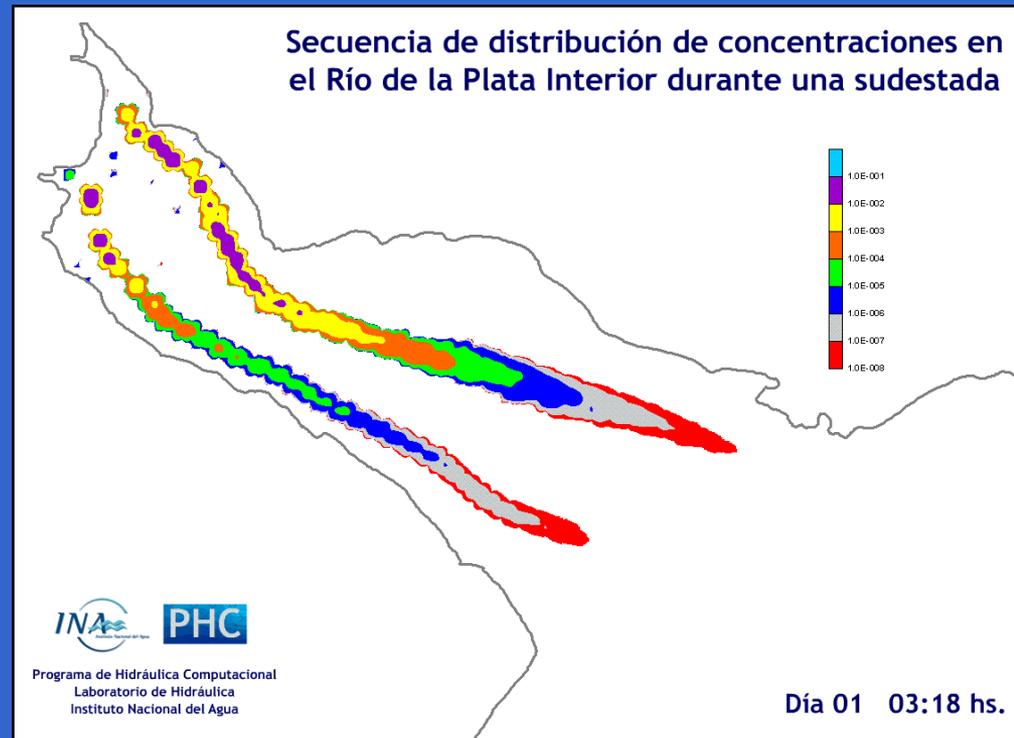


Flow corridors of the Río de la Plata. Theoretical patterns obtained from simulation models (Jaime et al. 2001, Piedra- Cueva & Fossati 2002, Meccia et al 2002).

# New hydrodynamics and sediment modeling



This model shows the variation in the effects of prevailing winds (SE), storms and tides income, on corridors of flow and sediment distribution. Requires integrating information and provides a better basis interpretive.



Then it is necessary, an integrated information system associated with the monitoring program that can generate not only maps, also must include "dynamic analysis and early warning systems.

The dynamics of this system is very important to understand its functionality (tidal influence = mixing of waters) and trends (winds, storms= evidence of change and climate variability)

## key project results : Stress reduction

**4 Pilot projects are being implemented to enhance capacities and to develop tools to prevent and mitigate pollution, especially at provincial (state) and municipal levels.**

**Pilot projects demonstrate stress reduction measures on priority concerns** (point and non-point source pollution)

**Wastewater Treatment in Protected Wetlands :** Private Public Partnership (authorities, researchers, NGOs and local water supply company) was established to advance on innovative artificial wetland techniques to urban sewage treatment . In San Clemente, Argentina, a touristic town near the national protected area Samborombón Bay (224.000 ha NPA ,Ramsar Wetland Convention site).

**Reduction pollution of non-point source** Other pilot project in rural areas are being implemented to reduce nutrient discharge in key wetland protected area of Uruguay. Promoting good agricultural practices in dairy sectors of Santa Lucia wetlands (58.000 ha NPA)

**Cleaner Production (CP)** Innovative platforms to improve collaboration between public and private sector (Public-Private Partnership) are being promoted through approaches of Cleaner Production (CP) in pilot projects to test the reduction of toxic loads (point of origin pollution reduction) in the large urban centers: Buenos Aires and Montevideo. were chosen initially tanning and electroplating industries, with a strong replication potential for expansion through other industries.

## key project results: environment status

### **A Monitoring Program of water quality agreed at binational level.**

National and bi-national institutions are working to implement a sustainable Integrated Monitoring Program and water quality indicators (physical/chemical, microbiological and biological) for the national exclusive jurisdiction and Common Use Waters of the Rio de la Plata. The objective is to provide updated information on the RPFM system to support the decision-making and plan frameworks, including the bi-national monitoring program.

### **Integrated Bi-national Information System (IBIS) developed to support management**

Key stakeholders from different jurisdictions are working in the basic contents and making institutional arrangements for the management and maintenance of the IBIS system, with a capacity to collect, compare and analyze information received from different agencies.

Additionally, a mathematical model has been developed to understand the complex dynamics of hydrology and sediment in the RPFM. The model will allow interpreting more accurately monitoring data, predicting trends and incorporating variability and climate change in the assessments of environmental status.

Information generated in the monitoring program (31 parameters), will allow to assess the quality of water and sediments, identifying changes in pollutant levels (mg / l ug / g) and the state of the environment of RPFM.

## Challenges and constraints

The political cycle times can not help the process of implementation

Achieve more political commitment to regional cooperative action

(overcoming barriers)

Countries must support the co-financing commitments

Countries must be willing to share data as needed on transboundary issues.

Is required continued commitment of stakeholders in the process of

implementation of pilot

## Priority capacity-building needs

Ecosystem approach methodologies (modeling and analysis)

Water Quality Monitoring

Best agriculture practices in wetlands

Implementing financing strategies

## Needs for collaboration / synergies

Governance - Exchanges of experiences with other regions

Climate change - experiences in coastal impacts and adaptation practices.

Wetland restoration (mitigation practices)

Project “Reducing and Preventing  
Land-based Pollution in the Rio de la Plata/Maritime Front  
through Implementation  
of the FrePlata Strategic Action Programme”

**FREPLATA**

Thanks very much

