



CTCN

CLIMATE TECHNOLOGY CENTRE & NETWORK
UNFCCC Technology Mechanism

Session 2: TA Experience Sharing

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Development of technology tools for the assessment of impacts, vulnerability and adaptation to climate change in the coastal zones of Uruguay



Main objective:

- Establish the vulnerability to and impact of climate variability and change on coastal areas of Uruguay.
- Analyze and assess the effects on the dynamic of beaches, dunes, coastal erosion, risk of flooding and harm to ecosystems, infrastructure and the population living along the coast, as well as to productive activities such as tourism.

Implementor:

Environmental Hydraulics Foundation (IH Cantabria)

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Specific objectives:

- Establish the changes occurring in the marine dynamics in recent decades
- Based on climate change scenarios, estimate the foreseeable future changes in the marine dynamics.
- Assess the effects that these changes in the marine dynamics on natural environments and human uses of the coast.
- Conduct a climate change risk assessment across different temporal horizons and for different geographic or socioeconomic receptors.
- Propose adaptation strategies and alternatives.
- Establish the foundations for subsequent studies aimed at covering other aspects not considered in this study.
- Generate indicators of impact, vulnerability and adaptation to climate change in the coastal zone.

What was the technology addressed through the TA?

- Climate change vulnerability assessment (Modeling)
- Coastal monitoring

Uruguay will have a database of variables associated with marine dynamics (wind, pressure, swell, meteorological tide, sea level) that will include information of high temporal resolution.

The data will be calibrated and contrasted with the instrumental information available in the country, becoming a reference for many other applications of great interest such as the integrated management of coastal zones, operational oceanography, the construction of infrastructures, the management of risks in the coastal zone, resilience of ecosystems, tourism management, among others.

What is the relevance of this technology at the national and regional level?

- The Uruguayan coastal zone has an approximate length of 670 kilometers (450 km Río de la Plata and 220 km Atlantic Ocean) .The coastal departments (Colonia, San José, Montevideo, Canelones, Maldonado and Rocha) currently account for some 70 per cent of the total population in Uruguay. In addition, they contribute 75 per cent of the country's GDP and most of the places identified in the coastal areas (59 per cent) are predominantly involved in tourism.
- Regional studies conducted for Latin America and the Caribbean demonstrate that the incidence of extreme sea levels increased between 1950 and 2008, with a greater magnitude and frequency being noted in the coastal areas of the Caribbean and Río de la Plata, with Montevideo specifically being classified as one of the continent's most exposed cities.
- Uruguay has produced a National Climate Change Response Plan which highlights the importance of accurately identifying the impacts, vulnerabilities and adaptation measures necessary for the coastal sector.

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What are/were the enablers for the successful implementation of the selected technology? How were the challenges overcome?

The project is currently under execution.

- The TNA for Uruguay prioritized the protection of the coastal zone. The Barrier Analysis was an important precedent for the elaboration of the project and to strengthen the communication between the national and local government.
- The country does not have participatory data platforms that use technological and social tools available at different levels of government focused on the interests and problems of cities
- The information requirement and the time when it should be available was specified with the different parties before starting the project execution.
- An important effort in planning and coordination must be carried out.

What were the lessons learned that could be useful to scale up and replicate the best practices in the regional context?

The project is currently under execution.

- The level of detail that needs to be achieved in this kind of study requires the cooperation of the country's various authorities and research bodies.
- The coordination between the different institutions is a relevant point for the project's success (Ministry of the Environment, Local Governments, University, etc.).
- The incorporation and integration of academic knowledge has promoted the involvement of Uruguayan researchers

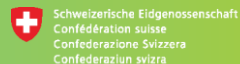
What are the anticipated impacts and follow up actions at the national level after the completion of the TA?

- A methodology and high resolution results will be accessed to establish the risk of climate change in the coastal zone that can also be used to contribute to the sustainable management of the coastal zone.
- The training and technological capacity of the country will be increased at the academic level and for the National and Local Governments.
- Policy development in the coastal zone. Joint work between national and local government.



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Thank you



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