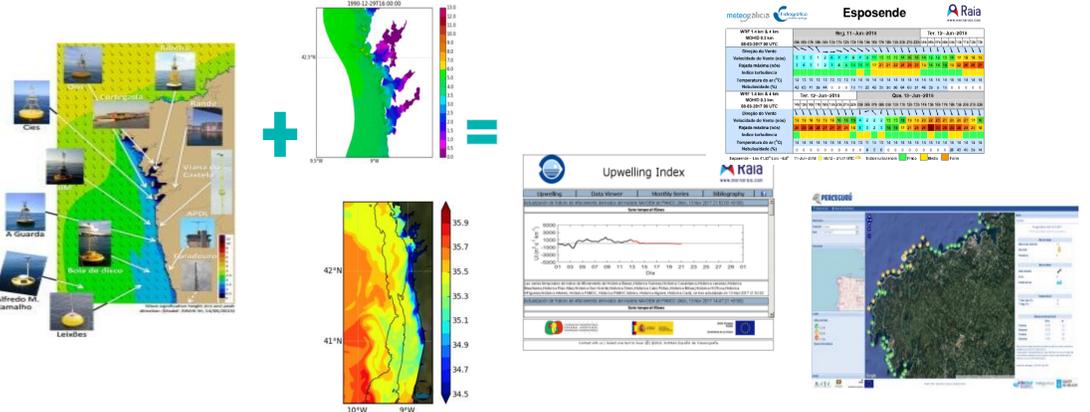


MarRISK: IMPROVING THE RESILIENCE OF COASTAL AREAS OF GALICIA-NORTH PORTUGAL

MarRISK Group: MeteoGalicia, Santiago de Compostela, Spain; CETMAR, Vigo, Spain; INTECMAR, Vilagarcía de Arousa, Spain; IIM-CSIC, Vigo, Spain; IPMA, Lisboa, Portugal; GEOMA, Ephyslab, REDE, Divulgare, University of Vigo, Spain; CIIMAR, INESC TEC, University of Porto, Portugal; University of Minho, Braga, Portugal; IEO, A Coruña, Spain; University of Aveiro, Portugal; APA, Amadora, Portugal; IH, Lisboa, Portugal

BACKGROUND: THE RAI OCEANOGRAPHIC OBSERVATORY

Since its creation in 2009, the Oceanographic Observatory RAI has consolidated the operational oceanography on the Atlantic coast of the Iberian Peninsula through the implementation of a cross-border observation and prediction network and the creation of services to end users that contribute to the social and economic development of the Euroregion Galicia - North of Portugal. Taking advantage of the experience acquired, a consortium has been set up to work on the risks associated with climate change in the coastal environment. To this end, a proposal was submitted and approved by the Spain-Portugal cross-border cooperation program (POCTEP) under the name of MarRISK.

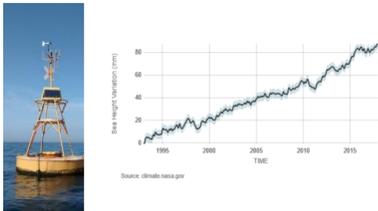


Observations + Models = Services to end-users

MarRISK PROJECT

Data and indicators infrastructure

Consolidation of observational data series of the RAI Observatory and identification of environmental indicators to assess potential coastal risks in the Euroregion



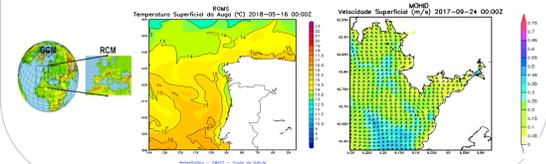
MarRISK project

The MarRISK project, using the resources of the Raia Observatory, aims to assess the most relevant coastal risks associated with climate change and to offer climate services that will improve the capacity of adaptation and response of coastal communities in the Euroregion Galicia - North of Portugal.



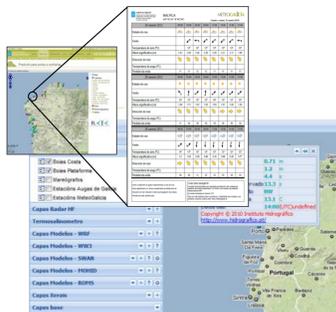
Coastal climate change scenarios

Application of regional models to assess the variation of sea level, swell, temperature and biogeochemical variables in two RCP (Representative Concentration Pathway) scenarios and three different time horizons (2030, 2050 and 2090)



Climate services

- Calculation of overflows and damages in coastal infrastructures.
- Estimation of vulnerability and risk of coastal erosion.
- Evaluation of the ecosystem services of the dune systems.
- Prediction of harmful algae toxic episodes.
- Evaluation of changes in populations of fishing species.



Interaction with stakeholders

Involvement of users in the process of development of services.

Training workshops for users of the services offered by MarRISK.

Dissemination and awareness of the potential risks of Climate Change among schoolchildren.



Participants

- ☐ Dirección Xeral de Calidade Ambiental e Cambio Climático - Xunta de Galicia (MeteoGalicia)
- ☐ Centro Tecnológico del mar (CETMAR)
- ☐ Instituto Tecnológico para o control do medio Mariño (INTECMAR)
- ☐ Instituto de Investigacións Mariñas (IIM-CSIC)
- ☐ Instituto Português do Mar e da Atmosfera (IPMA)
- ☐ Ephyslab, Geoma, Grupo Rede, Divulgare (Uvigo)
- ☐ Centro Interdisciplinar de Investigación Marinha e Ambiental (CIIMAR)
- ☐ Universidade do Minho (Uminho)
- ☐ Instituto Español de Oceanografía (IEO)
- ☐ Universidade de Aveiro (UA)
- ☐ Agência Portuguesa do Ambiente, I.P. (APA, I.P.)
- ☐ Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência (INESC TEC)
- ☐ Instituto Hidrográfico (IH)



Expected Results:

- Environmental indicators : Physics, chemical, biological and geological
- Detailed climate change scenarios for the coastal areas of Galicia-North Portugal
- Different climate services:
 - Vulnerability and risk of coastal erosion
 - Calculation of wave-overtopping and damages in infrastructure
 - Evaluation of ecosystem services
 - Harmful algae toxic episodes forecast
 - Changes in population of fishing species
- Contribution to climate change coastal adaptation plans in Galicia-North Portugal