



JORNADAS
POTENCIAL TÉCNICO
E CIENTÍFICO DO IPCB

Instituto Politécnico
de Castelo Branco

IV Jornadas do Potencial Técnico e Científico do IPCB

Medidas de adaptação às alterações climáticas na gestão dos riscos naturais e ambientais

Climate change adaptation measures in the management of natural and environmental risks (CLIMRisk)

Cofinanciado por:



Paulo Fernandez
Luís Quinta-Nova
Nuno Pedro



Instituto Politécnico de Castelo Branco
Centro de Estudos
e Desenvolvimento Regional

Escola Superior de Artes Aplicadas
21.fevereiro.2018

Consortium Members:

- Instituto Politécnico de Tomar (IPT)
- Instituto Politécnico de Castelo Branco (IPCB)
- Instituto Politécnico de Leiria (IPLEiria)
- Câmara Municipal de Ferreira do Zêzere (CMFZ)
- Câmara Municipal de Ourém (CMO)



Team from IPT:

- Cristina Andrade
- Luís Santos
- Rita Anastácio
- Maria João Bom
- Joana Contente

Team from IPCB:

- Paulo Fernandez
- Luís Quinta-Nova
- Nuno Pedro
- Gonçalo Marques

Team from IPLeiria:

- Sandra Mourato
- Anabela Veiga
- João Camejo

Team from CMO:

- Nuno Touret
- Pedro Henriques

Team from CMFZ:

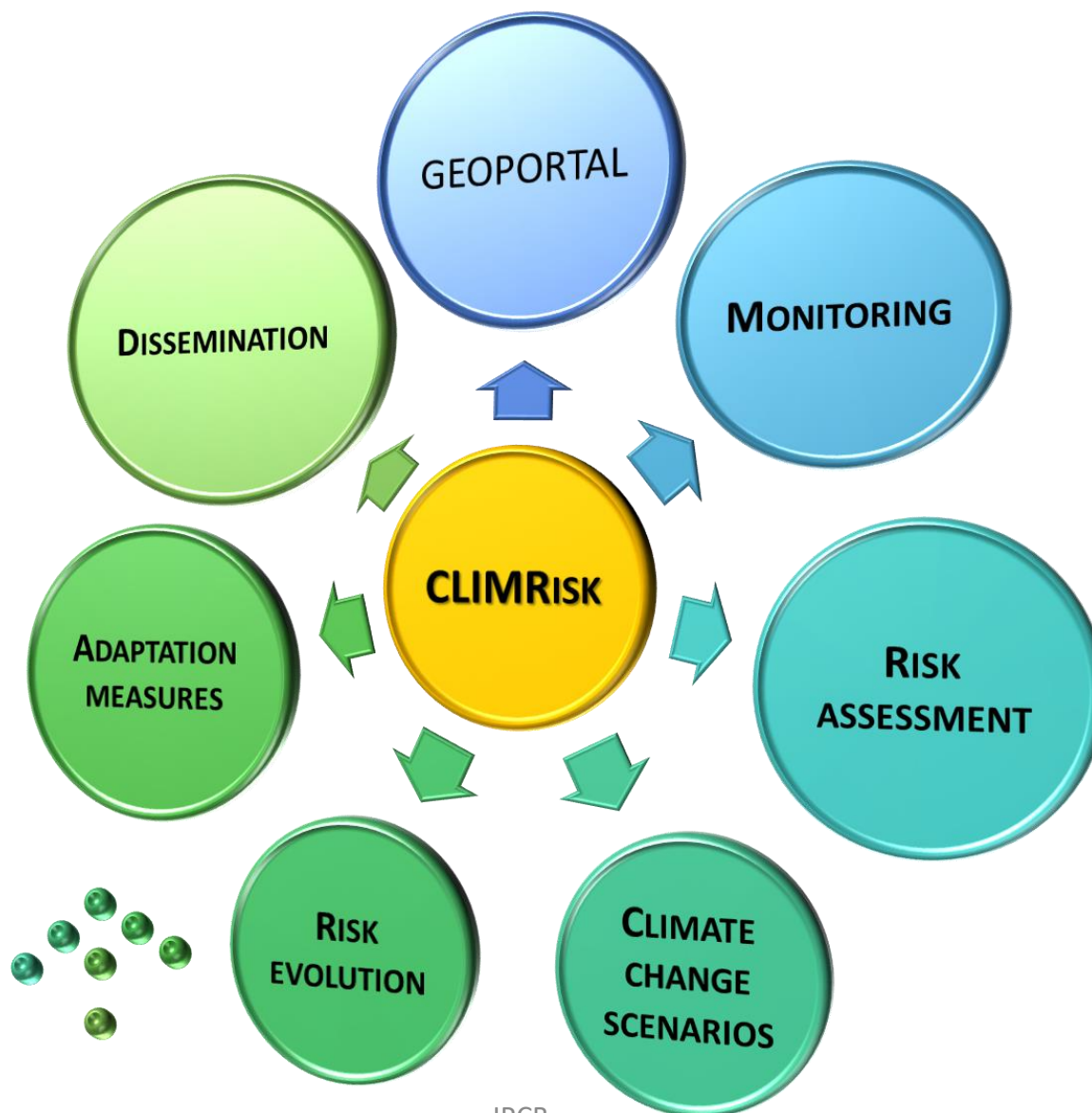
- Pedro Mendes

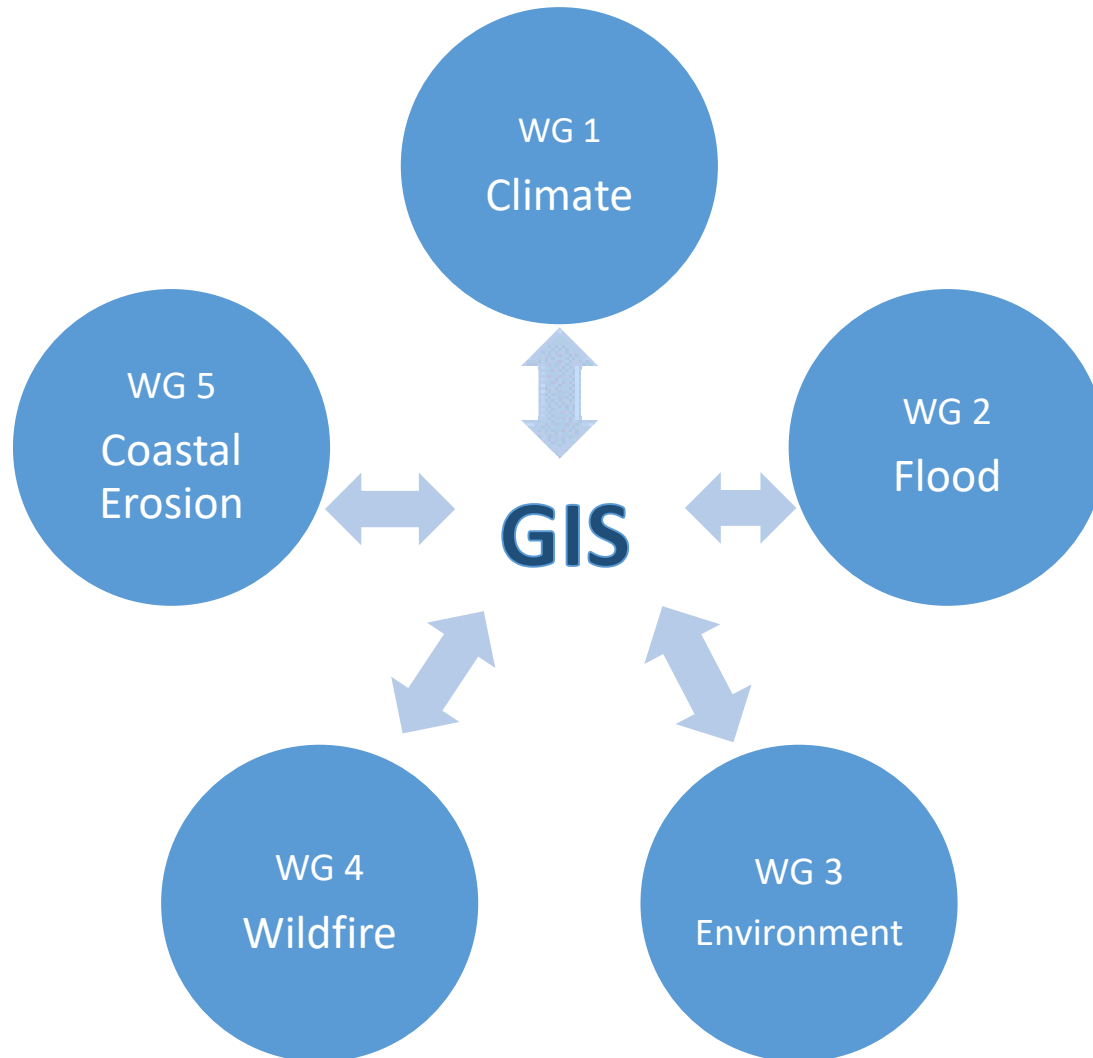
- **Call:** Sistema de Apoio à Investigação Científica e Tecnológica (SAICT) - Projetos de Investigação Científica e Desenvolvimento Tecnológico
- **Starting date:** 18 September 2017
- **End date:** 17 March 2019
- **This work is supported by:** European Investment Funds by FEDER/COMPETE/POCI Operational Competitiveness and Internationalization Program, under POCentro-PT2020-FEDER project Centro-01-0145-FEDER-024253.

Cofinanciado por:



AIMS AND PURPOSE





Desktop



Web



Device



GIS



WMS
WFS
WCS
XLS
SHP
CSV

QGIS

dkan



Validado

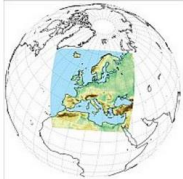


Variables: Rainfall; temperature (average; minimum and maximum); evaporation; air humidity; radiation and wind velocity

Data Models: Project EURO-CORDEX CMIP5 (Coupled Model Intercomparison Project phase 5)

EURO-CORDEX

EURO-CORDEX - Coordinated Downscaling Experiment - European Domain



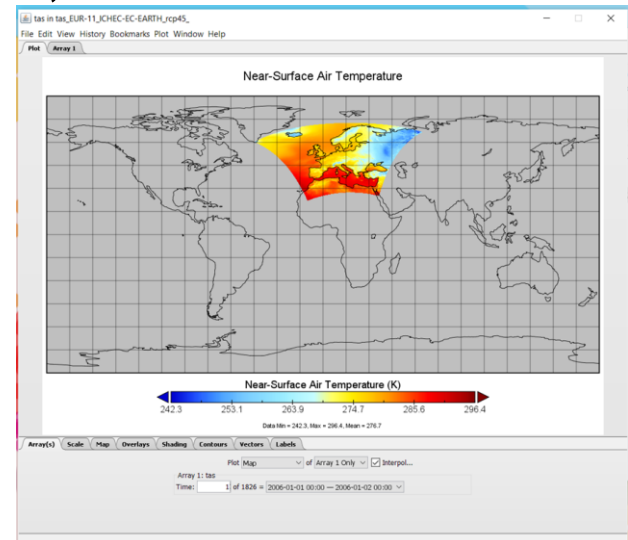
EURO-CORDEX is the European branch of the international CORDEX initiative, which is a program sponsored by the World Climate Research Program (WRC) to organize an internationally coordinated framework to produce improved regional climate change projections for all land regions world-wide. The CORDEX results will serve as input for climate change impact and adaptation studies within the timeline of the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) and beyond.

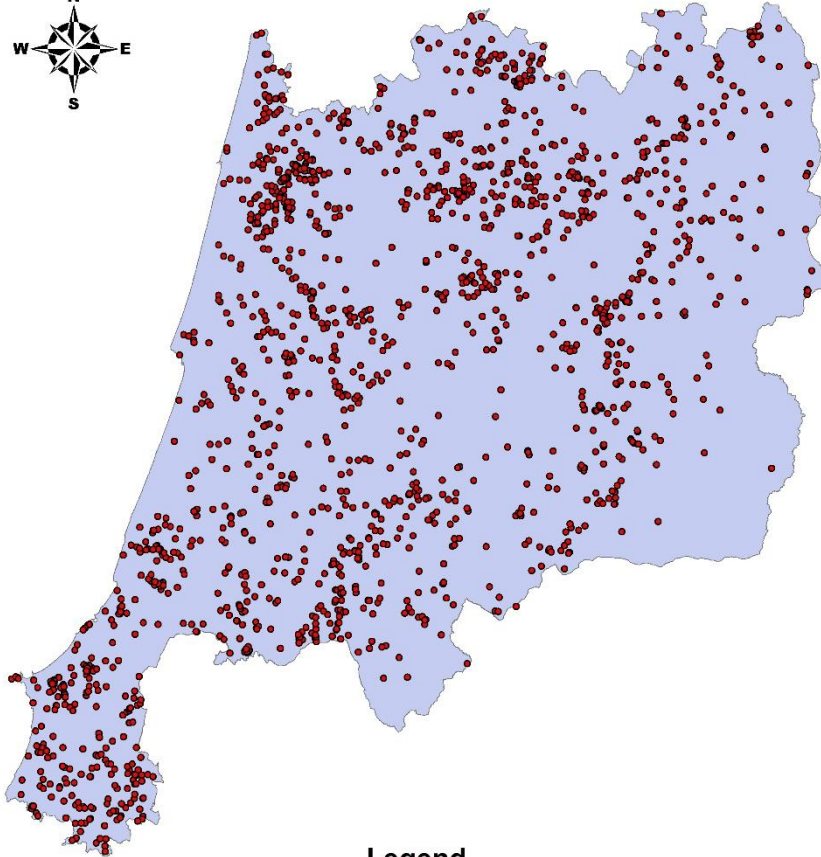
Regional climate models: HIRHAM; ALADIN53

Representative Concentration Pathways (RCP): 4.5 e 8.5

Control period: 1979-2008

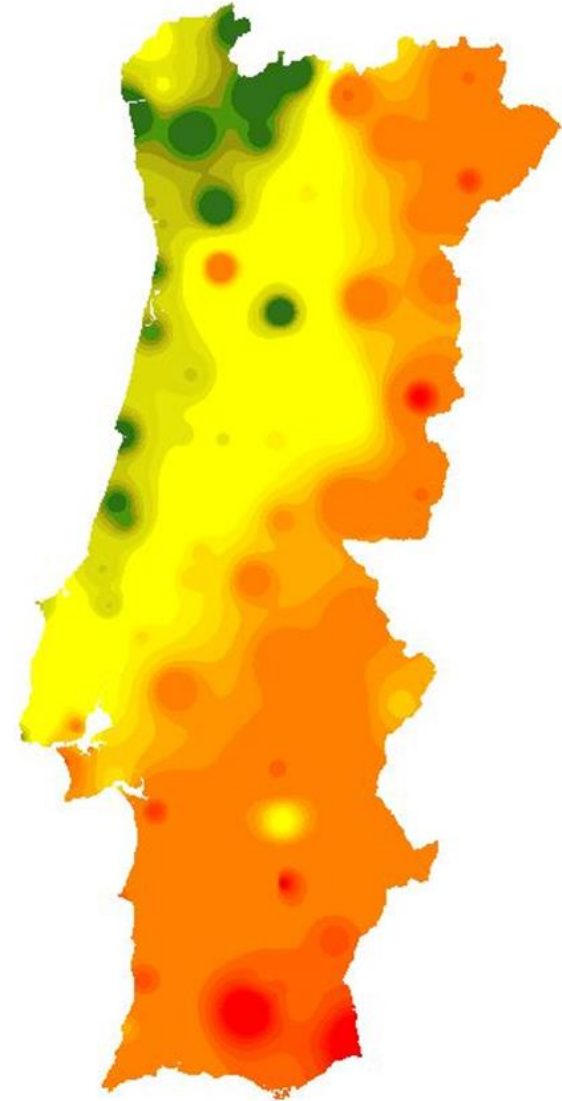
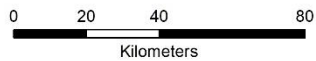
Scenarios period: 2021-2050; 2051-2080





Legend

- "Fase Charlie" Fire Ignition Locations (01-07 a 30-09) 2017
- Region Centre Boundary (CAOP)



Field work in Lis River and Nabão River

4 sampling points : spring; upstream urban area; 2 downstream urban area locations

Sampling and analysis of benthic macroinvertebrates (Bioindicators)

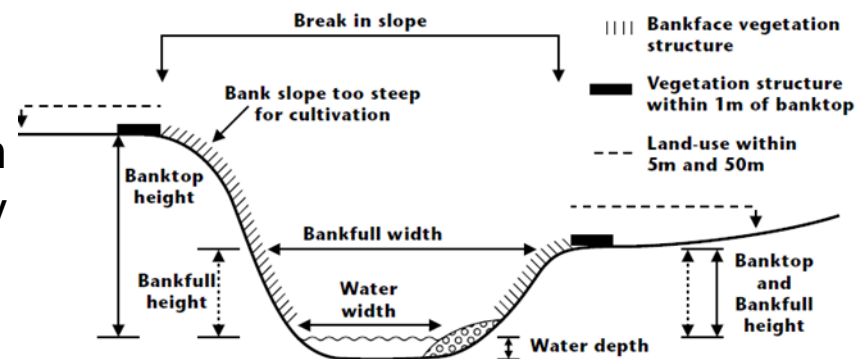
Physical-chemical parameters: pH; salinity; Chemical Oxygen Demand (COD); Dissolved Oxygen (OD); Total Suspended Solids (TSS); nitrates; phosphates

Characterization and monitoring of water bodies in river categories

Water Framework Directive implementation in Portugal - Method River Habitat Survey (RHS)



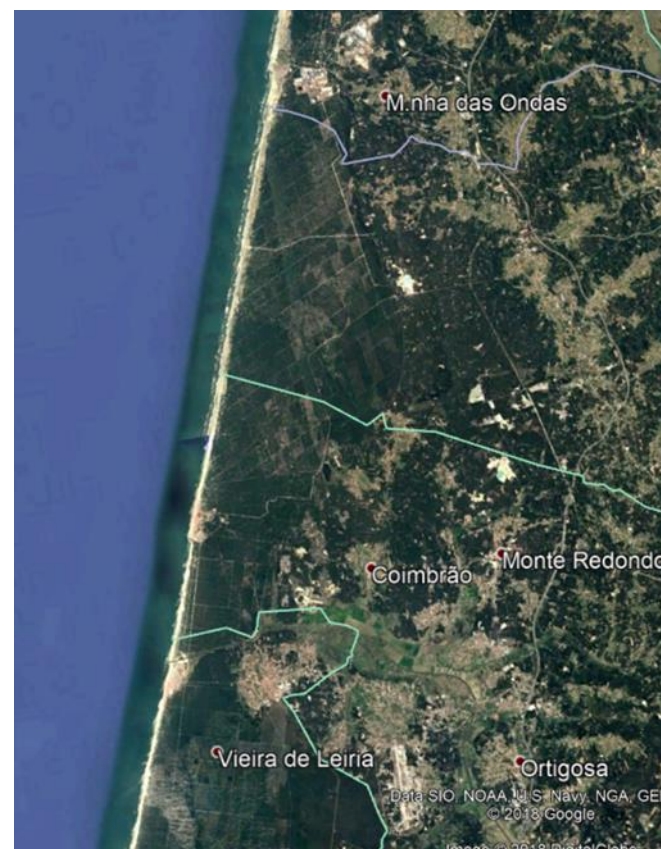
Cross-section of channel showing definitions used to define where spot-check recording and channel dimensions measured



Study area: Coastline between the North roundabout of the Pedrógão beach and the Vieira beach.



Monitoring coastline change using
remote sensing



The purpose of the focus group is to collect information that can be used in the different stages of the project

The information gathered is based on the participation of all elements

The focus group can guide and contribute to a deeper understanding of the phenomena

3 Groups: Leiria; Ferreira do Zêzere and Ourém

3 Meetings: March 2018; September 2018 and February 2019

1st meeting

- Ferreira do Zêzere (01/03/2018)
- Leiria (08/03/2018)
- Ourém (to Schedule)



Pedro, N., Fernandez, P., Marques, G., Andrade, C., Bugalho, L., 2018. **Performance analysis of fire weather index in forest fire ignition.** A case study in Central Portugal. Sixth International Conference on Remote Sensing and Geoinformation of the Environment 2018, 26-29 March 2018, Paphos, Cyprus.

Mourato, S., Fernandez, P., Pereira, L.G., Moreira, M., Andrade, C., 2018. **Climate change impact on flood hazard in a Central Portugal alluvial plain.** Sixth International Conference on Remote Sensing and Geoinformation of the Environment 2018, 26-29 March 2018, Paphos, Cyprus.

Andrade, C., Veiga, A., Contente, J., Santos, L., Quinta-Nova, L., Bom, M.J., Pedro, N., Fernandez, P., Anastácio, R., Mourato, S., Touret, N., Mendes, P., 2018. **CLIMRisk, Climate change adaptation measures in the management of natural and environmental risks.** Geophysical Research Abstracts, Vol. 20, EGU2018-16967-2, EGU General Assembly, 8-13 April 2018, Vienna, Austria.

Andrade, C., Veiga, A., Santos, L., Quinta-Nova, L., Bom, M.J., Pedro, N., Fernandez, P., Anastácio, R., Mourato, S., Touret, N., Mendes, P., 2017. **CLIMRisk - Climate change adaptation measures in the management of natural and environmental risks.** 4rd International Conference on Ecohydrology, Soil and Climate Change - EcoHCC'17, 21-23 September 2017, Figueira da Foz, Portugal, pp. 121.

Obrigado



Climate change adaptation measures in the management of natural and environmental risks (CLIMRisk)



Paulo Fernandez
palex@ipcb.pt