



INTRODUCTION

ASTERIS - Adaptation to Saltwater intrusion in sEa level Rise Scenarios

The ASTERIS project has been financed at the Call for proposal 2017 Priority Axis Safety and resilience of Interreg V Italia-Croazia 2014-2020 Programme. The Adriatic region is highly vulnerable to the adverse impacts of climate change. Although attention has been paid to the understanding of climate change impact and risks over the last decades, the Adriatic community still faces a lack of common risk assessment. Particularly, water supply issues are an essential aspect in the development and sustainability of societal ecosystems. Coastal aquifers are characterised by a natural gradient towards the seaboard, where groundwater discharges into the sea

The overall objective of the project is to improve the understanding of spatial and temporal (based on future downscaled climate scenarios) variation in seawater intrusion, to identify and mapping needs and barriers in risk management and to provide an adaptation plan, containing practical tools for a sustainable management.

To this overall objective, the project will provide two main outputs:

A map of vulnerability to coastal salinisation at the macro-regional scale (Adriatic) based on future scenarios for sea-level rise and the hydrological cycle.

Best practice and guidelines for the management of vulnerable site defined through an analysis of representative case studies in Italy and Croatia.

KICK OFF MEETING

ASTERIS 1st Steering Committee Meeting has been held last 28th March 2019 together with the project Kick-off Meeting at the premises of LP – University of Urbino “Carlo Bo” (UNIURB). All PPs took part to the event.



Main topics treated during the conference were an overview of the IT-HR Programme; followed by the project and Project Partners' presentations; introduction and discussion of all Work Packages and all specific activities/budgets that will be done during the project; taking also advantage of the Joint Secretariat Project Management presence at the meeting.



The management and the regulative framework for the use of groundwater, largely differs from Italy and Croatia. Nevertheless, the problems that the two countries are going to face will be very similar, depending on the evolution of common variables (changes in precipitation rates and Adriatic sea level rise).



Cooperation: The hydrogeology of aquifers in the cooperation area is not uniform and presents different potential risks. On the other hand, the innovative approach adopted for the definition of sea-level rise scenarios will potentially provide different outputs on a local scale. It is the nature itself of the scientific basis of the project that needs a highly resolved network of information and data points that can be assured only with a strong cooperation action within the study area. The realisation of a common map of risk to salt ingression needs a cross border approach. The downscaled model of future climate scenarios are referred to a common areas and, in order for them to be built, it needs shared input from both sides. Moreover, for the characterisation of the risks, the knowledge of the different coastal aquifers and of their behaviour is essential, and it implies the involvement of the two countries.

Mutual benefits for the partners derives from the complementarity of expertise and actions, with each partner contributing its own segment to build the general picture of the project implementation. The topic of the project entails a multifold integrated analyses approach which cannot be undertaken individually, in terms of expertise, by any of the partners.

PARTNERSHIP:

- UNIVERSITY OF URBINO
- INSTITUTE OF GEOSCIENCES AND EARTH RESOURCES (CNR)
- MUNICIPALITY OF FANO
- MUNICIPALITY OF RAVENNA
- METRIS RESEARCH CENTRE
- INSTITUTE FOR ADRIATIC CROPS AND KARST RECLAMATION (IACKR)
- CROATIAN WATERS

BUDGET:

€ 1.026.244,20

PROJECT DURATION:

January 2019 – December 2020



ASTERIS 2ST STEERING COMMITTEE

Meeting has been held in Split on 10th and 11th October 2019. The Steering Committee was preceded by a visit to the delta of the Neretva valley, one of the areas where some pilot studies foreseen will be conducted. During visit of Neretva river valley/delta project partners visited all study area and was introduced to all natural and technical characteristics of valley. Partners from Croatian waters showed works done in last decades regarding flood protection and drainage in winter season, as irrigation projects for vegetation period that include dams, pumping stations and also monitoring system with piezometers located on different locations in valley and are used to control water flows at different depths. IACKR partner members showed participants main agricultural areas and introduced them to crops grown, mainly based on citrus orchards (tangerines) and open-field vegetable production and problems influenced by brackish water irrigation that lead to soil salinization.



Partners made a project overview through the work packages and discuss the next steps of the project implementation. It was also stated that the partnership is entering into a crucial phase, as all the preparatory activities have been almost fully accomplished and the first results coming from the case studies will start being released soon.



COMUNE
DI FANO



PRESS CONFERENCE BARBAN

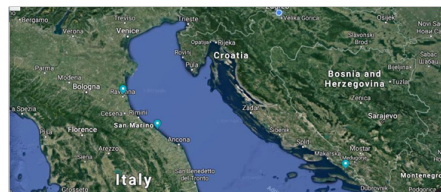
The media conference was held on June 27th, 2019 in Barban, at the Multimedia Center where Asteris project was presented with its main objectives and activities. The media conference was attended by: Daglas Koraca, Head of Metris research center. It was an opportunity to explain the goals, activities and outputs of the project. The project will provide two main outputs: a map of vulnerability to coastal salinisation at the macro-regional scale (Adriatic) based on future scenarios for sea-level rise and the hydrological cycle, and guidelines for the management of vulnerable site defined through an analysis of representative case studies in Italy and Croatia.



ASTERIS: STATE OF THE ART AND FOLLOW UP ACTIVITIES

In the progress:

Hydrogeological and geochemical analysis of case studies in Italy and Croatia, being a robust basis for the characterization of coastal systems to be investigated by application-oriented approaches development of numerical simulation of future sea level scenarios



Symptoms of salinity stress in the Neretva river valley

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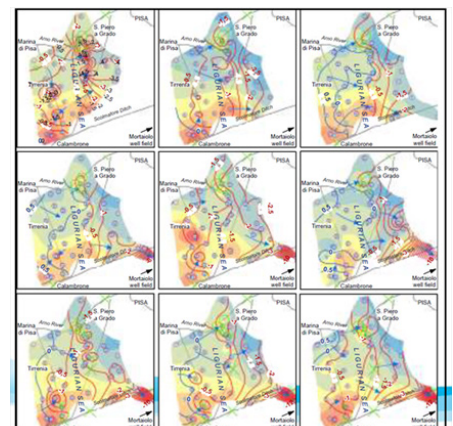
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First investigations in situ: from June to September 2019: Collection of previous available data
18-20 June 2019 – water sampling and piezometric and physical chemical measurements at Fano
23-25 July 2019 – water sampling and piezometric and physical chemical measurements at Ravenna
18-25 September 2019 – piezometric and physical chemical measurements at Fano
First investigations in situ: from June to September 2019
Chemical and isotopic (in progress) analysis

MAPPING IN PROGRESS:



Example of sequential maps