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## ***ADRIADAPT Newsletter - Issue no. 2***

2019

**ADRIADAPT – A Resilience information platform for Adriatic cities and towns** started officially on January 1st 2019, and will unite technicians, policy makers, planners and scientists from Italy and Croatia in their efforts for **creating a knowledge base for cities and towns in adapting to climate change**. Supporting cities in creating good and sustainable strategies, building resilience and preparing for climate change is increasingly important also for cities and towns in the Adriatic area; climate change impacts are becoming progressively concrete with more extreme weather events as well as with slow onset impacts on the population, habitats in and around cities and in consequence, on local economies.

Cities and towns, as concentrations of cultural, social and economic activities along the Adriatic coasts, need to prepare for coastal and river flooding, coastal erosion and subsidence in order to maintain and enhance their ability to support livelihoods, local and regional economies and infrastructures. Further challenges for the Adriatic coastal areas are connected to freshwater availability under threat by the salinization of aquifers and fires related to droughts and heat waves.

One of the main outputs of the ADRIADAPT project will be an Italian-Croatian adaptation platform – a tool to support municipalities in both countries in developing adaptation plans or progressing their ongoing work on climate change adaptation. [This video](#) introduces the platform's main features.



ADRIADAPT web platform to support climate adaptation planning

## ADRIADAPT project partners

### Expert partners:

- [Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici \(CMCC\)](#)
- [Agenzia regionale per la prevenzione, l'ambiente e l'energia dell'Emilia-Romagna \(ARPAE\)](#)
- [Universita luav di Venezia \(IUAV\)](#)
- [Centar za regionalne aktivnosti Programa prioritetnih akcija \(PAP/RAC\)](#)
- [Državni hidrometeorološki zavod \(DHMZ\)](#)

### Local partners:

- [Unione Dei Comuni Valle Del Savio](#)
- [Comune di Cervia](#)
- [Comune di Udine](#)
- [Šibensko-kninska županija](#)
- [Grad Vodice](#)

### Communication partners:

- [Društvo za oblikovanje održivog razvoja \(DOOR\)](#)



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## Local partner-municipality: **Unione dei Comuni Valle del Savio**



**UNIONE  
DEI COMUNI  
VALLE  
DEL SAVIO**



- [Local community - basic info](#)

The Union of the Municipalities of Savio Valley is situated in Northern Italy (Emilia Romagna Region, Province of Forlì-Cesena) and consists of 6 towns: Cesena, Bagno di Romagna, Mercato Saraceno, Montiano, Sarsina, Verghereto. The hinterland is connected to the Adriatic Sea by the Savio river that unifies 117.000 citizens on 810 square kilometers of a varied territory that goes from the flat land to the mountains.



- [Major concerns regarding climate change](#)

The Union will have to face different extreme climate challenges, such as long droughts period alternated with increasingly unpredictable storms and snowfall, resulting in flooding and erosion that quickly evolve into landslides. This affects the public infrastructures, the safety of local communities, private and productive activities, especially agriculture.

- [Current status in development of planning documents](#)

In 2010, the Union has established an inter-municipal Plan for the Civil Protection to implement measures on prevention. The city of Cesena, that is leading the Union, became signatory of the Covenant of Mayors in 2009 and in 2016 of the new initiative Mayors Adapt. In 2018, the New Action Plan for Energy and Climate (SECAP) was approved, starting a specific policy on adaptation and mitigation towards the new 2030 EU objectives. After Cesena, 4 other municipalities have also joined the Covenant in 2011, defining their own sustainable energy plans (SEAP). In this framework ADRIADAPT project is a great opportunity to harmonize these plans in a single organic policy towards local resilience.

- [Implemented measures](#)

Several measures have been implemented: The Regulation on the management of land in prevention of landslide risk (2014) to face the erosion and the decrease of soil fertility; the Sustainable Urban Mobility Plan (SUMP) of Cesena focused on air pollution. In addition, various sustainability education projects have been activated, in particular, raising awareness of climate issues in the Cesena neighborhoods to disseminate the new SECAP.

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## Expert partner: Croatian Meteorological and Hydrological Service (DHMZ)



Croatian Meteorological and Hydrological Service (DHMZ) is a government body in Croatia that provides weather, climate, hydrological and ecological phenomena, climate extremes information with the aim of mitigating their effects in line with World Meteorological Organisation recommendations and EU directives. DHMZ in that way supports the economic and sustainable development of Croatia, assists in the protection of lives, goods and environment.

In Climatology Department within Climate Modelling, Climate Change Monitoring and Biometeorology Division, a group of experts is working on producing regional climate scenarios with the focus over Croatia and Europe. For that purpose, regional climate model RegCM is used. As a part of EURO-

CORDEX community, the same experts are also using broader set of simulations available in the EURO-CORDEX data base. According to all that data and expertise, DHMZ was involved as a national partner in producing several studies concerning future regional climate change. DHMZ was a partner in producing all issued National Communication Reports of the Republic of Croatia under the United Nations Framework Convention on Climate Change. DHMZ also participated in producing the climate change basis for Climate Change Adaptation Strategy in the Republic of Croatia for the period to 2040, with a view to 2070.

As a partner in ADRIADAPT project, DHMZ is mainly involved in the third work package "Climate monitoring and service" that is led by CMCC (Euro Mediterranean Centre on Climate Change). The first task was to define a set of climate change indicators for stakeholders. A list of possible indices was suggested through the document where climatologist described the source of that data, spatial and time distribution and their uncertainties. The list of indices is chosen to cover extreme events associated mainly with the temperature and precipitation conditions. Such a document can be a good base for stakeholder workshops where they can discuss their real needs and data to make climate change assessment in their area. DHMZ participated in Adriadapt Expert meeting in Split, on 13th June 2019. It was explained that we are using EURO-CORDEX data to obtain historical climate and relevant indices to be able to make first step in defining climate change over Adriatic area. Evaluation for the historical period has been done for seasonal temperature and precipitation over the domain of interest in the project and compared to observed EOBS data, as well as for some rare daily events such as extremely high temperature and daily humidex. From the model domain of study that is on 12.5 km horizontal resolution, for the point of any stakeholder interest, time series of parameter can be obtained for all relevant parameters.

In the next step, according to two different future emission scenarios (moderate emissions RCP4.5 as well as the high emission RCP 8.5) climate change for an ensemble of four different model realisations will provide possible change in the future.

Since, along with the dynamical downscaling, statistical downscaling will be done, DHMZ prepared observed data from Croatian meteorological stations.



## **Project activities & events**



*12th and 13th of June, 2019*

### **ADRIADAPT Expert meeting in Split, Croatia**

Under the motto "The whole is greater than the sum of its parts" the meeting among project partners and external expert was to prepare, structure and coordinate contents of the ADRIADAPT guidelines and key publications across different areas of work. The meeting was held on June 12-13, to:

- secure common understanding of the key terms;
- harmonize the approaches;
- co-ordinate key strategic publications for guidelines and the knowledge platform.

Besides PAP/RAC and IUAV, the project leader CMCC representative participated at the meeting, as well as the representatives of the partner responsible for communication/dissemination DOOR, and Croatian local partners Vodice and Šibenik-Knin County, as well as partners responsible for the creation of climate data from DHMZ and CMCC.

Synergies were sought both across the different activities within the ADRIADAPT project, and beyond, contacting recent projects dealing with the adaptation in Croatia which offer the opportunity for collaboration and improving all of the results. Therefore, the following projects and institutions involved had been invited: University of Split, Department of Urbanism working in the MEMUD project and the EIB/HBOR project; a representative of the INTERREG CHANGE WE CARE project, the Split Public company "Parks and Horticulture" and the Department of Marine Studies.

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*30th of July, 2019*

### **ADRIADAPT Meeting with local experts for the preparation of a vulnerability assessment in Udine, Italy**

On July 30th the Municipality of Udine, Italy, hosted the ADRIADAPT Meeting with local experts for the preparation of a vulnerability assessment, where ADRIADAPT partner referents for CMCC, IUAV and the Municipality of Udine, met with representatives of the OSMER ARPAF FVG, the regional meteorological observatory and weather forecast service for Friuli Venezia Giulia, and SOGESCA, a consultancy and engineering company focussing on environmental and energy efficiency issues. The Municipality of Udine is partner in the project as a pilot testing area, and the meeting was aimed at agreeing on the implementation of ADRIADAPT tools in its territory.

The meeting started by a presentation from Margaretha Breil (CMCC) on the main objectives of the ADRIADAPT project. The main output of the project is an online platform meant to be a useful reference tool for local planning. A nature-based solutions focus group will be set in order to share initiatives and ideas.

Udine is already preparing a SECAP, and underlines the importance of identifying, documenting and monitoring solutions which address both reduction of GHG emissions and needs for adaptation. The city of Udine has a great number of trees and water courses in the urban area, which help mitigating the impact of the urban heat island effect. Considering future climate impacts, planning and maintenance of green areas should be considered as key for the adaptation plan.

Next steps identified during the meeting include the collection and evaluation of existing data for a vulnerability analysis which takes into account of present and future water availability, state of hydraulics and river flooding risks (in cooperation with the civil protection), an analysis of the urban heat plan, and of the potential vulnerabilities of the wealth of urban green and blue spaces in the city centre.

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*10th of September, 2019*

### **ADRIADAPT Presentation of the Project in Pesaro, Italy**

At the final event of the iDEAL project, on September 10th in Pesaro, Italy, Ivana Rogulj from DOOR has presented the ADRIADAPT project to the iDEAL's project partners and the representatives of various municipalities from Italy.

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*25th to 27th of September, 2019*

### **ADRIADAPT Meeting with Local Policy Makers from Cervia and Valle del Savio in Cervia, Italy**

ADRIADAPT partners have met in Cervia from 25 to 27 September 2019 to work on climate change adaptation. The meeting included work with local policy makers from Cervia and Valle del Savio, discussing their needs and expectations from scientists of the ADRIADAPT project.



Project partners were hosted by the City of Cervia, one of the five project partners coming from Italian and Croatian local authorities. Together with the scientific partners they discussed future scenarios and expected impacts for their urban areas and communities, and worked on possible models and strategies for interventions: the aim will be to create strategies and plans which will guide activities to make Adriatic cities and towns more resilient. Lessons learned during this process which will last until December 2020, will contribute to an online platform collecting guidance instruments, tools and best practice examples.

In fact, the first two days were dedicated to technical work. Exchanging knowledge and discussing specific issues related to climate change, as a preparatory work for selecting and shaping adequate tools and experiences to serve local administrations, so that they can deploy actions to defend and protect local communities from extreme events.

This type of events is recorded with an increasing frequency, as local project partners reported, talking about a heavy storm which has seriously damaged the coastal pinewood of Cervia, and the heavy rainfall causing flooding in Valle del Savio and Cervia last spring. Also Croatian partners reported increasing frequency of short term heavy rainfall and all coastal partners share worries about the impacts of sea level rise which do not include coastal flooding and erosion alone, but also intrusion of salt water into coastal aquifers that affects ecosystems and livelihoods. Another challenge cities will increasingly need to tackle are heat waves, which put especially elderly and very young citizens at risk. The regional projections for the future climate provided by researchers from CMCC showing that such events will become more intense in the future due to global warming, made clearer how this issue needs to be seriously faced. Therefore, the commitment of local administrations to adopt pathways to a balanced and sustainable development is crucial for creating new actions and activities which limit greenhouse gas emissions and enable, at the same time, communities, their economies, and infrastructure to withstand impact from climate change. Researchers from the ADRIADAPT project have presented actions already implemented in other cities that can, while increasing local resilience, improve the quality of life in local communities and households. The so-called “nature based solutions” for climate adaptation will represent an important part of the possible solutions presented to local administrations.

These opportunities were discussed on the last day of the meeting when project partners met local policy makers to better understand local needs and constraints related to adaptation and explain how to proceed with the preparation of local climate plans and which enabling conditions need to be created. “Visions can be an important tool for creating agreement and commitment between citizens and administrations, as they allow for thinking beyond electoral periods and addressing long term changes like those triggered by climate change.”, one participant said.

Administrators from Cervia and Valle del Savio have participated in this round table discussion with project partners; similar events will take place, during the project, the other pilot areas, of the project partners from the cities of Udine (Italy) and Vodice (Croatia) and the Croatian Šibenik – Knin County. These cities work as partners in the project, coordinated by the Euro-Mediterranean Centre on Climate Change (CMCC) in partnership with the Regional Environment Agency of Emilia Romagna (ARPAE), and the University of Architecture of Venice (IUAV) for the Italian side. Partners from Croatia, further to the local partners, are the National Meteorological and Hydrological Service (DHMZ), the Society for Sustainable Development Design (DOOR), and the Priority Actions Programme Regional Activity Centre (PAP/RAC).

- Online platform for climate adaptation planning has been set into development with project partners' inputs from the recent meeting in Cervia, Italy.

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### [General Data Protection Regulation \(GDPR\)](#)

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### Project partners



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\*The project is coordinated by the Euro Mediterranean Centre on Climate Change (CMCC). Project participants include local authorities from Croatia and Italy, together with knowledge providers from the Adriatic Sea basin in the fields of climate science, climate adaptation and urban planning.\*

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