

# CREATE Cluster

## “Supporting adaptation to climate change in the Adriatic area”

Side event during the Annual Programme meeting  
"Our Shared Blue Basin  
Venice,

25/10/2022

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## Introduction : CREATE project – “Climate REsponses for the AdriaTic rEgion”

CREATE analyses and synthesizes results achieved in relevant projects for Climate Adaptation in the Adriatic Area to make them accessible to potential end-users and stimulate a discussion on ways forward for fostering support to adaptation action specific for the area.

From 24th to 25th October 2022, Interreg Italy-Croatia Programme is organising its **Annual Event "Our Shared Blue Basin"**. This event will emphasise the achievements of 2014-2020 Programme implementation and will introduce the new opportunities of 2021-2027 Programme, its topics and novelties, as well as the key aspects of the first call. Coherence with EUSAIR, capitalisation opportunities and synergies with other EU funding instruments and Programmes will be discussed among high level institutional representatives.

As a side-event to this conference, the CREATE project will hold a thematic workshop "**CREATE project – supporting adaptation to climate change in the Adriatic area**" on the **25<sup>th</sup> of October, from 14:00 16:00**. The first part of the workshop will briefly present the main achievements of the previous projects that CREATE is capitalizing on, and the main activities and foreseen outcomes of the CREATE project.

In the second part of the workshop representatives of the CREATE project and of other partner projects will discuss with participants the main thematic areas where future INTERREG projects can provide support and drive local adaptation action and forms of collaboration.

Place: Bar area [Terminal 103 - Venice Cruise Terminal, Italy](#) on October 25<sup>th</sup>, 2022.

Participation in Interreg Italy-Croatia Annual Event requires registration: <https://interreg-events.blumm.it/event/ar/14/interreg-italy-croatia-annual-event>

For more details on Interreg Italy-Croatia Annual Event: <https://interreg-events.blumm.it/interreg-italy-croatia-annual-event>

## Agenda

14:00 Welcome

Short introduction to the CREATE project      Margaretha Breil (CMCC)

### Presentation of cluster projects

14:10 ChangeWeCare

Davide Bonaldo (CNR-ISMAR)

14:20 Ideal

Giacomo Cazzola (IUAV)

14:30 Joint Secap

Martin Bucan (Split Dalmatia County)

14:40 Most/SeCure

Pietro Teatini (UniPD)

14:50 ADRIACLIM

Giovanni Coppini (CMCC)

15:00: ADRIADAPT

Giovanni Fini (Unione Comuni valle del

Savio)

### World Cafè Conversation: which actions for future project proposals?

15:10 Introduction to the discussion

Margaretha Breil (CMCC)

15:15 Round tables

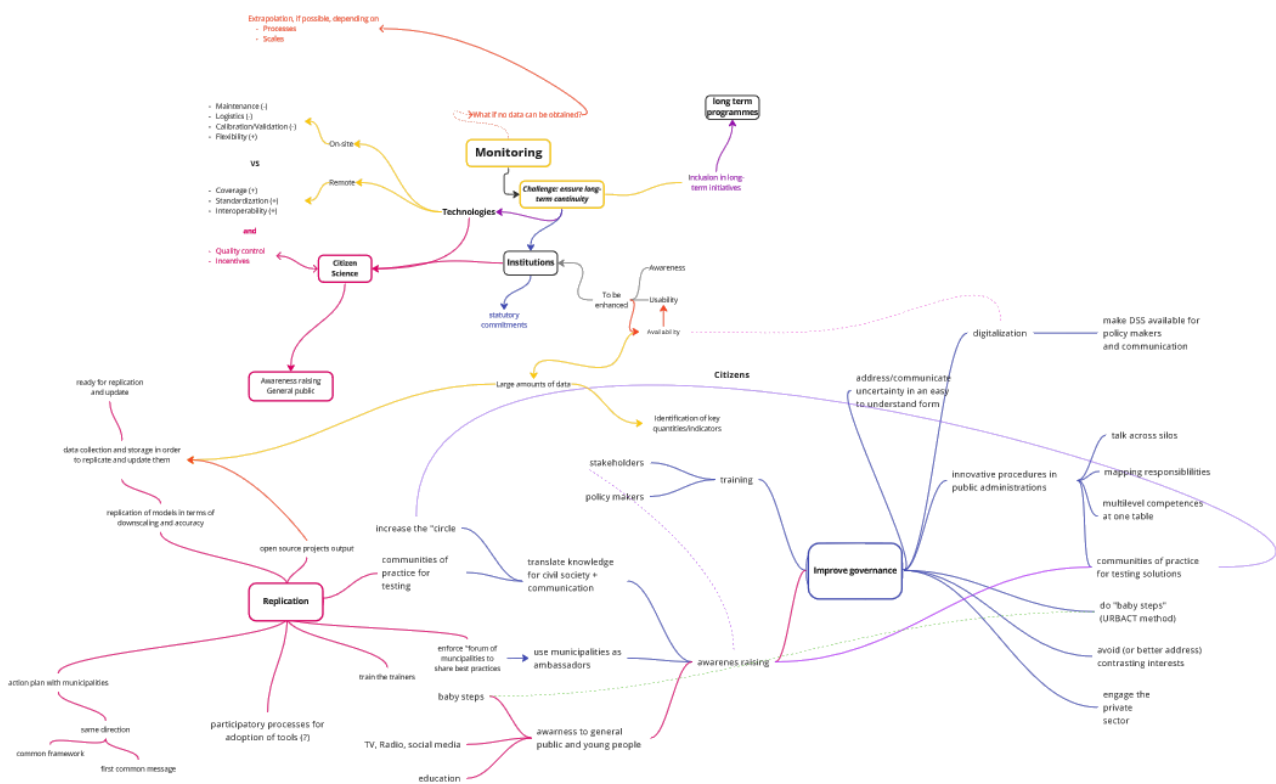
All participants

15:50 Presentation of results and wrap up

## Results: CREATivE Brainstorming on directions for action to increase resilience in the Adriatic area

### Introduction

The brainstorming performed during the CREATE side event has yielded results which move around the three main topics proposed in the side event. These arguments were distilled from the material collected with during the interviews with partner projects on achievements and gaps. The main areas emerging where need for future support to local adaptation action were seen were **“how to improve governance”**, **“how to accelerate replication”** and **“how to make monitoring useful for project implementation”**. The first graph illustrated the overall discussion and the linkages between these thematic areas.



### 1 Overview of mind maps with connections

The visualization of interlinkages identified shows that there is a strong connection between these thematic areas and actors involved.



How to make monitoring useful for project implementation:

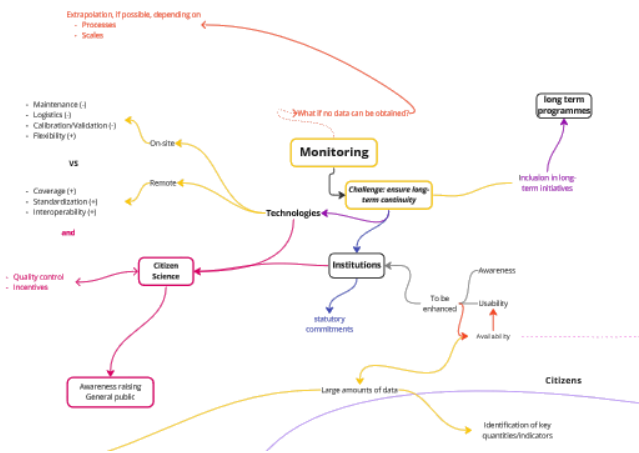


Figure 1 Mind map section focusing on Improvement of monitoring and data availability

With regards to monitoring, directions of action were discussed from the point of view of generation of scientific data to improve knowledge about climate change and impacts<sup>1</sup>. Ensuring long term measurements has been identified as a major challenge for identifying and quantifying climate trends. The options for actions are related to **institutional settings**, changing or exploiting **statutory commitments** of existing institutions and their **awareness** about data needs, creation of new long-term **programmes, technologies** for data retrieval and innovative (complementary) strategies as **citizens' science**.

Such data needs to be homogeneous, and continuous, so that data can be compared across long time periods and across different places. The two options for the obtaining such data are:

- **On-site measurements** which have the advantage of higher **flexibility**, but have high **costs** for **investment, maintenance and logistics**.
- **Remote measurements** (in particular Earth observation data) on the contrary offer advantages of good **geographic coverage** and **data availability, standardised** and **interoperable** data but is not available for all types of data needed. Some of this data is available at global, other data at regional (e.g. European) level; yet, there are open challenges in the use of this data due to **compatibility issues across this data**.

Recurring on **citizens' science** offers opportunities for **creating awareness** but requires additional efforts for **quality control** and creation of incentives.

Links to other priorities:

Increased availability of appropriate data can ease the identification of appropriate and measurable key indicators and makes. At the same time, the difficulties of managing such a large amount of data make the definition of key indicators for monitoring and better governance of policies more urgent.

Appropriate data storage and accessibility (including awareness) will facilitate replication of modelling exercises

<sup>1</sup> The aspect of policy monitoring and options for measuring and improving policy outcomes has not been addressed in this discussion, has nevertheless been identified as a relevant argument by local partners.

## How to improve governance

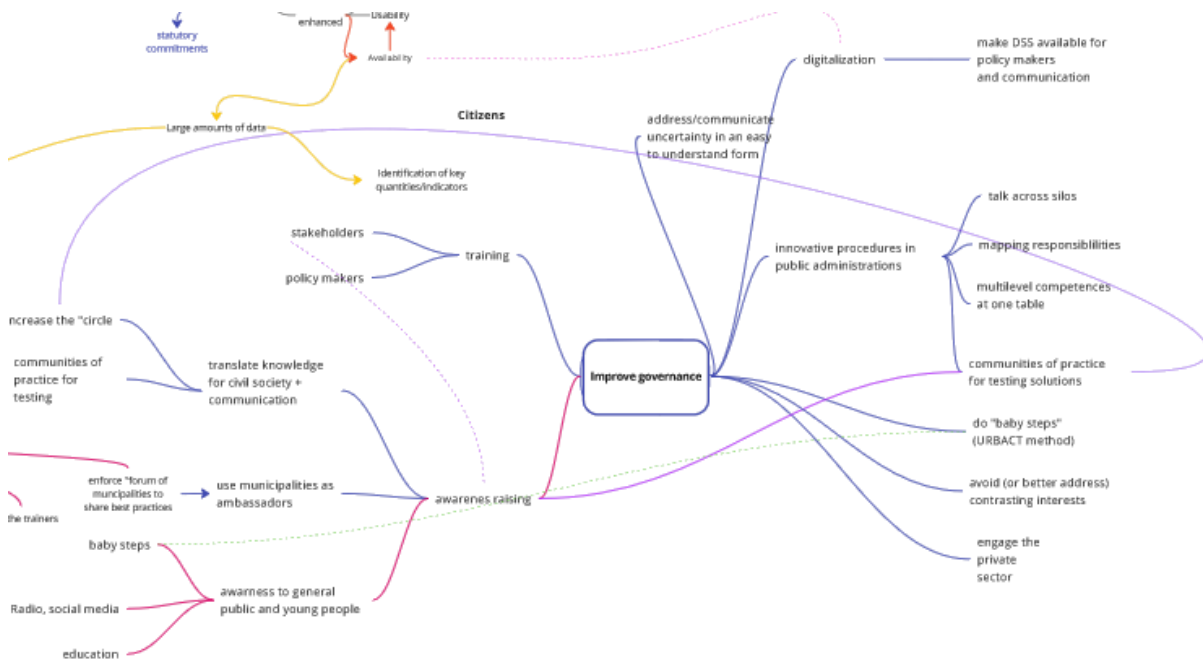


Figure 2: Mind map section focusing on levers for improving governance

### Tools and strategies to be used include:

- digitalization (providing DSS for Policy makers and Local authorities)
- **training of policy makers and stakeholders** (and trainers)
- **awareness rising** (including communication for civil society, use municipalities as ambassadors,
- **communicate to young people**
- enhance outreach towards and **involve the private sector**
- better address **contrasting interests**

### Change ways of doing:

- use **small steps (baby) approaches** (but keep anchored in larger strategies)
- better communicate uncertainty
- innovate procedures
- innovative procedures in local authorities:
  - accurately **map responsibilities**
  - **work across silos**, bringing multi-level and multi-sector responsables at one table,
  - create **communities of practice** for testing solutions

In particular, the innovations regarding forms and targets of communication are connected also to the Replicability field, which is connected by good communication of achieved results, for instance by the creation of communities of practice and municipalities acting as ambassadors.

### How to accelerate replication

Replicability depends, according to the discussion among participants, primarily on communication aiming at **“increasing the circle”** of municipalities and actors aware about solutions for adaptation: this furthermore links to **“Making Municipalities ambassadors”** for disseminating successful implementation.

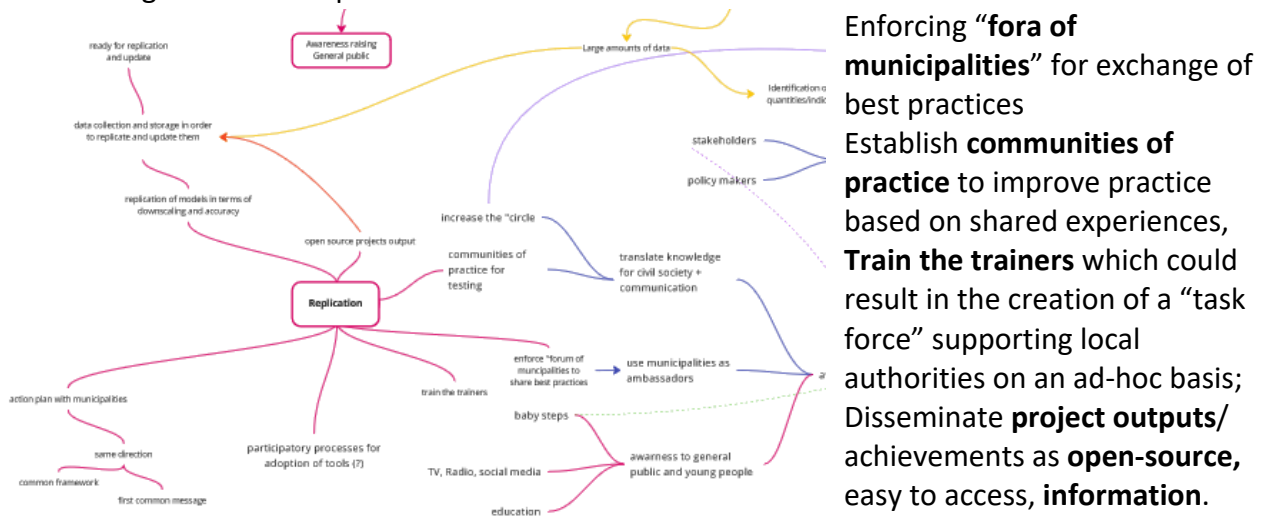


Figure 3: Mind map section focusing on accelerating replication

On a higher level of cooperation, **common municipal action plans** could work into the same direction with common **frameworks** and distribute **common messages**.

## Participants list:

Name	Surname	Organization
Saveria	<b>Teston</b>	CERTiMAC
Renata	<b>Marušić</b>	JS Italy-Croatia
Diana	<b>Gracin Petrović</b>	JS Italy-Croatia
Elisa	<b>Zanoni</b>	CNR_ISMAR
Davide	<b>Bonaldo</b>	CNR-ISMAR
Paolo	<b>Garofoli</b>	Regione Puglia
Marco	<b>Popolizio</b>	JS Italy-Croatia
Denis	<b>Grasso</b>	ITC
<b>Simion</b>	<b>Anca Daniela</b>	JS Italy-Croatia
Marco	<b>Tumiatti</b>	Formazione Ca' Foscari
Desiree	<b>Paggiarini</b>	MA Italy-Croatia
Ivana	<b>Karuzza</b>	Croatian National Tourist Board
Ivka	<b>Martinović</b>	KorA DOO
Pietro	<b>Savorani</b>	Certimac
Igor	<b>Jurčić</b>	Jurkiz
Tina	<b>Marčić</b>	Split Dalmazia County
Josip	<b>Matas</b>	Split Dalmazia County
Katarina	<b>Šuta</b>	Split Dalmazia County
Andrea	<b>Vitlov Kurtin</b>	Zadar Nova
Giovanni	<b>Coppini</b>	CMCC
Sabrina	<b>Tirabassi</b>	Municipality of Campobasso
Martin	Bučan	Split Dalmazia County
Ivana	Nikles	Regional coordination
Maria Katherina	Dal Barco	CMCC
Giuditta	Gabrielli	Regione Veneto
Pietro	Teatini	Uni Padova
Giovanni	Fini	Unione Comuni Valle del Savio
Valeria	Rossi	Unione Comuni Valle del Savio
Sofia	Burioli	Unione Comuni Valle del Savio
Giacomo	Cazzola	IUAV
M.Letizia	Vitteletti	CNR ISMAR

## Images







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## Presentations



## “CREATE Side Event”

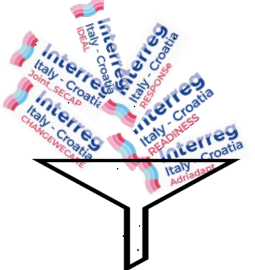

CREATE | CMCC | Margaretha Breil

Our Shared Blue Basin | Venice | 25 October 2022

European Regional Development Fund

1

## The project

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## Agenda

### Presentation of cluster projects

14:10 Change we care	Davide Bonaldo (CNR-ISMAR)
14:20 Ideal	Giacomo Cazzola (IUAV)
14:30 Most/SeCure	Pietro Teatini (UniPD)
14:40 Joint Secap	Martin Bucan (Split Dalmatia County)

### World Café Conversation: How do we want to continue our work?

15:00 Introduction  
16:50 Wrap-up

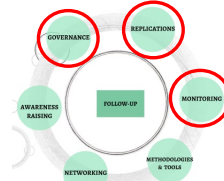



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## World Café Conversation

Three questions:


- What can we develop to improve governance of climate adaptation ?
- How can replication of experiences be accelerated?
- How can we make monitoring useful for improving knowledge and implementation?

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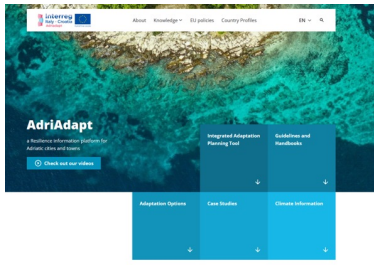

## ADRIADAPT: Key Findings

- Knowledge generation needs to target local authorities
- & needs to enable them to interact with consultants



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## ADRIADAPT: Products and practices: knowledge platform

6



## ADRIADAPT: Products and practices: Integrated Adaptation Planning Tool



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## ADRIADAPT: Gaps to be filled

- New solutions for supporting small local authorities needed



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Thank you



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## CHANGE WE CARE: ACHIEVEMENTS AND PERSPECTIVES

CREATE | CNR-ISMAR | Davide Bonaldo  
 CREATE project – supporting adaptation to climate change in the Adriatic area | Venice | 25 October 2022

European Regional Development Fund

## WHAT WE DID / WHAT WE ACHIEVED


**A shared interdisciplinary view on the functioning of Adriatic coastal Systems**


- Hydrodynamics - Meteorology
- Geology - Sedimentology
- Fluxes and water quality
- Ecology

**A projection of climate change impacts on the Adriatic coastal areas**

- Ocean dynamics under severe climate change
- Morphodynamics of coastal alluvial systems
- Risk assessment for climate change impacts
- Habitat Suitability Modelling

**Adaptation plans for 5 representative coastal systems**





## ROAD MAPS TO ADAPTATION

**WPS Pilot Sites: adaptation strategies and measures for increasing resilience to climate change**

Activity 3.1  
Stakeholder engagement with policy plans and measure options

**WPS COORDINATION PLAN**

October 2021 - 1.1.2

Version 2.2

Available on the Project website


**Long-term strategic plan for site-specific operating of monitoring and observation systems at Pilot Sites**

Final Version of 30/11/2021  
October Number 0.4.1

**Guidelines for climate change monitoring in the cooperation area**

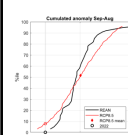

Final Version of 30/11/2021  
October Number 0.4.1


- Guarantee a homogeneous approach in the different Pilot Sites
- Provide guidance in the preparation of the Adaptation Plans
- Provide a reference on methodologies for stakeholders engagement and participatory decision-making
- Facilitate the capitalization of the Project results
- Pinpoint strategies and priorities for long-term climate monitoring





## UPCOMING CHALLENGES

- Maximize the efficiency of decision making for climate change adaptation
- Accelerate and improve the replication of experiences
- Ensure long-term monitoring and response capacity








## CHANGE WE CARE CONTACTS

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## Supporting and informing Climate Change Adaptation Plans: the iDEAL project

CREATE | IUAV University of Venice | Giacomo Cazzola

CREATE project thematic workshop – supporting adaptation to climate change in the Adriatic area

European Regional Development Fund

## 2018-2019 INTERREG IT-HR iDEAL project: Decision support for Adaptation pLan.

Capitalizing the TERRE (TErritory, eneRgy & Employment) 2012-2014 project cofounded by the South East Europe Transnational Cooperation Programme...

...the iDEAL project proposed an **operational methodology** to support and inform the development of climate adaptation action plans through a shared and participated decision process.

The project had **five pilot areas**: Municipality of Pesaro (IT), Municipality of Misano Adriatico (IT), Municipality of Dubrovnik (HR), Municipality of Vrsar (HR), Regional Natural Park "Coastal Dunes Torre Canne" (IT).

The methodology developed aimed at **supporting local administration to integrate adaptation measures** in the planning and monitoring process, with a easy-to-use approach.




## Planning recognition and impacts selection

[For each pilot case study]

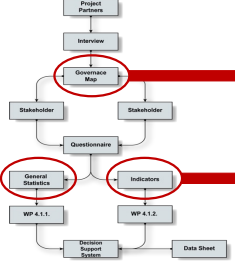
**Governance map identifying relevant:**



- stakeholders and decision-makers;
- adopted plans, policies, projects or initiatives.

**Selection and mapping of context specific:**

- climate change threats and expected impacts (most relevant);
- Indicators needed for actions evaluation.

[all supported by local stakeholders inputs]



## Indicators selection



Indicators' different dimensions and sub-criteria needed for the evaluation.

Selection of most relevant and appropriate (in terms of context and strategy) indicators and criteria through the participatory process.

## Measures packages

Definition of clusters of **adaptation measures** (from best practices, ongoing initiatives and projects) addressing climate change **threats** and expected **impacts**, to be selected and consolidated.

Aspect	Indicator	Unit of measurement	Criteria used to select indicators
A. Environmental	Sea level rise	m	1. Of people
	Sea level rise	m	2. Of people
	Water consumption	m <sup>3</sup> /year	3. Of people
	Water consumption	m <sup>3</sup> /year	4. Of people
	Water consumption	m <sup>3</sup> /year	5. Of people
B. Social	Population	n. of people	6. Of people
	Population	n. of people	7. Of people
	Population	n. of people	8. Of people
	Population	n. of people	9. Of people
	Population	n. of people	10. Of people
C. Economic	Management cost	€	11. Of people
	Management cost	€	12. Of people
	Management cost	€	13. Of people
	Management cost	€	14. Of people
	Management cost	€	15. Of people
D. Legal, institutional and perceptual	Management cost	€	16. Of people
	Management cost	€	17. Of people
	Management cost	€	18. Of people
	Management cost	€	19. Of people
	Management cost	€	20. Of people



## Tailored actions' evaluation and ranking: Structuring Climate Adaptation action Plans

Setting indicators' and sub-criteria' weights, thresholds and data estimates for each action

ALTERNATIVE A: .....			Excellent						
OBJECTIVES			INDICATORS						
name	weight (w)	result	name	unit of measure	function	threshold (th)	weight (w)	data	result
Environmental aspect	0.2	good	Sea level rise	m	to increase	0.0	0.3	0.00	0.00
			Water consumption	m <sup>3</sup> /year	to decrease	1000	0.3	10000	10000
			Water consumption	m <sup>3</sup> /year	to decrease	1000	0.3	10000	10000
Social aspect	0.1	good	Population	n. of people	to increase	0.0	0.3	0.00	0.00
			Population	n. of people	to increase	0.0	0.3	0.00	0.00
Economic aspect	0.3	medium	Management cost	€	to decrease	0.0	0.3	0.00	0.00
Legal, institutional and perceptual aspects	0.1	medium	Management cost	€	to decrease	0.0	0.3	0.00	0.00
			Management cost	€	to decrease	0.0	0.3	0.00	0.00
Vulnerability aspect	0.2	medium	Procedural time	days	to increase	0.0	0.3	0.00	0.00
			Vulnerability	High/Low/Medium	to increase	0	0.3	0	0


[Local partners + Participatory process]

Measures with acceptable results were included in the CCA action Plans

## Key lessons learnt and open challenges

- Ready-to-use decision support system directing toward participated, multi-hazard, effective adoption of adaptation measures and strategies;
- Acknowledgement of measures' multiple and multidimensional effects:
  - addressing different climate-related threats and challenges,
  - addressing different sectors, satisfying different indicators,
  - having unforeseen positive and negative effects on other strategies, neighbouring areas and/or on longer timeframes.
- Standardized measures evaluation allow open and participated discussions on unrelated initiatives although may oversimplified their complex coverage and structure.
- Methodology supporting CCA decisions and planning requires an active and participated involvement of local stakeholders, otherwise might end up as a «closed» technical process.




## Open challenges and future directions

- . **Coordinating** the current prolific **growth** of projects, plans and initiatives addressing climate change threats and disaster risks, particularly along the Adriatic coasts;
- . **Overcoming** the **sectorial** climate change adaptation mindset, both in the definition of measures as well as in the definition of risk components;
- . **Understanding** and highlighting the **unintended** (positive and negative) adaptation effects of conventional planning measures;
- . **Tailoring updated indicators** encompassing the emerging variety of adaptation options and their characteristics, setting context-dependent minimum thresholds;
- . In a more complex and structured understanding of all the relevant plans and projects already in place along Adriatic coasts, **highlighting** and defining the **overcrowded** strategies/areas (-> in need for coordination, integration, effectiveness) and the **forgotten** ones (-> requiring further planning).




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## Thank you!

IUAV University of Venice  
Giacomo Cazzola  
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**CREATE-Supporting adaptation to climate change in the Adriatic area**

CREATE | County of Split and Dalmatia | J. Matas, K. Suta, T. Maricic, M. Bucan

Annual Event "Our Shared Blue Basin" 2022 | Venice | 25 October 2022




  
**Joint\_SECAP**


The project aims to build a common methodology for the definition of Joint Sustainable Energy and Climate Action Plans (SECAPs) focused on sharing knowledge on climate change adaptation strategies and mitigation measures.
















**Main Phases of the project**

The first phase is focused on the development and implementation of the common methodology for Joint Sustainable Energy and Climate Action Plans (SECAPs). Sharing of the basic knowledge about issues concerning climate change adaptation strategies and energy efficiency measures with public and stakeholders is also foreseen.

The second phase starts when the analysis and data are uploaded in the web platform, acting as a useful tool for the development of scenarios which will be implemented in the joint SECAPs which will be the main project output.



**PROJECT DURATION:** 01/01/2021 - 30/06/2023  
**ERDF:** 1.200.000,00 €  
**TOTAL BUDGET:** 2.000.000,00 €


The University of Camerino coordinates a network of 8 Italian and Croatian partners which work on target areas on the two sides of the Adriatic Sea, within the Interreg Italy-Croatia Program, (Irene-Istrian Regional Energy Agency L.T.D., Comune di San Benedetto del Tronto, Regione Abruzzo, Comune di Pescara, Sòdes - International Centre for Sustainable Development of Energy, Water and Environment Systems, Primorje-Gorjanski Kotar County, County of Split-Dalmatia; Municipality of Vela Luka

The project idea reflects the necessity to operate on a wider district level and better define strategies and actions for climate change adaptation.

1. The first phase is developed to build the common methodology for Joint Actions definition and implementation and to share the basic knowledge about climate change adaptation strategies and energy efficiency measures.
2. The second phase starts upon the analysis uploaded in the web platform, acting as a useful tool for the development of scenarios for the Joint Actions to be implemented in the Joint SECAP plans, the main project deliverable.









**Result**

The first result of the Joint\_SECAP approach was the important involvement of stakeholders in the construction of the impact chains.


Combine the construction of the scenario analysis with the SEA / Strategic Environmental Assessment, conclusion is that SEA can be a useful tool to avoid negative impacts and help to correct the actions.

9 SECAP

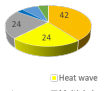






The most present risks concern the damages caused by drought in many sector (agriculture, tourism, in water supply; the heat waves, the extreme precipitations and flooding and their damages to buildings and many economic sectors (tourism, agriculture, etc.)

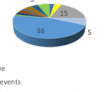
**Measures selected by sectors**



**Measures selected - Croatian Target Areas**








**Measures selected - Italian Target Areas**



Legend:
 

- Drought
- Heat wave
- Extreme events
- Extreme events
- Fires
- Sea level rise and floods
- Drought
- Heat wave
- Extreme events
- Water (shortage, extreme weather events)
- Multiple hazards
- Coastal erosion
- Extreme precipitations, mass movement

50 joint actions were selected for all 9 target areas (32 for Italy and 18 for Croatia). The proposed joint actions are on adaptation (47) and even mitigation (3) as declared by each partner, but the focus will be on adaptation actions. The majority of the joint actions belong to soft actions, they regard policies and procedures, land-use controls, information dissemination and economic incentives to reduce vulnerability, encourage adaptive behavior or avoid maladaptation.



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**County of Split and Dalmatia**  
**Department for economy, agriculture and EU funds**

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**SeCure MoST**

Side-Event «CREATE» | Venice | 25 October 2022

Logos: Interreg Italy-Croatia MoST, Interreg Italy-Croatia SeCure, National Research Council of Italy, Regione del Veneto, University of Padua, University of Split, Faculty of Civil Engineering, Architecture and Geodesy, DUNE, Dubrovnik-Neretva County, INFRASTRAUCIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE.

**MoST & SeCure - INTRODUCTION**

MoST : Monitoring Sea-water intrusion in coastal aquifers and Testing pilot projects for its mitigation

SeCure : Saltwater intrusion and Climate change: monitoring, countermeasures and informed governance

A - Application data	
Cluster	2 - Adaptation to climate changes: governance and capacity building
Specific objective	2.1 - Improve the climate change monitoring and planning of adaptation measures tackling specific effects, in the cooperation area

Logos: Interreg Italy-Croatia SeCure, National Research Council of Italy, Regione del Veneto, University of Padua, University of Split, Faculty of Civil Engineering, Architecture and Geodesy, DUNE, Dubrovnik-Neretva County, INFRASTRAUCIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE.

**MoST & SeCure - PARTNERS**

- LP – University of Padova, Dept. ICEA – UNIPD
- PP – Institute of Geosciences and Earth Resources of the Italian National Research Council – CNR-IGG
- PP (MoST) – Consorzio di Bonifica Adige-Euganeo
- PP – Regione Veneto, Soil and Coast Defense Directorate – REGVEN
- PP – University of Split, Faculty of Civil Engineering – UNIST
- PP – Regional Development Agency of Dubrovnik Neretva Region – DUNE
- PP (SeCure) – Public Institution for the Management of Protected Natural Areas of Dubrovnik-Neretva County – PIDNC
- PP – Croatian Waters, Dept. of Water Resources – CW

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**MoST & SeCure – PILOT SITES**

Venice pilot site

Neretva plain

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**MoST - OUTCOMES**

Small infrastructure and testing to characterize and mitigate saltwater intrusion in lowlying farmlands

Logos: Interreg Italy-Croatia SeCure, National Research Council of Italy, Regione del Veneto, University of Padua, University of Split, Faculty of Civil Engineering, Architecture and Geodesy, DUNE, Dubrovnik-Neretva County, INFRASTRAUCIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE.

**MoST - OUTCOMES**

Vulnerability of lowlying farmlands to saltwater intrusion and contamination

Figure 29 Present state SWI vulnerability definition

Figure 20 SWI vulnerability definition for climate change projections and implemented mitigation measures

Logos: Interreg Italy-Croatia SeCure, National Research Council of Italy, Regione del Veneto, University of Padua, University of Split, Faculty of Civil Engineering, Architecture and Geodesy, DUNE, Dubrovnik-Neretva County, INFRASTRAUCIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE, INFRASTRAUKA DUBROVNIK-NERETVA ŽUPANIJE.



## SeCure - OBJECTIVES

The standard Projects MoST, Asteris, and Change We Care developed within the Interreg V-A IT-HR (MAC IT-HR in the following) allowed significant advances in:

- > the **characterization of the process of saltwater intrusion** under the effects of climate change in the Adriatic low-lying coastal areas of Italy and Croatia;
- > proposing **best practices** for facing this scourge.



SeCure, which is allocated in the Cluster Adaptation to climate changes "governance and capacity building", is aimed to maximize:

- > the main outcomes and the **experiences developed** in MAC IT-HR projects;
- > **synergies between the projects** to enhance visibility and transferability, fully exploit and consolidate the results achieved so far, and increase the knowledge base on the saltwater contamination of the northern Adriatic coastlands in preparation for the next programming period.



## SeCure - OBJECTIVES (cont.)

**First** SeCure will allow to extend to **one more year the monitoring activities** of the three joint projects giving the opportunity to use a longer time window for improving the characterization of the saltwater intrusion, which is subject to a wide range of natural forcing conditions and climate change.

**Second** SeCure will take advantage of one more year of monitoring to **assess the effectiveness of the realized countermeasures** in terms of water quality and agricultural productivity.

**Third** comparison and **Integration of the different experiences** coming from MAC IT-HR PPs will allow to upscale the guidelines previously developed at local scale to the more general and wider viewpoint of the entire Adriatic basin focusing on lowlying coastal farmlands.



## SeCure – TARGET GROUPS

Target group	Description	Means
General public	The target group is constituted by general public, farmers and citizens	Project website, informative events, social media
Local, regional and national public authorities and related entities	Public authorities having jurisdiction on land planning and governance, water management and drainage, risk management, agriculture, natural environment, at local, regional and national level	Production of technical/informative documents and the organization of study visits and events
Education and training centers	Students of the secondary and high schools of the regions facing the Northern Adriatic Sea in Italy and Croatia	Flyers and ppt presentations on the project outcomes sent to the high schools of the regions facing the Northern Adriatic Sea. Online and in-presence lectures will be proposed
Universities and research institutes	The scientific community involved in the field of SeCure (climate change adaptation, intrusion of saltwater, maintenance of agricultural soil fertility in marine coastal areas)	Publications, conference presentations, SeCure Project webpage in ResearchGate



MoST / SeCure

Thank you





**AdriaClim**  
Climatic change information, monitoring and management tools for adaptation strategies in the Adriatic coastal areas

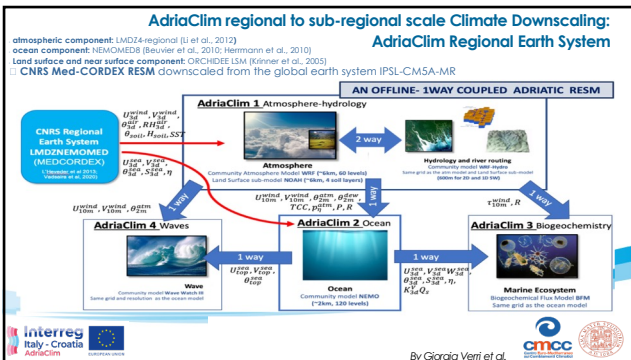
European Regional Development Fund

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**AdriaClim - 9 Adaptation measures Pilots**

<p><b>VENETO</b> Venice and its Lagoon: contribution to the preparation of the Venice Sustainable Energy and Climate Action Plan (SECAP) Venice coastal protection: a climate impact and vulnerability assessment and raise awareness among the local stakeholders.</p>	<p><b>FRIULI-VENEZIA GIULIA</b> To generate local scale, very high resolution and integrated information for the future decades to support climate related risks identification and adaptation actions. To map and to analyze the stakeholder hypotheses, interest and relevance, with the objective to drive the scientific information towards adaptation actions. To support interested stakeholders groups in adopting the pilot area guidelines and to support them in the definition of specific adaptation actions and plans.</p>
<p><b>EMILIA-ROMAGNA</b> Adaptation plan of the regional coast of Emilia-Romagna, with stakeholder participatory approach, based on an advanced modelling tool Formation of the Strategy on Integrated Management for the Protection and climate change Adaptation of the regional Coast - GIDAC Reducing vulnerability &amp; risk exposure and enhancing resilience of the coastal system</p>	<p><b>ZADAR</b> To ensure on-site water availability and the proper irrigation of small agricultural areas, especially in periods of water deficit (Adaptation Plan and truck with drinking water)</p>
<p><b>MARCHE</b> Elaboration of an adaptation plan for whole coastal area of the regional territory based on existing data/strategies/guidelines and on WPS-4 outputs</p>	<p><b>SPUR-DAMATA</b> Assessment of the microbial food web dynamics and occurrences of the toxic algal blooms in the future climate</p>
<p><b>MOISÉ</b> Development of the Local Climate Change Adaptation Plan for coastal areas. We will focus on sea level rise and on wildfires as the two most significant Climate Change related effect on the coastal ecosystem</p>	<p><b>DUBROVNIK-NERETVA</b> Assessment of the salt edge dynamics in the future climate for Neretva River Estuary Adaptation plan for Štano bay area (Dubrovnik primary municipality)</p>
	<p><b>FUGLIA</b> Implementation of the Adaptation Plan in the specific part of the Region</p>

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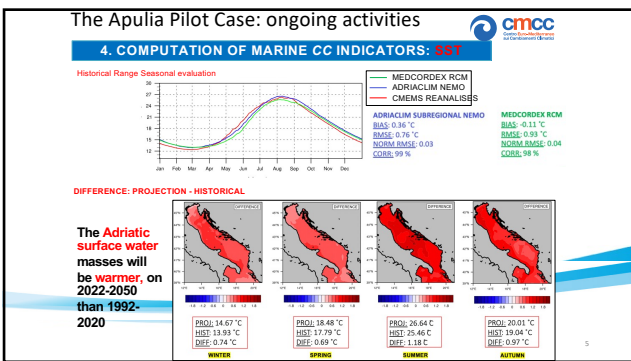
**MODELING GOAL: A step forward with respect to the state-of-art of the multi-physics and multi-scale earth system modeling**

**Domain A (6km- 600m): WRF+ NOAH+ WRFFHydro**  
**Domain B (2km): NEMO+WWIII+BFM**

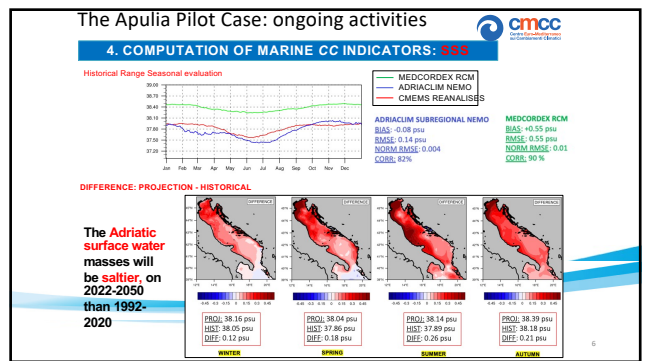
AdriaClim atm-land Domain A vs marine Domain B

- horiz. res. ratio 1:3
- MEDCORDEX to AdriaClim downscaling ratios
  - Atm downscaling horiz. res. ratio 1:5 (30km to 6km)
  - Ocean downscaling horiz. res. ratio 1:5 (100m to 20m)
- Climate Simulations
  - Historical: 1991-2020
  - RCP 8.5 Scenario: 2021-2050

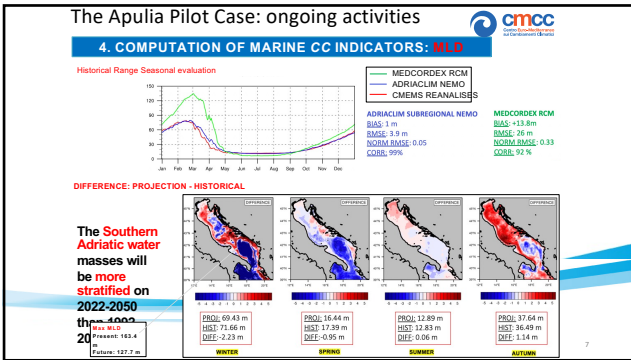
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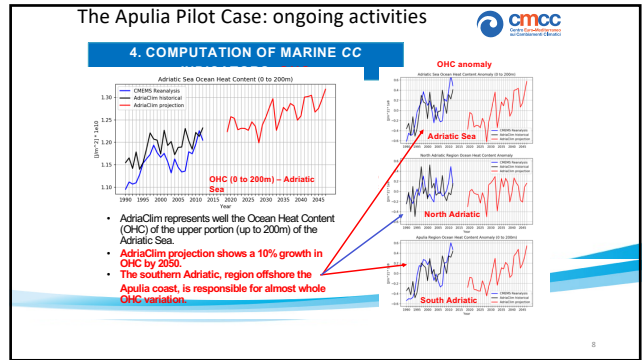
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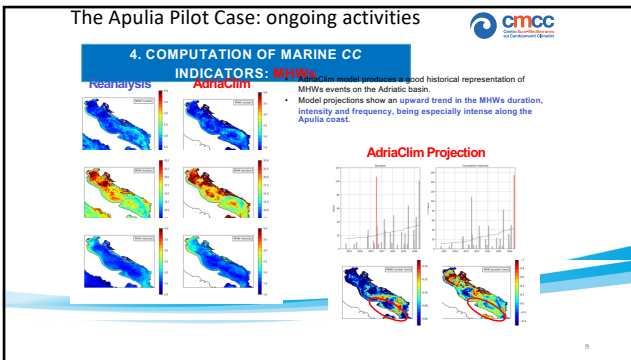
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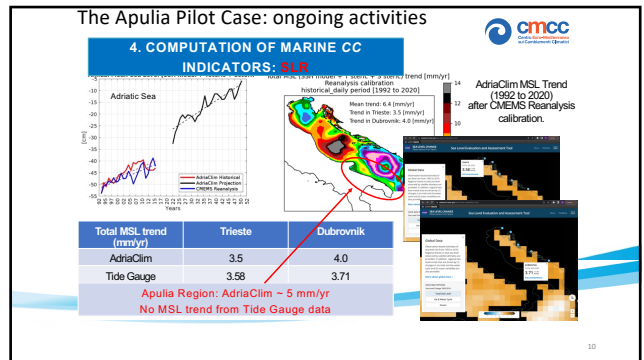
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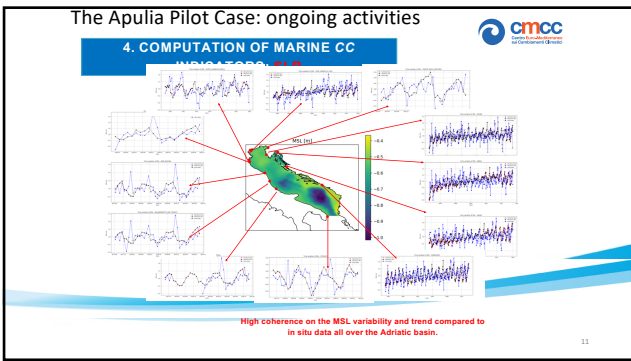
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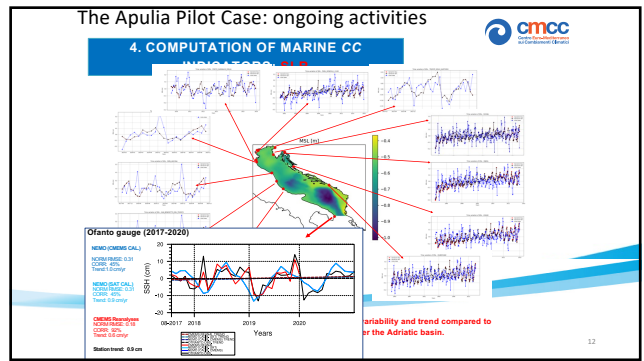
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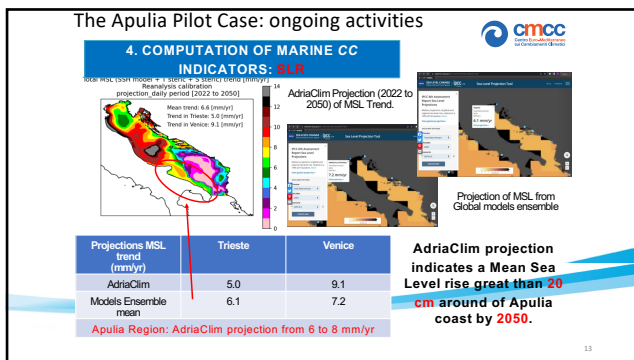
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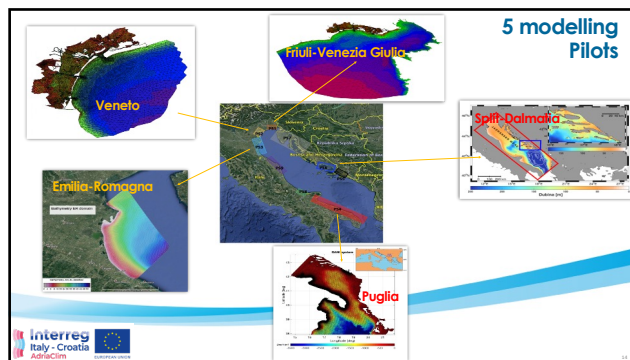
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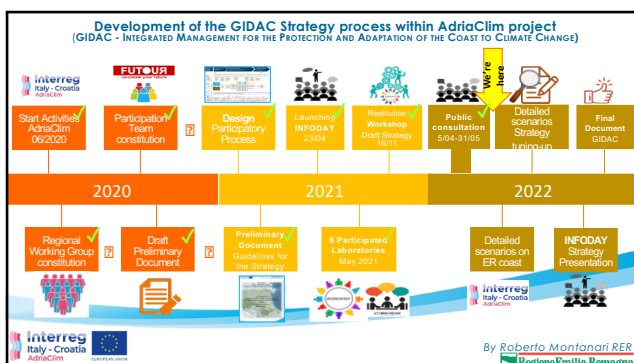
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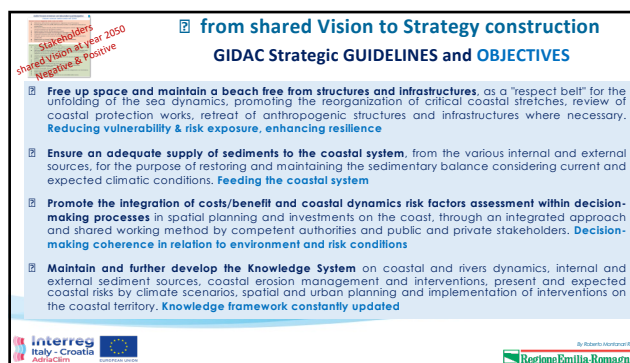
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## UNIONE VALLE DEL SAVIO

### the ADRIADAPT project: key findings, practices, new challenges


Giovanni Fini - Environment and Civil Protection Executive Manager

project CREATE - Workshop  
October 25th 2022

European Regional Development Fund



### The UNION OF SAVIO VALLEY

- located in the **Emilia Romagna Region**
- includes **6 Municipalities** -> Cesena is the lead
- wide territory of **810 km<sup>2</sup>**
- population of **116.000 inhabitants**



#### The Union\_Challenges

- A Complex Public Entity:** 6 Municipalities in a diversified territory (isolated mountain areas up to the urban center of Cesena city)
- Adaptation is still perceived as a sectoral issue** linked to the environment / civil protection

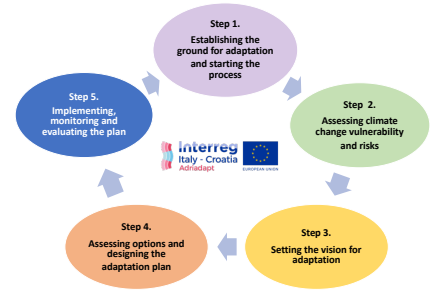
### the River Savio: a blue corridor at the center of the adaptation strategy



- the longest blue-green corridor in the Romagna area -> 126 kms and a drainage basin of 625 sq kms
- it connects the **6 Municipalities of the Union** with the **Adriatic coast** and Province of Forlì-Cesena with the Ravenna Province
- the main natural element representing a fundamental resource in terms of **ecosystem services** and **urban biodiversity** for local communities, alternating natural landscapes with agricultural and urban ones.







### Applying the Adriadapt method



**FINAL MAIN OUTPUT -> Approval of the Union's SECAP on 7th April 2021**  
(data, methodology and integration of Funds between Emilia Romagna Region and Interreg Italy-Croatia)



### Adriadapt project KEY FINDINGS and BEST PRACTICES TO SHARE

- STAKEHOLDER ENGAGEMENT FOR MUNICIPAL TECHNICIANS**  
**Objectives**
  - Understand if the adaptation is taken into consideration in the planning phases within the Union
  - Develop an integrated approach to adaptation within the Union**Approach**
  - MAPPING planning processes in progress
  - ACTIVE LISTENING with managers and technicians
  - INTERSECTORAL TRAININGS
- INTEGRATION OF ADAPTATION INTO TERRITORIAL PLANS**  
**URBAN PLAN**  
**URBAN PLAN**  
**Objective:** making adaptation the starting point of urban planning  
-> Added for the first time a Climate vulnerability analysis  
-> Developed a "Strategy for the ecological reconnection of the Savio River"
- TESTING ON LAND USE REGULATION** (Plan for hydrogeological instability of the Union)  
**Objective:** test new co-management solutions between public and private in landslide management  
-> participatory application of the regulation with the local community (private and farmers) within the chestnut landslide of the Municipality of Verghereto  
-> good practice funded by the Emilia Romagna Region



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### Adriadapt project: NEW MAIN CHALLENGES

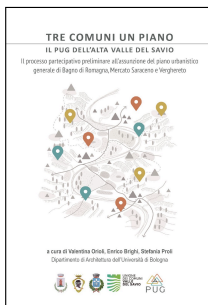
**NEW "POLITICAL" SKILLS FOR ADAPTATION -> IRAN POLICY MAKERS**

- To giving priority to approving plans and regulations for adaptation,
- To allocating budgetary resources to accompany resilience,
- To inform the communities about any extra costs of securing the territory in times of crisis,
- To balance interventions to address emergencies and long-term planning.....

**GOVERNANCE on 3 main levels:**

- Between local authorities of different levels**  
Facing formal and legislative roles by activating new protocols to intervene and plan in an integrated manner
- Internal governance among the technicians in particular within small municipalities**
  - How can we structure small municipalities for adaptation?
  - How can we imagine effective management structures to accompany the skills of technicians in small municipalities?
- Between public and private**

**INSERT THE ADAPTATION IN THE PLANNING TOOLS**  
Eg. Civil Protection Plan is focused on operational measures. How to update it with respect to changing vulnerability scenarios?



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