Interreg Italy - Croatia AdriaClim
European Regional Development Fund

EUROPEAN UNION

FROM SHARED RESOURCES
TO JOINT SOLUTIONS

AdriaClim
WP5
"Adaptation Plans"

Activity 5.2

Coordination of adaptation plans design
and of stakeholder engagement

Deliverable 5.2.3

REPORT ON PARTICIPATORY PROCESSES

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Section I

1. Foreword

This document has been produced in the framework of the INTERREG Italy – Croatia Strategic, AdriaClim Project. AdriaClim aim is to improve climate resilience in the cooperation area, by increasing the capacity to develop new climate adaptation plans and update existing ones and develop mitigation strategies based on high resolution, more accurate and reliable climate information (observations and integrated modelling) focused on the coastal and marine areas (threatened by risks such as sea level rise, sea temperature and salinity anomalies, coastal erosion and salinization of freshwater) and related economic sectors and ecosystem services. AdriaClim aims at developing an Adriatic scale regional plus local scale for each Pilot integrated information systems composed by hydro-meteo-marine climatological databases (model scenarios and observation) and knowledge-based tools (e.g indicators) for advanced dynamical implementation of regional climate adaptation plans relevant and accessible for entire the Programme area and Countries. AdriaClim aims also at the production of specific Adaptation Plans for the pilot Adriatic coastal areas involved. Additional information and updates on the AdriaClim can be found at https://www.italy-croatia.eu/web/adriaclim

2. Aims and content of the document

Aim of this document is to report on the Participatory Processes designed and implemented by the Partners responsible of Activity for the Pilot Sites.

It represents the synthesis of participatory process outcomes, with reference to the first 3 points of the WP5 Roadmap, reported in Chapter 5 of the WP5 Coordination Plan, as follows:

1. **Stakeholder mapping and analysis:** Partners responsible for Pilot Sites (PS) Activities, from 5.3 to 5.11, are expected to identify all relevant actors and stakeholders, in relation to the issues to be tackled and objectives to reach.
2. **Design of the Participatory Process**: Partners responsible for Pilot Site Activities, with the support of an expert facilitator (external or internal), are expected to design /set up a dedicated participatory process in relation to the issues to be tackled and the nature and characteristics of the stakeholders.
3. **Implementation of the Participatory Process:** Partners responsible for PS Activities, with the support of an expert facilitator (external or internal), are expected to implement the designed process along, mainly, 2021-2022 first-half period, starting from a "preliminary report" on the Pilot sites prepared by the Partners responsible, to feed the start of the Participatory Process. This phase includes the implementation of participatory workshops in presence or online (depending on possible covid-19 restrictions), or other modalities and tools as indicated further in this document, by the means foreseen (i.e., local coordination meetings, public meetings, online virtual squares, blogs, online consultations tools, etc.).

3. AdriaClim project and the objectives of WP5

AdriaClim aims to improve climate resilience in the cooperation area, by increasing the capacity to

develop new climate Adaptation Plans, update existing ones, develop mitigation strategies based on high resolution, more accurate and reliable climate information, focused on the coastal and marine areas and related economic sectors and ecosystem services.

The main goal is to deliver to decision makers and coastal communities in vulnerable areas, the adequate updated, accurate and reliable climate information to develop integrated ecosystem-based and shared planning options and adaptation measures to climate change. Adaptation measures and Plans are expected to be developed in cooperation with local authorities and with the participation of stakeholders, compliant with ICZM and MSP principles.

4. Note on the report edition

The present report is meant to illustrate the status of advancement of the activities related to the participatory processes set up in the different pilot areas of project AdriaClim.
These activities will practically unfold during the whole duration of the project; thus the reporting has been designed in three editions of the same document, respectively due in September 2021, April 2022 and November 2022.
The present report is therefore to be considered the first edition of deliverable 5.2.3.
It needs to be remarked that, due to the prolonged COVID-19 sanitary emergency, many of the activities related to the participatory processes suffered consistent delays. Therefore, this first edition is not to be considered exhaustive and will only present information about those pilot areas which had the possibility to move on with the designed processes.

Section II – Reports from the Pilot Areas

5. AdriaClim Pilot Sites

As presented in the map below, nine pilot areas are working on project AdriaClim, plus a few focus areas within the same region (e.g. City of Venice, ecc.). Namely (the order follows the PP number):

1. Veneto Region & City of Venice (IT)
2. Zadar County (HR)
3. Dubrovnik Neretva County (HR)
4. Split-Dalmatia County (HR)
5. Puglia Region (IT)
6. Friuli-Venezia Giulia Region (IT)
7. Marche Region (IT)
8. Molise Region (IT)
9. Emilia-Romagna Region (IT)

Figure 1. Map of the regions and counties hosting pilot activities in AdriaClim in Croatia and Italy

The following chapters present the advancement of the participatory processes on the Pilot Sites, where information was available at the time of the **first edition** of the report.

The status is very diverse in the different areas, mainly due to considerable delays due to the restrictions caused by the global COVID-19 pandemic.

6. Participatory Process in AdriaClim Pilot Sites

6.1 City of Venice and Veneto coast

6.1.1 City of Venice - Description of the Participatory Process

In the framework of the local pilot action (WP5 activity 5.2) and the development of the Climate Action Plan, the City of Venice has launched a public information path with the aim of involving relevant stakeholders in the knowledge-exchange process about climate change major risks and challenges to be tackled in order to reduce impacts on local territory, city and citizens.

Area, themes, sectors of intervention

The area of interest is the municipality of Venice. All relevant stakeholder groups connected with the outcome of the CC risk analysis carried out at local scale have been engaged. The ”snow ball” approach has been adopted, meaning that other stakeholders not engaged since the beginning of the process could join in along the way, according to their actual interest to be on board. The range of sectors included in the participatory process is wide, ranging from tourism to commerce, agriculture, water management, leisure, research, etc.

General aim of the operation

The main aim of the participatory activities delivered with AdriaClim is to raise awareness amongst stakeholders about the CC impacts currently - and in the near/far future - threatening the City of Venice and its socio-economical assets.

Synthesis of the participatory process

This activity has been designed as follow:

- release of 1 online survey questionnaire aimed to understand how much local organizations are aware of environmental, social and economic risks associated with climate change and how they are working to tackle them (done: autumn 2021);
- set up of 2 public meetings aimed at making stakeholders aware of the issue of climate change, in particular of risks and impacts on the city of Venice, showing the results of the online survey questionnaire and presenting the City of Venice Climate Change Adaptation Plan (first meeting done: autumn 2021; second meeting scheduled; by the end of 2022).

To complete and integrate the above activities, an information pack (infographics and roll up) on Climate Change in Venice, introduction to the Venice Climate Change Adaptation Plan and related adaptation actions has been developed.

Context of the participatory process

The local context of the municipality of Venice is pretty complex because of its different geographical features, ranging from coastal islands and lagoons to inner islands and mainland, from historical settlements to modern/contemporary neighborhoods and infrastructures, from fisheries and land farms to

big harbors and factories. As for this large array of features, the socio-economical context laying at the basis of the participatory process is deeply articulated in terms of quantity and quality of stakeholders.

Objectives of the participatory process

The main objective of the participatory process is to inform local stakeholders about CC consequences at their own interest scale and to call for their commitment to face this common challenge.

Expected results of the participatory process

The main expected result is to set the basis for an effective implementation of a CC adaptation strategy at local scale. As the CC Adaptation Plan is under preparation, stakeholder engagement could be seen as a resource for allowing a common action of the local community.

Timing foreseen for the participatory process

The participatory process started in October 2021 and is expected to finish by the end of 2022.

Phases of the process and timing

Activities has been scheduled as follow:

- collection of the questionnaire results: October 2021
- organization of the first public meeting: November 2021
- organization of the second public meeting: November 2022

On November 17th, 2021 the first public Infoday for the City of Venice was held.

In December 2021, the City of Venice held a programme of teacher training within the Education plan of the City.

Stakeholders involved

Please refer to the stakeholder mapping available in the folder containing the documents with reference to the participatory process in Venice (link hereunder).

Participatory techniques and tools

The City of Venice selected an external company, Avventura Urbana s.r.l, to provide specific and professional assistance for carrying out the above activities. The scientific coordination of the whole process has been managed with the contribution of Dr. Giancarlo Gusmaroli.

Accessibility to the documentation

https://www.comune.venezia.it/it/content/piano-clima-citt-venezia

Documents with reference to the participatory process in Venice
https://drive.google.com/drive/folders/1FVaSWr8T6UX9OJhQz6tEIg0lVvwqWs7f?usp=sharing

6.1.2 Extension of activities along the Veneto coast

While a PAESC of the Veneto coastal area is beyond the scope of the project, initial activities on climate impact assessment and stakeholder identification and involvement is being carried out in ADRIACLIM.

The area of interest comprises all the municipalities facing the Adriatic Sea in Veneto Region in which the main economic activities are tourism, agriculture and fisheries.

The aim of the activities along the coast is to inform the decision makers of the project activities, in particular the forthcoming availability of data for climate impact assessment with a new model for recognizing territorial multi-vulnerability, as well as receiving feedback on user needs and expectation to be tackled in future endeavors by scientific, technical partners and the local authorities.

Hence the participatory process remains at the information and scoping stage. Contacts have been made with the Association of the Mayors of the Coastal Municipality (AMCM). Discussions that lead to constitutions of such association dates back to 2013 and the forma agreement was signed in 2017. A fully fledged participatory process took place in 2018 for identifying a common strategy and related area interventions and collaboration. ADRIACLIM pilot partners have built a strong link with such association and will input data and knowledge on the area of climate change adaptation and local resilience.

Stakeholder engagement represents a design tool to improve spatial analysis and assessment processes (see the European design experiences MasterAdpat and Response). In the climate-environmental field, stakeholder engagement enables the active involvement of different stakeholders in the construction of CC adaptation processes.

In the coastal area managed by the ARPAV-IUAV research group, the AdriaClim project considers a level of participation oriented to the construction of mainstreaming on climate change adaptation, specific to the following pilot areas: Jesolo, Porto Tolle, and Cavallino Treporti. These municipalities were chosen for their vocational diversity, namely:

- Jesolo: mass tourism
- Cavallino-Treporti: naturalistic tourism (camping)
- Porto Tolle: ecosystem and natural site preservation (Regional park of the Pò river Delta - Natura2000 site)

The stakeholder engagement is divided into two work phases: an informative-disclosing phase and an operational phase.

1. The instructional-dissemination phase was activated and tested with two specific meetings. The meetings were held on 15 January 2021 online and on 23 March 2022 at ARPAV Veneto (Venice). These meetings made it possible to present and discuss the first results of the research and the potential of the survey techniques used to recognize territorial multi-vulnerability (case study: Municipality of Jesolo). In particular, with the second meeting, it was possible to show the first results to a technical-administrative representative of the Municipality of Jesolo.
2. The operational phase proposes to consult all stakeholders of the pilot areas to investigate local needs based on their opinions. This phase will provide stakeholders with guidelines guided by the analyses carried out, capable of operationalizing the proposals expressed and existing initiatives.

Upcoming Actions of the instructive-dissemination phase include the creation of ad-hoc meetings with two specific objectives: to educate stakeholders on the potential of multi-vulnerability and multi-risk analysis; to show stakeholders the first draft of mitigation and adaptation actions.

In Autumn 2022 the AMCM will meet to further elaborate on their collaboration agreement covering various aspects and ADRIACLIM pilot partners will preside over the theme on climate change adaptation and local resilience.

In spring 2023 a final meeting with AMCM is foreseen to present ADRIACLIM results both for the climate impact projections and the vulnerability assessment.

A first stakeholder mapping is available here. Additional documents with reference to the participatory process in the Veneto coastal area can be accessed at the following link:
https://drive.google.com/drive/folders/1rq1wLDrKq8s9mcn3-75X6gh8tTULL-Rq?usp=sharing

6.2 *Zadar*

6.2.1 Description of the Participatory Process

Drinking water truck for rural communities

In most rural settlements in Zadar County, summer brings a lack of drinking water supply for the inhabitants. As part of its pilot activity, Zadar County Development Agency ZADRA NOVA procured a truck that will be used to supply rural areas of Zadar County with drinking water in the summer months. Within D.11.2. a truck with a drinking water tank for the Zadar County area was purchased in February 2022.
The purchased truck will affect the fulfillment of human needs for drinking water and in that way quality of life in these particular areas will be improved. The truck will be operated by the Fire Brigade of Zadar County as it belongs within the scope of their work.

Innovative technology for water absorption and storage

Furthermore, design and construction of AquaWeb is the key part of D.5.11.1. Adaptation plan for Zadar County.
Aquaweb is innovative solution based on the absorption of water from the air and its subsequent storage. It helps to ensure on-site water availability and the proper irrigation of small agricultural areas, especially in periods of water deficit. AquaWeb acts as an absorbing infrastructure for atmospheric water, mimicking the way a spider's web collects water, water storage techniques modelled on various succulent plants, then the transportation of the water like mycelium and structural support in the form of honeycombs. It is implemented on the agricultural property of the University of Zadar – Bastica.

6.3 *Slano Bay area - Dubrovnik Neretva County*

6.3.1 Description of the Participatory Process

Title of the Participatory Process

The title of this process is "**Klimatske promjene i lokalna prilagodba u obalnom području - Uvala Slano" (**eng. Climate change and local adaptation in the coastal area - Uvala Slano).

Area, themes, sectors of intervention

Slano Bay is located about 25 km northwest of the city of Dubrovnik. The bay is part of the Ston basin, which is formed by mainland with the southern part of the Pelješac peninsula and the islands of Šipan and Jakljan. The mainland part of this basin consists of several bays, of which, after Ston Bay, Slano Bay is the largest. It is tucked into the mainland with its full length of about 2 kilometers, with a tight sea gate that protects it from the waves. The entrance to Slano Bay is located between Cape Donji (down) and Cape Gornji (up) about 320 m wide. After the narrow gate, Slano Bay widens sharply, which reduces the height and strength of incoming waves, and the surrounding hills protect the bay from winds.

Slano bay is embayment under elevated anthropogenic pressure within an otherwise oligotrophic karstic coastline. This pilot activity (in Slano bay) will record oceanographic and ecological parameters to assess the climate change related threat scenario for the embayment and to elaborate an integrative adaptation plan for the location. Pressures of sectoral activities such as tourism, marine transport, construction etc. on ecosystems as well as potential risks of climate change to those sectors will be analyzed. During following workshops objectives and activities to mitigate and adapt to climate change will be proposed for each sector.

General aim of the operation

The general aim of the operation is the involvement of the local stakeholders of the region that will be affected by the climate change. As they can be potentially damaged by the effects of the climate change, they are called to take direct actions and propose suggestions, give positive and negative feedback, elaborate a shared vision of the coast they would like to have, taking in consideration the current situation and coast features.

The workshops are oriented towards local authorities, in particular administrators and technicians, who are interested and involved in the development of strategies to address the effects of climate change in their territories. First workshop was organized in Slano Bay on Feb 15th, 2022. Second workshop was organized in Slano Bay on Apr 20th, 2022.

Synthesis of the participatory process

The participatory process presents the most important issues related to climate change in Slano Bay. The presentation segments are as follows:

1. Description of the pilot area (state of the area, overview of problems to be solved, results of previous research of the area)
2. Vision (presentation of a realistic vision of the area in the future in accordance with the policy, the needs of the local community, etc.)
3. Strategies and goals (presentation of strategies and measures for achieving the goals arising from the vision for the area, which need to be further elaborated at the workshops)
4. The proposed actions that will lead to the improvement of the valorization of the pilot areas that need to be better elaborated at the workshops

Below is the timetable and the themes for first and second workshop:

DNEVNI RED

Prva radionica s dionicima

Interreg Italy – Croatia
ADRIACLIM

Slano, Općina Dubrovačko primorje
Lokacija: DVD Slano, Radovčići 1

15. veljače 2022.

Vrijeme	Aktivnost
9:00 – 9:15	Registracija sudionika
9:15 – 9:30	Pozdravna riječ *Vicko Grkeš, Dubrovačko-neretvanska županija*
9:30 – 9:45	Predstavljanje Preliminarnog izvještaja *Petra Peleš, Zajednica WISE*
9:45 – 10:00	Značaj Adaptacijskog plana i planiranja mjera za ublažavanje utjecaja klimatskih promjena *Dunja Delić, Zajednica WISE*
10:00 – 10:30	Pauza
10:30 – 12:30	Rad u grupama *Svi sudionici*
12:30 – 12:45	Pauza
12:45 – 13:15	Prezentiranje rada u grupama i odabir prioriteta *Svi sudionici*
13:15 – 13:30	Zaključci i sljedeći koraci

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Context of the participatory process

The participatory process is divided in tree main parts (each part is one workshop for stakeholders):

a) Impacts of climate change in Slano Bay
b) Measures to adapt to different climate scenarios for the area of Slano Bay
c) Action plan for adaptation to expected climate change in Slano Bay

Objectives of the participatory process

The participatory process for the Pilot Site Slano Bay is divided in three workshops that lead towards the following objectives:

- identify the priorities of climate related risks reduction, according to the climate change impacts on the Pilot Site
- educate the stakeholders to understand the content of climate change impacts on different sectors

- collect the expectations on the results of adaptation actions.

Expected results of the participatory process

The expected results of the participatory process include:

- Raised awareness on the climate challenges among all the stakeholders of the coastline.
- Shared definition of common challenges and solutions, including remedial actions that can be taken to mitigate the impact of climate change.
- A set of dynamic planning tools to keep adapting and improving the knowledge framework.

Timing foreseen for the participatory process

The participatory process is performed over one year with the aim to engage and inform the participants in the process of development of adaptation plan.

Phases of the process

Main phases of the process are:

1. Workshop for stakeholders: Impacts of climate change in Slano Bay
2. Workshop for stakeholders: Actions to adapt to different climate scenarios for the area of Slano Bay
3. Workshop for stakeholders: Action plan for adaptation to expected climate change in Slano Bay

Description of the phases (and timing)

Workshop		Timing	About workshop
1. Workshop for stakeholders	Impacts of climate change in Slano Bay	15th Feb '22.	The workshop presented a description of the pilot area (state of the area, overview of problems to be solved, results of previous studies) and opened a discussion on the vision (in accordance with policy, local community needs, etc.). The results of previous research and experiences of the impact of climate change on marine and coastal/land ecosystems in Slano Bay were also presented, as well as the current and planned measures for prevention of impact and reduction of damage. During the workshop additional information was gathered from stakeholders throughout working groups.
2. Workshop for stakeholders	Actions to adapt to different climate scenarios for the area of Slano Bay	20th Apr 2022.	The workshop presented the conclusions from the first workshop – climate change pressures identified for the project area: Sea level rise, Heat waves, Floods, Storms, Droughts, Sea warming, Erosion, Salinization of

			soil and freshwater ecosystems, Forest fires, Loss of biodiversity and Alien and invasive species. The second part of the workshop was focused on defining the goals, strategies, and measures of the adaptation plan. The strategies included the following topics: ● Capacity building and multidisciplinary ● Conservation of natural resources and ecosystem services ● Adapting practices and monitoring of positive trends in fisheries, agriculture, and tourism ● Improving infrastructure ● Improving spatial planning / coastal management
3. Workshop for stakeholders	Action plan for adaptation to expected climate change in Slano Bay	Oct 2022.	

Elements and context of the Participatory Processes by Pilot Sites

Stakeholders involved

In first and second participatory workshop, several representatives of local stakeholders took part in the process. The list below describes the organizations, associations and other stakeholders who effectively took part in the workshops:

	Name and surname	Institution
1.	**Miho Baće**	Dubrovnik-Neretva County, Administrative department for environmental protection and utility affairs
2.	**Ivo Đuračić**	
3.	**Vicko Grkeš**	
4.	**Ana Jeramaz**	Public institution for managing protected nature areas of Dubrovnik-Neretva County
5.	**Lukša Kalafatović**	
6.	**Ivana Golec**	
7.	**Margarita Polzer**	
8.	**Sanja Šaut**	Dubrovnik-Neretva County, Institute for spatial planning, Department for strategic infrastructure and development
9.	**Nikola Karaman**	
10.	**Daniel Jokić**	
11.	**Ivo Kola**	Dubrovačko primorje Municipality
12.	**Nikola Knežić**	
13.	**Slaven Zvono**	Tourist board of Dubrovačko primorje

14.	**Stjepan Rezo**	Regional Development Agency Dubrovnik-Neretva County DUNEA
15.	**Iva Pozniak**	
16.	**Boris Božić**	WISE Association
17.	**Dunja Delić**	
18.	**Petra Peleš**	

Participatory techniques and tools

1. Workshop – 12th Feb 2022.

In the first part, the Preliminary Document was presented to the stakeholders. In the second part of the workshop, we used methods and tools including mapping, evaluation and scoring to help participants highlight the strongest negative pressures. Stakeholders were divided into groups and rotated from one group to another, so everyone gave their input to all topics. We had three working groups – infrastructure, economy, and natural ecosystems – for which the stakeholders indicated important values and also negative impacts of ongoing human activities and climate change related pressures. At the end of all three rounds stakeholders chose priorities out of presented inputs. The priorities will be used when developing action plan for climate change mitigation and adaptation measures.

Working group - Ecosystems

Current state	Comment
Ponds in Majkovi	• Sites of Community Importance (SCI) • the first special herpetological reserve - Western Caspian Turtle (*Mauremys rivulata*)
Orchids	• Adriatic lizard orchid (*Himantoglossum adriaticum*)
Inland rocks (Cave systems)	
Olea and Ceratonia forests	
Slano – oleanders (*Oleander galleris*)	• Sites of Community Importance (SCI) - *Olea and Ceratonia forests*; site of *Oleander galleris* habitat type
Downy oak (Pubescent oak) – *Quercus pubescens*	
Ponds in Dubrovačko primorje Municipality	• Association Hyla - pond's research

Pressures	Comment	Priorates
Anchoring	• significant impact on Posidonia (*Posidonia oceanica*)	**4**
Embankment of beaches		**2**
Pollution from land	• waste that comes into the sea by streams and canals (construction waste)	

Pollution from ships	• lack of control over the discharge of wastewater from ships	**3**
lack of mowing and grazing	• lack of agriculture • purposeful afforestation with pine in the past	
Invasive species in the sea		
Invasive species in ponds		
Coastal construction (infrastructure)		**2**
Quarries		

Working group - Economy

Current state	Comment
Tourism	• Tourist season is from 1.4. until 1.11. (ACI Marina - 1.3. to 1.12.)
	• More than 80 % profits of the Municipality are generated from tourism • 60 % profits from tourism are in July and August
	• 2 hotels, 10 camps, private accommodation – about 2500 beds • New hotel is planned in Slano - 200 beds
	• ACI Marina - 200 boats
	• Excessive construction/urbanization is not recognized as a problem in the Municipality because the price of land by the sea is high and urban plans limit the height of buildings (Orašac is an example of excessive urbanization)
	• Conditions for the development of other branches of tourism (agritourism, cycling, trekking…)
Agriculture	• No one in the Municipality lives exclusively from agriculture • Agriculture is a supplement to the budget or an additional product for tourists
	• Beekeeping and olive growing are two sections of agriculture that are more developed than others
	• Livestock is neglected
	• Picking medicinal herbs has great potential
	• Mariculture is developed in Bistrina Bay, part of Malostonski Bay
Stonemasonry	• Exploration and exploitation of mineral resources (building stone)

	• Visočani – 6 stonemasonry companies
Renewable energy sources	• Wind farm Rudine
	• Solar power plant
Waste management	• Lučino razdolje - represents the potential for the development of a new segment of the economy
	• Recycling yard

Pressures	Comment	Priorates
Emigration	• a small number of people, especially in countryside	**1**
Manpower shortage		
Old population		**2**
Activities without concessions	• jet sky and kayak	**1**
Fires	• Threat to forestry	
Wild anchoring	• It is not illegal, but it creates pressure on marine habitats • It creates potential losses because these boats cannot be charged for berth.	**2**

Working group - Infrastructure

Current state	Comment
ACI marina	• Distance to Fuel Station is 14 nm
	• 200 boats (berths)
Beaches	• The condition is acceptable
	• The need for backfilling (replenishment of beaches)
Industry/business zone	• Banići
Water supply	• Salting water supply during dry periods • Some settlements do not have water supply (Čepikuće, Doli, Lisac, Mravnica, Podimoć, Podgora, Točionik, Trnova and Trnovica)
Wastewater drainage	• Inadequate care of streams and canals • Čepikuće, Doli, Lisac, Mravnica, Podimoć, Štedrica, Točionik, Trnova and Trnovica do not have wastewater drainage

Roads	• Lack of sidewalks • Narrow roads (3 – 3,5 m) • Lack of bike roads
Waste management	• Small percentage of separated waste • Lučino razdolje - it will soon start operating

Pressures	Comment	Priorates
Sea level raise	• Negative impact on coastal infrastructure • Beach erosion	**2**
Wastewater drainage	• Čepikuće, Doli, Lisac, Mravnica, Podimoć, Štedrica, Točionik, Trnova and Trnovica do not have wastewater drainage	**4**
Waste management	• Small percentage of separated waste	**1**

2. Workshop – 20th Apr 2022.

In the first part, conclusions from the first workshop were presented to the stakeholders. Climate change pressures identified for the project area are: Sea level rise, Heat waves, Floods, Storms, Droughts, Sea warming, Erosion, Salinization of soil and freshwater ecosystems, Forest fires, Loss of biodiversity and Alien and invasive species.

The second part of the presentation was focused on defining the goals, strategies, and measures of the adaptation plan. The strategies included the following topics:

1. Capacity building and multidisciplinary
2. Conservation of natural resources and ecosystem services
3. Adapting practices and monitoring of positive trends in fisheries, agriculture, and tourism
4. Improving infrastructure
5. Improving spatial planning / coastal management

Based on the presented vision and the goals, strategies, and measures of the Adaptation Plan, both groups gave their proposals, which will represent the final version of these topics. Proposals are given in the form of new and supplemented, i.e., corrected goals, strategies, and measures. For the vision, each group also provided their own corrected version that used the drafted (presented) vision as a basis.

Group 1

Vision: Dubrovačko primorje is area of diversified economy, preserved terrestrial and marine ecosystems with an aware and involved population that contributes to the long-term strengthening of the area's resilience to climate change effects.

Goals:

1. Establishment of monitoring and data collection system for the purpose of effective planning and management of the area to reduce climate change impacts

2. Reduced vulnerability of marine and terrestrial ecosystems to climate change effects through their conservation
3. Adaptation of individual sectors to the negative effects of climate change

Strategies:

- Capacity building and multidisciplinary
- Conservation of natural resources and ecosystem services
- Adapting practices and monitoring of positive trends in fisheries, agriculture, and tourism
- Improving infrastructure
- Improving spatial planning / coastal management

Measures:

Strategy 1 - Capacity building and multidisciplinary

- Amended measure: Strengthening capacity for understanding (education) and implementation of climate change adaptation measures

Strategy 2 - Conservation of natural resources and ecosystem services

- Amended measures: Developing techniques and tools for the exploitation of alien and invasive species and popularizing their use
- Amended measure: Development of conservation measures for the most vulnerable habitats that hold populations of economically important species

Strategy 3 - Adapting practices and monitoring of positive trends in fisheries, agriculture, and tourism

- Added measure: Restoration of fish stocks
- Amended/merged measure: Irrigation of agricultural land with rainwater and development of *drought warning systems*

Strategy 4 - Improving infrastructure

- Added measure: Sustainable rainwater management (drilling, rainwater, torrential watercourse diversion)
- Corrected measure: Adaptation of coastal infrastructure to sea level rise (climate change)
- Corrected measure: Strengthening resilience and developing new energy production capacities
- Corrected measure: Strengthening the resilience of tourist infrastructure to different weather conditions.

Strategy 5 - Improving spatial planning / coastal management

- Added measure: Unique spatial planning database
- Added measure: Development of climate change adaptation plans for specific areas
- Corrected measure: Climate change monitoring and early forecasting system
- Corrected measure: Integrated coastal zone management

Group 2

Vision: Dubrovačko primorje is area of sustainable economy, preserved nature, with an active population that, by using innovative solutions, contributes to strengthening the area's resilience to climate change effects.

Goals:

The goals have been supplemented and corrected as follows:

1. Reduced vulnerability of natural ecosystems to climate change effects through their conservation and recovery
2. Educating the public and entrepreneurs about the impacts of climate change
3. Application of innovative solutions, i.e., technologies
4. Encouraging scientific research to strengthen knowledge about the impacts of climate change
5. Strengthening the resilience of vulnerable sectors to the negative impacts of climate change

Strategies:

1. Conservation and recovery of natural resources
2. Capacity building (digital and green)
3. Adaptation of practices in fisheries, agriculture and tourism and small and medium enterprises
4. Improving infrastructure
5. Improving spatial planning / coastal management

Strategy 1 - Capacity building and multidisciplinary

- Added measure: Planting vegetation
- Added measure: Digital and green technology

Strategy 2 - Conservation of natural resources and ecosystem services

- Deleted measure: Development of techniques and tools for the exploitation of alien species and popularization of their use

Strategy 3 - Adapting practices and monitoring of positive trends in fisheries, agriculture, and tourism

- Deleted measure: Breeding of new fish species
- Deleted measure: Greater cultivation of organisms at lower trophic levels and new forms of cultivation
- Deleted measure: Breeding of varieties, hybrids, and breeds that are more resistant to climate change
- Added measure: Stimulating the circular economy (aquaculture)
- Added measure: Encouraging regenerative agriculture

Strategy 4 - Improving infrastructure

- Added measure: Renewable energy sources

Priority selection

After defining the vision, goals, strategies and measures of the Adaptation Plan, the workshop participants selected priority strategies, to define strategies within the ten-year implementation period of the plan, i.e., measures that will have priority in implementation.

Strategy	**Priority (votes)**
Capacity building	6
Conservation of natural resources	11
Adaptation of practices in fisheries, agriculture, and tourism	9
Improving infrastructure	5
Improving spatial planning / coastal management	5

Accessibility to the documentation

The material that is produced during workshops and final documentation will be available to the stakeholders in all possible formats on request. Throughout the participatory process all stakeholders are informed about the organized workshops on institutional web page and local media. This way, even individuals which couldn't participate the workshops could access the documentation.

Synthesis of the "Preliminary report" to feed the process by Pilot Sites

What are the conditions now

Terrestrial ecosystems (agricultural land, forests, and urban areas)

Terrestrial habitats around Slano Bay, according to the National Habitat Classification of the Republic of Croatia, are of the following types:

- D.3.1.1. Thorny shrubs (*Paliurus spina-christi*)
- E. Forests
- I.2.1. Mosaics of cultivated areas
- I.5.2. Olive groves
- I.1.8. Abandoned agricultural land
- J. Built and industrial habitats

Limited areas of productive land in small bays, fragmented properties, lack of water, impossibility of irrigation and poor ability to effectively apply modern technology limited the development of agriculture. During the last 50 years, in the entire Municipality of the Dubrovnik Littoral, there has been a reduction in arable land and a decline in the production of agricultural products. Younger generations have left villages and agricultural areas. The departure of an increasing number of young people from rural areas to urban areas results in an unfavorable structure of agricultural holdings. The largest areas of soil suitable for agricultural production are in Topolsko polje, Lisačko polje, the field below Čepikuće, Majkovi and within Slano.

Marine ecosystems

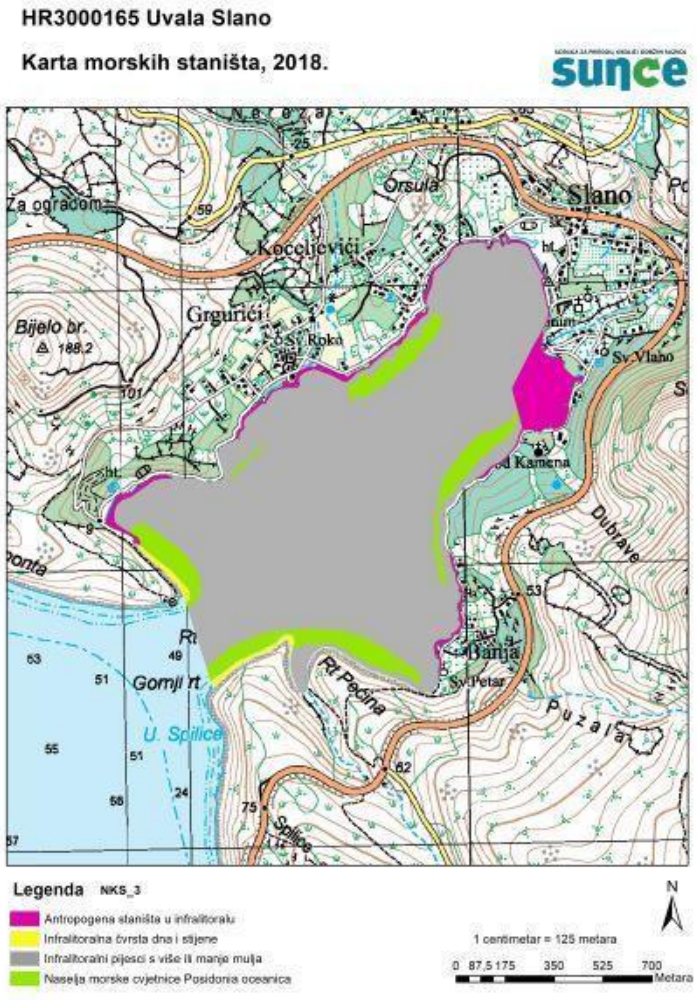
Slano Bay is a NATURA 2000 habitat type 1160 Large shallow bays, with communities of seagrass *Posidonia oceanica* which form a separate NATURA 2000 priority habitat type - 1120 Posidonia beds. These two habitat types are also the goals of preserving Sites of Community Importance (SCI) of the Natura 2000 - HR3000165 Slano Bay. The northern side of the bay and part of the southeastern part are mostly built.

In the area of Slano Bay, 4 marine habitats were recorded, and for some habitats the present biocenoses and associations were determined as 4th and 5th levels of *Nacional habitat classification* (NHC) shown in the table below.

NKS code	Habitat name according to NHC	Area (ha)- from GIS	Percentage in relation to total mapped habitats
G.3. INFRALITORAL		133,41	100 %
G.3.2.	**Infralittoral sand with silt**	111,69	83,72 %

G.3.2.3.	Biocenosis of silted sands of protected shores	111,69	83,72 %
G.3.2.3.4.	Association with species *Cymodocea nodosa*		
G.3.5.	***Posidonia oceanica* beds**	12,13	9,09 %
G.3.5.1.	Biocenosis of the *Posidonia oceanica* beds	12,13	9,09 %
G.3.6.	**Infralittoral solid bottoms and rocks**	1,33	1 %
G.3.6.1.	Biocenosis of infralittoral algae	1,33	1 %
G.3.8.	**Anthropogenic habitats in the infralittoral**	8,26	6,19 %

Habitat **Infralittoral sand with silt** occupy more than 80 % of the area of Slano Bay. In the area of Osmine Bay, north of Cape Viganj in Brnakova Bay and occasionally in other parts of the entire Slano Bay, the **Association with the species *Cymodocea nodosa*** has been recorded (NHC 5).
Almost the entire coastline of the bay is anthropogenic, apart from a small area to the right and left of the entrance to the bay. The narrow coastal zone is dominated by **Anthropogenic habitats in the infralittoral**. Posidonia beds (*Posidonia oceanica*) which are the target habitat for this area of Natura 2000 is only at 9.9 % of the total area and are fragmented in several locations (Figure below).



Map of marine habitats, Uvala Slano (source: Association for Nature, Environment and Sustainable Development "SUNCE": Mapping of marine habitats and species of Slano Bay)

Which future we see for this area

Slano Bay, Dubrovačko Primorje Municipality, as well as the entire Adriatic coast, is exposed to climate change such as drought, forest fires, sea level rise, new species of marine organisms, etc. Some of the negative impacts can be mitigated by planning and building adequate infrastructure and developing a system for early detection and information of possible natural threats. Protection of natural resources and adapting sectoral development to the vulnerability of ecosystems is an important step towards climate change mitigation and adaptation.

Which objectives and strategies

To adapt to climate change, some of the main goals occurring from the vision are the following:

- reduce the vulnerabilities of natural systems and society to the negative impacts of climate change
- improve resistance and recovery capacity from the negative effects of climate change

- take advantage of the potential positive effects of climate change.

What is suggested doing in this frame

Terrestrial ecosystems

- improving the capacity to understand and implement climate change adaptation measures
- raising awareness of the importance of ecosystems, habitats, wildlife, protected areas and Natura 2000 areas, and the importance of preserving ecosystem services and impacting all aspects of life and the economy
- improving resistance of coastal water and communal infrastructure to the possible impacts of climate change
- expanding the receiving capacity of soil for water on agricultural land
- breeding varieties, hybrids and breeds which are more resistant to climate change
- irrigation of agricultural land which would consider negative impacts on water levels
- building water reservoirs
- development of a drought warning system.

Marine ecosystems

- increasing the capacity to predict the future state of bioresources
- improving the capacity of professional, research institutions and competent bodies for nature conservation
- developing techniques and tools for the exploitation of alien species and popularizing their use
- development of conservation measures for the most vulnerable habitats that provide services to reflect the populations of economically important species
- defining the most vulnerable ecosystems, habitats, and species to the consequences of climate change
- strengthening resistance and conserving ecosystems, habitats, and species sensitive to climate change through cross-sectoral cooperation, application of traditional knowledge and agricultural practices and adaptive management
- defining measures to reduce the spread and limit the populations of invasive alien species
- reduction of negative human impact on natural ecosystems, habitats, and wild species through sustainable development measures
- integrating fishermen into the tourism sector for the purpose of socio-economic sustainability.

6.4 Split - Dalmatia

6.4.1 Description of the Participatory Process

The process is entitled "**Action plan for the adaptation of the Split-Dalmatia County to coastal erosion caused by climate change**".

As a regional coordinator of Split-Dalmatia County, PI RERA S.D., together with the Institute of Oceanographic and Fisheries, has designed a participatory planning process to establish a bottom-up, rather than the top-down approach in the creation of Climate Adaptation Plan for the Split-Dalmatia pilot area. Participatory planning has long been an indispensable decision-making and problem-solving tool grounded in practice whereby the blend of local knowledge and expert knowledge leads to solid outcomes. It provides undeniable advantages when compared to conventional processes managed solely by professionals. It is an approach designed to help create solutions on a human scale, involving individuals and groups who represent diverse interests and provide observations and knowledge different from experts, thereby enriching the analysis and acting for the good of all those affected by the decisions made and actions that follow.

It has been decided that crucial local and national stakeholders, policymakers, and scientists will be invited to partake in participatory activities to reach an active exchange and open dialogue, thus stimulating knowledge production, its mobilization, and finally integration in the Climate Adaptation Plan. To succeed, participatory activities should ensure the process's **legitimacy**, **saliency**, **credibility**, and **transparency**.

Being, among others, the project about awareness-raising on climate change and its impact on the coastline, we have chosen a title, a catchy wordplay resonating with the local population, intending to make people stop and think about the implications of climate change on the Split-Dalmatia coastline and actively take part in climate change mitigation and adaptation measures in their local communities.

Area, themes, sectors of intervention

The pilot area of intervention is Kaštela Bay. A broader scope of Kaštela Bay, covering the municipalities of Split, Solin, Kaštela, and Trogir, is the largest one and the most populated on the Croatian coast. It represents an economic and territorial unity, with the city of Split as its dominating center. The city of Split is the second-largest city of Croatia and the administrative center of Split-Dalmatia County. The Kaštela Bay is located at the central part of the Croatian coast, on the eastern part of the Adriatic Sea. This site is situated under Kozjak Mountain.

Development based on unsustainable exploitation of natural resources is turning this area with enormous potential into a degraded environment with the polluted coastal sea, inadequate economic structure, urban infrastructure, and numerous demographic and social problems. We are increasingly facing the unintended consequences of climate change: floods, coastal erosions, heat waves, extreme weather conditions, and other phenomena, especially menacing low coastal areas such as Kaštela Bay.

To counter and control these destructive processes, reduce the vulnerability of the coastal area, strengthen the sustainability of the economy and lifestyle, and successfully mitigate the damage that will be even greater in the future if we do not embark on the path of sustainable transformation, it is necessary to develop the Climate Adaptation Plan with measures to strengthen resilience and protection of the area. This participatory process concentrates on the following three main themes and sectors of intervention which will be described in greater detail in the points below:

- Importance of the Climate Adaptation Plan for the sustainable development of the Kaštela Bay: outlining the main challenges, weak spots, as well as solutions and measures to counter the negative consequences for the area.
- Management of the beaches: including a database of replenished beaches, characteristics of backfilled beaches, the impact of climate change on beach sustainability, and recovery mechanisms.
- Governance of the Climate Adaptation Plan: establishing collaboration among different local governments to implement the adaptation plan.

General aim of the operation

The general aim of the operation is to involve the relevant stakeholders on the national, regional, and local level in the creation and implementation of the Climate Adaptation Plan – a comprehensive document addressing the challenges posed by the rapid climate change and outlining appropriate measures to be taken by all the main stakeholders involved.

The plan aims to protect people and their assets from climate change, strengthen ecosystems, and support sustainable economic development by informing the public about coastal vulnerabilities and related risks, ensuring productive management of the coastal area, and the appropriate governance of the plan.

Synthesis of the participatory process

The participatory process integrates both 'in presence' and 'online' forms of participation to ensure the broadest possible involvement. It is structured in the following manner:

- A first phase, in December 2021:
  - Friday, December 17th: presentation of the project and plenary discussion with key stakeholders (Meeting of the Coordination and Advisory Council for Integrated coastal Planning and Management of the Split-Dalmatia County).
- A second phase, in April 2022:
  - "Reframing Kaštela Bay Future": participatory workshop for around 30 key stakeholders. It is planned primarily as an offline, live event and adjusted to an online option depending on the circumstances and stakeholder availability.
- A third phase, in May 2022:
  - Public presentation of the project during the Mid-term conference and opening of "A di si ti?" (*Where are you?*) offline and online brainstorm wall to interact with the broader public and gather their opinions and ideas.
- A fourth phase, in 2022:
  - Closing session: presentation of the Climate Adaptation Plan, including moderated discussion focusing on process findings, strategy, and plan.

Context of the participatory process

Throughout history, climate changes have always had consequences on planetary ecosystems. However, human activity and the development of humanity in the last hundred years, based on aggressive extraction of natural resources and accompanied by the rise of GHG emissions, have resulted in increased heat accumulation in the atmosphere, leading to the unprecedented increase in global temperature. Similarly, on the local level, development based on unsustainable exploitation of resources is turning the targeted area of Kaštela Bay with enormous potential into a degraded environment with the polluted coastal sea, inadequate economic structure, urban infrastructure, and numerous demographic and social problems. Consequently, there has also been a marked increase in air temperature, changes in precipitation and wind regimes, rising sea levels, changes in currents, reduced photosynthesis in the sea, sea acidification, extinction of plants and animal species, and more.

These climate change impacts are expected to manifest in the area of Kaštela Bay in many, primarily environmental aspects, which are expected to influence human activities subsequently. The consequences could be significant for the latter, as it is a highly urbanized area. Changes will primarily concern the coastal infrastructure, buildings in the coastal zone, water management, infrastructure and supply, erosion and landslide threats, and the sea-related economy. Furthermore, both on land and at sea, climate changes in the area are expected to exert a significant negative impact on biodiversity, with combined and multiple effects and interactions possible, e.g., reduction of terrestrial biodiversity and total vegetation cover can affect the number and severity of fires, susceptibility of terrestrial infrastructure to torrential waters and more.

The Climate Adaptation Plan draws on numerous strategic and planning documents, information from existing studies, and the expertise of the experts and stakeholders involved, providing a new perspective on the targeted area through the prism of climate change. The plan will offer proposals for strategic planning and other elaborate operational activities and measures for coastal zone management to achieve the desired sustainable development.

More specifically, the Plan draws and builds on the following documents and studies:

- "Guidelines for the management of the Kaštela coastal area"
- "Coastal Zone Management Plan for the town of Kaštela"
- "Adaptation Plan for the area of the mouth of the river Jadro"

Objectives of the participatory process

This participatory process envisages a shared co-creation of the “Action plan for the adaptation of the Split-Dalmatia County to coastal erosion caused by climate change” to achieve the following objectives:

- Define the common knowledge ground and tools and share it with key stakeholders and the broader local public, raising awareness about the need to protect the coastal environment and ensure economic, social, and cultural development in harmony with the environment.
- Outline a shared future vision of the targeted area while keeping in mind future scenarios of climate change.
- Achieve coherence with regard to this problem between the key stakeholders and all decision-makers at the national, regional, and local levels.
- Establish measures for a sustainable management of the targeted coastal area, and governance of the action.

Expected results of the participatory process

The expected results of the participatory process include:

- Raised awareness among the wider public on the negative consequences of climate change for the preservation of coastal areas.
- Shared knowledge framework and perspective on key challenges and solutions among key stakeholders.
- Guidance developed for local adaptation and mitigation measures, including the steps for the preservation of coastal ecosystems, landscapes, and geomorphology.
- Monitoring and evaluation methods developed to allow critical decision-makers to assess the effectiveness and efficiency of proposed interventions.
- Participatory forms of collaboration among key stakeholders developed to enable an exchange of experiences and continuous dialogue during the integration of the action plan.

Timing foreseen for the participatory process

The participatory process, divided into three main phases, is foreseen to be performed over one year.

The first phase (from December 2021 to May 2022) will be the most intense, encompassing the participatory process's preparation, activation, and launch. This phase will have the most participatory co-creation sessions with relevant stakeholders. Also, the open-door session is planned for this phase. "A di si ti?" (*Where are you?)* action will include the broader public in awareness-raising and crowdsourcing

session. The outcomes of the first phase are expected to strengthen the knowledge base and inform the priorities of the action plan.

The follow-up phase (from June to December 2022) will revolve around the preparation of the action plan, follow-ups with included primary stakeholders, and the final presentation of the action plan.

Phases of the process and timing

Preparation, planning and implementation of the participatory process encompasses the following: stakeholder mapping, participatory process design and plan, implementation of the process, conclusions and next steps following the process.

Stakeholder mapping included canvassing key stakeholder groups and individuals with key interest and impact on the topic. The details are described in section 5.1. of this document. The participatory process design and plan itself encompasses two main elements: preparation of the participatory process and its implementation organized into a series of activities described below.

Preparation of the participatory process included the following activities:

- Preparation of the contents, questions and topics covered by the participatory discussion.
- Selection of participatory methods and working tools for online/offline workshops.
- Preparation of operational work schedules to perform the participatory events
- Preparation of survey questions and questions for moderators
- Organizing methods of collecting ideas and proposals for actions using collaborative tools and techniques
- Organization of offline activities: venues, informational and educational materials
- Cold run of participatory activities

Implementation of the participatory process

- Facilitation of the Meeting of the Coordination and Advisory Council for Integrated Coastal Planning and Management of the Split-Dalmatia County
- Interactive event aimed to identification of the key challenges and possible solutions of the coastal erosion issue including all identified stakeholders
- Public presentation of the project on Mid-term conference
- Follow-ups with stakeholders in action plan development
- Closing session to summarize results of the process as well as to gain insights into expert partners' developments in the adaptation plan

The following table describes the main steps and activities of the participatory process for Split-Dalmatia County as well as timeframe for the activities

Activity	Timing
Context analysis and stakeholders mapping	Datum?
Meeting of the Coordination and Advisory Council for Integrated Coastal Planning and Management of the Split-Dalmatia County	December 17th, 2021 Live session @ SD County

"Reframing Kaštela Bay Future", participatory workshop for 30 stakeholders from national and local level	22nd April, 2022 Live session or Online, interactive webinar
"A di si ti?" (Where are you?) public presentation of the project, with an opportunity of the public to participate with opinions and ideas using a brainstorm wall	2x May, 2022 Mid-term conference, Split
Closing session for 30 stakeholders, aimed at providing insights about the developed strategy and integrated collaborative action plan	Xx November, 2022 Live session or Online webinar

Elements and context of the Participatory Processes by Pilot Sites

Stakeholders involved

Stakeholder engagement process includes relevant stakeholder groups identified in the stakeholder mapping document. In comparison to this document, this participatory plan recognized additional stakeholders, mainly from cities surrounding the Kaštela Bay in addition to the City of Kaštela. These are the City of Split, metropolitan area on the east coast of the bay, City of Solin and City of Trogir, on the west coast of the bay.

Mapping and selection of stakeholders engaged in the participatory process was developed according to relevance of the groups and their interest in the project. In accordance with these criteria, the following roles were pinpointed for participation in the process:

- Local government and self-government, national government policymakers
  - County Prefect (SD County) / Mayors (Kaštela, Split, Solin, Trogir)
  - Experts from environmental and urban planning departments
  - Ministry of Economy and Sustainable Development - Institute for Environmental Protection and Nature
- Academia, education and research institutions
  - Interested faculties and departments of the University of Split
  - Institutes: researchers in construction with emphasis on maritime good management
- Funds, agencies and other institutions
- NGOs
- Local businesses, industries and port management companies

Following is the list of stakeholders – organizations and institutions – included in the participatory process.

- Ministry of Economy and Sustainable Development - Institute for Environmental Protection and Nature
- Institute IGH
- The Environmental Protection and Energy Efficiency Fund
- Split-Dalmatia County
- City of Kaštela
- City of Split
- City of Solin
- City of Trogir

- Institute for Adriatic Cultures and Karst Reclamation
- University of Split, Faculty of Chemistry and Technology
- University of Split, Faculty of Civil Engineering, Architecture and Geodesy
- FLAG Fisheries Local Action Group
- Sunce – Association for nature, environment and sustainable development
- Civil Initiative for Environmental Protection of Kaštela Bay
- Eko Kaštela Bay
- Marinex&Co d.o.o.
- Friškina d.o.o.
- Port of Split
- CEMEX Croatia d.d.
- Priority Actions Programme/Regional Activity Centre (PAP/RAC)
- Public institution Sea and Karst
- Fisheries Local Action Group Brač

Participatory techniques and tools

In the duration of the project, several participatory techniques and tools are used to discuss, revise and develop ideas and contributions along this process. They are also carefully planned to accommodate possible obstacles to the organization of offline meetings and therefore envisaged both online and offline versions of the stakeholder engagement event.

Within the stakeholder mapping phase, an internal workshop was organized gathering project partners in identification of key stakeholders for the project. The team assessed key groups and individuals, and discussed their possible concerns, impacts and contributions. Key aspect taken into consideration was their perspectives and capacity to suggest and help implement (or support the implementation) of activities in the adaptation plan. The final map and list include all relevant stakeholder groups, i.e., national and local government and self-government institutions, scientific and education institutions, NGOs, academia and local businesses.

Following the stakeholder identification, the first event is organized, initial meeting and presentation of the project to stakeholders (Meeting of the Coordination and Advisory Council for Integrated Coastal Planning and Management of the Split-Dalmatia County). This first meeting opportunity introduces key stakeholders with the problem this project tackles, outlining key issues and opportunities, experiences from project participants from other Adriatic regions, but gives the stakeholders the chance to give ideas instantly and discuss the methods, possible other stakeholders and techniques in the continuance of the participatory process. This process is designed, rehearsed and implemented by PI RERA S.D. team.

“Reframing Kaštela Bay Future” is a participatory workshop for around 30 key stakeholders in the process. It is planned primarily as an offline, live event, but also adjusted to online option depending on the circumstances and stakeholder availability. The goal of the discussion is to identify the key challenges and possible solutions of the coastal erosion issue using world café method. Participants are free to join groups moderated by one participant and discuss the topics freely and then change the discussion group to eventually participate and give insights into each one. Alternatively, in an online format this is organized by randomly assigning participants into breakout groups using the same logic for moderation and discussion. While tablecloths/flipcharts are used for participants to express opinions in the offline method, in the online version online tools like Mentimeter, Miro and/or Jamboard are used. Participants are asked to contribute with ideas, insights and reflections on the following topics: interventions, solutions and adaptations of the coastal strip to the expected and current effects of climate change; solutions for the

management and maintenance beaches; and collaborative methods for coastal management by the competent authorities and local stakeholders.

In the following activity, open door approach is used to gain insights into the position and ideas of the public. The project is publicly presented during the Mid-term conference under the title “A di si ti?” (Where are you?), and interested public is given the opportunity to participate with opinions and ideas using a brainstorm wall, organized through audience interaction tool Slido and projected for live viewing. The participants here are asked questions adjusted from the previous stakeholder engagement activity aimed at their views of the possible solutions for this issue.

The final stakeholder engagement opportunity is a closing session to summarize results of the process as well as to gain insights into expert partners’ developments in the adaptation plan. The participants are asked to take into consideration all results of the process and give insights about the developed strategy and integrated collaborative action plan. Discussion method used here is forum, moderated discussion focusing on process findings, strategy and plan.

Accessibility to the documentation

All relevant documents on the project are available on the website www.rera.hr, which are also amended for the entire duration of the project.

6.5 Puglia Region

6.5.1 Description of the Participatory Process

The participation process entitled "**participation process for climate change in the Puglia Region**" mainly concerns the Adriatic area with particular reference to the **Torre Guaceto area**.

Area, themes, sectors of intervention

The participation process called "Process of participation in climate change in the Puglia Region" mainly concerns the Adriatic area with particular reference to the marine protected area of Torre Guaceto. The intervention sectors concerning three macro areas such as:

- Ports
- Transportation
- Tourism

right away it brings back a synthesis of the results of the participatory process:

The impact of climate change on aquaculture within the Adriaclim Project

Gianfranco D’Onghia, Roberto Carlucci, Caterina Longo. Dipartimento di Bioscienze, Biotecnologie e Ambiente, Università degli Studi di Bari Aldo Moro

Climate change can affect the structure and functioning of ecosystems that support breeding activities, production cycles, infrastructures, the physiology of organisms produced or harvested in nature. Furthermore, the assessment of the impacts of climate change is made complex by the diversification of production systems, the technologies used, the species farmed, the geographical location, the environmental characteristics of the territory and the combination of various impact factors, including those due to non-indigenous species.

Although there is still no specific knowledge and evidence on the vulnerability of aquaculture activities to climate change, attention has been growing in recent years, in particular for the effects that this change can have on shellfish production. In fact, the "heat waves", which are now occurring more frequently and above all in the summer period, cause serious losses for shellfish farming.

In the new Strategic Guidelines for EU aquaculture (NLGSA), strategic points include: supporting the development of adaptation strategies to climate change; support the development of new freshwater and marine aquaculture methods, especially those with low environmental impact, such as Integrated Multi-trophic Aquaculture (IMTA). IMTA is a practice that combines the farming of fed species with that of extracted species and can offer new opportunities for traditional mariculture, helping to mitigate the impacts of climate change.

The impact of climate change on coastal erosion within the Adriaclim Project

Mariafrancesca Bruno, Umberto Fratino. Dipartimento di Ingegneria Civile, Ambientale, del Territorio, Edile e di Chimica, Politecnico di Bari

Among the effects of climate change, the rise in mean sea level is the one that will have the greatest repercussions on the coastal strip. The studies aimed at evaluating the climatic impacts on the coast have, in fact, highlighted that many coastal areas will be subject to erosion and flooding due to marine intrusion due to sea level rise.

In the Adriaclim project, the research group of the Polytechnic of Bari proceeded with the mapping and characterization of the Adriatic coastal strip and analyzed the past and recent evolutionary trend. The analysis showed that coastal erosion occurs on almost 100 km of the Adriatic coast with significant average annual retreat rates. From the projections on the evolutionary trend in the medium term, with the different emission scenarios, a situation of widespread retreat of the coastline is expected with a progressive reduction in the depth of the beaches.

The adaptation actions that will be undertaken in the near future will necessarily have to satisfy the need to preserve the landscape, naturalistic and environmental value that characterizes the regional coast of Puglia.

The impact of climate change on tourism within the Adriaclim Project

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From the analyzes conducted on the effects of climate change on tourism, two types of impacts can be distinguished: direct and indirect. The direct impacts cause changes in the tourist trend, typical of a tourist destination. Indirect impacts act by inducing variations in the attractiveness of the tourist destination, consequently influencing tourist arrivals and presences.

In a scenario of climate change that sees the Apulian climate warmer than today, especially during the summer season, it is possible that the milder temperatures could benefit tourism in winter, spring and autumn. Conversely, the increase in maximum temperatures in summer could lead to possible decreases

in tourist numbers, especially international ones. Furthermore, the increase in temperatures could benefit competitive tourist destinations in Puglia, negatively impacting regional tourism demand.

It is possible that climate change will generate impacts on other tourism-related sectors of the territory. These impacts could affect the attractiveness of tourist destinations on the Apulian Adriatic coast. In this regard, the investigations carried out have highlighted some indirect impacts, among which we can consider the increase in forest fires in tourist areas, the increase in alien and invasive species in terrestrial and marine tourist fruition areas, thermal stress and risks to the health of tourists and operators in the sector, the decrease in the availability of domestic water for the tourism industry and the increase in energy consumption, damage from extreme climatic events to infrastructures and accommodation facilities, coastal erosion with consequent reduced availability of beaches. The adaptation actions must be consequent to the impacts analyzed and synergistic with respect to the fields of action identified.

General aim of the operation

The general purpose of the activated process is to define a bottom-up strategy useful for drafting the climate adaptation plan.

With the Council Resolution n.1546 of 09/17/2020, the Puglia Region approved the project "AdriaClim - Tools for information, monitoring and management of climate change for adaptation strategies in the Adriatic coastal areas", with the aim to implement the conditional adaptation plan referring to issues focused on marine and coastal areas, economic systems and related ecosystem services. On the merits, in support of the specific project activities, it is essential to start a discussion with organizations, institutions and trade associations engaged in various capacities on the issues of mitigation and adaptation to climate change, at the same time promoting a debate with the network of stakeholders - operating in the "tourism", "aquaculture" and "coastal erosion" sectors - to ensure their involvement in the various initiatives.

Synthesis of the participatory process

Puglia Region has launched a participatory process divided into various phases.
Now, in this first phase, the process is aimed at consulting citizens, local institutions, bodies and stakeholders to assess the climate impacts on coasts, ports, tourism.

The consultation was started through a questionnaire to be filled in on the platform. We have activated a communication channel on the following portals:

- https://partecipazione.regione.puglia.it/processes/AdriaClim
- https://regione.puglia.it/web/istituzione-e-partecipazione/-/regione-puglia-e-adriaclim-strumenti-di-informazione-monitoraggio-e-gestione-del-cambiamento-climatico?redirect=%2Fweb%2Fistituzione-e-partecipazione

Following this process, two further moments of sharing with stakeholders were defined.

The first on 10.22.2022 at the Fiera del Levante in Bari, the second at the regional offices of the Environment Department on 03.31.2022.

Context of the participatory process

Public participation is a possibility for citizens to participate in the outcome of the procedure concerning their territory. The modalities of participation can be many, but the main characteristic is that of not having a predetermined result. In fact, participants are asked to bring their own positions, doubts and uncertainties but include their interest in listening to and understanding the positions of others, especially in such a way that all the people involved, in the light of a more in-depth knowledge, can participate in a judgment aware of the topics covered. In our case it is a consultation process, in which stakeholders will be called to take their positions on climate change in the Puglia Region, evaluating pros and cons thanks to a specific listening and discussion path with experts and interlocutors.

Objectives of the participatory process

Participation in meetings, technical tables and videocalls.
The activity carried out in agreement with the project representatives involved the definition of strategies and contents.

Expected results of the participatory process

Participation is not a value in itself but an opportunity that offers specific benefits and which must be governed with care: the more the participation is extended (in terms of subjects and groups called to participate) the better it is necessary to supervise the process, taking into account more and more aspects such as motivation, values, expectations of actors involved. Among the advantages of participation ("well governed") it is worth mentioning the contribution that it guarantees in terms of legitimacy (of the organization / project) and facilitation of implementation processes.
the expected results are divided into two aspects: the first concerns the acquisition of data useful for structuring a bottom-up adaptation plan elaboration process. The second concerns the dissemination of the results obtained together by the structured process

Timing foreseen for the participatory process

The Puglia region expects to complete the participatory process by December 2022 unless the project is extended)

Phases of the process

Preliminary phase

- Definition of the context
- Selection of the title and possibly of the logo
- Identification of the area involved
- Interviews with local experts and observers and stakeholder mapping
- Preparation of a presentation document

Initial phase

- Involvement of stakeholders
- Sharing the objectives and the program of the process with the stakeholders
- Appointment of a guarantee body
- Production and distribution of clear and simple information materials

- Website
- Dedicated telephone line to collect questions from citizens
- Appointment of the citizens' jury

Middle phase

- Three events with experts and exponents of opposing fronts made with open doors
- Two technical discussions involving stakeholders.
- Meetings of the citizens' jury
- Guided visits to existing plants

Final stage

- Presentation of the results at the end of the process and of the recommendations expressed by the citizens' jury, with a request to local institutions to read them in the institutional setting
- Evaluation of the participatory process

Description of the phases (and timing)

Puglia Region has operated in the first phase of the participation process as described in point 4.3 of this document, launching public consultations on dedicated telematic platforms.

In the second part of the project, it implemented further communication activities on ocean/climate literacy activities (environmental education) with the involvement and dialogue with local stakeholders through the organization of a series of two workshops (Fiera del Levante 22.10.2022 and regional offices of the Environment Department on 31.03.2022)

Elements and context of the Participatory Processes by Pilot Sites

Stakeholders involved

Interested stakeholders can be defined in the following categories:

- General public Local,
- Regional and national public authorities and related bodies Regional
- Local development agencies,
- Environmental agencies,
- Regional associations NGOs Education and training centers

below is the list of stakeholders involved in the participation process.

Type	Nature	Area	Domain	Stakeholders and beneficiaries institutional identification		
of stakeholder or beneficiary	of participation in the project	of intervention	of expertise	Institution or body name	Type of body	Function of the person
Policymaker	Stakeholders	Tourism	Planning/Programming	Regione Puglia - DIPARTIMENTO TURISMO, ECONOMIA DELLA CULTURA E VALORIZZAZIONE DEL TERRITORIO	Regional	
Policymaker	Stakeholders	Tourism	Planning/Programming	Regione Puglia - SEZIONE ECONOMIA DELLA CULTURA	Regional	
Policymaker	Stakeholders	Tourism	Planning/Programming	Regione Puglia - SEZIONE VALORIZZAZIONE TERRITORIALE	Regional	
Policymaker	Stakeholders	Tourism	Planning/Programming	Regione Puglia - SEZIONE TURISMO	Regional	
Regional Agency	Stakeholders	Tourism	Promotion	Agenzia regionale del Turismo- Pugliapromozione	Public Agency	
Regional Agency	Stakeholders	coastal erosion/aquaculture	Planning/Programming	ASSET - Agenzia Regionale Strategica per lo Sviluppo Ecosostenibile del Territorio	Public Agency	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Riserva Naturale Marina - Isole Tremiti	National	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Riserva naturale statale Torre Guaceto/Riserva Naturale Marina - Torre Guaceto	National	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Area Naturale Marina Protetta - Porto Cesareo	National	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Parco naturale regionale Bosco e Paludi di Rauccio	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Parco naturale regionale Costa Otranto - S. Maria di Leuca e Bosco di Tricase	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Parco naturale regionale - Dune costiere da Torre Canne a Torre S. Leonardo	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Parco naturale regionale - Fiume Ofanto	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Parco naturale regionale - Saline di Punta della Contessa	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Riserve naturali statali - Riserva naturale Isola di Varano	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Riserve naturali statali - Riserva naturale Lago di Lesina	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Riserve naturali statali - Riserva naturale Le Cesine	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Riserve naturali statali - Riserva naturale Palude di Frattarolo	Regional	
Managing Body	Stakeholders	Tourism/coastal erosion/aquaculture	Planning/Programming	Riserve naturali statali - Riserva naturale Salina di Margherita di Savoia	Regional	
Category Association	Stakeholders	Tourism	Tourist operator Counsulting	Confesercenti Puglia	Regional	
Category Association	Stakeholders	Tourism	Tourist operator Counsulting	Federalberghi Puglia	Regional	
Category Association	Stakeholders	Tourism	Tourist operator Counsulting	Federturismo Puglia	Regional	
Category Association	Stakeholders	Tourism/coastal erosion	Tourist operator Counsulting	Sindacato Italiano Balneari Puglia	Regional	
Category Association	Stakeholders	Tourism/coastal erosion	Tourist operator Counsulting	Assobalneare Puglia	Regional	
Category Association	Stakeholders	Tourism/coastal erosion	Tourist operator Counsulting	Confcommercio Puglia Balneari	Regional	
University	Stakeholders	Tourism/coastal erosion/aquaculture	Research	Università degli studi di Bari	Regional	
University	Stakeholders	Tourism/coastal erosion/aquaculture	Research	Politecnico di Bari	Regional	
University	Stakeholders	Tourism/coastal erosion/aquaculture	Research	Università del Salento	Regional	
University	Stakeholders	Tourism/coastal erosion/aquaculture	Research	Università degli Studi di Foggia	Regional	
Enviromental Agency	Stakeholders	Tourism/coastal erosion/aquaculture	Enviromental Monitoring and Research	ARPA Puglia, Agenzia Regionale per la Prevenzione e la Protezione dell'Ambiente	Regional	
Policymaker	Stakeholders	Coastal erosion	Planning/Programming	Autorità di Bacino Distretto Appennino Meridionale	Regional	
University	Stakeholders	Coastal erosion	Research	HLSG EIP WATER POLBA	Regional	
Policymaker	Stakeholders	Coastal erosion	Planning/Programming	SERVIZIO DEMANIO COSTIERO E PORTUALE	Regional	
Category Association	Stakeholder	Coastal erosion	Administration	Ordine Geologi Puglia	Regional	
Policymaker	Stakeholder	Aquaculture	Planning/programming	Regione Puglia - Dipartimento Agricoltura, Sviluppo rurale e Tutela dell'Ambiente	Regional	
Policymaker	Stakeholder	Aquaculture	Planning/programming	Regione Puglia - SERVIZIO PROGRAMMA FEAMP	Regional	
Policymaker	Stakeholder	Aquaculture	Planning/programming	Regione Puglia -SERVIZIO VALORIZZAZIONE E TUTELA RISORSE NATURALI E BIODIVERSITA'	Regional	
Category Association	Stakeholders	Aquaculture	Aquaculture Counsulting	Federcoopesca	National	
Category Association	Stakeholders	Aquaculture	Aquaculture Counsulting	Federpesca Puglia	National	
Category Association	Stakeholders	Aquaculture	Aquaculture Counsulting	Legapesca	Regional	
Research body	Stakeholders	Aquacolture/coastal erosion	Research	CNR	National	
Association	Stakeholders	Aquaculture/coastal erosion	Promotion	Legambiente Puglia	Regional	
Association	Stakeholders	Aquaculture/coastal erosion	Promotion	WWF Puglia	Regional	
Association	Stakeholders	Tourism/coastal erosion/aquaculture	Promotion	Arci Puglia	Regional	
Onlus	Stakeholders	Aquaculture	Research	Irepa Onlus	National	
Research body	Stakeholders	Aquaculture	Research	Crea	National	
Cooperative	Stakeholders	Aquaculture	Promotion	COISPA Tecnologia & Ricerca	Regional	
Policymaker	Stakeholders	Aquaculture/coastal erosion	Planning/programming	ISPRA - Dipartimento Difesa della Natura, Uso Sostenibile delle Risorse Naturali, Gestione Agroecosistemi	Agency Public	

Participatory techniques and tools

Specifically, the AdriaClim project will improve knowledge on climate change and achieve the following results:

- Improve and harmonize access to observation and modeling tools and products (data platform, distributed database system, innovative access tools) by creating cross-border protocols / methodologies;

- Create new and improve existing integrated, high-resolution climate-environmental monitoring systems at regional and coastal hydro-oceanic meteorological levels. Integrated monitoring systems will be created, each focused on different variables, which will deal with different types of data: sea level, temperature, salinity, sediment, coal, nutrients, ecosystem variables, atmospheric and oceanic variables;
- Evaluate the impacts, vulnerabilities and risks and develop maps and indices of pilot cases on the blue economy (aquaculture, tourism); marine ecosystem services of Marine Protected Areas; coastal cities (population); the ports;
- Organize workshops to present future impacts and climatic conditions;
- Organize training activities for public and private stakeholders on adaptation measures, governance systems, monitoring of actions, the creation of new jobs in the field of adaptation and mitigation;

Accessibility to the documentation

The reference links of the participatory processes implemented are:

- https://partecipazione.regione.puglia.it/processes/AdriaClim
- https://regione.puglia.it/web/istituzione-e-partecipazione/-/regione-puglia-e-adriaclim-strumenti-di-informazione-monitoraggio-e-gestione-del-cambiamento-climatico?redirect=%2Fweb%2Fistituzione-e-partecipazione

Synthesis of the "Preliminary report" to feed the process by Pilot Sites

What are the conditions now

Pilot Site of Torre Guaceto is a marine reserve and a terrestrial reserve, both with high levels of biodiversity, and occupies a total area of 110 hectares that is home to a large number of animal species. In October 2019 the Blue Park Award was awarded to the Torre Guaceto Nature Reserve by one of the most important bodies in the world for the conservation of marine environments, the Marine Conservation Institute of Oslo. The protected area of Torre Guaceto is the first Italian park to be awarded, thus becoming part of the Blue Parks network which includes 16 protected areas around the world, committed to safeguarding marine fauna, protecting critical habitats, promoting resistance to climate change and ensure the beauty of the oceans.

In-depth studies are currently underway regarding a new cycle of studies in order to acquire new information in the area of the pilot site

Which future we see for this area

Possible future scenarios concern the extension of the agricultural area, highlights the importance of the agricultural vocation that insists in the area, thanks also to the birth of the Management Consortium of Torre Guaceto in 2001 which promoted the Oro del Parco project, the percentage of organic agriculture within the reserve by focusing on quality products such as oil and tomato flask. The strictly marine area is also involved in an important protection and enhancement project by promoting a sustainable fishing model which in 2017 received the status of presidium from Slow Food, recognition that rewards the joint effort that brings together the Management Consortium, the University of Salento and the community of local fishermen. Specifically, the Management Consortium of Torre Guaceto authorizes certified fishermen exclusively in zone C of the protected area (in zone A and B both access and transit are prohibited), once a week, with nets from post and with large mesh, that is with a 30 mm wide trammel net which allows to avoid the capture of young fish that have yet to reproduce. The strong containment of the exploitation of fish resources has numerous beneficial effects on the sea, one of these consists in the larval dispersion and

this phenomenon causes the fish that are born in the Marine Protected Area to reach the other Apulian waters, grow and repopulate them.

Which objectives and strategies

Future hypotheses and strategies concern the involvement of local stakeholders useful for the definition of long-term policies, the involvement of politics to align medium-long term strategies and best practices

What is suggested doing in this frame

Possible actions concern the enhancement of the territories by adopting accountability policies for the users of the coast and inland. In particular, by restricting tourist use, by adopting systematic control systems of a series of marine weather factors also referred to coastal erosion

Synthesis of the participatory processes and their outcomes by Pilot Sites

As described in chapter 5, the participatory process was activated on the portals:

- https://partecipazione.regione.puglia.it/processes/AdriaClim
- https://regione.puglia.it/web/istituzione-e-partecipazione/-/regione-puglia-e-adriaclim-strumenti-di-informazione-monitoraggio-e-gestione-del-cambiamento-climatico?redirect=%2Fweb%2Fistituzione-e-partecipazione

and with two info days moments.

Inclusion of the process outcomes in the Adaptation Plans for the Pilot Sites

At this stage, the adaptation plan has just be write. Forecasts of organizing a last conclusive congress useful for disseminating the results of Adriaclim's research related to climate change by the end of June 2023.

Closing remarks on the experience, future implementation and transferability

The possibility to involve stakeholders in the process is fundamental in order to identify the vulnerabilities and the critical issues concerning the macro areas foreseen in the project. These will be useful to organize the activities concerning the implementation of the Adaptation Plan for the pilot area. Since the project does not involve the Ionian side of the Region, the activities carried out within the project could be a good foundation to extend the Adaptation Plan to that area.

6.6 Friuli-Venezia Giulia Region

This is the contribution to the deliverable 5.2.3 by PP11 ARPA FVG and reports the results of Stakeholder engagement and participation to the formulation of Adaptation Plans, achieved up to the 30/09/2021, over the Pilot Site defined by project activity 5.3.

6.6.1 Description of the Participatory Process

The title of this initiative is: "**Cambiamenti Climatici e Adattamento Locale nelle Aree Costiere e Lagunari**

del FVG"

The participatory process for the Pilot Site which is in charge of the Activity 5.3, namely the Gulf of Trieste, the lagoon of Grado and Marano and the coastal areas, is divided in sets of events and activities that lead towards the following objectives: to educate the stakeholders to understand the content of climate change scientific information and to share a common vocabulary on climate change, to evaluate the level of stakeholders' awareness on climate change relate risks, to harvest the expectations on the results of adaptation actions, to identify the priorities of climate related risks, according the climate change hazards impacts on the Pilot Site, to involve the technical and the scientific community in defining a shared approach for risk evaluation over the Pilot Site.

The participatory process has been designed with two levels of discussion. One, which is mainly characterized by the stakeholder contribution and taking place as public events. The other, where the scientific and technical community evaluates the information available to identify the risks and to define the risk evaluation methodology, before to deliver them to the stakeholder community and the society. (Figure 2).

In designing the participatory process, ARPA FVG has recognized the co-existence of, already in progress or still in the project phase, participatory activities, which are focused on hazards and related risks that overlap with those characterizing the AdriaClim objectives.

Thanks to that awareness and with the aim to create synergies, or at least contacts, among EU funded projects, a network of interactions has been developed among the specialist, which are involved in different projects and are operating over the same area, in other words that are interacting with the same the stakeholders.

At the stakeholder and society level, that network results in shared events, specifically designed to interact with the stakeholders, and in workshops at the scientific level, where different approaches in risk and vulnerability assessment have been discussed, criticized, and applied to specific hazards.

In the final phase of the participatory process, AdriaClim brings the risk related information back into society level, supporting the local authorities in defining the specific response actions that are going to contribute to general, or oriented to selected risks, adaptation plans.

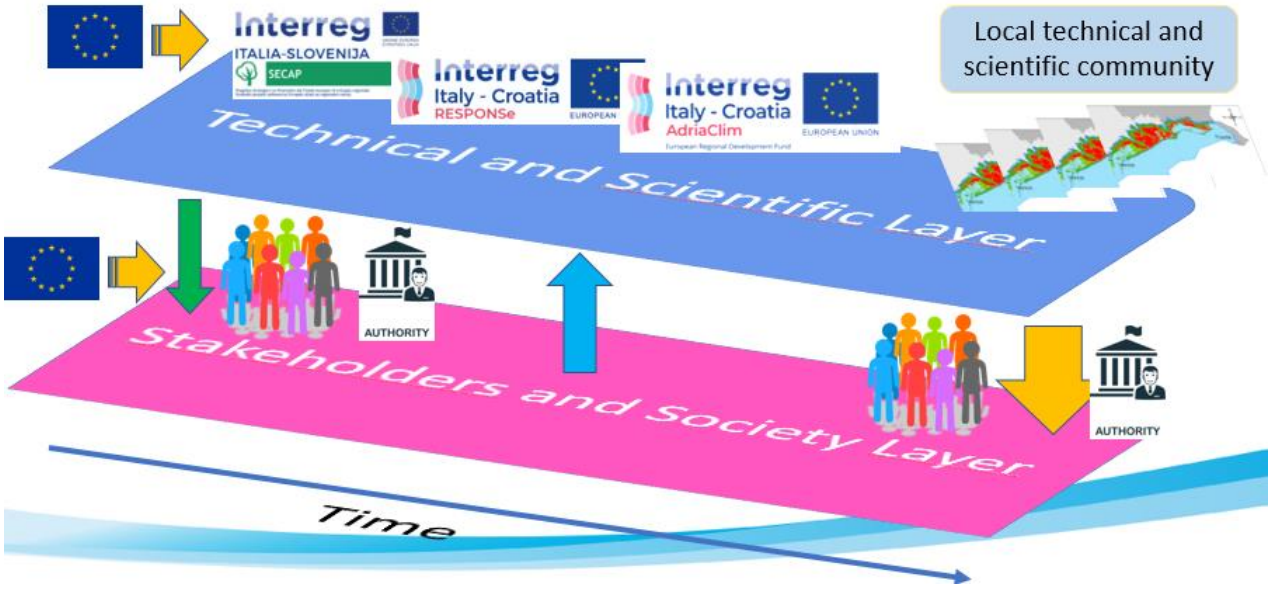


Figure 2. The two layers of the participatory process which is in progress in the Pilot Site of project activity 5.3

The first set of events at the stakeholder and society level was already carried on. It was a series of four information and education events. In each event, three section determined the arguments, and the specialists who matched the stakeholder audience. (Figure 3). The organization and the conduction of the webinars was the result of a common effort of AdriaClim and RESPONSe projects; both are Italy-Croatia INTERREG projects.

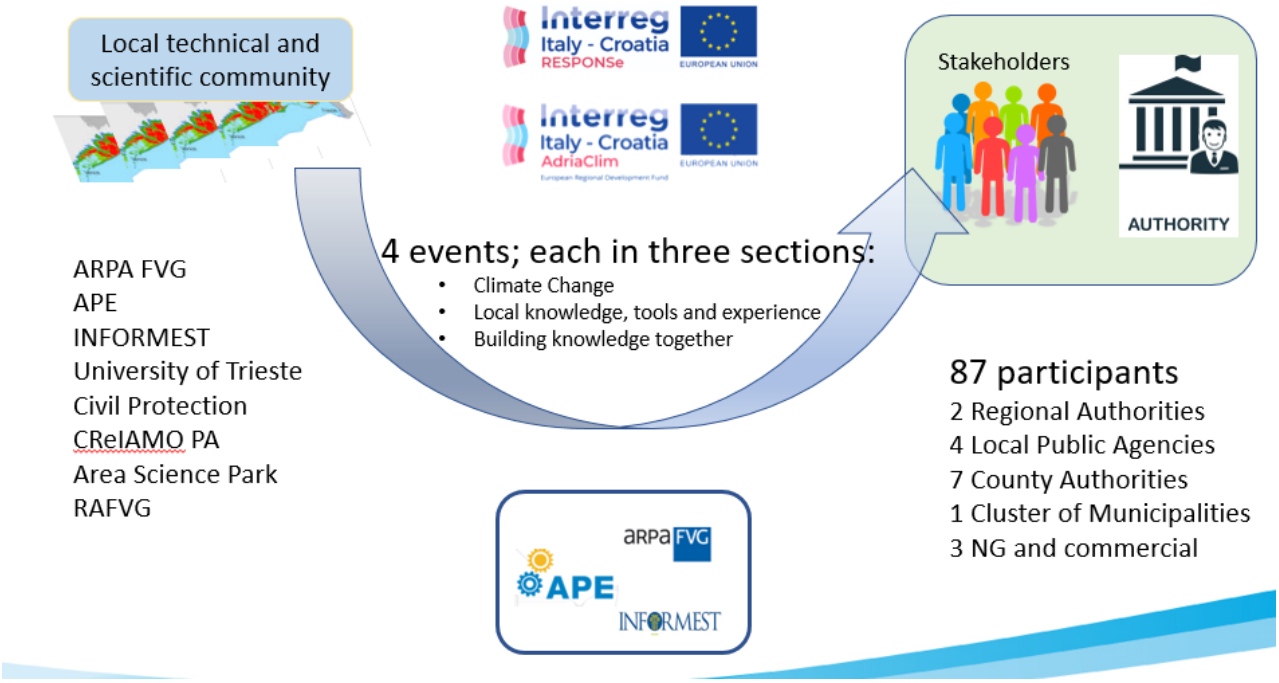


Figure 3. A graphical summary of the first set of events conduced in the Pilot; project activity 5.3

Area, themes, sectors of intervention

The geographical area, which was considered in the first set of events, is the whole Pilot Area defined in the AdriaClim project activity 5.3. The themes considered during the webinars have covered the sea level rise, the increase of the lagoon salinity, besides the extreme surges and heat waves hazards and the consequences in all the human activities hosted in the pilot Area, besides the potential impacts on the ecosystem. (Figure 4)

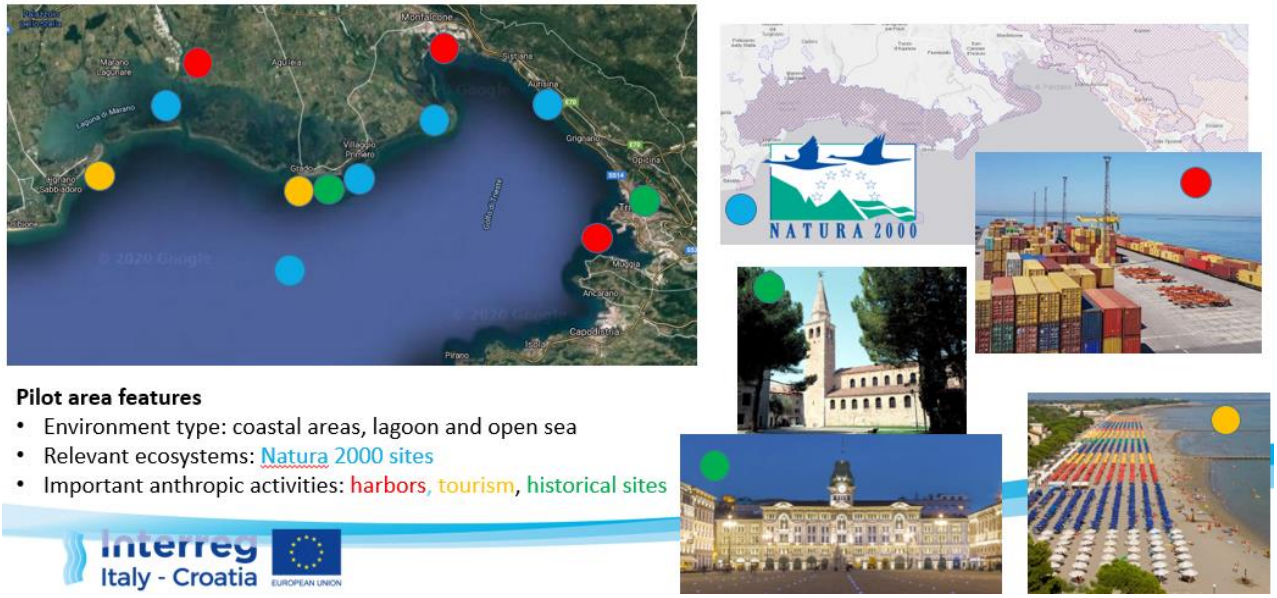


Figure 4. The geographical area of the PP11 ARPA FVG Pilot; project activity 5.3

General aim of the operation

The events were oriented towards local authorities, in particular administrators and technicians, who are interested and involved in the development of strategies to address the effects of climate change in their territories.

The initiative was meant to share knowledge and common methodologies to be used for the local adaptation planning; they took place on May 13th and 21st and on June 4th and 18th, 2021.

Synthesis of the participatory process

In each “Cambiamenti Climatici e Adattamento Locale nelle Aree Costiere e Lagunari del FVG”webinar, there were three section, namely:

- ABC of Climate Change (theoretical basis)
- Knowledge at local scale, tools and experiences (practical information)
- Building knowledge together (iteration and participation)

Here below the time table and the themes for each event. The Italian language was used in all the four events. See also the news:

http://www.arpa.fvg.it/cms/istituzionale/servizi/progetti_europei/news/adriaclim_2021_0006.html

13 maggio 2021
CONOSCERE E GESTIRE IL PERICOLO CLIMATICO

Introduzione e avvio lavori	INFORMEST
Il percorso dei 4 incontri e il quadro concettuale di riferimento	ARPA FVG Federica Flapp
L'ABC DEL CAMBIAMENTO CLIMATICO	
Intervista doppia: meteo vs clima	ARPA FVG Sergio Nordio e Andrea Cicogna
Dal meteo alle criticità al suolo. La risposta immediata agli eventi estremi.	Protezione Civile Regionale FVG Riccardo Ravalli
I cambiamenti climatici in Friuli Venezia Giulia: dalle evidenze agli scenari futuri	ARPA FVG Federica Flapp
CONOSCENZA LOCALE, STRUMENTI, ESPERIENZE	
Nuovi sviluppi per la conoscenza e la "previsione" dei pericoli climatici che interessano e interesseranno la costa del Friuli Venezia Giulia: • il progetto RESPONSe • il progetto AdriaClim	APE FVG - Giulia Pederiva ARPA FVG - Dario Giaiotti
COSTRUIRE INSIEME LA CONOSCENZA	
Sessione interattiva: primi riscontri e avvio dell'inventario degli impatti dei cambiamenti climatici nelle aree costiere e lagunari del Friuli Venezia Giulia.	APE FVG & ARPA FVG
Conclusioni e prossimi appuntamenti	INFORMEST

21 maggio 2021

INDIVIDUARE GLI IMPATTI NELL'OTTICA DELLA VALUTAZIONE DELLE VULNERABILITÀ E DEI RISCHI

Introduzione e avvio lavori	**INFORMEST**
L'ABC DEL CAMBIAMENTO CLIMATICO	
Valutare le vulnerabilità agli impatti e il rischio climatico: metodologie e strumenti	**PON Governance CReIAMO PA L5 - Cambiamenti climatici, presso MiTE** Antonio Carbone
CONOSCENZA LOCALE, STRUMENTI, ESPERIENZE	
Gli impatti dei cambiamenti climatici sull'ambiente fisico di coste e lagune del Friuli Venezia Giulia	**Università di Trieste, Dipartimento di Matematica e Geoscienze** Giorgio Fontolan
L'inventario degli impatti avvenuti: gli eventi estremi e i danni documentati dalla PCR	**Protezione Civile Regionale FVG** Riccardo Ravalli
COSTRUIRE INSIEME LA CONOSCENZA	
Sessione interattiva: l'inventario degli impatti dei cambiamenti climatici sull'ambiente e sui diversi settori socio-economici; conoscenze ed esperienze dei partecipanti. Avvio della ricognizione delle esperienze di adattamento locali	**APE FVG & ARPA FVG**
Conclusioni e prossimi appuntamenti	**INFORMEST**

18 giugno 2021

PIANIFICARE E IMPLEMENTARE L'ADATTAMENTO

Introduzione e avvio lavori	INFORMEST
L'ABC DEL CAMBIAMENTO CLIMATICO	
Strumenti per la pianificazione, il finanziamento e la governance dell'adattamento a scala locale o di area vasta	PON Governance CReIAMO PA L5 - Cambiamenti climatici, presso MiTE Elisa Anna Di Palma
Partecipazione e governance multi-livello: il Contratto di Area Umida della Laguna di Marano e il progetto INTERREG Italia-Croazia CREW	Comunità Riviera Friulana - INTERREG Italia-Croazia CREW Gabriele Pitacco
CONOSCENZA LOCALE, STRUMENTI, ESPERIENZE	
Climate Menu per le regioni adriatiche	APE FVG
Sinergie e continuità tra progetti Interreg a supporto dei percorsi di adattamento locale	APE FVG & ARPA FVG
SESSIONE INTERATTIVA	
Adaptation game	APE FVG & ARPA FVG
Conclusioni	INFORMEST & ARPA FVG

Objectives of the participatory process

This initiative of the participatory had the main objective of the stakeholder education to understand the content of climate change scientific information and to share with them a common vocabulary on climate change. Furthermore, it was foreseen to evaluate the level of stakeholders' awareness on climate change relate risks and to collect the expectations on the results of adaptation actions.

Stakeholders involved

In each of the participatory webinars, several representatives of local stakeholders took part in the process. The list below describes the organizations, associations and other stakeholders who effectively took part in the workshops:

- APE FVG
- AREA SCIENCE PARK
- ARPA FVG
- ARPAV VENETO
- ASUFC DIP. PREVENZIONE
- COMUNE DI GRADO - SERVIZIO AMBIENTE
- COMUNE DI LIGNANO SABBIADORO
- COMUNE DI LIGNANO SABBIADORO
- COMUNE DI POCENIA
- COMUNE DI PRECENICCO
- COMUNE DI SAN GIORGIO DI NOGARO
- COMUNE DI TRIESTE
- COMUNITA' RIVIERA FRIULANA
- CREIAMOPA SOGESID
- E-FRAME
- ERSA FVG
- INFORMEST
- IUAV
- LEGACOOP FVG
- LIGNANO SABBIADORO GESTIONI
- LOCAMARE MARANO
- OGS
- PROTEZIONE CIVILE DI LIGNANO
- PROTEZIONE CIVILE FVG
- RAFVG

- RAFVG - DIFESA SUOLO
- RAFVG DC AMBIENTE
- SHORELINE
- UNIUD
- UNIVERSITA' DI BOLOGNA
- UNIVERSITA' DI TRIESTE
- UNIVERSITA' DI UDINE

Participatory techniques and tools

The participatory process was implemented by way of webinars, due to the pandemic restrictions to the physical participation to meetings.

The invited speakers supported their speech with slides.

Accessibility to the documentation

The online material, that was produced in preparation and used during the four webinars, is available as follow:

- The presentation of the event and the invitation to the stakeholders:
  - http://www.arpa.fvg.it/cms/istituzionale/servizi/progetti_europei/news/adriaclim_2021_0006.html
- The videos, recorded during each webinar are accessible:
  - Conoscere e gestire il pericolo climatico
  - Individuare gli impatti nell'ottica della valutazione delle vulnerabilità e dei rischi
  - Le politiche climatiche; costruire le basi per pianificare l'adattamento
  - Pianificare e implementare l'adattamento

Update: 2nd phase of the participatory process

The second phase of the participatory process focused on the identification of pilot sites, that is municipalities that may be involved in adaptation planning in the face of one or more impacts on their territory.

Two criteria have been proposed for the identification:

- the most relevant existing territorial planning tool: PPR (Regional Landscape Plan)
- the exposure to the most invasive sea-weather climate hazard: Sea Level Rise

The stakeholders proposed this identification on the basis of the 'Pilot area features':

- Protected area (Regional Nature Reserves, Biotopos, MPAs) and N2K sites Management Bodies
- Managing Institutions of the Cultural and Landscape Heritage system in which some elements could be submerged by sea level rise in the most vulnerable areas (i.e. hydrometrical depressed areas)
- Private Companies in the field of production activities (fishery, mussel farms, aquaculture, agriculture and breeding)
- Consortia or Authorities that manage specific activities i.e. beach tourism, port and marine traffic, land reclamation
- Municipalities whose territories may be affected by some impacts as the coastal erosion and flooding, salt wedge intrusion etc.

6.7 *Marche Region*

6.7.1 Description of the Participatory Process

The Marche Region has launched a public information path with the aim of involving stakeholders in the process of raising awareness on climate change and its main risks and challenges through a series of participatory activities.
This activity can be described as follows:

- set up of a preliminary participatory process to support the implementation of the Adaptation plan. The title of participatory process discussion was “to tackle climate change and related social and economic asymmetries”; it has been planned in the Regional Sustainable Development Strategy (SRSvS), that is the main framework where our Adaptation plan will be inserted, through:
    - release of the online survey questionnaire, accessible through the channel dedicated to the SRSvS on the website, with the aim of understanding how much citizens are aware of the environmental, social and economic risks associated with climate change;
    - establishment of public meetings with the aim of raising citizens' awareness of the issue of climate change with the support of expert facilitators through two main tools:
        - Forum for sustainable development open to all individual citizens and voluntary associations with particular attention to the third sector;
        - Participation days involving identified stakeholders as local authorities, trade associations of the Marche business world, research world, etc.
- set up of 3 more public meetings that will accompany the formation of the Adaptation plan. They will be carried out next year (2022).

Logo of the SRSvS of the Marche Region

Area, themes, sectors of intervention

Marche Region pilot area of intervention is the entire regional territory with a specific focus on whole coastline and the themes and sectors of intervention are concentrated on the following main themes:

- Climate change impacts (all the impacts affecting ecosystems and communities);
- Coastal erosion, costal risks within the flood directive;
- Tourist flows, fishing, economic activities on the coast.

Marche Region

General aim of the operation

The involvement process envisaged multiple activities and moments, aimed at favoring the broadest territorial participation and developed from the second half of 2020 to March 2021 with the following objectives:

- stimulate everyone's knowledge and commitment to sustainable practices and behaviors;
- identify the priorities of the territory in relation to the areas of sustainable development from the point of view economic, social and environmental;
- to prioritize and set objectives and actions useful to the regional territory, starting from best practices already active and encouraging maximum contributions from all public and private entities and citizens.

In preparation for the moments of involvement and participation, in October 2020, 6 webinars were held with information and training purposes on the themes of sustainable development identified by the Region, in which the contributions of authoritative experts and witnesses. The webinars were launched both on the SRSvS channel on the website and on the Region's YouTube channel.

A series of public events on sustainable development were also held in 2020.

On 21 May 2021, the Regional Sustainable Development Forum organized a workshop entitled "Sustainability, civic responsibility and global citizenship".

"Eventi in Natura" is a project carried out by the Marche Region in collaboration with the 45 Environmental Education Centers of the territory with the aim of translating the 17 objectives of sustainable development into practical actions for and with the citizen.

The aim is to educate about sustainability starting from children but also involving the older ones, enhancing our territory.

Through a series of free events and meetings it will be possible to explore the Region and participate in various activities suitable for both adults and families: excursions, sensory experiences, workshops, guided tours and much more.

Synthesis of the participatory process

The construction of the SRSvS of the Marche Region was achieved through a broad participatory process of civil society with the use of multiple channels of listening and dialogue. That process was able to:

- participate in the identification of the priorities of the territory in relation to the areas of sustainable development,
- contribute to the identification of the main areas of commitment, also starting from the good practices already in place, on which to converge the action of the Region and the various players in the area.

The participatory process envisaged various methods and tools for territorial consultation, as shown below.

Regional path for SRSvS

From 15 to 28 March 2021 a dedicated platform was activated through which citizens were able to send comments to the first SRSvS document approved with D.G.R. n. 250 of 8th March 2021. The SRSvS - Regional Sustainable Development Strategy - substantiates the UN objectives of the 2030 Agenda and is developed in line with the SNSvS, identifies 5 strategic choices and the related objectives to be pursued through the "construction of a collective process" of synergies and integrations for the sustainable environmental, economic and social development.

To facilitate the collection of observations, the platform has been organized by cards: objectives and actions are listed for each strategic choice.

All observations are evaluated by the Marche Region for the final draft of the document.

To disseminate knowledge of the participatory process of construction of the SRSvS and of the sustainability issues relevant to the territory on which to carry out the comparison phase, the Region has a channel dedicated to the SRSvS within the institutional website available **here**.

The website constitutes the channel through which the region disseminates news relating to initiatives in the area and which will be used to highlight the results, as well as through the link to the site of the regional statistical information system that will be achieved over time in relation to defined objectives and actions from the SRSvS.

Marche Region, in addition to this SRSvS, will prepare a detailed report on the consultation and involvement process of the territory.

With the resolution of the Regional Council n. 1.183 / 2021 the SRSvS was proposed and then approved as a reference for orienting local and regional policies towards sustainability.

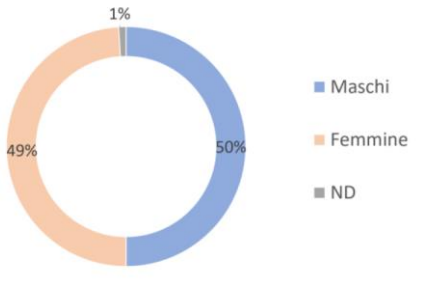
The questionnaire aimed at the population.

As a first point of comparison, an online questionnaire was launched, accessible to all citizens from the regional website, in order to understand:

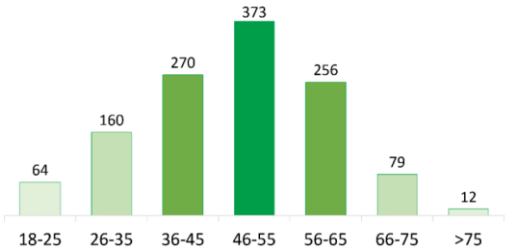
- the degree of knowledge of sustainability issues,
- the importance recognized by citizens to the 5 strategic areas identified by the DGR 304/2020 of the Region Marche. One of the 5 strategic areas is “to tackle climate change and related social and economic asymmetries”.

This made it possible to have an initial understanding of the perceived priorities, in relation to each of the strategic choices, in order to better address the subsequent construction phase of the SRSvS.

The questionnaire was made available on the regional website for the period between 31/07/2020 and 5/11/2020. At the end of the period, the total subscriptions amounted to 2.275, of which 1.223 complete questionnaires.

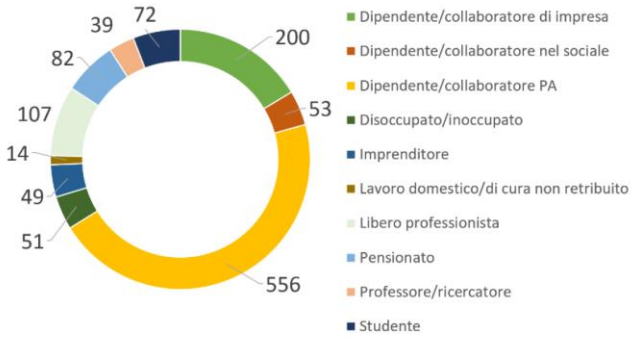


Respondents by gender

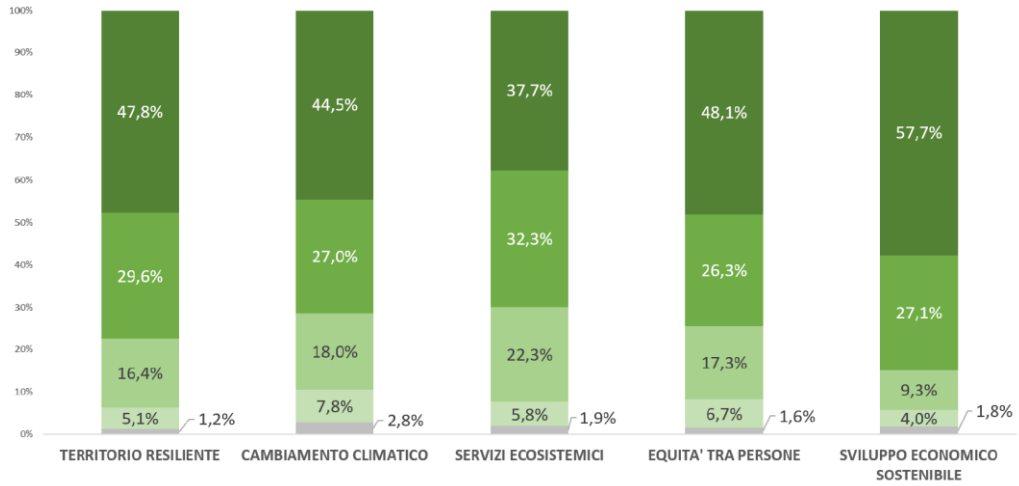


Respondents by age group

Respondents by province



Respondents by profession



Percentage of relevance for each choice

The informative webinars.

To support the preparation of the active participation phase, 6 webinars were also held with information purposes on the strategic choices defined by the Region in the DGR 304/2020, thanks to the contributions of authoritative experts in the various subjects. The webinars were made available on the regional website and on the Entity's YouTube channel.

INTRODUZIONE. L'AGENDA 2030 E LA SNSvS	Relatore: Anna Bombonato, Ministero dell'Ambiente e della Tutela del Territorio e del Mare, DG CreSS - Div II UAT Sogesid S.p.A.
A. TERRITORIO RESILIENTE	Relatori: Luigi D'Angelo, Direttore operativo per il coordinamento delle emergenze del Dipartimento della Protezione Civile Nazionale Fabrizio Barca, Statistico, economista, coordinatore del Forum Disuguaglianze e Diversità
B. CAMBIAMENTO CLIMATICO	Relatore: Giorgio Zampetti, Direttore Generale di Legambiente
C. SERVIZI ECOSISTEMICI	Relatore: Riccardo Santolini, Docente di Ecologia presso Università di Urbino e Comitato per il Capitale Naturale del Ministero dell'Ambiente
D. EQUITÀ TRA PERSONE	Relatore: Maurizio Bergamaschi, Docente di Sociologi Urbana presso l'Università di Bologna
E. SVILUPPO ECONOMICO SOSTENIBILE	Relatore: Paolo Masoni, Ecoinnovazione – spin off ENEA – membro del Technical Expert Group on Sustainable Finance (TEG) della Commissione Europea

Webinar Topics and Speakers

The Regional Forum for Sustainable Development.

The Regional Forum for Sustainable Development, managed by the Marche Volunteer Service Center (CSV) in collaboration with the Marche Region, was set up with the aim of ensuring the involvement of civil society, that is, of individual citizens and local associations, in the definition of the SRSvS. The Forum fostered debate and discussion on experiences and practices relating to sustainable development, also with the aim of making successful initiatives known and mobilizing the skills of key sectors. The consultation was carried out through 16 meetings held on an online platform, to ensure participation following the restrictive measures imposed by covid-19, on the basis of a calendar divided by geographical areas (4 meetings for each area):

- Marche Sud - Inland (includes the municipalities of the earthquake),
- Marche South - Coast,
- Marche North - Inland,
- Marche North - Coast.

Participated n. 92 people / organizations for a total number of connections equal to 169.

Guided moments of participation.

In addition to the activities of the Forum, the Region has organized moments of consultation with local authorities and organized stakeholders of the territory, through the support of third-party facilitators.

In the period November - December 2020, 15 workshops were conducted on an online platform, during which the issues relating to the 5 strategic choices were developed and deepened, in order to investigate the needs of the territory and share the guidelines for sustainable development in the Marche region. The initiative, involving over 350 invited subjects, saw the participation of 184 stakeholders representing

municipalities and other public bodies, companies, universities and research bodies, professional associations, trade associations, trade unions, environmental and third sector associations, foundations.

The reuse playrooms.

There are five regional Recreational Centers for Reuse, one per Province, and operate throughout the region.

The playrooms, managed by the respective municipal administrations, organize didactic-creative activities to spread the culture and practice of reuse and in general the concepts of correct waste management. The activity is aimed at the world of schools, families, the cultural, social and voluntary sectors and in general the regional territory. Creative workshops, moments of meeting with other realities operating in the sector and training activities for teachers are organized within the rooms of the Playroom. Some playrooms already operate in collaboration with reuse centers, governed by the D.G.R. n. 764/2016, offering educational activities aimed at citizens and in particular school pupils with the aim of spreading the culture of reuse of goods, as opposed to the dominant culture of disposable. The activities to prevent waste production are of strategic importance, contributing to the objectives of the National Sustainable Development Strategy, with particular reference to the Planet area, and to the Sustainable Development Goals (SDG) of the 2030 Agenda, with particular reference to the DGS n. 12 “guaranteeing sustainable models of production and consumption”.

The regional Reuse Playgrounds aim to increase involvement, information and territorial training by carrying out the following actions:

- educational activities aimed at children / young people through the development of the relationship between the prevention of waste production and sustainable development. During this activity, the children / young people filled out a questionnaire on sustainable development to express their vision of the future;
- project of regional importance that contributes to the improvement or activation of synergies between the Regional Reuse Playgrounds and Regional Reuse Centers through actions to involve and inform civil society on the use of the Regional Centers for the Reuse of assets. The project focused attention on the reuse of bicycles to encourage sustainable mobility, also in consideration of the regional commitment to create cycle paths.

Events of the regional INFEA System

The regional information, training and environmental education system (INFEA Marche) is composed of 45 Environmental Education Centers (CEA) which, aggregated in 8 territorial networks, carry out information and awareness activities aimed mainly at young people, but not only, to enrich their baggage of information on the natural environment and on the interconnections with human activities.

As part of the construction process of the SRSvS, in September 2020, the INFEA System organized various activities throughout the territory in order to promote and raise awareness among citizens of all ages on sustainability issues. Lectures, meetings, events, workshops, excursions, etc. were therefore held also and often in direct contact with nature.

Poster of the Regional INFEA initiatives

Context of the participatory process

The path that has characterized the definition of the Regional Sustainable Development Strategy is aimed at "building a collective process" capable of creating synergies and integrations starting from existing tools. The SRSvS is a three-year document to implement the SNSvS and the objectives of the 2030 Agenda, declining them at the regional level through convergence with the EAER, in order to guarantee the face of regional policies. It identifies 5 choices, within which, it defines a series of objectives that the Marche Region also intends through the intent of programming and programming at the regional level. Again, for the purpose of maximum synergy between instruments, the Strategic Environmental Assessment process (SEA pursuant to Article 34, paragraph 5 of Legislative Decree No. 152/2016) of plans and programs is linked to the SRSvS.

The regional strategic choices are interconnected with each other and the implementation of each choice regarding different department of the Marche Region: this means that all the structures of the Marche Region contribute to the achievement of the objectives through the implementation of multiple actions. The convergence of different actions towards a regional objective strengthens its achievement.

Main stages of the participatory process for the definition of the SRSvS

Elements and context of the Participatory Processes by Pilot Sites

Stakeholders involved

The various stakeholders were involved in every meeting, event and webinars: citizens, representatives of various local authorities, universities, environmental associations, trade associations and enterprise.

Accessibility to the documentation

The news relating to the SRSv, the meetings, the webinars and all the organized activities can be found here

6.8 Molise Region

6.8.1 Description of the Participatory Process

The official title of the initiative is still to be decided as the participatory process is currently in the process of being externalized through a public procurement. The tender has been published on September 8th 2021.

Despite the tender for the selection of the facilitator experts is still ongoing, several bilateral meetings both online and in presence took place between the Adriaclim management staff of the Molise Region and the Civil Protection Service who is responsible for the public procurement publication and for the elaboration of the adaptation plan strictly connected to participatory process.
During these meetings, the following administrative units to involve in the pilot phase have been identified:

- The Municipality of Termoli
- The Municipality of Petacciato
- The Municipality of Campomarino
- The Municipality of Montenero di Bisaccia

The above-mentioned Municipalities represents the whole coastline area of the Molise Region. The themes and sector of intervention decided to be tackled (even if they can be subjected to variations once identified the experts for the adaptation plan) can be summarised as follows:

- Awareness about climate change mitigation policies and adaptation;
- More knowledge about hydrogeological risk, floods, coastal erosion, water management, renewable energies, legislation
- Basis for the construction of adaptation actions for preserving coastal ecosystem

General aim of the operation

The general aim of the operation is the involvement of the local stakeholders of the region, not only those based on the coastline but also all the possible local actors that will inevitably be affected by the climate change. As they can be potentially damaged by the effects that the climate change could bring, they are called to take direct actions and propose suggestions, give positive and negative feedback, elaborate a shared vision of the coast they would like to have, taking in consideration the current situation and coast features.
As part of the “Adriaclim” project, the Region will put in place a participatory process to relaunch an integrated strategy for the whole Adriatic coast, promoting the participation of local authorities, both public and private, the civil society organizations, research centres, universities, etc..
Even if still to be discussed with the expert facilitators, whom the selection procedures is ongoing, the participatory process phase will be structured as follows:

- One project Launching event involving local policy makers, University, Research centres, associations, cooperatives (fishing etc.), environmental NGOs
- Two thematic workshops with the following objectives/outputs:
    - Awareness about climate change mitigation policies and adaptation;

    - More knowledge about hydrogeological risk, floods, coastal erosion, water management, renewable energies, legislation;
- One "follow-up" workshop about the sharing and exchanging of results of previous workshops and basis for the construction of adaptation actions for preserving coastal ecosystem;
- One Final event presenting the project results and plan

Objectives of the participatory process

The objectives of the "participatory process phase" for the Adriaclim project, is the construction of a bottom-up participatory path that has, as a starting point, the analysis of the current context in which the Region operates. An adequate mapping of local stakeholders and their direct involvement through the organization of ad hoc workshops, it will bring to the definition of a knowledge framework, to the identification of future scenarios and to the definition of new strategies and policies, thus setting the basis for the outlining of a local action plan for the regional coastal ecosystem.
The following activities will be the basis for the definition, organization and implementation of the participatory workshops:

- The co-designing of the participatory process, the activities and events planning
- Implementation of facilitation and participatory planning activities part of the participatory path
- Support to the definition of political and technical priorities that can lead to the elaboration of the action plan and the stakeholder mapping
- Assistance and support to the definition of the participatory plan
- Assistance and support to the elaboration of the regional action plan for the protection of coastal ecosystem based also on the results of the participatory process
- Organisation and implementation of the participatory process (participatory workshops)

The above-mentioned activities, will consequently achieve the following objectives:

- Raise awareness about climate change challenges through a knowledge framework sharing process via collecting information, proposals, ideas, suggestions and contributions from the stakeholders involved
- Put the basis for common actions and elaborate future scenarios through the creation of a shared vision about climate change topics
- Definition of strategic lines about: coastal erosion, water management, best practices on coastal management, intervention management, environmental sustainability

The scope of the participatory process is to involve in the co-design of the adaptation plan for Molise Region, several local stakeholders that are considered key elements in the development of the Integrated Management of the Coastal Zone (GIZC is the Italian acronym used). The stakeholders identified are the following:

- Local public and private authorities
- Municipalities
- Environmental associations
- Cooperatives
- Chamber of commerce and representative association
- Research institutions and Universities

For this purpose, Molise Region organised on the 27th April 2021 an online meeting with the Municipality of Termoli. The Municipality is one of the areas involved in the pilot phase of the project and one of the biggest areas present in the region in terms of population and tourist attraction. The meeting was a sort of

building-up preparatory workshop, informing the Municipality about the Adriaclim project and the presentation of the participatory process in which the Municipality will be involved.

Stakeholders involved

The following local stakeholders were included in the stakeholder map, part of the activity 5.2.2 of the WP5 Adaptation plans:

- Regione Molise
- Comune di Montenero di Bisaccia
- Comune di Petacciato
- Comune di Termoli
- Comune di Campomarino
- Provincia di Campobasso
- ANCI Molise
- UNCEM Molise
- UPI Molise
- Università degli Studi del Molise
- Legambiente
- Ufficio scolastico Regionale
- CGIL Molise
- Unioncamere Molise
- Confcooperative Molise
- Legacoop Molise
- Confindustria Molise
- Confservizi Molise
- ABI Molise
- Società Cooperativa Pescatori Molisani
- Capitaneria di Porto di Termoli
- Autorità Portuale Termoli
- Autorità Portuale Montenero di Bisaccia
- Autorità Portuale Campomarino
- ARPA Molise
- Carabinieri Provinciale Campobasso
- Carabinieri Forestale Campobasso
- VVF Campobasso
- GDF Campobasso
- ROAN GDF Termoli
- Molise Acque SpA
- Consorzio Vasto Sud
- ODV NAZ. CONFRATERNITA DI MISERICORDIA DI TERMOLI
- ODV SAE112 SISTEMA ASSISTENZIALE EUROPEO
- ODV MARE NOSTRUM
- ODV NAZ ANPAS ARCA
- ODV Valtrigno Molise Termoli
- ODV C.V.P. CORPO VOLONTARIO DI PROTEZIONE CIVILE CAMPOMARINO
- ODV NAZ ASS. NAZ. VV.FF. IN CONGEDO DELEG. - CAMPOMARINO
- ODV ASSOCIAZIONE ITALIANA SICUREZZA AMBIENTALE
- ANVVFC sez. Prov.le Campobasso ODV
- ODV. R.G.P.T. RAGGRUPPAMENTO UNITA' DI RICERCA E RECUPERO SEZ. DI PORTOCANNONE
- ODV MONTENERO DI BISACCIA
- ODV NAZ. SOCIETA' NAZIONALE SALVAMENTO SEZIONE GUARDIALFIERA - CONVENZIONE N.S.N. Nucleo soccorso Nautico
- ODV S.ANTONIO GUGLIONESI
- ODV PETACCIATO
- ODV NAZ VV.FF. IN CONGEDO DELEG. - SAN MARTINO IN P.

They were chosen after careful assessment and evaluation of possible stakeholder to include into the participatory process. The sectors of intervention of the above stakeholders are:

- Cooperation
- Fishing
- Environment
- Maritime service
- Energy
- Agriculture
- Research
- Social service
- Transportation
- Civil Protection
- Other

Update to the second edition

Working group meetings have been held on:

- 13/01/2022

- 07/02/2022
- 11/02/2022
- 25/02/2022
- 18/03/2022
- 28/03/2022
- 01/04/2022

Online Info Day has been held on:

- 25/03/2022

Main points were:

- project launching
- best Practices presentation about project topic
- state of the art of the Regional Strategy about sustainable development
- participatory process presentation

6.9 *Emilia-Romagna Region*

6.9.1 Description of the Participatory Process

Official title of the initiative is "**Che Costa sarà (What Coast will it be)? – Emilia-Romagna Region**"

The Pilot Site Activities of the Emilia-Romagna Region have involved the four coastline provinces of Rimini, Cesena, Ravenna and Ferrara. The title of the participatory project, being the project about raising awareness on climate change and its impact on the coastline was defined through a series of facilitated brainstorming activities involving the core team that has been "art-directing" the participatory process. The emerging title is "Che Costa Sarà?" literally meaning "What Coast will it be?". In Italy the wording "Che costa Sarà?" was chosen because it is similar to the question that people ask about the weather forecast for the next days "what will the climate be like?" ("che tempo farà?") so it is a word pun that can be catchy for the ear and make people think in longer term about what can be the impact of climate. This was connected strongly to the participatory process principles in that they envisage an analysis of the state of the art "The knowledge framework" on the current conditions, forecasts of possible future impacts, workshops about positive and negative visions of the future of the coastline and workshops about actions to be taken to address and reduce the impact of climate change, together.

Area, themes, sectors of intervention

The pilot area of intervention is the whole coastline of the Emilia-Romagna Region and the themes and sectors of intervention are concentrated on the following three main themes:

- Problems, challenge and solutions relating to interventions for the protection of the coastline. The shared identification of critical aspects weak spots on the coastline and the possible solutions and interventions.
- The management of the beaches. This included both the management of the sediments on the beaches and the safe use of the beaches also in other seasons than the summer.
- Governance of the coastline strategy. The collaboration between stakeholders so as to address the long-term shared actions changes that will need to be introduced by the future coastline strategy and plan.

These aspects will be described in greater detail in the points below.

General aim of the operation

The general aim of the operation is to involve the main stakeholders of the coastline of the Emilia-Romagna Region in shaping the future coast management strategy so as to address the challenges posed by climate change.

Facing the current and future challenges of climate change means working in a systemic logic that involves the various regional and local components of the territory, for the shared construction of a coastal protection and adaptation strategy capable of combining the protection of environmental values, ecosystems, socio-economic and sustainable development of the whole coastal strip.
As part of the "AdriaClim" European project, the Region, together with its Agencies and other important partners, has launched a process of verification and relaunch of the integrated strategy for the regional coast, promoting the participation of local authorities, economic operators, the research sector and civil society.
The participatory path was structured as follows:

- A first phase, in May, consisting of 6 participatory workshops:
  - Tuesday 4 May plenary participatory workshop "Knowledge Framework" and "Future Vision"
- A series of territorial workshops "Actions"
  - Thursday 6 May: Rimini coast
  - Tuesday 11 May: Cesena coast
  - Thursday 13 May: Ravenna coast
  - Tuesday 18 May: Ferrara coast
- Thursday 27 May: plenary participatory workshop "Comparison and Integration" of the territorial workshops
- The opening of a virtual square ("What coastline will it be?") to inform, communicate and interact with all the institutions and stakeholders involved in the participatory process. The virtual square is available in Italian at the following link. https://partecipazione.regione.emilia-romagna.it/che-costa-sara.
- Follow-up meeting and opportunities for dialogue with the stakeholders, one of which on the 16th of November 2021 and one planned in the spring of 2022.

The participatory process is absolutely essential to both raise the awareness of the stakeholders and local communities and to identify, anticipate and address all the critical aspects related to climate change that will otherwise have a disastrous effect on the environment, society and economy of the Emilia-Romagna's Regional coastline.

Objectives of the participatory process

The participatory process "What will the Coastline be like?" envisaged a shared cocreation of the Integrated Management Strategy for the Defense and Adaptation of the Coast with the regional coastal community to achieve the following objectives:

- Share the Knowledge Framework with coastal Municipalities, other territorial institutions and stakeholders, to raise awareness, collect supplementary information, proposals, ideas and contributions.
- Define a "common ground" and a shared vision of the regional coast, also in relation to future scenarios of climate change.
- Share the definition of strategic lines and actions on issues such as: structural interventions, good coastal management practices, governance of the defense action and management of the coast.

These objectives guided the design of the participatory process.

The purpose of the participatory process is to involve in the co-design of adaptation solutions for the coastal area of Emilia-Romagna various groups of stakeholders, considered key subjects in the development of the Integrated Management for Defense and Coastal Adaptation to Climate Change (GIDAC is the Italian acronym used to resume the strategy):

- local administrations and other territorial bodies
- trade associations and representatives of business and service categories
- environmental and territorial associations
- research institutions and universities
- technical agencies and regional services

For this purpose, the first event that opened the participatory process was mainly of an informative nature, the InfoDay on the 23rd of April 2021 "What will the Coastline be like? The coastal area and the challenge of climate change".

Following this event, the first phase of the participatory process was organized, structured in three steps:

1. the presentation of the framework of available knowledge on the criticalities and impacts of climate change on the coastal areas of Emilia-Romagna, addressed to all stakeholders who have been identified and involved in the participation.
2. Four territorial workshops, each one dedicated to one of the coastal provinces of Romagna: Rimini, Forlì-Cesena, Ravenna, Ferrara.
3. A final workshop to compare and summarize the results of the territorial workshops.

The purpose of the first workshop on "Knowledge Framework and Future Vision" that was held on the 4th of May 2021 was to share the knowledge framework on the coast, collect any further information from the participants and elaborate a future vision on the coast to define a "common ground" on which subsequently build the actions at the local and more general level, in the dedicated territorial workshops.

A summary of this workshop is available in the document "Report of the virtual Workshop" Knowledge and Visions "(4 May 2021)" available in the documents section on the virtual square in Italian https://partecipazione.regione.emilia-romagna.it/che-costa-sara/documents.

The four territorial workshops focused on different themes: coastal management and adaptation, medium-long term actions and projects, good beach management practices, use and rules of use of beaches in seasons other than bathing, governance and method of work shared between the stakeholders for the management and use of the coasts. In these workshops, the critical issues and specific impacts for each area were presented, thanks to the specialist intervention of the technicians of the regional Territorial Security and Civil Protection Services responsible for the territories of the coastal provinces. Subsequently, with the contribution of all the participants in the workshops, the critical issues were discussed leading to the identification of proposed solutions that are the basis for the work in the subsequent phases of the participatory process, in order to arrive at a final integration in the Integrated Management for Defense and Coastal Adaptation to Climate Change (GIDAC). This report illustrates the contents produced by the four territorial workshops in the provinces of Rimini, Forlì-Cesena, Ravenna and Ferrara.

Finally, a "Comparison and Integration" workshop was performed on Thursday the 27th of May 2021 in order to bring together the results of the laboratories in the areas of Ferrara, Ravenna, Forlì-Cesena, Rimini.

This led to sharing, harmonizing and refining of the elements that emerged for their assimilation into the Integrated Management for Defense and Coastal Adaptation to Climate Change (GIDAC).

Expected results of the participatory process

The expected results of the participatory process include:

- Raised awareness on the climate challenges among all the stakeholders of the coastline.
- New and integrated forms of collaboration among the stakeholders to shape and manage the future strategy. This includes the mainstreaming of participatory approaches and facilitation techniques to ensure a continuous dialogue and ability to take decisions as new challenges may emerge.
- A set of dynamic planning tools to keep adapting and improving the knowledge framework.
- Shared definition of common challenges and solutions, including remedial actions that can be taken to mitigate the impact of climate change.

Timing foreseen for the participatory process

The participatory process is performed over one and a half years with diverse levels and tools to engage and inform the participants.

The first induction phase (from January to June 2021) has been the most intense as all the energy had to be concentrated on preparation, activation and launch of the participatory process. This phase has had the highest concentration of participatory co-design sessions with stakeholders and the activation of the "virtual square" to communicate all updates and to keep a constant contact with the stakeholders of the process. The outcomes of this first phase have also strengthened the knowledge framework and have provided some indications about priorities. As one may see from the table below this phase envisages a series of preparatory meetings of the "Art direction team of the participatory process and workshops with key stakeholders.

The follow up phase from June to November 2022 will include an update webinar for the stakeholders on the progress of the design of the strategy and a final Info-day to present the coastline strategy in February 2022.

Phases of the process and timing

In this section we describe the phases that have been performed in the first six months of the participatory process. The facilitation of the participatory process followed three main phases:

- Preparation of the participatory process
- Implementation of the participatory process
- Iterative activities during and after the participatory process

Preparation of the participatory process

- Creation of the art direction steering team of the participatory process: "ADRIACLIM Participation Team".
- Sharing and agreeing objectives and methods with the Participation team.
- Identification and selection of the stakeholders to be invited in the participatory process.
- Preparation of the contents, questions and topics covered by the participatory discussion.
- Selection of participatory methods and working tools for online workshops.
- Preparation of operational work schedules to perform the participatory events (Storyboard).
- Training of the participation team, job descriptions and simulations of the methods and laboratories used.
- Selection of questions for surveys.

- Selection of themes and methods of collecting ideas and proposals for actions for the workshops on visions and actions, with the creation of specific visualization tools on Miro.
- Cold run of participatory workshops and info-days to check all details and adapt the process to last minute requirements.

Implementation of the participatory process

- First Semester:
  - Online Info-day workshop with facilitation and moderation of interventions and interactive surveys.
  - Workshop on the cognitive framework with moderation of interventions and facilitation of working groups on future visions.
  - Territorial laboratories for the four provinces of the coast to collect proposals regarding critical issues and solutions relating to coastal maintenance, sediment management, the use of beaches even in autumn, winter and spring and future governance among coastal stakeholders.
  - Participatory “follow-up, comparison and integration” workshop to integrate the results from all participatory territorial labs, refine the strategies, identify actions, interventions and future priorities.
- Second Semester:
  - Pilot consultation and survey with key stakeholders on the main actions envisaged by the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) strategy.
  - Participatory workshop to report back and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) Strategy with the stakeholders from the Emilia-Romagna coast, on the 16th of November 2021. This new Intermediate workshop has been added for updates on the knowledge framework and the coastal strategy and to demonstrate how the results of the participatory process have been included in the strategy. It has been performed in the fall 2021 to involve the same stakeholders that have participated in the previous phases.

Iterative activities during and after the participatory process

- Creation of instant reports that have been collected in a single incremental report with all workshop results in the first semester.
- Creation of a report of the participatory workshop of the 16th of November 2021 within the second semester.
- Preparatory activities in view of the migration of the "What will the coast be like?" participatory square from “IoPartecipo+” to the new Decidim-based advanced participatory platform for the animation and engagement of stakeholders from the coastline. The new participatory tool substituting “IoPartecipo+” will be called “PartecipAzioni” and will be launched in the beginning of 2022 to share again videos, news, reports and polls.

Activities planned in the next steps

- “Info Day” closing meeting on the results of the participatory process and presentation of the strategy. This event envisages a broad participation from all decision makers and stakeholders involved in the implementation of the GIDAC strategy.
- Technical / operational support for online communication / participation and "virtual square" animation on the “PartecipAzioni” regional platform.

The table below describes the main steps and timing of the participatory process.

Main steps and activities of the participatory process of the Emilia-Romagna Region.

Activity	Timing
Support and advice to the Regional Working Group. Creation of a dedicated regional working group "AdriaClim Participatory Team" with the technical support of professional facilitators from FUTOUR.	From December 2021 and for the whole duration of the project
Context analysis and **stakeholders mapping**.	From December 2021 with adaptations throughout the project
AdriaClim "info day", opening and information meeting on the GIDAC Coastline strategy and to describe the participatory process. This event involved over 180 stakeolders from the whole Region	23rd of April at 10.00-13.00 Online, interactive webinar
"Knowledge framework" and "Vision making" participatory workshop for about 60 stakeholders from the whole coastline.	4th of May at 10.00-13.00 Online workshop
Participatory territorial "Action planning" workshop in the Rimini area for about 15-20 local stakeholders.	6th of May at 10.00-13.00 Online workshop
Participatory territorial "Action planning" workshop in the Cesena-Cesenatico area for about 15-20 local stakeholders.	11th of May at 10.00-13.00, Online workshop
Participatory territorial "Action planning" workshop in the Ravenna-Cervia area for about 15-20 local stakeholder	13th of May at 10.00-13.00 Online workshop
Participatory territorial "Action planning" workshop in the Comacchio-Goro area for about 15-20 local stakeholders.	18th of May at 14.30-17.30 Online workshop
Participatory "follow-up, comparison and integration" workshop for about 60 stakeholders from the whole coastline. The workshop was perfomed to integrate the results from all participatory territorial labs, refine the strategies, identify actions, interventions and priorities.	27th of May at 10.00-13.00. Online interactive webinar/workshop
Intermediate participatory workshop for updates on the knowledge framework and the coastal strategy and on how the results of the participatory process have been included in the strategy. The meeting involved 40 stakeholders from the entire coastline.	Performed on the 16th of November At 10.00-13.00. Online webinar
"Info Day" closing meeting on the results of the participatory process and presentation of the strategy. This event envisages a broad participation from all decision makers and stakeholders involved in the implementation of the GIDAC strategy.	Planned in the Spring of 2022 Online interactive webinar
Technical / operational support for online communication / participation and "virtual square" animation on the "IoPartecipo+" regional platform (active again in 2022 and renamed PartecipAzioni")	From January 2021, for the whole duration of the project.

Stakeholders involved

In each of the participatory workshops, several representatives of local stakeholders took part in the process. The list below describes the organizations, associations and other stakeholders who effectively took part in the workshops:

- Regional Agency for the territorial safety and civil protection - territorial services for the Provinces of Rimini, Forlì-Cesena, Ravenna and Ferrara.
- ARPA Veneto.
- ARPAE.
- ART-ER.
- Beachmed association.
- CNA association (SMEs).
- Carabinieri police service on biodiversity.
- CESB Lidi Estensi e Spina.
- CNA Emilia-Romagna Region.
- CNA on the touristic and beach sector of Ferrara.
- CNR - National Research Council ISMAR.
- Municipality - Comune di Bellaria Igea Marina.
- Municipality - Comune di Cattolica.
- Municipality - Comune di Cervia.
- Municipality - Comune di Cesenatico.
- Municipality - Comune di Comacchio.
- Municipality - Comune di Misano Adriatico.
- Municipality - Comune di Ravenna.
- Municipality - Comune di Riccione.
- Municipality - Comune di Rimini.
- Municipality - Comune di San Mauro Pascoli.
- Trade association of the shopkeepers - Confesercenti Ravenna Cesena.
- Reclaim consortia - Consorzio di Bonifica della Romagna.
- Cooperativa Bagnini di Riccione.
- Delta 2000 soc.cons. PA.
- ISPRA.
- Trade association - Legacoop Romagna.
- Environmental association – Legambiente.
- Environmental association - Legambiente circolo Delta Po.
- Environmental association - Legambiente Forlì Cesena.
- Environmental association - Legambiente Ravenna.
- National natural park - Parco del Delta del Po.
- Province - Provincia di Rimini.
- Regional service - Regione Emilia-Romagna.
- Regional service - Regione Emilia-Romagna Servizio Difesa del Suolo, della Costa e Bonifica.
- Regional service - Regione Emilia-Romagna - Servizio Geologico, Sismico e dei Suoli.
- Municipal consortium - Unione Rubicone e Mare.
- University - Università degli Studi di Bologna.
- University - Università degli Studi di Ferrara - Dipartimento di Architettura.
- University - Università degli Studi di Ferrara - Dipartimento di Fisica e Scienze della Terra.

The organisations and participants were chosen and involved as a result of the **stakeholder map** that was created in the initial part of the process. The **stakeholder map** was created through participatory meetings and through asynchronous activities where the participation team performed outreach activities, searched and proposed specific organisations and names in a shared table.

The table that was created to map the stakeholders has a series of fields that have been filled in with the participation team for each of the four provinces of the coast.

In the creation of the map of the stakeholders of the participatory path the team concentrated on the following key players for each territory:

- Municipal Administrations:
  - Mayors and councilors;
  - Municipal contacts Office / Contact person for beach and / or state property management and / or LLPP and / or environment;
  - Office and contact person for the Arenile Plan and Urban Planning;
  - SECAP municipal contact person: Energy, Sustainability and Climate Plan;
- Provincial Administrations:
  - Planning office;
  - Territorial policies area;
- Emilia Romagna Region and agencies
  - Soil, Coastal and Reclamation Defense Service;
  - Reorganisation service, Institutional Development and Territorial, Participation;
  - Urban Planning, Transport, Landscape Service;
  - Mobility, Logistics and Water Transport Services;

    - Impact Assessment and Environmental Sustainability Promotion Service;
    - Tourism, Commerce and Sport Service;
    - Sustainable Agriculture Service;
    - Geological, Seismic and Soil Service;
    - Service of Protected Areas, Forests, Mountain Development;
    - Water, Air and Physical Agents Protection and Remediation Service;
    - Legal Service for the Environment, Waste, Cont. Site Remediation, Environmental Public Services;
    - Technical Policy and Civil Protection Service;
    - European Policy Coordination Service;
    - Tourism, Commerce and Sport Service
    - Service for Wildlife Activities, Hunting and Fishing;
    - ARPAE; IdroMeteoClima, Coastal Monitoring Unit;
- Italian Regions
    - Veneto;
    - Toscana;
    - Sicilia;
    - Puglia;
    - Sardegna;
    - Molise;
    - Abruzzo;
    - Marche;
    - Lazio;
    - Liguria;
    - Campania;
    - Basilicata;
    - Friuli Venezia-Giulia;
- Po River Basin Authority.
    - AdBPo-PGRA Coast and Sediment Management;
    - AdBPo-District Planning;
- Ministry of the Environment;
- Land reclamation consortia;
- Coast Guard;
- Carabinieri police for the environment and forestry;
- Representatives of bathing associations;
- Representatives of fishermen associations;
- Representatives of Hoteliers / Restaurateurs Associations;
- Others:
    - Trade associations;
    - Environmental associations;
    - Professionals and consultants;
    - LAG Local Activity Groups (GAL in Italian);
    - Natural Parks;
- Universities, educational and research centers:
    - University of Ferrara;
    - University of Bologna;
    - CNR ISMAR;
    - CEAS;

Participatory techniques and tools

Working steps and method

The team has adopted iterative working methods based on continuous improvement and adaptation of processes to the needs of the participatory activities. This approach has made it possible to customize each phase of the process and has stimulated a strong professional growth for all members of the participation team as protagonists in all its phases: analysis, planning, facilitation, synthesis and connection between their different disciplines (eg. climatology, geology, urban planning, governance, participation, coastline and flood management, civil protection, and so on).

- A structured and shared table was prepared for **stakeholder mapping** and shared on the drive of the Participation Team so as to support a collaborative mapping activity; the types of stakeholders were also indicated in the organizational draft programme of the launch InfoDay.
- **For the "InfoDay" online launch of the participatory process and integrated coastline strategy**, the operational storyboard was drawn up and all steps were rehearsed by the members of the team involved as spokespersons.
- **"Knowledge Framework" and "Future Vision" participatory workshop for about 60 participants.** For this workshop, the first phase of "Vision Making" of the EASW method (European Awareness

Scenario Workshop) has been adopted, dividing the stakeholders by interest groups and asking them to imagine a vision of the future of the Coast in nearly 30 years from now. The salient elements of this first participatory workshop "Knowledge Framework" and "Future Vision" are:

- Share the cognitive picture, collect further information elements.
- Develop a future vision of the coast: "How do you imagine the coast in 2031"
  - Negative vision
  - Positive vision
  - Creation of common ground: “common ground” on which to subsequently build local and more general actions.

- The meeting took place entirely online with digital video conferencing platforms suitable for interactive participation (VideoFacilitator), tools to collect ideas and display them (Mentimeter, Miro and Jamboard). Participants, divided into homogeneous interest subgroups of 6-7 people, are asked to express their negative view first and then the positive view.

- **Four territorial participatory workshops "Actions" for coastal sectors, involving 15-20 participants each.** A workshop for each of the coastal sectors: Ferrara, Ravenna, Forlì-Cesena, Rimini. For this type of in-depth activity and action planning, the online facilitation process was based on the MIRO digital tool for the visualization, collection and harmonisation of ideas. The goal of each Action planning workshop was to focus on three main aspects:
  - Structural interventions, medium- and long-term actions and projects.
  - Beach and coast management rules and good practices.
  - Governance, Technical Coordination Committee, for the defense and management of the coast: to ensure that beyond the participatory process in the strict sense, the foundations are laid for:
    - A continuous activity of comparison between coastal municipalities and category associations.
    - Awareness on what each one or other does and so as to have coordinated and synergic actions.
    - Avoid having interventions that are disconnected or not coordinated with each other.
- **A participatory workshop "Comparison and Integration”, involving about 60 participants.** The aim of this workshop was to summarise the results of the laboratories of the Ferrara, Ravenna, Cesena and Rimini coast to share, harmonize and refine the proposals for their assimilation into the GIDAC Strategy. The working method was that of listening, selection, evaluation, convergence of the proposals to move from the actions that emerged selected according to the priorities of each territory to develop integrated and shared proposals. This meeting also served to prepare the presentation to be made to other regional stakeholders and policy makers in the follow-up intermediate and final "Info Day" meetings. In this session, decision making methodologies and retrospective analysis as well as participatory polling systems with scales be used to adjust the shot and further improve proposals and actions, as per Innovation Camp and EASW.
- **Pilot consultation and survey with key stakeholders (from October to November 2021)** on the main actions envisaged by the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) strategy. This new pilot activity involved using a google forms survey where the main actions envisaged by the GIDAC were divided into sections and participants could provide feedback. This was performed as a preliminary activity in view of the future use of the Decidim based e-participatory platform adopted by the Region to support consultations on all forms of participatory processes. This platform will be adopted in the beginning of 2022. This pilot

consultation activity was not envisaged in the plan and was added as a way to engage more stakeholders in the future.

- **Participatory workshop** to report back and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) Strategy with the stakeholders from the Emilia-Romagna coast, on the 16th of November 2021. This new Intermediate workshop has been added for updates on the knowledge framework and the coastal strategy and to demonstrate how the results of the participatory process have been included in the strategy. It has been performed in the fall 2021 to involve the same stakeholders that have participated in the previous phases.
- **Final "info day" meeting** on the results of the participatory process and presentation of the Strategy.
- **Opening of a "virtual square"** dedicated to the participatory path on the regional platform IoPartecipo+. This includes communication, management and animation of the square along the entire participatory process (collection of documentation, exchanges and interaction with stakeholders, insights, communications, etc.). During the project, from the second semester this technical / operational support for online communication / participation and "virtual square" animation has undergone a transformation to migrate to the "PartecipAzioni" regional platform that will be opened in the beginning of 2022.

More specifically, the participatory process "What will the coastline be like?" adopted a **mix of facilitation processes and online tools**. The main two approaches that were used were the following:

- For the **knowledge framework and vision making process** the method that was adopted was that of the vision making
- For the **territorial action labs**, the main method that was adopted was the Safari.

The first interactive lab used the **vision making method**. Participants were asked to imagine that a time machine could bring them in the year 2050, nearly 30 years from now and to describe initially a negative, catastrophic vision, then a very positive, absolutely ideal one. The participants were distributed in breakout groups each one supported by a facilitator from the participator team. This led to the creation of a list of positive and negative visions of the year 2050 that could help to identify both potential barriers and threats and possible objectives and outcomes for the actions (see the section on the future visions below).

The interactive workshop on the **actions** of the participatory path "What will the coast be?" has adopted the methodology of the **"Safari Workshop", or "Safari of Knowledge"**.

In this method participants were asked to contribute with ideas, insights and reflections on the following three themes:

1. Interventions, solutions and adaptations of the coastal strip to the expected and current effects of climate change
2. Solutions for the management and maintenance of the beach, and evaluations on the possibilities and perspectives of a seasonal adjustment of its use.
3. Shared working method for coastal management by the competent authorities and local stakeholders.

The participants in the workshops were organized into small groups and heterogeneous in composition: each group was made up of a distribution of subjects belonging to different categories of stakeholders

(trade associations, local administrations, universities and research, etc.), to guarantee a plurality of points of view in collecting thematic contributions.

Each thematic group was supported by a professional facilitator (from the FUTOUR company) and by experts selected from the work team with the role of coordinating the discussion on the specific topic. These experts with the role of "conductors" have "visited" one group of stakeholders at a time, bringing their themes on canvases and whiteboards with post-its, sharing the challenges to be faced and collecting different ideas and suggestions from each group of participants.

With the Safari method, the ideas collected by each group are shared, enriched, refined and selected incrementally: in each workshop, the goal is to make each stakeholder group contribute to all the issues addressed at the individual stakeholder breakout groups. In this specific case, the groups were asked to speak on the issues of two out of three thematic groups.

- Thematic group A relating to the “Intervention and adaptation solutions of the coastal strip with reference to the actual and expected effects of climate change.”
- Thematic group B relating to “Beach and sediment management and fruition of the beaches all year round”.
- Thematic group C relating to the shared collaboration method for coastal management.

The process of the Knowledge Safari was therefore incremental for two of the three thematic work groups (each participant adds and builds new ideas on the basis of those who preceded him) and iterative (in each territorial workshop the method and tools are further refined to strengthen the cognitive picture).

Accessibility to the documentation

The participatory process “What will the coastline be like?” has guaranteed a total accessibility to all the documentation that was produced in all possible formats: reports, slide presentations, videos, polls, news.

Throughout the participatory process all stakeholders, even the ones that did not attend directly the info-day or workshops, could follow every step and be updated almost instantly thanks to the virtual square.

- Every event was video-recorded, and a timeline was placed to be able to select and follow specific interventions of the speakers.
- Immediately after every event all participants and people who had registered in the virtual square “What will the coastline be like?” received a notification that all presentations, videos and pollings had been uploaded and could be consulted.
- A newsletter was sent to participants and published on the virtual square every time there were some relevant news on the topics of the AdriaClim participatory process.

The Virtual Piazza “What will the coastline be like?” is accessible for the whole duration of the process and all contents are in Italian: https://partecipazione.regione.emilia-romagna.it/che-costa-sara. In the second semester the Virtual Piazza underwent a total change of platform to use a more participatory tool called Decidim that allows people to make proposals, vote them, amend documents and so on. In the second semester there have been both training and design sessions to adapt and migrate from the former virtual piazza called “IoPartecipo+” to the new one called “**PartecipAzioni**”. All the material that was created and stored in the former system is being moved in the new one so as to allow everyone to have access to the documentation.

What are the conditions now

The Emilia-Romagna coast is characterized by a low and almost continuous sandy beaches, with wide from a few meters to over 200 m, stretches without beach, such as inside the Sacca di Goro or in some stretches subject to strong erosion, between the mouth of the Po di Goro, on the border with the Veneto Region, and the mouth of the Torrente Tavollo, between Cattolica and Gabicce, on the border with the Marche Region.

Behind the coastal system there are, in particular in the northern sector of Ravenna and Ferrara, vast reclaimed territories, with altitudes below sea level, partly occupied by humid areas of high naturalistic importance. On the other hand, a greater anthropization characterizes the southern part of the Cesena and Rimini areas, which presents widespread urbanization and infrastructures and various natural and anthropogenic processes on a basin and local scale.

As a whole, it is a highly vulnerable area and a high risk for the natural systems, settlements and human activities present in a concentrated and widespread way. The causes of vulnerability common to the entire regional coastal territory, such as the low depth of the seabed, the low altitude of the coast, the phenomenon of subsidence, the limited circulation of the Adriatic, the influence of the Po river flows and the quantity and quality of local fluvial inputs, are added, to a greater extent in the southern sector, the anthropogenic pressures linked to the intense urbanization, infrastructures and marine-coastal tourist use of the territory.

The resident population in the coastal strip, about 500,000 inhabitants, constitutes 11.2% of the resident population in the entire Region. The population density in the 14 coastal municipalities, with an already high average value of 332.21 inhab/km^2 if taken as a whole, is characterized by a distribution that also reflects the settlement system, more concentrated and almost continuous in the central and southern sectors, where develops the so-called "Linear City of the Coast", with population density values ranging from about 575 inhab/km^2 of the Municipality of Cesenatico, to over 2,860 inhab/km^2 of the Municipality of Cattolica, unlike the northern sector, with a very more discontinuous and with a population density ranging from a minimum of about 68 inhab/km^2 in the Municipality of Codigoro, to approximately 350 inhab/km^2 in the Municipality of Cervia.

To the already considerable pressure of the population residing on the coastal territory, we must add that of the over 40 million “tourist presences” which, in the past pre-covid bathing seasons, are normally registered every year in the “Riviera System”.

Which future we see for this area

After the presentation of the current knowledge framework, as part of the opening of the participatory process, the territorial working groups were involved in a first participatory workshop, in which participants were asked to express their contributions regarding the "visions" of the coast projected to 2050, both in negative terms ("... all went very badly ... "), and in positive terms (" ... everything went extremely well ... "). Below is a summary of the ideas that emerged.

Shared Negative Visions of the Coast in 2050

- Abandonment of the territory, depopulation and migration to the hinterland.
- Erosion of the coast with loss of the tourist economy and uses of the sea such as fishing and aquaculture.
- Destruction of natural habitats, loss of biodiversity (animal and plant species). Loss of ecosystem services rendered by the coastal system.
- Social aspects. Poverty. Loss of hope, work.
- Impacting and invasive works that distort the coastal landscape.
- Inability and slowness in public and private actions.
- Difficulty in continuously managing the emergency. Inability to think in terms of complexity.

- Impact on upstream river systems. Greater flood risks.
- Risks to public health.

Shared Positive Visions of the Coast in 2050

- Restoration and reconstruction of dunes and other habitats. Leave room for marine dynamics to unfold. Reintroduction of plant and animal species with the use of funds.
- Diffusion of climate awareness and awareness in the PA, businesses and citizens of coastal dynamics and related behaviors / actions. Changes are expected, we know when and when.
- Sustainable, green and seasonally adjusted tourism.
- Integration of erosion reduction works that can diversify the marine environment.
- Platform conversion.
- Renewable energies: 100% of the coast is served by renewable energies.
- Relocations and setbacks to have safe areas and tourist beaches ("one step behind").
- Much more collaboration between public and private. Collaborative, multidisciplinary and multilevel governance.
- Sustainable mobility. Coastal strip for slow mobility.
- Management of river basins and waterways as an element of connection with the hinterland.
- Embankments lived and manned.
- Integration between inland and coastal areas.
- Planning and synergy of the use of the sea and sustainable use of resources.

The negative and positive visions identified long term obstacles/threats and objectives/outcomes that participants could work on within the local action labs.

Synthesis of the participatory processes and their outcomes by Pilot Sites

As one could see from the stakeholder mapping exercise and list of participants the local pilot actions involved very qualified and representative stakeholders, enriching the quality, outputs and outcomes of the process.

While the opening infoday, a webinar based on a series of presentations and polling sessions, involved over 180 participants, a total of 81 people attended the interactive online participatory workshops both for the plenary openings and closing and for the specific action planning labs that took place in the provinces:

- Forlì-Cesena, 14
- Ferrara, 26
- Ravenna, 22
- Rimini, 19

The graphs in Figure 5 show the distribution of participants per category in the four provincial action planning workshops.

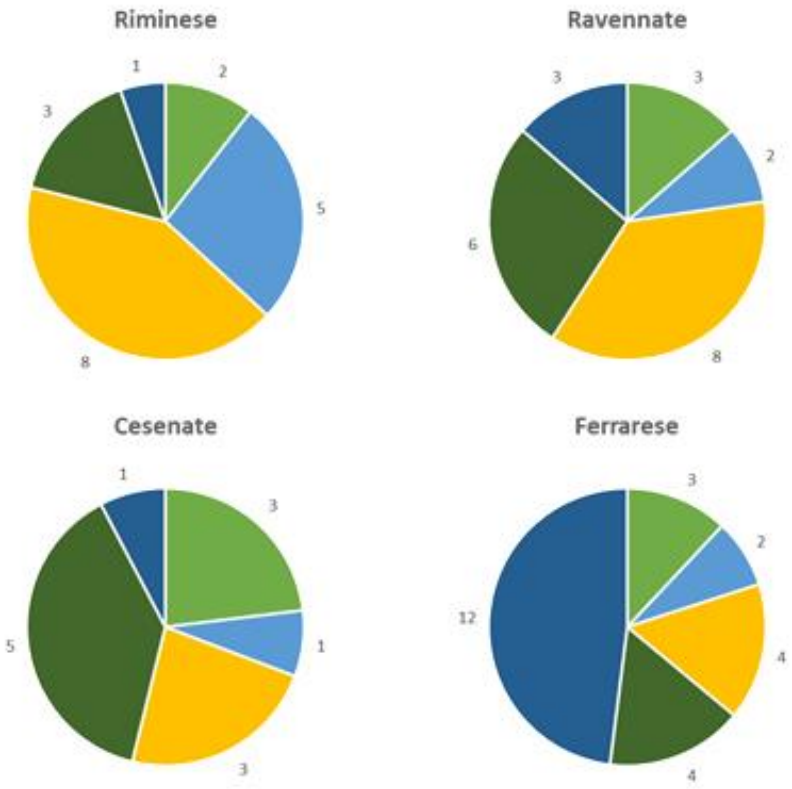


Figure 5. Distribution of participants according to the categories in the four territorial workshops.

Legenda to Figure 5:

- Light green: environmental and territorial associations.
- Light blue: Trade associations, cooperatives and companies.
- Yellow: Municipalities and other territorial institutions.
- Dark green: Emilia-Romagna Region and regional agencies:
- Dark blue: Universities and research organizations.

In this section we describe the outcomes of the participatory process. The results of the action planning workshops based on the Safari method are summarised for each theme addressed by the stakeholders with the support of the thematic experts from the Emilia-Romagna Region and facilitators. The three thematic groups of the Action planning workshops were:

- Thematic group A relating to the "Intervention and adaptation solutions of the coastal strip with reference to the actual and expected effects of climate change."
- Thematic group B relating to "Beach and sediment management and fruition of the beaches all year round".
- Thematic group C relating to the shared collaboration method for coastal management.

Here follow the summaries for each thematic group.

Thematic group A: "Intervention and adaptation solutions of the coastal strip with reference to the actual and expected effects of climate change".

The interventions and adaptation solutions of the coastal strip were related to four provincial areas, but the summary harmonises them to both identify synergies and to adopt specific place-based solutions where needed.

Method adopted for thematic group A

The first part of the action planning workshop that led to the synthesis and outcomes included a presentation by experts from the Area Services of the Regional Agency for Territorial Security and Civil Protection of Emilia-Romagna on the situation and criticalities on stretches of the coast of the four provinces with particular reference the current and expected effects of climate change, such as the rise in the sea level and the increase in the frequency, severity and duration of storm and high water events and therefore problems related to marine ingression and coastal erosion

Considering these presentations, the participants at this thematic group were asked to identify other critical issues affecting the area, to comment on those discussed and to propose specific solutions. Finally, they were asked to define which of the proposed solutions could also be considered in the long term.

To underline the importance of indicating critical issues and finding **specific solutions for the area**, each table worked on the cartography of the coastal stretches to which each workshop was dedicated (Figure 6).

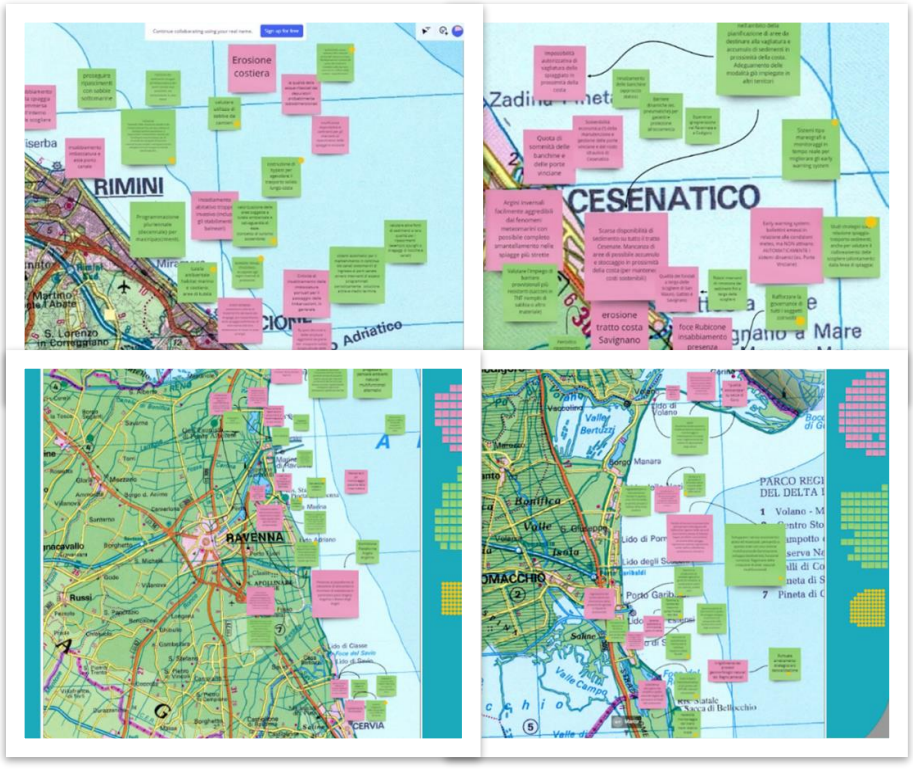


Figure 6. Examples of the maps used by the thematic group on "Intervention and adaptation solutions" for the four coastal provinces.

Synthesis of the key emerging aspects for the coastal strips in the four provinces.

The participants at the thematic groups in the various territories, identified and discussed some characteristics and criticalities of the overall coastline territory that make it **vulnerable** to the impacts of climate change and the **dangers** associated with the action of the sea: the **altitude with respect to the sea**

level, the presence of **urbanized, built and natural areas** in areas **exposed** to danger, and the characteristics of the beaches that make them **erodible**, determining the need for **continuous management of sediments** along the coast.
The various stakeholders contributed, thanks to their **experience in the area** and their **professional skills**, promptly indicating some **specific situations** regarding the phenomena in progress (see the lists of **criticalities** and **solutions** in the various territorial areas in the report in Italian).
Among the most felt critical issues, transversal to all territorial areas and working maps, those related to **coastal erosion** phenomena, the **low supply of sediments from waterways** and the consequent **limited availability of sands for sand replenishment interventions** to keep the beaches at a normal state, were highlighted by all stakeholders. At the same time, critical issues related to the **management of sediments** in the **port area** and the **alterations** of transport along the coast, because of **the rigid infrastructures and works**, were reported in all the areas.
In this sense, it emerged that it would be appropriate to **rethink the defensive system**, realigning, removing the rigid works and possibly restoring the functionality of the existing ones. This urgency is generated both by the fact that the works are often **no longer adequate** for the purpose, and because they themselves become the **source of other problems** (e.g., poor water circulation, etc.).

"Hot" issues were also found to be **subsidence**, specifically in some areas, and, more generally, the **inadequacy of the territory's height above the sea level**, with respect to marine ingression phenomena in the current conditions and, even more so, in those where this can be expected to happen due to climate changes.
Another recurring and transversal criticality is that relating to the **excessive anthropogenic load** on the coastal strip, with a **dense and intrusive urbanization** that leaves few free spaces and makes the **territory inflexible**. This general **tightening** limits the possibilities of adaptation to environmental conditions in continuous and rapid evolution, already particularly critical today, but which foresee an aggravation in the scenarios of expected climate change.
Again, the criticality of the **salinization of soils and inland waters** is recurrent, with concern for the consequent transformation of land and natural habitats, with the risk of **loss of agricultural production and biodiversity**.
Finally, criticalities emerged regarding the difficulties or **impossibility of guaranteeing** in the medium (but also short term) the conditions of **ecological functionality of coastal natural systems**, such as lagoons, pine forests, dunes, etc.

Recommendations and conclusions
Among the most significant and innovative elements reported by the participants, the request for **innovative solutions to reduce erosion** is certainly worth noting (for example with submerged permeable barriers) and consequently reduce the need for sand replenishment interventions.
Furthermore, the need to envisage coastal territory planning actions in the medium term that can favor greater adaptation to different environmental conditions, i.e., a **planned retreat** and the return of **flexibility** for the territory, re-naturalizing excessively occupied areas. For example: the creation of new natural environments in inland areas, the relocation of some activities and infrastructures that have an **excessive exposure to risk** or for which an effective defense cannot be foreseen in the long term. In fact, there are elements on the territory exposed to danger for which r**ealistically there are no effective defense methods**, except in the very short term.

In addition, the following are also worthy of note:

1. the need to favor the **influx of sediments** from waterways through a remobilization of sediments in the river basins.

2. the reduction or blocking, where possible, of the issue of new **concessions for the exploitation of hydrocarbons** to mitigate the risk associated with **subsidence**.
3. the reconstruction, where possible, of the **dune belt**.

In terms of policies, the most relevant need that emerged from the thematic group is to provide for a broader **programming of economic resources for coastal defense** (medium and long term), therefore beyond the ordinary three-year period, and above all to **eliminate uncertainty**, recurring with respect to the **financing** of the interventions.

Further indications concern the **choices of territorial and urban planning** that must favor the reduction of the stiffening that characterizes the coastal territory, providing for the relocation of exposed elements that are no longer defensible and, where possible, favoring a **planned retreat**.

Other recommendations concern the promotion of policies aimed at increasing the use of **renewable energies** in the coastal area (a "zero impact coast") and supporting **actions to adapt to productive activities** (agriculture, tourism-seaside sector, etc.) to the changed environmental conditions, such as: cultivation transformations, destination of agricultural areas to natural coastal areas, redevelopment and raising of the quotas of bathing establishments.

Thematic group B: “Beach and sediment management and fruition of the beaches all year round”.

Method adopted for thematic group B

This thematic group worked on two sub-themes:

1. the management of beaches and sediment resources internal and external to the coastal system;
2. shared methods rules for the fruition of the beaches also in other seasons besides the bathing, summer season.

Sub-Theme 1: management of beaches and beach sediments and sediment resources internal and external to the coastal system

In this theme, the participants reflected on the indications extracted from the "National Guidelines for the Defense of Coasts from Erosion and the Effects of Climate Change" developed by the National Table on Coastal Erosion - TNEC.

A selection of the main indications on the use of sediments taken from these Guidelines was presented to the participants by the facilitators and thematic experts. Each indication was written on a repositionable virtual sticky note.

Together, the participants discussed one indication at a time and, using a table with three columns, to establish their position relative to that indication in terms of MUST - SHOULD - CAN

- MUST: mandatory, necessary, critical solutions for the activity.
- SHOULD: strongly recommended solutions, advisable.
- CAN: optional but definitely useful solutions.

e.g.: an indication from the Guidelines stated: "Prohibit the use of the sands of the shoreline and / or in front of the imposition line of the embankments". Do you think this measure **must** (absolutely), **should** (hopefully) or **could** only be implemented?

Participants were also invited to provide any comments and give their motivation on a canvas table including the three alternative choices (see the example in Italian on Figure 7).

Figure 7. Table "MUST-SHOURL-CAN" to evaluate the opinion of the participants with respect to the "National Guidelines for the Defense of Coasts from Erosion and the Effects of Climate Change"

Sub-Theme 2: Shared methods rules for the fruition of the beaches also in other seasons besides the bathing, summer season.

In this theme, the participants freely discussed the issue of the "seasonal adjustment" for the fruition and use of the beach.

The discussion was structured so that participants could share their ideas, discuss and place them in a table that had three alternative quadrants answering the question "Is it necessary, desirable or possible to use the beaches also in other seasons in addition to the summer/bathing one?":

- **No, because?** Describing why the beach should not be used in other seasons.
- **Yes, because?** Describing why the beach could be used in other seasons.
- **Yes, How?** Describing under what conditions could we use the beach in other seasons.

The goal was therefore to collect the opinions on this issue from the various stakeholders invited to participate, each according to their own point of view. Furthermore, to establish together proposals for shared modalities and rules to reach, if desired, the seasonal adjustment of the use of the beach.

For each position expressed by the participants, where possible, it was also asked to specify the methods proposed for use ("Yes, how ..."). See an example of the interactive board used by the participants to propose ideas and solutions on the de-seasonalised use of beaches in Figure 8.

Figure 8. Canvas table on "No, because?", "Yes, because"? and "Yes, how?" relating to the theme of de-seasonalised use and fruition of the beaches.

Summary of the elements that emerged on the topic MANAGEMENT OF BEACHES AND RESOURCES OF SEDIMENTS

Common goals expressed

A strong **awareness of the importance of the sand resource has emerged**, which must be well managed and preserved in order to:

1. Ensure the **subsistence of the coastal-maritime economies** that depend on it, such as seaside tourism and aquaculture.
2. Guarantee the **subsistence of coastal ecosystems**, on which both the safety of the territories / inhabited areas behind the beach system and the life of numerous **species** and the maintenance of an adequate degree of **biodiversity** depend.
3. **Protect and reconstruct** the **system of coastal dunes**, for the functions that they perform of **protection** of the territories (from marine ingression, from the intrusion of the salt wedge, etc.), of **habitat** and preservation of **biodiversity**, very different from the functions of simple accumulations of sand (eg winter embankments) which are useful for the temporary defense of establishments and promenades.

Conclusions and recommendations

- **Feeding of beach systems and reduction of sediment losses.**
    - **All participants expressed the need to have homogeneous regulations on the regional territory** that includes indications to reduce sediment losses from the beach system and to favor the use of sands recovered from construction excavations and from other sources in the coastal area, for sand replenishment purposes in the beaches, the promotion of greater protection of existing coastal dunes and their reconstruction if they are no longer present. There is awareness of the importance of **sediments external to the system** (such as submarine sands and those from construction excavations) to ensure the supply of current beaches with "new resources" of sediments external to the coastal system.
    - Great attention is paid to the use of **sands from construction excavations**, a practice that is possible and regulated only in some municipalities. In all the working groups this indication was placed in the "**MUST**" (obligatory, necessary, of critical importance), but the need to **develop clear regulations, homogeneous on a regional scale**, also regarding the **analyzes** for their characterization.

- In general, the importance (MUST) of a correct chemical / physical characterization of the sediments brought in from outside emerges (**including submarine deposits**) and of the verification of compatibility of the target areas. Similarly, the planning of interventions at the regional scale is considered fundamental (MUST).
- The concept is acquired that **solid transport of sediments by rivers is minimal**, resulting in undernourishment of beaches. **Studies on hydrographic river basins are needed** on this issue and to evaluate actions to improve the transport of sediments useful for the natural sand filling of the beaches.
- **About solid transport, it emerged that experiments MUST/SHOULD be carried out to recover the sediment trapped by the hydraulic and damming works, also through by-pass techniques**, but on this we need to investigate, to avoid removals that may alter the stability of works or profile of watercourses.
- Regarding the use of **sediments from internal sources**, the debate among stakeholders was more articulated and some problems emerged. In the first place, it is thought that **authorization procedures MUST OR SHOULD be simplified**, **provided that an adequate information system is available**, and that decisions must in any case be assessed on a case-by-case basis. For the accumulations of the rear reef, there is greater perplexity also because in some areas those sites are intended for the breeding and collection of mussels. Also in this case, homogeneous procedures and regulations on a regional scale would be needed.

- **Beach cleaning operations, windbreak barriers and winter protection embankments**
  - **In all working groups, the indication on the screening and recovery of sediments in beach cleaning** operations was generally placed in the "**MUST**" field (mandatory, necessary, of critical importance). More than for the construction of the winter embankments, the importance of these sediments in preparing the beach bed before the start of the bathing season is emphasized. The sediment obtained from the screening, in fact, could be a bit heterogeneous to be used on the surface. Much also depends on the screening techniques. **A very relevant indication that emerged is to define a regulation that makes this practice possible everywhere (e.g., feasible in the General urban plans (PUG) and plans for the beaches (Piani arenile)). Currently in some places it is not practicable, there are no accumulation areas, and the sediments are taken to a landfill.**
  - Regarding the cleaning of the beaches, and in particular the practice of removing the **woody material**, there are different positions. The indication NOT to remove these residues, which act as a trap for sediments mobilized by the wind, has been placed in the "**CAN**" (optional, but certainly useful) as it is considered impractical on bathing beaches. There is a common understanding of the importance of applying this rule in the most natural areas ("**MUST**").
  - Regarding the **construction of the winter embankments**, **the use of sands from outside the beach system is especially recommended** ("**MUST**"). In fact, they would constitute an additional supply when flattening the winter embankments, in preparation for the summer season, rather than materials from the beach itself. However, greater preparation of the operators is needed to correctly implement this intervention, restoring a suitable share of the beach. The **ban on the use of shoreline sands** for the construction of the embankments themselves is instead indicated as a "**SHOULD**" (strongly recommended, advised), because now it represents a cheaper practice than procurement from external sources.
  - Regarding the use of **windbreak barriers**, to reduce the loss of sediment towards the hinterland, both **positive and negative aspects** emerge, among the latter the **visual impact**. **The need for greater knowledge and experimentation is emphasized to**

understand the real benefits and possible applications in different cases and local conditions.

Summary of the elements that emerged on the topic USE OF BEACHES ALSO IN OTHER SEASONS THAN THE BATHING ONE

Common goals expressed

A general favorable position has emerged for the use of beaches in the winter season because it is believed that de-seasonalization can lead to further economic development and use of the coastal system and a reduction in pressure in the summer period. However, precise indications and precautions are needed for what it concerns the environmental aspects and the safety of citizens.

The use of the beach and the back beach (pine forests, parks, urban areas) for sporting and recreational purposes and to raise the awareness on the coastal environments in their essence is generally welcomed. Therefore, according to participants: “Yes to a seaside city that lives 12 months a year”.

Tips, recommendations

The importance of creating a 'culture of the coastal environment' is strongly emphasized, which is not just a space intended for bathing and which must be properly cared for and protected. This would also favor the control of these areas and a greater liveliness of the coastal urban centers otherwise deserted in some seasons.

Finally, the importance of:

- do not allow the construction of new plants or infrastructures,
- **guarantee the safety of people** by verifying the feasibility of the initiatives based on the issued weather forecasts and alerts,
- all activities are organized in such a way as to **respect the environment and coastal morphologies** and, especially during the periods of **reproduction of the protected species**.

Thematic group C: Shared collaboration method for coastal management.

Method adopted for thematic group B

This thematic group focused on the definition of a working method shared between entities and stakeholders for a more rational planning and governance of human activities, coastal management and interventions on the coastal strip. This was performed with a view to implementing the strategy for Integrated Defense Management and Coastal Adaptation (GIDAC) in relation to the effects of climate change.

In this thematic group at each provincial action planning meeting new ideas have been added and new approaches and methods have been integrated or proposed on the basis of previous meetings. This incremental method made it possible to refine and strengthen the picture that emerged at each previous workshop. Figure 9 below describes an example of the canvas in Italian that was used to discuss, brainstorm, cluster and agree on possible solutions for the future collaboration among stakeholders of the coast:

Below is a summary of the issues that emerged as a result of the four territorial workshops.

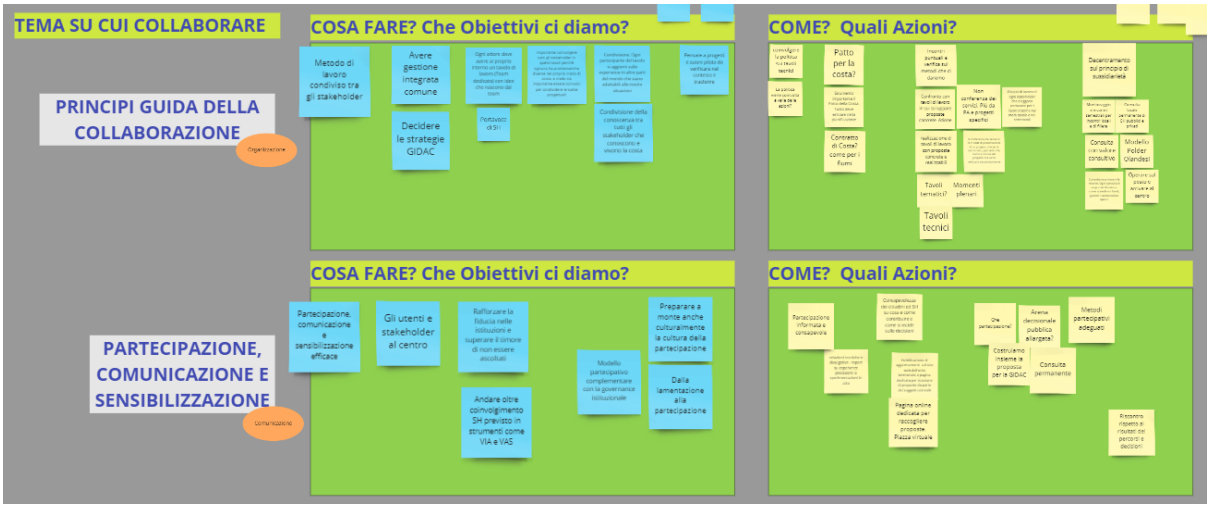


Figure 9. Table on the issues identified for collaboration between stakeholders referring to: "WHAT TO DO? What objectives to we agree on?" and "HOW TO DO THEM? Through what actions?"

To the question: "What can we do to give continuity to the collaboration for a better planning of interventions on the coastal strip?", participants were asked to answer, trying to define:

- WHAT TO DO, choosing on **which themes/objectives** to collaborate, and give continuity to the collaboration.
- HOW TO DO IT, choosing the **actions, tools and methodology** to collaborate for the shared governance method to manage the coastal strip.
- WHO TO INVOLVE, **identify the stakeholders and key actors** who should be involved in the future coastal adaptation strategy.

The main themes identified were:

- Guiding principles of collaboration and organization
- Participation, communication and awareness
- Adaptation strategies in the coastal strip
- Coastal re-naturalization projects
- Coastal defense and management
- Coastal water quality
- Technological innovation

Summary of the emerging principles

The thematic group that dealt with the issue of defining a **shared and collaborative working method** for coastal management focused on some key issues that have brought out **ambitious objectives** as well as proposals, both methodological and content, to achieve them.

Shared management of the coastal strip

- The desire that emerged in all the stakeholder working groups is the aspiration to an **integrated, participatory, multidisciplinary and shared management of the coastal strip**, in which all the identified "stakeholders" (up to the final beneficiary/users) can express their ideas as authoritative subjects, to be listened to and to speak in a useful way.
- **"WHAT"**

- The first assumption was in fact the maximum involvement of the **"territorial actors"**: not only the public administration and institutions traditionally involved in territorial decisions, but every type of interlocutor.
- The **multiplicity of voices** must first lead to a broader and deeper knowledge framework, where **everyone will contribute** with their own skills and experiences. Listening must be dedicated to the stakeholders from the sectors of **knowledge**, **culture** and **research**, with the awareness that, immediately, the decisions must necessarily **look** at least to the **medium and long term** and be as far-sighted as possible, because only with this perspective will it be possible achieve the **desired vision** for the coast.
- The participation of individuals with national and international experiences (not only local or regional) can also help **define pilot experiences and case studies** to be adapted to different territorial realities as good practices, with the aim of **defining an effective replicable model**. In this sense, the Emilia-Romagna Region is **rich in positive experiences**, which have the advantage of being already suited to the local context: **priority** should therefore be given to **good local practices**. A good example of collaboration between different economic stakeholders is that of the **Fishery Local Action Group (FLAGs)**: **Community Led Local Development (CLDD)** groups of local economic operators in aquaculture, fishing, seaside tourism, etc. organized under the **European Maritime and Fisheries Fund (EMFF) Operational Program 2021-2027**.
- It is also crucial for the true involvement of stakeholders that the **thematic discussion groups** are not only for **information and dissemination**, but also **proposing and guiding**.
- It is also necessary that each actor involved creates an internal working group, with a **specialized team** to work on these issues. The **multidisciplinary** nature of the participating subjects will make it possible to build a broad and detailed cognitive framework that will form the basis of a common strategy that is effective on different scales of intervention.

- **"HOW"**
  - To achieve these objectives, two different but interconnected solutions have been proposed:
    - Establish the **"Pact for the coast"** or **"Coastal Contract"** on the model of the River Contract, the in which all stakeholders **share a series of common objectives** for the future of the Emilia-Romagna coast, and, **through a synergistic and integrated action**, they contribute to elaborating an overall strategy, which is realized through actions (also sectorial but coordinated) to reach the established objectives. Also, in this case we imagine having to work with the principle of subsidiarity but having a great common vision in the background.
    - Establish "**Permanent Councils**" at the local level. These represent an advanced form of decentralization, with decision-making and spending capacity; they can monitor, maintain, manage and solve problems of a purely local scale in an effective and timely manner. The councils must be an instrument of participatory democracy that allows citizens to be part of the decision-making process together with public and private stakeholders.
    - In this perspective, the **plenary moments** and those of **"local" work on the field** alternate. In this hypothetical organization we work for technical and thematic tables which then, through spokespersons, find themselves **representing the requests** in plenary situations in which the **proposed choices** and the **proposed path** are verified, monitored and possibly corrected. As already pointed out, there must be room for co-design and therefore the true sharing of choices. Each

stakeholder contributes by enriching the framework of knowledge and bringing his requests and contribution.

Participation, awareness and communication

- In parallel, the various sessions enriched the question posed on how to participate, raise awareness and communicate with ideas.
- **"WHAT"**
  - The **objectives** in this case are **multiple** and primarily concern **raising awareness** of the **culture of participation** in order **to move from "lamentation" to participation**: this presupposes a growth in **trust** in institutions, overcoming **mistrust** among stakeholders (especially towards those perceived as "external" to the territory). In this sense, it is essential, as part of a participatory process, to **show that everyone is taken into consideration** and considered an important and reliable interlocutor and to build awareness that it is possible to be heard and to contribute.
  - This paradigm shift in the participatory process means **overcoming the usual practices of involvement** (the classic "consultations" and "observations" to plans and projects) **towards a more inclusive participatory model** that is **complementary to institutional governance**.
  - It is also noted that administrators find it hard to make choices that may immediately **turn out to be unpopular**. **Awareness** of the progressive **risks** inherent in climate change is not yet a sufficient engine for **prompt action**. Communication and awareness raising also has the objective of overcoming the inertia of citizens and decision-makers with respect to the urgency of action on adaptation to climate change: if a **good communication plan** would spread this awareness, political decision-makers could be more **far-sighted**, having the **support of stakeholders and all citizens**.
  - In any case, administrators should make their **decisions based on scientific data** and elements of knowledge (evidence-based decision making) and must be made **responsible for their decisions**: the choices should always be **attributable** to who made them, how and why, thus creating **leverage** to action.
  - Furthermore, for a more effective and proactive participation, it is important to ask **clear and simple questions** that the interlocutors can answer.
- "HOW"
  - The actions imagined with respect to these objectives concern above all the **definition of a common language** in which all the different interlocutors can recognize and share, the **"glossary of the coast"**.
  - Using this language, the Public Administration will be able to **spread knowledge and stimulate discussion** through:
    - Reports on previous experiences, experiments in progress, monitoring of the state of affairs.
    - Updates on the website of the local authority, giving account of the results of the participation and of the processes even in the small concrete outcomes.
    - "Virtual square" to receive proposals from local actors on simple platforms that can be used by anyone.
    - Dissemination of good practices, local and otherwise.

Updating and consulting with the stakeholders with the emerging GIDAC strategy and knowledge framework.

In the second semester the initial outputs of the participatory processes were analysed and transformed in a series of possible actions and measures that can form part of the updated knowledge framework of the Integrated management for Defence and Coastal adaptation GIDAC.

The two main activities performed in this period were:

1. a pilot stakeholder consultation on the GIDAC actions and;
2. the organisation of the participatory workshop to update participants on the GIDAC actions.

The pilot stakeholder consultation and survey (from October to November 2021) was performed to gather feedback from the stakeholders on the main actions envisaged by the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) strategy. This new pilot activity was performed with a google forms survey where the main actions envisaged by the GIDAC were divided into sections and participants could provide feedback. This was performed as a preliminary activity in view of the future use of the Decidim based e-participatory "PartecipAzioni" platform adopted by the Region to support consultations on all forms of participatory processes. This platform will be adopted in the beginning of 2022. This pilot consultation activity was not envisaged in the plan and was added as a way to engage more stakeholders in the future.

The participatory path carried out and represented up to now has made it possible to arrive at a first draft of the document of the GIDAC Strategy. This document presents a first articulation of adaptation actions, the formulation of which is also the result of the work carried out in interaction with stakeholders. The GIDAD actions themselves were subjected to an (online) survey of the same subjects in October 2021.
The survey received, at the time of the workshop (November 16, 2021) responses with contributions from Confcooperative Ferrara, Municipality of Cervia, CNR ISMAR, Ambiente Italia, Cooperativa Bagnini di Riccione.
The survey remained open online (https://forms.gle/ZNiGfsNsouHUJPBm9) until december to collect further suggestions and proposals until the transfer of the Piazza to the new regional PartecipAzioni portal (scheduled for the first quarter of 2022).

The online survey relating to the first proposal for actions to be formulated as part of the GIDAC Strategy required participants to express for each type of proposed action, by expressing any comments, observations or questions within the 2nd of November 2021. More specifically the participants were asked to evaluate each action according to a scale. In particular:

A. How do you evaluate the proposed action? (very important, important, less important)
B. What would you suggest for its implementation? That is, how to implement it and with which guidelines?

Furthermore, with respect to the proposed actions, participants were asked to indicate if something was missing in the proposed actions or if there are any other important actions to consider and how they would suggest implementing them.

Participatory interactive workshop to report back and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) Strategy with the stakeholders from the Emilia-Romagna coast. The workshop took place on the 16th of November 2021. This workshop provided updates on the knowledge framework and the coastal strategy showed how the results of the participatory process performed in the previous semester were incorporated into the coastal management strategy. The

participatory workshop was performed in the fall 2021 and involved the same stakeholders that participated in the previous phases.

We briefly summarise the main findings from the event of the 16th of November where the participation team and services of the Regione Emilia-Romagna presented the state of the art of the coastal strategy and next steps.

The initial part of the event described the **main guidelines and objectives** of the GIDAC strategy. This section was presented by Roberto Montanari of the Emilia-Romagna Region coastal defence service.

In the participatory event, the key elements of the AdriaClim project are initially taken up and summarised, in particular for the benefit of those new to the participatory path. Therefore, first of all, the general and specific objectives of the project were stated again.

- General objectives of the Interreg AdriaClim project:
  - improve the resilience of coastal systems to climate change;
  - plan for adaptation and develop mitigation strategies;
  - improve information about the climate of marine and coastal areas, making them more accurate, reliable and with higher resolution;

- Specific objectives of the Interreg AdriaClim project:
  - develop a marine-coastal risk management system;
  - develop an integrated tool for monitoring, forecasting and risk assessment;
  - produce knowledge for the benefit of Local Planning, reducing uncertainties;
  - support Strategic Planning;

Subsequently, the project path was described, in its various stages and development times, with a particular focus on the pilot activity in Emilia-Romagna and the "milestones" achieved and to be achieved in the next phases of the project). The phases and workshops of the Participatory Path for the development of the GIDAC Strategy of the Emilia-Romagna region are recalled: Opening InfoDay, participatory construction laboratory of Future Visions and initial knowledge framework, territorial workshops on local criticalities and solutions for coastal provinces, plenary workshop for comparison and integration of the elements that emerged. For instance, from the common visions between the stakeholders who participated, gathered thanks to the interaction methods, it was possible to formulate a "strategic vision" for the Emilia-Romagna coast:

- The coast of Emilia-Romagna: a safe, resilient and sustainable harbour
- An industrious place for people to meet and exchange, welcoming and safe, capable of adapting to climate change and combining development with environmental sustainability,
- a space reorganised in its functions of protection of the hinterland, economic, social, recreational, environmental,
- in its methods of access and use, use and management,
- rebalanced from an ecological point of view,
- lightened compared to the current load exerted by anthropogenic pressures.

A further update of the **knowledge framework** was presented with respect to the physical and ecological state of the coastal environment in Emilia-Romagna and the impacts attributable to climate change. The report addressed four issues:

- Classification: landscape, layout and use of the territory, historical and recent geological dynamics
- Risk phenomena: state of the art on phenomena indicators critical points future scenarios
- The defence system: state of the rigid works and of the nourishment interventions of the sand resources
- Strategic interventions for adaptation: census of redevelopment and / or adaptation interventions

In particular, four focuses were illustrated in this new reflection on the updated knowledge framework:

- Coastal indicators for risk management.
- Te risks, investigated from a territorial point of view, or by analysing 5 main critical areas:
    - Northern Ferrara beaches;
    - Reno mouth area;
    - Ravenna South Lidos;
    - Cesenatico Ponente and Valverde;
    - Riccione sud Misano.
- defence systems (with updates from the catalogues of defence works and nourishment);
- finally, a focus on redevelopment and / or protection interventions, with the results of the census of interventions currently underway or implemented.

Description of the **systemic actions, actions and interventions for adaptation, actions and maintenance and adaptation interventions**. The actions that currently make up the proposal that articulates the GIDAC Strategy were illustrated. These actions, as we have seen, have been organised into three main categories:

- Systemic actions. These actions are intended to "create a system", or to operate on the governance system of the coastal territory and for an overall and synergistic management of the coastal system.
- Actions and interventions for adaptation. These actions focus on adaptation, intended mainly as an increase in the resilience of the coastal strip with respect to the risks brought or exacerbated by climate change.
- Actions and maintenance and adaptation interventions. Finally, these actions aim to respond to the objective of adapting and maintaining the defence works and the beach system efficiently, for its territorial, economic, social and environmental protection functions.

The actions were presented by the speakers for each category, with details on their formulation and implementation.

The Emilia-Romagna Region intends to continue and further strengthen the participatory approach to the development of the GIDAC Strategy, as well as for other ongoing participatory processes and others that will be launched, and in this sense is preparing **a new portal dedicated to participation, developed on the platform "DECIDIM"** and at the same time the new Emilia-Romagna Participation Portal (with a migration from the current ioPartecipo + regional portal).

The Decidim platform is based on open source software and has a very active European community of developers. It has, among the new features, the possibility for citizens and stakeholders to make proposals, receive consent (or disagreement), vote on proposals, share them, etc. Users are at the centre: they choose what to participate in, receive information, can share their proposals, receive feedback for their commitment. From the first quarter of 2022, the first participatory processes will be online on the Decidim platform.

After the presentation of the GIDAC actions and the surveys commenting on the actions themselves, there was a further **participatory phase**. This had the aim to **collect opinions and comments to complete the main picture** of those already presented, or to answer the question "**Compared to the actions proposed so far, is something missing?"**, As had already been proposed in the preliminary survey (see paragraph Partial evaluation survey of the actions of the Strategy). The participants were divided into working groups facilitated by the project representatives.

The proposals of the working groups were then shared in the plenary session. The proposals that emerged are summarised here:

- On the subject of defence works at sea, it is proposed to also consider the experimentation of new technologies, solutions (e.g. different types of submerged permeable barriers) and "nature based solutions" (e.g. seagrass oceanica).
- Build a database for the exchange of sediment quotas and available excavated earth, accompanied by coordination between the municipalities of the coast to manage the exchanges (e.g. Flanders model).
- Involve citizens, and especially schools, in the choices of actions at the local level; organise information days to put 'small citizens' in contact with naturalistic associations.
- Solutions should include and involve the population, investigate social, health, risk acceptability, to decrease social and structural vulnerability in response to risks and events.
- The Pact for the coast could be an opportunity to communicate with citizens and operators living on the coast, create greater awareness and form a resilient community to face it is necessary to form a consultation with public and private subjects on the problems of coastal adaptation.
- the Pact for the Coast could also serve to form an organism that closely follows the actions and works.
- Experimental actions of new coastal defence systems (eg. Vmesh, reef ball, etc.).
- innovative defence interventions should be strengthened more; also think about "protected" nourishment interventions.
- Make the plans prepared, including for example SECAP, PUG, Territorial Plans, more coherent with each other and with the GIDAC Strategy.
- An overall review of the defence systems would be needed;
- The debate has focused on submarine deposits, for nourishment: are there still any? and if so, for how long? It is necessary to evaluate the sand system in a broader view and consider it as protection not only as temporary reservoirs.
- Deepen coastal defence experiments using rigid permeable soft barriers, so as to prolong the effects of the "project designers", given the limited availability of offshore sands.

Closing remarks on the experience, future implementation and transferability

The participatory process of the Emilia-Romagna Region involved all the key stakeholders of the coastline in an a very effective participatory process. The strong commitment and involvement of the internal key technical and political staff of the region ensured a strong ownership of the challenges, problems and possible solutions from the very beginning. It also helped to map the stakeholders and engage them in all the steps of the participator process, from the initial info day throughout the other workshops on the knowledge framework and visions, the action planning workshops and the convergence workshop. That is where the process is now. The next steps include two more information days to update the stakeholders on how the outcomes of the participatory process will be included in the future strategy and a final presentation of the strategy.

The participatory processes adopted in the pilot area of the Emilia-Romagna region were fundamental for the preparation and effective implementation of the coordination and adaptation plans. The Regional team of experts applied in a very effective way participatory processes to all the phases of the project and this led to a strong stakeholder engagement, a deeper knowledge framework and very innovative solutions and suggestions from the diverse stakeholders that contributed to the first phase of the project.

After the initial participatory phase to gather visions, critical points and suggestions through the participatory process on the field the second period adopted more analytical participatory processes to gather further feedback and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) strategy and prepare for broader consultations with a wider public. So through an emergent process the initial small group that was involved in the first participatory phase has prepared the ground to involve a much broader spectrum of stakeholders through e-participation tools and approaches such as the ones that can be performed with the Decidim platform that will form the backbone of Emilia-Romagna's participatory piazza called PartecipAzioni.