

Deliverable 5.2.1 – 5.2.2

Transferability plan at pilot area and regional scale
(country and transboundary level)
- Department of Hérault -



Pilot areas of Maguelone/Frontignan – Vias/Vendres Orb Delta

Background

CO-EVOLVE is an Interreg MED modular project co-financed by the European Regional Development Fund, which lasted from January 2017 up to October 2019. It aimed at analyzing and promoting the co-evolution of human activities and natural systems in touristic coastal areas, allowing sustainable development of touristic activities based on the principles of Integrated Coastal Zone Management (ICZM) and Maritime Spatial Planning (MSP).

As all Interreg MED modular projects, Co-Evolve was divided in three phases: the studying phase, the testing phase and the transferability phase. During the first phase of the project - the studying phase -, an unavailable analysis at MED scale of threats and enabling factors for sustainable tourism with local studies on representative pilot areas has been performed in order to demonstrate through pilot actions the feasibility and effectiveness of a ICZM/MSP based planning process. The coherent and cross-fertilized analysis performed constituted the basis of indications for the testing phase, which translated in practice those findings in order to implement pilot actions (plans, concrete actions and measures) in selected coastal zones, setting the conditions for a sustainable tourism in coastal areas. Finally, the transferring phase, in the framework of which this document has been produced, targets two levels: the pilot/regional scale and the Mediterranean scale. At the local/regional level, the objective is to transfer the results of the analysis and demonstration actions beyond the immediate territorial and administrative limits of the pilot area. At the Mediterranean level, the objective is to transfer Co-Evolve major findings, conclusions and outputs to relevant authorities from each Mediterranean countries.

It should be noted that the purpose of this document is not to present in detail the results of Co-Evolve, be it research or pilot area experiments, but to give an overall overview of what has been achieved. The individual reports are available on the Co-Evolve website <https://co-evolve.interreg-med.eu/> and the direct references of the reports mentioned in this document are listed in the bibliography.

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Chapter 1: Results from the studying phase

The coastal areas are very coveted spaces, which are also fragile and limited. The concentration and competition of human activities have led to degradation of coastal ecosystems. The challenge of sustainable development in these areas is to preserve outstanding natural spaces without hindering the development of human activities. Tourism is one of the major economic activities on the coastal zone of the Mediterranean region. In 2014, it accounted for 11.3 percent of Gross Domestic Product (GDP) and 11.5 percent of employment in 2014, with expected significant growth through 2025 including a 0.6 percent increase in total contribution to GDP¹. As such, this activity has a crucial role to play in the development of the region. Though, the continuous growth of tourism in Mediterranean coastal areas exerts pressures on environmental and cultural resources of the coastal zones, and affects negatively social and cultural patterns of tourist destinations.

The approach of Integrated Coastal Zone Management (ICZM) is perceived by European Union (EU) and numerous international organizations as the most appropriate approach for the development and the management of coastal zones. ICZM is defined as “a dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts”². It is complemented on the sea side with maritime spatial planning (MSP) principles. MSP aims at “analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve objectives usually specified through a political process”³. In order to better understand which are the threats tourism poses to the coastal zones, but also which are the most relevant enabling factors for its sustainability, an analysis has been performed, and its results are summarized below.

¹ Plan Bleu, 2016. Tourism and Sustainability in the Mediterranean: Key Facts and Trends.

² UNEP/MAP/PAP/RAC, 2008, ICZM Protocol

³ Ehler, C. and Douvère, F. 2009. Marine Spatial Planning: a step-by-step approach toward ecosystem-based management, Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manual and Guides no. 53, ICAM Dossier no. 6. Paris: UNESCO.

1.1. Threats and enabling factors for tourism sustainability

1.1.1. Tourist fluxes and carrying capacity⁴

Massive tourist fluxes can alter and compromise tourism destinations causing several potential direct and indirect impacts, strictly linked to the increasing need of local resources, space and to the over-production of waste/pollution. Diversification of the tourist offer, de-seasonalization and distribution of the flows on wider areas are all key actions to reduce the pressure from tourist fluxes.

The Tourism Carrying Capacity Assessment (TCCA) is a valuable decision-making tool for maritime and coastal tourism destinations planning. A system of metrics for a logical assessment of TCCA for maritime and coastal tourism in the Mediterranean was developed in the frame of CO-EVOLVE.

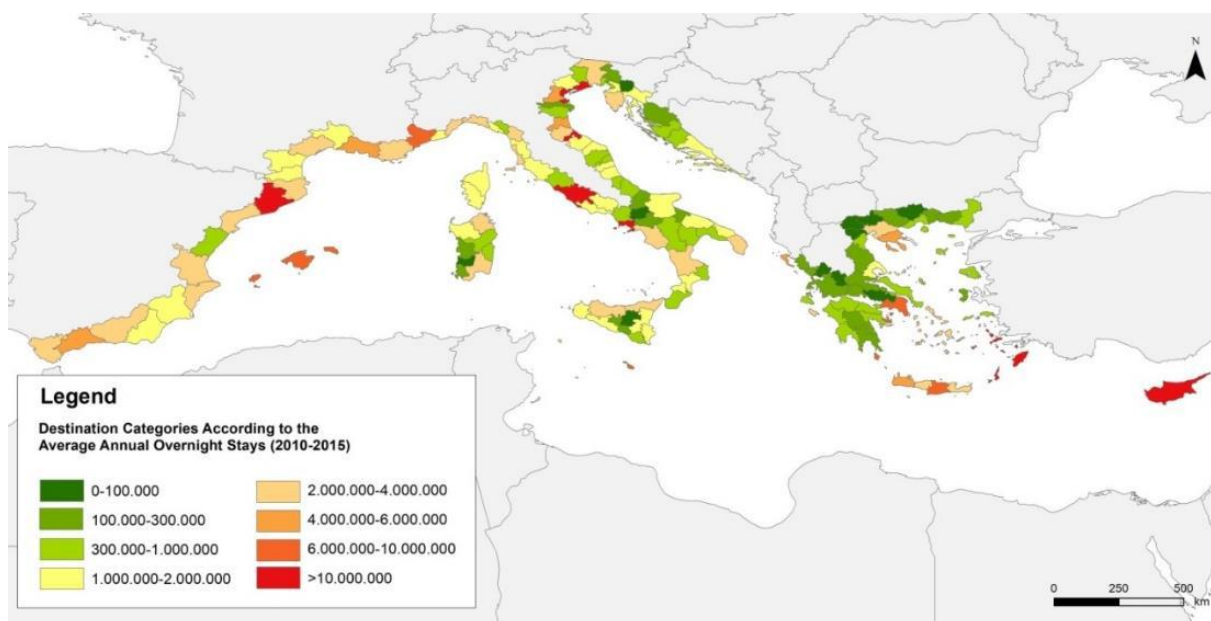


Figure 1: Destination categories according to the Average Annual Overnight Stays (2010-2015) (from Coccossis, H. and Koutsopoulou, A., 2017(b))

1.1.2. Littoralization and urbanization⁵

⁴ CO-EVOLVE project: Coccossis H. and Koutsopoulou A., 2017(a); Coccossis H. and Koutsopoulou A., 2017(b)

Urbanization and especially coastal urbanization or littoralization, namely land occupation by urban land uses and related infrastructure in coastal areas, is a long-standing and intense phenomenon in the Mediterranean region.

Between 1950 and 2010, the Mediterranean urbanisation rate increased from 42.86% to 65.63%, while estimations show that, by 2050, 73.96% of the Mediterranean population will live in urban areas. The population residing in urban areas is shown in Figure 1.

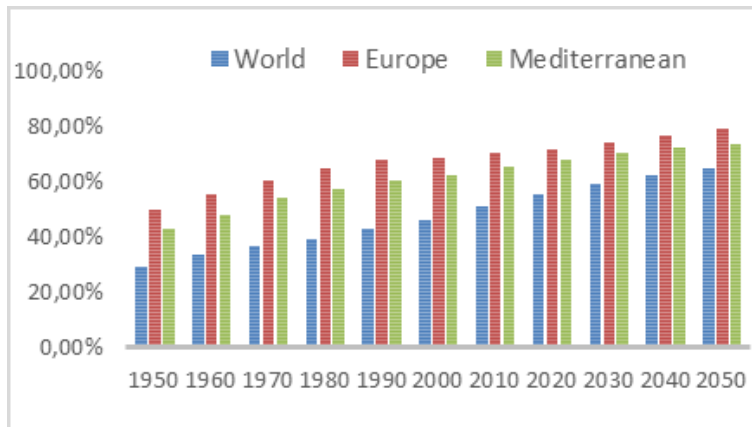


Figure 2: Increase of the population residing in urban areas (%) (Coccossis H., Stavridou K. and Koutsopoulou A., 2017, based on United Nations Environmental Programme Data Set, 2015)

The population within 100 kilometres of the Mediterranean coast has increased almost 1.5 times in the period from 1975 to 2005 (figure 1). Likewise, the population density at the European coast of the Mediterranean, from 1950 to 2013, is continuously increasing but with a lower growth rate over the years.

If the urbanization rate of European countries is expected to increase by a moderate degree by 2050, North African countries' rate will grow even more rapidly.

Coastal urbanization/littoralization can be considered both as a threat to and a main component of the tourist destinations development. Mature tourist destinations with high tourism dynamism show the highest degree of coastal urbanization/littoralization, while regions characterized by low to medium touristic pressure are still predominantly rural.

The ICZM Protocol is the main instrument at the basin scale to address littoralization/urbanization. In its article 8, it requires the contracting parties to establish a setback zone where construction is not allowed in the first 100 meters from the shore. At the national level, all Mediterranean countries have developed strategies and plans to manage land use in their coastal areas.

⁵ CO-EVOLVE project: Coccossis H., Stavridou K. and Koutsopoulou A., 2017.

1.1.3. Land-sea interactions⁶

The Mediterranean has long been the focal point of interactions between different coexisting and often conflicting socio-economic activities, such as fisheries and agriculture, energy extraction and exploration, and maritime transport. However, currently the maritime and coastal tourism is the largest sea-related economic activity in the Mediterranean region. Future scenarios indicate that in 2030 the Southern and Mediterranean Europe will receive 103 arrivals per 100 inhabitants. The forecast for energy extraction and exploration is for an increased exploitation of offshore oil and gas deposits; while for maritime transport a 4% annual growth rate in global trade over the next decade can be anticipated.

Similarly, fish aquaculture production in the Mediterranean countries of the EU is expected to increase by 112% between 2010 and 2030 (Piante & Ody, 2015⁷). Impacts from other activities on tourism include, for instance, negative interactions with marine aquaculture (conflicts over the use of space and local degradation of ecosystems), the density and negative influence of ports infrastructures, and negative interactions with off-shore oil and gas infrastructures.

1.1.4. Coastal erosion and protection measures⁸

Many important tourist destinations along the EU Mediterranean coast are exposed to erosion.

If over the past decades the broad erosion along the Mediterranean coasts has been basically related to the anthropogenic development, which altered the overall sediment budget and the natural balance of littoral sand nourishment, the future erosion trends will additionally largely depend on the climate change effects (sea-level rise and extreme events). Building coastal defense structures is a concrete way to prevent or reduce erosion at the local level. A significant presence of hard defense structures is observed in several Mediterranean areas characterized by sandy beaches and high urban development. Well-designed defense structures generally reduce the erosion rate of the protected beach, and are often combined with sand supply, dredging and nourishment in the framework of ICZM policy development. Although the technique of beach nourishment is nowadays becoming much more adopted in the Mediterranean region, it is often applied as a measure of a

⁶ CO-EVOLVE project: Coccossis H. and Koutsopoulou A., 2017(d)

⁷ CO-EVOLVE project: Piante C., Ody D., 2015. Blue Growth in the Mediterranean Sea: the Challenge of Good Environmental Status. MedTrends Project. WWF-France

⁸ CO-EVOLVE project: Carniel S., Gaeta M.G. and Bonaldo D., 2017(a); Carniel S., Gaeta M.G. and Bonaldo D., 2017(b); Rizzetto F. and Vacca C., 2017(a).

remedial rather than preventive strategy. Therefore, an overall long-term planning, coastal management, and regular monitoring of the coastline should be included in the planning of this type of measures as part of ICZM policy.

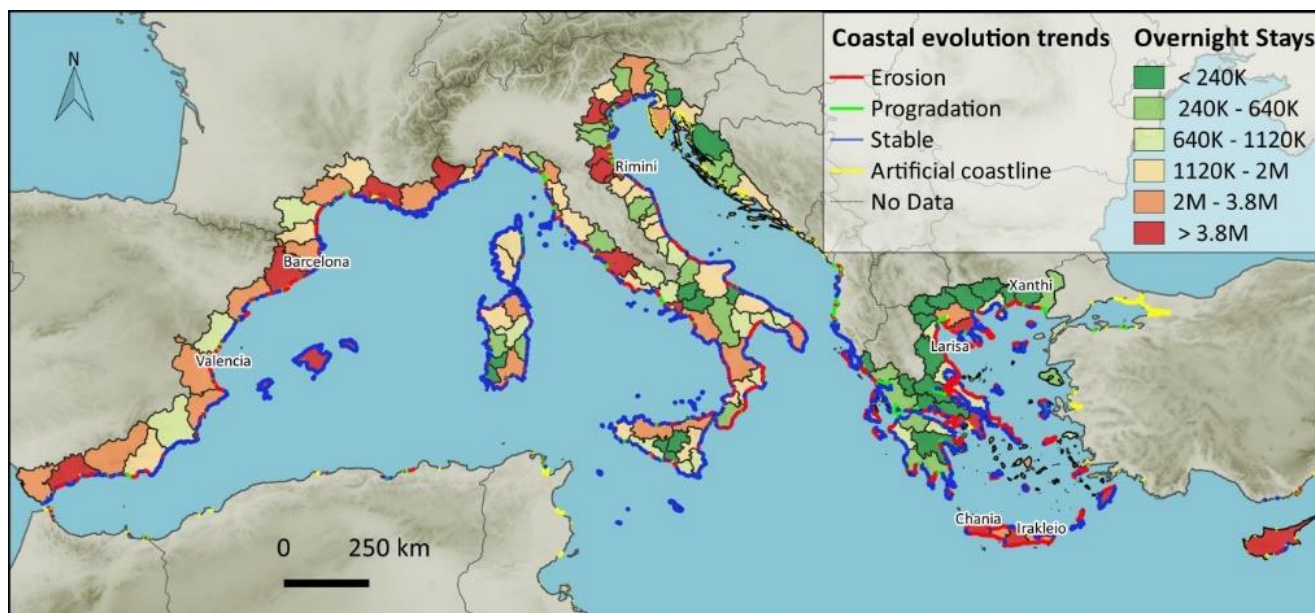


Figure 3: Coastal evolution trends and NUTS III overnight stays (average 2010-2015) in the Northern Mediterranean (from Drius et al. 2018)

1.1.5. Ecosystem threats and protection⁹

The main threats tourism poses to ecosystems are ecosystem fragmentation and degradation; wildlife disturbance and exploitation, solid waste production, water pollution, air pollution, introduction of alien species, noise pollution and light pollution.

On the other side, healthy coastal ecosystems provide multiple benefits for coastal tourism. They support recreation, wellbeing, aesthetic experience and intellectual stimulation. These so-called “cultural ecosystem services” rely on other services provided by coastal ecosystems crucial for tourism development, such as for instance micro-climate regulation and protection from coastal erosion. Considering the importance of ecosystem services for coastal tourism, current regulations, such as the MSP Directive, need to be supported and guided by an ecosystem approach, which takes into adequate consideration also the role of ecosystem services.

⁹ CO-EVOLVE project: Drius M., Bongiorni L. and Pugnetti A., 2017 (a); Drius M., Bongiorni L. and Pugnetti A., 2017(b); Drius M., Campanaro A., Bongiorni L. and Pugnetti A., 2017

Conservation measures are concentrated more in the EU Northern Basin (Corso Ligurian Basin) and in the Central Basin (between Tunisia and Sicily), than in the southern Mediterranean Basin.

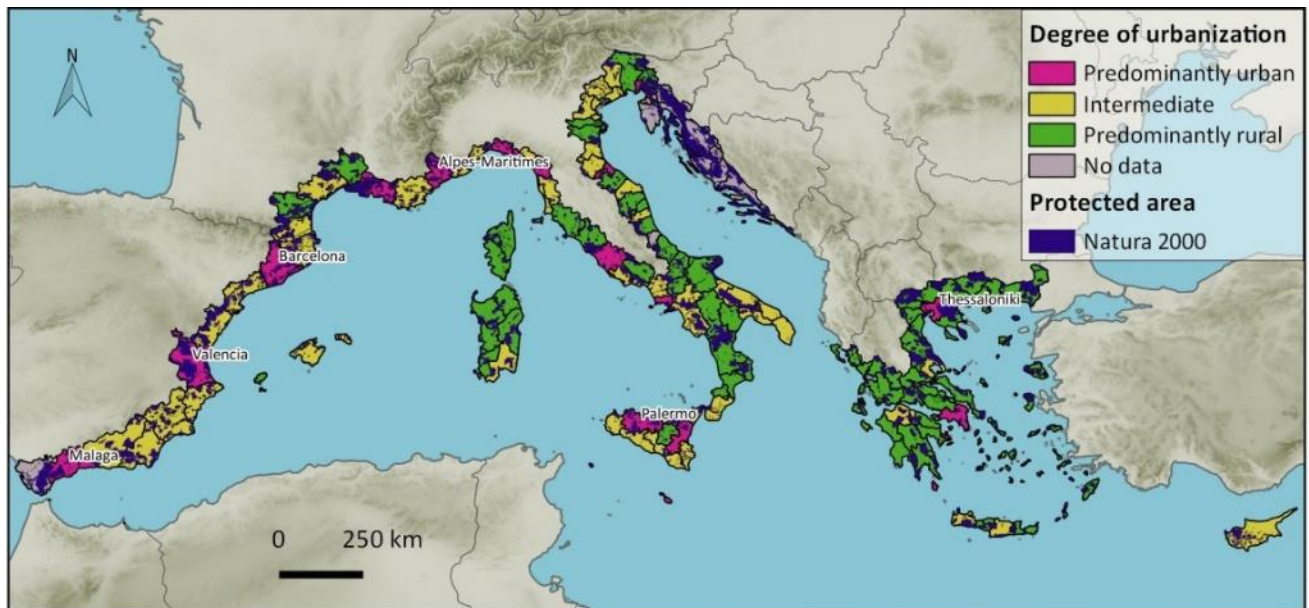


Figure 4: Degree of urbanization and distribution of Natura 2000 sites in the Northern Mediterranean (from Drius et al. 2018)

1.1.6. Water management¹⁰

Most of the impacts of tourism on water resources are linked to seasonality, with peak demand coinciding with the dry season (summer). Spatial concentration along the coast, at locations with scarce local water resources (islands) and often in fragile natural environments, is particularly problematic. There are numerous conflicts among uses (drinking water, agriculture, industry, ecosystems).

¹⁰ CO-EVOLVE project: Kennou H., Miquel S., Burak S., Margat J., and Dubreuil C., 2017

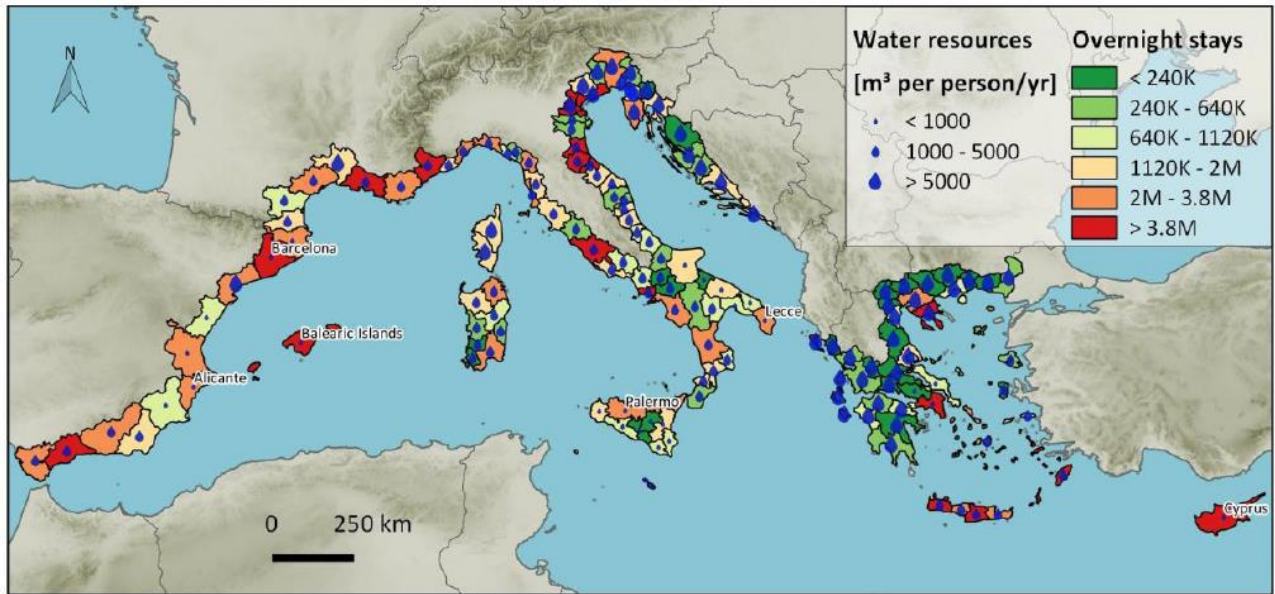


Figure 5: Availability of water resources and high tourist pressure (from Drius et al. 2018)

In the southern countries, as well as in Turkey, where water demand is still increasing and the resources are most threatened by climate change, the supply-side policy, mainly for development purposes, is still predominant. Overexploitation of groundwater is still unequally mastered. One of the main objectives of water policies is to prevent the consequences of drought and the risk of water shortage, as well as the current and future “water crisis” caused by climate change.

1.1.7. Transport and accessibility¹¹

Transport can be considered as a key factor in the success of sustainable tourism development. Accessibility of a tourist destination in order to attract tourists largely depends on the availability and efficiency of transport needed to travel to that destination. On the other hand, poor accessibility to destinations can discourage visitors from attempting to reach these places altogether.

¹¹ CO-EVOLVE project: Sakib N., Musco F., and Gissi E., 2017. State of the art and future development of Transport and Accessibility at Mediterranean Scale.

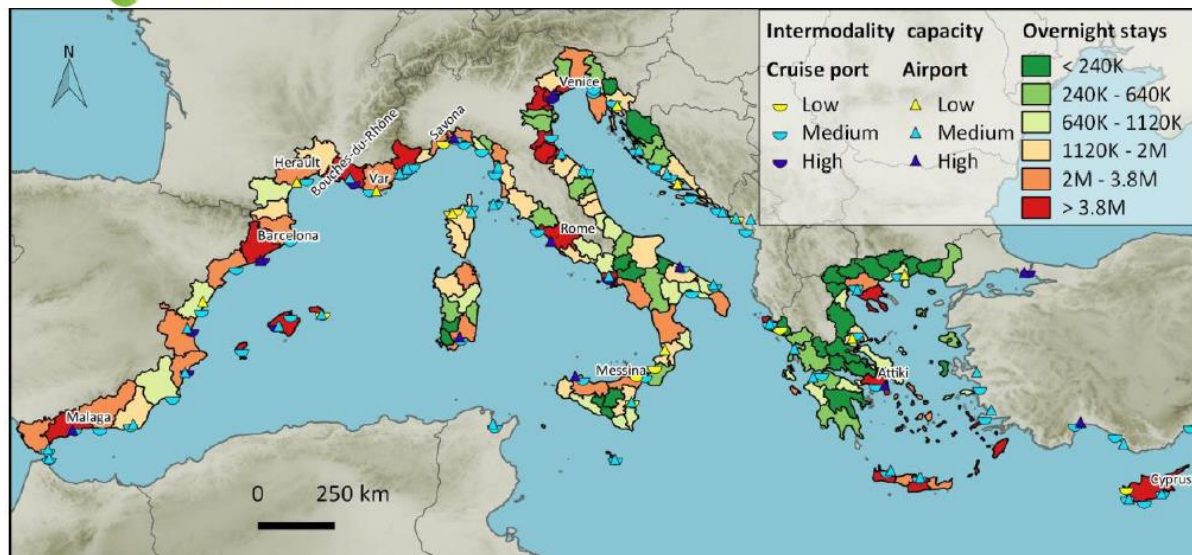


Figure 6: Intermodality capacity for cruise ports and airports is higher in Western Mediterranean than in Eastern Mediterranean, consistently with tourism fluxes (from Drius et al. 2018).

1.1.8. Interaction among threats and enabling factors ¹²

All T&EF are expected to increase in the near future, although at different speed and intensity, with the exception of “pollution and other anthropogenic pressures affecting ecosystems” which should stay constant, owing to the good environmental policies and practices. In general, the intensity of the interactions between T&EF is increasing, with the three main drivers being: i) the morphological instability of coastal areas, also due to climate changes; ii) the increase of tourist fluxes; iii) the protection measures to put in place on the coasts and ecosystems in order to respond to threats and allow for sustainable tourism development. The expected increase of other uses of the coast and the sea within a general expansion of sea economy and their coexistence with tourism will be another major issue. This analysis, although simplified, clearly shows the importance of a multidisciplinary, integrated and long-term view and effort on policy and governance.

1.1.9. Governance for a better sustainability of tourism ¹³

Even though they cannot be considered as “silver bullets”, the ICZM Protocol and MSP principles can be considered as major tools for the improvement of sustainability of tourism since they address all the crucial issues, which the Mediterranean basin is facing. Considering tourism through their prism can also help adopt a holistic approach which is essential in order to balance the uses of the coastal zone, as well as to reduce the conflicts

¹² CO-EVOLVE project: Drius M., V. Evers, S. Bellacicco, L. Petrić, M. Prem, A. Barbanti, 2018.

¹³ CO-EVOLVE project: Evers V., Petric L. and Prem M., 2017.

among them. Five main cross-cutting obstacles to sustainable tourism can be identified when adopting this holistic perspective.

- Obstacle 1: Countries' excessive orientation and over-dependence on tourism as an economic activity;
- Obstacle 2: Misbalance between destinations' carrying capacities and demand volume;
- Obstacle 3: Seasonal concentration of demand;
- Obstacle 4: Over-use and pollution of (natural and cultural) resources by tourism industry;
- Obstacle 5: Illegal activities by tourism industry.

The ICZM Protocol, as a legally binding instrument, complemented by the MSP principles on the marine part of the coastal zone, provides a legal basis for getting over these obstacles, and may act as a key enabling factor for co-evolution of the tourist areas of the Mediterranean region. Its implementation through the national laws, as well as through local practices, should enable the coastal destinations to keep or turn their coastal zones into healthy, attractive, economically balanced and diverse ones, which is the basis for developing sustainable tourism. Besides, it enables dealing with the emerging coastal environmental challenges, such as the climate change.

1.2. Co-evolve's planning methodology¹⁴

The guidelines produced in the framework of the project offer a step-by-step methodology to construct a tourism-driven strategic plan for sustainable development of coastal areas. They integrate the main principles and goals of ICZM and of sustainable tourism. The proposed planning methodology is organized in different consequential steps that constitutes an adaptive and cyclical process. It consists of 6 major phases, each of which includes key tasks and steps. The iterative process of tourism-driven strategic planning in coastal areas is reported in the figure bellow.

¹⁴ CO-EVOLVE project: Filippo Magni, Federica Appiotti, Denis Maragno, Alberto Innocenti, Vittore Negretto, Francesco Musco, 2017.



Figure 7- Conceptual framework of the methodology to the tourism-driven strategic plans construction (from Magni et al, 2017)

A short summary of each phase of the process is presented bellow.

STEP 0 - PLANNING SET-UP: The main aim of this step, that can be considered the most important pre-planning phase, is to create the needed bases for the subsequent implementation of the whole planning process. In this phase, one will answer to the **questions** why (why do we need this strategy for), who (identification of the stakeholders and of the team which will develop the plan), when (timing definition, identification of the milestones), where (territorial boundaries), and how (which are going to be the costs).

STEP 1 - BUILDING KNOWLEDGE FRAMEWORK: The overall aim is to analyze the area, in a coherent and integrate way, in order to build up the knowledge to support the decision-making process provided in steps 2 and 3, in which the vision and objectives are defined and the strategy is constructed. This step is organized in 3 main tasks. The first task aims to collect information about the existing area status in relation to sustainable tourism development. The information that should be collected and subsequently analyzed are: (i) threats and enabling factors that affect the co-evolution of area's tourism development, (ii) area's sustainability status; (iii) existing policies and plans. The second task aims at

analyzing data collected in order to obtain a knowledge framework useful to construct planning priorities and subsequent goals and objectives. The analysis must be strongly focused on the planning main goal. Finally, the third task's purpose is to organize the results obtained from the previous phases to facilitate the subsequent steps execution. At the end of this phase, a final summary of existing conditions of the area should be produced focusing on the agreed points

STEP 2 - DEFINING GOALS VISION AND OBJECTIVES: The starting point to create an effective strategy for sustainable tourism development in coastal areas is to set the main direction to which we want to move: the vision and its related objectives. The construction of the vision for the area and the identification of strategic specific objectives must be constructed, on one hand, addressing the strategic issues emerged from the analytical phase, and, on the other hand ensuring the coherence and compliance with ICZM and Sustainable tourism principles and main goals. Therefore, the step should be subdivided in 3 main tasks: the first one will consist in designing a common and integrated vision for the area; the second one will be to identify the main planning goals and objectives; and the last will be to link objectives with ICZM and sustainable tourism goals.

STEP 3 - TOURISM DRIVEN STRATEGIC PLANNING CONSTRUCTION: The aim of this step is to develop the longer-term elements for a sustainable tourism-driven development of the area starting from the vision and objectives identified. The tourism-driven strategy identifies a feasible “trajectory” of change based on the approved objectives and consisting of concrete actions reported in a comprehensive action plan for its implementation. Therefore, the tourism-driven strategic plan is an integrated set of desired and integrated outcomes in which the actions for the realization of them are explained through an action plan. The action plan will consist in a series of management actions aimed at achieving one or more identified objectives.

STEP 4 - IMPLEMENTING THE PLAN: The purpose of this phase is to apply the strategic approach to priority issues, i.e., on a smaller, more practical scale. Design and implement of strategic action plans depends upon the strategic priorities identified within the second step. As it identifies the key undertakings in consultation with stakeholders while focusing on resources and partnerships, the implementation of strategic actions plans remains fully congruent with the Co-evolve project approach.

STEP 5 - REVIEWING THE PLAN: The revision step is one of the most critical planning steps, and is an activity designed to provide constant feedbacks on the progress of the planning process and on the status and efficiency of its implementation. The revision step

includes a phase of monitoring and a phase of evaluation. The aspect of tourism sustainability can be monitored using the “Sustainability toolkit” presented below, and the indicators selected for the specific area in the building framework step (step1). The use of indicators will show the trends of change after the actions’ implementation.

The importance of stakeholder involvement

It is important to stress the development of the plan should be done in a participatory way. The participatory process shall start from the very beginning of the process (STEP 0), starting from concept development through implementation, to monitoring and evaluation of results. Early stakeholder engagement in decision-making has been frequently cited as essential if participatory processes are to lead to high quality and long-lasting decisions.

In order to be efficient, stakeholders involved should include not only the actors likely to have an impact on the project, but also the people who will be affected by the project. Categories of stakeholders usually considered as relevant in tourism context include government, residents, local business, visitors, tourism employees, academics, and civil society. The participation process is complex and can be problematic, as there has to be collaboration among stakeholders holding different opinions on the same subject. For example, investors and hotel managers often don’t share the point of view of NGOs.

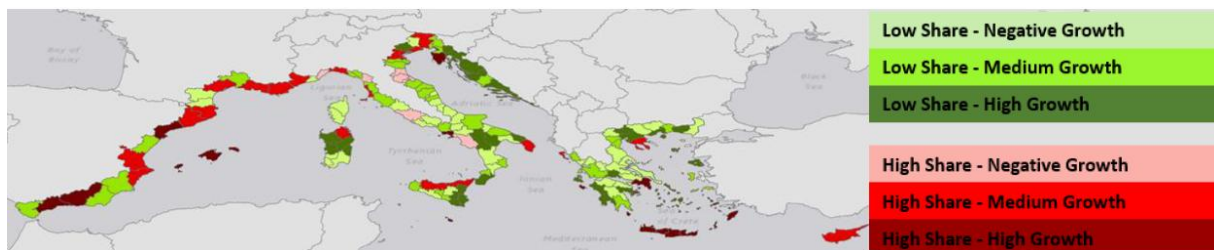
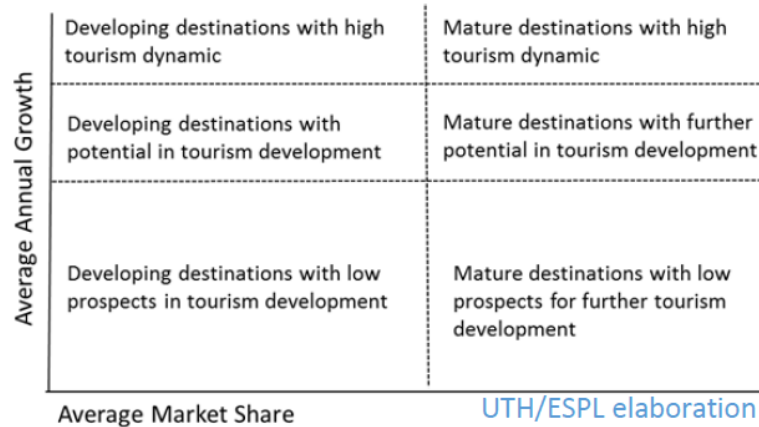
1.3. Co-evolve’s tourism typology and indicators¹⁵

Tourism typology

The use of a common typology in tourism development substantially contributes to the identification of goals and objectives, the highlighting of trends, problems, conflicts and opportunities for development, the improvement of the decision-making process and the production of alternative scenarios for each type of destination. In CO-EVOLVE, the typology developed is based on two variables that form the basis for the classification. The first refers to the average share of overnight stays at each destination against the total overnight stays in the Mediterranean destinations and the second refers to the average annual growth of overnight stays at each destination.

¹⁵ CO-EVOLVE project: Coccossis H. and Koutsopoulou A., 2017(e); Coccossis H. and Koutsopoulou A., 2017(f).

The use of the two variables led to 6 main destination types that provide useful insights about the state and potential of the tourism sector in the Mediterranean regions (figures 8 and 9).



Figures 8 and 9 - State and potential of the tourism sector in the Mediterranean regions (Coccossis H. and Koutsopoulou A., 2017(e))

Building upon the typology, the conceptual model of indicators developed in CO-EVOLVE represents an extended and flexible tourism sustainability toolkit that can be customized according to the specific needs and characteristics of the highly diversified Mediterranean coastal destinations.

The toolkit (figure 11) constitutes a three-tier system composed by the following sets of indicators:

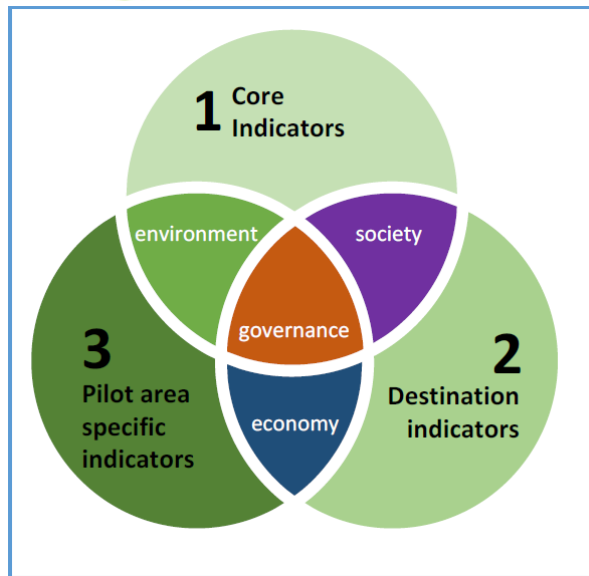


Figure 11: CO-EVOLVE toolkit (Coccossis H. and Koutsopoulou A., 2017(e))

Core indicators: 40 indicators have been selected from the European Tourism Indicator System (ETIS) to serve as the basis for comparison of the level and trends of sustainable development for all types of destinations

Destination indicators: an extensive set of indicators developed to address the specific issues of coastal areas according to the characteristics and particularities of the predominant type of tourism activity in each type of destination (Beach/Maritime tourism, Urban/Cultural tourism, Cruising, Recreational boating, Nature/Ecotourism).

Pilot area-specific indicators: a set of indicators developed on the basis of area-specific critical issues with linkages to the main threats, enabling factors and governance issues identified in Mediterranean coastal areas.

The starting point for adapting the Toolkit to each destination is a list of priority indicators selected from the Toolkit which refer to the most common critical issues and specificities encountered in Mediterranean coastal tourism destinations. The list is meant to act as a baseline for comparisons among coastal tourism destinations in the Mediterranean.

The use of the Toolkit provides hints for improving existing - or shifting towards alternative - tourism models, it highlights existing data gaps & provides guidelines towards relative measurements. It can also be used as a starting basis to measure and quantify stakeholders' perceptions, define thresholds through public consultation processes, develop probability scenarios to adjust future planning actions and policies and to monitor changes in sustainability in the future.

Chapter 2 – Results of pilot experiences

2.1. Presentation of the baseline situation

Pilot action n°5B: Coast of the Orb delta river (Vendres – Valras – Sérignan - Portiragnes)

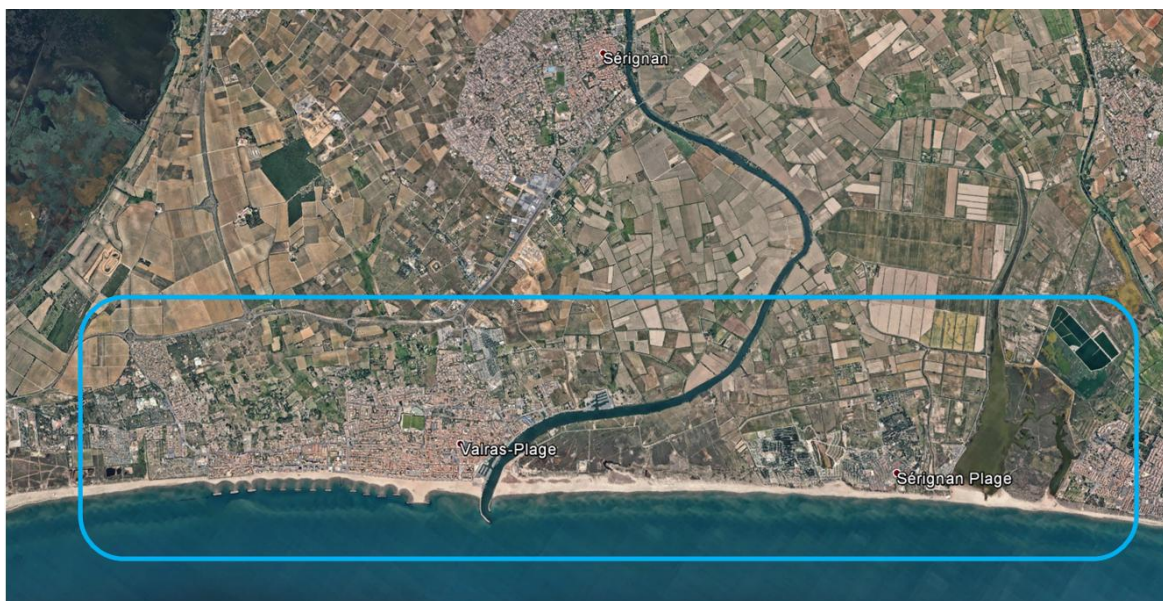
Brief description of the Pilot area

12 x 3 km, Orb river, 2 urban coastal areas, many high level campgrounds, and natural areas.

Population: 23 000 during the year, 62 000 in summer.

+ 5 000 jobs during summer period.

Beach and dune erosion (44% of the coast), sea & river flooding, 2 tourist harbours.



Extreme climate events over the last 20 years: 5 to 15 storms per year and an average extreme flood every 2 years.

Evaluation of the coastal damage at the 2100 horizon: between 5 and 20 Billions € for the department of Hérault.

The demographic trend is to a sharp increase of the population.

Coastal risks: Mass tourism, anthropization and urbanization of the coast have created fragility and reduced the available space on the terrestrial part of the coastal strip. Sea level rise, flooding from the sea and the river, erosion of beaches ... More frequent and violent storms contribute to erosion of the coast, and floods of high amplitude and more frequent pose a risk for the residential and tourist equipments established on the coast. Coastal erosion poses a direct threat to urbanization and campsites near beaches.

The reduction of the sediment contribution from rivers and streams has deprived the system of a considerable volume of sand.

Threat to the water supply: The pilot area is a very high-tension tourist sector with frequent drought situations in summer, often requiring the establishment of a crisis unit at the level of institutional actors and progressive constraints of users (watering limited green spaces, crops, washing cars ...). Existence of conflicts of uses related to water.

The flow of neighboring rivers is decreasing and the influx of tourists increases water consumption.

Waste Management: Pollution and anthropogenic pressure.

2.2. Methodology used at pilot area

We partially followed the process as described in output 3.18, in particular Participatory process.

The general framework was well studied during the 2017 year with the works developed in WP3 and the corresponding Tasks.

At the scale of the Occitanie Region was elaborate the “Schéma Régional de Développement du tourisme et des loisirs de la Région Occitanie - 2017 / 2021 ». Some months later, Department of Herault elaborated the “Schéma départemental de développement du tourisme et des loisirs – 2018 / 2021, well coordinated with the regional Plan.

At the scale of the Pilot area “ Orb delta river”, we met at first the services of Department and the urban Community of Béziers (2017, January 16). The working team was identified: Conservatoire du littoral, Syndicate mix of Orb river, State and Region services, Municipalities, stakeholders.

We list the most important studies and the actions in progress : a frequenting management Plan for the natural zone called “Orpellières” was recently adopted. And we precised the territorial scope, including the territories of the municipalities of Vendres – Valras – Sérignan – Portiragnes. See below the Google picture.

2.3. Stakeholders involvement

Concerning the stakeholders, we identified some of them well organized like Municipalities and public services. Others, in particular campgrounds, less informed about precise developments of Climate changes, and more anxious for the future of their tourist activity and their work tool.

We could observe that during the first semester of 2017 : first meeting with representative organization called Fédération de l’Hôtellerie de Plein Air (FHPA), letter to formalize a specific partnership (see annexe), information and sensibilization needed, 3 thematics chosen : coastal risks (beach erosion, maritime and river flooding), water economy during summer time, mosquito prevention and information on the fight.

The first Action identified is the “ELABORATION OF A CYCLE OF INFORMATION AND AWARENESS MEETINGS FOR COASTAL TOURISM PROFESSIONALS”.

At this step, we decided to find the help of an expert : a public consultation was organized, and some months later – September 2017, we choose Mayane. See annexe for objectives and expected results.

2.4. Tools applied

A specific **work plan** was elaborated during the first semester '17 in concertation with the working team, a **steering committee** was set up – see in annexe meeting reports of October & November 2017, March 2018.

The most important milestone of this work plan are :

CO-EVOLVE

- Official engagement of the Action during an info Day & Conference Co-Evolve / CastWater at the “SETT 2017 November, Montpellier – Herault
<http://www.salonsett.com/fr/le-salon/sett-2017>
- Debriefing, evaluation,
- Technical working meetings : Spring 2018,
- Capitalization, Mayane's Deliverables : animation process, best practices Guide for sustainable Tourism, communication Plan.
- Results presentation & discussions during the SETT 2018, November 2018 – Co-Evolve Info Day.

As part of the SC discussions, and in relation with co-evolve result expected, a needed monitoring of the beaches is identified in December 2017. **This monitoring – Action 2** - will use data from download observations with webcams installed at the top of a housing tower (45 m high, in front of the beach). This monitoring will focus on an analysis of tourist attendance and management of coastal sediments.

We decided to find the help of an expert : a public consultation was organized, and some months later – April 2018, we choose Casagec. See annexe for objectives and precise expected results.

Working Plan: Sediment management Plan elaborated in October 2018,

Tourist Frequenting of the beach: study expected for October 2019, with 2 summer periods of data.

Salon SETT à Montpellier: 6 until 8 November 2018, SETT®, N ° 1 in Europe for the campsites sector. With more than 40,000 m² and 9 exhibition halls, SETT® 2017 gathered 14,952 trade visitors (15% of whom were international visitors) who met the 587 exhibitors. With many formal and informal meetings & conferences, the SETT® is 3 days of conviviality between the decision-makers and the exhibitors: main actors of the market.

We organized a Co-Evolve conference focused on water management in Summer.

(unfortunately, a french Minister was speaking at the same time...). See more on

<http://www.salonsett.com/fr/visiter/programme>



Moreover, we had a small place to expose the Co-Evolve poster during the 3 days – see below.



- Webmeeting the 21st February 2019 “Capitalisation”, to prepare BleuTourMed meeting on 27 & 28th March
- 9 & 10 April 2019 : SC in Montpellier, included field visit on Pareas

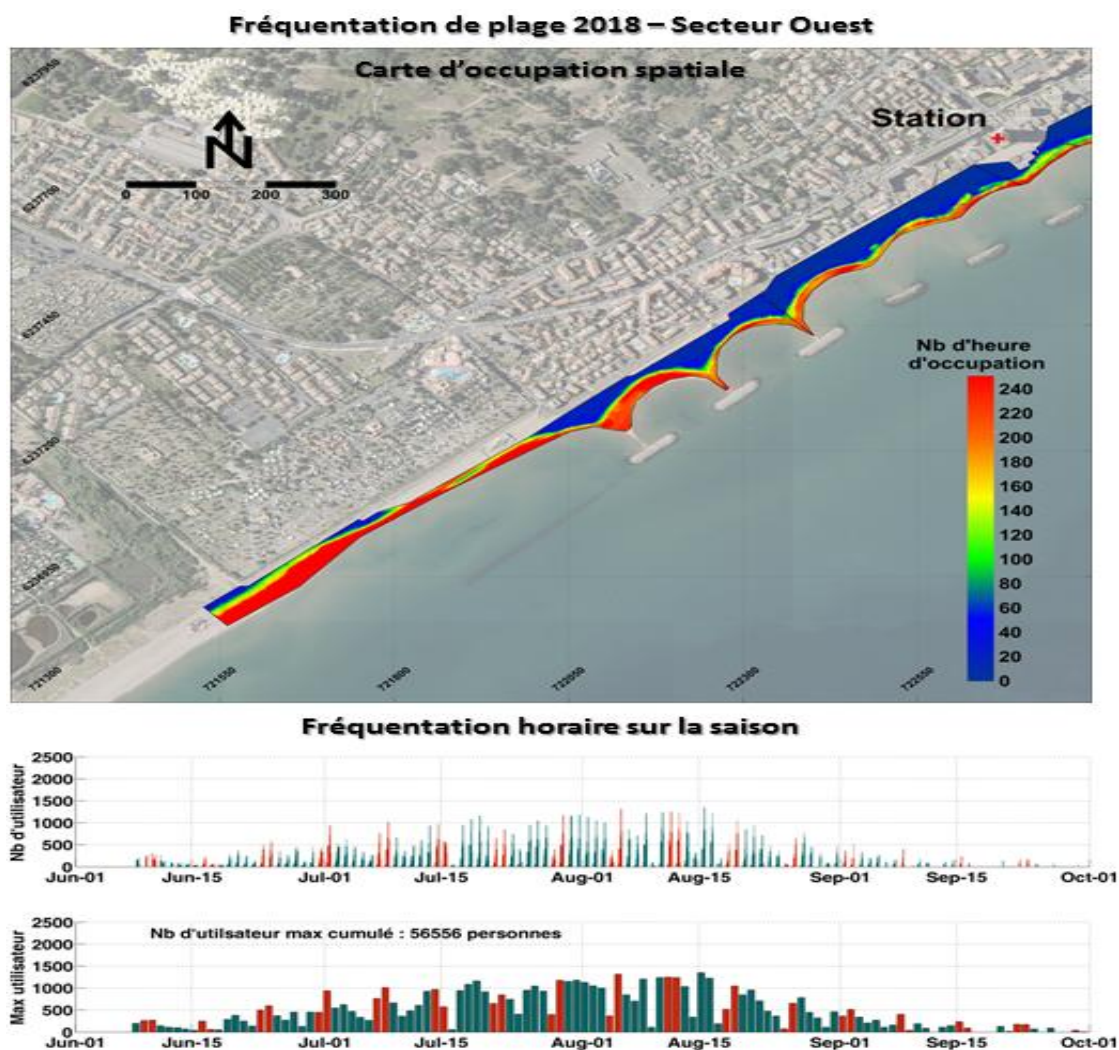
2.5. Proposals of solutions

2.5.1. Tourist frequentation

We launched a study on tourist visits of the beach of Valras-Plage during 2 summer periods 2018 and 2019.

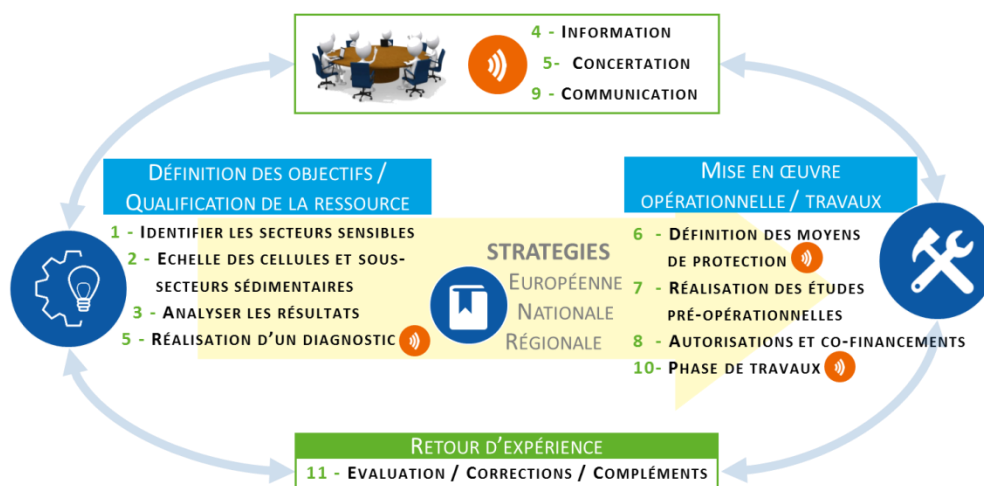
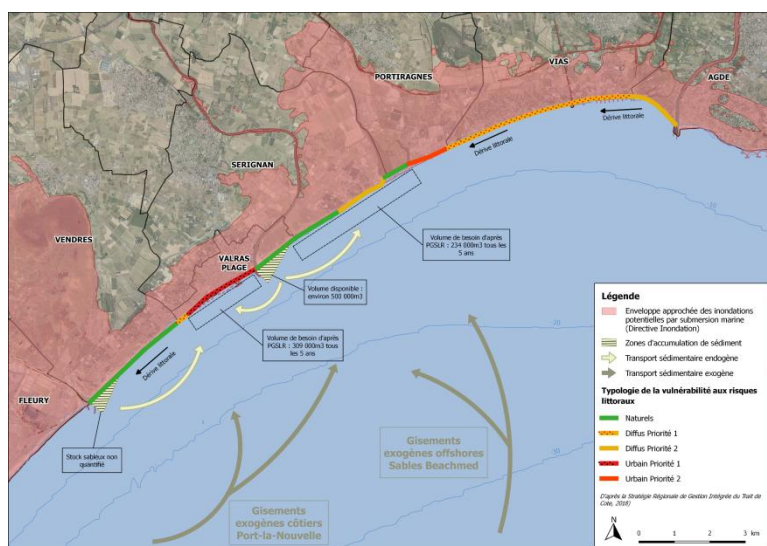
The report well received at the end of October, concerns the modernisation of a web station, its test / validation and the methodology used.

The study of beach attendance during the 2018 summer period was made using an innovative automated detection algorithm. A set of more than 8,400 video images, more than 1,400 hours of monitoring, has highlighted many results that will be used to optimize the management of the beach.



2.5.2. Beach Sand Management

Following our Co-Evolve commitments, we are finalizing a first report to be presented and discussed with our European partners. After a summarize of the studies realized at a large scale, we focused on the pilot area 5B before proposing a transferable methodology – see below.



Following discussions during our local participatory meetings, we are involved in new sustainable actions (from october 2018) to be realized during the last year of Co-Evolve period, in addition of those soon involved. Presented and discussed during the last steering Committee of Barcelona, on October 29, 2018, these new actions are :

2.5.3. Environmental posting for tourist accommodations

Object : Creation of an environmental management tool, Quantifiable indicators on a rule, Annual Progress Approach

Goals : Sensitize hosts and tourists, Reduce environmental impacts, Reduce operating costs

Environmental posting

Governance : project management CD34 & co-management HT

Object : Operational tool for tourist accommodation. Progress making, based on reliable indicators echeloned on a graduated ruler from A (low impact) to E (high impact)

Partners : State (ADEME), Region (CRT), Department CD34, Federation Outdoor Hospitality (FHPA)...

Intention : reduce environmental impacts, reduce costs



Environmental and economic analysis of campsites:

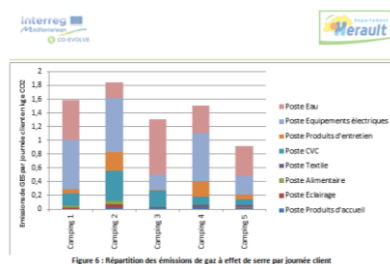
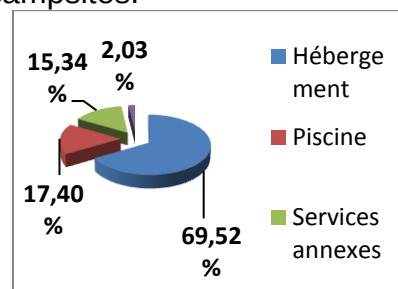
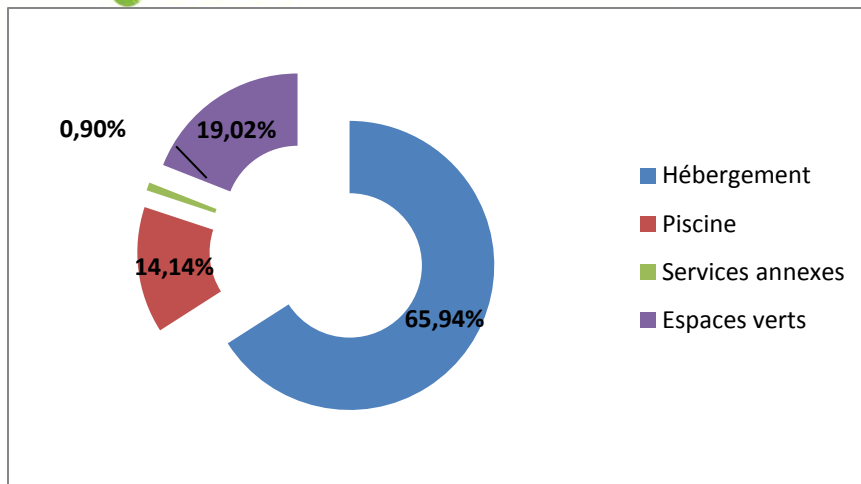


Figure 6 : Répartition des émissions de gaz à effet de serre par journée client



Répartition consommations d'énergie selon les usages



Répartition des consommations d'eau selon les usages

2.5.4. Soft Roaming

Context

- Hérault: destination of sun, sea & adventure tourism
- Great transversal cycle roads

Object :

- Creation of cycle loops by day or ½ day
- Connected on great Eu itineraries (Canal of the 2 seas by bike, the Mediterranean by bike)

Goals :

- Boost the soft roaming offer to reduce the environmental impacts of transport network
- Discover the preserved landscapes and heritage



In green the loops nominated, in blue the EV8 track, in red the other loops from « L'Hérault à vélo »

2.5.5. « Ports accessibles to all »

Accessibility diagnosis of ports in the two pilot areas



Cap d'Agde, Accès aux blocs sanitaires



Système de transfert à Frontignan

2.5.6. Study of Coastal vulnerability / impact of sea level rise

(induced by global warming / Climate Change) on the Herault Coast; on both PA - 5A & 5B

To imagine the future of the Herault coast in the coming decades, with several precise maps.

Chapter 3 – Replicable tools and methods

3.1. Positive experiences with a replication potential

Concerning the PA 5A “Lido de Frontignan – Maguelone”,

we will inform our partners that Department of Herault decided to launch an initiative called **“Herault littoral”** which is more important and longer than the Co-Evolve time. In particular, this Strategy plans to build a coastal house directly on Frontignan's pilot area.

Realized at the level of some counties – PA 5B “Coast of the Orb delta river” (Vendres, Valras, Sérignan & Portiragnes), the Sand Management Plan (SMP) aims to protect the coast and to ensure sustainability of the beaches, important for the Tourism. This SMP represents Deliverables 4.7.1 – 3. We are communicating on it at the regional level, to propose transferability of the method and steps to analyse. Indeed, we have a lot of beaches erosion in Occitanie region, in particular on the Herault coast.

Study of Coastal vulnerability / impact of sea level rise (induced by global warming / Climate Change) on the Hérault Coast. We realized this study at the level county of Vendres (PA 5B) and Frontignan (PA 5A).

The maps produced are clear and precise, highlighting the most important risks (erosion, sea flooding) and vulnerability zones. Strategy to fight against and mitigate these risks was discussed (participatory meeting) and proposed to the managers and makers.

3.2. Negative experiences to be avoided

- Difficulties to establish a new dynamic on a sector for which many actions have been carried out, are planned or already committed.
- Legitimacy of the Department not always obvious to mobilize around an approach related to the management of this coastline, widely shared in France.

The legitimacy of the Department of Hérault to lead this process of spatial planning : We felt and found local resistance to Hérault's proposals, especially on PA 5A, which led us to restrict our ambitions for a while, before embarking on a more ambitious "Hérault littoral" strategy, which will mobilize teams well beyond the duration of Co-Evolve, with more substantial means of several millions €.

See on <http://www.herault.fr/news/the-25-september-the-department-organizes-the-first-labenvironment-heraultlittoral>

We also decided not to impose a planning study that might have appeared to be imposed on other public actors, due to lack of consensus and enthusiasm on their part at least on PA 5A. This study was likely to remain in a closet, the cemetery works & studies that are not used much ...

It should be noted that in France, there are certain planning tools such as the SCOTs or PLUs that are the responsibility of the Agglomerations and Communities of Communes.

See on https://en.wikipedia.org/wiki/Schema_of_territorial_coherence

Chapter 4 – Actual replication/transfer

4.1. Replication at the local level

« Ports accessible for all »: accessibility diagnosis of ports in the two pilot areas. In fact, 6 ports were study on this experimental step, including the production of a tools kit with several steps to optimize the accessibility of ports. Communicable to the others ports in particular the departmental ports.

4.2. Replication at the regional level in a transboundary context

Using and analyzing local experimentations, we have the project to apply on others coastal zones of regional coast.

Environmental posting for tourist accommodations : during the first Part, a specific methodology was produced while the aim of the second Part was to apply it in 5 campgrounds selected through audits. The results were analyzed, and we decided with our local Partners and stakeholders to follow the experimentation in 10 new campgrounds.

At the end, we plan to generalize these environnemental informations and audits with the agreement and help of « Federation de l'hôtellerie de plein air » who regroups most of the Languedoc-Roussillon campsites.

We are soon involved to extend this environmental posting for tourist accommodations in coordination with the regional actors (Region and French State services).

Conclusion

The situation in Hérault: the approach and in particular the planning methodology produced in the context of Co-Evolve has been translated and brought to the attention of institutional stakeholders. It was considered interesting from an academic and scientific point of view, but a similar approach has already been mentioned and presented in detail by the SOLTER project - 2011 to 2016, on the 5B Pilot area territory.

See on <http://www.occitanie.developpement-durable.gouv.fr/programme-de-recherche-action-solter-a22954.html>

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The process of participatory process has progressively revealed the interest of conducting a certain number of actions that meet the objectives developed by Co-Evolve. Also after fulfilling our initial commitments (deliverables 4.7.1 to 4.7.3 in particular), and noting that a substantial budget was still available, we selected the following actions and presented them as of October 2018 at the SC. from Barcelona.

These actions, which are directly related to the WP3 Tasks results, are as follows:

- Study on Coastal Vulnerability in Herault - Communes of Vendres (PA 5B) and Frontignan (PA 5A), following results from WP3 Tasks 3.2 & 3.8;
- Sediment management Plan / tourist visits frequency on Vendres - Vias (PA 5B) = WP4 deliverables 4.7.1 and 4.7.2;
- Ports accessible to All, following results from WP3 Tasks 3.11 & 3.17;
- Soft Roaming Study, Bicycle Loops, following results from WP3 Tasks 3.4 & 3.11;
- Environmental Labeling of Campgrounds, following results from WP3 Tasks 3.9 & 3.10.

Note that we were able to mobilize resources of external experts, because we did not have these skills at the level of "Staff" Herault.

These actions have been specified and defined in the framework of terms of reference and terms of reference, to consult experts and select the best offers according to the French Code of Public Contracts.

Initiated by Co-Evolve and then well extended, "Herault Littoral" is now a label which includes a lot of our economical and environmental coastal Actions.

We defined, proposed and acted an Actions Strategy for 2019 – 2030.

See on <http://www.herault.fr/publication/herault-littoral-strategie-dintervention-2019-2030>

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