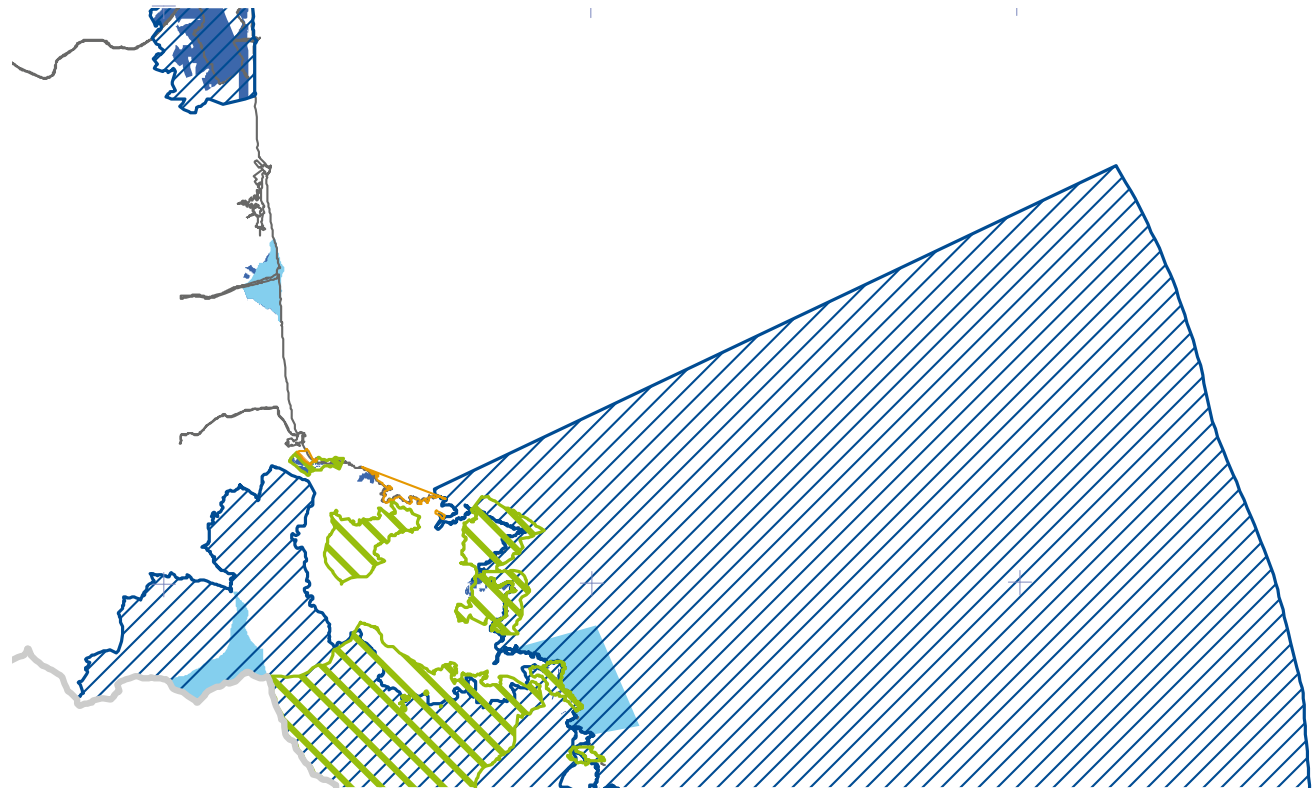




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Integrated coastal zone management in the Mediterranean: From Vision to Action





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Ocean and coast: pegasoproject.eu

Pegaso contacts

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No formal representation is necessary

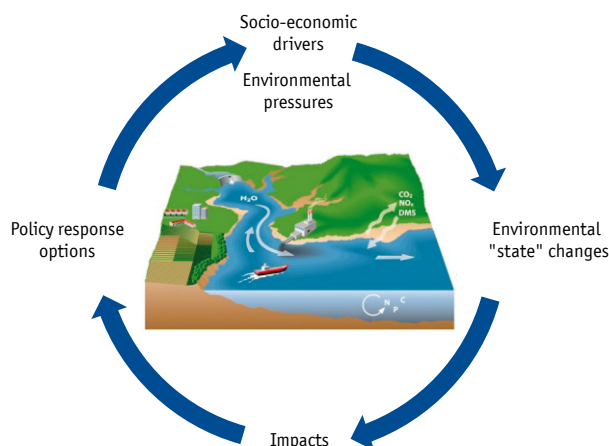
PEGASO is funded by the European Union
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Contract no. 244170

Pegaso Partners:



Why a common ICZM framework for all?

Integrated modelling and analysis in coastal zones:



... Start taking a different perspective

The Mediterranean coast is over developed

The Mediterranean, with 46,000 km of coastline, is surrounded by many major cities and ports which concentrate much of the region's industrial and tourism development. Already almost 19% of the coastlines are occupied by tourist complexes, road networks and related infrastructures. The growing tourist industry, expanding coastal cities and increasing port development have led to a profound transformation of the coastlines and adjacent marine areas. The varied geopolitical situations in the Mediterranean add to this complexity, increasing the conflicts regarding the use of space and environmental challenges.

Better informed decisions are needed to protect limited habitats and species

There are nevertheless numerous benefits generated by coastal and marine resources. An appropriate planning strategy is necessary to minimize the adverse impacts of development on coastal ecosystems and make efficient and sustainable use of the region's natural capital, thus pursuing both environmental management and economic development. However, the adoption of a new approach to manage the coasts and increase their competitiveness is necessary to avoid the degradation of both terrestrial and marine areas and their resources.

A unique agreement, the Mediterranean Integrated Coastal Zone Management Protocol (ICZM)

On 24 March 2011, the Mediterranean ICZM Protocol¹ entered into force to allow Mediterranean countries to better manage their coastal zones, as well as to deal with existing and emerging coastal environmental challenges. Adopted within the framework of the **Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean**, this new Protocol brings a joint commitment amongst Mediterranean countries to adopt an integrated approach to coastal management and the many different interests in both land and marine components of the coast.

ICZM is described in the Protocol 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."**

The ten main principles of the Mediterranean ICZM Protocol

The ten main principles of the Mediterranean ICZM Protocol place a strong emphasis on governance, the need to promote and apply cross-sectoral approaches to policy and management as well as to take into account the needs of all relevant stakeholders towards better-balanced decisions. It demands good communication among governing authorities (local, regional and national), stresses the necessity for national and local institutions to develop appropriate plans and programmes adapted to local situations, to apply adaptive management tools, prevent and restore damage once it occurs. It also provides management instruments that are not comprehensively included or foreseen in various policies and legal instruments.

The Ecosystem approach: addressing vulnerability

At global level, the CBD² recommended the adoption of an Ecosystem Approach as a strategy for integrating land, water and living resources and promoting their conservation and sustainable use.

UNEP/MAP has initiated the Ecosystem approach for improving the management of human activities impacting marine and coastal environments to promote a sustainable use of the goods and services provided by the sea, while rehabilitating or preserving the ecological conditions of coastlines and the sea. The ecosystemic approach was adopted by the Contracting Parties to the Barcelona Convention in 2008. The core of the Coastal Ecosystem Approach application aims to identify and ensure the on-going participation of the main users of coastal areas to fill the gap between knowledge, local needs and adaptive management. **ICZM encompasses the main principles of the ecosystem approach along the continuum between the land and the sea, considered as an overall articulated social and ecological system on several scales.**

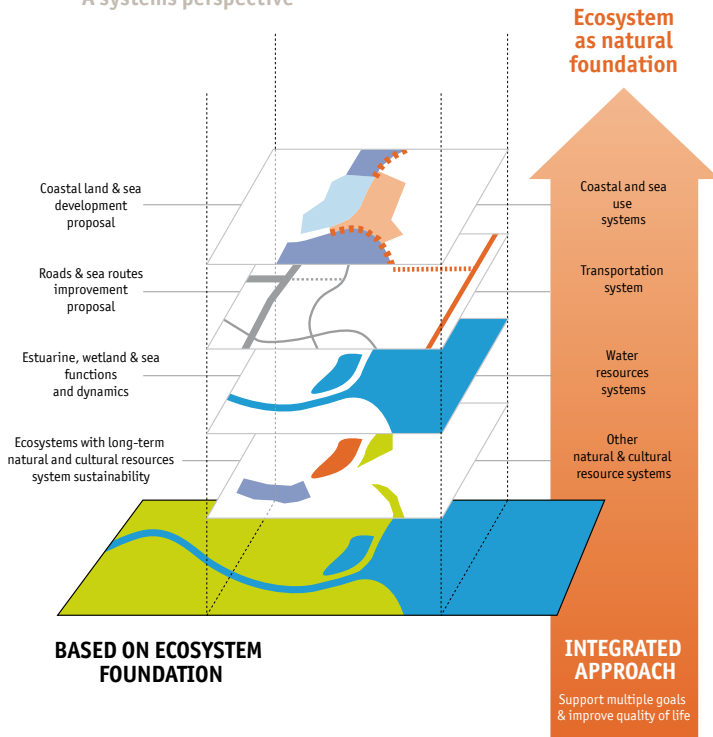
¹ PAP/RAC. 2007. *ICZM Protocol in the Mediterranean* (signed in Madrid on 21 January 2008)

² Convention on Biological Diversity, <http://www.cbd.int/ecosystem/sourcebook/>

How to implement the Mediterranean ICZM, building the future

The greatest challenge for the ICZM Protocol lies within the integration of different data and the institutional fragmentation of responsibilities concerning the coastal zones. The Protocol calls for action at local, national and Mediterranean level to manage coastal resources in a holistic and integrated manner for long-term sustainable development of the region.

Integrated ecosystem approach: A systems perspective



The Pegaso Project tools to assist countries implementing the ICZM Protocol

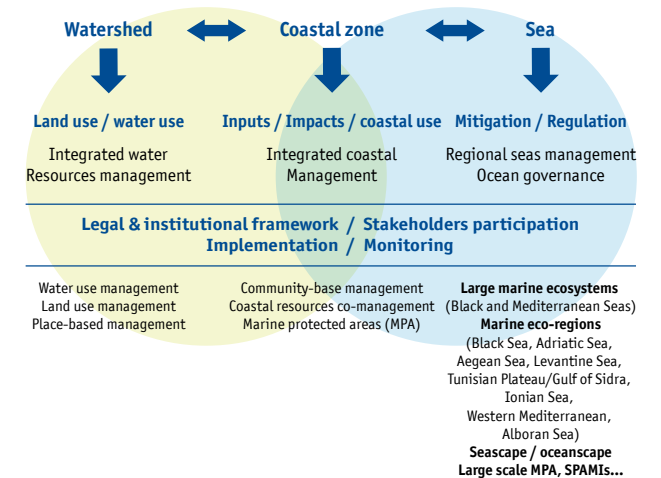
Pegaso stands for “People for Ecosystem-based Governance in Assessing Sustainable development of Ocean and coast”. The main objectives of the Pegaso project are to identify the instruments needed, and build the capacity for implementing the principles of the ICZM Protocol in order to help countries to apply the Protocol. It seeks to achieve a coordinated approach to sustainable resource management and development, and to protect two regional seas, the Mediterranean and the Black Sea, and the quality of life of their inhabitants.

At the core of Pegaso is the development of a Shared ICZM Governance Platform which will:

- be used to share data and information to bridge the spheres of science and decision-making;
- test **sustainability tools** developed by Pegaso through Collaborative Application Sites or **case studies**, where local and national scientists collaborate with stakeholders and decision-makers to define together suitable responses to the main issues prioritized; and
- build a common understanding of priority issues and institutional perspectives affecting the terrestrial and marine coastal zones of the two regional seas.

The Pegaso project aims at identifying the instruments needed and building capacity for implementing the principles of the ICZM Protocol in order to help countries to put it into practice.

A journey across a live system: From watersheds to maritime areas



Learning from practice: A 4 stage process

Stage 1: Establishing the baseline for the ICZM Strategy

The overall aim of the Establishment Stage is to formulate an operational foundation for the subsequent preparation of the Strategy and its implementation, to begin the process of understanding the challenges facing the coast and differing perceptions of those challenges, and to start building a support for the Strategy. To achieve these objectives, a Scoping Report could be prepared that should include:

1 - Assessment of the different policy options and the overall scope of the strategy by identifying the key legislative options needed, from management instruments to the institutional framework set up and the present coastal management situation.

The countries concerned have a variety of legislative instruments for ICZM, generally following two types: ICZM-specific legislation, and more general legislation which includes provisions for ICZM.



Countries of the Mediterranean and Black Sea @ PAP/RAC



In order to exploit common lines of action, the Pegaso project is linked with existing projects, the two regional conventions (Barcelona in the Mediterranean Sea and Bucharest in the Black Sea), other instruments and regional or national institutions acting towards efficient and integrated management.

To provide a basis for an assessment of the present state of ICZM in the Mediterranean and Black Sea regions, an initial **stock-taking of ICZM governance** has been conducted at strategic decision-makers' level, as well as with the National Focal Points of the Barcelona and Bucharest Conventions. The results of this analysis will present the current legislative, institutional, policy and financial framework for ICZM governance in riparian countries in the Mediterranean and Black Sea regions. Further analysis and an **inventory of scientific capacities for ICZM work and related projects**, together with the creation of a professional ICZM network by the Pegaso framework, will promote good baseline information for further work.

Experiences from these and other ICZM implementation programmes in different countries around the world provide a good set of recommendations and examples of the needs to be addressed and considered when promoting an ICZM approach¹.

¹ Yves Henocque. *Pegaso report on science capacity (D.2.3)*. Annex 3, 82-100pp.

Nevertheless, EU Members following the EU Recommendation on ICZM (2002) and the EU Integrated Maritime Policy and its Plan of action (2007) need to further develop specific laws, recommendations and strategies on ICZM for action at lower levels. **Specific legislation on spatial planning to help better define the administrative divisions affecting the planning of different land and sea based activities would facilitate implementation of ICZM at regional, national and local level.**

These legislations and upcoming policies are needed for the implementation of the ICZM strategy, either through policies directly targeting ICZM or through sectoral measures supporting it, together with capacity building and restructuring at institutional level where needed.

2 - Promotion of public participation

Defining a national or local ICZM strategy is a long process in which community building is a key component to create public awareness on the need for ICZM, catalyze the necessary political support, and promote compliance.



The stocktaking review under the Pegaso project provides a detailed overview of the different situations at country level. In the Mediterranean, nine countries (Algeria, Croatia, France, Greece, Israel, Lebanon, Montenegro, Spain and Turkey) already have specific laws dedicated to their coastal areas, mostly from the coastal protection point of view, while incorporating the requirements and principles of ICZM. Nevertheless, still much effort is needed to have a proper integrated policy into place that incorporates all these principles for the countries.

In the Black Sea, all ICZM issues are addressed within the context of national or regional regulations, yet there are still quite limited implementation actions considering the state of the environment and its coastal areas (Diagnostic Report of the Black Sea Commission, 2011). Insufficient administrative capacity is one of the major problems in this region.

Owners and managers in the shipping, aquaculture, coastal tourism or fisheries industries as well as ports, harbours and different government departments and institutions are among the groups that could be affected by coastal management decisions, beyond the clear impact that ICZM can have to foster sustainable livelihoods for local communities. The identification and involvement of these key groups at each municipality, regional or national level are fundamental steps for being successful in integrating the different approaches and needs into a comprehensive and more fully integrated coastal plan.

3 - Building on past efforts and establishing the process

In South Africa, for example, a discussion document on future coastal management policy was drafted into a White Paper for Sustainable Coastal Development with the main actors involved at national and provincial level. The new government Coastal Management Policy Programme was set up thereafter over a five-year period with a work plan based on three separate sets of activities: (i) securing political support; (ii) putting the “building blocks” in place; (iii) the inception phase.

Other countries like Canada or the UK have pursued the same preparatory process before coming up with respectively the Oceans Act (1997) and the Canada’s Oceans Strategy (2002), and, in the UK, a quite comprehensive process including a first draft of national strategy (Safeguarding our Seas, May 2002) followed by a stocktake of current practice in ICZM (2004), a national consultation in 2006 (Promoting an integrated approach to management of the coastal zone in England) and lastly a national ICZM strategy (2009) soon followed by enactment of the Marine and Coastal Access Act (2010).

4 - Facilitating the inter-exchange of knowledge and access to information for better understanding

ICZM is not only an environmental management activity; it also involves economic development and coastal activities such as transport, health or poverty reduction. A basic comprehensive assessment of the coastal features in each region from a physical, ecological, socio-economic or administrative point of view is needed to provide understanding of the status of the coastal and marine ecosystems and to identify major threats and issues that have to be tackled prior to, and during, the planning and development of policies.

These issues will show the disparities and similarities among different sites and the pressures or drivers for change.

5 - Developing appropriate coastal policies and legal directives for ICZM governance in each country to ensure effective harmonization between them

National strategies should be considered as overarching frameworks to include the diversity of situations and objectives of distinct regional scales in local areas, provinces and regions. The definition of regional boundaries or management units is an important step to prepare the analysis for any strategy.

In Spain, within the framework of preparation of the Strategy for Coastal Sustainability, a Technical Diagnostic for the coast was compiled dividing the areas into 8 coastal stretches corresponding to the coastal side of the River Basin District based on the following steps: (i) identification of management units, (ii) analysis of the physical, ecological, socio-economic, and land-use subsystems for each management unit, (iii) SWOT (Strengths/Weaknesses/Opportunities/Threats) analysis for each management unit, (iv) identification of priority interventions for each management unit, and (v) calculation of basic pressure, state, and response indicators for each management unit. Here, “management units were defined as spatial units with homogeneous features”.

National experiences with experimental processes such as the preparation of guidelines for the application of ICZM to aquaculture sites election and site management should be shared globally. This information may be helpful on the one hand to countries whose ICZM capabilities are just emerging and on the other to countries which already apply ICZM yet require further information about the process.

6 - Defining concepts, determining rules of engagement for institutions, assigning mandates and setting up clear responsibilities to guide ICZM

Defining clear boundaries for coastal districts, protected zones, and other management areas together with comprehensible guidelines for their designation and rules of engagement for different institutions and organizations should facilitate management of the coastal zone.

In the ICZM Protocol, coastal zone boundaries are defined in a very flexible way as: (i) the seaward limit of the coastal zone is the external limit of the territorial sea; (ii) the landward limit is the limit of the competent coastal units. Seaward boundaries can extend as far as the outer limit of the Exclusive Economic Zone (EEZ) and EU Member States, as well as many other countries, have defined their coastal zone from internal waters out to the 200 nm limit or the medium line. But because of the dynamic and “open system” nature

Changes in coastal areas and vulnerability consequences

Over the last years, media reports have highlighted numerous examples of entire coastlines that have experienced exceptionally high waves, severe floods, or large shoreline erosions among other natural coastal impacts. According to the EMDAT Disaster Database, floods for example, accounted for 35% of all natural disasters that hit the Mediterranean. Italy and Romania are among the countries that had experienced an increasing number of severe floods lately.

On the Catalan coast of Spain, as another example, coastal damage has increased at a rate of 40% per decade during the last 50 years. The damage caused by such events resulted in significant costs for government authorities (national and municipal) as well as private budgets, and its effects may even slow down economies and affect long-term growth.

Besides the possible effects of climate change, growing uncontrolled coastal urbanization; and construction of coastal infrastructures, land use changes and deforestation are the main reasons creating higher sensitivity on the part of coastal zones to these events.

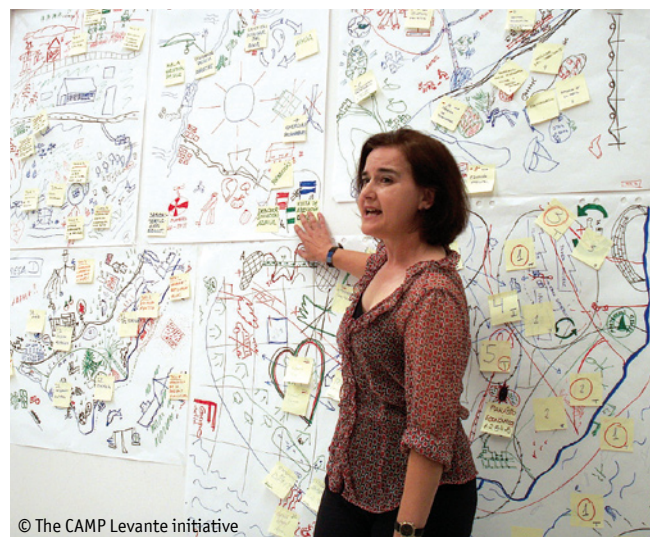
The ICZM Protocol (IV, art 22) expresses the importance of this aspect and addresses the need to develop policies to prevent and mitigate these natural risks as well as the need to develop vulnerability and risk assessments of coastal zones. The introduction of innovative solutions, identification of critical areas or weak spots for human and coastal infrastructures, as well as the need for improved coordination planning, are therefore becoming increasingly important factors for sustainable development.



of coastal and marine areas, analysis for planning and management should add other areas to the boundaries of the management of the coastal areas. Therefore, any management area should be considered in its multi-scale dimensions. However, each state or municipality will need to develop their own guidelines for management, adapted to the local reality.

7 - Improving integration between terrestrial and marine coastal plans

The most common approach to building a multi-sectorial capacity has been to develop working groups, such as committees or advisory councils, composed of agencies responsible for each key sector in coastal and marine areas, stakeholders and end-users. This participatory approach could help tackle emerging issues such as legal constraints between land and sea activities, land-use planning and marine spatial planning.



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Learning from practice

Stage 2: Setting the vision

The overall aim of this stage is to fully engage all sections of government, stakeholders and the public in agreement on the Strategic Vision and subsequent strategy development by:

1 - Deciding on long-term goals as well as quick and flexible ways of reaching them

Defining and agreeing on the vision or general objective to develop a new coastal management approach and outlining specific strategies and actions are prerequisites to addressing ICZM. This process should always include consensus-building amongst stakeholders, setting the direction and measuring ICZM success through appropriate indicators.

Specific country policy directions should be based on the ICZM Mediterranean Awareness-Raising Strategy³ that provides a common vision of the future of the Mediterranean coast and sea as well as the specific country vision for the future of the coast.

The common strategy emphasizes a future Mediterranean coast to be:

- resilient - to climate change, natural processes, human processes;
- productive – financially, competitive, high in value, increasing GDP, alleviating poverty;
- diverse – in ecological and in experiential terms;
- distinctive – culturally and in marketing;
- attractive – to visitors, investors and local people;
- healthy – free from pollution.

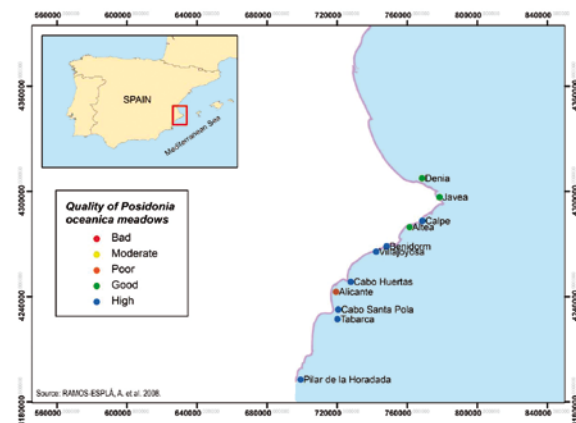
³ ICZM Mediterranean Awareness-Raising Strategy (MARS): A Framework Strategy to Support Policy Development and Implementation. SMAP III/2008/MARS, Priority Actions Programme, Regional Activity Centre; Split, April 2008.

2 - Using the correct indicators

A series of indicators (from biophysical to socioeconomic and governance) need to be monitored at local and regional level to evaluate the results of multiple activities and their interactions. These indicators are a tool to follow up coastal progress, aid decision-making and facilitate communication to a broader audience on coastal development and policy impacts on different territorial scales. The selection of specific indicators of ICZM should furthermore take into account the data acquisition strategy over the long term and the use of common protocols for its collection.



Careful selection of a few indicators in a diverse range will provide future comparisons for baseline conditions. The Pegaso consortium is developing a common set of indicators that can be applied at different scales, both in the Mediterranean and Black Seas, as a tool to measure implementation of ICZM policy and programmes.



Indicators as a tool to follow up progress. Example: Evolution of meadows as an indicator for the ICZM policy of preserving the wealth of natural capital in coastal zones.

Learning from practice

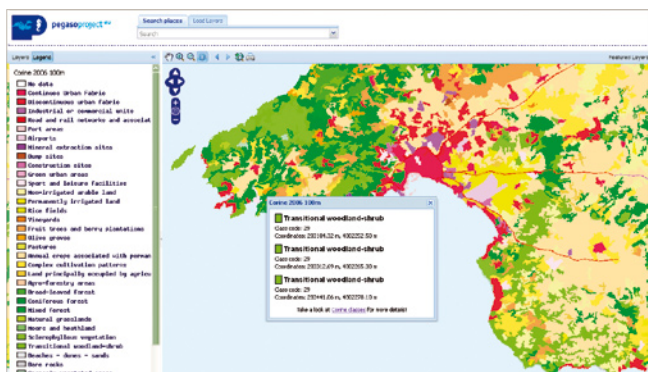
Stage 3: Analyzing the present and looking towards the future

This stage should help to present the state of the coast and likely future trends by using tools and scenarios to generate and test alternative views of the future:

1 - Mapping coastal resources and users

There is a vast quantity of data available from many sources but gathering them for particular applications can imply considerable effort and costs for local areas. The establishment of an appropriate coastal and marine data and information infrastructure is of the highest importance for making well-informed decisions and communicating relevant messages to other stakeholders.

Pegaso is building an SDI for the Mediterranean and Black Sea which will offer the possibility of uploading and downloading information using an online portal.



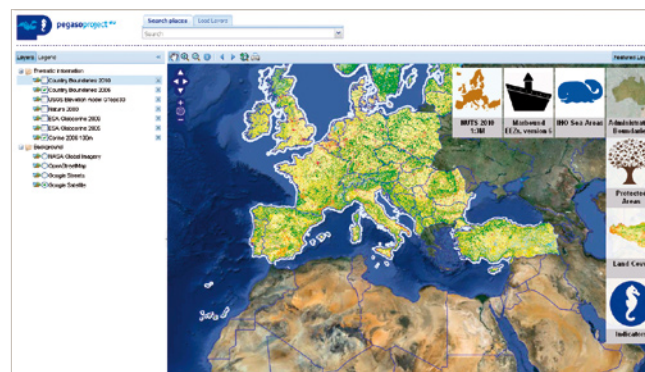
The availability of coastal information and data is essential for decision-making.



In this way, the development of a **Spatial Data Infrastructure (SDI)** under the Pegaso project for ICZM which integrates existing coastal plans and activities at local and Mediterranean or Black Sea level, and reunites different types of infrastructures, can facilitate access to primary data for any user while helping to understand in a visual manner information on the overall region and its different localities. Furthermore, developing this tool for marine spatial planning will allow for the evaluation, adoption and implementation of those measures appropriate to a region or site, and location planning for diverse human activities.

2 - Building scenarios

The integrated management of the coastal zone will require decision makers to draw on a range of different types of information. Pegaso is exploring two key areas, namely the use of environmental accounts to describe past trends and the current situation, and scenarios to explore what the future might hold under different assumptions about policy and the drivers of change.



Mapping changes in land cover in the Mediterranean and Black sea Basins



Scenarios can help people design national strategies and action plans by allowing them to explore alternative courses of action and the consequences of different policy goals. Examples include Blue Plan key publication “A Sustainable Future for the Mediterranean: the Blue Plan’s Environment and Development Outlook (2005, updated in 2008), and a number of local studies using the “Imagine” method, as for instance in the framework of the Coastal Area Management Programmes of the UNEP/MAP. These approaches will be extended and applied across the Mediterranean and Black Sea Basins; the work will support the Regional Assessment for the two sea basins that is being undertaken by Pegaso.

The accounting tools and techniques used here have grown out of the wider international work that has been undertaken by the Pegaso partners with the European Environment Agency. Accounts are a way of organising information for decision makers so that they can review the stock of ecosystem capital (represented by habitats and species, for example) and the way those capital stocks are changing over time. The purpose of these ecosystem accounts is to provide decision makers with the indicators or measures of the current state and condition of natural capital and whether it is being used or consumed by people in unsustainable ways.

The Pegaso project is using the Land Use and Ecosystem Accounting (LEAC)¹ methodology for the application of the ecosystem accounting model for the Mediterranean and the Black Sea. LEAC can provide direct information on the state and degradation of natural capital due to the over-use of natural resources by people.

1 Ivanov, E. & Nowell, M & Morisseau, F. (2012): LEAC methodology for coast and marine accounts. With contributions from Françoise Breton and Roy Haines-Young. *CEM Working Paper, 10*. Available from : www.nottingham.ac.uk/CEM

Learning from practice

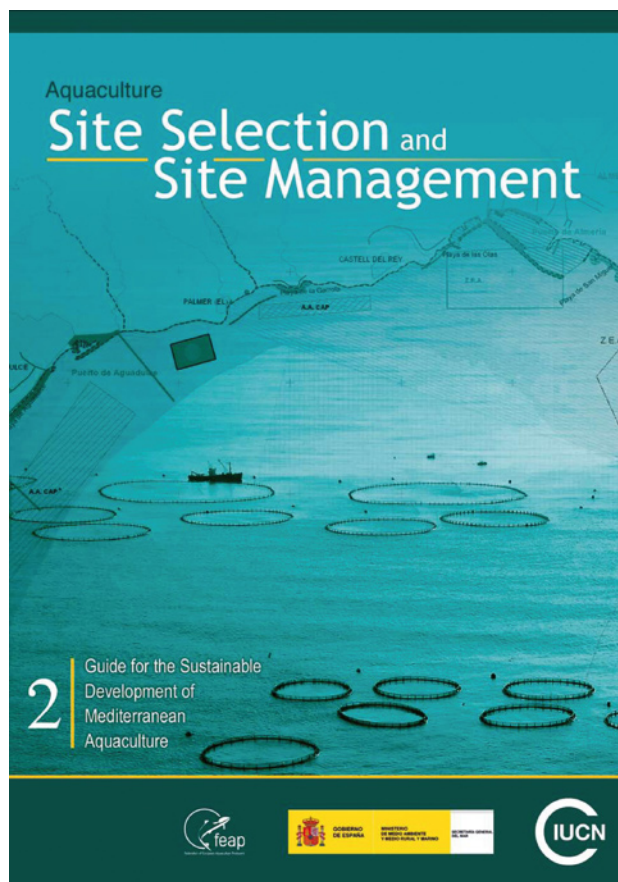
Stage 4: Setting mechanisms in place to manage and monitor progress towards ICZM

The ultimate aim of this final stage, and indeed of the whole process, is to generate a self-sustaining process of implementation towards the goal of sustainable development based on a combination of instruments including:

1 - Preparation of local guidelines and regional spatial strategies to support the implementation of coastal zone management plans

Guidelines intended to facilitate the preparation of coastal management plans for local authorities; coastal communities and businesses are successful methods in developing improved strategic planning initiatives. They can include issues related to coastal risk management, community uses of the coastal zones and management of natural and cultural heritage resources among others, and should consider the different society sectors.

In Australia for example, the coastal management implementation plan envisages the need to develop guides and tools for planning and management to improve development and rehabilitation practices, maintain estuarine flow, dispose of dredging materials, address climate change risks and adaptation options or reduce alien species introduction and translocation in ports, harbours and others.



Private businesses are willing to accept responsibility and to consider alternative actions provided they are acknowledged as part of the planning process and can increase the value and long-term viability of their activity.

2 - Institutional arrangements and legal developments

At national level, there are three main institutional approaches used throughout the world to carry out the required integration of coastal and marine management:

- Concentrate authority in a new centralized agency.
- Expand and enhance the duties of an existing agency.
- Establish an inter-agency coordinating committee and place it, if possible, at the highest level of government.

As an example on a large scale, the Gulf of Maine Action Program (GMAP)⁴ is a multilateral coastal zone initiative intended to address ocean use and river basin management in the Gulf of Maine (USA and Canada).

The GMAP provides a potential mechanism for multiple government cooperation concerning ICZM, requesting the participation of both the Canadian and US federal governments to negotiate and enter into additional multilateral agreements and arrangements.

⁴ <http://www.gulfofmaine.org>



Many coastal zone activities will need further potential mechanisms for multiple government cooperation concerning ICZM as well as to be capable of integrating transboundary issues with neighbouring coastal countries. The **Shared ICZM Governance Platform** for the Mediterranean and Black Seas developed by the Pegaso project could facilitate this process.

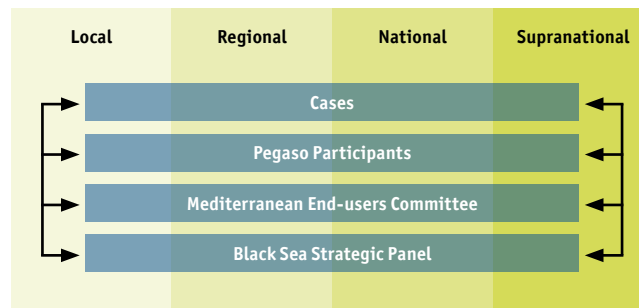
“What” and “Who” could be involved in the governance platform?

The “ICZM Governance Platform” led by the PAP RAC Centre in partnership with national and international institutions (The Pegaso Consortium and The End Users Committee) has been created with the goal of supporting implementation of the Protocol, including an on-line resource library. Its development involves collecting and mapping information throughout the basins, collaborating with partners, strengthening the capacity of stakeholders as well as developing case study planning scenarios dealing with the coastal interface resources and the different local situations in the Mediterranean and Black Seas.

End-users committee

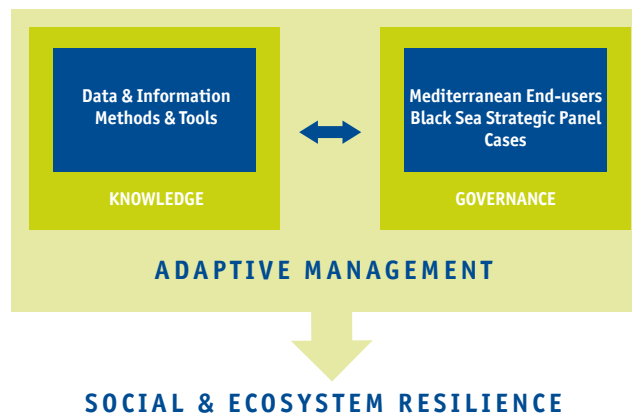
In addition to the organizations represented in the Pegaso Consortium, an End-users Committee has been created, formed by different government representatives in the Mediterranean and Black Seas, to assist and guide the development of the ICZM Governance platform and its objectives. The End-users Committee welcomes the participation and collaboration of additional government representative organizations across all sectors and levels with an interest in the Integrated Coastal Zone Management process.

Pegaso platform components



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An exercise in adaptive management



3 - Establishment of well-designed monitoring and evaluation systems to assist implementation

Monitoring, including spatial and temporal monitoring, plays a key role in the evaluation of the effectiveness of measures taken.

A comprehensive and effective coastal monitoring programme must work on setting the enabling conditions through adequate policies, strategies, orders or laws to facilitate progress and enhance the monitoring of changes in institutional and individual behaviour as well as the results achieved. The relative simplicity of the monitoring system of the Mediterranean Strategy on Sustainable Development⁵ could be taken as an example.

4 - Securing sustainable funding

The implementation of ICZM is a long process which, while providing tangible economic and social benefits for coastal communities, needs permanent and/or trained staff and operating funds from the onset. Securing funding from donors, trust funds or taxes is therefore very important to launch initiatives in municipalities or larger areas as well for maintaining the process.

⁵ MAP United Nations Environment Programme. *Mediterranean strategy for sustainable development*. 64p, adopted in 2005.

5 - Enhancing capacity and professional development for ICZM

Capacity building is fundamental for the short and long term success of effective coastal zone management. It should be addressed at local, national and regional levels to facilitate fully integrated coastal management, particularly at local level.



The Pegaso case studies: Building capacity and sharing experiences

Several mechanisms and existing tools to enhance this capacity are being developed under the Pegaso project and by different institutions in different regions, including the compilation of data from 10 different pilot sites across the Mediterranean and the Black Sea regions: the Pegaso Cases.

Specific training materials for the planning process and implementation of ICZM policies and tools in the different countries are currently being developed by the Pegaso Consortium. As part of this work, 10 Collaborative Application SitES (CASES) are testing and validating the assessment tools developed during the project on different spatial scales that will contribute to the Regional assessment in the Mediterranean and Black Sea.

Seven CASES are located in the Mediterranean Basin:

- 1 Al Hoceima Coast in Morocco
- 2 Bouches-du-Rhône in France
- 3 North Adriatic
- 4 Aegean Island
- 5 Köycegiz-Dalyan, in Turkey
- 6 North Lebanon
- 7 the Nile Delta in Egypt

while three are located in the Black Sea:

- 8 Danube Delta in Romania
- 9 Sevastopol Bay in Ukraine
- 10 Guria coastal region in Georgia



The Pegaso 10 pilot sites for ICZM in the Mediterranean and the Black Seas offer information at different spatial scales to feed into a regional assessment

1 - Al Hoceima coast (Morocco)



© Hocein Bazairi

Coastal priorities:

Main coastal issues include urban sprawl and weak coastal planning, limited resources management and vulnerability to climate change impacts.

Tools:

Participatory methods for a more effective stakeholder engagement and integrated policies; evaluation of indicators for monitoring the state of the coastal environment and resources; preparation of vulnerability maps to guide dialogue and better informed decisions at a regional and at the national level.

Expert contact person:

Maria Snoussi, Hocein Bazairi, University Mohamed V-Agdal, ma_snoussi@yahoo.fr, hoceinbazairi@yahoo.fr

2 - Bouches-du-Rhône (France)



© Tour du Valat

Coastal priorities:

Increasingly fragile coastal and marine natural zones due to segmentation; population and urban growth; maritime traffic and transport issues.

Tools:

Use of several tools and approaches to assist resource management: Indicators, LEAC (Land and Ecosystem Accounting), participatory approaches and socio-economic valuations.

Expert contact person:

Lisa Ernoul, Tour du Valat, ernoul@tourduvalat.org

3 - North Adriatic Sea (Italy-Slovenia-Croatia)



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Coastal priorities:

Climate change impacts and lack of risks assessments; decreasing water quality for bathing and lack of common vision for the implementation of the ICZM protocol in the Adriatic.

Tools:

Support the prioritization of areas at risk that require implementation of adaptation strategies due to their exposure to climate change with tools such as indicator assessment, participatory approaches and development of a Decision Support System (DSS) tool.

Expert contact person:

Stefano Soriani - Ca' Foscari University of Venice soriani@unive.it

4 - Aegean Sea Islands (Greece)



© Dr. Alexis J. Conides

Coastal priorities:

Fisheries, tourism and transportation issues in Naxos Island.

Tools:

Test and application of adaptation tools for analysis costs and benefits using more than 300 indicators to assess and choose those appropriate for strategic planning at the region; hands on workshops on participatory methods; interviews with different stakeholder's groups and evaluation tools to compare future scenarios of climate change (sea level rise) and land management (LEAC, Land and Ecosystem Accounting).

Expert contact person:

Alexis Conides, Institute of Marine Biological Resources, Hellenic Centre for Marine Research, Greece akoni@tee.gr

5 - Köyceğiz-Dalyan Special Environmental Protection Area (Turkey)

Coastal priorities:

Limited water quality management, sea level rise impacts, poor management of recreational activities and maritime traffic, limited nature protection effectiveness, urban sprawl and low fisheries management.



© Igor Podymov

Tools:

Implementation of several tools for integrated coastal management: public participation, local community awareness, and use of indicators for monitoring the state of coastal environment and resources and the coastal management process.

Expert contact person:

Erdal Özhan, Mediterranean Coastal Foundation ozhan@metu.edu.tr

6 - North Lebanon Coastal Zone (Lebanon)



© Institute of the Environment
University of Balamand

Coastal priorities:

Beach erosion leading to risk of storm surges and coastal flooding; urban sprawl with artificialization of the Lebanese coastal zone and loss of many coastal sensitive habitats, increasing pollution and degrading marine ecosystems as well as impacts on artisanal fisheries activities.

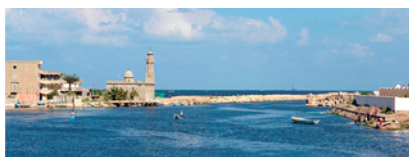
Tools:

Tools such as development of potential scenarios and assessment status of the coast using indicators will facilitate visualizing a more complete picture of present and future challenges for this coast. A Coastal Forum will bring the gap between the scientific community and the decision makers.

Expert contact person:

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7 - Nile Delta (Egypt)



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Coastal priorities:

Vulnerability of this low lying coast to climate change, farming and associated industries, unsustainable pressure on fisheries resources and other extracting industries like oil and gas exploration.

Tools:

Exploring ways to enhance the participation of the experts, stakeholders and decision makers to build a Strategic Action Plan, particularly on fisheries and mariculture.

Expert contact person:

Suzan Kholeif, National Institute of Oceanography and Fisheries,
Suzan_Kholeif@yahoo.com

In the Black Sea

8 - Danube Delta (Romania)



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Coastal priorities:

Wetland degradation, loss of biodiversity, impacts of extreme events and increasing vulnerabilities of ecosystems and local population livelihood.

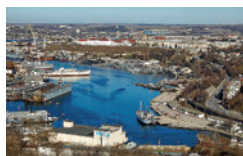
Tools:

The guidance elements include the preparation of a framework for maritime spatial planning using GIS digital maps, the development of thematic maps on pressures and resources using also SketchMetch method (a spatial planning tool) and the elaboration of a preliminary ICZM strategy for consultation with stakeholders.

Expert contact person:

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9 - Sevastopol Bay (Ukraine)



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Coastal priorities:

Main issues related to coastal development, eutrophication and other water pollution, biodiversity loss and impacts and risks exacerbated by climate change.

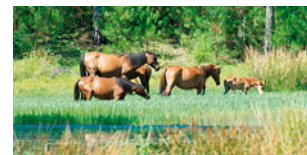
Tools:

Foster greater collaboration and understanding between stakeholders through building web portals, GIS mapping datasets, existing legal and regulatory frameworks as well as other interacting tools to build scenarios.

Expert contact person:

Sergey Kononov - Marine Hydrophysical Institute, Ukrainian National Academy of Sciences
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10 - Guria Coastal region (Georgia)



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Coastal priorities:

Diminishing bathing water quality and increasing of beach litter, weak quality of Environmental Impact Assessments evaluations (i.e. new Supsa port), acute erosion as well as loss of important natural habitats.

Tools:

Application of participatory tools and development of mapping GIS data as well as hydrological models for Georgian catchment area will be used to assess better management approaches for the catchment of the River Supsa.

Expert contact person:

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Amiran Gigineishvili, Georgia CASE Coordinator
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ACRONYMS:

CBD:	Convention on Biological Diversity
CASES:	Collaborative Application SitES
DSS:	Decision Support System
EEZ:	Exclusive Economic Zone, United Nations Convention on the Law of the Sea
EIA:	Environmental impact assessment
ETD:	Environmental Territorial Diagnosis
GIS:	Geographic information system
ICZM:	Integrated Coastal Zone Management
LEAC:	Land Use and Ecosystem Accounting
MCA:	Multi-Criteria Analysis
MPA:	Marine Protected Area
PAP/RAC:	Priority Actions Programme/Regional Activity Centre, UNEP
SDI:	Spatial Data Infrastructure
SPAMIs:	Specially Protected Areas of Mediterranean Importance

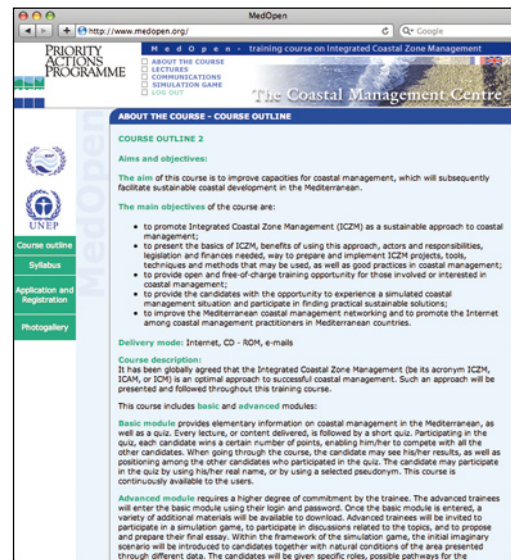




Training opportunities

The [Pegaso Project](http://www.pegasoproject.eu) has produced a Capacity Building Plan including online training materials and courses aiming at providing management tools, creating participation and compilation of relevant data. For this, a Moodle e-learning platform has been created to organize training in SDI, CASEs and Scenarios.

You can visit the Pegaso project website and the Coastal Wiki for more details <http://www.pegasoproject.eu/wiki>



ICZM capacity building programmes in the Mediterranean and the Black Seas

Within Europe, the LitusGo project (<http://www.litusgo.eu/>) has also worked on training local Mediterranean authorities and civil organizations in integrated coastal zone management and reaction to the impacts of climate changes.

Other courses available from international institutions include:

- Erasmus Mundus Joint MSc in Water and Coastal Management
- MSc in Education in Coastal Management for the Mediterranean (Educom@Med) proposed by the Pablo de Olavide University (EU Tempus Programme)
- CoastLearn -EUCC proposed by the The Coastal Union
- Training courses on Valuation and Methodologies for Marine Environment proposed by MarBEF, the Marine Biodiversity and Ecosystem Functioning EU Network of Excellence
- Training Programme on Regional Ocean Governance for Mediterranean and Eastern European Countries proposed by the International Ocean Institute (IOI)
- Training Course on Application of remote sensing & GIS Coastal and Ocean Management proposed by the IOI and IOC-UNESCO IODE Project
- Training Programme in Sustainable Use of Coastal and Marine Resources (SUCOMAR) proposed by InWent Capacity Building International, Germany / COASTMAN
- Virtual training course on Integrated Coastal Area Management (MedOpen) proposed by The Coastal Management Centre and Priority Actions Programme/Regional Activity Centre (PAP/RAC)
- European Conferences and forum for Integrated Coastal Management and Geo-INformation rEsearch - ECO-IMAGINE