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in Assessing Sustainable development of
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The Pegaso CASEs

Building capacity and sharing experiences for Integrated Coastal Zone Management (ICZM)



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The PEGASO project focuses on the implementation of the ICZM Protocol through case studies at 10 pilot sites around the Mediterranean and Black Seas. These are the **PEGASO CASEs (Collaborative Application SitEs)**, and act as laboratories for testing and validating ICZM tools developed during the project at different spatial scales, as well as contributing to the Regional Assessment in both seas.

These tools are available on the PEGASO webpage and wiki.

PEGASO Tools for ICZM: Understanding the Ecosystem Approach¹ (EcAp)

Indicators²: PEGASO has selected a set of 26 indicators from a review of Plan Bleu³, the IOC UNESCO⁴ handbook and the DEDUCE⁵ indicators, and from experts' contributions. Fifteen methodology fact sheets have also been developed⁶.

Land and Sea Ecosystem Accounting applied to the Mediterranean and Black Seas⁷: PEGASO has developed a full, new land accounting scheme for the Mediterranean and Black Seas, and a full, new cumulative map of impacts on coastal and marine ecosystems of the Western Mediterranean.

Models and Scenarios⁸: The PEGASO platform has worked on different foresight and scenario-building methodologies to orient the main ICZM priorities for today and in the future today and in the future.

1 http://www.pegasoproject.eu/wiki/the_ecosystem_approach

2 http://pegasoproject.eu/wiki/pegaso_project_indicators_for_integrated_coastal_zone_management_in_the_mediterranean_and_black_seas

3 <http://www.planbleu.org/indexuk.html>

4 <http://www.unesco.org/new/en/natural-sciences/ioc-oceans>

5 http://climate-adapt.eea.europa.eu/projects?ace_project_id=1602

6 <http://www.pegasoproject.eu/links-9>

7 http://www.pegasoproject.eu/wiki/Application_of_LEAC_in_PEGASO

8 [http://www.pegasoproject.eu/wiki/scenarios_\(pegaso\)](http://www.pegasoproject.eu/wiki/scenarios_(pegaso))

Spatial Data Infrastructure⁹ (SDI)

Participatory processes¹⁰: Participation organized at the regional level and in the CASEs has involved more than 700 end-users over 4 years.

Participation is a process where individuals, groups and organizations take an active role in making decisions that affect them.

Public participation is increasingly being recognised as a necessary method of ensuring the successful implementation of environmental policies. Since the Earth Summit in Rio de Janeiro in 1992, with its Principle 10 and Agenda 21, and the adoption in Europe of the Aarhus Convention, participation has become a fundamental pillar of environmental policy and has been included in the EU Water Framework Directive, the EU Marine Strategy Directive and the Mediterranean Protocol on ICZM.

Participation poses challenges, as it can be time consuming, intensive and confrontational, and can delay policy development. If improperly managed, public participation can create new conflicts or escalate existing ones.

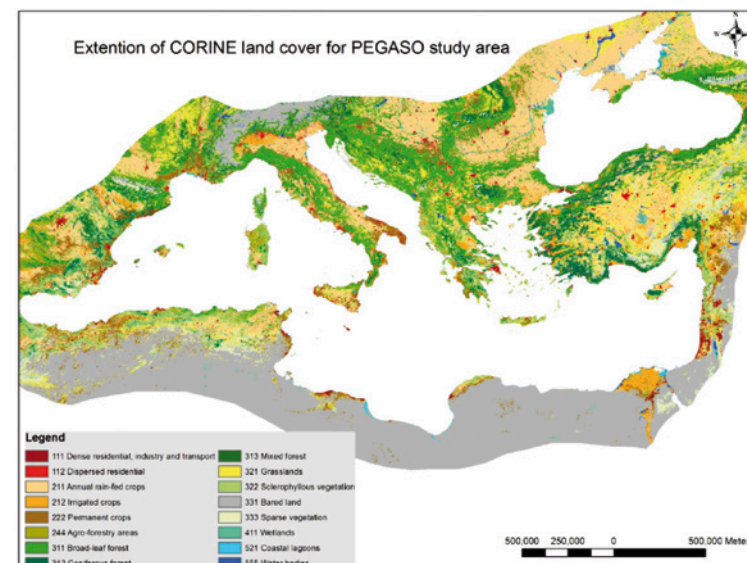
However, effective public participation allows us to obtain information that would not be available otherwise. It enlarges the representation of citizens' and stakeholders' interests, improves local 'ownership' of strategies and strengthens the legitimacy of policies, thereby improving the quality and durability of decisions.

For participation to produce the desired results, the method has to be planned and developed with great care, and facilitators have to be trained in participation methodology, ICZM principles and social relationships. For this reason PEGASO organized the Training of Trainers course¹¹.

9 <http://www.pegasoproject.eu/geoportal>

10 http://www.pegasoproject.eu/wiki/pegaso_participation_methods

11 <http://www.pegasoproject.eu/images/stories/wp4/pegaso-tot-participation.pdf>



Ivanov, E.; Haines-Young, R. and M. Potschin (2013): *Applications of LEAC in PEGASO: An Overview*. CEM Working Paper No 12, 11pp. http://www.nottingham.ac.uk/CEM/pdf/CEM_Working_Paper_12_V1_PEGASO_LEAC.pdf

Participation in the ICZM phases, and the CASE experiences

In the PEGASO CASEs, participation is more than just a tool: it is a fundamental pillar of ICZM development and a cross-cutting component of the PEGASO tool box. People thinking and working collectively on different approaches (Bayesian belief networks, DIGEST foresight exercise, etc.) are often the first participatory experiences for CASE stakeholders. These experiences have allowed stakeholders to share their information and knowledge. The resulting benefits have been acknowledged in all the CASEs and there has been considerable demand for these exercises to continue in the post-PEGASO phase.

The PEGASO toolbox explains how to develop some participation methods, and in which phases of ICZM they are most useful.

The PEGASO CASEs have been chosen to depict a set of heterogeneous coastal situations: the seven CASEs in the Mediterranean and the three CASEs in the Black Sea represent different physical coastal features, geographical scales, socio-economic contexts and conflicts among uses.

Some of the CASEs already had ICZM experience while others only started considering ICZM at the beginning of the project. Their collaborative work on the PEGASO tools has improved their understanding and ownership of ICZM.

TOOLS	Al Hoceima Coast	Bouches du Rhône	North Adriatic Sea	Aegean Islands	Köycegiz-Dalyan Protected Area	North Lebanon Coast	Nile Delta	Danube Delta	Sevastopol Bay	Guria Coastal Region
Participation methods										
Indicators										
Vulnerability studies on Climate change										
LEAC										
Socioeconomic valuation										
SDI										
DSS-DESYCO, DIGEST and BBN										
BAHM (Bathing Water quality model)										
Scenarios and foresight										



ACRONYMS:

- LEAC: Land and Ecosystem Accounting
- SDI: Spatial Data Infrastructure
- DSS-DESYCO: Decision Support System for coastal climate change impact assessment
- BBN: Bayesian belief network

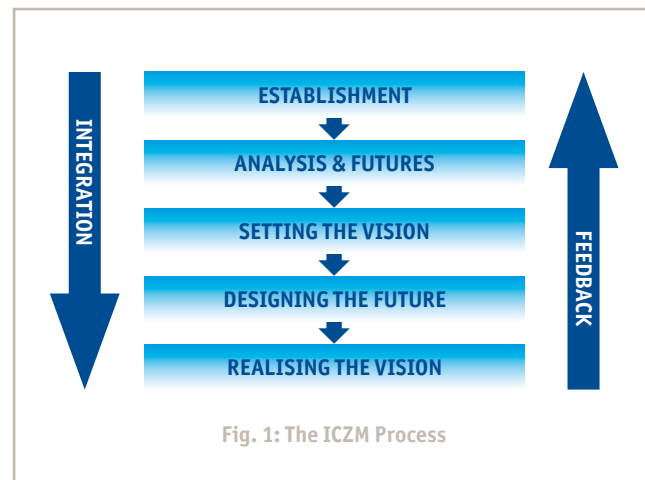
Table 1: Tools developed or tested in PEGASO CASEs.

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)

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ICZM phase: Setting the vision.

Description:

Al Hoceima is in the Mediterranean part of northern Morocco. It is composed of a bay backed by a large alluvial plain, and the national park, with 45 km of coastline featuring beautiful, high, rocky cliffs. Main city: Al Hoceima.

Population (Al Hoceima and surrounding region):
 395,644 inhabitants.

Main coastal issues:

Tourism, fisheries, agriculture, urbanization.



Fishing port of Cala Iris.
 © Houssine Nibani, AGIR.

Participatory experience:

In recent years the MAP-CAMP¹² and Destinations¹³ projects have established the ICZM process in Al Hoceima through a participation process, which has diagnosed the main coastal issues and major economic activities. PEGASO has capitalized on the benefits of these projects and local stakeholders' increased awareness of ICZM principles.

Firstly, a stakeholder analysis was carried out and workshop moderators were trained. Subsequently two workshops were organized.

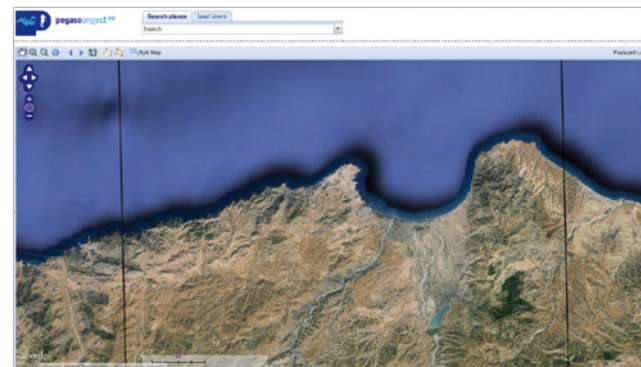
a) 1st Workshop: the expert team worked with the stakeholders to develop a prospective sustainability analysis of the Al Hoceima coast. The PEGASO set of indicators and other indicators selected during previous projects were examined. Overall, 29 indicators were adopted, based on data availability, regulations and expert recommendations. Participants also discussed alternative future scenarios for Al Hoceima.

b) 2nd Workshop: this was devoted to the impacts of the Souani tourism project on the dunes and Sfiha beach, water resources, forests and fisheries in Al Hoceima Bay. Local people held strong views on this subject and the Interministerial Committee for the evaluation of EIA¹⁴ forced the developer to revise the whole project plan. The fact that the pilot ICZM process coincided with the Souani tourism project highlights the usefulness of the PEGASO tools, which facilitated dialogue, dispute management and consultation among the actors concerned, and also nudged policy towards environmental sustainability and respect for local people's wishes.

¹² http://www.pap-thecoastcentre.org/about.php?blob_id=63&lang=en

¹³ <http://www.project-destinations.org>

¹⁴ EIA: Environmental Impact Assessment



2. Bouches-du-Rhône (France)

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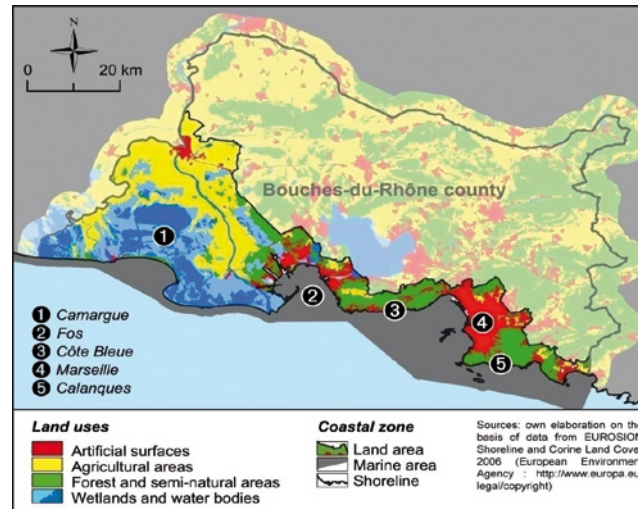
ICZM phase: Designing the future.

Description:

The 120 km-long coast of Bouches-du-Rhône is a complex and multifunctional area located in the Provence-Alpes-Côtes d'Azur region of France.

Main coastal issues:

Farming irrigation, flooding protection facilities, industrial pollution, tourism, urbanization, a national park to be declared.



Endoume, South of Marseille. © Vincent Desjardins. Some Rights Reserved.
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Participatory experience:

There is a national ICZM strategy in France, with local and regional authorities responsible for its implementation. A plethora of management plans on a variety of scales have been developed, most of them using a participatory approach. The Water Agency is a key player in most sites (through funding) and ensures some consistency among the different management plans.

This CASE participation experience consisted of strengthening collaboration between scientists and environmental managers. First, a local governance board was set up, and the Rhône-Mediterranean and Corsica Water Agency was made a member of the PEGASO End-User Committee. An inventory of bodies actively involved in ICZM was developed, and 10 of them (1 or 2 from each sector) were interviewed between January and April 2012. The aim of these semi-structured interviews was to gain an understanding of the current management system and tools, and to get the bodies' views on the system and its deadlocks, on environmental problems in the area and on their additional tool needs.

Second, a set of indicators and a Land and Ecosystem Accounting (LEAC) system were developed by the scientific team in conjunction with the same environmental bodies, through the internet, additional interviews, and local workshops. The final results were forwarded to the Water Agency.

Finally, a SWOT analysis (Strengths, Weaknesses, Opportunities y Threats) helped to reveal the strengths, weaknesses, opportunities and threats involved in this process.

Since Bouches du Rhône and Al Hoceima have a number of coastal issues in common, they decided to share their experiences of coastal management in the participatory workshop 'Atelier de travail du projet européen PEGASO' (Marseille, 11 February 2013).

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

Contact person:

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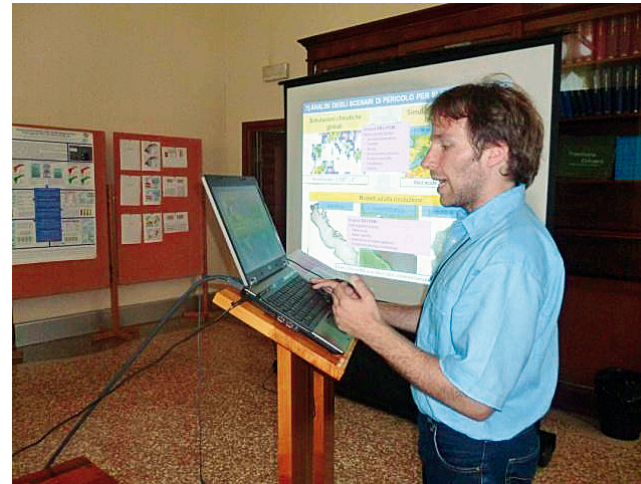
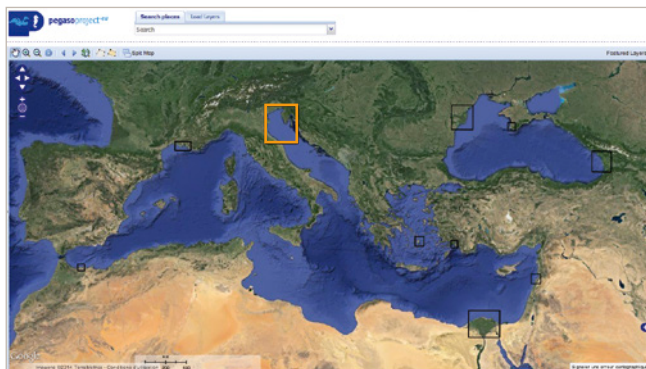
ICZM phase: Establishment.

Description:

The North Adriatic is a trans-boundary CASE, comprising coastal zones of Italy, Slovenia and Croatia. It comprises the coasts of four Italian regions: Marche, Emilia Romagna, Veneto and Friuli-Venezia Giulia; the Slovenian coastal zone; and the coast of four Croatian counties: Istria, Rijeka, Lika and Senj, and Zadar. The area has 2,227 km of mainland coastline and about 1,502 km of island coastline.

Main coastal issues:

Climate change (sea-level rise), tourism, urbanization, eutrophication, sea water intrusion in aquifers, fisheries and aquaculture.



Presentation of the DSS-DESYCO, Ca' Foscari University, June 2012 © Pegaso.

North Adriatic Sea © 2004-ESA.



Participatory experience:

In this PEGASO CASE, end-user participation was employed to improve and validate a Beach Health Advisory Model (BHAM) for municipalities, and a Decision Support System for coastal climate change impact assessment (DSS-DESYCO).

First, a stakeholder analysis allowed us to identify 44 entities dealing with environmental management and planning in the coastal regions of Veneto and Friuli-Venezia Giulia. They included regional environmental and civil protection agencies, provincial and municipal authorities, river basin management bodies, the Venice water and harbour authorities, the Rimini Miramare MPA and the National Institute for Environmental Research, as well as the Adriatic Euroregion.

The BHAM, which predicts short-term bacterial dispersion in bathing waters, was implemented in the district of Chioggia (Veneto) as a pilot scheme. Six stakeholders were selected and contacted for interview. A semi-structured approach was chosen because it allows the interview to be steered towards specific points (e.g. factors influencing water quality in the Sottomarina beach). All the interviews were conducted within a short period so that all the inputs would be ready at the start.

For the DSS-DESYCO, an expert panel was organized in order to provide a variety of highly specialized opinions and suggestions. Thirty people took part in the one-day meeting.

In both schemes, stakeholders described their needs and evaluated the tools available, suggesting improvements and identifying possible concrete applications.

The CASE also enabled us to create a network of scientists and managers in the North Adriatic coastal area, which could be extended in the future.

To maintain the network, it is crucial to provide stakeholders with regular feedback on the outcomes.

4. Aegean Islands (Greece)

Contact person:

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ICZM phase: Establishment.

Description:

This CASE focuses on the Cyclades archipelago of 39 islands, 15 of which are inhabited. Covering 2,572 km², the area has a population density of 43.8 inhabitants per km², in 20 municipalities and 11 communes.

Main coastal issues:

Tourism, sewage and waste management, urbanization, traffic, freshwater scarcity.

Participatory experience:

The Ministry of Environment, Energy and Climate Change is planning a national ICZM strategy, which will include a coastal forum. This will be an opportunity to put the ICZM participation process on the right track.

This PEGASO CASE, as a pilot experience, has provided useful options and recommendations and helped to build a stakeholder network based on trust and mutual benefit.

First, an **institutional network** was set up, comprising an expert panel of scientists and administrators (at national and local level), and an extensive stakeholder analysis was performed.

The strategy was to involve all ICZM stakeholders, regardless of their attitudes and positions on coastal issues and ICZM. Given the early stage of the ICZM process in Greece, the priority was to establish an extensive participatory network. Following the identification and selection of stakeholder groups, the team from the Hellenic Centre for Marine Research performed a basic analysis of stakeholders' interest in participating in ICZM and their power of influence (Fig. 2).

To properly manage conflicts of interest, participation was developed in two stages:

a) Face-to-face interviews were conducted with stakeholders to create trust, convince them that partnership is the way forward, inform them of their position and influence within the ICZM process, train them in the use of PEGASO tools and raise awareness of coastal issues and ICZM;

b) Meetings with focus groups and round tables were organized and rules of engagement were set out (transparency about administration measures, equality, confidentiality and respect for other parties' views).

This strategy was successful, and very useful information was collected. Nevertheless, feedback activities are necessary to maintain the stakeholder network, to advance the process and to avoid a feeling among stakeholders of being used and forgotten. For the time being such activities are limited by budget constraints. The fact that the Ministry of Environment is fully aware of and involved in the ICZM process is a cornerstone of its viability. A SWOT analysis of participation in the Cyclades was also developed.

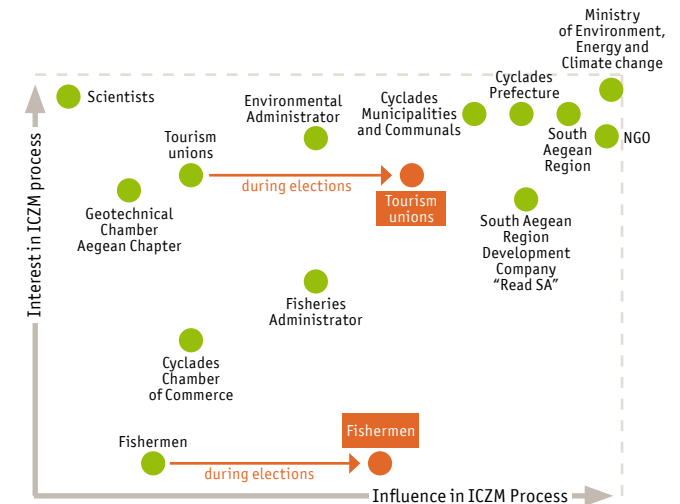
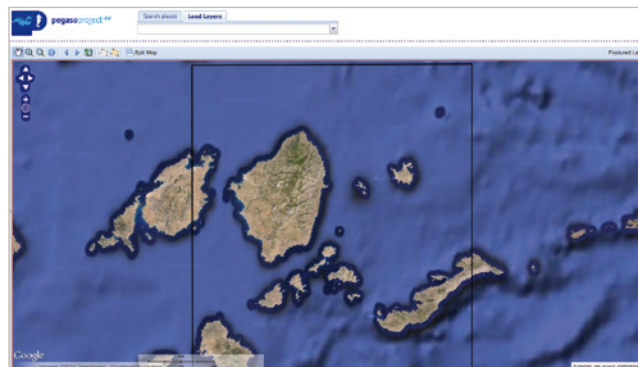


Fig. 2: Influence/interest chart of Aegean CASE stakeholders. Interest was strongly related to their understanding of what ICZM is. Coordinate scales arbitrary, set by expert judgement.

Subsequently, the CASE organized a workshop on 'The future of Greek aquaculture: Building a sustainable industry in the framework of integrated coastal zone management', which brought 62 experts together in Athens for three days. They focused on how to transform aquaculture into a sustainable activity through the mobilization of ICZM principles.

Naxos, Cyclades. © Antonikon. Some Rights Reserved. This picture is licensed under <http://creativecommons.org/licenses/by-nc/2.0/>



5. Köycegiz-Dalyan Special Environmental Protection Area (Turkey)

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ICZM phase: Establishment.

Description:

Köycegiz-Dalyan Specially Protected Area (SPA) lies on the south-western coast of Turkey. It covers an area of 461.5 km² and has a coastline of about 12 km.

Main coastal issues:

Water quality management, urban sprawl, fisheries, management of recreational activities and boat traffic, top nesting sites of the flag species *Caretta caretta* (loggerhead turtle).



Köycegiz Lake © mwanasimba. Some Rights Reserved.
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Participatory experience:

In 2011 a call for tenders was launched by the Turkish Government for preparation of a National Strategy and Action Plan in line with the ICZM protocol. However, the project has since been postponed. This PEGASO CASE has a demonstrative role, to increase awareness among stakeholders about coastal issues in the Köycegiz-Dalyan area and their role in the ICZM process, and to transfer knowledge about the ICZM tools.

The PEGASO team identified the key stakeholders in Köycegiz-Dalyan SPA in 2010 and contacted them in individual meetings or by other means during 2011 to explain the purpose and scope of the PEGASO project and the CASE experience.

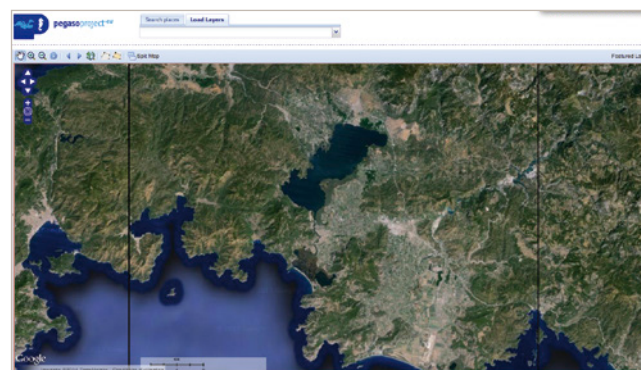
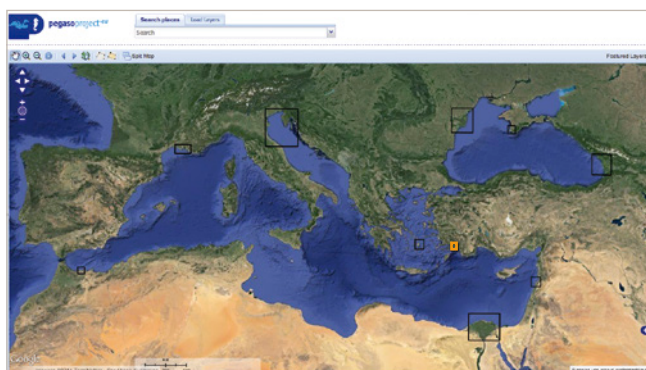
The first general stakeholder meeting took place in January 2012, with 27 participants. A proposal was made to create a web-based forum for Köycegiz-Dalyan SPA, so as to increase contributions from all parties. This platform is available in Turkish on the MEDCOAST web site¹⁵.

The second meeting, held in February 2013, had 20 participants. LEAC showing urban sprawl in the area was presented. The third meeting was held on 6 November 2013, with 38 participants. The findings about the major coastal management issues in the SPA were presented to the stakeholders and their views on these issues were collected.

In all three workshops, national and regional decision makers were absent, as were the fisheries and boat operators' cooperatives based in the SPA. However, participation of local representatives, the tourist accommodation sector, NGOs and universities was satisfactory. They agreed on the importance of increasing public awareness and participation to achieve successful management of Köycegiz-Dalyan SPA, and of showing the benefits of participatory management to the reluctant sectors.

Two Bayesian belief network (BBN) workshops were held on 6 and 17 November 2013 to develop scenarios for the natural capital in the SPA. Around 65 people participated. The important elements contributing to this natural capital were identified with the stakeholders, as well as the factors that could have an impact on it. A questionnaire was given to participants, which will be used to calibrate the BBN software and to form the base for predictions under different scenarios. The final session of the BBN workshops is scheduled for 2 January 2014, to present and validate the results.

¹⁵ <http://www.medcoast.net/>



6. North Lebanon Coastal Zone (Lebanon)

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ICZM phase: Designing the future.

Description:

The North Lebanon CASE occupies nearly one third of the country's coast, with 100 km of shoreline. It includes three bays and two main headlands, one major and several small cities, coastal agricultural fields, various river deltas and the Palm Island Nature Reserve.

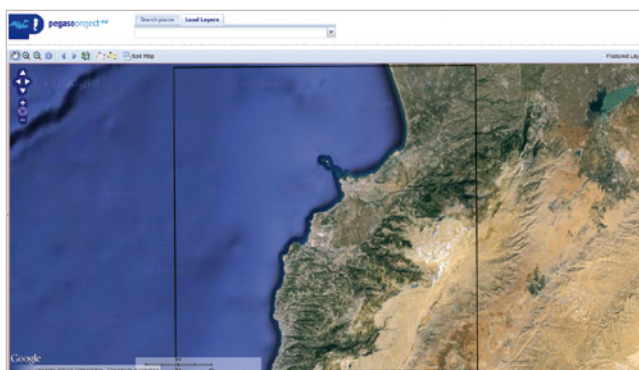
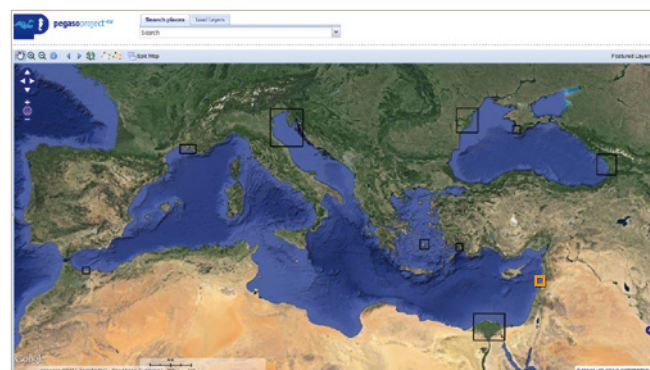
Main coastal issues:

Urban sprawl, erosion, land reclamation, marine pollution, decline in small-scale fisheries, climate change impacts (coastal flooding), degraded marine ecosystems.

Road construction, Lebanon. © aussiejeff. Some Rights Reserved.
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Fishermen in the Lebanese Palm Islands Nature Reserve.
 © Khaled Allam.



Participatory experience:

There is no national ICZM strategy, but the North Lebanon CASE has its own ICZM strategy, developed through an extensive participatory approach and analysis of baseline information by the former Integrated Management of East Mediterranean Coastlines (IMAC)³⁶ project. Participation consisted of stakeholder analysis and interviews, focus group meetings, courses, field trips and multi-sector workshops over a three-year period.

The PEGASO project has provided an opportunity to advance the process and maintain the established stakeholder network, which is formed of authorities, NGOs, representatives of the productive sectors and other organizations. Based on the IMAC strategy, PEGASO has set up a coastal forum, the main objective of which is to bridge the gaps between the scientific community, local people and decision makers. In this way PEGASO is providing the tools that will ensure the continuity of the ICZM process after the project ends.

The participatory approach has allowed the lead team to better understand the social, economic and environmental situations and processes in the area. The ICZM is a long-term process and, if activities are not sustained, efforts and results will be wasted. It is also necessary to develop sustained and targeted awareness campaigns to bring about a productive dialogue for integration.

Currently the UOB-PEGASO Team is creating a Bayesian belief network (BBN) model for controlling artificialization along the North Lebanon coast, in four stages:

- 1: An expert panel meeting will identify influences and drivers and build a first draft of the BBN.
- 2: The BBN will be transformed into a questionnaire in order to determine states and probabilities for each influence/driver, to be revised by the panel.
- 3: The final questionnaire will be sent out to all stakeholders at a national level.
- 4: The questionnaire results will be presented as a complete BBN to stakeholders at a large workshop.

16 <http://smap.ew.eea.europa.eu/fol112686/fol577993/fol387321/prj741591>

7. Nile Delta (Egypt)

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IZCM phase: Establishment.

Description:

The Nile delta is a low-lying area with 180 km of coastline backed by lagoons (Edku and El-Brolus) and wetlands, and almost 14 million residents.

Main coastal issues:

Urban sprawl, pollution, land use conflict (agriculture/urban settlement), climate change (sea-level rise), decline of fisheries.



7. Nile Delta (Egypt)

Participatory experience:

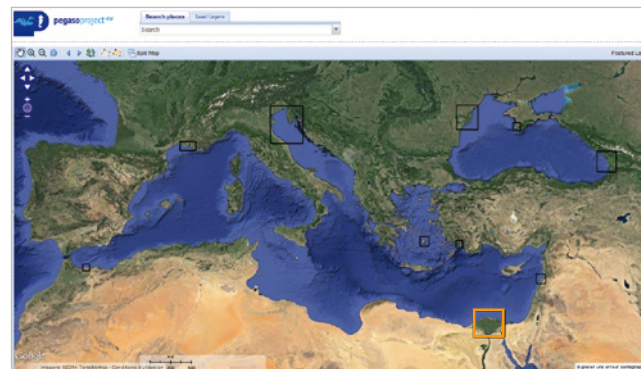
The Egyptian Environmental Affairs Agency has drawn up a national ICZM plan in cooperation with the United Nations Environmental Programme/ Mediterranean Action Plan (UNEP/MAP). The Nile Delta CASE is one of the three pilot sites identified to implement the strategy in Egypt.

A group of coastal stakeholders and experts has been established to develop land use maps and Land and Ecosystem Accounting (LEAC), and to develop an ICZM plan for the CASE area.

Four subgroups, responsible for land use, shoreline management, natural resources and water quality, have held several meetings and produced important deliverables.

Workshops are planned to revise the final land use and shore protection plan, analyse/develop scenarios, and validate the PEGASO Nile Delta ICZM plan.

The CASE also organized the workshop on 'Nile Delta Northern Lakes: investment scenario for restoration actions and sustainable development within the ICZM framework' The workshop brought together high-level bodies that are very active in the planning, management and exploitation of the Nile delta. The main objective of the workshop was to show the relevance of some prospective methods (DIGEST), to anticipate acute problems in the management of the Nile delta lakes, and especially to focus on ICZM and the sustainable development of aquaculture. The results of this workshop have been disseminated by national TV, newspapers and radio.



Traditional fishing in the Nile Delta. © Heidi Debergh.



Nile delta coastal group. © Suzan Kholeif.



8. Danube Delta (Romania)

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IZCM phase: Establishment.

Description:

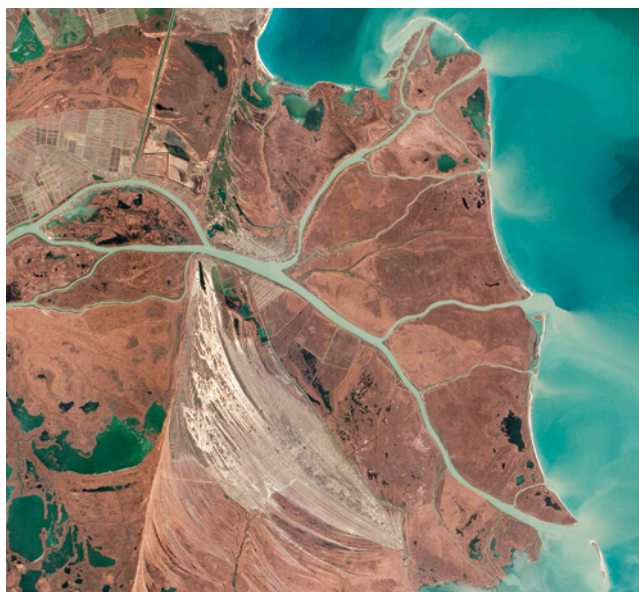
The coast of the Danube Delta stretches for 166 km from the Musura branch in the north to Midia cape in the south. It has sandy beaches, wetlands, shallow marine slopes and a high diversity of habitats and species. This led to its designation as a Biosphere reserve.

Main coastal issues:

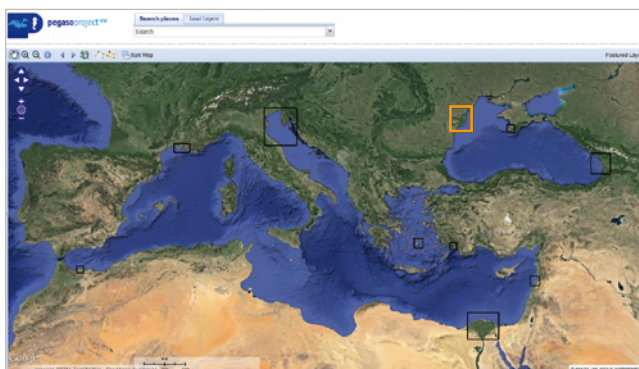
Urban sprawl, pollution, overexploitation of natural resources, natural reserve management; large-scale alterations of the river regime causing coastal erosion, worsened by climate change impacts; natural and human-made habitat degradation and loss of biodiversity; impact on people's livelihoods.

Participatory experience:

Romania has had a national ICZM strategy since 2003. The Danube Delta National Institute for Research and Development (DDNIRD) team has carried out a socio-anthropological survey to identify stakeholders and managers (from local to international) involved in coastal management, and to evaluate how formal and informal institutions and bodies interact and affect coastal zone management and local communities. They completed the assessment with informal interviews which unveiled coastal conflicts: local economic development versus biodiversity conservation, overlapping of spatial jurisdictions and competencies, and uncertainty over the legal status of the coastal zone.



Danube Delta.
© NASA Earth Observatory image by Jesse Allen and Robert Simmon, using EO-1 ALI data provided courtesy of the NASA EO-1 team and the U.S. Geological Surv.



Specific example: participatory spatial planning in Sulina

Sulina was once a flourishing spa city with more than 20,000 inhabitants and diplomatic residences. Nowadays it only has 4,800 inhabitants and limited economic activity, despite its potential for tourism based on its natural landscape and cultural heritage. This potential should be developed without destroying the features that make the area so attractive.



A Sketch-Match¹⁷ workshop was organized over two days. This is an intensive participatory method, developed by the Dutch Government Service for Land and Water Management, which reveals potential development paths and yields a spatial design. The Sketch Match planning methodology proved to be a success for the Sulina case study, securing good cooperation among stakeholders and experts and raising stakeholders' awareness of the sustainable use of their coastal area and landscape.

The final sketch took into consideration all the possible solutions drawn up by stakeholders according to their points of view and interests, thereby increasing the likelihood of better coastal area management in future.

The success of the participatory process was due to the careful selection of participants from the stakeholder network, preparation before the workshop, and the availability of good thematic maps.

¹⁷ http://www.pegasoproject.eu/wiki/Sketch_match

9. Sevastopol Bay (Ukraine)

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IZCM phase: Establishment.

Description:

Sevastopol Bay is a natural inland harbour on the coast of Crimea on the Black Sea. The bay splits Sevastopol city into a southern and a northern side. It is the estuary of the Chorna River and stretches inland for 7.5 km. The local population consists of about 400,000 permanent residents but can double in summer.

Main coastal issues:

Eutrophication and water pollution due to discharge of municipal and industrial sewage resulting in hypoxia and anoxia, biological diversity loss, climate change impacts, intense maritime traffic, high urban density.



Sevastopol.
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Participatory experience:

There is an ICZM group at the Ministry of Ecology, but an integrated national ICZM strategy does not exist, nor is there yet an ICZM Protocol for the Black Sea. ICZM issues are addressed independently by different national and regional regulations. However, Sevastopol Municipality recognises the importance of ICZM for the city and its bay, although its current environmental state makes it very difficult to implement. The aim of this CASE was to develop an information system for the bay with the help of end-users. The Marine Hydrophysical Institute first identified a wide-ranging set of 64 potential stakeholders and end-users, including national, regional and local authorities, NGOs, scientific and educational organizations and the private sector related to environmental technology and services. Environmental data were gathered from several national monitoring organizations.

The PEGASO CASE has helped to improve knowledge of this coastal zone, increase the information available and identify gaps, and select indicators. There has been continuous interaction with stakeholders, with regular discussions and assessment of their needs.

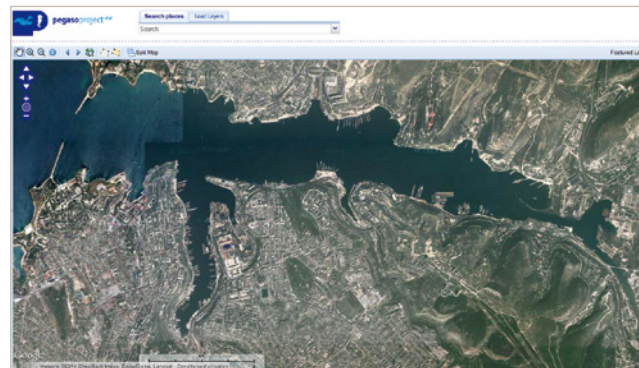
The information system, with an interactive digital atlas, indexes, scenarios, etc., serves to improve data coverage and to develop legal arrangements, environmental assessments, etc.

Letters of endorsement have been issued by a number of stakeholders, attesting to the usefulness of the system.

The results of this work have been disseminated through local newspapers and television.

The following tools have been developed and maintained:

- Information system incorporating the results of scientific studies of Sevastopol Bay.
- Web portal: http://wiki.iczm.org.ua/en/index.php/Main_Page
- WMS server: <http://193.42.157.77/ru/index.php?r=atlas/wms/view&id=19>
- GIS-type tool for the Sevastopol Bay http://wiki.iczm.org.ua/en/index.php/Download_the_latest_version_of_the_atlas



10. Guria Coastal Region (Georgia)

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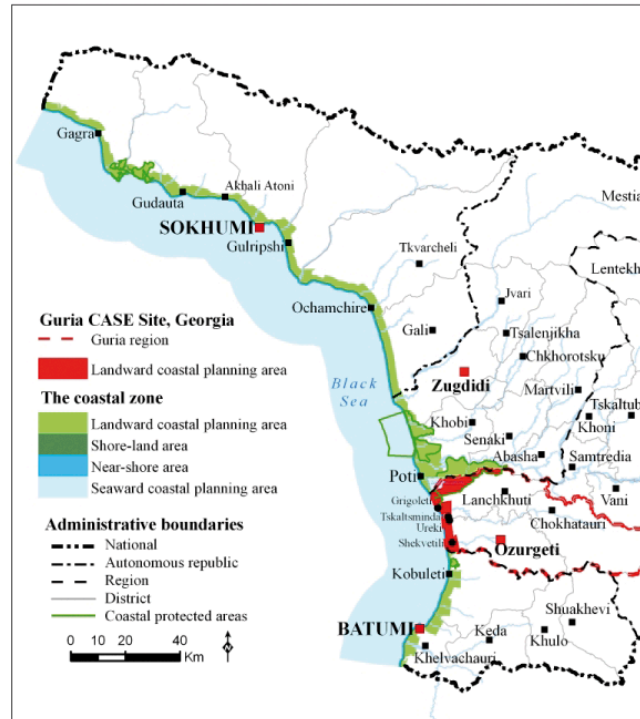
Amiran Gigineishvili,
Georgia CASE Coordinator,
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IZCM phases:

Establishment in Guria, setting the vision in the village of Tskaltsminda.

Description:

With a population of around 145,000 inhabitants, Guria Coastal Region spreads approx. 21.5 km, from the River Natanebi to the Southern edge of the city of Poti in the Western part of Georgia.



Main coastal issues:

Industrial activity (oil terminal), low quality of Environmental Impact Assessments, bathing water quality and beach litter, coastal erosion and habitat loss.

Participatory experience:

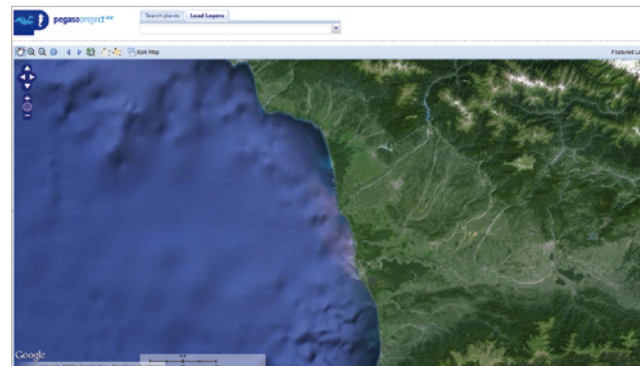
The Integrated Coastal Zone Management Strategy for Georgia was drafted with support from EuropeAid funded project Environmental Collaboration for the Black Sea (ECBSea). The coastal village of Tskaltsminda has had an ICZM plan since 2008, which was developed by means of a participatory approach within the EU funded project “Environmental Collaboration for the Black Sea”.

The objective of the PEGASO public meeting with the local population was to jointly review the plan implementation progress, problems encountered and perspectives for future.

There was a strong involvement of the Tskaltsminda community representatives. They attributed great importance to the meeting, appreciating it as an opportunity for local-decision making and active stewardship for village welfare. Therefore, they fully engaged in the discussions within working groups.

Local decision-makers have better understanding of ICZM process and tools and are indeed willing to use these tools in coastal management at the local and regional level.

The CASE organised the PEGASO Cases training workshop, “Introduction to ICZM toolbox and indicators”, held on 19-21 November 2013. The workshop used mixed methods (lessons and field trip). A great number of stakeholders from different scales (Ministries of Economy in charge of Tourism plans, Minister of Environment, etc.) attended.



Concluding remarks

The implementation of an ICZM strategy is a long-term process, as it requires a shift in attitudes and governance, conventionally from a top-down, compartmentalized model to a more integrative bottom-up model.

During the process, citizens and stakeholders become increasingly aware of their role and influence in coastal management, and of how their activities interact with the coastal environment and other sectors.

ICZM thus provides an opportunity to climb the ladder of citizen participation, from a passive, distrustful and sometimes alienated audience to partnership with elected decision makers and managers, forming stakeholder networks based on trust, transparency, understanding of others' views and mutual benefit, as reported in the CASEs.

The process builds awareness of the benefits of sharing power. It also requires specific training in the tools applied to the various aspects of Integrated Coastal Management.

Any participatory process should include additional expertise, from decision makers at various levels of government, scientists, representatives of economic activities, management bodies, experts, etc.

Stakeholders must be provided with feedback on the results and the process must advance in order to avoid 'consultation fatigue' and disappointment. Therefore, the implementation of an ICZM strategy requires sustained funding, in order to maintain a team piloting the process and to ensure the continuity and cohesion of stakeholder networks, all the way through to the achievement of the objectives.

All kinds of stakeholders have recognised the utility and uniqueness of PEGASO to help them, and are very interested in continuing such experiences in a new phase of the PEGASO project.



Pegaso 3rd General Meeting, March 2013, Rabat.



People for Ecosystem based Governance
in Assessing Sustainable development of
Ocean and coast: pegasoproject.eu

This document has been elaborated by
the IUCN Centre for Mediterranean Cooperation
in coordination with the main PEGASO partners.

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No formal representation is necessary

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