



PERSEUS Newsletter \_ Issue 1

**PERSEUS at a glance**

**Project title:**

Policy-oriented marine Environmental Research for the Southern European Seas (PERSEUS)

**Budget & Funding:**

Approx. €17 million, of which almost €13 million, funded by the EC FP7, Theme "Oceans of Tomorrow" OCEAN 2011-2013.

**Consortium:**

53 partners from 21 countries, led by Hellenic Centre for Marine Research (Greece)

**Geographical coverage:**

Mediterranean and Black Seas (referred to as SES - Southern European Seas)

**Vision:**

To carry out policy-oriented research that assesses the dual impact of human activity and natural pressures on the SES, predicting the long-term effects of these pressures on marine ecosystems and ultimately designing an effective and innovative research governance framework for policymakers.

**Duration:**

1 January 2012 to 31 December 2015

**Website:**

[www.perseus-net.eu](http://www.perseus-net.eu)

First PERSEUS results are in

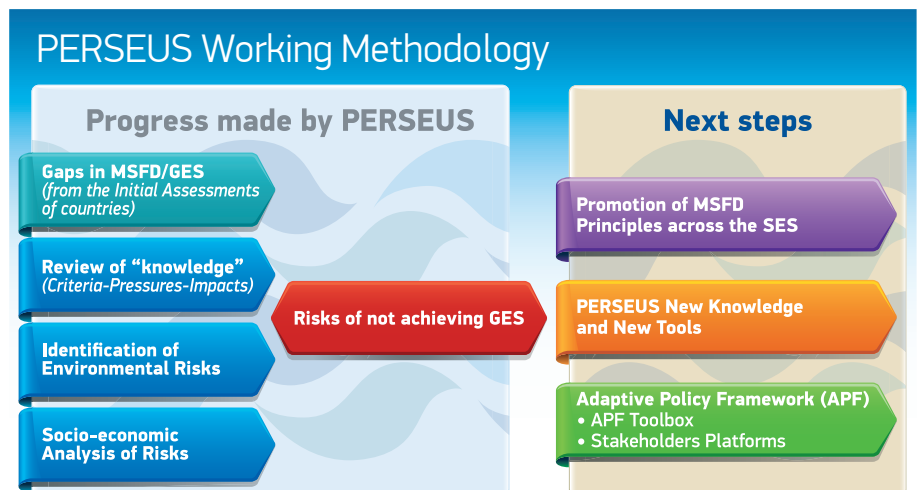
After 17 months of work, the 300 scientists involved in the project have now consolidated the results of their joint work over the last year. Following the Umbrella Workshop and the 1st General Assembly Meeting held on 22-25 January 2013, the PERSEUS team has concluded on the environmental risks for the Mediterranean and Black Seas, both on a regional and basin scale.



1st General Assembly Meeting of the PERSEUS team in Barcelona, January 2013

By understanding the links between these key environmental risks and their outcomes, scientists aim to provide key insights and recommendations that, when translated to relevant policies and actions, will significantly improve and might even restore the strained ecosystems of the Mediterranean and Black Seas.

The overall PERSEUS working methodology is depicted in the diagram below.



## Deliverables produced in the period January 2012 - May 2013 by Cluster

### New Knowledge

The pressures, processes and impacts on the Southern European Seas (SES), both for the open waters (D1.1) and coastal area ecosystems (D2.1) have been reviewed and their socio-economic aspects studied (D1.2 and D2.2) leading to a comprehensive gap analysis and the identification of the environmental risks of not achieving GES.

### New Tools

**Observing systems:** Ocean observing systems in the SES have been reviewed leading to recommendations on their upgrades to serve MSFD and PERSEUS needs (D3.1).

**Models:** Models have been created for the Mediterranean (D4.1) and Black Sea (D4.2) atmospheric surface forcing functions and data has been gathered on land-based runoff and nutrient load data (1980-2000) which will now form the boundary conditions for the models to be implemented.

**Remote sensing:** The ecosystem vigor algorithms (primary productivity) have been developed towards supporting MSFD descriptors through remote sensing (D4.5).

**New vessel:** The scientific needs and operational specifications for the new research vessel have been identified and evaluated to form the basis for an innovative very shallow-water research vessel (D7.1).

### Science-based Policy

The MSFD Initial Assessments have been thoroughly reviewed (D5.1) and gaps on MSFD assessment elements have been identified (D5.2). The Stakeholder platform has been developed (D6.1) and their expectations for policy tools have been registered and analysed (D6.3). A comprehensive inventory and critical assessment have been undertaken for: the existing foresight analyses and alternative policy scenario planning (D6.2 and D6.4); the legal, policy and institutional marine policy contexts (D6.5); and the possible measures to be taken to achieve GES (D6.6) in the SES. On this basis, the conceptual framework of the PERSEUS APF Toolbox has been developed (D6.7).

### Engaged Stakeholders & Citizens

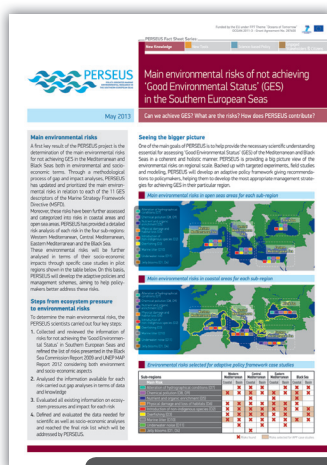
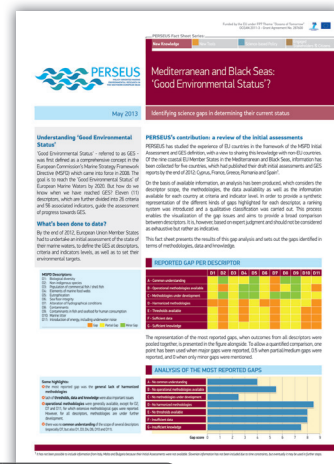
The framework for the implementation of the PERSEUS training and capacity building programmes (D8.1) has been developed. The PERSEUS Communication Strategy (D9.1) has been developed to promote the results of PERSEUS and create awareness among target groups of what they can do to help meet the goal of Clean Seas by 2020. The PERSEUS Website (D9.3) has also been created, the content of which has been specially prepared for each target group of PERSEUS. As part of the PERSEUS Clean Seas Guide for Policymakers, the Issues Paper (D9.4) has been developed, outlining the areas where greater public awareness and engagement on marine environmental issues is needed to facilitate the achievement of GES.

(continued)

## First PERSEUS results are in

The first essential step was to establish an updated and refined list of environmental risks. In order to do this, the PERSEUS scientific team worked on identifying the gaps in determining the current status of the Mediterranean and Black Seas in comparison to the 'Good Environmental Status' (GES) according to the Marine Strategy Framework Directive (MSFD). The PERSEUS Fact Sheet on **Science Gaps** presents the results of this gap analysis in terms of methodologies, data and knowledge in achieving GES.

Fact Sheet on Science Gaps

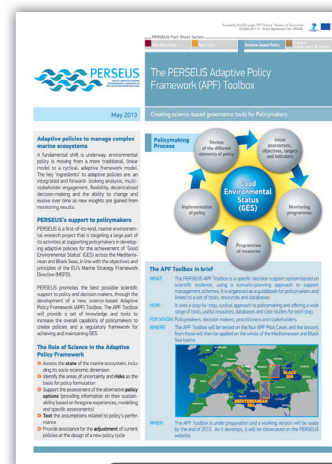


Fact Sheet on Environmental Risks

Through a methodological process of gap and impact analyses, PERSEUS has updated and prioritised the main environmental risks in relation to each of the 11 GES descriptors of the MSFD. The new fact sheet produced on the **main environmental risks for not achieving GES** have been clearly set out by the PERSEUS scientific team.

Scientists are being challenged to define what "sustainable" means for these two seas. In this respect, an important

aspect of PERSEUS's work in this period has been the development of the conceptual framework for the **Adaptive Policy Framework (APF) Toolbox** specifically for policymakers, presented in the relevant fact sheet. It will provide a set of knowledge and tools to increase the overall capability of policymakers to create policies and a regulatory framework for achieving and maintaining GES.



Fact Sheet on APF Toolbox

The results of this first phase have been very useful in establishing the basis for the future work and to unify different approaches with the final aim of achieving a good environmental status of the aforementioned seas. A listing of the deliverables completed in this period is set out alongside. The next phase of PERSEUS results will help EU countries to implement the Marine Strategy Framework Directive and non-EU countries to learn from this experience.

*The PERSEUS Fact Sheets are available on the PERSEUS website.*



## Next steps for PERSEUS in 2013

The first phase of PERSEUS has resulted in a clear defined and highly focused research programme that will aim to achieve the project's vision. The results of the next phase of work until the end of 2013, will feed into the four integrated clusters of PERSEUS.

### New Knowledge

PERSEUS will continue to bring new knowledge on the combined effects of natural and anthropogenic pressures, assess their impact on the SES ecosystems and help advance our understanding on the selection and application of the appropriate descriptors and indicators of the MSFD. PERSEUS will conduct numerous field studies across the SES on both the coastal and basin scale covering seven sub-regional seas and 17 coastal areas including many non-EU sites. These studies will go toward filling the gaps and obtaining a comprehensive assessment of pressures, processes and impacts on the Mediterranean and Black Sea ecosystems.

### New Tools

PERSEUS will develop new tools to evaluate the current environmental status of the SES through combined monitoring and modelling capabilities and by extending existing observation systems. Work will continue on upgrading existing multi-parametric moorings and sensors, argo profilers and probes, research vessel repeating monitoring and developing introducing new observing systems [i.e. glider sections, Mediterranean Continuous Plankton Recording (CPR), Vessel Monitoring System (VMS)]. Innovative tools include ecosystem models upgrade to provide synthetic indices and integrated analysis of ecosystem attributes (vigor, organisation, resilience) that will contribute to the criteria relevant to the MSFD. The preliminary design of the innovative survey vessel, specially designed for use in very shallow waters, will be completed by the end of 2013.

### Science-based Policy

In the next phase of the project, PERSEUS will work on the development of assessment elements towards GES for application in non-EU countries to facilitate the harmonization of EU and non-EU efforts to achieve GES across all SES. PERSEUS will finalise the development of the APF Toolbox and provide full access through the PERSEUS website. In addition, another GIS web application tool for policymakers depicting the impact of oil spill scenarios and actions to be taken will come online early 2014. In addition, stakeholder platforms will be engaged in carrying out the socio-economic case studies in the four sub-regions. Building on the success of the first training course on MSFD principles which took place in Chios in June 2012, PERSEUS will organise more events targeting the promotion and demonstration of the MSFD principles across the SES, both in EU and non-EU countries.

### Engaged Stakeholders & Citizens

PERSEUS in the next period will launch its 'citizen science' programmes. The first one – Jellyfish Spotting – aims to engage citizens around the Mediterranean and Black Seas to record jellyfish sightings, as direct observation remains the main method to monitor jellyfish population. Also PERSEUS will work closely with the European Environment Agency to launch a new Marine LitterWatch smart phone application, encouraging both NGOs and citizens to help monitor marine litter while at the same time raising public awareness on its negative impacts.

## PERSEUS Calendar

### 13 - 31 May & 3 - 21 June 2013

PERSEUS Training Visit Scheme Course: *"Biochemical biomarker techniques for the assessment of pollution effects in marine organisms"*, Institute of Oceanography, HCMR, Athens, Greece

### 21 - 22 May 2013

PERSEUS participates at the European Maritime Day Conference & Stakeholders Workshops, Valletta, Malta

### 6 - 24 May 2013

PERSEUS Training Visit Scheme Course: *"Marine Carbon Cycle, Dissolved organic matter dynamics and marine ecosystem"*, Biophysics Institute, CNR, Italy

### 3 - 7 June 2013

1st PERSEUS Summer School: *"The contribution of environmental indices in meeting the objectives and principles of the Marine Strategy Framework Directive"*, Constanta, Romania

### 17 - 19 September 2013

International Conference *"MARINE RESEARCH – HORIZON 2020"* MARES2020, in Varna, Bulgaria dedicated to 40th anniversary of the Bulgarian Institute of Oceanology (IO-BAS) co-organised by PERSEUS

### September 2013 (tentative)

PERSEUS Training Visit Scheme Course *"Automated counting, sizing and recognition of zooplankton"*, Laboratoire d'Océanographie de Villefranche (LOV), France

### October 2013 (tentative)

PERSEUS to organise the International Training Course *"Challenges for Good Environmental Status in coastal seas"* at the Southern Branch of P. P. Shirshov's Institute of Oceanology of Russian Academy of Sciences (SB SIO RAS) in Gelendzhik, Russia

### 28 October - 1 November 2013

PERSEUS session at the 40th CIESM Congress, Marseille, France

### 28 - 31 October 2013

PERSEUS participation at the 4th Black Sea Biannual Scientific Conference - BS - GES 2013, Constanta, Romania

## PERSEUS & the General Public

- PERSEUS@School will create "school partnerships", to establish a communication bridge interconnecting schools and marine science.
- PERSEUS@Art will set up a competition with the Athens School of Fine Arts. The exhibition will run during the 2nd PERSEUS General Assembly meeting in Athens.
- Visit our website's General Public pages to see how you can join the PERSEUS Citizen Scientist programmes and activities!



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<http://www.youtube.com/user/perseusproject>

For more information on the PERSEUS Project, please contact:

**Dr. Evangelos Papathanassiou**

Project Coordinator, Hellenic Centre for Marine Research

e-mail: [vpapath@hcmr.gr](mailto:vpapath@hcmr.gr)

[www.perseus-net.eu](http://www.perseus-net.eu)