Ocean acidification: the other CO_2 problem

The term ocean acidification is used to describe the ongoing decrease in ocean pH caused by human CO_2 emissions, such as the burning of fossil fuels.

MedSeA

Mediterranean Sea Acidification in a Changing Climate

The "Mediterranean Sea Acidification in a changing climate" (MedSeA) project started in 2011 and is funded by the European Commission under Framework Program 7.

MedSeA will assess uncertainties, risks and thresholds related to Mediterranean Sea acidification at organismal, ecosystem and economical scales. MedSeA will also investigate and advise on potential regional adatation and mitigation strategies.

Scientific findings will be communicated to a wide audience, including key stakeholders, such as marine managers, conservation organisations, industry, policy makers and the public.

http://medsea-project.eu

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COOPERATION

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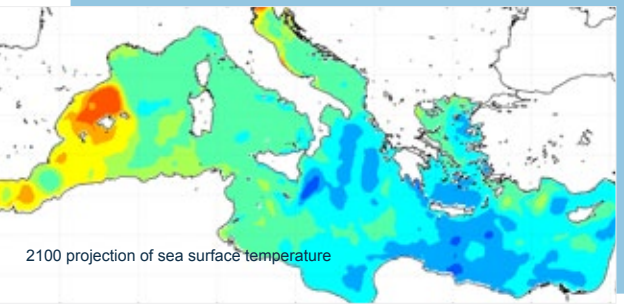
Mediterranean Sea Acidification in a Changing Climate (MedSeA)

Assessing uncertainties, risks and thresholds related to Mediterranean Sea acidification

Why the Mediterranean Sea?

- A healthy Mediterranean is societally and economically important.
- 21 countries surround its coasts with total population of >400 million people and 175 million visit the region each year.
- This semi-enclosed sea is already stressed by increased temperature, overfishing, invasion of alien species and eutrophication.
- Natural CO_2 vents in the waters of the Mediterranean Sea can be used as natural laboratories and provide a future glimps of a high CO_2 sea.

The Mediterranean Sea is considered a small-scale ocean with high environmental variability. It is both too complex and too small to be adequately simulated in global-scale climate and ocean-only models. MedSeA investigate and project how key biogeochemical and ecosystem processes will change under the impacts of ocean acidification.



2100 projection of sea surface temperature

MedSeA objectives

- Identifying areas of high impact, focusing on ocean chemistry and marine life – **how will ocean acidification impact marine life in these areas and, in turn, affect the way we live and work?**
- Projecting the potential changes in the chemistry of the Mediterranean Sea and provide assessments of risks and sustainability of ecological and economically important species – **how can we ensure that livelihoods are sustained?**
- Collecting key data around this enclosed sea to feed ecosystem models to help predict future changes – **what can Europe do to adapt to changes?**

About MedSeA

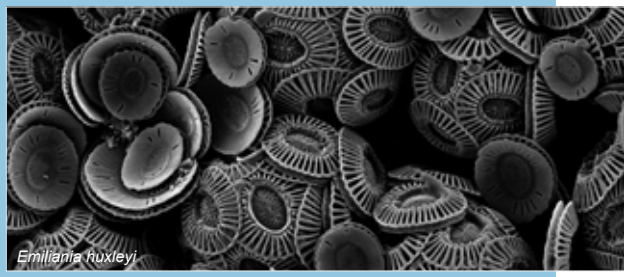
- MedSeA is a Framework Program 7 (FP7) project that will run for 3 years from 2011 to 2014.
- MedSeA involves 16 partners from 10 countries (with 13 institutes from the Mediterranean region).
- The total MedSeA budget is about €6M, including €3.5M from the European Commission.

MedSeA workpackages

- Mediterranean Sea oceanography and carbonate system
- Plankton response to Mediterranean Sea acidification
- Benthic response to Mediterranean Sea acidification
- Projections of future changes
- Economic effects

Potentially vulnerable benthic and pelagic organisms

Red coral. Image courtesy of S. Rossi



Emiliania huxleyi

Jellyfish. Image courtesy of S. Rossi