

The Arctic: an illustration of the challenges of climate change

The Arctic is of crucial importance in regulating the world's climate. It is severely affected by climate change and, over the past 50 years, Arctic temperatures have increased by twice the global average. Sea ice cover in summer has fallen to an all-time low, so that a larger portion of the sun's heat is absorbed by the sea. A huge decrease in permafrost cover is also foreseen by 2050. The melting of this permanently frozen layer of soil or bedrock releases further greenhouse gases into the atmosphere, as well as persistent organic pollutants and mercury that accumulate in the thick fatty tissue of Arctic animals and may be consumed by humans.

In November 2008, the EU outlined its key objectives:

- to protect and preserve the Arctic in unison with its population
- to promote the sustainable use of resources
- to contribute to enhanced multilateral governance of the Arctic.

The EU's main policy goal is to support adaptation to climate change and tackle its negative impacts. This implies close cooperation between the eight countries that have land within the Arctic Circle and a number of other key players in the region such as OSPAR, the Barents Euro-Arctic Council, the European Environment Agency and the Arctic Council. Through the Northern Dimension, a policy shared with Iceland, Norway and the Russian Federation, the EU is helping to fund environmental and nuclear clean-up projects in the Arctic region.



For further information:

EU Integrated Maritime Policy:

http://ec.europa.eu/maritimeaffairs/index_en.html

Marine Framework Strategy:

http://ec.europa.eu/environment/water/marine/index_en.htm

Integrated Coastal Zone Management:

<http://ec.europa.eu/environment/iczm/home.htm>

EEA:

http://www.eea.europa.eu/publications/state_of_environment_report_2005_1

White Paper on Adaptation to Climate Change:

http://ec.europa.eu/environment/climat/adaptation/index_en.htm

The EU and the Arctic Region:

http://ec.europa.eu/external_relations/arctic_region/index_en.htm

Conventions:

Barcelona: <http://www.unepmap.org/>

Helsinki: <http://www.helcom.fi/>

OSPAR: <http://www.ospar.org>

Bucharest: <http://www.blacksea-commission.org/main.asp>

Marine ecosystems under the weather

The European Commission's commitment to cleaner seas and oceans by 2020



Karl Falkenberg
*Director-General
for Environment
European
Commission*

Marine ecosystems are a major source of biodiversity. Vital for our health and economy, oceans, seas, and coastal waters are also powerful allies in our fight against climate change and are a growing source of renewable energies. However, the fragile balance of marine environments is also increasingly disrupted by the impacts of climate change and human activities. The European Union is determined to take every step necessary to achieve a healthy marine environment and make ecosystems more resilient to climate change in all European marine waters by 2020 at the latest. This is the commitment undertaken in 2008 in the Marine Strategy Framework Directive. To cope successfully with the many challenges threatening the future of our seas, time is of the essence. Close cooperation between all stakeholders will be crucial.



Marine ecosystems provide us with a wide range of essential goods and services – from food to the carbon absorption essential for the mitigation of man-made climate change. The marine environment contributes greatly to the quality of life, social well-being and economic prosperity of the EU as a whole.

Marine pollution often comes from untreated urban waste water and agriculture, but threats to marine ecosystems also include commercial overfishing, oil spills and other hazardous substances, as

well as the introduction of non-native species. There is also mounting evidence that climate change is dramatically affecting Europe's marine and coastal ecosystems. In 2005, the European Environment Agency pointed to early signs of structural changes. Sea levels are rising, temperatures changing and the increase in the amount of carbon absorbed by the oceans causes further acidification, decreasing the ability of many marine organisms to build their shells and skeletal structure. The EU's commitment to contain climate change within a 2°C limit will have key effects on oceans. The Intergovernmental Panel on Climate Change's Fourth Assessment Report also stresses the need to identify adaptation measures in vulnerable coastal areas.

The Marine Strategy Framework Directive

Adopted in June 2008, this environmental pillar of the EU's Integrated Maritime Policy aims to achieve healthy marine waters by 2020. It applies an integrated approach to ecosystems and strives to contain the collective pressure of human activities within sustainable levels. It also establishes a clear regulatory framework for adaptation to climate change and allows for the regular update of environmental targets to take into account the variations caused by climate change.

The Directive calls for the development of a marine strategy by each Member State. By 2012, they must provide a comprehensive assessment of the state of the environment, identifying the main pressures on their respective marine regions, and defining targets and monitoring indicators. By 2015, they will have to develop coherent and coordinated programmes of measures. To reach the 2020 target, they will have to achieve efficient communication and close cooperation, notably through regional sea conventions.

The role of Regional Sea Conventions

The Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean

The European Community and the countries surrounding the Mediterranean are parties to this Convention implemented through the Mediterranean Action Plan. This formulates policies and strategies to protect biodiversity and the marine and coastal environment. The IPCC has singled out the Mediterranean as a 'hot-spot' for climate change. In 2008, the parties to the Barcelona Convention signed a Protocol on Integrated Coastal Zone Management in the Mediterranean, identifying adaptation to climate change as a priority. The Marrakesh Declaration, adopted by the Barcelona Convention in November 2009, highlights the need for urgent action to counter the serious impacts of climate change on ecosystems and resources.

The Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea

The European Community and all the states bordering the Baltic Sea are parties to this 1992 Convention. It strives to achieve a harmonious balance of all biological components in a healthy Baltic Sea environment, thus supporting a wide range of sustainable economic and social activities. The Thematic Assessment on Climate Change in the Baltic Sea Area (2007) projects that the average sea surface temperature could increase by 2°C to 4°C and the length of the ice season be reduced by two to three months, hindering further the achievement of the key goals of the HELCOM Baltic Sea Action Plan (2007).

The OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic

The OSPAR Commission, comprising representatives of 15 countries and the European Community, aims to conserve marine ecosystems and safeguard human health in the North-East Atlantic by preventing pollution. Its key objective is to protect the marine environment from the adverse effects of human activities and contribute to the sustainable use of the seas. The OSPAR Quality Status Report reflects the overarching impact of climate change and the further obstacles it creates to achieving environmental objectives in the marine region. Together with the European Communities, OSPAR has adopted environmental measures to ensure the safe storage of carbon dioxide in geological formations under the seabed.

The Bucharest Convention on the Protection of the Black Sea against Pollution

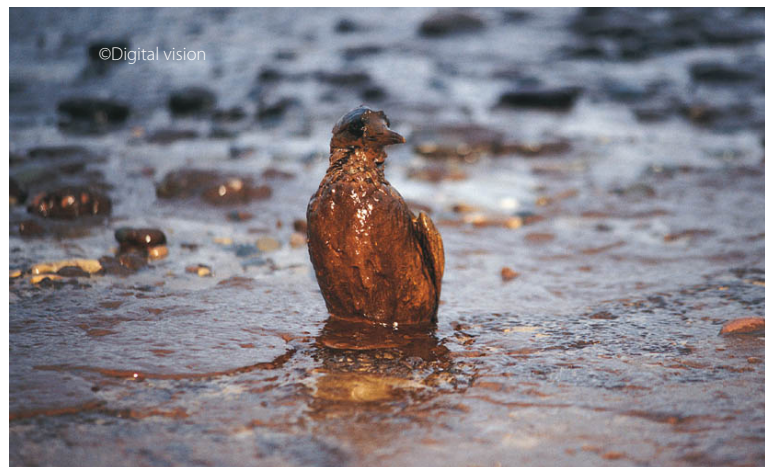
The Bucharest Convention of 1992 initiated environmental cooperation in the Black Sea and its Strategic Action Plan for Environmental Protection and Sustainable Management of the Black Sea is a pillar of regional cooperation. While the European Community is not yet party to this Convention, an amendment allowing it to participate was proposed in April 2009. Biannual scientific conferences assess the impacts of climate change on the Black Sea ecosystem and on the sustainable development of coastal areas. They bear witness to the current warming up of the Black Sea waters as well as to a slow but constant rise in sea levels, increasingly frequent floods and structural changes in ecosystems.

Integrated Coastal Zone Management

Coastal zones are particularly exposed to the risks of climate change. Rising sea levels increase the likelihood of storm surges, coastal erosion and flooding, lead to the contamination of fresh water supplies with salt water, and further endanger natural buffers such as wetlands. Around 20% of Europe's coastline is significantly affected by coastal erosion. Key economic activities of coastal regions such as tourism, fishing and agriculture are among the most vulnerable to changes in climate. However, coastal areas can also contribute significantly to the development of renewable energy, and thus to a sustainable, secure and competitive energy policy for the European Union.

To tackle these challenges appropriately, the European Commission adopted a Recommendation on integrated coastal zone management (ICZM) in 2002 and has been promoting intensively this cross-cutting instrument of the EU's Integrated Maritime Policy. ICZM integrates all policies, sectors and interests into the planning and management of human activities to achieve sustainable coastal development. The 2009 Commission White Paper on adapting to climate change provides for European guidelines on adaptation in coastal and marine areas. The OURCOAST initiative, launched in 2009, will build up a database of coastal planning and management practices, with a key focus on adaptation to risks and climate change. In addition, the Commission is planning a further proposal to strengthen the Recommendation in 2011, to further support comprehensive and effective climate strategies for coastal zones.

"It is absolutely vital for the European Union to protect its marine waters and to clean up its seas and oceans." Environment Commissioner Stavros Dimas



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