

# EUCC Coastal News

## No 9 & 10

### September – October 2005

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## - EUCC News -

### 1. In Memoriam : Prof. Roland Paskoff (1933-2005)

Professor Emeritus of the Université Lumière de Lyon Roland Paskoff died suddenly on the 14th of September at the age of 71, still active in his scientific and professional work. The surprise within the international geographic and scientific circles working on coastal management has been enormous, as well as in the organizations in which he presided: EUCC-France and the EUCC Mediterranean Centre.

Born on October 20, 1933 in Oujda (Morocco), he carried out his studies at the University of Bordeaux, writing later his doctoral thesis in Chile, where he specialized in the study and knowledge of the variations of the marine and coastal environment. This event marked the beginning of his world-renown career and it was also here where he began his teaching activities.

After a long stay in that country, his teaching carrier moved to Tunisia, where he resided for a 15 year period. Here he stood out because of his research and the formation of a new generation of Tunisian geographers and natural scientists, which rapidly extended to Magreb. Afterwards, he stayed for a period in the French territory of La Reunion where he seized the opportunity to resolve crucial issues of those insular spots, arriving finally at the end of the 80s to his last post as Professor of the University of Lyon.

This long voyage as educator and researcher did not keep him away from his activities at the metropolis as member of the "Conservatoire du Littoral" or UNESCO's collaborator, among other more and more relevant activities, such as his participation in editorial committees, societies, work groups, etc. Besides his teaching and academic work, Roland Paskoff has shown his great talent as an author in works that are to be found in the most important libraries, which is exceptional having being written in French and not translated into other languages. This long journey as an author began with informative works like "L'érosion des côtes" (1981, P.U.F. - Que Sais-Je?) and later with essential works like "Côtes en danger" (Masson, 1993), subsequently re-edited in 2004 (Harmattan). Also important "Les Littoraux, impact des aménagements sur leur évolution" (A. Colin, 1998) as well as "L'élévation du niveau de la mer - Le mythe et la réalité" (2001, Paris, Institut océanographique), or his last published work "Les plages vont-elles disparaître?" (Le Pomier, 06-2005). This collection of works shows, in an intelligent way, the processes that govern the coastal system and the impacts produced on it by anthropogenic actions, as well as how protection techniques have evolved through time. His own personal evolution made him one of the utmost defenders and promoters of Integrated Coastal Zone Management (ICZM).

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The understanding of the coastal environment in this lucid mind provoked Paskoff to move from his purely scientific activities into becoming a staunch protectionist. His conservationist positioning was radical, which cost him more than one rejection from the technical branch, when expressing himself with comments such as:

«Pour préserver les rivages, il existe deux méthodes : l'enrochement et le rechargement. Or, les ingénieurs français optent souvent pour la première solution qui est pourtant la moins bonne»

This is how he turned into a hyperactive member of EUCC - The Coastal Union (EUCC), becoming the President of the French Chapter and lately of the recently founded EUCC Mediterranean Centre, located in Barcelona. He did this, without forgetting his ties with other institutions like the Conservatoire du Littoral. In this respect, EUCC remembers with gratitude his work as one of the editors in chief of JCC's, scientific organ of the Journal of Coastal Conservation. Roland Paskoff stepped in at the very beginning in 1995 and served until his death.

If his activities during his educational carrier were very prolific, once his phase as Emeritus Professor began these increased even more, given the freedom of movement this status provides. His presence in congresses, conferences, meetings, committees, courses, etc., was amazing. We could prove this by performing an Internet search: if you have the time you could confirm that his name appears in more than 800 hits. Due to his sudden departure, he could not participate in the Congress of Systems of Coastal Dunes, which took place in Belgium in the middle of September, where he was to chair the session about "Coastal Conservation Policies". In his honour and memory, a minute of silence was dedicated to him.

The legacy left by Roland Paskoff will remain current and be remembered for a long time, as it is difficult to beat. It will take quite a while for coastal management practitioners to forget the recommendations and premises he instilled in us during the last times, and we will understand he was right. Even more difficult will it be for those of us who shared with him the direction or the day to day presence in the institutions where he presided or where he actively contributed. We will remember him with all the affection he deserves.

**Jordi Serra Raventós, Secretary of the EUCC Mediterranean Centre**

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## **2. Beautiful Europe initiative welcomed**

On 23 September 2005, the presidents and directors of ECNC, EUCC-The Coastal Union and Eurosite launched the Beautiful Europe initiative of NatureNet Europe at the European Nature Conference in Apeldoorn, the Netherlands. The initiative was strongly welcomed at the conference, which brought together more than 650 people from all over Europe.

Beautiful Europe is the response of NatureNet Europe to the "Apeldoorn Appeal" that was presented to the Director of DG Environment of the European Commission, Mr L. Miklo, and the President of the Pan-European Biological and Landscape Diversity Strategy, Mrs Sylvi Ofstad. In his message to the conference, EC Commissioner of the Environment, Mr Dimas, welcomed the Apeldoorn Appeal.

The Apeldoorn Appeal is a joint message from EEB, ECNC, Eurosite and Europarc, together with EUCC, to European politicians, policymakers and practitioners, in which the importance of connecting nature with nature, people with nature, and policy with practice is stressed. A wide range of other organizations supports the Appeal, including IUCN, WWF and Birdlife.

The Appeal calls for a speedy establishment of the European Ecological Network and made a strong plea for intensive cooperation between organizations working at a European level. NatureNet Europe is mentioned as a good example of such cooperation.

Beautiful Europe will adopt an innovative approach to contemporary and long-standing nature conservation issues, challenging misconceptions about the value of nature and its role within society. Beautiful Europe will engage key sectors, promoting living landscapes, where ecological connectivity and connectivity between man and nature is understood, valued and managed well.

The initiators of NatureNet Europe will focus the implementation of the Beautiful Europe initiative on keeping the Apeldoorn Appeal alive, by putting strong efforts into implementation activities. They will also seek to widen the cooperation towards other sectors and other NGOs. At the conference, a special EECNET publication was distributed, containing information about Beautiful Europe and ecological network efforts.

Natuurmonumenten organized and hosted the conference, together with Europarc, Eurosite, EEB and ECNC, in cooperation with EUCC. Through this conference Natuurmonumenten added a European dimension to its 100th anniversary celebrations this year.

For more information please contact: [janssen@ecnc.org](mailto:janssen@ecnc.org)

## **3. Progress Marker Set to measure implementation of ICZM revised following extensive testing.**

The Progress Marker Set to measure implementation of ICZM, developed for the EU's ICZM Working Group on Indicators and Data [1], has now been extensively tested in Europe. The EUCC has conducted tests in Wales, as part of the Corepoint Interreg IIIC project, and in Germany & Lithuania (for HELCOM) during the last six months. Other tests have been conducted in UK, Spain, France and Belgium. The comments received during this testing period have been used to revise the Indicator Set to make it even more user friendly, especially to those who do not have English as their first language. The original set of 26 actions has been broadened to 31 e.g. to take into account more exclusively marine issues; these actions have been grouped into 4 phases rather than the previous five. A set of Guidelines for the use of the Indicator Set with a potted history now accompanies the methodology. It is now up to the countries themselves to start using the Progress Indicator Set to objectively determine the extent of their implementation of ICZM.

The Progress Indicator Set and accompanying Guidelines can be viewed and downloaded at: <http://www.eucc.net/en/policy/index.htm>

[1] Pickaver et. al. Ocean & Coastal Management 47 (2004) 449-462.

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## **4. HELCOM Habitat adopt a new ICZM implementation progress Reporting Form**

HELCOM have adopted a new ICZM Reporting Form to allow them to determine how far each riparian state is implementing its own ICZM programme. The decision was taken at the last HELCOM Habitat meeting held in Kalmar, Sweden, 10th – 14th October. The Reporting Form was based on the methodology used for the ICZM Progress Indicator Set and developed by EUCC for the EU's ICZM Working Group on Indicators and Data under the auspices of ETC-TE. Unfortunately, the meeting did not agree to actually complete the Reporting Form periodically but instead decided to use the data produced by the Member States for the European Commission. Dr Alan Pickaver (EUCC) commented, 'I am extremely disappointed at the outcome, despite the adoption of the methodology. The Form was tested in

both Germany and Lithuania and gave more than encouraging results. HELCOM had a real chance to move forward and become a forward-thinking group on the ICZM issue. Instead they prefer to wait and step back. At the moment, Member States in the EU do not have to complete the information needed which is still entirely voluntary”.

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## **-EECONET / NatureNet News – News for Friends of the Coast**

### **5. Asian fish caught in Estonian waters**

In Helsinki a commercial fisherman has caught a Bighead carp last August. This planktivorous freshwater species can normally be found in the rivers of northern and southern China. It is suspected that it has the potential of reducing native diversity; although the fish is supposedly unable to reproduce in the Baltic Sea due to its low temperatures. The Asian carp probably entered the Baltic Sea with ship's ballast water. [http://www.helcom.fi/press\\_office/news\\_baltic/en\\_GB/Asianfish/](http://www.helcom.fi/press_office/news_baltic/en_GB/Asianfish/)

### **6. Concern at falling seabird numbers in Scotland**

Further evidence of a decline in the seabird population has been found on Scotland's most remote nature reserve. An ornithological survey by Scottish Natural Heritage (SNH) has revealed that seabirds in North Rona have suffered a poor breeding season, similar to that in many other island colonies in the north-east Atlantic. The poor breeding season is a trend that seems to have been repeated elsewhere in the north-west of Scotland this year. Whatever the reason, it underlines the importance of regularly monitoring remote islands and their seabirds, in order to detect changes in the state of man's own environment.

<http://news.scotsman.com/scotland.cfm?id=1964752005>

### **7. The return of harbour porpoise (*Phocaena phocaena*) in North Aegean, NE Greece**

On July 2005, a moribund harbour porpoise (*Phocaena phocaena*), was seen by bathers close to the coast of Nea Iraklitsa, Kavala, N. Greece, who informed the Coastguard and the Fisheries Research Institute of Kavala (NAGREF-FRI). The staff of NAGREF-FRI went close to the animal by boat and transported it carefully to the beach of Nea Iraklitsa. There, after of three hours of cares, in order for the animal not to drown, the harbour porpoise died in the heads of the people who took care of it. Later in the same day measurements of the body and tissue samples were taken for further examination. The harbour porpoise was a male, 124 cm long and about 2-3 years old, without any evidence of external wounds.

According to latest reports this is the seventh documented *Phocaena phocaena* sp. stranding in NE Aegean Sea, Greece, in the last 10 years. This makes stronger the evidence that a small population might live in the broader area of Kavala Gulf. However, no sighting of the species has been done until today in the coastal waters of North Aegean, thus it is also possible that these animals come from the Black Sea, as also Aristotle 2,300 years ago believed, where an isolated population lives.

Written by: Manos Koutrakis, PhD, Fisheries Biologist, Researcher, NAGREF-FRI and Aris Christidis, Marine mammals team, NAGREF-FRI.

### **8. Smallest creatures in ocean hold valuable secrets**

Meet the smallest creature in the world's oceans: the humble microbe. It provides the planet with oxygen and helps combat global warming. A staggering number of the single-celled organisms live in the oceans which cover two-thirds of the globe, yet not enough is known about the role they play in the planet's health. An international team of marine scientists has started confronting the mammoth challenge of cataloguing and exploring the biodiversity of the marine microbe as part of a \$1 billion, 10-year "Census of Marine Life" project. The first global effort to map marine species involves hundreds of scientists in more than 70 countries. The sub-project "International Census of Marine Microbes", led by Dutch and US scientists, aims to lay out what is known, what is not known and what may never be found out about the oceans' micro-organisms and their viruses.

<http://www.planetark.com/dailynewsstory.cfm/newsid/32682/story.htm>

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### **9. Loggerhead turtles return to Sicily beach**

Loggerhead sea turtles (*Caretta caretta*) have returned to nest on the beach of Sciacca, off the southern coast of Sicily - according to Bernardo Barone, project manager of the ongoing Italian LIFE-Nature project (LIFE03 NAT/IT/000163). Unfortunately, while the turtles came to the beach to nest, they didn't manage to lay any eggs - on this occasion. Nevertheless Mr Barone says this is encouraging news for the project team, as it indicates this, and other Sicilian beaches, are potentially good nesting sites for this threatened species. The LIFE-Nature project was launched in September 2003 and runs until May 2007. It focuses on the conservation of the loggerhead sea turtle in Sicily, an EU-priority species, which is threatened, not only by pollution, but also by commercial fishing.

<http://europa.eu.int/comm/environment/life/news/index.htm>

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### **10. Belgium protest against sofa-hunters in France**

Under the slogan "ceci n'est pas une chasse" (this is not a hunt), an action was held in Belgium in September to call attention to the threat that is posed to migratory birds by so-called sofa-hunters along the French coast. On their way to their wintering grounds in the south many species of birds follow a route along the North Sea coast and these birds are an easy target for hunters. Because there is no reason for these kills in terms of population regulation and because it does not concern species that can be considered as a pest, these activities do not deserve the term "hunting" but can better be compared to ordinary price shooting that belongs at a fancy fair. The random shooting of, often rare, migratory birds causes an imbalance in the system and efforts to install protective measures in accordance to the Habitat and Birds Directive in the Netherlands and Belgium make little sense as long as the birds are free game in France on their way to the south. The aim of this action is to stop the senseless shooting of migratory birds, and make the coastline a safe corridor for them. France has a great responsibility in this regard, not only because of its long coastline, but also because in Europe it has the highest number of hunters per 1000 citizens and still allows these activities along the coast.

The Dutch and Belgian branches of EUCC share the concern for migratory birds and have supported this action.

<http://www.sofachasse.org/>

### **11. Unsustainable developments in Malta**

Two areas of high natural value in Malta, Ta Cenc and Ix-Xaghra l-Hamra, have been named as sites for new golf courses on the island. Their construction will mean the destruction of endemic species. The area proposed for the golf course at Ta' Cenc holds the greatest concentration of nesting Short-toed Larks in the Maltese Islands. The Short-toed Lark is an endangered bird and both the bird and its habitat are given high-level protection under European Union legislation. Breeding Short-toed Larks have disappeared from much of the Maltese Islands and Ta' Cenc is their last significant refuge. The site Ix-Xaghra l-Hamra includes half the number of the native species of flowering plants, and other plants found only in the Maltese islands, according to leading biologist Dr Edwin Lanfranco.

NGOs in Malta have expressed grave concerns about these and other examples of unsustainable developments on the island and call for support of EU members for environmental protection. Action must be taken before it is too late and, among others, plans are drawn up for the establishment of a National Park.

Sources:

<http://www.maltatoday.com/mt/2005/07/24/t17.html>

<http://www.timesofmalta.com/core/article.php?id=201531>

<http://www.timesofmalta.com/core/article.php?id=201734>

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## **– Aquaculture and Fisheries –**

### **12. EU bans Canary and Azores trawling to save coral reefs**

EU fisheries ministers agreed recently to ban the controversial practice of trawling the sea bed around Madeira, the Azores and Canary Islands to save their unique coral reefs from destruction, officials said. Coral has been found at depths of more than 1,000 metres at several sites around the islands - territories of Spain and Portugal - and needs special protection against the physical damage caused by so-called bottom trawls, the European Commission says. A bottom trawl is constructed like a cone-shaped net and towed by one or two boats across the sea floor, with one end retaining all the fish that are scooped up from the ocean floor. Environmental groups have long criticised the fishing technique, saying it destroys unique and fragile deep sea life in an effort to catch what amounts to a few fish. "Trawlers are going deeper and deeper, looking for deep sea species like ling and black scabbardfish. This was when we started to see evidence of damage (to coral reefs)," a Commission official said. With the depletion of mainstay species such as cod and hake in recent years, deepwater fish with exotic names like orange roughy, black scabbardfish and roundnose grenadier, have become an attractive catch as trawlers switch from traditional waters.

Coral reefs are one of the oldest types of living systems on the planet and are a critical sea habitat, along with related ecosystems such as mangroves and sea grass beds. They act as a nursery for much of the biodiversity of the oceanic system. "Given the importance that damage from erosion by bottom trawls may have for the survival of these habitats, it is appropriate to issue a prohibition on the use of trawls in the areas concerned," said the text of the EU's new regulation.

<http://www.planetark.com/dailynewsstory.cfm/newsid/32591/story.htm>

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### 13. EU fails to tighten rules for Mediterranean fishing

EU ministers failed to agree tighter rules on trawling in the Mediterranean after 15 years of on-off talks, Britain's fisheries minister said. With species like sardines, hake and swordfish disappearing after years of overfishing, the proposed new regulation aimed to make fishermen use nets with larger holes so that younger fish have a better chance to escape. The rules also set minimum distances for trawlers from the coastal zones that are home to sensitive wildlife and fish habitats. Opposition to the proposed regulation was led by France and Italy, which complained of the threat to the local industries whose livelihoods depend on small-scale fishing.

"We have been talking about the need for a management regime in the Mediterranean for 15 years," UK Fisheries Minister Ben Bradshaw told a news conference after the meeting had broken up. "It is a real pity that we failed to reach an agreement. I think that is a crisis for fisheries management in the Mediterranean," he said.

Spain, Italy, Portugal, France and Greece all fish in the Mediterranean as do EU newcomers Cyprus, Malta and Slovenia. More than 100,000 fishermen make their living from the Mediterranean, using mostly small boats, and there is much recreational fishing. Much Mediterranean fishing is practised close to coastlines due to the narrowness of the sea's continental shelf, and this is where younger fish tend to congregate. Species such as hake, swordfish, octopus and sardines -- firm favourites on dinner tables in many Mediterranean countries -- are on the danger list, scientists say. More exotic species like the musky and horned octopus and spiny lobster are also threatened and catches have slumped since the mid-1990s. In the Adriatic and strait of Sicily, catches for some species are 60 percent lower than they were 20 years ago. The EU says it cannot save Mediterranean fish stocks from collapse on its own, since the region is an international fishing zone that is bordered by many other non-EU countries. The European Commission, author of the new rules, offered a series of last-minute technical amendments to the Mediterranean countries to persuade them to accept the new rules, in vain. "We reached the end of our possibilities of trying to find a compromise solution," said EU Fisheries Commissioner Joe Borg.

<http://www.planetark.com/dailynewsstory.cfm/newsid/32587/story.htm>

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### 14. EU suggests controls to stop octopus overfishing

Octopus, a delicacy in many Mediterranean cuisines, may be at risk of extinction in EU waters if controls are not enforced to stop overfishing, particularly of younger ones, the EU executive said recently.

Far too many undersized octopuses were being sold in the 25 EU countries, leading to a depletion of stocks, the European Commission said.

To curb the overfishing, it called for a minimum size for octopus caught in eastern central Atlantic waters -- an area extending into the mid-Atlantic roughly from Morocco down the African coast to Congo, where many EU vessels operate.

<http://www.planetark.com/dailynewsstory.cfm/newsid/32963/story.htm>

### 15. France and Spain face EU anchovy fishing ban in 2006

France and Spain should be banned from catching anchovy in the Bay of Biscay until the end of 2006 to save the overfished species from extinction in European waters. Lying on the North Atlantic coastlines of both countries, the Bay of Biscay is the key trawling ground for the fish. Stocks of anchovy, an essential ingredient in Spanish cooking, have reached very low levels after years of overfishing.

In July, the European Commission imposed a three-month ban on anchovy fishing in the area and will now extend it until the end of the year. It said it wanted new scientific information before it considered lifting the ban.

<http://www.planetark.com/dailynewsstory.cfm/newsid/32489/story.htm>

### 16. Iberia to close hake and langoustine fishing areas

Two years of tough bargaining between the EU and Spain and Portugal ended in a compromise under which two fishing areas will be closed for part of the year to rebuild badly depleted stocks. The European Commission, which regulates EU fishing policy, had wanted to close five hake and langoustine trawling areas for longer periods to let stocks recover from years of overfishing, but the two nations said too many fishermen would lose their jobs.

EU fisheries ministers ordered the closure of two areas for the summer high season, when 65 percent of the annual catch of the two species is landed: one for three months off Spain's Galician coast, the other for four months off southwest Portugal. The recovery plans will run for up to 10 years, until scientists say stocks of hake and langoustine, or Norway lobster, have returned to sustainable levels from the dangerously low level to which they have fallen.

<http://www.planetark.com/dailynewsstory.cfm/newsid/33150/story.htm>

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### 17. Irish coral reefs bulldozed by deep-sea trawlers

According to Dr. Jason Hall- Spencer of the University of Plymouth in Southern England, deep-sea fishing trawlers are bulldozing 4,500 year-old cold-water coral reefs off western Ireland. He told an international science conference that urgent measures were needed to preserve these reefs, and estimates that about

40% of the reefs have already been destroyed. He stated that the destruction of delicate ecosystems are an international problem that needs an innovative solution and suggested satellite tracking could be used to monitor the movements of the offshore fleet.

<http://www.planetark.com/dailynewsstory.cfm/newsid/32329/story.htm>

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## – Coastal & Climate Change –

### 18. The sea will drown the coasts of Greece

Scientists from the Metsovo National Technical University in Athens, Greece predicted that unless dikes along the Thermaikos Gulf are strengthened, about 100 square kilometers of coast will be engulfed by the sea by the end of the century. Their computer model used the current rate of coastal erosion and estimates by the International Committee for Climatic Change of the rise in sea levels caused by global warming. Assistant Professor Evstratios Doukakis of the Department of Agronomy and Topographical Engineering said that the Gulf was expected to rise by 0.5 m and that the Athens-Thessaloniki national highway and protected wetlands in Thessaloniki Prefecture were likely to be flooded.

[http://www.sahra.arizona.edu/cgi-bin/newsclips/newsclip\\_view.pl?mode=newsclip\\_view&ID=11937](http://www.sahra.arizona.edu/cgi-bin/newsclips/newsclip_view.pl?mode=newsclip_view&ID=11937)

### 19. More sharks in Scotland's waters

The number of basking sharks spotted in Scottish waters has risen steeply again, latest figures show. Survey results for 2005 revealed that, out of 180 sharks spotted over a 10-week period, 172 were sighted in Scottish waters. The study was carried out by The Wildlife Trust's Basking Shark Project.

Sightings have shot up over the last few years and experts believe climate change is a factor, with the sharks following plankton from warmer seas.

In 2003, just 40 basking sharks were spotted off the Scottish coast.

[http://news.bbc.co.uk/2/hi/uk\\_news/scotland/4249528.stm](http://news.bbc.co.uk/2/hi/uk_news/scotland/4249528.stm)

### 20. Global warming 'past the point of no return'

A record loss of sea ice in the Arctic this summer has convinced scientists that the northern hemisphere may have crossed a critical threshold beyond which the climate may never recover. Scientists fear that the Arctic has now entered an irreversible phase of warming which will accelerate the loss of the polar sea ice that has helped to keep the climate stable for thousands of years. They believe global warming is melting Arctic ice so rapidly that the region is beginning to absorb more heat from the sun, causing the ice to melt still further and so reinforcing a vicious cycle of melting and heating.

[http://news.independent.co.uk/world/science\\_technology/article312997.ece](http://news.independent.co.uk/world/science_technology/article312997.ece)

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### 21. Hurricanes and global warming

On Monday August 29, Hurricane Katrina descended upon New Orleans, Louisiana and Mississippi, leaving a trail of destruction and dead along coasts and lowlying lands in her path. The question that is now be raised by news media, scientists, environmental advocacy organizations and government is the extent to which the intensity of this hurricane is attributable to global warming, and implications for Atlantic coast and globally.

The science is fascinating, but the debate is inherently political, given the current global and European impasse about how to respond to climate change, or even meet Kyoto Protocol obligations. The Real Climate website provides commentary by working climate scientists for the interested public and journalists, and addresses the issue of hurricanes and global warming (<http://www.realclimate.org/index.php?cat=19>). Interestingly, 256 supplemental comments follow the September 2 article and make fascinating reading, in part due to the complex scientific issues, but also for insight into the political tension around climate change within the United States.

Per Real Climate commentary, it is difficult to attribute any single event, regardless of how extreme, to global warming. Weather events will always result from a combination of deterministic factors (including greenhouse gas forcing or slow natural climate cycles) and stochastic factors (pure chance). Due to the semi-random nature of weather, one can not blame any one event on global warming. However, important conclusions can be drawn about the links between hurricane activity and global warming in a statistical sense, and about hurricanes more generally. In particular, the available scientific evidence indicates that it is likely that global warming will make - and possibly already is making - those hurricanes that form more destructive than they otherwise would have been.

Climate science help understand how human actions influence climate. In summary, the current evidence strongly suggests that:

- (a) hurricanes tend to become more destructive as ocean temperatures rise, and
- (b) an unchecked rise in greenhouse gas concentrations will very likely increase ocean temperatures further, ultimately overwhelming any natural oscillations.

Scenarios for future global warming show tropical SST rising by a few degrees, not just tenths of a degree. Therefore important to discuss the likelihood that global warming will make hurricanes even worse in future.

The key connection is between sea surface temperatures (SST) and the power of hurricanes. The basic connection between the two is warm water, and the instability in the lower atmosphere that is created by it is the energy source of hurricanes. This is why hurricanes arise in the tropics and during the season when SSTs are highest (June to November in the tropical North Atlantic). SST is not the only influence on hurricane formation. For example, strong shear in atmospheric winds (that is, changes in wind strength and direction with height in the atmosphere above the surface), inhibits development of the highly organized structure that is required for a hurricane to form.

In the case of Atlantic hurricanes, the El Nino/Southern Oscillation tends to influence the vertical wind shear, and the number of hurricanes that tend to form in a given year. Many other features of the process of hurricane development and strengthening, however, are closely linked to SST. Hurricane forecast models (the same ones that were used to predict Katrina's path) indicate a tendency for more intense hurricanes when they are run for climate change scenarios.

Observations of the last century are not conclusive. Some past studies assert that there is no evidence of any long-term increase in statistical measures of tropical Atlantic hurricane activity, despite the ongoing global warming. These studies, however, have focused on the frequency of all tropical storms and hurricanes (lumping the weak ones in with the strong ones) rather than a measure of changes in the intensity of the storms. Statistical measures that focus on trends in the strongest category storms, maximum hurricane winds, and changes in minimum central pressures, suggest a systematic increase in the intensities of those storms that form. This finding is consistent with the model simulations. A more recent study has found a close correlation between increases in this measure of hurricane activity (which is likely a better measure of the destructive potential of the storms than previously used measures) and rising tropical North Atlantic SST, consistent with basic theoretical expectations.

The key question then becomes why SST increased in the tropics, and whether this increase is due to global warming, or is part of a natural cycle? The recent increase in SST, at least for September, is well outside the range of any past oscillations. Therefore it may be possible to conclude that the large upswing in the last decade is unprecedented, and probably reflects the effect of global warming.

What is the contribution of anthropogenic greenhouse gases to tropical SST warming, and how strong do we expect this to be? One way to estimate this is to use climate models. Driven by anthropogenic forcings, these show a warming of tropical SST in the Atlantic of about 0.2 - 0.5 °C. Globally, SST has increased by ~0.6 °C in the past hundred years. This mostly reflects the response to global radiative forcings, which are dominated by anthropogenic forcing over the 20th Century.

Examining Katrina based on the prior discussion, this storm was a weak (category 1) hurricane when crossing Florida, and only gained force later over the warm waters of the Gulf of Mexico. So the question to ask here is: why is the Gulf of Mexico so hot at present - how much of this could be attributed to global warming, and how much to natural variability? At present, however, the available scientific evidence suggests that it would be premature to assert that the recent anomalous behavior can be attributed entirely to a natural cycle.

*Written by: Magdalena Ariadne Kim Muir*

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## **22. Shrinking Arctic ice cap**

The area covered by sea ice in the Arctic has shrunk for a fourth consecutive year, according to new data released by scientists at National Snow and Ice Data Center (NSIDC), Boulder, Colorado. They say that this month sees the lowest extent of ice cover for more than a century. The Arctic climate varies naturally, but the NSIDC researchers conclude that human-induced global warming is at least partially responsible. They warn the shrinkage could lead to even faster melting in coming years.

September 2005 will set a new record minimum in the amount of Arctic sea ice cover. It's the least sea ice in the satellite record, and continues a pattern of extreme low extents of sea ice which we've now seen for the last four years. The new data shows that on 19 September, the area covered by ice fell to 5.35 million sq km (2.01 million sq miles), the lowest recorded since 1978, when satellite records became available; it is now 20% less than the 1978-2000 average. The current rate of shrinkage they calculate at 8% per decade; at this rate there may be no ice at all during the summer of 2060. An NSIDC analysis of historical records also suggests that ice cover is less this year than during the low periods of the 1930s and 40s.

If the current trend can be ascribed in part to human-induced climate change, there may be major reasons for concern. What is occurring is a process in which ice cover is lost during the summer, so areas which formerly had ice are now open water, which is dark. These dark areas absorb more of the Sun's energy than ice. What happens then is that the oceans start to warm up, and it becomes very difficult for ice to form during the following autumn and winter.

NSIDC scientists suggest that that may be seeing a positive feedback effect, or a 'tipping-point'. The idea behind tipping-points is that at some stage the rate of global warming would accelerate, as rising temperatures break down natural restraints or trigger environmental changes which release further

amounts of greenhouse gases. Possible tipping-points include: the disappearance of sea ice leading to greater absorption of solar radiation; a switch from forests being net absorbers of carbon dioxide to net producers; or melting permafrost, releasing trapped methane.

Arctic sea ice extent and thickness is very important for the northern climate, and for regulation of the global climate. Though there are significant variations, across the region, on average, the Arctic is warming twice as fast as the rest of the planet, according to the Arctic Climate Impact Assessment, a four-year study concluding in 2004 that involved hundreds of scientists, and which projected an additional temperature rise of 4-7C by 2100.

<http://news.bbc.co.uk/1/hi/sci/tech/4290340.stm>

[http://www.nytimes.com/2005/09/28/science/earth/28cnd-](http://www.nytimes.com/2005/09/28/science/earth/28cnd-ice.html?hp&ex=1127966400&en=c683397d88603ed3&ei=5094&partner=homepage)

[ice.html?hp&ex=1127966400&en=c683397d88603ed3&ei=5094&partner=homepage](http://www.nytimes.com/2005/09/28/science/earth/28cnd-ice.html?hp&ex=1127966400&en=c683397d88603ed3&ei=5094&partner=homepage)

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### **23. Polar regions take centre stage in climate crisis**

World scientists are aiming to spell out in graphic detail the threat of flooding faced by millions of people from America to Asia as global warming melts the polar ice caps. A major coordinated study of the Arctic and Antarctic ice sheets intends not only to lay the bald facts before world leaders but offer courses of action. "We want to be more prescriptive," said David Carlson, head of International Polar Year (IPY) starting in March 2007. The two year study, announced recently by the International Council for Science (ICSU), will be the first coordinated probe in 50 years of the ice-bound ends of the earth under the onslaught of climate change.

<http://www.planetark.com/dailynewsstory.cfm/newsid/33053/story.htm>

### **24. European airline flights likely to be included in EU Carbon Dioxide Trading Regime**

The European Commission has just recommended that that airlines should be included in its carbon dioxide trading scheme. The scheme currently puts limits on the emissions of 12,000 big industrial carbon emitters across the EU, with the aim of curbing global warming. If they break through the limit, they have to buy credits from companies whose emissions are below target. The commission rejected other measures advocated by environmental groups such as direct emission charges on airlines, but says it is still working to remove the legal obstacles preventing the taxation of aviation fuel.

This is an important development for European coasts, because of the growing air flights to coasts for tourism and secondary homes, and due to the impact that climate change has on these coasts. Aircraft are responsible for 3% of EU carbon emissions but the figure is rising fast. For example, forecasts suggest that they could make up 25% of the UK's total contribution to global warming by 2030. The impact of aviation is also thought to be especially strong because the gases and water vapour caused by aircraft are deposited directly into the upper atmosphere. It is estimated that the proposal could add up to nine euros to the price of a return flight.

The Commission's position will result in a formal proposal by the end of 2006 or early 2007. It envisions the scheme covering emissions from EU and non-EU carriers taking off from any country within the 25-nation bloc, where EU and non-EU carriers would be treated equally. The Commission said it wanted to strengthen other measures to curb aviation emissions, including improving air traffic management and hacking away legal obstacles to taxation of jet fuel. International agreements prevent countries from taxing jet fuel on international flights.

EU member states and the European Parliament will respond to the Commission before it formulates a draft law. Officials have said aviation could enter the scheme as early as 2008. EU Environment Commission Stavros Dimas said the scheme may start by covering aviation's emissions of CO<sub>2</sub>, with the possible addition of other gases like nitrogen oxides later. He said it would likely be three to four years before aviation joined the scheme.

European airports and some major airlines have supported inclusion in the system as a better alternative to tax. The UK government has also supported this proposal as ensures that the emissions reductions required to achieve a particular environmental outcome take place in as cost-effective way as possible.

<http://news.bbc.co.uk/2/hi/europe/4287048.stm>

[http://today.reuters.co.uk/news/newsArticle.aspx?type=scienceNews&storyID=2005-09-27T162352Z\\_01\\_YUE749119\\_RTRIDST\\_0\\_SCIENCE-ENVIRONMENT-EU-AIRLINES-DC.XML](http://today.reuters.co.uk/news/newsArticle.aspx?type=scienceNews&storyID=2005-09-27T162352Z_01_YUE749119_RTRIDST_0_SCIENCE-ENVIRONMENT-EU-AIRLINES-DC.XML)

<http://www.defra.gov.uk/news/2005/050927a.htm>

Written by: Magdalena Ariadne Kim Muir

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### **25. Acidification of oceans may threaten marine food chain**

Rising carbon dioxide in the atmosphere is threatening to make oceans too corrosive for marine organisms to grow protective shells. If emissions continue unabated, the entire Southern Ocean, which stretches north from the Antarctic coastline, and subarctic regions of the Pacific Ocean will soon become so acidic that the shells of marine creatures will soften and dissolve making them easy targets for predators, while others may not be able to grow sufficient shells. The loss of shelled creatures at the lower end of the food chain could have disastrous consequences for larger marine animals. North Pacific

salmon, mackerel, herring, cod and baleen whales all feed on pteropods or sea butterflies, one of the species under imminent threat.

"These are extremely important in the food chain and what happens if they start to disappear is a great unknown," said Jim Orr, lead scientist on the study at the Laboratory for Science of the Climate and Environment in Gif-sur-Yvette, near Paris. Previous studies have suggested it would take centuries for emissions to acidify the oceans to such an extent, but the latest report, published today in the journal *Nature*, claims entire ecosystems will be threatened much sooner. "Within decades, there may be serious trouble brewing in these polar oceans," said Dr Orr. "Unlike climate predictions, the uncertainties here are small."

Carbon dioxide is churned out by the burning of fossil fuels and other industrial processes. When carbon dioxide is taken up by oceans, it strips out carbonate ions dissolved in surface waters, so there is less available for marine organisms to build calcium carbonate shells and exoskeletons from. Dr Orr and an international team from Britain, the US, Japan and Australia combined recent measurements from oceans with computer models to work out how CO<sub>2</sub> levels are likely to change the acidity of oceans in coming decades if emissions continue as expected. They found that by 2100, the amount of carbonate available for marine organisms would drop by 60%. By 2050, there could be too little carbonate in surface waters for organisms to form shells.

In a follow-up experiment, Victoria Fabry at California State University San Marcos investigated how marine organisms reacted to the predicted changes by immersing live pteropods in sea water as acidic as the models predicted for 2100. She found the shells began to dissolve rapidly, with pits forming on their surfaces and external layers peeling away. Life in the polar oceans will be first to feel the brunt of rising carbon dioxide levels. Atmospheric carbon dioxide has increased from pre-industrial levels of around 280 parts per million to 380ppm today.

<http://www.guardian.co.uk/climatechange/story/0,12374,1580628,00.html>

*Written by: Magdalena Ariadne Kim Muir*

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## **26. NW-European Wind parks may become idle due to climate change**

Wind turbines and even the traditional wind mills, one of the Netherlands' trademarks, may suffer from less wind as a result of climate change, Dutch scientists predict.

New research shows scientists could have been wrong when they forecast years ago that global warming would cause more storms and wind in northwestern Europe, Albert Klein Tank of the Royal Netherlands Meteorological Institute (KNMI) told Reuters. "We said that 10-15 years ago and what we see in the observations is that the climate is warming but the number of storms is actually decreasing," said Klein Tank, who leads a team making climate scenarios for the Netherlands.

This issue is quite relevant for the planning of new coastal and nearshore wind parks in the Netherlands and elsewhere Europe. Several large scale nearshore wind parks are under construction and preparation around the North Sea, esp. in the UK and the Netherlands.

<http://www.planetark.com/dailynewsstory.cfm/newsid/33091/story.htm>

## **– EU News and Initiatives –**

### **27. Marine biodiversity research**

With marine species disappearing at an alarming rate and increasing evidence that our sensitive marine ecosystems are under threat, one EU-funded research network of European marine institutes, MarBEF, is engaged in a struggle to assemble all relevant knowledge and get it out to the relevant stakeholders. That means not just to scientists, but also to decision-makers, industry and the public at large.

Europe's vast seas are home to tens of thousands of microbial, plant and animal species. These organisms, the genes they contain and the habitats they occupy form part of the rich tapestry of life or biodiversity on Earth. Increasingly, overexploitation, pollution and climate change threaten to tip the intricate balance of our marine ecosystems, with unknown consequences. Scientists in the MarBEF (Marine Biodiversity and Ecosystem Functioning) Network of Excellence (NoE) are tackling this and other questions crucial to understanding and protecting life in Europe's oceans and seas.

MarBEF – one of the first networks funded under the EU's Sixth Research Framework Programme (FP6) – brings together over 400 of Europe's top marine researchers spread across almost 60 institutes in 17 countries. Important to MarBEF – and a major feature of such NoEs – is the ability to integrate scientists from diverse backgrounds, such as marine ecology, biogeochemistry, fisheries management, taxonomy, socio-economics and social sciences.

[http://www.europa.eu.int/comm/research/headlines/news/article\\_05\\_09\\_02\\_en.html](http://www.europa.eu.int/comm/research/headlines/news/article_05_09_02_en.html)

### **28. LIFE Nature 2005: Commission provides € 69 million to 54 nature conservation projects**

The European Commission has approved funding for 54 nature conservation projects, situated in 20 Member States or acceding countries, under the LIFE Nature programme. The projects will restore

protected nature areas and their fauna and flora, establish sustainable management structures and strengthen public awareness and cooperation with stakeholders. They will thus further contribute to the creation of the EU-wide Natura 2000 network of protected sites. The projects are situated in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary; Ireland, Italy, Latvia, Lithuania, Luxemburg, the Netherlands, Poland, Slovakia, Spain, Sweden, the United Kingdom and Romania. They represent a total investment of € 125.7 million, of which the EU will cover 69 million.

More information about each project is available at:

<http://europa.eu.int/comm/environment/life/project/index.htm>

More about the Natura 2000 network can be found at:

<http://europa.eu.int/comm/environment/nature/home.htm>

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### **29. Commission proposes European Marine Strategy and Directive**

Climate change, oil spills and commercial fishing have put oceans and seas at risk, inspiring the European Commission to launch proposals to clean up and protect waters surrounding the European Union. The proposals to protect and conserve the "marine environment", guard against the loss of biodiversity and boost industries that depend on clean water include requirements that EU member states draw up studies of water conditions as well as targets for improvement and monitoring programmes.

"The marine environment is deteriorating fast," EU Environment Commissioner Stavros Dimas told a news conference, 24 October in Brussels. The Commissioner argues healthier conditions in seas and oceans could lead to better fishing harvests and more swimming areas for tourists. The Commission strategy would also generate opportunities for research and ensure sound environmental standards for energy companies searching for new sources of oil and gas. "Estimates suggest that by 2080, between 13 percent and 25 percent of the world's coastal wetlands could be lost due to sea level rise alone," the Commission said. "Tourism would be severely hit by the degradation of marine ecosystems."

The Commission expects implementation to cost 90 million euros over the first two years and 70 million euros a year after that. "The benefits are many times more than the costs," Dimas said. The proposals include a draft European Marine Directive that would require the EU member states to work together and draw up plans to protect waters like the Baltic Sea, the North-East Atlantic and the Mediterranean. The draft law must be passed by the European Parliament and member states before it enters into force.

<http://www.planetark.com/dailynewsstory.cfm/newsid/33142/story.htm>

### **30. Agreement on new EU Bathing Water Directive**

The Council and the European Parliament succeeded in reaching agreement on a joint text for a draft directive on bathing water quality. The agreement will allow for rapid adoption of the directive. The directive will apply to surface water where a large number of people are expected to bathe, establishing a method for monitoring bathing water quality during the bathing season. The old bathing water directive from 1976 will be repealed and replaced, to reflect scientific knowledge gained since 1976. The new directive will complement the WFD as well as the directives on urban wastewater treatment and on nitrates pollution from agricultural sources.

Source: EUROPEAN WATER MANAGEMENT NEWS, 19 October 2005

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## **- Publications -**

### **Dynamics of Coastal Systems**

Advanced Series on Ocean Engineering – Volume 25. By Job Dronkers, 2005, World Scientific ([www.worldscientific.com](http://www.worldscientific.com)).

Dynamics of Coastal Systems is about the dynamic interaction between water motion and seabed topography, which affects the natural response of coastal systems to change in external conditions and to human interventions – from the scale of seabed ripples up to the scale of entire barrier and delta systems. The book highlights major concepts developed during the past 50 years for the description of current-topography, tide-topography and wave-topography interactions. It provides simple analytical tools and models for diagnosing and predicting coastal response to change, with references to a great variety of coastal systems around the world. These concepts and tools are crucial for sustainable management of beaches, deltas and coastal wetlands.

### **Küsten Newsletter 5/2005**

The fifth newsletter of EUCC Germany had been issued in German. If you wish to subscribe to this newsletter please send an email to: [newsletter@eucc-d.de](mailto:newsletter@eucc-d.de). The newsletter can be found at:

<http://www.eucc-d.de>

## – Events and training, 1<sup>st</sup> Announcements –

**This list only includes the 1<sup>st</sup> Announcements of conferences and training courses.**  
**For a complete overview of conferences please visit: <http://www.coastalguide.org/meetings>**  
**EUCC related conferences are added in boxes.**

November 21-25, 2005 – Gran Canaria, Canary Islands  
**CoPraNet workshop Sustainable Tourism & Coastal Management**  
<http://www.coastalpractice.net/en/workshops/grancanaria.pdf>

November 22, 2005 – Southampton, UK  
**Workshop on Coastal and Marine Indicators: Measuring sustainable development on the coast and progress in implementing Integrated Coastal Zone Management**  
[www.solentforum.hants.org.uk](http://www.solentforum.hants.org.uk)

January 19, 2006 – The Hague, the Netherlands  
**COIREPOINT Conference: 'Participatory planning and working with natural processes on the coast.'**  
<http://corepoint.ucc.ie>

April 3-6, 2006 – Crete, Greece  
**The 26th International Symposium on Sea Turtle Biology and Conservation**  
<http://iconferences.seaturtle.org/>

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May 2-4, 2006 - Porto, Portugal  
**1st International Conference on the Application of Physical Modelling to Port and Coastal Protection**  
<http://www.fe.up.pt/~lpneves/coastlab06>

May 14-17, 2006 – Florida, USA  
**The Coastal Society's 20th Biennial Conference**  
<http://www.thecoastalsociety.org/conference/tcs20/>

September 18-20, 2006 – Gdansk, Poland  
**Littoral 2006 Conference "Coastal Innovation and Initiatives"**  
<http://www.littoral2006.gda.pl/>

## – Colophon –

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Please note that back issues will be transferred to <http://www.eucc.net>

EUCC Coastal News Editorial Team: Miranda Wien, Ben Spaans, Albert Salman, Marleen Smallegange.  
Special Editor: Magdalena Ariadne Kim Muir (EUCC Advisory Board Member): Climate Change.

**Deadline for submitting contributions to EUCC Coastal News No 2005/11 : 22 November 2005.**

Established in 1989, EUCC - The Coastal Union is an association involving the largest coastal network in Europe with 2750 members and member organisations in 40 countries. For more information please contact EUCC International Secretariat, POB 11232, NL-2301 EE Leiden, the Netherlands, tel.: +31-71-5122900, internet: <http://www.eucc.net>

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