ROYAUME DU MAROC
Université Mohammed V – Agdal
Institut Scientifique-Rabat

COCONET SUMMER COURSE
"GES & MPAs"

Good Environmental Status and Marine Protected Areas in the Mediterranean and Black Sea

September 8-13, 2014 (GES 8-11, Workshop 12)
University Mohammed V Agdal – Institut Scientifique – Rabat – Morocco

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Simonetta Fraschetti, University of Salento, Italy
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Good Environmental Status and Marine Protected Areas

Aims and objectives:

The DG Environment of the European Commission has defined eleven descriptors of **Good Environmental Status for EU marine waters** (http://ec.europa.eu/environment/marine/good-environmental-status/).

One of the aims of marine protected areas (**MPAs**) should be to preserve '**good environmental status' (GES)** and, if GES is not reached, management actions should be aimed at reaching it. Networks of MPAs (as one of the main objectives of **CoCoNet**) should promote **GES** not only within MPAs but also across them, eventually extending the **GES** to encompass the entire sea.

The objective of attaining **GES** is circumscribed to EU countries, but political boundaries are ecologically meaningless, especially in semi-closed basins such as the Mediterranean and the Black Seas. The aim of CoCoNet extends beyond European waters since it is recognized that only a transnational vision, followed by concerted efforts, will improve the management of our seas.

The COCONET summer course 2014 will discuss the rationale of **GES**, analyze the eleven descriptors, and focus on issues that that are pertinent to the networks of MPAs, while keeping in mind the contribution of clean energy production through Offshore Wind Farms in the attainment of **GES**.

MPAs differ in their aims, biotic content, range of habitats, size and range of environmental and anthropogenic pressures, but the attainment of **GES** is a common goal.

The discussion of the indicators is timely because some cannot be controlled in the management framework of individual MPAs or even of networks of MPAs. Marine litter, for instance, is driven around our basins by the currents, and managers can do nothing to prevent its stranding, besides removing it once it arrives on the shore. MPAs cannot stop alien species and even the attempts at their eradication might be troublesome. MPAs, however, can become observatories of the quality of the environment and can, therefore, become the places where to keep the marine environment under constant check.

It is important, under this respect, to become aware of what to look and how to look at it. This course is aimed at implementing a shared view of these issues. The course will be opened by a general introduction and then lectures will deal with the main descriptors.

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Preliminary Agenda of **SUMMER COURSE**

State of Mediterranean MPA**s (Webster)**

Pristine vs. non-pristine areas in the Mediterranean. The past and present structure of Mediterranean and Black Sea communities (**Macpherson**)

Descriptor 1. Biodiversity is maintained (**Fraschetti**, **Boero**)
Descriptor 2. Non-indigenous species do not adversely alter the ecosystem (**Galil, Boero**)
Descriptor 3. The population of commercial fish species is healthy (**Macpherson**)
Descriptor 4. Elements of food webs ensure long-term abundance and reproduction (**Macpherson**)
Descriptor 6. The sea floor integrity ensures functioning of the ecosystem (**Foglini, Fraschetti**)
Descriptor 7. Permanent alteration of hydrographical conditions does not adversely affect the ecosystem (**Petrillo**)
Descriptor 10. Marine litter does not cause harm (**Boero, Aliani**)
Descriptor 11. Introduction of energy (including underwater noise) does not adversely affect the ecosystem (**André**)

Descriptors 5, 8, 9 (eutrophication and contaminants) are omitted as they are well framed in environmental assessment procedures.

Temperature rises in the Mediterranean Sea and its impacts (**Fraschetti, Boero**)

A review of the experience on the **impacts of energy from sea** (offshore wind, wave, current) on the marine and coastal environment (**Soukissian**)

The course will be followed by a one-day workshop on **habitat mapping** (including demonstration and exercises) (Instructors: **Foglini, Fraschetti**).

IMPORTANT! The number of participants is limited – please use the attached application form
Deadline for applications 20 June, 2004

Lecturers

Stefano Aliani. Reserchер at CNR- Institute Marine Science Section of Lerici, Italy. His major field of interest is the interplay of physical and ecological processes and the control they exert on the functioning of the ecosystems, with a particular focus on the importance of biological and physical mechanisms controlling dispersal and transport across different biogeographic boundaries. He's also interested in marine litter, that he believe is going to become a major threat for marine life in the following years. He's been a PI in many projects on oceanography and marine ecology and he's been also in charge of seagoing high tech instrumentation in many cruises also in extreme environments.

Michel André. An Engineer in Biotechnologies graduated from the Institut National des Sciences Appliquées, INSA, Toulouse, France. He holds a Master degree in Biochemistry and a Master degree in Animal Physiology from the Université Paul Sabatier de Toulouse, France; His PhD Dissertation that he defended at the Universidad de Las Palmas de Gran Canaria was on sperm whale acoustics and noise pollution. He was a research assistant at the San Francisco State University, California, an intern scientist at The Marine Mammal Centre, California and an associate professor at the Universidad de Las Palmas de Gran Canaria, España. His research involves the development of acoustic technologies for the control of noise pollution in the marine environment; the study of the biological and pathological impact of noise pollution on marine organism acoustic pathways; the mathematical, physical, morpho- and electro-phisiological mechanisms of the cetacean bio-sonar as well as the extraction of the information from their acoustic signals.

Ferdinando Boero. Professor of Zoology and Marine Biology at the University of Salento, Associate to CNR-ISMAR. Coordinator of CoCoNet. His specific interests focus on Hydrozoan taxonomy, life cycles, ecology and evolution. His broad interest regards the identification of the variables that concur to ecosystem structure and function, and the reconstruction of their interactions, so as to produce accurate representations of Nature. http://scholar.google.com/citations?user=Syro5DUAAAAJ&hl=en

Federica Foglini. Focused on design and management of Marine Geodatabase, development and implementation of WebGIS systems and digital cartography in the framework of European and National projects (HERMES, HERMIONE, MAGIC, Geological mapping of the Italian Sea, COCONET, RITMARE, BIOMAP, EMODNET, Marine Strategy Framework Directive) leading data management work packages for habitat mapping. She is involved in seafloor mapping and habitat mapping, high-resolution reflection seismic and stratigraphic interpretation, multi beam swath bathymety acquisition and processing. Supervisor of geophysical data acquisition and processing for most of the ISMAR cruises, co-author of international scientific papers and several technical reports about implementation and design of Marine Geodatabase and GIS mapping. Often aboard vessels as party chief supervising data collection and processing.

Simonetta Fraschetti. Associate professor, Università del Salento, CoNISMa, She combines field descriptive research, manipulative experiments and spatial analysis techniques with the aim of gaining a better understanding of the pattern of distribution of marine biodiversity and processes influencing marine communities. She is involved in several national and international projects for implementing the conservation and the management of marine costal systems. A specific focus of her research is on setting priorities through conservation planning tools for the identification of network of Marine

Protected Areas. The quantification of changes in coastal marine communities under the effects of multiple stressors to inform marine spatial planning and the study of the recovery of disturbed assemblages are also relevant aspects of her research (http://scholar.google.it/citations?user=debN35MAAAAJ&hl=en)

Bella Galil. Senior Scientist with the National Institute of Oceanography, Israel, co-chaired the Living Resources and Marine Ecosystems Committee of CIESM and headed the scientific committee of the Directorate of the National Parks and Nature reserves Authority, Israel. She has been responsible for major research and monitoring contracts in the Mediterranean Sea and published more than 250 publications in the peer reviewed journals, over 40 dealing with marine alien species in the Mediterranean Sea.

Enrique Macpherson. Research Professor at the Center for Advanced Studies in Blanes (CEAB-CSIC). He has been working on Fish management, fish ecology, including population genetics, as well as taxonomy, phylogeny and biogeography of crustacean decapods. He has coordinated some projects related with fish conservation in the Mediterranean, mostly on settlement and mortality patterns in protected and unprotected areas. Author of more than 200 international papers.

Antonio Petrillo. Full professor of Fluid Mechanics at the Bari Polytechnic (Italy). Director of the Department of Water Engineering 1993 – 1997. Scientific Manager of the "Research and Experiment Laboratory for the Defence of Coasts (LIC). Since 2008 coordinator of the PhD of the Department of Civil, Environmental, Building Engineering, and Chemistry (DICATECh). Bari. Scientific activities: theoretical and experimental studies on topics of Fluid Mechanics, such as generation of regular and irregular waves in an experimental channel; 2D and 3D physical models of hydraulic and maritime hydraulic phenomena; wave transformations; evolution of a beach with and without a defence structures; submerged structures for beach defence; management of coastal area; circulation of marine currents; diffusion and dilution of salt water or wastewater in the sea. Author of 190 publications. Scientific supervisor of 40 research projects, supervisor of 42 research contracts for local territorial bodies.

Takvor Soukissian. Senior Researcher at the Institute of Oceanography of the Hellenic Centre for Marine Research. He is working on the stochastic modelling and forecasting of wind and waves as well as on offshore wind and wave energy assessment. He has been responsible of the Wind and Wave Atlas of the Hellenic Seas and has coordinated major national projects on Ocean Technology, Operational Oceanography and offshore wind energy. He is member of the technical program committee of the International Society of Offshore and Polar Engineers and author of more than 75 peer reviewed international papers on journals and international conferences

Chloë Webster. Scientific officer of MedPAN - the network of MPA managers in the Mediterranean. An environmental scientist (biology and social sciences) specialised in the multidisciplinary and sustainable management of natural resources in the marine and coastal zone - about 20 years work experience in the marine environment (including field research on marine mammals, coral reefs, fish, turtles, sharks, mangroves - policy work and involvements with the private sector). She has been working on Marine Protected Areas (MPAs) for a decade in several oceans and seas, including Madagascar and the Mediterranean.