

Norwegian+Barents Seas. BQI ES500.05 were computed for 767 taxa, which account for 98.7% of the total abundances in the database. Heterogeneities in ES500.05 between subareas suggest that species can present different sensitivity/tolerance levels in different geographical areas. There were only poor negative correlations between (1) AMBI Ecological Groups and ES500.05 and (2) AMBI and BQIES. Low values of AMBI were sometimes associated with low values of BQIES resulting in the attribution of different Ecological Quality status (EcoQ). This was caused by the dominance of species classified as sensitive by AMBI and as tolerant by BQIES. These most important species and we underline the need for a clarification of their sensitivity/tolerance levels. It is also concluded that the use of a specific scale of conversion into EcoQ is necessary in each homogeneous habitat.

16:45 - 17:00 OBIS-SEAMAP: DEVELOPING A BIOGEOGRAPHIC RESEARCH DATA COMMONS FOR THE ECOLOGICAL STUDIES OF MARINE MAMMALS, SEABIRDS, AND SEA TURTLES.

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Our ability to understand, conserve, and manage the planet's marine biodiversity is fundamentally limited by the availability of relevant taxonomic, distribution, and abundance data. The OVBIS-SEAMAP initiative has developed an expanding geo-database of marine mammal, seabird, and sea turtle distribution and abundance data globally. The OBIS-SEAMAP information system is intended to support research into the ecology and management of these important marine megavertebrates and augment public understanding of the ecology of marine megavertebrates by: (1) facilitating studies of impacts on threatened species, (2) testing hypotheses about biogeographic and biodiversity models, and (3) supporting modeling efforts to predict distributional changes in response to environmental change. This system takes advantage of recent technological advances in Geographic Information Systems (GIS), Internet data standards, and content management systems to stimulate a novel community-based approach to the development of a data commons for biogeographic and conservation research. To date, the global OBIS-SEAMAP database includes >2.5 million observation records from more than 200 datasets, spanning 73 yr (1935 to 2008) provided by a growing international network of data providers

17:00 - 17:15 DATA INTEGRATION AND INTEROPERABILITY IN THE BIOLOGICAL AND CHEMICAL OCEANOGRAPHY DATA MANAGEMENT SYSTEM AND CMARZ.

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Chandler, Cynthia; Glover, David. Marine Chemistry & Geochemistry. Woods Hole Oceanographic Institution, USA.

The Biological and Chemical Oceanography Data Management Office (BCO-DMO) serves investigators conducting marine chemical and ecological research. BCO-DMO provides open access to data and information developed in the course of scientific research in short and intermediate time frames. In a related effort, the Census of Marine Zooplankton (CMarZ, see www.cmarz.org) is working toward a taxonomically comprehensive assessment of biodiversity of animal plankton throughout the world oceans. The taxonomic focus is on the holozooplankton that drift with ocean currents throughout their lives. To support the data management and web-serving requirements of these projects, a MySQL database for the requisite metadata has been developed. Also, policies and procedures were needed to ensure that high quality data are easily discoverable and retrievable, and to allow a high degree of interoperability with other data systems. In addition to a text-based, tabular interface to existing data, the University of Minnesota's MapServer interface provides geospatial access to our data sets. MapServer also provides Open Geospatial Consortium standards-based interoperability to the database by supporting the Web Mapping Service and Web Feature Service protocols.

17:15 - 17:30 OBIS FOR BEGINNERS.

Grassle J. Frederick; Vanden Berghe Edward, Marine and coastal sciences, Institute of Marine and Coastal Sciences, Rutgers, The State University of New Jersey, USA.

Often marine biological data are the result of projects with a limited temporal and spatial cover. Taken in isolation, datasets resulting from these projects are only of limited use in the interpretation of large scale phenomena. More specifically, they fail to inform on a scale commensurate with the information needed to address major conservation and management issues such as the effects of global change, invasive species, harmful algal blooms, and the loss of biodiversity. Individual studies are restricted in the amount of data they can generate; but by combining the results from many studies, massive databases can be created that make possible broad-scale analyses. The Ocean Biogeographic Information System (OBIS, <http://www.iobis.org>), the data integration component of the Census of Marine Life (CoML, <http://www.coml.org>), assesses and explains the diversity and distribution of marine life through a network of linked databases, integrating data from a vast number of sources, with the assistance of a global network of Regional OBIS Nodes. It is ideally placed to inform

decision makers on global environmental issues that threaten the health of the world oceans, and thus the safety of mankind. The system, now eight years old, has 14 million biogeographical records, extracted from 250 datasets, documenting distribution of more than 80,000 species. The present web portal is available since 2004. A new portal is in development, using a different tool set. This will facilitate new functionality including Ocean Geospatial Consortium compliant web services. Examples of products based on these will be given.

Polivante room

Session 3.3 Fish and fisheries: genes to global market

Chairs : Reinhold Hanel; Mikko Heino.

16:30 - 16:45 SEASCAPE GENETICS IN ANTARCTIC FISH: UNCOUPLING OF PHYSICAL AND BIOLOGICAL PROCESSES.

Carvalho Gary; Rock Jennifer, School of Biological Sciences, Environment Centre Wales, Bangor University, UK.
Young Emma; Murphy E; Meredith Mike; Thorpe S; Belchier Mark; Collins M; Everson I; Rodhouse Paul, British Antarctic Survey, Cambridge, UK.
Hutchinson Bill; School of Biological Sciences, University of Hull, Hull, UK.
Hauser Lorenz, University of Washington, Seattle, USA.

Molecular genetic markers provide informative tools for estimating larval connections between marine populations. Similarly, physical oceanographic models can simulate larval movements in relation to hydrographic variability. Although the dynamics of larval dispersal and population connectivity has a rich history, there are relatively few studies that generate physical predictions in conjunction with empirical tests of population differentiation. Our research examines the influence of oceanographic processes and life history variation on gene flow in two contrasting Antarctic marine fish: *Champsocephalus gunnari* and *Notothenia rossii*. These species are broadly sympatric in much of their distribution, but differ in aspects of life history that are expected to strongly affect their dispersal capabilities. We employ oceanographic models including (1) OCCAM and (2) a high resolution model (using POLCOMS) to predict larval transport around Antarctica as well as finer scale cross-shelf transport and retention around South Georgia. Using mtDNA and microsatellite markers, we examine historic and contemporary gene flow. Here we present data from large scale oceanographic models in combination with evidence for inter-specific variation in mitochondrial and nuclear gene flow at the circumpolar level.

16:45 - 17:00 RECENT CHANGES IN NORTHERN ADRIATIC ICTHYOFAUNA: EXPERIENCES FROM SLOVENIA.

Mavric Borut; Lipej Lovrenc, Marine Biology Station Piran, National Institute of Biology, Slovenia.

During the last decade a plethora of fish species were confirmed in Slovenian sea for the very first time and beside that some unusual fish species, considered to be rare, were recorded in the area as well. This may be attributed to several factors, however an increase in the research effort and the adoption of new techniques are the most important. Some species are Lessepsian migrants (*Terapon theraps*), while other could be related to the phenomena of meridionalisation (*Balistes carolinensis*, *Coris julis*, *Pteroplatytrigon violacea*). Recently adopted non-destructive techniques, such as visual census, underwater filming and the use of narcotics, enabled the recording of some apparently »rare« benthic fish species in the Mediterranean Sea (*Gobius roulei*, *Apletodon incognitus*, *Millerigobius macrocephalus*). There are also some new findings of bigger fishes associated with the better prospection. This is the case of some shark and ray species (*Carcharhinus plumbeus*, *Cetorhinus maximus*, *Peromyxus bovinus*) and some peculiar teleosts (*Mola mola*, *Ranzania laevis*, *Luvarus imperialis*).

17:00 - 17:15 THE DISTRIBUTION AND RELATIONSHIPS BETWEEN HAKE (*MERLUCCIVUS MERLUCCIVUS* LINNAEUS, 1758) AND COD (*MERLANGIVUS MERLANGIVUS* LINNAEUS, 1758) IN THE SEA OF MARMARA (1990-1995).