2nd INTERNATIONAL OCEAN RESEARCH CONFERENCE
BARCELONA 2014 (SPAIN)
16-21 November

AGENDA & ORDER OF THE DAY

one planet, one ocean
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Introduction

Welcome

Welcome to the 2nd International Ocean Research Conference (IORC)!

We are honoured to welcome you to the 2nd International Ocean Research Conference (IORC) that will focus on the way that ocean science has evolved in the past 20 years and will analyse international cooperation in ocean sciences and technology for the coming decade.

The inaugural IORC was held in June 2005, when the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), together with The Oceanography Society (TOS), brought attendees together to discuss expected developments in marine sciences in the next decade. Now, almost ten years later, the 2nd IORC brings together ocean scientists from across the globe to assess the current state of ocean knowledge and to discuss our future ocean challenges. The conference has an interdisciplinary focus, encompassing oceanographic, social science and economic perspectives on ocean research. The three main topics of the conference: Building scientific knowledge; Applying knowledge for societal benefit; Improving governance and building capacities, all have thematic sessions which address current and anticipated changes in ocean science. In addition to the thematic sessions, the conference includes both a number of workshops and panel discussions intended to support the thematic sessions of the conference. We are fortunate to have excellent keynote speakers who will present important synthesis talks at the beginning of each day of the conference.

The 2nd IORC will demonstrate the breadth and global impact of ocean research and its exciting contributions to new knowledge on pressing societal issues, including climate change, ocean governance and capacity building. Oceanographers, researchers, engineers, academics, conservation organizations and marine planning experts will gather at this international conference to discuss a global vision of the latest achievements and future needs in ocean science and technology. This conference will include 600 scientists from over 70 countries and nearly 450 posters and talks, an excellent indication of how dynamic our field is and the high quality of the oceanographic research that is being done all over the world.

We would like to encourage all the participants to be active in this conference. During this week we will have the opportunity to exchange information, share new ideas and identify research synergies. The conference also includes a number of exciting social events designed to enhance interactions of the attendees and provide the opportunity to explore the wonderful city of Barcelona and the Mediterranean Sea.

This conference is the culmination of an intensive, interactive and long process in which many dedicated individuals of IOC, TOS, CSIC, FNOB worked for almost two years in the planning and implementation to make this event a success for the participants. We want to thank all the institutions for the trust they placed in us when we asked for support in the organization of this symposium, without their committed and decisive support our aims would have been impossible to achieve. Our sincere thanks and congratulations must also go to the International Scientific Committee for their work in mobilizing the wide representation of scientific teams attending the meeting. We are also indebted to the local organizing committee for their excellent work in selecting the venue, social events and prepare the logistics for the conference.

We look forward to a great conference and thank you for joining us!

Luis Valdés (IOC-UNESCO) and Mike Roman (TOS)

Conveners
Organisers and Sponsors

Conveners
Mike Roman, TOS
Luis Valdés, IOC-UNESCO

International Scientific Committee
Peter Wiebe, USA
Janet Sprintall, USA
Jack Barth, USA
Katja Fennel, Canada
Alida Bundy, Canada
Alexander Turra, Brazil
Shin-ichi Uye, Japan
SuMei Liu, China
Helen Phillips, Australia
Wajih Naqvi, India
Xabier Irigoyen, Saudi Arabia
Coleen Moloney, South Africa
Oran Young, Norway
Pierre Petitgas, France
Demetrio de Armas, Spain

Organizing Committee
Rejane Herve-Smadja, IOC-UNESCO
Marta Estrada, ICM-CSIC
Miquel Alcaraz, ICM-CSIC
Jordi Salat, ICM-CSIC
Jordi Serra, UB
Victor Montero, FNOB
Maria Godoy, FNOB
Lucia Cuesta, FNOB
Supported by

Ministerio de Economía y competitividad, Gobierno de España

IEO
Instituto Español de Oceanografía

Institut de Ciències del Mar, CSIC

Institut de l’Aigua, Universitat de Barcelona

Museu de Ciències Naturals de Barcelona, Museu Blau

Museu Marítim de Barcelona

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Notes for Guidance

Venue
The Conference will be held at the Centre de Convencions Internacional de Barcelona (CCIB). This is a modern building complex with rooms for scientific sessions, workshops and poster exhibition, offices for the Scientific and Organising Committee, and facilities for press-conferences and communication with media. The CCIB is located at Plaça de Willy Brandt 11 (Barcelona), it is easy to reach by public transportation (Metro L4, Tramway T4 - Forum Station, and Buses number 7 and H16).

Registration and documentation
The registration desk will be located in the lobby of the CCIB. The Conference dossier includes the badge, Conference program, invitations to different social events and an USB memory stick with the Book of abstracts.

Conference Secretariat
The Conference secretariat and the office of the editorial committee will be located in Room M217 on the Level M2. Rooms for parallel theme sessions are on the 111/112/131-132 and 133-134 on the Level P1.

Oral presentations
In order to allow the sessions to run smoothly and in fairness to other speakers, please note that all presentations are expected to adhere strictly to the time allocated. The time for your presentation can be found in the agendas. USB with the electronic presentations should be given to the symposium secretariat one day before the talk. The oral speakers will have room M218 on the floor at their disposal to prepare their presentation.

Posters
Will be displayed in the lobby throughout the Conference. Two poster sessions will be held there on Monday, 17 and Wednesday 19 November between 18:00h and 19:30h. We request that those who have presented a poster be present to answer questions.

Internet access
Free access to the internet for all participants will be available at CCIB instalations.

Simultaneous interpretation
Simultaneous interpretation (English and Spanish) will be available during the Opening Ceremony (9:30h to 11:00h). Headsets will be available.

Streaming and broadcasting
Video broadcast of the proceedings of the IORC will be accessible online and free of charge for online conference access.

Refreshments
Complimentary refreshments (tea and coffee) will be served during the coffee break in the Museu Blau (just in front of the CCIB). Smoking is not permitted.

Lunch
There are a variety of restaurants available next to CCIB (Diagonal Mar Mall). List of restaurants will be available at the registration desk.
Floor Plans and Maps

Lobby of the Conference Centre
First Floor of the Conference Centre
# The Conference at a glance

## Conference Timetable

### November 16

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30-09:30</td>
<td>Registration</td>
</tr>
<tr>
<td>10:00-12:30/13:45</td>
<td>Workshops</td>
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<tr>
<td>12:30/13:45-14:00</td>
<td>Lunch break</td>
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<tr>
<td>14:00-17:00</td>
<td>Workshops</td>
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<tr>
<td>17:00-17:30</td>
<td>Registration</td>
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### November 17

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>08:30-09:30</td>
<td>Registration</td>
</tr>
<tr>
<td>09:30-10:15</td>
<td>Opening session</td>
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<tr>
<td>10:15-11:00</td>
<td>Key note lecture: Jane Lubchenco</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30-13:00</td>
<td>MP. The dawn of the robotic exploration of our planet ocean</td>
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<td></td>
<td>Moderator: Jack Barth</td>
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<tr>
<td>13:00-14:30</td>
<td>Lunch break</td>
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<tr>
<td>14:30-16:00</td>
<td>T1 TS1, T1 TS6, T2 TS2, T2 TS5</td>
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<tr>
<td>16:00-16:30</td>
<td>Coffee break</td>
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<tr>
<td>16:30-18:00</td>
<td>T1 TS1, T1 TS6, T2 TS2, T2 TS5</td>
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### November 18

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>08:30-09:30</td>
<td>Key note lecture: Sam Dupont</td>
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<tr>
<td>09:30-11:00</td>
<td>MP. The future of large international programs in support of new ocean science and lessons learned from past programs. Moderator: Manuel Barangé</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30-13:00</td>
<td>T1 TS4, T1 TS3, T2 TS2, T2 TS5</td>
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<tr>
<td>13:00-14:30</td>
<td>Lunch break</td>
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<tr>
<td>14:30-16:00</td>
<td>T1 TS4, T1 TS3, T2 TS2, T2 TS5</td>
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<tr>
<td>16:00-16:30</td>
<td>Coffee break</td>
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<tr>
<td>16:30-18:00</td>
<td>T1 TS4, T1 TS3, T1 TS5, T2 TS1</td>
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<td>November 19</td>
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<td>08:30-09:30</td>
<td>Key note lecture: Alida Bundy</td>
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<td>11:00-11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30-13:00</td>
<td>T1 TS3</td>
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<tr>
<td>13:00-14:30</td>
<td>Lunch break</td>
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<tr>
<td>14:30-16:00</td>
<td>T2 TS4</td>
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<tr>
<td>16:00-16:30</td>
<td>Coffee break</td>
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<tr>
<td>16:30-18:00</td>
<td>T2 TS4</td>
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<tr>
<td>November 20</td>
<td>Key note lecture: Shin-ichi Uye</td>
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<td>08:30-09:30</td>
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<tr>
<td>09:30-11:00</td>
<td>MP. A paradigm shift for sustainable, productive fisheries: the need to move from selective fishing to balanced harvesting. Moderator: Jake Rice</td>
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<tr>
<td>11:00-11:30</td>
<td>Coffee break</td>
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<tr>
<td>11:30-13:00</td>
<td>T3 TS1</td>
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<td>13:00-14:30</td>
<td>Lunch break</td>
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<tr>
<td>14:30-16:00</td>
<td>T3 TS1</td>
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<td>16:00-16:30</td>
<td>Coffee break</td>
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<tr>
<td>16:30-18:00</td>
<td>T3 TS1</td>
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<td>November 21</td>
<td>Key note lecture: Daniel Pauly</td>
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<td>08:30-09:30</td>
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<tr>
<td>09:30-11:00</td>
<td>MP. Biodiversity, Conservation and the Interface with Human Need and Greed Moderator: Peter Neill</td>
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<td>11:00-11:30</td>
<td>Coffee break</td>
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<td>11:30-13:00</td>
<td>T3 TS1</td>
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<tr>
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<td>T3 TS1</td>
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<tr>
<td>16:30-18:00</td>
<td>Closing session: Lisa Emelia Svensson and Wendy Watson Wright</td>
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List of key note lectures and panels

Key note lectures (17-21 November)

KNL. Delivering on Science's Social Contract (17 November)
   by Jane Lubchenco (USA)

KNL. Get ready for ocean acidification (18 November)
   by Sam Dupont (Sweden)

KNL. How do we reverse the current? On the need to integrate both humans and nature into ocean
   science, management and governance (19 November)
   by Alida Bundy (Canada)

KNL. The East Asian Marginal Seas: a jellyfish hotspot in a bumpy road to fishery sustainability (20
   November)
   by Shin-Ichi Uye (Japan)

KNL. Fisheries and Global Warming; Impacts on Marine Ecosystems (21 November)
   by Daniel Pauly (France)

Closing Session (21 November)

Lisa Emelia Svensson (Sweden) and Wendy Watson Wright (Canada)

Morning Panels (17-21 November)

MP. The dawn of the robotic exploration of our planet ocean (17 November)

MP. The future of large international programs in support of new ocean science and lessons learned
   from past programs (18 November)

MP. The science-policy interface: Scientists communicating with Decision-Makers (19 November)

MP. A paradigm shift for sustainable, productive fisheries: the need to move from selective fishing to
   balanced harvesting (20 November)

MP. Biodiversity, Conservation and the Interface with Human Need and Greed (21 November)
List of sessions and workshops

Theme Sessions (17-21 November)

Topic 1: Building scientific knowledge
T1. TS1. The changing polar climate systems
T1. TS2. Regional warm seas: a laboratory for the future
T1. TS3. Low oxygen and low pH environments in coastal and ocean waters
T1. TS4. New frontiers in modelling for oceanography, fisheries and marine ecosystem management
T1. TS5. Transforming our understanding of ocean processes through new technologies
T1. TS6. How many species in the ocean? Trends in biodiversity

Topic 2: Applying knowledge for societal benefit: Achieving ecosystem management and sustainability
T2.TS1. Coral Reefs sustaining biodiversity in the face of climate change and human impacts*
T2.TS2. Response of marine biota to human pressures and climate change; its implications for social-ecological systems
T2.TS3. Recovery and sustainability of Large Marine Ecosystems around the world
T2.TS4. Pollution from Land based activities: towards smart cities and healthy oceans
T2.TS5. Operationalizing Ecosystem-based Management: the challenges of translating scientific knowledge into decision tools for integrated management

Topic 3: Improving governance and building capacities
T3. TS1. Ocean governance in the face of societal pressures and uncertain predictions
T3. TS2. Success stories in capacity-building in ocean sciences
T3. TS3. The valuation of coastal and marine ecosystem services

Workshops (16 November)
WS1. Scientists sharing data: existing databases, improving access, data poor areas
WS2. Case studies of new mechanisms for improving ocean governance
WS3. One ocean: the global circulation and interconnected ecosystems
WS4. Genes to ecosystems: genomic tools to understand ecosystem function
WS5. Global reporting of assessments of the status of marine environments
WS6. Achievements and future research on micro-plastics in the marine environment
WS7. How is your ecosystem doing? Advances in the use and understanding of ecosystem indicators
WS8. Promoting communication within the early career marine scientists
WS9. European marine policy and its implementation through projects for marine monitoring for blue growth

Poster Session (17&19 November)
List of side events and exhibitions

**TV Corners** (16-21 Nov, 8:30-19:30h)

There will be six areas designated to TV Corners in the Lobby of the International Conference Center of Barcelona (CCIB) which will display information on:

- **Ocean Acidification**  
  Producers: Kirsten Isensee (IOC) and Lina Hansson (OA-ICC)

- **Biodiversity**  
  Producers: Salvatore Arico (UNESCO) and Ward Appeltans (OBIS)

- **Plastics**  
  Producers: Rejane Herve-Smadja (IOC) and Jo Ruxton (PlasticOceans)

- **Polar Oceanography**  
  Producers: Vladimir Ryabinin (WCRP) and Miquel Alcaraz (CSIC)

- **Research vessels**  
  Producers: José Ignacio Díaz (IEO) and Geraint West (NOC)

- **Ocean literacy**  
  Producers: Emily Koulouvaris (PERSEUS) and Francesca Santoro (IOC)

Pre-recorded messages will be played here, featuring industry leaders, Academics and NGO representatives.

**Transboundary Waters Assessment Programme** (17 Nov, 13:15h to 14:30h)

Presents the UN scientific reports on Transboundary Waters Assessment Programme (TWAP) in Room 131-132. TWAP consists of five independent indicator-based assessments and the linkages between them, including their socioeconomic and governance-related features.

**Global Ocean Commission** (18 Nov, 13:00-14:30h)

This event will provide an opportunity for experts and scientists to discuss the role of ocean conservation measures for the recovery of fish stocks and marine ecosystems, as well as for climate change resilience. The audience will be invited to discuss the current gaps in the ocean policy-science interface and their implications in Room 131-132.

**The Future Ecosystem Approach to Fisheries-Nansen Programme** (19 Nov, 13:00-14:30h)

The side event is organized by The Future Ecosystem Approach to Fisheries – Nansen Programme (EAF-NANSEN) as an opportunity to introduce the future programme and provide feedback from possible national and international partners in Room 131-132.

**Microplastics GESAMP** (20 Nov, 13:45-14:25h)

Presentation of the Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) report in reference to microplastics in Room 131-132.

**The Oceanography Society** (16-21 Nov, 8:30-19:30h)

Exhibition and information on The Oceanography Magazine in the CCIB Lobby.

**Plastic Corner** (16-21 Nov, 8:30-19:30h)

An exhibition area in the lobby of the CCIB that also provides bottles of water for everyone during the conference and collects and recycles. So please remember to recycle your bottle here.
Visit the scientific vessels and IMOCA 60 boats (17-21 Nov, 10:00-13:30 and 16:00-19:00h)
The Instituto Español de Oceanografía (IEO Spain) will be celebrating its centenary by basing its Research Vessels ‘Ramon Margalef’ and ‘Francisco P. Navarro’ at the Moll de la Fusta open for attendees to visit. The catamaran ‘SOCIB’, a coastal ocean research vessel together with The Barcelona World Race IMOCA 60 boats, ‘One Planet One Ocean’ and ‘Mirabaud’ will also be moored alongside these vessels and open to the general public.

Film festival (18 Nov, 15:00 and 19:00h)
Films from the 2014 Marseille Underwater Film Festival will be screened at the Museu Marítim. Entrance is free for the conference registered participants. For further information please contact the symposium desk.

Barcelona Underwater Exhibition (24 October 2014 - 12 April 2015)
One of the World’s most important collections of aquatic cameras and sub aquatic photographs and cinema can be seen at the Museu Marítim. Further information www.mmb.cat

Barcelona Underwater Festival (29 October 2014 - 11 March 2015)
Conferences, exhibitions, films and the celebration of 150th anniversary of the launching of the submarine "Ictineo-II", the first of its kind with anaerobic propusion at the Museu Marítim.Further information www.mmb.cat

Museu Blau - Natural History Museum of Barcelona (16-21 Nov)
Free access (with conference accreditation pass) to visit the Museu Blau - Natural History Museum of Barcelona. Further information www.museuciencies.cat

A conference on oceanographic science and extreme sailing (20 Nov, 19:00 - 20:00h)
Conference/round table with skipper Cali San Martí his experiences during the BWR 2010-2011 on the We Are Water OPEN 60 boat and Josep Mª Gili, Research Professor of the Spanish National Research Council-Institute Marine Science Barcelona. The conference will take place at the Museu Blau - Natural History Museum of Barcelona. Further information www.museuciencies.cat

Botanical Garden of Barcelona (16-21 Nov, 10:00 - 17:00h)
Free pass care of Museu Blau (with the conference accreditation pass) to visit the Botanical Garden of Barcelona. Further information www.museuciencies.cat
List of social events

Welcome Reception (16 Nov, 18:30 – 19:30h)
A welcome reception hosted by the Barcelona city council at the Saló de Cent. Shuttle buses will be available departing from CCIB to the City Council at 17:45 and return to CCIB at 19:45

Blue cocktail evening (19 Nov, 20:30 – 22:30h)
The conference dinner, The Blue Cocktail evening, will be held in the Sala Grada Major of the Museu Marítim de Barcelona - The Barcelona Maritime Museum is located very close the Ramblas and city center, Av. de les Drassanes s/n (Metro L3 - Drassanes). Shuttle buses will be available and will depart from CCIB to the Barcelona Maritime Museum at 19:45 and return to CCIB at 22:30h.
Agenda and Order of the day
Key note lectures

Monday, November 17 (10:15-11:00h)
Delivering on Science's Social Contract (Abstract 558)
Jane Lubchenco (Oregon State University, USA)

Tuesday, November 18 (8:30-9:30h)
Get ready for ocean acidification (Abstract 534)
Sam Dupont (University of Gothenburg, Sweden)

Wednesday, November 19 (8:30-9:30h)
How do we reverse the current? On the need to integrate both humans and nature into ocean science, management, and governance (Abstract 559)
Alida Bundy (Bedford Institute of Oceanography, Canada)

Thursday, November 20 (8:30-9:30h)
The East Asian Marginal Seas: a jellyfish hotspot in a bumpy road to fishery sustainability (Abstract 271)
Shin-Ichi Uye (Hiroshima University, Japan)

Friday, November 21 (8:30-9:30h)
Fisheries and Global Warming; Impacts on Marine Ecosystems (Abstract 550)
Daniel Pauly (University of British Columbia, Canada)

Closing session

Friday, November 21 (16:30-18:00)
Lisa Emelia Svensson (Ministry of Environment, Sweden) and
Wendy Watson Wright (IOC-UNESCO, France)
Panels

Morning panel (MP1)

The dawn of the robotic exploration of our planet ocean

Monday, November 17 (11:30-13:00h)

As oceanographic sensors and sampling platforms become ever more sophisticated, automated and robust, there emerges huge potential for the robotic exploration of coastal and ocean waters. Examples include the international Argo float program, the use of underwater gliders, and the development of in situ mini biogeochemical laboratories. At the same time that sensors and platforms are advancing, so too are satellite and underwater communications systems that enable data from robots to be used in near real-time. The goal of this panel is to review the emerging use of robotic systems to advance scientific understanding of our oceans and to preview new technological and scientific advances that will enable even greater exploration.

Moderator: Jack Barth (Oregon State University, USA)

Panelists: Breck Owens (WHOI, USA)
Jim Bellingham (MBARI, USA)
Vincent Rigaud (IFREMER, France)
Joaquín Tintoré (SOCIB, Spain)

Morning panel (MP2)

The future of large international programs in support of new ocean science and lessons learned from past programs

Tuesday, November 18 (9:30-11:00h)

Many of the recent advances in ocean sciences are the result of large-scale, internationally coordinated, research projects (WOCE, JGOFS, GLOBEC, Census of Marine Life, etc.). This trend of associative approaches has opened new opportunities for networking, distributed facilities, inter-disciplinary science, transfer of knowledge and technologies, and particularly, for achieving successful results that are cooperative and collective. This panel will discuss possible new large projects and programs that will emerge in coming years within the framework of Future Earth and the UN Sustainable Development Goals and the ways to develop these programs with bottom-up development approaches as well as learning from past successful initiatives

Moderator: Manuel Barangé (GLOBEC, UK)

Panelists: Liana McManus (UNEP GEF, Philippines)
Martin Visbeck (WCRP-CLIVAR, Germany)
Mike Roman (IMBER, USA)
Patricio Bernal (IUCN, Chile)
Morning panel (MP3)
The science-policy interface: scientists communicating with decision-makers
Wednesday, November 19 (9:30-11:00h)

Science should matter in ocean policy, but scientists often find that their advice has little impact. The ability to make our science understandable to those who make decisions about ocean management is critical to protecting ocean resources. The active involvement of end users of scientific information, including resource managers, policy-makers, and individual citizens, will enhance the impact and value of our research initiatives. This panel will bring together local organizations and individuals committed to improving ocean science and will compare approaches and success stories from across the globe.

Moderator: Jane Lubchenco (Oregon State University, USA)
Panelists: Alan Simcock (World Ocean Assessment, UK)
           Carol Turley (Plymouth Marine Laboratory, UK)
           Niall McDonough (European Marine Board, Belgium)
           David Vander Zwaag (Dalhousie University, Canada)

Morning panel (MP4)
A paradigm shift for sustainable, productive fisheries: the need to move from selective fishing to balanced harvesting
Thursday, November 20 (9:30-11:00h)

Selective fishing has been widely encouraged in the belief that non-selective fishing has many adverse impacts such as incidental by-catch. Methods to reduce by-catch by increasing selectivity are implemented in many fisheries. However, recent research suggests that size-at-entry regulations in fisheries cause major disruption to marine ecosystems, including truncation of age- and size-structures, destabilization of fish stocks, directional selection on phenotypic traits and a by-catch of unwanted species and sizes. Balanced harvesting across a range of species, stocks, and sizes in proportion to their productivity could mitigate adverse effects and address food security better than increased selectivity. The objectives of this session are to explore the ecological benefits of balanced harvesting using empirical and modelling approaches and to investigate ways to overcome the social, governing, economic, and cultural challenges related to the balanced harvesting.

Moderator: Jack Rice (Government of Canada, Canada)
Panelists: Jeppe Kolding (University of Bergen, Norway)
           Gabriela Bianchi (FAO, Italy)
           Qisheng Tang (Yellow Sea Fisheries Research Institute, China)

Morning panel (MP5)
Biodiversity, conservation and the interface with human need and greed
Friday, November 21 (9:30-11:00h)

The Convention on Biological Diversity (CBD) was signed by 168 signatories in 1993. In 2010, The Conference of the Parties to CBD adopted a revised and updated Strategic Plan for Biodiversity, including the Aichi Biodiversity Targets, for 2011-2020. The objective of this panel is to focus specifically on the marine biodiversity targets, to question how likely we are to meet those targets and to ask what more needs to be done and how.

Moderator: Peter Neill - World Ocean Observatory (USA)
Panelists: Joachim Claudet (IFREMER, France)
           Mark Costello (University of Auckland, New Zealand)
           Simonetta Fraschetti (University of Salento, Italy)
           Patricia Miloslavich (Universidad Simon Bolivar, Venezuela)
Workshops

Workshop 1 (WS1)

Scientists sharing data: existing databases, improving access, data poor areas

Ocean research is fundamentally interdisciplinary, incorporating the biological, physical, and chemical oceanographic sciences with atmospheric and geologic sciences. By its nature, this field produces highly diverse data types that pose unique challenges for management, integration, and analysis. Consequently, the ability to discover, access, and synthesize high quality data from various disciplines is crucial to the future of ocean science and ecosystem management. In anticipation of large, international programs in support of future ocean science, it is imperative to have well established, openly accessible data repositories to provide access to observational, experimental, and modeling data that these new programs will produce. The objectives of this workshop are to highlight the current status of data management in support of ocean science, identify barriers preventing efficient use of data and tools, and identify existing and critically needed data, products, and tools essential to forming a robust cyberinfrastructure for the community now and in the future. The interoperability of multiple databases is essential for integrated governance and ecosystem assessments and this workshop will provide a forum for the presentation of ideas on how to make this possible.

Convenors:  
Peter Wiebe (Woods Hole Oceanographic Institution, USA)
Ward Appeltans (OBIS, Belgium)

Sunday, November 16 (10:00-17:00h)

10:00  Introduction to session on interoperability
10:15  Dwyer, N. The International Coastal Atlas Network - Sharing knowhow and improving access to coastal and marine web atlases (Abstract 178)
10:30  Chandler, C. OceanLink: Improving ocean science data discovery through semantics and linked open data (Abstract 234)
10:45  Isensee, K. and O'Brien, T. International Group for Marine Ecological Time Series ‘Following the Conveyor Belt’ (Abstract 80)
11:00  Michida Y. Activities of Ocean Data Standards and Best Practices (ODSBP) Project (Abstract 410)
11:15  Gorringe P. The European Marine Observation and Data Network (EMODnet) Physical Parameters (Abstract 421)
11:30  Discussion
12:30  Lunch break
14:00  Introduction to session on Data and Data Products
14:15  Garcia-Orellana J. GEOTRACES intermediate data product (Abstract 222)
14:30  Suzuki T. Ocean Interior Carbon Data Synthesis Project in the Pacific Ocean (Abstract 399)
14:45  Showalter L. and Gibeaut J. Gulf of Mexico Research Initiative Information and Data Cooperative: Adventures in Large Scale Data (Abstract 394)
15:00  Kinkade, D. et al. Data management serving the needs of interdisciplinary oceanographic research (Abstract 248)
15:15  Poster presentation
15:30  Discussion & conclusions
16:30  Closing
16:30  17:00  Extended time for discussion & conclusions if needed
Posters:

WS1-P1 Gaillard, F. Interoperability of French national databases, connection with international programmes and infrastructure (Abstract 111)

WS1-P2 Chandler, C.L. BCO-DMO and the Evolving Data Management Paradigm (Abstract 298)

WS1-P3 Marion, C. et al. Spatio-temporal influence on CPUE of the stingray Dasyatis guttata in Todos os Santos Bay, Brazil (Abstract 443)
Workshop 2 (WS2)

Case studies of new mechanisms for improving ocean governance

As human activities grow, sectorial approaches to ocean governance featuring distinct arrangements for fishing, shipping, energy development, the conservation of marine mammals, and the protection of marine systems are becoming inadequate. Many needs for governance also transcend the boundaries of coastal state jurisdiction. Some issues (e.g. the impact of ocean acidification) are global in scope. There is a need for enhanced collaboration between practitioners and social scientists to devise innovative governance mechanisms to address these concerns. This workshop will draw on efforts underway in several large marine ecosystems and under the Global Environment Facility (GEF) Trans-boundary Waters Programme as a basis for clarifying different ways of thinking about governance and identifying the strengths and weaknesses of new approaches to ocean governance.

Convenors:  
Oran Young (University of Tromsø, Norway)  
Larry Hildebrand (WMU Malmö, Sweden)

Sunday, November 16 (10:00-17:00h)

10:00  **Introduction: why governance has become topical for the oceans and what people are saying about**
10:30  Brainstorming session
11:30  Cluster outputs of brainstorming session and discuss
12:00  Introduction to some prominent governance frameworks
12:45  Lunch break
14:00  Table discussion
15:30  Break
15:45  Reporting back and Wrap-up
16:00  Closing

Posters:

WS2-P1  Torres de Noronha, I.  Empirical evidence of principled multilevel ocean governance within the EU: Contribution to demystif (Abstract 310)

Workshop 3 (WS3)
One ocean: the global circulation and interconnected ecosystems

It is often convenient to study ocean processes and marine ecosystems on a regional basis. This approach allows a more detailed examination of the interaction of site-specific features. However, it can obscure the global connectedness of the ocean. This multi-disciplinary workshop will highlight advances in our knowledge of global ocean pathways and explore connections between ecosystems along these paths.

Convenors: Erik van Sebille (University of New South Wales, Australia)
Janet Sprintall (Scripps Institution of Oceanography, University of California, USA)

Sunday, November 16 (10:00-17:00h)

Theme 1: Understanding the interconnected ecosystem Mediator: Erik van Sebille
10:00 Introduction: Erik van Sebille
10:15 Navrottski, V.
10:30 Menge, B.
10:45 Castruccio, F.
11:00 Discussion Theme 1

Theme 2: Adapting to shifting ocean habitats Mediator: Janet Sprintall
11:15 Peña, J.
11:30 Folkunger, J
11:45 Goreau, T.
12:00 Discussion Theme 2
12:30 Lunch break

Theme 3: Frameworks for moving from regional to global scales Mediator: Alexandre Ganachaud
14:00 Introduction: Ganachaud, A. Ocean Circulation and Ecosystem in the Southwest Pacific (Abstract 226)
14:15 Pelegrí, J.
14:30 Crochelet, E.
14:45 Schmidtko, S.
15.00 Discussion Theme 3
15:30 Overall Discussion and Conclusions
16:00 Closing
16:00 17:00 Extended time for discussion & conclusions if needed
Workshop 4 (WS4)
Genes to ecosystems: genomic tools to understand ecosystem function

The genomic revolution that is shaking life sciences is impacting many areas of marine science. Most of the work being conducted is either population genetics or taxonomy and species distributions using genomics. However, the tools available have a much higher potential to increase our insight in the marine ecosystem functioning. Obviously, accurate species distributions can be used to answer important questions in theoretical ecology. But tools like transcriptomics can tell us not only what organisms are there but also what they are doing. A comparison between metagenomes and metatranscriptomes provides information between the potential and the realization of different metabolic pathways. Potentially the transcriptome can be used to measure specific processes and fluxes in the ecosystems. The objective of this workshop is to discuss the potential of the new tools and potential ways to better exploit the information they provide in terms of understanding the ecosystem function.

Convenors:  
Ann Bucklin (University of Connecticut, USA)  
Xabier Irigoyen (Red Sea Research Center, KAUST, Saudi Arabia)

Sunday, November 16 (10:00-17:00h)

10:00 Introduction to session on Metagenetic and Metagenomic Analysis of Marine Assemblages
10:15 Bowler, C. et al. Global patterns of diatom diversity derived from the TARA-Oceans expedition (Abstract 91)
10:30 Aylagas, E. et al. Marine benthic environmental status assessment using DNA metabarcoding (Abstract 186)
10:45 Gasol, J.M. et al. Describing and understanding microbial diversity and succession in the coastal NW Mediterranean Sea (Abstract 476)
11:00 Voolstra, Ch.R. et al. Importance of the animal microbiome to ecological niche adaptation in coral reef environments (Abstract 114)
11:15 Discussion
12:30 Lunch break
14:00 Introduction to session on Population Genomics and Connectivity
14:30 Pecoraro C. et al. Assessing the genomic population structure in yellow fin tuna (Thunnus albacores) at the global scale (Abstract 338)
14:45 Introduction to session on Trophic Relationships
14:50 Bucklin, A. et al. Molecular detection of gelatinous prey in mesopelagic food webs (Abstract 280)
15:05 Discussion & Conclusions
16:00 Closing
16:00 17:00 Extended time for discussion & conclusions if needed

Posters:
WS4-P1 Bucklin, A. et al. DNA Barcoding of Marine Copepods: Assessment of Analytical Approaches to Species Identification (Abstract 299)
Workshop 5 (WS5)

Global reporting of assessments of the status of marine environments

The ocean plays a critical role in regulating the global climate, supporting human well-being, providing food, livelihoods and recreational opportunities. Sustainable management aimed at maintaining the flow of a broad range of benefits from the ocean requires comprehensive and quantitative methods to measure and monitor, on a regular basis, the health of coupled human–ocean systems. Several international organizations and science-policy interfaces have been established as a foundation to address these needs such as the World Ocean Assessment (WOA), the Marine Strategy Framework Directive (MSFD) and the Ocean Health Index. This workshop will focus on the importance of the science-policy interfaces and the existing international - regional and global - reporting processes. We will discuss the problems we face, the barriers to break down in order to implement these scientific-policy interfaces and international commitments embracing integrated ocean and coastal management for a safer, cleaner and prosperous ocean.

Convenors:  
Juan Bellas (Instituto Español de Oceanografía, Spain)  
Julian Barbiere (Intergovernmental Oceanographic Commission of UNESCO, France)

Sunday, November 16 (10:00-17:00h)

10:00 Introduction to session on Best practices in the conduct of marine assessments (including limitations and opportunities)


10:30 Williamson, P. et al. Documenting disaster or data for decisions? The development of a global ocean acidification observing (Abstract 172)

10:45 Suaria, G. et al. Abundance, distribution and composition of floating debris in the Mediterranean Sea (Abstract 33)

11:00 Wambiji, N. et al. The African Register of Marine Species (AfReMaS) (Abstract 491)

11:15 Ceccaroni, L. et al. Participatory science to understand the ecological status of surface marine waters (Abstract 362)

11:30 Discussion

12:30 Lunch break

14:00 Introduction to session on Translating marine assessment into informed-decision making for ocean governance

14:15 McManus, L. et al. How is your LME doing? TWAP Global Comparative Assessment of LMEs (Abstract 297)

14:30 Fanning, L. et al. Assessing transboundary governance arrangements for fisheries, pollution and biodiversity at the (Abstract 221)

14:45 Ojea, E. et al. Fisheries management and resilience to climate change: building a socio-ecological approach (Abstract 351)

15:00 Frazao, C. et al. Implementing EBM in the Portuguese Sea: challenges and opportunities from a new legal framework (Abstract 320)

15:15 Mihaiescu, D. E. et al. Isoconcentration profiles of water parameters for protected areas at Black Sea border (Abstract 545)

15:30 Discussion & conclusions

16:30 Closing

16:30 17:00 Extended time for discussion & conclusions if needed
Workshop 6 (WS6)

Achievements and future research on micro-plastics in the marine environment

Microplastics are a source of pollution that is being recently addressed to understand their sources, fates, and impacts. Since every plastic in the ocean will be eroded and degraded and will become a microplastic at a given time, one can imagine the amount of these tiny particles (<1mm) in the future. The smaller the particle is, the higher the variety of organisms that can uptake them. This workshop will census the amount of information available, discuss future research and international collaborations.

Convenors: Peter Kershaw (Centre for Environment, Fisheries & Aquaculture, UK) 
Richard Thompson (Plymouth University, UK)
Alexander Turra (Oceanographic Institute, São Paulo University, Brazil)

Sunday, November 16 (10:00-17:00h)

10:00 Introduction to session on Achievements and future research on micro-plastics in the marine environment – Aims and working dynamics
10:15 Kershaw, P. Overview of context, aims, activities, achievements and recommendations of the GESAMP Working Group 40 on the “Assessment on Source, Fate and Effects of Microplastics in the Marine Environment”
10:30 Pedrotti, M. L. and Bruzaud, S. Abundance, size and spatial distribution of neustonic microplastic in the Ligurian Sea (NW-Mediterranea) (Abstract 381)
10:45 Setälä, O. et al. Different experimental approaches show the trophic transfer of microplastics in the food webs (Abstract 508)
11:00 Breakout groups on what is known and what needs to be known in relation to (1) sources and distribution of microplastics, (2) uptake and impacts, and (3) finding solutions
12:30 Lunch break
14:00 Breakout groups on what is known and what needs to be known in relation to (1) sources and distribution of microplastics, (2) uptake and impacts, and (3) finding solutions (continuation)
15:15 Plenary report of the groups assessment and recommendations
15:45 Plenary discussion & conclusions
16:15 Closing – Definition of next steps, including WG40 plans (UNEP/FAO objectives)
16:30 17:00 Extended time for discussion & conclusions if needed
Workshop 7 (WS7)

How is your ecosystem doing? Advances in the use and understanding of ecosystem indicators

Ecosystem indicators are increasingly being used for management purposes. They serve as proxies to measure the response of ecosystem properties to anthropogenic stressors such as fishing and pollution. However, it is not clear how rigorously indicators are selected and or how well their behaviour and response to pressure is understood? The aim of this workshop is to explore advances in the use and understanding of indicator behaviour with a focus on modelling and comparative studies, and their potential to inform oceans management in the future.

Convenors:  Lynne Shannon (Marine Research Institute, University of Cape Town, South Africa)  
William Dennison (Center for Environmental Science, University of Maryland, USA)

Sunday, November 16 (10:00-17:00h)

10:00 Introduction to Session on Frameworks for using indicators to assess and compare ecosystem status
11:00 Berdalet, E. Indicators in the GEOHAB context (Abstract 460)
11:20 Discussion
12:30 Lunch break
14:00 Introduction to session on Regional comparisons: do we need to refine our frameworks differently to assess ecosystem responses to anthropogenic stressors and inform management in different regions or can we be generic to some extent?
14:20 Valles, H. How big are your parrotfish? Reference points for ecosystem-based fisheries management of Caribbean (Abstract 266)
14:40 Shannon, L. Assessing the exploitations status of upwelling systems using ecological indicators (models and data)
15:00 Discussion & conclusions
16:00 Closing
16:00 17:00 Extended time for discussion & conclusions if needed

Posters:
WS7-P1  Taglialatela, S. et al. Carbon cycling in a Patagonian fjord: Strength of biological vs physical pump (Abstract 424)
Workshop 8 (WS8)
Promoting communication within the early career marine scientists

The main goal of the Workshop is to give the opportunity to young scientists to present their work, discuss issues and perspectives of marine science worldwide and allow young scientists to develop their research communication skills that could support the development of researchers' capacity to explain their research in language appropriate to a non-specialist audience. The Workshop could provide an opportunity to reinforce the development of networking among young scientists and could facilitate exchange of experience and ideas among young scientist promoting, at the same time, their communication and work capabilities.

Convenors:  
Mike Roman (Director Horn Point Laboratory and Professor Univ. Maryland, USA)  
Vangelis Papathanassiou (Hellenic Centre for Marine Research, Greece)  
Stefania Klayn (Institute of Biodiversity and Ecosystem Research, Bulgaria)

Sunday, November 16 (10:00-17:00h)

10:00 Introduction to the Workshop, Mike Roman  
Introduction of all Early Carrier Scientists participating to the Workshop (“tour de table”)

10:30 Discussion on career paths in ocean science. Moderator: Mike Roman

11:00 Wang, D. Energetics of Barotropic and Baroclinic Tides in Marginal Seas: the Adriatic Prototype (Abstract 259)

11:10 Amblas, D. The volcano-like sewage sludge deposits next to us (Abstract 282)

11:20 Giannoudi, L. et al. Marine biotechnological advances: from the lab to the field and to essential socio-ecological needs (Abstract 346)

11:30 Puig, M. et al. Methodology for the identification of Significant Environmental Aspects in Mediterranean and Black Seas (Abstract 349)


12:00 Tynan, E. Changes in the marine carbonate system around the Fram Strait in the last three decades (Abstract 328)

12:10 Kivva, K. Assessment of primary production in the Bering Sea with new approach (Abstrat 72)

12:20 Discussion

12:30 Lunch break

14:00 Discussion on research opportunities and challenges for Early Career Marine Scientists; Moderator: Vangelis Papathanassiou

14:30 Discussion on using Social Media to enhance job opportunities and research collaborations. Moderator: Stefania Klayn

15:00 Serebrennikova, E. The Importance and Problems of Caspian Ecosystem Development Forecasting (Abstract 366)

15:10 Wiltshire, K.H. et al. Education for a joint Ocean & Human Future (Abstract 326)

15:20 Papathanassiou, M. Engaging with the Citizens/Youth of Greece to identify challenges and barriers for marine ecosystem (Abstract 379)
15:30 Piera, J. et al. Citizen science and do it yourself technologies: a new way to observe coastal environments (Abstract 219)

15:40 Discussion on the Ocean Literacy, engaging citizens, importance of communication; Moderator: Karen Wiltshire

16:10 General Discussion and Mixer. Moderator: Mike Roman

16:30 Closing

16:30 17:00 Extended time for discussion & conclusions if needed
Workshop 9 (WS9)

European marine policy and its implementation through projects for marine monitoring for blue growth

The main rationale of the workshop is to inform Research and Policy stakeholders on innovative biosensors and multifunctional sensors for the monitoring of marine environment which are important for the protection of marine water assets and activities and the investigation of biological and environmental phenomena. The workshop will also present the EU Marine Policy and Directives, and how these can be implemented and supported, and how stakeholders can abide to it, through the use of state of the art sensors and monitoring technologies developed according to the end users requirements. The workshop will include presentations of European projects from the FP7- OCEAN-2013 call related to innovative biosensors and multifunctional sensors for monitoring Marine environment.

Convenors:  
Paolo Barattini (Italy)  
Esther García (ICM-CSIC, Spain)

Sunday, November 16 (10:00-17:00h)

10:00  **Introductory speech by a representative from European Commission**  
Sector Fisheries & Aquaculture, European Commission, DG Research & Innovation

10:15  Invited presentations from the 9 FP7-OCEAN projects
  
MARIABOX, [www.mariabox.eu](http://www.mariabox.eu)

BRAAVOO, [www.braavoo.org](http://www.braavoo.org) (Abstract 529)

ENVIGUARD, [www.EnviGuard.net](http://www.EnviGuard.net)

SEA-ON-A-CHIP, [www.sea-on-a-chip.eu](http://www.sea-on-a-chip.eu)

SMS, [www.project-sms.eu](http://www.project-sms.eu)

COMMON SENSE, [www.commonsenseproject.eu](http://www.commonsenseproject.eu) (Abstract 533)

NexOS, [www.nexosproject.eu](http://www.nexosproject.eu)

SCHéMA, [www.schema-ocean.eu](http://www.schema-ocean.eu) (Abstract 528)

SENSEOCEAN, [www.senseocean.eu](http://www.senseocean.eu)

13:15  Lunch Break

14:30  **Open discussion session on the following aspects of marine environment monitoring**
  
Man-made chemical monitoring

Biological pollutants monitoring

Multifunctional sensors for monitoring of marine environment

Regulatory, EU Directives and Policy Issues

Standardisation issues for sensors, measurements and data.

16:40  **Brief review of Workshop output, way ahead for outputs and organization of next years’ Workshop**

17:00  End of Workshop
Theme sessions

Theme Session. T1-TS1.

The changing polar climate systems

The Polar Regions play a fundamental role in the earth’s climate system. They are the sites of intensive air-sea heat and gas exchange and water mass formation and transformation. Through storage or release of freshwater the Polar regions impact sea level and the global ocean circulation. The climate change is amplified in the Arctic with the regional rate of warming being approximately twice the global rate. The dramatic disintegration of ice shelves and the evidence of accelerating ice sheet melt in Antarctica contribute to heightened public awareness about a warming world. The changes in ocean properties and circulation strongly influence the distribution and abundance of marine organisms and/or chemical substances within the polar and coastal marine ecosystems. We invite papers on the physical, geological, chemical and biological aspects of the changing polar oceans.

Chairs:  
Miquel Alcaraz (ICM-CSIC, Spain)  
Vladimir Ryabinin (WCRP, WMO, Switzerland)

Invited speaker:  
Helen Phillips (Tasmania Univ., Australia)

Monday, November 17 (14:30 - 18:00h)

14:30  Presentation
14:35  Phillips, H. The regional nature of climate change in the Southern Ocean (Abstract 536)
15:00  Zhang, Z. et al. The Role of Wind Forcing from Operational Analyses for the Model Representation of Antarctic Coastal Sea Ice (Abstract 498)
15:15  Park, Y. The Relationship of Weddell Polynya and Open-Ocean Deep Convection to the Southern Hemisphere Westerlies (Abstract 146)
15:30  Sprintall, J. Observing Climate Variability in Drake Passage (Abstract 89)
15:45  Alekseev, G. Arctic sea ice extent in changing climate (Abstract 469)
16:00  Coffee break
16:30  Vaque, D. Pan-Arctic patterns of planktonic microbial abundance and processes: controlling factors and potential (Abstract 204)
16:45  Fernández-Méndez, M. et al. Central Arctic primary production during the sea ice extent minimum record year 2012 (Abstract 273)
17:00  Hasemann, C. et al. Benthic investigations at the Arctic long-term deep-sea observatory HAUSGARTEN (Abstract 127)
17:15  Poster presentation
17:45  General discussion and conclusion
18:00  Closing

Posters

- Kivva, K. Assessment of primary production in the western Bering Sea with new approach (Abstract 72)
- Kondrin, A. Non-tidal sea level fluctuations in the small inlet of the White Sea (Abstract 82)
- Sokolikhina, N. et al. A warm winter in the Arctic and anomalous cold in Europe (Abstract 94)
- Min, H. et al. Relationship of changes of westerly winds and Arctic climate under global warming (Abstract 144)
- Sergeeva, V. et al. Spatio-temporal variability of phytoplankton over the shelf-slope area of the Western Arctic (Abstract 263)
- Tynan, E. Changes in the marine carbonate system around the Fram Strait in the last three decades (Abstract 328)
- Yáñez, E. et al. Pelagic fisheries, variability and climate in Chile (Abstract 543)
Models predict that as a result of the global warming the open ocean will become more stratified, oligotrophic and less productive. However it is difficult to predict how communities will respond to the multiplicity of changes (temperature, food concentration, water transparency). Laboratory experiments cannot reproduce the complexity of the natural communities and our access to the oligotrophic warm regions of the ocean, the oceanic gyres, is limited by the distance, logistic requirement (cruises in large vessels) and cost. Regional warm seas such as the eastern Mediterranean or the Red Sea offer a cost effective approach to study a gradient of warm oligotrophic conditions with easy access to both the sea and well equipped laboratories. The objective of this theme is to establish state of the art research in regional warm seas in order to promote future collaborative programs. We invite papers reporting recent research in all areas of marine science on regional warm seas but with particular emphasis on temperature and oligotrophic conditions and effects.

**Chairs:**

*Jordi Salat (ICM-CSIC, Spain)*

*Maurizio Ribera d’Alcala (Università degli Studi di Napoli Federico II, Italy)*

**Invited speaker:**

*Xabier Irigoyen (KAUST, Saudi Arabia)*

Wednesday, November 19, Day 1 (16:30 - 18:00h)

16:30 Presentation
16:35 Irigoyen X. Why is the Red Sea red? (Abstract 556)
17:00 Sen A. et al. Changes to Western Boundary Currents in a warming world (Abstract 276)
17:45 Pedrosa-Pàmies, R. et al. Three-year assessment of particulate fluxes in the deep eastern Mediterranean Sea: the Ierapetra Basin (Abstract 73)
18:00 Adjourn

Thursday, November 20, Day 2 (11:30 - 16:00h)

11:30 Estrada, M. et al. Mesoscale variability of primary production in the deep convection region of the NW Mediterranean sea (Abstract 365)
11:45 Malej, A. et al. Mljet Lake (South Adriatic Sea) as a natural laboratory for assessing warming effects on plankton (Abstract 190)
12:00 Fernández, M.L. et al. Zooplankton Vertical Distribution in waters off the central Western Mediterranean (CWM): Autumn and (Abstract 193)
12:30 Oguz, T. et al. How much can the frontal-induced biological production compensate adverse effects of climatic warming in an oligotrophic system? A numerical process study in the Western Mediterranean (Abstract 568)
12:45 D’Alelio, D. et al. Beyond the ‘green-blue swing’: are plankton food-webs resilient to oligotrophication in coastal water (Abstract 435)

13:00 Coffee break

14:30 Voolstra, C.R. et al. Importance of the animal microbiome to ecological niche optimization in coral reef environments (Abstract 114)

14:45 Serebrennikova, E. The Importance and Problems of Caspian Ecosystem Development Forecasting (Abstract 366)

15:00 Defu, L. Probability Prediction of Typhoon/Hurricane induced Sea Hazards: Theory and Applications (Abstract 513)

15:15 Poster presentation

15:30 General discussion and conclusion

16:00 Closing

Posters
- Said, M. Circulation pattern of the southeastern Mediterranean waters (Abstract 6)
- El-Saharty, A. et al. Water, nitrogen and phosphorus budgets in the Arabian Gulf (Abstract 7)
- Taibi, H. et al. Mean sea level secular trends from PSMSL RLR data: A case study for the Mediterranean basin (Abstract 20)
- Sokolikhina, N. et al. Meteorological and Synoptic Aspects of the Novorossiysk Bora Forming and Evolution (Abstract 93)
- Surkova, G. Climate projections and the air temperature regime over the Black Sea in 21 century (Abstract 97)
- Villate, F. et al. Allometric differences in larval populations of the European anchovy from the Atlantic and the Mediterranean sea (Abstract 102)
- Al-Ansari, E. et al. Hydrographic Variations Along a Northeastern Sector off the Qatari Coastline (Central Arabian Gulf) (Abstract 147)
- Nunes, S. et al. Phytoplankton response to atmospheric aerosol deposition in a coastal zone of the NW Mediterranean (Abstract 207)
- Sánchez, S. et al. New insights on condition and bioenergetics of sardine and anchovy in the Northwestern Mediterranean (Abstract 292)
- Gao, J. et al. Numerical model research on Emergency Warning and Predicting of ocean oil spill in China Seas (Abstract 408)
- Kang, S. et al. Near Inertial Current Generation by Typhoon in the Yellow and East China Seas (Abstract 414)
- Song, J. et al. Variability of SST over China Seas derived from a new merged dataset (Abstract 416)
- Lemeshko, E. Interannual variability of the Black Sea chlorophyll related to external forcing (Abstract 439)
- Zveryaev, I. Seasonality in Intraseasonal and Interannual Variability of Mediterranean SST and its Links to Regio (Abstract 445)
Theme Session T1-TS3
Low oxygen and low pH environments in coastal and ocean waters

Evidence continues to amass for the increase of low oxygen and low pH conditions in coastal and ocean waters around the globe. Areas impacted include semi-enclosed coastal waters, eastern boundary current upwelling zones, and regions influenced by nutrient runoff. Many studies are underway around the globe to assess the extent and causes of these low oxygen and low pH conditions, as well as to understand the vulnerability of organisms and ecosystems to these conditions. The goal of this session is to assess the extent and impact of low-oxygen and low-pH conditions in coastal and ocean waters around the globe, including their impact on oceanic ecosystems. Other relevant issues include potential synergistic effects in the presence of both low oxygen and low pH, and the use of models to forecast future oxygen and aragonite saturation conditions around the globe.

Chairs: Richard Feely (NOAA/PMEL, USA)
        Marliaure Grégoire (Univ. Liege, Belgium)

Invited speaker: S. W. A. Naqvi (National Institute of Oceanography, India)

Tuesday, November 18, Day 1 (11:30 - 18:00h)

11:30    Presentation
11:35    Naqvi, W. Coastal and Open-ocean Oxygen-deficient Zones (Abstract 555)
12:00    Williamson, P. et al. Documenting disaster or data for decisions? The development of a global ocean acidification observing (Abstract 172)
12:15    Stramma, L. and Schmidtko, S. Coastal and Open-ocean Oxygen-deficient Zones (Abstract 100)
12:30    Llanillo, P.J. et al. Subtropical oxygen supply into the Eastern South Pacific Oxygen Minimum Zone (Abstract 452)
12:45    Miquel, J.C. et al. Carbon flux export in the low oxygen zone off Peru determined by natural radionuclides (Abstract 165)
13:00    Lunch break
14:30    Peña-Izquierdo, J. et al. Water mass pathways to the North Atlantic Oxygen Minimum Zone (Abstract 447)
14:45    Schmidtko, S. et al. Oxygen observations and climate models - a global perspective (Abstract 329)
15:00    Pelegrí, J.L. et al. Zonal jets and recirculations in the upper tropical Atlantic Ocean (Abstract 96)
15:15    Baltar, F. Response of rare versus abundant bacterioplankton to anthropogenic perturbations in a Mediterranean coastal site (Abstract 12)
15:30    Isari, S. et al. Lack of evidence for elevated CO2-induced bottom-up effects on marine copepods (Abstract 188)
15:45    Pelejero, C. Gaining insight on the acidification problem in the Mediterranean from time-series and manipulation experiment (Abstract 153)
16:00    Coffee break
16:30    Gsottbauer, C.M. et al. Effects of short-term ocean acidification on brood chamber conditions in the European flat oyster (Abstract 456)
16:45    Bednarsek, N. et al. Vulnerability and adaptation strategies of pteropods due to ocean acidification and hypoxia (Abstract 478)
17:00  Fennel, K. Hypoxia in the Northern Gulf of Mexico: Drivers and Sensitivity to Nutrient Reductions (Abstract 117)
17:15  Justic, D. Random Walks in a Dead Zone: Simulating the Effects of Hypoxia on Fish Movement in the Gulf of Mexic (Abstract 377)
17:30  Capet, A. et al. Hypoxia on the Black Sea northwestern shelf: From eutrophication to climatic drivers (Abstract 227)
17:45  Barth, J. et al. Understanding and predicting hypoxia over the continental margin in the northern California Current (Abstract 409)
18:00  Adjourn

Wednesday, November 19, Day 2 (11:30 - 13:00h)

11:30  Chen-Tung, A. et al. Looming hypoxia on shelves under reduced ventilation in the oceans: the East China Sea example (Abstract 143)
11:45  Yin, K. et al. Coastal bays receiving anthropogenic nutrients are more vulnerable to ocean acidification than open (Abstract 272)
12:00  Ait-Ameur, N. et al. Air-sea CO2 fluxes, acidification and oxygenation of coastal Algiers water (Abstract 303)
12:15  Posters presentation
12:30  General discussion and conclusion
13:00  Closing

Posters:
- Fernández, E. et al. Ocean acidification and Calcium Carbonate Saturation states along the Subtropical North Atlantic Ocean (Abstract 63)
- Isensee, K. et al. Global Ocean Acidification Observing Network - connecting scientists to transfer knowledge (Abstract 81)
- Tim, N. et al. Influence of large-scale climate patterns on upwelling and the oxygen minimum zone off Namibia (Abstract 88)
- Mihaiov, M. E. et al. Influence of the main climate variations on hydrological conditions on the Romanian Black Sea Shelf (Abstract 103)
- Ro, Y. et al. Monitoring of the Hypoxia Occurrences in the Chunsu Bay, Yellow Sea, Korea (Abstract 118)
- Drion, R. et al. Spatial variability of benthic functional diversity on the Black Sea northwestern shelf affected (Abstract 156)
- Takatani, Y. et al. Ocean acidification in the interior of the western North Pacific subtropical region (Abstract 174)
- Pavlidou, A. et al. Hypoxic/Anoxic conditions in a Mediterranean semi-enclosed embayment, amvrakikos gulf, Greece (Abstract 179)
- Jelescu, S. et al. Underwater sound speed features on the Western Black Sea Shelf (Abstract 187)
- Oguri, K. et al. Long term monitoring of bottom environments in continental slope off Ohtsuchi Bay, Northeast Japan (Abstract 275)
- Burgos, E. et al. Nutrient availability and stoichiometry of organic matter in the eastern North Pacific oxygen minimum (Abstract 358)
Theme Session T1-TS4

New frontiers in modelling for oceanography, fisheries and marine ecosystem management

Modelling approaches have become global with a need for integrated understanding of ecosystems, from climate forcing to human interactions. The challenging objective is integrated governance of seas and oceans, where exploitation, conservation and multiple uses are balanced and sustained. High computational power now offers the ability to develop modelling platforms (numerical laboratories) to integrate processes across scales and disciplines, linking oceanography to biogeochemistry to ecosystem pathways and exploitation. New challenges include high resolution modelling of the ocean to the coast, dynamic modelling of biological adaptation and resilience, linking lower and upper trophic levels and linking with human behaviour. These complex coupled models must deal with uncertainty when investigating management scenarios with these models. The objective of the session is to discuss new advances in data handling and dynamic coupled modelling. Particular focus will be on modelling biological adaptive behaviour and resilience, linking lower and upper trophic levels and achieving overall integration to investigate management scenarios.

Chairs:  
Shin-ichi Ito (Fisheries Research Agency, Japan)  
Pierre Petitgas (IFREMER, France)

Invited speaker:  
Coleen Moloney (University of Cape Town, South Africa)

Tuesday, November 18 (11:30-18:00h)

11:30  Presentation
11:35  Moloney, C. Ocean models for ecosystem-based management: real virtues and virtual realities (Abstract 530)
12:00  Wang, D. Energetics of Barotropic and Baroclinic Tides in Marginal Seas: the Adriatic Prototype (Abstract 259)
12:15  Gippius, F. Wave regime of the Black Sea: spatial and temporal variability (Abstract 278)
12:30  El-Ouehabi, Z. et al. Physical modeling of Moroccan Upwelling System (Abstract 305)
12:45  Bianucci, M. Generalized Fokker Planck Equation from dynamics for a large class of geophysical dynamical systems (Abstract 279)
13:00  Lunch break
14:30  Jiménez, J.A. et al. Forecasting and long-term modelling of oil spills (Abstract 229)
14:45  Crochelet, E. et al. A model-based identification of WIO connectivity clusters - Implications for future marine spatial p (Abstract 418)
15:00  Yoshie, N. et al. Influences of the meso-zooplankton mortality on the lower-trophic level ecosystem (Abstract 86)
15:30  Rodriguez-Ezepeleta, N. et al. Inferring natal homing behavior in Atlantic mackerel through population genomics: implications for s (Abstract 239)
15:45  Poster presentation
16:00  Coffee break
16:30  Ito, S. et al. Ecosystem modelling approaches to evaluate Global Change effects on Pacific saury (Abstract 208)
16:45  Petrova, D. Unobserved Components Time Series Model for ENSO Prediction (Abstract 431)
17:00  General discussion and conclusion
18:00  Closing

Posters:
- Arkhipkin, V. et al. Modeling of extremes waves and storm surges in the Black, Caspian, Azov, White and Baltic Seas (Abstract 107)
- Kim, Y. Climate Forecast by Ocean Initialization (Abstract 150)
- Corrales, X. Ecosystem structure and fishing impacts in the NW Mediterranean Sea using a comparative modelling ap (Abstract 237)
- Rak, D. Verification of hydrological parameters simulated by the 3D CEMBS Baltic Sea model (Abstract 342)
- Elkalay, K. et al. Simulation of the nutrient uptake for four primary producers in the bay of Calvi (Corsica, France) (Abstract 397)
- Mamouridis, V. et al. Trophodynamics in a bathyal food web (NW Mediterranean) controlled by food limitations and fishing a (Abstract 405)
- Pillay, K. A South African flagship, the Integrated Ecosystem Programme: Southern Benguela (Abstract 532)
- Dembska, G. et al. Application of ecosystem principles for the location and management of offshore dumping sites in SE Baltic Region. Results of Analysis (Abstract 539)
- Sapota, D. et al. Application of ecosystem principles for the location and management of offshore dumping sites in se Baltic Region and monitoring programme development(ECODUMP project) (Abstract 540)
Theme Session T1. TS5
Transforming our understanding of ocean processes through new technologies

The introduction of new technology over the past decade has significantly improved our understanding of the ocean. While some of this new technology might have been driven and developed in response to pure scientific inquiry, some new technology also stems from the need for marine exploration by commercial companies, for example in the fishing, and oil and gas industry. The objective of this session is to explore collaborative benefits by developing partnerships between science and industry for a sustained ocean observational network.

Chairs: Jack Barth (Oregon State University, USA)  
         Gabriel Gorsky (Sorbonne University/CNRS, France)

Invited speaker: Douglas Connelly (National Oceanography Centre, UK)

Tuesday, November 18, Day 1 (16:30 - 18:00h)

16:30  Presentation
16:35  Connelly, D. Sense ocean: lab on a chip for the oceanic carbonate system and nutrients. (Abstract 516)
17:00  van der Meer, J.R. Biosensors, Reporters and Algal Autonomous Vessels for Ocean Operation (Abstract 519)
17:15  Goutx, M. et al. Fluorescent dissolved organic matter distribution in surface waters of the DEWEX area using the Mini (Abstracts 490)
17:30  Piera, J. et al. Citizen science and do it yourself technologies: a new way to observe coastal environments (Abstract 219)
17:45  Barattini, P. et al. The MariaBox project and marine water quality monitoring: new tools, technical assets and challenges (Abstract 499)
18:00  Adjourn

Wednesday, November 19, Day 2 (11:30 - 18:00h)

11:30  Palleschi, G. et al. Sensing toxicants in Marine waters makes Sense using biosensors (Abstract 500)
11:45  Suckow, B. EnviGuard “Development of biosensor technology for disease prevention in aquaculture ensuring food (Abstract 521)
12:00  Moll, M. et al. Unmanned Surface Vehicles: Wave Glider, at the Sea-Air Interface (Abstract 345)
12:30  Gribboval, Y. et al. The OceanoScientific Programme and the MEROCEANS foundation: Scientific Data Acquisition by Sailing Ships (Abstract 331)
12:45  Aguzzi, J. et al. Intelligent cabled and autonomous observatory networks for the long-term environmental monitoring (Abstract 527)
13:00  Lunch break
14:30  Font, J. The success of a new technology for ocean observation: satellite interferometric radiometry (Abstract 152)
14:45  Solabarrieta, L. and Rubio, A. New evidences of surface circulation in the Bay of Biscay, from HF Radar data (Abstract 65)
15:00 Delory, E. The Nexus project and the improvement of long term spatiotemporal monitoring (Abstract 518)
15:45 Poster presentation
16:00 Coffee break
16:30 Wright, J. Insights into the population structure and metabolism of the incultivated bacterial phylum Marine Group A (Abstract 343)
16:45 Vaz, S. et al. A comparative study of towed video to monitor benthic habitats in Marine Protected Areas (Abstract 120)
17:00 Posters presentation
17:15 General discussion and conclusion
18:00 Closing

Posters:
- Noca, B. et al. Effect of a barrier reef on wave and currents at Xai-xai beach (Abstract 59)
- Gaillard, F. et al. ISAS-13 re-analysis: Climatology and inter-annual variability deduced from Global Ocean Observing System (Abstract 109)
- Demidov, A. et al. Near-shore water mass structure in the south-eastern part of the Baltic Sea (Abstract 123)
- Vasileva, E. et al. Applications of Isotopic Techniques for Determination of Long Lived Radionuclides in the Ocean (Abstract 180)
- Masski, H. Food web structure of two contrasting areas from upwelling systems off Morocco: a stable isotope app (Abstract 245)
- Wichorowski, M. Key to "unlock" potential of exemplary pelagic zooplankters (Abstract 315)
- Pethybridge, H. Using stable isotopes and fatty acids to assess trophodynamics in the southwest Pacific Ocean (Abstract 368)
- Pedrotti, M.L. et al. Abundance, size and spatial distribution of neustonic microplastic in the Ligurian Sea (NW-Mediterranean Sea) (Abstract 381)
- Rodriguez, L. et al. Common sense project - Cost Effective sensors for marine monitoring (393)
- Hsueh, P. et al. Abyss Twisted-Pair Imaging System (ATIS) for Real-time Seafloor Observation (Abstract 420)
- Baldasso, L. Continuous environmental monitoring and imaging system for on-board acquisition of oceanographic and (Abstract 433)
- Neszi, N. et al. Quantifying Mixotrophy in Environmental Samples (Abstract 465)
- Lopes, R. et al. Seasonal variability of zooplankton vertical structure and biomass size spectra off Ubatuba, Brazil (Abstract 471)
- Gomes, A. et al. Estimating diatom sinking velocity with an imaging technique (Abstract 475)
- Pace, L. Oceanographic collaborations onboard Schmidt Ocean Institute’s state-of-the-art R/V Falkor (Abstract 570)
Theme Session T1. TS6

How many species in the ocean? Trends in biodiversity

Knowledge about marine species and ecosystems lags far behind that of terrestrial systems. The current number of known marine species is estimated at 230,000, but we cannot even characterize the health of many common marine species and ecosystems. What relatively little is known about the state and trends of living marine resources is based on species exploited commercially for fisheries; protected marine mammals, turtles, and fishes; and certain commercially significant and accessible coastal ecosystems such as wetlands and coral reefs. A synergy of human threats, including overfishing, global warming, invasive species, and pollution, has caused a rapid decline in global marine biodiversity. This session will focus on trends in biodiversity loss in the ocean and the potential impacts on ecosystem function and the reduction in ecosystem services.

Chairs: Marta Estrada (Institut de Ciències del Mar, CSIC, Spain)
Ward Appeltans (COI, Belgium)

Invited speaker: Mark Costello (University of Auckland, New Zealand)

Monday, November 17 (14:30 - 18:00h)

14:30 Presentation
14:35 Costello, M. Global patterns in marine biodiversity and biogeography (Abstract 524)
15:00 Bowler, C. et al. Global patterns of diatom diversity derived from the tara-oceans expedition (Abstract 91)
15:15 Bode, A. Trends in phytoplankton species abundance in shelf waters of the Galician upwelling (NW Spain) (Abstract 113)
15:45 Acinas, S. et al. Microbial diversity and patterns at global scale from Tara Oceans: how far we are? (Abstract 126)
16:00 Coffee break
16:30 Corell, J. et al. Evaluating the diversity of zooplankton using DNA metabarcoding: potential and drawbacks (Abstract 247)
16:45 Bucklin, A. Metagenetic analysis of zooplankton diversity in time-series surveys (1994-2013) of the NW Atlantic (Abstract 300)
17:00 Miloslavich, P. Latitudinal patterns of marine biodiversity in rocky shores around South America (Abstract 375)
17:15 Gasol, J.M. Describing and understanding microbial diversity and succession in the coastal NW Mediterranean Sea (Abstract 476)
17:30 Goldstein, P. The Ocean Biogeographic Information System (Abstract 514)
17:45 General discussion and conclusion
18:00 Closing

Posters
- Husain, M. Dinoflagellate cysts of ROPME Sea Area (Arabian Gulf) (Abstract 87)
- Rodríguez-Giner, C. Unveiling the temporal distribution of marine picoeukaryotes in the Northwestern Mediterranean Sea (Abstract 170)
- Aylagas, E. et al. Towards environmental status assessment using DNA metabarcoding: how it is and how it will be (Abstract 186)
- Fernández, M. L. et al. Zooplankton vertical distribution in waters of the Mallorca shelf (Central Western Mediterranean) (Abstract 189)
- Teixidó, N. et al. Biodiversity patterns of coralligenous outcrops: first insights across temporal and spatial scales (Abstract 233)
- Martínez-Muñoz, M. Bycatch fish diversity and abundance in the shrimp fishery of the Gulf of Tehuantepec (Mexico) (Abstract 254)
- Tadokoro, K. Decadal scale variation in biodiversity of copepod community in the western North Pacific Ocean (Abstract 265)
- Natij, L. et al. Phytoplankton abundance and diversity in the coastal waters of Oualidia lagoon (Abstract 325)
- Cros, L. et al. High coccolithophore biodiversity in the NW Mediterranean (Abstract 378)
- Aguirre, M. et al. Characterization of the bacterioplankton community in two contrasting Basque estuaries using massive (Abstract 386)
- Lips, I. Interplay between autotrophic, heterotrophic and mixotrophic plankton during spring-summer succession (Abstract 457)
- Fernández, R. Cephalopods in shelf and slope Mauritanian waters during Spanish-Mauritanian oceanographic cruises (Abstract 459)
- Wongtschowski, C. The nektonic components of a tropical area (Araçá Bay, Brazil) (Abstract 462)
- Costello, M. New database of all marine species biological and ecological traits (Abstract 569)
Theme Session T2.TS1

Coral Reefs sustaining biodiversity in the face of climate change and human impacts

The Coral Reefs are biomes of extreme marine biodiversity. While the primary initiative is to preserve and protect the extensive coral reefs, these regions are also home to over 200 million people, many of them in small island developing states whose population relies on the ocean for their food and income. To better conserve and manage coral reefs we invite papers and discussion of the physical processes, ecosystem structure and the vulnerability to biochemical changes such as ocean acidification and temperature increases on the coral reef communities.

Chairs: Aldo Croquer (Universidad Simón Bolivar, Venezuela)

Invited speaker: Thomas Goreau (Global Coral Reef Alliance, USA)

Tuesday, November 18, Day 1 (16:30 - 18:00h)

16:30 Presentation
16:35 Goreau, T. (Abstract 382)
17:00 Croquer, A. et al. Patterns and trends after eight years of comprehensive coral reef monitoring in Los Roques, Venezuela (Abstract 137)
17:45 Poster presentation
18:00 Adjourn

Wednesday, November 19, Day 2 (11:30 - 16:00h)

11:30 Bhagoodi, R. and Gopeechund, A. Effect of cyclonic conditions on prevalence of coral diseases in the coral Acropora muricata (Abstract 467)
11:45 Castruccio, F. et al. Changing climate, bleaching and connectivity in the coral triangle (Abstract 244)
12:00 Gledhill, D. et al. U.S. Coral reef monitoring in support of the global ocean acidification observing network (Abstract 269)
12:15 Beesoo, R. Evaluation of phenolic contents and antioxidant capacity of the soft coral Cladiella sp. (Abstract 449)
12:30 Kroon, F. Informing coral reef policy based on global examples demonstrating reduced agricultural pollution to (Abstract 357)
12:45 Discussion
13:00 Lunch break
14:30 Vallès, H. How big are your parrotfish? Reference points for ecosystem-based fisheries management of Caribbean (Abstract 266)
14:45 Haider, K. et al. Estimating Potential Habitat of Coral Reefs along the Coastline of Pakistan Using RS & GIS Technique (Abstract 54)
15:00 Ariza, A. Use of Remote Sensing for Mapping Coral Reef Areas in the Colombian Caribbean Sea (Abstract 406)
15:30 General discussion and conclusion
16:00 Closing

Posters
- Croquer, A. et al. Enzymatic biomarkers as proxies of physiological stress in the coral *Orcicella faveolata* at Los Roques (Abstract 138)
- Cavada, F. et al. Assessing the status of the threatened species *Dendrogyra cylindrus* at Los Roques, Venezuela (Abstract 140)
- Duarte, G. Coral Vivo Marine Mesocosm: new approach for ecological and ecophysiological studies (Abstract 308) - Cancelled
- Palathoti, S. et al. Climate change in mangrove ecosystems in Godavari mangroves in Andhra Pradesh (Abstract 336)
- Mamouridis, V. The macrofauna associated to the deep-sea coral *Isidella elongata*: human impact and natural variabil (Abstract 402)
Theme Session T2.TS2

Response of marine biota to human pressures and climate change; its implications for social-ecological systems

Accelerating climate change and expanding human uses exert tremendous pressures on coastal ecosystems. At the same time coastal oceans are of most direct relevance for and, arguably, most vulnerable to human activities. Examples of coastal ocean responses include eutrophication and occurrence of hypoxia, the collapse of fish stocks and increasing risks of inundation and extreme events. The objective of this Session is to explore the latest understanding of the likely effects of climate change on the marine biota of the world’s oceans at the regional, national and global scales, and the likely impact this will have on ecosystems goods and services, and consequently on social-ecological systems. We focus particularly on issues that are of economic, nutritive or cultural importance to humans. We invite presentations that provide insight into the various dimensions of this issue.

Chairs: Katja Fennel (Dalhousie University, Canada) 
Joaquim Garrabou (Institute of Marine Sciences-CSIC, Spain)

Invited speaker: Emma Cebrian (CEAB-CSIC, Spain)

Monday, November 17, Day 1 (14:30 - 18:00h)

14:30  Presentation
14:35  Cebrian E. Alien Invasions in a Changing Sea: new challenges for marine conservation (Abstract 560)
15:00  Bensoussan N. et al. Shifting down benthic ecosystem distribution range under climate change scenario in the NW Mediterranean sea (Abstract 291)
15:30  Chust G. et al. Response of zooplankton to climate change from 1959 to 2100: observed trends and future projections (Abstract 369)
15:45  Ledoux J.B. et al. Population genetics can enhance the management of a marine community with high socio-economical valu (Abstract 212)
16:00  Coffee break
16:30  Macias D. et al. Projected changes on surface currents patterns in the Mediterranean for the 21st century (Abstract 199)
16:45  Varjopuro R. et al. Linking pressures with management decisions and climatic drivers: a tool for spatial predictions (Abstract 388)
17:00  Vila M. et al. Blooms of the dinoflagellate ostreopsis and human respiratory disorders in the Mediterranean: Where a (Abstract 448)
17:15  F. Peters The alteration of marine rhythms by a large Mediterranean coastal city (Abstract 396)
17:30  Fernandez A. et al. Effects of partial protection on Norwegian Atlantic Cod: a demographic evaluation using tagged indiv (Abstract 125)
17:45  Discussion
18:00  Adjourn
Tuesday, November 18, Day 2 (11:30 - 16:00h)

11:30  Nakata H. et al. Response of fish community structure in an enclosed bay to climate and human-induced changes (Abstract 142)
11:45  Ojea E. Fisheries management and resilience to climate change: building a socio-ecological approach (Abstract 351)
12:00  Puig P. et al. Impact of bottom trawling on deep-sea sediment properties in the Catalan margin (northwestern Mediterranean sea) (Abstract 363)
12:30  Posters presentation
13:00  Lunch break
14:30  Montero-Serra, I. et al. Climate change, harvesting and the future of Mediterranean red coral populations (Abstract 374)
14:45  Tomlinson B. et al. The effects of jellyfish on the social-ecological coastal system in Catalonia, Spain. (Abstract 164)
15:00  Uye S. T Marine artificial structures as amplifiers of jellyfish blooms: a case study of a newly installed floating pier (Abstract 567)
15:15  Kurata, K. et al. Long-term changes in distribution and abundances of Arcuatula senhousia in an estuarine river, Japan (Abstract 260)
15:30  Discussion
16:00  Closing

Posters
- Koenigstein, S. et al. Social-ecological modeling of climate change impacts on marine ecosystems: Integrating science and s (Abstract 61)
- Omogoriola, H. Negative impact of economis activities on Lagos lagoon mangrove ecosystem. (Abstract 62)
- Gopeechund, A. Effect of anthropogenic activities on phenolic content and antioxidant levels in marine tropical org (Abstract 70)
- Navrotsky, V. On mechanisms of ocean ecosystems-global climate interactions (Abstract 78)
- Masski, H. et al. Divergent bottom communities structures of two subtropical upwelling ecosystems from the northern CC (Abstract 84)
- Villate, F. et al. Patterns and scales of variability in the zooplankton: tools to assess environmental and biotic pert (Abstract 101)
- Baeta, M. et al. Spatial and temporal changes in benthic populations inhabiting the Maresme coast (northwestern (Abstract 162)
- Gogo, S. et al. Assessment of ecological status of Albanian rocky shore using benthic macroalgae as bioindicators (Abstract 167)
- Fennel, K. Intercomparison of Hypoxia Models for the Northern Gulf of Mexico (Abstract 168)
- Kailasam, M. Observational study of tropical Indian Ocean in a warming environment (Abstract 176)
- Chalkiadaki, O. et al. Lipid Peroxidation and Catalase induction in two marine bivalves exposed to cadmium polluted seawate (Abstract 197)
- Chalkiadaki, O. et al. The use of Catalase and Metallothioneins as biomarkers of Pb exposure in two marine bivalves (Abstract 200)
- Labonne, M. et al. Otolith microchemical signatures from 3 fish species along the Moroccan coast: anthropogenic vs natural (Abstract 225)
- Canales, C. Population structure of nylon shrimp (Heterocarpus reedi) and its relationship with environmental conditions (Abstract 231)
- Wätjen, K. et al. Cooperative Fishery Research: The Brown Shrimp Fishery in the Wadden Sea (North Sea, Germany) (Abstract 262)
- Wätjen, K. Cooperative Fishery Research in the German Wadden Sea, Regional Marketing Strategies (Abstract 268)
- Sen Gupta, A. et al. Abrupt shifts in the thermal habitats of marine species in a warming ocean (Abstract 277)
- Marín, I. et al. Increased anthropogenic aerosol emissions might disrupt marine microbial plankton communities (Abstract 283)
- Klayn, S. et al. Macrozoobenthic community state along a eutrophication gradient in Burgas Bay (southwestern Black Sea) (Abstract 434)
- Arizmendi-Mejia, R. et al. Responses of habitat-forming species to warming: vulnerability of a Mediterranean anthozoan during re (Abstract 453)
- Sanchez-Perez, E. et al. Fluorescent organic matter dynamics induced by inputs of different types of dust. An experimental approach (Abstract 455)
- Arantzamendi, L. Demand of marine resources for the development of European aquaculture (Abstract 496)
Theme Session T2.TS3

Recovery and sustainability of Large Marine Ecosystems around the world

The Large Marine Ecosystem (LME) concept provides a compelling framework for understanding regional threats, status and trends in oceans. The integrity of the 64 World’s LMEs and the livelihoods of billions of people that depend upon them are under threat not only from climate change, but also from overfishing, toxic pollution, nutrient over-enrichment, invasive species, habitat degradation, and biodiversity loss. The large majority of these LMEs are shared by two or more countries, underscoring the need for regional cooperation to advance sustainable LME management. We invite presentations which address cross-sectoral, multi-scale management, and trans-boundary governance processes to meet the ecosystem and sustainable development objectives of LMEs.

Chairs: Kenneth Sherman (NOOA, USA)  
Robin Mahon (University of the West Indies, Barbados)

Invited speaker: Kenneth Sherman (NOOA, USA)

Thursday, November 20, Day 1 (16:30-18:00h)

16:30  Presentation
16:35  Sherman, K. Effects of Climate Forcing on Biomass Yields of Large Marine Ecosystems (Abstract 520)
17:00  Sambe, B. et al. Productivity and Variability of Biomass yields of the Canary Current Large Marine Ecosystem (Abstract 564)
17:15  Matishov, G. Effects of Climate Forcing on the Goods and Services of Russian Arctic Large Marine Ecosystems (Abstract 523)
17:30  Alvarez-Torres, P. et al. Gulf of Mexico Large Marine Ecosystem practitioners network (Abstract 535)
17:45  Discussion
18:00  Adjourn

Friday, November 21, Day 2 (11:30-16:00h)

11:30  Menge, B. et al. Oceanographic and Ecological drivers of community structure in a rocky intertidal meta-ecosystem (Abstract 332)
11:45  Kim, S. et al. Characteristics of the primary productivity in the southwestern East/Japan Sea: sediment trap experiment (Abstract 412) - Cancelled
12:00  Mahon R. Assessing governance performance in LMEs (Abstract 486)
12:15  Heileman, S. et al. How is your LME doing? TWAP Global Comparative Assessment of LMEs (Abstract 297)
12:45  Poster presentation
13:00  Lunch break
14:30  Fanning, L. et al. Assessing transboundary governance arrangements for fisheries, pollution and biodiversity at the lar (Abstract 221)
14:45  Fischer, A. et al. A Transboundary Waters Assessment Programme for the Open Ocean and implications for LMEs (Abstract 488)

15:00  Barbiere, J. Building an operational Large Marine Ecosystem Community of Practice (Abstract 192)

15:15  General discussion and conclusion

16:00  Closing

Posters
- Stevenson, C. et al. Promoting Recovery and Sustainability of Macrophytic Communities in Chesapeake Bay (Abstract 232)
- Dan'Agalan, A. et al. Use of indicators to examine fishery sustainability: The Nigeria-Sao Tome & Principe Joint Development (Abstract 489)
- Alexandrov, L. et al. Strengthening the regional capacity to support the sustainable management of the Black Sea Fisheries (Abstract 495)
Half of the world’s population lives in cities beside the ocean and over 80% of marine pollution comes from land-based activities. Coastal cities and populations, together with global agricultural production and energy consumption, have grown faster than our understanding and management of their potential impacts. Recent data on pollutants and new guidance to countries on how to monitor land-based activities affecting the marine environment at the national, regional and global levels are needed. The concept of Smart Cities is helping urban areas to improve water quality by cutting pollution and waste, optimizing the consumption of resource and minimizing the emission of pollutants. This session will combine recent results on coastal pollutants with a social science approach towards the prevention and control of marine degradation caused by land-based activities.

Chairs:  
Luiz Drude de Lacerda (Universidade Federal do Ceará, Brazil)  
Sumei Liu (Ocean University of China, China)

Invited speaker:  
William Dennison (University of Maryland Center for Environmental Science, USA)

Wednesday, November 19, Day 1 (14:30 – 18:00h)

14:30  Presentation
14:35  Dennison, W. Science communication strategies and environmental report cards for effective coastal ocean governance (Abstract 557)
15:00  Tubau, X. et al. Litter in submarine canyons of the North Catalan margin, NW Mediterranean Sea (Abstract 21)
15:15  Porte, C. et al. Assessing the Impact of Cities on Environmental Quality of Coastal areas by using different bioassay (Abstract 24)
15:30  Suaria, G. Abundance, distribution and composition of floating debris in the Mediterranean Sea (Abstract 33)
15:45  Kogure, K. The research project for the Great East Japan Earthquake on March 11, 2011 (Abstract 347)
16:00  Coffee break
16:30  Drude, L. et al. Biogeochemical response of semiarid coasts in South America to global climate change (Abstract 136)
16:45  Camacho, L. The Colombian National Program for Research, Prevention, Reduction and Control of Marine Pollution S (Abstract 173)
17:00  Fok, L. et al. Observations on microplastic abundance in the Pearl River estuary, China. (Abstract 175)
17:15  Van Sebille, E. et al. Tracking plastic through the global ocean: assessing the risk to seabirds (Abstract 177)
17:45  Discussion
18:00  Adjourn
Thursday, November 20, Day 2 (11:30 - 16:00h)

11:30    Amblas, D. The volcano-like sewage sludge deposits next to us (Abstract 282)
11:45    Ferreira, M. Effects of microplastics on bivalves: the role of plastic type, concentration, exposure time and add (Abstract 312)
12:00    Puig, M. et al. Methodology for the identification of Significant Environmental Aspects in Mediterranean and Black Sea (Abstract 349)
12:15    Sobral, P. et al. Ingestion of microplastics by fish from bottom trawls off the Portuguese coast (Abstract 404)
12:30    Deudero, S. et al. Microplastic exposure for medium and small pelagic fishes: a Mediterranean case study (Abstract 419)
12:45    Poster presentation
13:00    Lunch break
14:30    Frias, J. et al. Biomarker effects of the ingestion of different concentrations of microplastic particles by Mytilus galloprovincialis (Lamarck, 1819) (Abstract 425)
14:45    Perez, C. et al. Linking marine litter data to Sources and Strategies (Abstract 432)
15:00    Quinn, B. et al. Municipal effluent as a potential source of microplastic contamination in the aquatic environment (Abstract 450)
15:15    Thompson, R. How concerned should we be about microplastics? (Abstract 526)
15:45    General discussion and conclusion
16:00    Closing

Posters:
- Abdallah, M. Geochemistry of Cr in coastal environment of the main Harbour, Egypt (Abstract 14)
- Friedmann, J.L. Historical evolution of metal concentration in sediments of the caravelas estuary, Bahia, Brazil (Abstract 58)
- Quirós, L. et al. Carbon and nitrogen contents and their isotopic composition in size-fractionated near-shore sediments off Barcelona city (Abstract 64)
- Dias, F. et al. Metals discharge in a tropical river estuary during a rainy season (Abstract 131)
- Rezende, C. Mercury in the land and ocean interface in Campos Basin, Rio de Janeiro State, Brazil (Abstract 135)
- Gao, L. et al. The sink effect of the East China Sea on the nutrients discharged from Changjiang (Abstract 181)
- Hatzianestis, I. Organic pollution in Saronikos gulf sediments, receiving anthropogenic pressures from the city of At (Abstract 194)
- Prifti, E. Vertical distribution of heavy metals in marine sediments from Saronikos Gulf, Greece (Abstract 202)
- Galimany, E. et al. Evaluating ribbed mussels for nutrient bioextraction purposes: the Bronx (NY, USA) experience (Abstract 240)
- Merlino, S. Marin litter in Ligurian and Tyrrenian sea: a survey around the shrine of cetaceans (Abstract 261)
- Krelling, A. et al. Do beachgoers stay on the beaches where they are littering at? (Abstract 264)
- Parinos, C. et al. Occurrence, sources and fate of particle-associated priority PAHs in the open Eastern Mediterranean Sea (Abstract 270)
- Mudrak-Cegiolka, S. et al. Zooplankton as a vector of transfer of Endocrine Disrupting Compounds in marine ecosystem (Abstract 274)
- Ben, R. Geochemistry of the major elements in sea water of Ghannouch-Gabès coast (SE of Tunisia). Impact of phosphogypsum discharge (Abstract 281)
- Kholeif, S. et al. Marine Contaminants Inspection by Bio-monitoring Method in Egyptian Mediterranean Coastal Waters (Abstract 327)
- Giannoudi, L. et al. Marine biotechnological advances: from the lab to the field and to essential socio-ecological needs (Abstract 346)
- Wang, Z. et al. Environmental changes reflected by metals and biogenic elements in the Pearl River Estuary, China (Abstract 380)
- Kulkarni, B. et al. Present Status of Coastal Pollution in and around Mumbai (West Coast of India) (Abstract 398)
- Assunção, J. Surface waters are sources of microplastics to insular beaches in the western tropical Atlantic Ocean (Abstract 429)
- Contente, R. Artificial channel disrupts estuarine ichthyofauna structure in a subtropical Brazil’s Biodiversity (Abstract 451)
- Serra, J. et al. Multidisciplinary investigation of an offshore sewage spill, Barcelona, Catalonia, Spain (Abstract 492)
- Sullivan, H. et al. Tossed at Sea: The Alarming Rate of Plastic Degradation in Marine Environments (Abstract 542)
- Therriault, T. et al. Effects of marine debris caused by the great tsunami of 2011 (Abstract 553)
Theme Session T2.TS5

Operationalizing Ecosystem-based Management: the challenges of translating scientific knowledge into decision tools for integrated management

Ecosystem-based management (EBM) has been widely discussed in the 21st century, yet few jurisdictions have implemented a fully-fledged EBM. The objective of this session is to explore the challenges and obstacles to implementing EBM, such as limited resources, limited data, integrated management, the need for interdisciplinary approaches, translating science advice into management, cumulative effects and governance structure.

Chairs: Yvonne Walter (ICES, Sweden)
Ana Teresa Caetano (European Commission, Portugal)

Invited speaker: Rafael Sardà (CEAB-CSIC, Spain)

Monday, November 17, Day 1 (14:30 - 18:00h)

14:30 Presentation
14:35 Sardà R. et al. The Ecosystem-Based Management System: Linking the Theory of Environmental Policy and Practice of Environmental Management (Abstract 183)
15:00 Caetano, A. T. (Abstract 565)
15:15 Walther, Y. ICES framework for IEA to support Ecosystem Approach to Management (Abstract 457)
15:45 Torres, I. Future Ocean Alliance: The global informal mechanism for dialogue between ocean actors for EBM imple (Abstract 319)
16:00 Coffee break
16:30 Frazao, C. Implementing EBM in the Portuguese Sea: challenges and opportunities from a new legal framework (Abstract 320)
16:45 McIsaac, J. Collaboration in Canada's complex Pacific Ocean Estate (Abstract 461)
17:00 Zhang, C. et al. Integrated Fisheries Risk Analysis Method for Ecosystems (IFRAME) as an EAF (Abstract 99)
17:15 Vaz, S. et al. Impact of conservation measures on mixed fisheries within the Eastern English Channel MPA network (Abstract 121)
17:30 Rice, J. Humpty Dumpty and the Ecosystem Approach – “Just what I choose it to mean, no more, no less”? (Abstract 141)
17:45 Discussion
18:00 Adjourn

Tuesday, November 18, Day 2 (11:30 - 16:00h)

11:30 Traves-Trolet, M. Trasfering monospecific reference points in a multispecies context by modelling stocks within their (Abstract 217)
11:45 Detogni, R. et al. Evaluating changes in marine small-scale fisheries using fishers’ knowledge and catch data (Abstract 296)
12:00 Shannon, L. Disentangling Southern Benguela ecosystem dynamics using ecological indicators of fishing effects in (Abstract 31)
12:15  Kim, K. and Tae, K. Developing decision tools for ecosystem based management - assessment of marine environment and huma (Abstract 77)

12:30  Mozetic, P. et al. Can the status of food webs be assessed by the characteristics of plankton communities? (Abstract 149)

12:45  Ruiz, M. ASIMUTH: a Copernicus marine downstream service for HAB forecasts in the Galician region (Abstract 191) - cancelled

13:00  Lunch break

14:30  Traves-Trolet, M. Ecological coherence of the English Channel MPAs network estimated through larval connectivity (Abstract 218)

14:45  Daley, R. Evaluating marine spatial planning options for vulnerable deep-sea sharks (Abstract 252)

15:00  Subirats, L. et al. Participatory science to understand the ecological status of surface marine waters (Abstract 362)

15:15  Goldstein, P. OBIS-USA makes biogeographic data accessible and useful to respond to ecosystem-scale challenges (Abstract 515)

15:30  General discussion and conclusion

16:00  Closing

Posters:
- Howard, J. et al. Blue Carbon Ecosystems as Climate Mitigation and Adaptation Tools: Offsetting Emissions and Enhancing (Abstract 17)
- Brahama, C. et al. New insights in the spatial dynamics of sardinella stocks off Mauritania (North-West Africa) (Abstract 27)
- Samko, E. Role of a warm anticyclonic eddy at Hokkaido in the formation of saury fishing grounds (Abstract 60)
- Protopapa, M. et al. Getting the most out of a marine paint: A combinatorial approach with antifouling potential (Abstract 95)
- Ostrovskaya, E. Combat oil pollution in the Northern Caspian: How science can help? (Abstract 158)
- Monakhova, G. Ensemble assessment of marine environmental pollution (Abstract 203)
- Ferreira, S. et al. The resource valuation and the challenge of coastal ecosystem-based management implementation (Abstract 220)
- Portz, L. et al. The University as a source of knowledge for implementation of ecosystem-based management in Brazil (Abstract 246)
- Arvanitidis, C. et al. LifeWatchGreece: a valuable tool for biological data integration and decision making (Abstract 258)
- Golumbeanu M. et al. The contributions to the Black Sea coastal zone development: Romanian status indicators (Abstract 337)
- Pecoraro, C. Assessing the genomic population structure in yellowfin tuna (Thunnus albacores) at the global scale (Abstract 338)
- Baptista, A. You need the results when? Place-based estuarine science with global societal implications (Abstract 479)
- Mangiavacchi, N. et al. Ballast water decontamination and treatment system by microwave radiation (Abstract 480)
- Bychkov, A. et al. Past and future of PICES North Pacific ecosystem status reports (Abstract 554)
Theme Session T3. TS1

Ocean governance in the face of societal pressures and uncertain predictions

For centuries humans have depended on the ocean as a resource, a dependence that is being threatened by a multitude of human activities leading to unprecedented changes (at least on societally relevant time scales) and with outcomes that are hard to predict. These changes come with major societal and legal issues that transcend national boundaries ranging from governance of threatened species to proposals for ocean geoengineering. Governance responses are generally fragmented and lag behind scientific advances. We invite presentations and discussions of issues related to ocean governance given scientific uncertainty.

Chairs:  
Biliana Cicin-Sain (Delaware University, USA)  
David Vanderzwaag (Dalhousie University, Canada)  
Fokion Vosniakos (BENA, Greece)

Invited speaker:  
Enrique de Villamore (UNEP-MAP, Spain)

Thursday, November 20, Day 1 (11:30 - 18:00h)

11:30  Presentation
11:35  Villamore, E. et al. Mediterranean Action Plan and Barcelona Convention – A Sea governance model aiming at implementing ICZM and achievement GES as key conditions to promote sustainable development (Abstract 566)
12:00  Mahon, R. Is a global structure emerging among ocean governance arrangements? (Abstract 321)
12:15  Ramirez-Llodra, E. Managing the last-frontier on Earth: deep-ocean stewardship (Abstract 115)
12:30  Rudd, M. International scientists’ opinions on ocean research priorities (Abstract 436)
12:45  Gameiro, M.I. The entangled relationship between law and marine scientific research: what influences what? (Abstract 454) - cancelled
13:00  Lunch break
14:30  Torres, I. Case studies of new mechanisms for improving ocean governance: Demystifying the Idea of Ocean Govern (Abstract 318)
14:45  Willemsen, N. Participatory integrated ocean governance for large marine ecosystem (Abstract 90)
15:00  Calado, H. et al. Atlantic Governance, room for discussion (Abstract 359)
15:15  Kretschmann, L. A case study on changing sustainability awareness and its effect on the cruise industry (Abstract 426)
15:30  Esina, O. Experience of Co-operation in the Field of Caspian Sea Hydrometeorology (Abstract 206)
15:45  Pekkarinen, A. Is The Increase in Shipping Threatening The World’s Populations of Whales? (Abstract 243)
16:00  Coffee break
16:30  Hara, M. Ocean governance in South Africa: opportunities and challenges (Abstract 289)
16:45  Murillo, I. Ocean policy model for integrated governance in emerging contries facing social pressures and uncer (Abstract 323)
17:00  Lleonart, J. et al. Co-management: a governance scheme for marine living resources. The case of Catalonia. (Abstract 211)
17:30  Poster presentation
17:45  Discussion
18:00  Adjourn

Friday, November 21, Day 2 (11:30 - 16:00h)
11:30  Klinger, T. Coordinated Response to Ocean Acidification in Puget Sound, WA (USA) (Abstract 370)
11:45  Garcia, J. Spyglass Framework for Integrated Marine Management: from Public Policies to Environmental Changes (Abstract 134)
12:00  Paramio, L. Azores SEAValue Project- toward effective ocean governance, contributions and advances from smaller (Abstract 350)
12:30  Fernandez, P. Essouira facing Atlantic Ocean Oportunities (Abstract 477)
12:45  Vallette, P. Towards the Blue Society (Abstract 307)
13:00  Lunch break
14:30  Garcia, E. et al. Search and rescue exercices, a serious game to test present ocean operational systems (Abstract 228)
14:45  Pinardi, N. The Joint Commission for Oceanography and Marine Meteorology (JCOMM): a strategic Worldwide partners (Abstract 286)
15:00  Liu, D. Extreme Sea Hazards Statistics and its Engineering Applications (Abstract 482)
15:15  Tseng, H. et al. CH4 and N2O may contribute more to greenhouse effect than CO2 emission from the SCS (Abstract 41)
15:30  Discussion
16:00  Closing

Posters
- Baker, M. Introducing the Deep Ocean Stewardship Initiative (Abstract 104)
- McCurdy, A. Maturing the Enterprise of Ocean Observing: An Extension of the Framework for Ocean Observing (Abstract 129)
- Kokinou, E. et al. A multi disciplinary approach to evaluate near shore and coast vulnerability (Abstract 257)
- Mani, C. et al. Perceptions of landscape transformation in coastal areas as a tool for environmental impact assessme (Abstract 313)
- Wu, B. et al. Dissolution dynamic of biogenic silica in Jiaozhou Bay, the western Yellow Sea (Abstract 341)
- Demetrashvili, D. Forecast of dynamical processes and oil spill transport in the easternmost Black Sea (Abstract 384)
- Haque, A. Marine Spatial Planning-How far it is important for the developing states: A Bangladesh Perspective (Abstract 390)
- Pham Van, S. et al. The effect of lateral boundary conditions on results of one-way nested ocean regional model (Abstract 413)
- Björkman, U. et al. Evaluation of different habitat mapping techniques in Kvarken UNESCO World Natural Heritage Site, Ba (Abstract 415)
- Magaletti, E. et al. Developing an Early Warning System for ships’ Ballast Waters in ports of the Adriatic Sea (Abstract 437)
- Kokinou, E. et al. Statistical Processing of a Multinational Oil Pollution Incident Report Database (Nereids Project) (Abstract 441)
Theme Session T3. TS2
Success stories in capacity-building in ocean sciences

Capacity-building in ocean sciences to establish observational programs and analyses to face new ocean research challenges should be an essential part of institutional strategic plans. At the present time, there is much which can be learned and incorporated into the design of institutional capacity-building strategies from the success of international programs such as GOOS, LME, IODE, etc. We have learned that success in capacity-building is often based on long-term thinking and collective action and that capacity-building should not be seen as an isolated action of technical intervention. This session on success stories in capacity building in ocean sciences will give scientists the opportunity to share and analyze capacity building issues around the world.

Chairs:  
Albert Fischer (IOC, France)  
Nicholas R. Bates (Bermuda Institute of Ocean Science, Bermuda)

Invited speaker:  
Karen Helen Wiltshire (Alfred Wegener Institute, Germany)

Thursday, November 20, Day 1 (16:30 – 18:00h)

16:30  Presentation
17:00  Zettler, E. et al. Training the next generation of ocean science and policy leaders by taking them to sea (Abstract 311)
17:45  Marcvaldi, M.A. et al. Brazil’s sea turtles are now worth more alive: lessons learned through 34 yr of TAMAR (Abstract 242)
18:00  Adjourn

Friday, November 21, Day 2 (11:30 - 16:00h)

11:30  Delgado, C. et al. OceanTeacher Global Academy: OceanTeacher goes global (Abstract 391)
11:45  Freeman, S. Making waves: The meduzologia model (Abstract 401)
12:00  Guisado-Pintado, E. et al. Building capacities for improving marine governance in the Mediterranean via a dedicated Spatial Da (Abstract 185)
12:15  Thorndyke, M. WAMS: a Global network of marine stations for capacity building (Abstract 45)
12:30  Kraberg, A. Innovative approaches to the analysis of marine biological timeseries data (Abstract 293)
12:45  Bode, A. RADIALES time series: 25 years building monitoring and analytical capacities in the Iberian shelf (Abstract 112)
13:00  Lunch break
14:30  Cano, D. et al. Measurements of Oceanic and Atmospheric Variables in the Bay of Biscay (AGL Station) (Abstract 512)
14:45  Poulain, P.M. Extending Argo to African and Middle East countries: Some successful examples (Abstract 161)
15:00  Berdalet, E. et al. GEOHAB towards GlobalHAB: knowledge gained and future challenges on Harmful Algal Blooms research (Abstract 460)

15:15  Discussion

15:45  Closing

Posters
- Buga, L. et al. Constanta Space Technologies Competence Centre Dedicated to the Marine and Coastal Regions Sustainab (Abstract 122)
- Tel, E. et al. IEOOS, the Spanish Institute of Oceanography integrated ocean Observing System (Abstract 288)
- Angelidis, M. et al. Strengthening data quality assurance in the Mediterranean Sea (Abstract 330)
- Cira, M. A new dialogue process to find solutions towards Blue Society (Abstract 383)
- Piehl, A. How to obtain human resources in situation of economic crises (Abstract 473)
- Haque, A. Education is the single most important factor in the development of a developing (Abstract 510)
Theme Session T3. TS3

The valuation of coastal and marine ecosystem services

Ecosystem services provide an important basis for monitoring impacts of ecosystem change and can be used to identify needs for interventions in management of coastal and marine areas. As the ocean with its ecosystem services is a source of economic and social wealth, the degradation of coastal ecosystems leads to substantial socio-economic impacts and poses a risk to citizens by threatening their livelihood, health or general well-being. Thus, it is essential that scientists and decision makers understand the value of marine ecosystem services, their implication and links to human well-being and as well as take appropriate measures to manage this relationship. We invite papers which quantify the value of the marine sectors, their contribution to the GDP of an economy, and the cost of ecosystem services for an effective sustainable development.

Chairs: Paulo A. L. D. Nunes (WAVES, World Bank, Portugal) Maria Betti (European Commission)

Invited speaker: Juan Carlos Miquel (The International Atomic Energy Agency, Monaco)

Thursday, November 20 (11:30 - 18:00h)

11:30 Presentation
11:35 Miquel, J.C. et al. The corrosive effect of Ocean Acidification on coastal and marine ecosystem services (Abstract 562)
12:00 Ziveri, P. The Mediterranean Sea under elevated atmospheric CO2 conditions (Abstract 400)
12:45 Discussion
13:00 Lunch break
14:30 Spalding, M. Beach valuation (Abstract 133)
14:45 Piñol, L. et al. Offshore wind farms and beach recreation demand: A pooled revealed and stated trip behavior analysis (Abstract 85)
15:00 Ressurreiçao, A. et al. Quantifying the direct use value of condor seamount (Abstract 267)
15:15 Markandya, A. et al. Value and environmental cost of transferring energy and communications within the Mediterranean and (Abstract 334)
15:30 Summary of posters by Dowell, M
15:45 Discussion
16:00 Coffee break
16:30 Betti, M. The Mapping and Assessment of Ecosystems and their Services in the broader context of European Marine and Maritime Policy (Abstract 561)
16:45 Kingma, I. et al. Towards a Shark and Ray Management plan for the North Sea (Abstract 470)
17:00  Aanesen, M. et al. Willingness to pay for unfamiliar public goods: The case of cold-water corals in Norway (Abstract 385)
17:15  Lampitt, R. et al. What's the value of ocean observations? An analysis for sustained open ocean observatories (Abstract 128)
17:30  General discussion and conclusion
18:00  Closing

Posters
- Kholina, O. Ecosystem services for oil and gas operations: Caspian Sea (Abstract 25)
- Rosioru, D. M. Marine epibiota - a resource with ecological role and economical potential in Black Sea (Abstract 163)
- Idrissi, M. Seasonal variability of the Oualidia lagoon (Morocco) between 2011 and 2012 (Abstract 301)
- Kim, K. Prediction of tide and sedimentation effects on coastal structure (Abstract 372)
- Ariza, E. Towards the construction of multi-stakeholder and multi-scape platforms (Abstract 487)
- Ressurreição, A. The value of marine ecotourism in the open sea: the Azores case-study (Abstract 549)
**Poster presentations**

**Posters Topic 1. Building scientific knowledge**

T1-TS1. The changing polar climate systems – Posters

P1  Kivva, K. Assessment of primary production in the western Bering Sea with new approach (Abstract 72)

P2  Kondrin, A. Non-tidal sea level fluctuations in the small inlet of the White Sea (Abstract 82)

P3  Sokolikhina, N. et al. A warm winter in the Arctic and anomalous cold in Europe (Abstract 94)

P4  Min, H. et al. Relationship of changes of westerly winds and Arctic climate under global warming (Abstract 144)

P5  Sergeeva, V. et al. Spatio-temporal variability of phytoplankton over the shelf-slope area of the Western Arctic (Abstract 263)

P6  Tynan, E. Changes in the marine carbonate system around the Fram Strait in the last three decades (Abstract 328)

P7  Yáñez, E. et al. Pelagic fisheries, variability and climate in Chile (Abstract 543)

T1-TS2. Regional warm seas: a laboratory for the future – Posters

P1  Said, M. Circulation pattern of the southeastern Mediterranean waters (Abstract 6)

P2  El-Saharty, A. et al. Water, nitrogen and phosphorus budgets in the Arabian Gulf (Abstract 7)

P3  Taibi, H. et al. Mean sea level secular trends from PSMSL RLR data: A case study for the Mediterranean basin (Abstract 20)

P4  Sokolikhina, N. et al. Meteorological and Synoptic Aspects of the Novorossiysk Bora Forming and Evolution (Abstract 93)

P5  Surkova, G. Climate projections and the air temperature regime over the Black Sea in 21 century (Abstract 97)


P7  Villate, F. et al. Allometric differences in larval populations of the European anchovy from the Atlantic and the Mediterranean sea (Abstract 102)

P8  Al-Ansari, E. et al. Hydrographic Variations Along a Northeastern Sector off the Qatari Coastline (Central Arabian Gulf) (Abstract 147)

P9  Nunes, S. et al. Phytoplankton response to atmospheric aerosol deposition in a coastal zone of the NW Mediterranean (Abstract 207)


P13  Gao, J. et al. Numerical model research on Emergency Warning and Predicting of ocean oil spill in China Seas (Abstract 408)
P14 Kang, S. et al. Near Inertial Current Generation by Typhoon in the Yellow and East China Seas (Abstract 414)

P15 Song, J. et al. Variability of SST over China Seas derived from a new merged dataset (Abstract 416)

P16 Lemeshko, E. Interannual variability of the Black Sea chlorophyll related to external forcing (Abstract 439)


P18 Zveryaev, I. Seasonality in Intraseasonal and Interannual Variability of Mediterranean SST and its Links to Regio (Abstract 445)

T1-TS3. Low oxygen and low pH environments in coastal and ocean waters – Posters

P1 Fernández, E. et al. Ocean acidification and Calcium Carbonate Saturation states along the Subtropical North Atlantic Ocean (Abstract 63)

P2 Isensee, K. et al. Global Ocean Acidification Observing Network - connecting scientists to transfer knowledge (Abstract 81)

P3 Tim, N. et al. Influence of large-scale climate patterns on upwelling and the oxygen minimum zone off Namibia (Abstract 88)

P4 Mihailov, M. E. et al. Influence of the main climate variations on hydrological conditions on the Romanian Black Sea Shelf (Abstract 103)

P5 Ro, Y. et al. Monitoring of the Hypoxia Occurrences in the Chunsu Bay, Yellow Sea, Korea (Abstract 118)

P6 Drion, R. et al. Spatial variability of benthic functional diversity on the Black Sea northwestern shelf affected (Abstract 156)

P7 Louanchi, F. et al. Assessing the anthropogenic carbon penetration in the Mediterranean Sea : evaluating methods and unc (Abstract 157)


P9 Takatani, Y. et al. Ocean acidification in the interior of the western North Pacific subtropical region (Abstract 174)

P10 Pavlidou, A. et al. Hypoxic/Anoxic conditions in a Mediterranean semi-enclosed embayment, amvrakikos gulf, Greece (Abstract 179)

P11 Jelescu, S. et al. Underwater sound speed features on the Western Black Sea Shelf (Abstract 187)

P12 Oguri, K. et al. Long term monitoring of bottom environments in continental slope off Ohtsuchi Bay, Northeast Japan (Abstract 275)

P13 Burgos, E. et al. Nutrient availability and stoichiometry of organic matter in the eastern North Pacific oxygen minimum (Abstract 358)

T1-TS4. New frontiers in modelling for oceanography, fisheries and marine ecosystem management – Posters

P1 Arkhipkin, V. et al. Modeling of extremes waves and storm surges in the Black, Caspian, Azov, White and Baltic Seas (Abstract 107)

P2 Kim, Y. Climate Forecast by Ocean Initialization (Abstract 150)

P3 Osborn, D. et al. MARiS: The IAEA’s Marine Information System (Abstract 230)

P4 Corrales, X. Ecosystem structure and fishing impacts in the NW Mediterranean Sea using a comparative modelling ap (Abstract 237)
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<td>Simulation of the nutrient uptake for four primary producers in the bay of Calvi (Corsica, France)</td>
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<td>Seasonal variability of zooplankton vertical structure and biomass size spectra off Ubatuba, Brazil</td>
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P17 Pace, L. Oceanographic collaborations onboard Schmidt Ocean Institute’s state-of-the-art R/V Falkor (Abstract 570)


P1 Husain, M. Dinoflagellate cysts of ROPME Sea Area (Arabian Gulf) (Abstract 87)
P2 Rodríguez-Giner, C. Unveiling the temporal distribution of marine picoeukaryotes in the Northwestern Mediterranean Sea (Abstract 170)
P3 Mestre, M. et al. Bacteria inhabiting particulate matter along a temporal series in the Northwestern Mediterranean Sea (Abstract 171)
P4 Aylagas, E. et al. Towards environmental status assessment using DNA metabarcoding: how it is and how it will be (Abstract 186)
P5 Fernández, M. L. et al. Zooplankton vertical distribution in waters of the Mallorca shelf (Central Western Mediterranean) (Abstract 189)
P6 Teixidó, N. et al. Biodiversity patterns of coralligenous outcrops: first insights across temporal and spatial scales (Abstract 233)
P7 Martínez-Muñoz, M. Bycatch fish diversity and abundance in the shrimp fishery of the Gulf of Tehuantepec (Mexico) (Abstract 254)
P8 Tadokoro, K. Decadal scale variation in biodiversity of copepod community in the western North Pacific Ocean (Abstract 265)
P9 Natij, L. et al. Phytoplankton abundance and diversity in the coastal waters of Oualidia lagoon (Abstract 325)
P10 Cros, L. et al. High coccolithophore biodiversity in the NW Mediterranean (Abstract 378)
P11 Aguirre, M. et al. Characterization of the bacterioplankton community in two contrasting Basque estuaries using massive (Abstract 386)
P14 Lips, I. Interplay between autotrophic, heterotrophic and mixotrophic plankton during spring-summer succession (Abstract 457)
P15 Fernández, R. Cephalopods in shelf and slope Mauritanian waters during Spanish-Mauritanian oceanographic cruises (Abstract 459)
P16 Wongtschowski, C. The nektonic components of a tropical area (Araçà Bay, Brazil) (Abstract 462)
P18 Costello, M. New database of all marine species biological and ecological traits (Abstract 569)
**Posters Topic 2 Applying knowledge for societal benefit: Achieving ecosystem management and sustainability**

**T2.TS1.** Coral Reefs sustaining biodiversity in the face of climate change and human impacts – Posters

P1  Croquer, A. et al. Enzymatic biomarkers as proxies of physiological stress in the coral *Orcicella faveolata* at Los Roques (Abstract 138)

P2  Cavada, F. et al. Assessing the status of the threatened species *Dendrogyra cylindrus* at Los Roques, Venezuela (Abstract 140)

P3  Duarte, G. Coral Vivo Marine Mesocosm: new approach for ecological and ecophysiological studies (Abstract 308) - Cancelled

P4  Palathoti, S. et al. Climate change in mangrove ecosystems in Godavari mangroves in Andhra Pradesh (Abstract 336)

P5  Mamouridis, V. The macrofauna associated to the deep-sea coral *Isidella elongata*: human impact and natural variabl (Abstract 402)

**T2.TS2.** Response of marine biota to human pressures and climate change; its implications for social-ecological systems – Posters

P1  Koenigstein, S. et al. Social-ecological modeling of climate change impacts on marine ecosystems: Integrating science and s (Abstract 61)

P2  Omogoriola, H. Negative impact of economis activities on lagos lagoon mangrove ecosystem. (Abstract 62)

P3  Gopeechund, A. Effect of anthropogenic activities on phenolic content and antioxidant levels in marine tropical org (Abstract 70)

P4  Navrotsky, V. On mechanisms of ocean ecosystems-global climate interactions (Abstract 78)

P5  Masski, H. et al. Divergent bottom communities structures of two subtropical upwelling ecosystems from the northern CC (Abstract 84)

P6  Villate, F. et al. Patterns and scales of variability in the zooplankton: tools to assess environmental and biotic pert (Abstract 101)

P7  Baeta, M. et al. Spatial and temporal changes in benthic populations inhabiting the Maresme coast (northwestern (Abstract 162)

P8  Gogo, S. et al. Assessment of ecological status of Albanian rocky shore using benthic macroalgae as bioindicators (Abstract 167)

P9  Fennel, K. Intercomparison of Hypoxia Models for the Northern Gulf of Mexico (Abstract 168)

P10  Kailasam, M. Observational study of tropical Indian Ocean in a warming environment (Abstract 176)

P11  Chalkiadaki, O. et al. Lipid Peroxidation and Catalase induction in two marine bivalves exposed to cadmium polluted seawate (Abstract 197)

P12  Chalkiadaki, O. et al. The use of Catalase and Metallothioneins as biomarkers of Pb exposure in two marine bivalves (Abstract 200)

P13  Labonne, M. et al. Otolith microchemical signatures from 3 fish species along the Moroccan coast: anthropogenic vs natu (Abstract 225)

P14  Canales, C. Population structure of nylon shrimp (*Heterocarpus reedi*) and its relationship with environmental co (Abstract 231)

P16 Wätjen, K. Cooperative Fishery Research in the German Wadden Sea, Regional Marketing Strategies (Abstract 268)

P17 Sen Gupta, A. et al. Abrupt shifts in the thermal habitats of marine species in a warming ocean (Abstract 277)

P18 Marín, I. et al. Increased anthropogenic aerosol emissions might disrupt marine microbial plankton communities (Abstract 283)


P20 Klayn, S. et al. Macrozoobenthic community state along a eutrophication gradient in Burgas Bay (southwestern Black Sea) (Abstract 434)

P21 Arizmendi-Mejía, R. et al. Responses of habitat-forming species to warming: vulnerability of a Mediterranean anthozoa during re (Abstract 453)

P22 Sanchez-Perez, E. et al. Fluorescent organic matter dynamics induced by inputs of different types of dust. An experimental ap (Abstract 455)


P25 Arantzamendi, L. Demand of marine resources for the development of European aquaculture (Abstract 496)

T2.TS3. Recovery and sustainability of Large Marine Ecosystems around the world – Posters


P2 Stevenson, C. et al. Promoting Recovery and Sustainability of Macrophytic Communities in Chesapeake Bay (Abstract 232)

P3 Dan’Agalan, A. et al. Use of indicators to examine fishery sustainability:The Nigeria-Sao Tome & Principe Joint Development (Abstract 489)

P4 Alexandrov, L. et al. Strengthening the regional capacity to support the sustainable management of the Black Sea Fisheries (Abstract 495)

T2.TS4. Pollution from Land based activities: towards smart cities and healthy oceans – Posters

P1 Abdallah, M. Geochemistry of Cr in coastal environment of the main Harbour, Egypt (Abstract 14)

P2 Friedmann, J.L. Historical evolution of metal concentration in sediments of the caravelas estuary, Bahia, Brazil (Abstract 58)

P3 Quirós, L. et al. Carbon and nitrogen contents and their isotopic composition in size-fractionated near-shore sediments off Barcelona city (Abstract 64)

P4 Dias, F. et al. Metals discharge in a tropical river estuary during a rainy season (Abstract 131)

P5 Rezende, C. Mercury in the land and ocean interface in Campos Basin, Rio de Janeiro State, Brazil (Abstract 135)
P6  Gao, L. et al. The sink effect of the East China Sea on the nutrients discharged from Changjiang (Abstract 181)

P7  Hatzianestis, I. Organic pollution in Saronikos gulf sediments, receiving anthropogenic pressures from the city of At (Abstract 194)

P8  Prifti, E. Vertical distribution of heavy metals in marine sediments from Saronikos Gulf, Greece (Abstract 202)

P9  Galimany, E. et al. Evaluating ribbed mussels for nutrient bioextraction purposes: the Bronx (NY, USA) experience (Abstract 240)

P10 Merlino, S. Marin litter in Ligurian and Tyrrhenian sea: a survey around the shrine of celsaeans (Abstract 261)

P11 Krelling, A. et al. Do beachgoers stay on the beaches where they are littering at? (Abstract 264)


P13 Mudrak-Cegiolka, S. et al. Zooplankton as a vector of transfer of Endocrine Disrupting Compounds in marine ecosystem (Abstract 274)

P14 Ben, R. Geochemistry of the major elements in sea water of Ghannouch-Gabès coast (SE of Tunisia). Impact of phosphogypsum discharge (Abstract 281)


P16 Kholeif, S. et al. Marine Contaminants Inspection by Bio-monitoring Method in Egyptian Mediterranean Coastal Waters (Abstract 327)

P17 Giannoudi, L. et al. Marine biotechnological advances: from the lab to the field and to essential socio-ecological needs (Abstract 346)

P18 Wang, Z. et al. Environmental changes reflected by metals and biogenic elements in the Pearl River Estuary, China (Abstract 380)

P19 Kulkarni, B. et al. Present Status of Coastal Pollution in and around Mumbai (West Coast of India) (Abstract 398)

P20 Assunção, J. Surface waters are sources of microplastics to insular beaches in the western tropical Atlantic Ocean (Abstract 429)

P21 Contente, R. Artificial channel disrupts estuarine ichthyofauna structure in a subtropical Brazil's Biodiversity (Abstract 451)

P22 Serra, J. et al. Multidisciplinary investigation of an offshore sewage spill, Barcelona, Catalonia, Spain (Abstract 492)

P23 Sullivan, H. et al. Tossed at Sea: The Alarming Rate of Plastic Degradation in Marine Environments (Abstract 542)

P24 Therriault, T. et al. Effects of marine debris caused by the great tsunami of 2011 (Abstract 553)

T2.TS5. Operationalizing Ecosystem-based Management: the challenges of translating scientific knowledge into decision tools for integrated management – Posters

P1  Howard, J. et al. Blue Carbon Ecosystems as Climate Mitigation and Adaptation Tools: Offsetting Emissions and Enhancing (Abstract 17)

P2  Brahma, C. et al. New insights in the spatial dynamics of sardina stocks off Mauritania (North-West Africa) (Abstract 27)
P3  Samko, E. Role of a warm anticyclonic eddy at Hokkaido in the formation of saury fishing grounds (Abstract 60)

P4  Protopapa, M. et al. Getting the most out of a marine paint: A combinatorial approach with antifouling potential (Abstract 95)


P6  Ostrovskaya, E. Combat oil pollution in the Northern Caspian: How science can help? (Abstract 158)

P7  Monakhova, G. Ensemble assessment of marine environmental pollution (Abstract 203)

P8  Ferreira, S. et al. The resource valuation and the challenge of coastal ecosystem-based management implementation (Abstract 220)

P9  Portz, L. et al. The University as a source of knowledge for implementation of ecosystem-based management in Brazil (Abstract 246)

P10 Arvanitidis, C. et al. LifeWatchGreece: a valuable tool for biological data integration and decision making (Abstract 258)


P12 Golumbeanu, M. et al. The contributions to the Black Sea coastal zone development: Romanian status indicators (Abstract 337)

P13 Pecoraro, C. Assessing the genomic population structure in yellowfin tuna (Thunnus albacores) at the global scale (Abstract 338)

P14 Baptista, A. You need the results when? Place-based estuarine science with global societal implications (Abstract 479)

P15 Mangiavacchi, N. et al. Ballast water decontamination and treatment system by microwave radiation (Abstract 480)

P16 Bychkov, A. et al. Past and future of PICES North Pacific ecosystem status reports (Abstract 554)
Posters Topic 3 Improving governance and building capacities

T3. TS1. Ocean governance in the face of societal pressures and uncertain predictions – Posters

P1 Ribeiro, N. Threatened Island Nations: Policy Strategy for Rising Seas and a Changing Climate (Abstract 26)
P3 McCurdy, A. Maturing the Enterprise of Ocean Observing: An Extension of the Framework for Ocean Observing (Abstract 129)
P4 Kokinou, E. et al. A multi disciplinary approach to evaluate near shore and coast vulnerability (Abstract 257)
P5 Mani, C. Perceptions of landscape transformation in coastal areas as a tool for environmental impact assessment (Abstract 313)
P6 Wu, B. et al. Dissolution dynamic of biogenic silica in Jiaozhou Bay, the western Yellow Sea (Abstract 341)
P7 Demetrashvili, D. Forecast of dynamical processes and oil spill transport in the easternmost Black Sea (Abstract 384)
P8 Haque, A. Marine Spatial Planning-How far it is important for the developing states: A Bangladesh Perspective (Abstract 390)
P9 Pham Van, S. et al. The effect of lateral boundary conditions on results of one-way nested ocean regional model (Abstract 413)
P10 Björkman, U. et al. Evaluation of different habitat mapping techniques in Kvarken UNESCO World Natural Heritage Site, Ba (Abstract 415)
P11 Magaletti, E. et al. Developing an Early Warning System for ships’ Ballast Waters in ports of the Adriatic Sea (Abstract 437)
P12 Kokinou, E. et al. Statistical Processing of a Multinational Oil Pollution Incident Report Database (Nereids Project) (Abstract 441)

T3. TS2. Success stories in capacity-building in ocean sciences – Posters

P1 Buga, L. et al. Constanta Space Technologies Competence Centre Dedicated to the Marine and Coastal Regions Sustainable Development (Abstract 122)
P2 Tel, E. et al. IEOOS, the Spanish Institute of Oceanography integrated ocean Observing System (Abstract 288)
P3 Angelidis, M. et al. Strengthening data quality assurance in the Mediterranean Sea (Abstract 330)
P4 Cira, M. A new dialogue process to find solutions towards Blue Society (Abstract 383)
P5 Piehl, A. How to obtain human resources in situation of economic crises (Abstract 473)
P6 Haque, A. Education is the single most important factor in the development of a developing (Abstract 510)

T3. TS3. The valuation of coastal and marine ecosystem services - Posters

P1 Kholina, O. Ecosystem services for oil and gas operations: Caspian Sea (Abstract 25)
P2 Rosioru, D. M. Marine epibiota - a resource with ecological role and economical potential in Black Sea (Abstract 163)
P3 Idrissi, M. Seasonal variability of the Oualidia lagoon (Morocco) between 2011 and 2012 (Abstract 301)

P4 Kim, K. Prediction of tide and sedimentation effects on coastal structure (Abstract 372)

P5 Ariza, E. Towards the construction of multi-stakeholder and multi-scape platforms (Abstract 487)

P6 Ressurreição, A. The value of marine ecotourism in the open sea: the Azores case-study (Abstract 549)
Posters Workshops

**WS1. Scientists sharing data: existing databases, improving access, data poor areas**

**WS1-P1** Gaillard, F. Interoperability of French national databases, connection with international programmes and infrastructure (Abstract 111)

**WS1-P2** Chandler, C.L. BCO-DMO and the Evolving Data Management Paradigm (Abstract 298)

**WS1-P3** Marion, C. et al. Spatio-temporal influence on CPUE of the stingray *Dasyatis guttata* in Todos os Santos Bay, Brazil (Abstract 443)

**WS2. Case studies of new mechanisms for improving ocean governance**

**WS2-P1** Torres de Noronha, I. Empirical evidence of principled multilevel ocean governance within the EU: Contribution to demystif (Abstract 310)


**WS4. Genes to ecosystems: genomic tools to understand ecosystem function**

**WS4-P1** Bucklin, A. et al. DNA Barcoding of Marine Copepods: Assessment of Analytical Approaches to Species Identification (Abstract 299)

**WS7. How is your ecosystem doing? Advances in the use and understanding of ecosystem indicators**

**WS7-P1** Taglialetela, S. et al. Carbon cycling in a Patagonian fjord: Strength of biological vs physical pump (Abstract 424)

**General Poster Session**

**GPS-P1** Thomson, M. The intertidal isopod *Cirolana harfordi* displays ovoviviparous live birth and tolerates reduced Sali (Abstract 19)

**GPS-P2** Gonzalvo, S. Studying endangered species: Shoaling behaviour of *Lates japonicus* revealed through an animal-mounted (Abstract 71)

**GPS-P3** Zbawicka, M. Identification of mussel, *Mytilus*, populations from South Africa, based on new SNP markers (Abstract 105)

**GPS-P4** Sigauque, P. Hydro-sedimetological evaluation in Itajurú channel due superevaluation of the sea level by climat (Abstract 417)

**GPS-P5** Marion, C. Reproduction of the stingray *Dasyatis guttata* in Todos os Santos Bay, northeast Brazil (Abstract 442)

**GPS-P6** Kibble, A. Emergency planning / preparedness for marine transport of noxious chemicals: a rational approach (Abstract 541)

**GPS-P7** Velasco, M. FP7 PEARL project - Preparing for extreme and rare events in coastal regions (Abstract 575)

**GPS-P8** Hernández, M. FP7 DESSIN project - Demostrate Ecosystem Services Enabling Innovation in the Water Sector (Abstract 576)
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