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ICES/PICES/IOC Second International Symposium on the Effects of Climate Change on the World's Oceans will be held from 15 to 19 May 2012, in Yeosu, Korea.

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Balearic beacon

Oceans of Change showcases the best of early career marine scientists

The second ICES/PICES Early Career Scientist Conference “Oceans of Change” took place on the Spanish island of Mallorca in April. More than 100 participants from 21 countries gathered over the course of a week to present their work and debate the future of marine science.

The impact of climate change, as well as that of humans, on the marine ecosystem was addressed and debated by keynote speakers and participants, and new technologies and strategies to address the prospect of a changing ocean were presented.

Here we present some of the thoughts of those that attended.

Ignacio Catalán, Senior Researcher IMEDEA and local host

I had the honour of acting as head of the local organizing committee for Oceans of Change. Hosting a scientific event of such strategic importance on a Mediterranean island that depends strongly on tourism is a benefit for the hosting country the value of which is difficult to estimate. In these difficult times, the [Mediterranean Institute for Advanced Studies](#) (IMEDEA, CSIC-UIB) can be proud of having contributed to fostering the future of marine science.

In my view, the success of the conference lay in the convergence of a few key factors: a good idea, enough funding, excellent science, an attractive setup, and an energetic group of people willing to combine all of these components. Additional salt and pepper came from the conference format: inexperienced local organizers, an inexperienced scientific committee, and inexperienced participants... but all of them eager to confer a dynamic and productive atmosphere. As local organizer, it was a pleasure (and a relief) to see that, from the first evening at the Castle reception, scientific interactions were quickly established.



The Oceans of Change opening ceremony was held at Castell de Bellver. Photo courtesy of Steve Barbeaux, NOAA.

The remarkably high level of science at the oral and poster sessions surprised me, although I knew that the Scientific Steering Committee (SSC), composed of young scientists, had a difficult selection task. Inundated with submissions, they unfortunately, had to reject four out of every five applications received. This in itself was a guarantee that the scientific contributions were well above average. Further, I found the keynote talks and workshop leaders to be excellent and the workshops stimulating.

The hours of productive and bonding discussions, through online meetings with the SSC, the ICES and PICES conveners (who wisely mentored us during the process), and the rest of the team (especially Søren, Görel, Vivian, and ICES Secretariat) provided the basis for a scientifically and personally rewarding final product. Well, maybe the Spanish weather and local food also played a role! Little did I think that this commitment might end in such an enriching learning experience for both my local colleagues and me. Thanks to all of you.



Beatriz Morales (Director IMEDEA CSIC-UIB) and Ignacio Catalán (IMEDEA CSIC-UIB) welcome participants to the conference. Photo courtesy of Natalia Martín, IMEDEA CSIC-UIB.

Renata Gonçalves is completing her PhD at the *Centre of Marine Sciences, Algarve University, Faro, Portugal. She works in the Guadiana estuary saltmarshes (southeast Portugal) and is particularly interested in the characterization of fish nursery functions of saltmarsh areas as well as functions, model development, integrating climate change, and anthropogenic disturbance scenarios in those areas.*



Oceans of Change 2012 was my first experience at an ICES/PICES event, and I can say it was a great experience. It gave me the chance to connect with researchers, not only from within my field of expertise but also from different scientific areas. This is always an enriching opportunity inasmuch as my perspective is that science should be built from the small pieces of a huge puzzle. As the conference was oriented towards early career scientists, I had the opportunity to meet young researchers that share similar problems and difficulties and discover interesting approaches to overcoming them.

Beyond the knowledge shared between participants through oral and poster presentations, there were workshop breakout sessions that addressed career advice for research scientists in communication, proposal writing, and attracting funding, so important for scientists in the first steps of their career. I was particularly enthusiastic about the workshop on Communicating Science. The speaker, Martin Pastoors, presented quite intuitive but frequently forgotten guidelines on how we can share our scientific findings with society in a more effective way. As he spoke on the distance between science and societal interests, I realized that, whereas society is more interested in hearing the bottom line from scientists' research (What does it mean? Why is it relevant? Why should we be paid for doing it?), we scientists often fail to communicate this to society, focusing more on the background knowledge than on the actual findings of our studies.

Finally, I would like to congratulate the organizing committee. I must say that it was one of the best scientific meetings I have attended. In addition to the high quality of work presented, the social activities (welcome reception, gala dinner, and offsite excursion) and facilities were also extremely enjoyable.



David Elliott received his PhD from the *Virginia Institute of Marine Science, College of William and Mary in 2010. He is an assistant research scientist at the *University of Maryland Center for Environmental Science, Horn Point Laboratory. His work focuses on the environmental determinants of variation in coastal mesozooplankton populations.**

As I write this, sitting more than 10 000 metres above the North Atlantic, it strikes me that as little as one week ago, the extent of my experience with ICES/PICES had been limited largely to the publications *ICES Journal of Marine Science*, *Progress in Oceanography*, and *ICES Zooplankton Methodology Manual* (pertinent to my specific expertise). Thus, while I was thrilled to have the opportunity to share my work and connect with fellow early career scientists at the Oceans of Change conference, I had little idea of what to expect. Happily, the entire experience was very enjoyable, from the initial welcome to the abundance of excellent science that was presented, to the gala dinner and departing words. Although I had been unable to sleep on my overnight flight to Europe, I found jet lag to be a triviality thanks to a consistently engaging scientific and social programme.

A line-up of excellent posters and talks depicted scientific works that compared favourably with anything I have seen at previous international conferences. In fact, about midway through the first full day, I found myself musing that a type of "natural selection" might be at work to explain such a preponderance of quality works. That is, perhaps limited funding in current economic settings has combined with an increase in the number of new scientists being produced to create an environment

where the science that we do must be top-notch and ever improving if we are to remain relevant. To me, it certainly seems a reasonable explanation for the wealth of good science that I was audience to during this last week. One thing is certain. The themes and topics that predominated at this gathering of early career ocean scientists, such as I saw this week, are by definition the ocean science of the future.

Chief among themes was an emphasis on scaling up; for example, from the level of the individual organism to the ecosystem or from regional to global scales. Such large-scale approaches to ocean science were advocated in light of the global nature of many environmental issues (e.g. accelerated climate change and eutrophication, ocean acidification, and overfishing). However, the consensus seemed to be that scaling up can and should be achieved without needless sacrifice of detail at smaller scales. Another major focus throughout the conference was on the importance of and approaches to communicating the relevance of our science to societal issues: in a sense, selling our science and advising society based on our best available research results, while at the same time being clear to communicate the level of uncertainty associated with advice. Above all, I saw that there was a sense of optimism in the face of the many challenges facing scientists during the coming generation. And why not? We have at our disposal an astounding and rapidly increasing array of new technologies for the acquisition and sharing of data, as well as for its analysis and eventual synthesis into globally relevant scientific research products.

Through these conference experiences, I have come to think that ICES/PICES occupy a very strategic position to help facilitate ocean scientists in addressing many of the problems of the future, including those mentioned above. I was impressed by the strong spirit of international and interdisciplinary cooperation at the conference and the importance afforded the role of science in serving societal needs. It was an honour to have been a part of the conference, and I look forward to future involvements with ICES/PICES.

Elizabeth Siddon is a PhD student at the University of Alaska Fairbanks, School of Fisheries and Ocean Sciences in Juneau, Alaska. She is interested in the effects of oceanographic variability on early life survival of marine fish and subsequent recruitment success of commercially important species. Her research focuses on both individual-based and community-level responses to environmental variability. She is interested in incorporating ecological knowledge into predictive modelling efforts to improve stock assessments.



“Thank you for that great talk”. This is the sentiment I took away from Oceans of Change. The quality of presentations continually impressed me as did the questions posed by my peers that fostered a broader view of individual research questions. The meeting has certainly set the bar in terms of conducting and presenting contemporary research as I look ahead to the next phase of my career.

In his concluding remarks, Adi Kellermann distilled a list of topics from the week’s presentations, many of which represented new directions of research since the first Early Career Scientist Conference in 2007. He, as well as I, was struck by the breadth of the talks throughout the week, with modelling, in some form or another, being omnipresent. This application of available time-series data was countered by several of the keynote speakers as well as the “New Tools and Views” session, which highlighted technologies that allow efficient sampling at both local and basin scales in order to detect changes in the marine environment.

I attended the conference to present a portion of my dissertation research, which focuses on the effects of climate variability on early life stages and recruitment success of marine fish. Listening to other talks throughout the week gave me a unique opportunity to see where my research fits in

among others' from around the world. I walked away rejuvenated and motivated to return home to the remainder of my dissertation (including a modelling study, of course!).

From the Opening Reception at the [Castell de Bellver](#) to the gala dinner at Son Termens, the Spanish island of Mallorca provided a scenic backdrop to an inspirational meeting. I feel fortunate to have connected with such an impressive group of young scientists, and I look forward to following their work and crossing paths again. I want to thank ICES/PICES for the opportunity to attend the conference and hope to see many of you at ICES Annual Science Conference in Bergen, Norway.



Robert Leaf is a post-doctoral scientist at the [Northeast Fisheries Science Center's Narragansett Laboratory](#) and is interested in the way that seasonal dynamics of temperature and productivity affect the recruitment dynamics of commercially important ground fish of the northeast continental shelf.

Although familiar with the work of both ICES and PICES through their many publications, I had never previously attended an ICES meeting. I was eager to attend this meeting in particular because of its unique format – an opportunity to meet and interact with a group of scientists with such similar education and professional experience. Of great value were the many opportunities to discuss life as a scientist with colleagues who were also at the crossroads of their careers: moving from student to professional. The quality of the science and scientific discourse carried the meeting, and I was not disappointed in this respect. The plenary sessions, seminars, and especially the talks by colleagues were very enlightening along with meeting so many international scientists, each bringing a different and unique perspective.

The conference took place in one of the most historically rich locations in the western hemisphere: The Balearic Islands have been a crossroads of culture for more than three millennia. The stark contrast of dry subtropical promontories dropping precipitously into the azure blue ocean provided the perfect backdrop to our experience.

I attended the conference to share the recent work that my supervisor Kevin Friedland and I had been working on. Primarily our work is concerned with understanding temporal or phenological dynamics of temperature and chlorophyll, and how these effect fish recruitment. Such temporal dynamics are determined, in part, by ecosystem conditions that can exhibit large intra- and interannual fluctuations. We hypothesize that interannual changes in primary production and temperature will have important consequences for species at higher trophic levels. We were excited to share the results of our work because the best science is the result of seeking criticism and input, and this was one of the first opportunities that we had to do this. I was not disappointed – the questions I received after my talk and the email correspondence that continued after the conference has helped to refine my understanding of phenology and also to be introduced to a wide range of people with experience in this field. It has been, and continues to be an incredibly enlightening experience.

I felt very fortunate to attend the plenary sessions of the meeting and felt that one talk in particular was very powerful. The rigour and quality of science was set very high on the first day when Akinori Takasuka presented his work on the mechanisms for population fluctuation in pelagic fish as a response to environmentally mediated growth. The talk was fascinating in that Takasuka very concisely and elegantly demonstrated a mechanism for why a pelagic prey species undergoes such pronounced changes in abundance. It is rare to see work that, though parsimonious, has such great explanatory power and relevance. This topic is relevant on many scales, not least of which is the recent rise in the concern about the importance of “forage fish” dynamics and their top-down controls by fishers. A very thought-provoking talk indeed.

Julie Rose, NOAA, highlighted the measures that her group is undertaking to understand how aqua-

culture technologies and methods may help to ameliorate anoxia in Long Island Sound. This fascinating talk resonated with me because of its multidisciplinary nature and technological innovation. Bringing scientific expertise to bear on these societal problems is admirable and necessary. Rose's presentation energized the audience and illustrated the utility of science for addressing real-world problems.

On the final evening, conference participants attended a gala dinner which provided a wonderful opportunity to discuss science, our lives in science, and our goals for future work. Beginning with drinks on the deck of a country manor overlooking pastoral inland Mallorca, the evening was filled with stimulating conversation and plans for future collaborations. As I reminisce from my office, I have more emails from new colleagues met just a few weeks ago, new ideas to pursue, and new research directions to investigate.



Left: Participants mingle at the conference welcome reception. Photo courtesy of Steve Barbeaux, NOAA. Right: Kirsten Redmond, University of Stavanger, talks about oil spills and real-time environmental monitoring with whole organisms. Photo courtesy of Natalia Martín, IMEDEA CSIC-UIB.



Left: Local hosts Beatriz Morales (IMEDEA CSIC-UIB) and Joaquin Tintoré Subirana (IMEDEA CSIC-UIB) speak with conference conveners Adi Kellerman (ICES) and Skip McKinnell (PICES). Right: Participants enjoy the Poster Session. , USA. Photos courtesy of Natalia Martín, IMEDEA CSIC-UIB.

Best Presentations

Impact of Change on Marine Ecosystems theme session: [Kristy Kroeker](#), *Ocean acidification affects recruitment and competition in benthic communities surrounding natural CO₂ vents.*

Human Interactions with the Marine Environment theme session: [Jameal Samhouri](#), *Risky business: linking land- and sea-based activities to risk in coastal ecosystems.*

New Tools and Views in a Changing Ocean theme session: [Robin Kodner](#), *Phytoplankton in a Changing World: What we can learn from Metanomics Technologies.*

Best Poster

[David Nicholson](#), *Dissolved gas tracers as new constraints for ecosystem-biogeochemistry models.*

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Flying south for the summer

AFWG meet in Copenhagen

ICES Arctic Fisheries Working Group (AFWG) met in Copenhagen between 20 and 26 April to discuss the assessment of fish stocks in the northeast Arctic region. This working group has been meeting annually for 53 years (with the exception of 1962–1964 and 1968), making it the longest running ICES working group still in existence. The first meeting took place in Bergen in 1959; since then, the participants have convened mainly in Denmark, with a scattering of meetings in Germany, Russia, Spain, Portugal, Russia, and Norway. At the time of the group's founding, cod and haddock were the main stocks under consideration. Today they remain important to the group's work, along with the other stocks that have been added through the years.



Bjarte Bogstad, Chair of ICES AFWG.

Unlike other ICES working groups, membership is less diverse in terms of nationalities. AFWG has always, naturally, been dominated by Norwegian and Russian experts, but the current group also includes participants from Canada (DFO), Germany (VTI), and Spain (IEO).

The main task for AFWG is to assess fish stocks in the Arctic, specifically cod, haddock, saithe, beaked and golden redfish, Greenland halibut, and capelin, as well as analysing the ecosystem conditions for the stocks. Their assessment area includes the Barents Sea and from the northern tip of Spitsbergen down along the Norwegian coast to approximately 62°N.

Not surprisingly, the issue of climate change is on the agenda, but when working group members are asked if they are seeing an influx of stocks from the warmer southern waters, the answer is no. A more prominent issue is the northward movement of stocks that are already there. AFWG Chair Bjarte Bogstad notes that the distribution of some of the stocks the group assesses has been moving farther north in recent years. This winter saw very little ice in the Arctic area, almost a record low, and this could be one reason that stocks are thriving: they simply have a bigger distribution area.

Although some stocks are struggling as a result of heavy exploitation in the past, for example redfish, which takes 10–15 years to recover, stocks of cod and haddock are doing well. Haddock may have reached its peak last year, but cod seems to be at a level not seen for at least 45 years. This Bogstad puts down to a combination of an efficient management plan and nature being kind.



The Northeast Arctic cod stock geographical distribution 2011.

He hastens to add that the name of their group can be misleading. They only look at stocks in the northeast Arctic, and the same conditions and stock levels do not necessarily apply throughout the Arctic.

The group is now facing a situation that is uncommon for an ICES assessment group. The success and size of the current cod stock has caused fishers and managers to wonder if there is really enough food to sustain all this cod. At the moment, the stock remains stable, but the memory of what happened 25 years ago, when cod (and other predator) stocks became

depleted and underweight because of the low number of prey stocks, persists. Still, Bogstad remains confident for now, “It doesn’t look like we are running into that situation at the moment but it is definitely something to think about. We also have to remember that cod are cannibalistic”. Looking at the food supply from the point of view of the predator is one of the practical applications of an ecosystem approach to management. “This has become a bit of buzzword and it’s often not clear what it really means, but in some instances we try to give it a practical meaning”.

Following the stock assessment and analysis of the various ecosystem factors, appropriate advice will be issued for the sustainable management of the stocks considered by the group. This advice is due to be released on 8 June. Find out more [here](#).

The oceanography and ecology of the Arctic in the context of climate change will play a focal part of the 2012 ICES Annual Science Conference. Read more [here](#).

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ICES takes stock

Investigating our role in ocean and coastal sustainability for Rio+20

How does ICES contribute and how could it contribute to the ocean-management issues that are on the Rio+20 agenda? The document [ICES Stocktaking of its Role and Capabilities in Ocean and Coastal Sustainability](#) considers the question, supports, and replies to diverse proposals outlined in a UN interagency report.



RIO+20
 United Nations
 Conference on
 Sustainable
 Development

Rio +20 takes place from 20 to 22 June.

The Intergovernmental Oceanographic Commission of UNESCO (IOC/UNESCO), in cooperation with the International Maritime Organization (IMO), the Food and Agriculture Organization of the United Nations (FAO), and the United Nations Development Programme (UNDP), has published the UN interagency report [A Blueprint For Ocean And Coastal Sustainability](#). The report analyses the current global challenges faced by ocean and coastal management, and assesses progress towards the multiple goals set through previous international efforts. Setting the context for the Rio+20 discussions, the report defines, within highlighted areas of priority, tangible tasks leading to greater ocean sustainability.

The [United Nations Conference on Sustainable Development](#) (UNCSD; also known as Rio+20) will take place in Brazil between 20 and 22 June 2012, and marks the 20th anniversary of the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, and the 10th anniversary of the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg.

ICES is proud to support this initiative, which will ensure that ocean and coastal management challenges are part of the outcome of the Rio+20 meeting, and that marine concerns are integrated with future sustainable development approaches.

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Fish and Ships

MARCOM+ and EMAR²RES highlight the relevance of marine and maritime research



The Fish and Ships conference took place in Bibliotheque Solvay, Brussels.

The Bibliotheque Solvay in Brussels provided the setting on 22 March for “Fish and Ships – Marine and Maritime Science Partnership in Europe – Achievements and Future Roadmap”, the concluding event for both MARCOM+ and EMAR²RES projects.

The event profiled the achievements of the two EU Seventh Framework Programme initiatives, which have been running for the past two years and presented their respective visions for future activities.

In her keynote address, Patricia Reilly (Member of Cabinet of Commissioner Maire Geoghegan Quinn, responsible for Marine and Maritime Research Strategy) highlighted the importance of meeting the requirements

of the [Marine Strategy Framework Directive](#) (MSFD), as well as the challenges of the upcoming [Horizon 2020 Programme](#).

Looking to the future of research cooperation, five key areas, in which collaboration between marine and maritime research is essential, were discussed.

The issue of underwater noise was addressed by Francesco DeLorenzo ([Fincantieri](#)), Eugene McKeown, ([Biospheric Engineering](#)), and Mario Felli ([National Research Council of Italy](#)), who led a session that looked at the optimization of sensor deployment for noise measurements in shallow waters, methodological advances in underwater noise investigation, and underwater noise regulatory framework.

Anders Jelmert ([Institute of Marine Research](#), Norway) spoke on Arctic shipping and how collaboration between marine and maritime research will promote an increased understanding of biosecurity risks, particularly with oil spills and alien species.

Arne Fredheim ([EATIP](#) and [SINTEF](#)) presented examples of where the bridging of marine and maritime research and knowledge will develop a more sustainable aquaculture industry.

Blue biotechnology links between the marine and maritime sectors were discussed by Laura Giuliano ([CIESM The Mediterranean Science Commission](#)).

Karl Strømsem ([European Ocean Energy Association](#)) presented the visionary horizon of European renewable ocean energy and how cooperation with marine industry, fisheries, and marine research can lead to new solutions that will provide Europe with energy and also improve its ocean environment.

The future: European Marine and Maritime Science and Technology Forum

Project coordinators Adi Kellerman (MARCOM+) and Willem Laros (EMAR²RES) used the conference platform to announce the future direction of the MARCOM+ and EMAR²RES projects: the establishment of the European Marine and Maritime Science and Technology Forum. For the past two years, the partner networks have worked hard to create this pan-European research and technology forum, which will comprise the following major existing scientific networks:

[Coastal and Marine Union](#)

[Waterborne Technology Platform](#)

[European Council for Maritime Applied Research and Development Association](#)

[European Aquaculture Technology and Innovation Platform](#)

[European Fisheries and Aquaculture Organization](#)

[European Global Ocean Observing System](#)

[International Council for the Exploration of the Sea](#)

[Marine Board of the European Science Foundation](#)

[European Network of Marine Research Institutes](#)

[The Mediterranean Science Commission](#)



The Forum has been further enhanced by the accession of the [European Ocean Energy Association](#) and the [European Fisheries Technology Platform](#).

Continuing the work of MARCOM+ and EMAR²RES, the Forum's core activity will be to guide the implementation of the European Strategy for Marine and Maritime Research and serve the two-way feedback needs of dialogue between marine science and maritime policy. The MARCOM+ vision, that of a marine and maritime science network providing a forum for dialogue between Europe's marine and maritime science organizations, is based on the premise that, no matter how effective and efficient individual science networks may be, their value is multiplied through the synergy that comes with cross-sector cooperation. The Forum has the task of creating and sustaining effective interactions with the broader stakeholders groups (member states, regional authorities, industry, and civil society). ICES has been asked to chair the Forum in its initial two-year phase (2012–2013). Future activities will be based on the agreed vision and the mission of the Forum.

MARCOM+ envisages further activities at the following marine/maritime related events in 2012:

- [ICES Annual Science Conference](#) (September, Bergen): a scheduled workshop to identify research priorities for marine aquaculture in the Northeast Atlantic.
- [Sea Tech Week](#) (October, Brest): a workshop to identify opportunities for cooperating with the merchant navy and using their ships as platform for ocean observation systems.
- [International Conference on Ocean Energy](#) (October, Dublin): a workshop to investigate synergies between offshore installations and aquaculture opportunities.

All "Fish and Ships" conference presentations, as well as updated information on the MARCOM+ initiative, can be found [here](#).

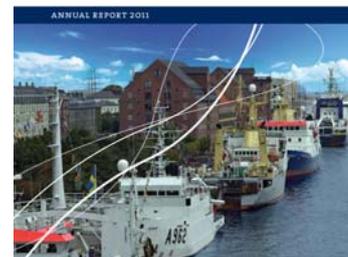


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ICES Publications far and wide

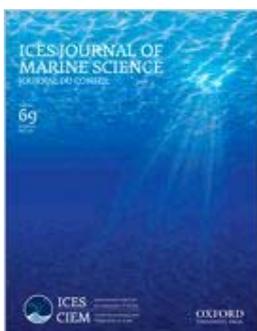
Striking new publications make their appearance

ICES Annual Report 2011 takes as its theme research vessels from ICES twenty Member Countries. The cover photograph shows five of the ten research vessels that gathered in Copenhagen harbour to celebrate ICES centenary during ICES Annual Science Conference in October 2002. *ICES Annual Report* reviews the activities of 2011 and includes a comprehensive ICES network directory. It can be viewed [here](#).



ICES Annual Report 2011.

A highlight of the current issue of *ICES Journal of Marine Science* is a paper entitled “Regional métier definition: a comparative investigation of statistical methods using a workflow applied to international otter trawl fisheries in the North Sea”, by N. Deporte, C. Ulrich, S. Mahévas, S. Demanèche, and F. Bastardie.



IJMS current issue.

The paper is a comparative and synthetic review of papers that attempt to classify fishing activities into métiers by various statistical analyses. It proposes a very inclusive workflow for the objective and consistent cross-EU definition of métiers that could be applied in the future to avoid the duplication of past effort. It is the first attempt at a regionally based, cross-national analysis of métiers. Clearly, the paper serves an urgent purpose within the context of the European Data Collection Framework (DCF) and the role that the DCF plays as the EU plans to move towards fleet-based management. It evaluates how well the concept of the DCF’s métier levels has performed so far and makes important recommendations for its reform, scheduled for 2013. This paper will

be used and referred to by anyone involved in data collection schemes in the EU across the national fisheries institutes.

Two *ICES Cooperative Research Reports* appeared recently. **CRR 311** “One hundred years of catch statistics for the Northeast Atlantic”, is authored by former ICES Secretariat staff members Hans Lassen and Eleanor Christiansen, with David Cross, and can be viewed online [here](#).

CRR 312 “Fishery applications of optical technologies” presents a brief overview of the optical properties of the ocean and describes available optical technologies, some of the issues that must be considered in their use, and practical applications. It can be viewed online [here](#).

ICES Techniques in Marine Environmental Sciences **No. 49** “Determination of alkylphenol metabolites in fish bile using solid-phase analytical derivatization (SPAD) and gas chromatography–mass spectrometry in electron ionization mode (GC–EI–MS)” can be viewed online [here](#).

Soon to be released are **TIMES No. 50** “Determination of polychlorinated dibenzo-*p*-dioxins, polychlorinated dibenzofurans, and dioxin-like polychlorinated biphenyls in biota and sediment”, and **TIMES No. 51** “Biological effects of contaminants: *Paracentrotus lividus* Sea-urchin Embryo Test (SET) with marine sediment elutriates”.

The following ICES Identification Leaflets for Diseases and Parasites of Fish and Shellfish have been updated. Go to the [Identification Leaflets web page](#), or use the direct links below:

IDL No. 7. *Pseudoterranova* larvae (“codworm”; Nematoda) in fish.

IDL No. 8. *Anisakis* larvae (“herringworm”; Nematoda) in fish.

IDL No. 19. Marteiliosis of oysters caused by *Marteilia refringens*.

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ICES Training Programme 2012

Places still available

ICES Training Programme is looking forward to another successful year in 2012. Initiated in 2009, the Training Programme has to date provided almost 400 participants from 30 countries with training and continues to build capacity both in and outside the ICES community.

All courses are taught by high-profile scientists and instructors at the top of their field, and participants can expect a high level of training.

New courses offered this year include “Communicating science and advice” and “How to lead an effective technical meeting”.

Although the number of applications has been high, a few places still remain. To find out more, please visit the [ICES Training Programme](#) webpage.



Participants from ICES training courses in 2011.

ICES Training Programme 2012

Introduction to Bayesian Inference in Fishery Science

11–15 June 2012

Instructors: Ray Hilborn and Samu Mäntyniemi

The registration deadline has passed but there are still available places. Read [here](#) for details.

Communicating Science and Advice

18–19 June 2012

Instructors: Martin Pastoors and Kristian Teleki

The registration deadline has passed but there are still available places. Read [here](#) for details.

How to Lead an Effective Technical Meeting

20 June 2012

Instructor: Jim Berkson

The registration deadline has passed but there are still available places. Read [here](#) for details.

Opening the box: Stock Assessment and Fisheries Advice for Stakeholders, NGOs, and Policy Makers

9–11 October 2012

Instructors: Martin Pastoors, Christopher Zimmermann, and Ciaran Kelly

Registration deadline 25 August 2012. Read [here](#) for details.

Stock Assessment (advanced)

15–19 October 2012

Instructors: Jan Jaap Poos and Richard Hillary

Registration deadline 17 August 2012. Read [here](#) for details.

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WGIPEM's first meeting

A broader view of ecosystem modelling

The first meeting of Working Group on Integrative, Physical–biological, and Ecosystem Modelling (WGIPEM) covered a wide field of topics, presenting cutting edge science and innovative ecosystem modelling tools. The meeting, held in March, attracted 50 participants, including global experts in the field of modelling.

Co-chair (with Miguel Bernal) Myron Peck feels that the meeting went well. “A new group’s first meeting is always an adventure. In this case, it took us about three days to find ourselves. The group mixes people having lots of ICES experience with people who have never worked together before. When we finally broke up into small groups, people started to see the things they have in common and realize what they wanted to work on. We identified four or five specific topics that will improve end-to-end models, as well as many other kinds of models”.

During the past twenty years, the coupling of biological and physical models has improved our understanding of the dynamics of marine species and the ecosystems in which they live. Some models, particularly three-dimensional, biophysical, individual-based models (IBMs), have been part of the ICES portfolio for a long time, particularly through ICES Working Group on Modelling of Physical/Biological Interactions (WGPBI).

Parallel with the development of IBMs has been the development, under the generic term “end-to-end” models, of a number of spatially explicit foodweb models, with diverse frameworks and emphases. Initially, this new generation of integrated modelling attracted the interest of the academic scientific community, but recently it has attracted marine resources managers and applied scientists. These coupled models are appealing because they integrate various parts of the ecosystem and can incorporate human and environmental drivers in a single framework.

ICES Science Committee (SCICOM) identified this area, which has developed largely outside the traditional ICES community, as a gap in its science portfolio. Working with members of the modelling network and academia, SCICOM invited WGPBI to evolve into a new group, one with a broader focus, from individual to ecosystems modelling. This challenge was well received by WGPBI.

“It’s time to take it to the next level, which is end-to-end modelling”, says Peck. This means coupling individual models produced by groups such as WGPBI and inserting the human element at the top, thus creating virtual worlds.

For Peck, trying to combine models and identify their utility at answering questions about fish stocks and assessment requires a common language. Creating such an environment of mutual



Members of ICES Working Group on Integrative, Physical–biological, and Ecosystem Modelling (WGIPEM).

understanding, where many different aspects of modelling can be discussed, will be one of the group's main tests.

Another challenge according to Peck is arranging to keep the far-flung group meeting regularly. "The group ties into a global community, with experts from around the world. Now that we've gotten these people in the same room, how do we do it next year and the year after that? We have to make sure that they can continue to meet, because each member offers expertise that is quite rare".

Communicating with other ICES working groups will be a priority. "Our task is to make sure that the other groups understand what our models can and can't do". As an example of intergroup cooperation, Peck cites ICES Working Group on Operational Oceanographic Products for Fisheries and Environment (WGOOFE), which established a web portal that acts as a two-way link between the producers and users of oceanographic data products, and its planned association with the Herring Assessment Working Group. For Peck and Bernal, building similar bridges between the WGIPEM and fisheries assessment working groups is an exciting next step.

According to SCICOM Chair Manuel Barange, "the meeting's high turnout demonstrates that the group was created at the right moment and that ICES is the right structure to host such a group".

The international experts who attended WGIPEM's first meeting and the topics of their presentations include Beth Fulton and Olivier Thebault ([Australian Commonwealth Scientific and Industrial Research Organisation](#), "Integrating human effects into complex bioeconomic models of ecosystems"), Enrique Curchitser ([The Rutgers University](#), "Utilizing future global climate model predictions"), and Kenny Rose ([Louisiana State University](#), "Adding complex animal behaviour within ecosystem models").

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EcoSystemData 3.0

Introducing the enhanced ICES data portal

ICES Data Centre has just released an improved version of EcoSystemData. Intended for use by both the ICES community and the wider public, EcoSystemData provides an online catalogue of ICES datasets.

EcoSystemData 3.0 displays an overview of the data by taxonomic category, parameter, and, new for this version, area (OSPAR regions, HELCOM sub-basins, and ICES Areas). Through the summary tables, a link to a map is provided that enables the user to display and explore the datasets with geographical support. The map now has three view types: density/value grid, station/haul, and pie chart.



EcoSystemData 3.0.

Users can download the data as a plain text file or shapefile to load directly onto their geographical software. The Historical Plankton dataset (1902–1912) has also been added to this new version.

EcoSystemData has been built on the open source structures [GeoServer](#) and [OpenLayers](#) and uses standards adopted by the user community for the dissemination of ICES spatial datasets. The facility also includes web services that enable the user to download and explore the datasets with their own software.

EcoSystemData 3.0 can be accessed [here](#).

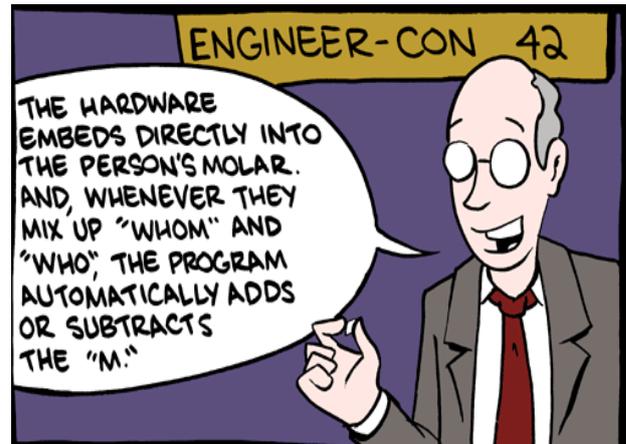
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Grammar Slammer

Bill Anthony says, servant or superman? The joke's on me.

Ah, youth. With what amused forbearance must we recall the ideas and prejudices of our early years. Why it seems like only yesterday that I was heard to utter, "Who needs English? I'm never going to England". That was just shortly before I was heard to exclaim "me fail english, that's impossible".

But what a change of heart awaited me when I discovered the power that an editor wields: the authority to transport a comma from here to there and render it immovable; the magical ability to make a hyphen appear or disappear. I admit that my career choice was propelled by the will to power. The thrill of deciding over letters of the alphabet (and occasionally numerals!) was dizzying. And the wild parties were an added bonus.



The latest mobile app for grammar. Picture courtesy of Zach Weinersmith www.smbc-comics.com.

In a true sense, however, editors and other language crackerjacks are merely servants. We help our friends express themselves and be understood. We guide scientists in harnessing the power of written English to report on major and minor areas of research, for example answering the question, if swimming is the best exercise, why are whales so fat?

We use the established rules of grammar, but we also study the ways that the English language is actually used. And that points up the two modes of being a language wonk: prescriptivist and descriptivist. **Prescriptivists** believe that rules should determine usage. **Descriptivists** posit that usage, based on a continually changing language, should determine the rules. Stereotypically, prescriptivists are crabby, whereas descriptivists smell faintly of patchouli. And other herbs.

This modest column tends to be prescriptivist, because in scientific writing we are less interested in personal or literary expression. (As an outlet for your creative expression, let me recommend interpretive dance.) We have a low tolerance for ambiguity. Clarity results from the repetition of common currencies. For example, ratios are expressed as "1:1", not "one-to-one" or "1-to-1". As an organization, ICES establishes common spellings that harmonize reports written by more than 1600 scientists from ICES twenty Member Countries: *bycatch* not *by-catch* or *by catch*.

So, after waxing eloquent about philosophy and morality, let me give you something in a prescriptivist mood that you can really use: the difference between *who* and *whom*. It's so simple that I could probably have waxed at even greater intolerable lengths.

To determine which to use, restate the sentence substituting *he/she* or *her/him* for *who/whom*. If the sentence demands *he/she*, use *who/whoever*. If the sentence demands *her/him*, use *whom/whomever*.

In the sentence, "*Who/Whom* do you like best, Strawberry Alarm Clock, Chumbawamba, or Sloppy Seconds*?", rephrase the question as a statement, then substitute *he/she* or *her/him* for *who/whom*. The answer is "you do like *her/him*", not *he/she*. Therefore, use *whom*: "*Whom* do you like best?"

How about this one? "We want to know on *who/whom* the prank was pulled". Turn the phrase around and test with *he/she* or *her/him*, and you come up with "the prank was pulled on *her/him*. In other

words, *whom*. Easy, huh?

If you want to do it the hard way, remember that *who* is always used as the subject of the verb, and *whom* is never used as the subject of a verb. It is the object form of a pronoun.

I've never regretted my career choice, but there's one editor joke I never really understood. What's the difference between Superman and an editor? Superman doesn't think he's an editor. I don't get it.

*Strawberry Alarm Clock is the name of a psychedelic band. Chumbawamba and Sloppy Seconds are the names of punk bands.

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