

Challenger Wave



Monthly newsletter of the Challenger Society for Marine Science (CSMS)

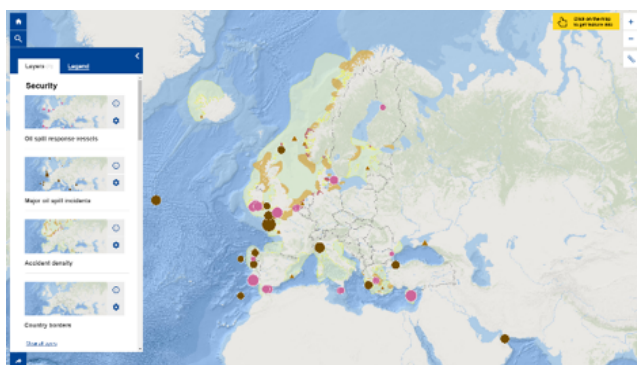
NEWS

New release of the European Atlas of the Seas

EMODnet announces a new version of the [European Atlas of the Seas](http://www.european-atlas-of-the-seas.eu) is now available. The Atlas provides information about Europe's marine environment and how we use it. With new features and visuals, it enables citizens to explore, collate and create their own marine maps. Currently available in 4 languages (EN, FR, DE & ET), the Atlas will soon be available in all official languages of the European Union.



European
Atlas
of the
Seas



An enriched catalogue with more than 120 additional map layers is put at your disposal thanks to its data providers; primarily, the European Commission and its agencies (i.e. [EEA](http://www.eea.europa.eu), [Eurostat](http://ec.europa.eu/eurostat), ...), as well as [EMODnet](http://www.emodnet.eu) which provided around 80 new maps.

Since September 2017, the EMODnet Secretariat has taken over the management of the Atlas with a mission to further expand the range of services

and features and improve the interface, functionality and content. The Secretariat is now also responsible for actively promoting the Atlas and keeping users informed about new maps and features.

The Atlas aims to raise awareness of Europe's seas and coasts in the context of the EU's integrated maritime policy. It offers an ocean of information in a user-friendly way about topics such as nature, tourism, security, energy, passenger transport, sea bottom, sea level rise, fish consumption, and much, much more! It can be used for public interest, as an educational tool, for research purposes, or by professionals to enhance their knowledge or improve their products and services.

With the new release, users are now able to explore, collate and create their own maps. They can print, share and embed them in articles and presentations. The first wave of communication activities about the Atlas starts this week with the "Map of the week". Each week, we will put the spotlight on a new map worth exploring. Take a moment to tune in and enhance your marine knowledge. The Atlas is definitely worth a visit at <http://www.european-atlas-of-the-seas.eu> or Twitter: <https://twitter.com/EuropeAtlasSeas>.

New Executive Officer for the IMBeR International Project Office

The IMBeR International Project Office is very pleased to introduce John Claydon who has joined IMBeR as its Executive Officer in Bergen, Norway. John is a marine ecologist, whose research has largely focused on tropical marine systems. He comes to IMBeR direct from the Turks and Caicos Islands where he was the Director of the governmental Department of Environment and Coastal Resources. He has lived and worked all over the world, where he has been involved in research, teaching, management, policy, and governance.



We are thrilled to welcome him into the IMBeR team. His broad, international experience seems like a great fit for IMBeR and we look forward to working with him.

From HMS Challenger to Argo and beyond.

On the 21st November 2018, a one day meeting focused on how our ability to collect, process, interpret and use temperature/salinity profile data has developed over 150 years, will be held at the National Oceanography Centre, Southampton. The meeting is co-sponsored by the History Special Interest Groups of the Royal Met. Soc. and the Challenger Society and has commercial sponsorship from OSIL (<http://osil.com/>) who produce and distribute standard seawater. It will focus on how our ability to collect ocean temperature and salinity profiles has developed from the era of the Challenger Expedition (1870s) to the present day when the Argo array of profiling floats now provides global coverage. It will also highlight the products derived from these data and will look towards future developments. For more details, see the Calendar section below.

VIEWS

National Physical Laboratory hosts a most successful 61st MMF

The National Physical Laboratory (NPL), Teddington, UK, hosted the 61st edition of the one day Marine Measurement Forum (MMF)

which brought together a strong turnout of 67 delegates from industry, academia and professional bodies from across the UK, as well as many international attendees from countries such as Poland, Norway and Canada.

Thirteen attendees presented to the forum, grouped into three sessions, each of which was themed to a particular topic. This provided a wonderful opportunity for some of the presenters to refer back to other presentations, emphasising the benefits in bringing marine measurement professionals together in a forum such as the MMF. Presentation topics included hydrophones (both deployment methods and characteristics), surveying in the oceans and coastal regions, the use of satellite data and the critical importance of accuracy, and even unexploded ordinance and the importance of using the correct techniques to search for these in proposed renewable development sites. The day concluded with a tour of NPL's open water calibration tanks and the Acoustic Pressure Vessel.



Nick Crawford, a Research scientist in NPL's Ultrasound and Underwater Acoustics group, who chaired the meeting, commented "The MMF is such a fantastic opportunity to bring so many people from the field of marine measurement together and I'm very grateful to all those who have attended, presented, and helped in the organisation and delivery of such a great day. Feedback from delegates has been very positive with the presenters, attendees, and exhibitors all relishing the opportunity to connect with fellow industry professionals and visit NPL open water calibration tanks and the Acoustic pressure vessel, the whole day was a great success."

The next MMF (#62) will be hosted by Fugro at their Wallingford headquarters in October 2018. Further details will be announced in due course. Additional information on the MMF series and the opportunity to register for news announcements can be found at www.mmf-uk.org.

Ocean Best Practices - Practitioners - knowledge exchange

When you get ready to take your sensor to sea in a ship or on a float, do you ever review common Best Practices or standard operating protocols in advance to see what others have done and why? Where would you even go to look for a comprehensive source of Best Practices? Of course, if you have made the same measurements for years, then maybe you are the source of the Best Practice. How do we bring together all sources of Best Practices in support of the observing community?

But first, let's step back a minute and ask what is a "Best" Practice. Many experts have practices, but don't know if they are "best". Some standard operating procedures, manuals and guides are Best Practices. So, what is a Best Practice? At the International Workshop on Ocean Observing Best Practices held in Paris, November 2017, a Best Practice was defined as:

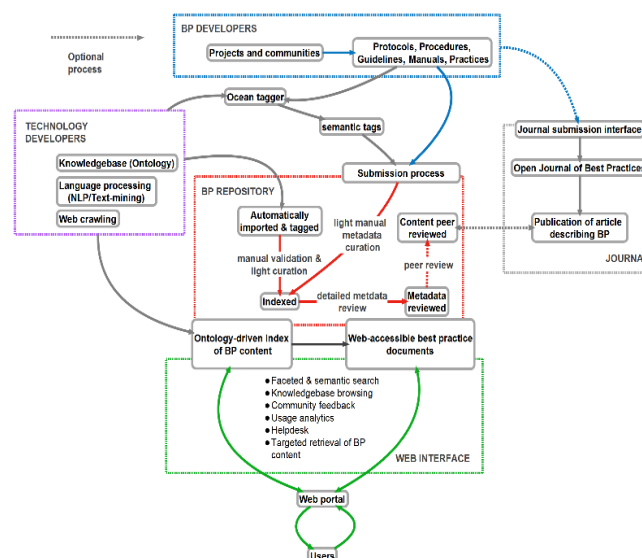
- A community Best Practice is a methodology that has repeatedly produced superior results relative to other methodologies with the same objective.
- To be fully elevated to a Best Practice, a promising method will have been adopted and employed by multiple organizations.

Ocean observing systems rely on robust and stable instruments integrated into equally robust platform and information infrastructure. The Best Practices (BP) associated with observing systems cover all elements of the end-to-end process ranging from observatory design and sensor handling to the deposition of quality data and documents in archives. Despite the need, best practice documentation is still fragmented, and its impact is difficult to sustain over time.

To address the fragmentation challenge, an international initiative has been created to provide the ocean observing community with a sustainable repository of ocean observing best practices to make them available for training new oceanographers and engineers, to provide references for experts, to ensure inter-

comparability across observations and encourage marine technology transfer.

The Best Practices Working Group (BPWG) collaboration (<https://www.atlantis-h2020.eu/project-information/best-practices/>) is addressing the challenge of drawing together a range of methodological documents endorsed by communities of ocean observing practitioners. The diagram below, shows the flow process for the Ocean Best Practices System (OBP-S). The flow works as follows: BP documents created by expert groups, agencies, or other stakeholders are deposited into the hub of the Ocean Best Practices System (the IODE OceanBestPractices Repository <https://www.oceanbestpractices.net/>) and a DOI is allocated. Within the repository, best practices with standardized metadata and full text semantic tagging using environmental/ocean ontologies will also include the indication of the level of peer review and links to relevant datasets where provided. Repository metrics provide creators with BP usage statistics, particularly numbers of downloads.



Process flow for Ocean Best Practices enhancement and archiving

Templates for Best Practice Documents in three focus areas have been defined and beta tested to encourage uniformity of submission (working eventually to automatic ingest).

Discovery of BP content will be through a new web-based User Interface offering greater discoverability, where user requests (e.g. "Retrieve all BPs that are about measuring oxygen in coastal water") will be converted into

semantic queries using natural language processes.

Additionally through OBP-S, a new *Frontiers in Marine Science, Research Topic: Best Practices in Ocean Observing*, has been initiated, which will become a place of commentary and dialogue. Peer review of best practice articles is a means of promoting community adoption and providing increased visibility of methodologies. It also has significant benefits for those in universities and elsewhere that use number and quality of publications as a metric for advancement.



Introducing new ideas is a first step in creating a best practice. Engineers attaching a GoPro to visualize glider underwater operations

We are inviting ocean observing community members and others to make their BP more visible and discoverable, by contributing their Best Practices to the [OceanBestPractices Repository](https://oceanbestpractices.org/). For further information, please email us at: obpcommunity@oceanbestpractices.org.

[Adapted from an article in IEEE *OES Beacon*, March 2018, pp.31-34]. - **Pauline Simpson**, IODE OceanBestPractices Project Manager (psimpson@reefresearch.org)

SALTS

No news from sea this month I'm afraid

www.challenger-society.org

July 2018

I know that this is a favourite section for many readers, where we get the inside information about life at sea, its thrills and spills. So please the next time you are at sea or carrying out any fieldwork, please remember that a simple paragraph or two will get you published here. – Ed

CALENDAR

10th-13th September 2018: 18th Biennial Conference of the Challenger Society

Newcastle upon Tyne, UK

Registration is now open for the 18th Biennial Conference of the Challenger Society for Marine Science: conferences.ncl.ac.uk/challenger-2018/registration/. For a list of available sessions, to submit an abstract or check for details and news please visit our website conferences.ncl.ac.uk/challenger-2018/. We look forward to seeing you in Newcastle upon Tyne in September - **Dr Alan Jamieson**, Challenger Conference 2018: Organising committee chair.



The biennial Challenger conference attracts over 400 leading UK marine scientists and science managers. As well as showcasing cutting edge marine science and technology, the conference is noted for its training of young scientists and networking events, including a public lecture by an eminent authority on relevant societal marine issues.

❖ 2018 Mini-Expo

This year we are privileged to welcome as special keynote speaker, His Serene Highness Albert II, Sovereign Prince of Monaco - *The Prince Albert II of Monaco Foundation* who will be present on the final day.



The mini-expo will run over 3 days (10th, 11th and 13th) The conference normally rotates between the major UK marine research establishments, but 2018 sees the first visit to the University of Newcastle. The Venue is impressive and the exhibition space for sponsors is large, and co-located with the refreshments and close to posters and lecture rooms with good access for exhibitors.

The society is now the adhering body for the Scientific Committee on Oceanic Research (SCOR) providing yet more exposure for participating companies.

Sponsorship packages will give local, national and international companies the chance to support UK marine scientific research and the training of young marine scientists, whilst a targeted exhibition and careers fair will also enable companies to self promote and recruit new staff. Spaces will be limited so please book early.

Take this early opportunity to help make the UK's premier marine science conference in 2018 the most successful ever.

The range of sponsorship opportunities are listed below. The conference organiser is Dr Alan Jamieson School of Natural and Environmental Sciences and commercial exhibition organiser Terry Sloane will be happy to discuss any requirements that you may have.

Terry Sloane by email: terry@planet-ocean.co.uk or phone 01276 427 971

<http://conferences.ncl.ac.uk/challenger-2018/>

www.challenger-society.org.uk

❖ Sponsorship Packages

Individual sponsorship opportunities:

Sponsors of individual elements of the event will be acknowledged in the lecture theatres, abstract book, on the conference website and on posters. Those sponsors with manned exhibition stands are able to upgrade to the **Gold package**, where they will have the opportunity to have a 5 minute speaking slot at the start of the plenary sessions.

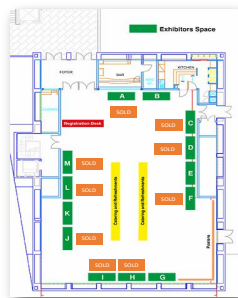
• Manned exhibition stand 3m x 2m	£600
• "Gold Upgrade" (only five slots available)	£100
• Co-sponsorship of conference dinner	£750
• Co-sponsorship of ice breaker reception	£700
• Co-sponsorship of poster session	£500
• Co-Sponsorship of public lecture	£500
• Sponsorship of keynote speaker	£550
• Exhibition banner unmanned	£200
• Brochure in delegates bag	£200
• ¼ Page advert in conference handbook	£150
• ½ Page advert in conference handbook	£300
• One A4 leaflet in delegates bag	£100

Corporate society members benefit from a 15% discount

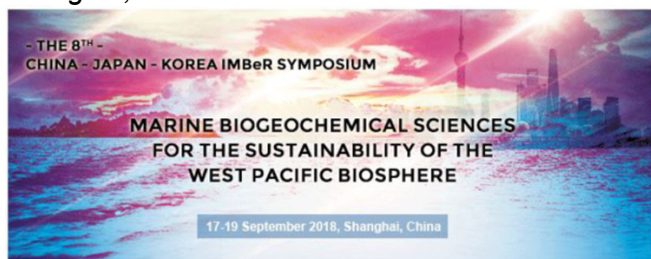


The refreshments, and posters will be held in the Lindisfarne Room.

Stand positions are taken on a first come first served basis, preference will be accommodated if possible.



17th -19th September 2018: 8th China - Japan - Korea IMBeR Symposium Shanghai, China



**** Abstract submission deadline extended to 15 August ****

The 8th China-Japan-Korea IMBeR Symposium will address the impact of climate change and anthropogenic forcing on physical processes and biogeochemical cycles, ecosystem structure and functions, and fisheries in the West Pacific region, and how these complex interactions, in turn, influence marine and human systems.

Topics include:

- Advances in observation and modelling of physical and biogeochemical processes in the West Pacific region
- The response of marine ecosystems to natural and anthropogenic forcing: past, present and future
- Responses of society to global change in marine systems: ways forward
- Training course

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More info: <http://www.imber.info/en/events/china-japan-korea-imber-symposia/cjk8>

17th-21st September 2018: 53rd European Marine Biology Symposium Ostend, Belgium

The Flanders Marine Institute (VLIZ) and LifeWatch Belgium are organizing the 53rd edition of the European Marine Biology Symposium (EMBS53). The EMBS53 Organizing and Scientific Committee are pleased to welcome your abstract submissions for oral papers and scientific posters. We particularly welcome papers on 'Marine Biology from a Historical Perspective', 'Science in a Modern Era', 'Marine and Coastal Citizen Science' and 'Science in the North Sea'.

Please note that no extensions to the deadline will be granted and that presenting authors are responsible for registration, travel and accommodation costs. Presenters who are unable to attend should arrange for another qualified individual to present the paper or poster in question (with notification to the Organizing Committee). All abstract submissions should be submitted via our abstract submission form <http://www.embs53.org/submit>.

We are glad to announce that the Journal of the Marine Biological Association (JMBA) kindly offers to publishing a special issue of the EMBS53 conference (scheduled for October 2019). Everyone who contributes a poster or an oral presentation at the EMBS53 is invited to submit a manuscript by 7th December, 2018. All manuscripts will go through a peer-review process.

Important dates:

-Deadline late registration: 31st August 2018

For more information: <http://www.embs53.org/>.

- **Leen Vandepitte**, on behalf of the EMBS53 Organizing Committee.

18th-20th September 2018: Connecting glider data flow in Europe and beyond - an international conference on glider data management

Genova, Italy

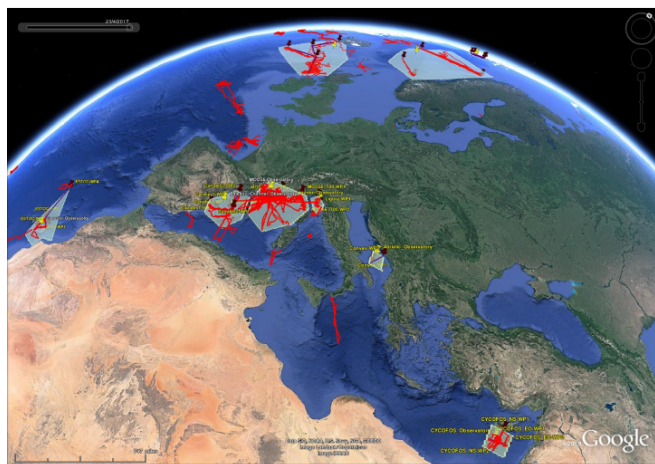
Supported by EMODnet Physics, EMODnet Data Ingestion and EuroGOOS, we are pleased to announce that the registration for the glider data management meeting is [open](#). The conference will be held in the auditorium of the [Acquario di](#)

Genova.

« Connecting glider data flows in Europe and beyond »

Genova – 18-20/09/2018

An international conference on glider data management



The meeting will bring together communities working on marine glider data collection and data management, providing a forum for exchanging ideas, experiences, and building a framework for collaboration at both the European and Global scales.

The ocean glider network is part of the GOOS (Global Ocean Observing System) with the ocean scale long-term programme sponsored by the Intergovernmental Oceanographic Commission of UNESCO, UNEP and the International Council for Science. Over coming years, the goal is for the glider network to become a significant sustained component of the GOOS; contributing to the Ocean Observing effort for science, the monitoring of ocean health, and operational data services.

From this perspective, the network needs to organize itself around the application of internationally agreed data management best practices including:

- Data stewardship
- Data quality standards
- Operation and process
- FAIR principles
- Common tools to promote and foster good data management and data quality
- Key performance indicators for the network

The meeting will address these topics aiming to deliver operational guidelines for a practical and open implementation, independent of glider type, and within the integration capacity of each

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partner. For more information about the meeting, <https://www.ego-network.org/dokuwiki/doku.php?id=public:egodmmeeting:september2018>, or contact us at webmaster@ego-network.org.

27th-28th September 2018: Celebrating 50 years since the start of the Deep-Sea Drilling Project.

London, UK

To be held at the Natural History Museum, further details and registration are available at <https://tinyurl.com/ukioldp50NHM>

15th-19th October 2018: 4th CLIOTOP Symposium, Oceanic biodiversity under climate change

Keelung, Taiwan



The symposium will:

- Evaluate the responses to and impacts of climate variability and change on marine top predator species and their food chains, and dependent socio-economic and management systems over short to longer time scales.
- Identify risk assessment and evaluation tools that incorporate climate variability in order to improve sustainable resource management (conservation, fisheries, spatial planning, etc.).
- Develop and evaluate adaptation and mitigation strategies at the single species, multi-species and ecosystem scales that address the cumulative nature of pressures (e.g. climate change, tourism, noise, pollution, fishing) placed on top predators and the ecosystems that support them.

For registration and more info about the Symposium: <http://www.imber.info/events/imber-working-groups-program-events/4th-cliotop-symposium>

19th-21st October 2018: 6th Arctic Circle assembly

Reykjavik, Iceland

Since its founding in 2013, the Arctic Circle has become the largest annual global gathering on the Arctic. The Arctic Circle is an open,

democratic forum where anyone with something to say can stand up to ask a world leader a question during plenary sessions, bring innovative ideas to interactive workshops, or organize sessions in their own name -- the platform is yours.



The Arctic Circle Secretariat has received over 100 proposals for Breakout Sessions at the forthcoming 2018 Arctic Circle Assembly. Pre-confirmed speakers represent governments, indigenous associations, businesses, scientific institutions, environmental organizations and other Arctic partners.

The speakers come from Asia, Europe, the Americas, and all the Arctic states, including the USA, Russia and the major economies of the world. Here are some examples of session topics:

- Satellite Communication Initiatives and Arctic Space Programmes
- Paving the Arctic Silk Road
- Shipping & Business in an Interconnected North
- Gender and Diversity in Arctic Leadership
- Engaging Arctic Youth in Biodiversity
- Polar Law: The Rights Of Indigenous Peoples
- Sustainable Arctic Development: Arts, Culture and Creative industries
- Minimising the Footprint of Arctic Research
- Best Practice for Responsible Arctic Tourism
- The Future of the Arctic Council

The 2018 Arctic Circle Assembly is fast approaching. Register today, and make sure to book your flight and hotel in time: Reykjavík is often fully booked months in advance. For more information, please visit ArcticCircle.org or contact us at Secretariat@ArcticCircle.org. We hope to see you in Reykjavík this fall.

31st October-2nd November 2018: MASTS 8th Annual Science Meeting 2018, "Challenges and innovative solutions for sustainable seas" Glasgow, UK

Join us !, now the largest gathering of marine scientists in the UK, this cross-disciplinary meeting will examine the modern challenges that face our marine waters, and identify ways and means to conserve and sustainably use the oceans, seas and marine resources for sustainable development. The MASTS ASM is an inclusive event and we encourage all members of the Marine Science community to attend, whether you are based in Scotland, the UK or further afield. Everyone is welcome, so please circulate this notice widely.

This cross-disciplinary meeting brings together members of the marine science community, with the aim of promoting and communicating research excellence and forging new scientific collaborations. The cross-disciplinary nature of the event as well as the high calibre of the selected talks means that scientists can broaden their knowledge in marine science as well as benefit from expertise and ideas gained in a range of fields other than their own.

Abstracts for talks and/or e-posters to the 2018 MASTS Annual Science Meeting should be submitted before **16:00 on Friday 27th July** to masts@st-andrews.ac.uk using the [abstract template document](#).

Abstracts can be submitted to one of the following areas:

- General Science Session
- Multiple stressors
- Microplastics and marine litter
- Increasing resilience to natural hazards
- The changing Arctic Ocean: identifying and quantifying the Arctic response to climate change
- Understanding the Influence of Man-made structures in the Ecosystem - progressing the science

For more details about these sessions and to submit an abstract please visit – <http://www.masts.ac.uk/annual-science-meeting/2018-abstract-submission/>

Science presentations and e-poster sessions will take place on the first two days, together with opportunities to network. On the third day, the

venue will host a number of meetings and workshops. If you would like to host a workshop or side meeting please contact masts@st-andrews.ac.uk for details

If you would like to exhibit at the event, or showcase a piece of equipment please contact masts@st-andrews.ac.uk for details. For more general details visit <http://www.masts.ac.uk/annual-science-meeting/> or contact masts@st-andrews.ac.uk. Early bird registration for the event opened on Monday 2nd July.

5th-7th November 2018: International Conference on Marine Data and Information Systems
Barcelona, Spain



13th-15th November 2018: Marine Autonomy and Technology Showcase 2018
Southampton, UK

MATS Abstracts Submission Opens

We are seeking submissions under the following themes,

- Current Applications
- Aspirational applications
- Enabling technology
- Collaborative technologies
- Security of assets.



Full details of these themes can be found by [clicking here](#). Presentations including questions will be 20 minutes in length and technical in nature. The technical review committee will not accept any presentations that are overtly sales pitches. For further information please email NOCevents@noc.ac.uk

19th-23rd November 2018: MICRO2018 - All you ever wanted to know about "Microplastics" in five days.
Arrecife, Lanzarote, Spain

The title for this year's conference is **"Fate and Impact of Microplastics: Knowledge, Actions and Solutions"** and the main topics include:

Marine Ecosystems
Freshwater bodies
From Macro to Nano
Social change and behaviour
Human health
Policy

[so find out more and register for the event.](#)

21st November 2018: From HMS Challenger to Argo and beyond.

NOC, Southampton, UK

A one day meeting focused on how our ability to collect, process, interpret and use temperature/salinity profile data has developed over 150 years. The meeting is co-sponsored by the History Special Interest Groups of the Royal Met. Soc. and the Challenger Society and has commercial sponsorship from OSIL (<http://osil.com/>) who produce and distribute standard seawater. It will focus on how our ability to collect ocean temperature and salinity profiles has developed from the era of the Challenger Expedition (1870s) to the present day when the Argo array of profiling floats now provides global coverage. It will also highlight the products derived from these data and will look towards future developments.

Registration and details of the meeting programme are now available at <https://conference.noc.ac.uk/hms-challenger-argo-and-beyond>. Student bursaries to cover UK travel costs and registration fees are available for this meeting.

21st-23rd November 2018: 1st edition of the EOOS Conference

Brussels, Belgium

The first edition of the EOOS Conference will bring together and connect diverse ocean observing stakeholder communities to discuss the future of a European Ocean Observing System (EOOS). This is an opportunity to showcase your work, network with stakeholders across Europe and help shape EOOS.



Stakeholders' co-design of the strategy and implementation for EOOS is key to achieving a fully integrated and sustained ocean observing in Europe. The EOOS strategy and implementation plan drafts were open for stakeholder consultation. The results and the finalized documents will be presented at the EOOS conference '18 in Brussels: [register now](#) !

25th-27th February 2019: Oi Americas 2019

San Diego, California, USA

The newly rebranded Oi Americas is returning to San Diego after a successful first event. Come and celebrate 50 years of delivering world leading ocean technology and marine science events. Now with brand new features for 2019.



Key reasons to visit us in San Diego in 2019:

- Discover the latest innovations and tech from 200 exhibitors (+50 than 2017).
- Now reaching all of the Americas, with more attendees from Mexico, Brazil, Chile, Colombia, Argentina, the Caribbean and others.
- Learn from our richer technical conference programme and strategic content from the new "Ocean Futures Forum".
- Reach the right contacts with improved networking tools and more Ocean Social events.

For more information, visit:

www.oceanologyinternationalamericas.com

17th – 21st June 2019: IMBER 2nd Open Science Conference

Brest, France




The CSMS email address is info@challenger-society.org.uk. Contributions for next month's edition of Challenger Wave should be sent to: john@vectisenvironmental.com by the 31st July.

We continue to send printed copies of Challenger Wave to members of the CSMS without email addresses. However it is in everybody's interest to send your email address to Jennifer Jones, jxj@noc.ac.uk, as soon as possible

JOBS

There are jobs on the IMBER web site

<http://www.imber.info>



Integrated Marine Biosphere Research

Jobs and other opportunities

[Applied Ocean Sciences \(AOS\) Master of Science, University of Cape Town, South Africa. International students apply by 30 September, South African students by 31 October](#)

[Postdoc: Molecular biogeochemistry of dissolved organic phosphorus production, composition, and bioavailability. Applications considered from 1 July](#)

[ResponSEable project ocean literacy webinars on the effects of humans on the ocean](#)

[Postdoc: Life cycle analysis \(LCA\) to improve nutrition sensitive aquaculture, Harvard University, Boston, MA, USA](#)

[Visit the IMBeR Website](#)

imber@imr.no