The European Commission hosted the very first EU Oceans Day at the COP23 on 10 November 2017 in Bonn, Germany. The objective of the event was to further increase the visibility of the ocean in the climate change debate; be a platform to inform about relevant ongoing and future EU policies and activities; and to strengthen the connection with the international oceans and climate community. The day consisted of five panels with a number of high-level speakers including European Commissioner for Environment, Maritime Affairs and Fisheries, Karmenu Vella, and Fijian ministers for Fisheries and Forests, Semi Koroilavesau, and for Economy, Public Enterprises, Civil Service and Communications, Aiyaz Sayed-Khaiyum.

The Fijian Presidency of the COP had made oceans a priority by launching the Ocean Pathway Partnership that takes stock of ocean-climate activities and networks and promotes further coordination and cooperation to advance the implementation of SDG 14. The EU Oceans Day was organised back to back with the Ocean Action Day and complemented the many and diverse activities around climate and oceans in the Global Climate Action Agenda in Bonn. It follows a series of major ocean-related events 2017, including the World Ocean Summit in Bali, the UN Ocean Conference in New York, and the Our Ocean Conference in Malta and is at of a process of which upcoming milestones are the Our Ocean Conference Indonesia in 2018, the publication of the IPCC Special Report on climate change, oceans and the cryosphere in 2019 and the UN ocean conference in Palau in 2020.

OPENING - OCEAN GOVERNANCE AND CLIMATE ACTION

The opening session, organised by the Directorate-General Maritime Affairs and Fisheries of the European Commission and moderated by Biliana Cicin-Sain, President of the Global Ocean Forum, brought to the fore that climate change is one of the most important pressures on the ocean requiring urgent and coordinated action. Against the background of mounting evidence and streams of action Tiago Pitta de Cunha pointed out that 2017 has not only been the year of the ocean, but also the year of truth. The relationship between climate and oceans has shifted to one from David and Goliath to Goliath and Goliath (Heike Imhoff, German Ministry Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety). The warming of the ocean, sea-level rise, loss of oxygen, and acidification has detrimental effects on marine ecosystems and their services as well as on ocean communities. Human-made pressures, such as eutrophication, overfishing, noise, pollution and habitat destruction make it difficult for ecosystems to adapt to this rapidly changing environment. It is the accumulation of these pressures that makes the tasks ahead particularly challenging (Stephaan Depypere, European Commission).

The EU addresses these challenges with a range of policy instruments, such as the Marine Strategy Framework Directive, the Common Fisheries Policy and the Maritime Spatial Planning Directive. It mainstreams climate action into all its major policies, be they environmental, maritime and fisheries, research, energy, transport or development cooperation and committed to dedicating around 20% of its overall budget to climate action The ocean has no borders, and stepping up cooperation within the international framework remains crucial to provide good care for the ocean and better management of marine resources. To this end, the European Union adopted an agenda for the future of our ocean and continues to push for better international ocean governance to accelerate the low-carbon transition and meet the goals of Paris and of the 2030 Agenda for Sustainable Development.

The session acknowledged that many activities on both mitigation of, and adaptation to climate change are ongoing at EU and global levels, evidence of the ocean both as climate regulator and victim of climate impacts needs to translate into more targeted, globally coherent and interoperable ocean observation and information system, addressing the ocean as part of a wider system (land-sea, air, space etc.) rather than in isolation. Blue economy needs to be closely linked with sustainable ocean development. Ocean action as business case needs a common language, guiding principles and private and innovative financing (Monika Scatasta, EIB). Strengthening the blue economy requires making it resilient, by building with nature, rather than against it. More effort is required to better connect and coordinate research with strategic policy development and target settings and to invest in capacity building (e.g. Galway Statement and Belem Statement) at the global level to move need to move from despair to opportunities (H.W.J. Ovink, Special Envoy for International Water Affairs for the Kingdom of the Netherlands).

SESSION I - OCEANS, CLIMATE AND THE ROLE OF SCIENCE I: MARINE OBSERVATION, DATA AND INFORMATION SYSTEMS

This session was led by Mercator Ocean, European Centre for Medium Range Weather Forecasts and GEOMAR Helmholtz Centre for Ocean Research Kiel. It discussed how marine observation, data and information are essential to understand how the marine environment and the ocean respond to climate change and other stressors, and consequently to establish effective and targeted policy action. The panel highlighted the need for an integrated, fit-for-purpose and globally coherent ocean observation and information system that supports the Agenda 2030 Sustainable Development Goals and its targets for sustainable ocean development.

Ocean observing, understanding and prediction inform decision-making on future development options, the sustainable use of ocean resources and ocean protection and recovery actions. However, financial arrangements that support observation activities are often fragile. This calls for the establishment of national ocean or climate institutions tasked with sustaining a long-term climate-quality ocean in situ & satellite observing system. The panel speakers also presented the importance of the Copernicus Marine Environment Monitoring Service and the Copernicus Climate Change Service when it comes to delivering reliable and scientifically quality assessed information, and supporting policy makers, public authorities and economic sectors and research at large.

Furthermore, a coherent strategy to develop data collection and management plans, and strategic programmes for training of data scientists, is instrumental to create standardised interoperable regional sea products. EU operation services like the Copernicus Marine Environment Service, the Copernicus Climate Change Service and initiatives like EMODnet (European Marine Observation and Data Network) and an EOOS (European Ocean Observing System) are essential to achieve SDG14 (Life Below Water), SDG13 (Climate Action), and a number of other interlinked SDGs.

SESSION II - OCEANS, CLIMATE AND THE ROLE OF SCIENCE II: SCIENCE AND SCIENCE FUNDING FOR UNDERSTANDING THE OCEAN-CLIMATE NEXUS

The second thematic session of the day was led by the Leibniz Centre for Tropical Marine Research, the German Commission for UNESCO, the Intergovernmental Oceanographic Commission of UNESCO, the Institute of Advanced Sustainability Studies, EU PolarNet, the COST Action 'Ocean Governance for Sustainability', and GEOMAR Helmholtz Centre for Ocean Research. Based on short high-level expert statements, the panel discussed the existing funding mechanisms, expected scientific output production and key structural challenges in the match of marine sciences for climate politics.

One of the key messages was the importance of cooperation between the scientific community, politics and practice, in order to shape the governance schemes that ensure the sustainable use of our ocean. The restructuring of the existing ocean governance framework must be based on systematic empirical research on *de facto* ocean use and management patterns around the globe.

The panel also highlighted the need for intensified international coordination and collaboration of marine sciences. Creating transregional dialogue platforms and an international (UN-level) platform for the global coordination of ocean science activities and infrastructures, as well as open access to ocean-related scientific insights, would lead to a level of understanding of the ocean that makes its protection possible.

Furthermore, the assessment of the use and management of the ocean through internationally coordinated iterative processes, the integration of social and natural science data, and multi-agent based modelling would assist a global shift towards a more sustainable, non-harmful interaction with the ocean. As part of mid-term and long-term policy recommendations, the panel stressed the importance for science funding schemes that support integrated natural and social science schemes and the development of ocean-related production and consumption patterns in line with the circular economy concept.

SESSION III - OCEANS, CLIMATE AND THE ROLE OF SCIENCE III: FROM CHALLENGES TO SOLUTIONS

The last thematic session, led by Plymouth Marine Laboratory-UK, BNP Paribas Foundation, Biological Impacts of Ocean ACIDification-Germany and the UK Ocean Acidification programme, focused on the major challenges our ocean is facing. The combined impacts of warming, deoxygenation, acidification and sea level rise on many marine organisms, are likely to result in decrease of biodiversity, changes to species' distributions, food webs and ecosystems and will impact human populations in coastal regions and beyond, affecting food security and livelihoods of dependant societies if CO_2 emissions continue unabated. For example, in 2016 and 2017 coral reefs in the world experienced the largest global mortality rates because of climate change – showcasing the need to rapidly balance emissions, the removal of greenhouse gases from the atmosphere and the reduction of other non-climate stressors.

The panel also argued that current Nationally Determined Contributions (NDCs) to reduce emission rates of nations are not enough, and must be more ambitious and applied faster – including the ocean in future climate change negotiations is crucial for this. The lack of boundaries when it comes to the ocean must translate into global collaboration, knowledge share and capacity building.

The continued growth of the Global Ocean Acidification Observing Network will support managing responses to ocean acidification on a global-through-local basis, including the ability for SDG assessment by nations. Furthermore, collaborative European research is now the foundation of work helping developing countries to prepare their ocean resource management in the face of climate change impacts on their natural coastal environments. However, the panel stressed the need to increase support for global ocean observations to inform future change and policy decisions.

CLOSING - FINDINGS OF THE DAY AND WAY FORWARD

The closing session captured the key messages presented in each thematic session. The need for a multi-stakeholder dialogue, structured resources and funding, stepping up efforts for capacity building, as well as the need for new forms of knowledge that integrates civic, social and scientific expertise were strong themes during the day.

Concluding the day with his closing speech, Commissioner Karmenu Vella called for the need to connect state and non-state actors alike to accelerate the low-carbon transition and contribute to achieving the goals set out in the Paris Agreement at COP21. The Commissioner also highlighted the potential of ocean energy and reduced CO_2 emissions in shipping to reduce overall greenhouse gas emissions into the atmosphere.

Moderator Biliana Cicin-Sain, framed the findings in the overall political agenda, referred back to the many ongoing initiatives as well as the challenges ahead. Indonesia that will host the Our Ocean Conference in 2018 demonstrated how they will ensure that the event will be an important stepping stone for ensuring the protection of the ocean and the sustainable management of its resources.

COP23 was very much an "Ocean COP". The Fiji Presidency succeeded in raising the profile of the ocean in the climate discussion by launching the Ocean Pathway Partnership. The partnership aims at strengthening the role

of the ocean in the UNFCCC and Fiji hopes to fully integrate the oceans into the UNFCCC agenda by 2020 and have it as an agenda item by 2019. Ensuring this momentum beyond COP23 is crucial

The EU Oceans day, that was well attended throughout the day by around hundred representatives of international institutions, governments, business, non-governmental organisations, civil society and research institutions was integral part of the discussion and added a distinct EU dimension to it.

MODERATOR TROUGH THE DAY: MS. BILIANA CICIN-SAIN, PRESIDENT GLOBAL OCEAN FORUM

10:00 – 11:30 OCEAN GOVERNANCE AND CLIMATE ACTION

Session lead: European Commission, Directorate-General for Maritime Affairs and Fisheries

OPENING ADDRESS:

- MR. STEFAAN DEPYPERE, Director for International Ocean Governance and Sustainable Fisheries, Directorate General for Maritime Affairs and Fisheries, European Commission, Belgium
- HON. SEMI KOROILAVESAU, Minister for Fisheries and Forests, Fiji

SCENE SETTER: MR. TIAGO PITTA E CUNHA, CEO Oceano Azul Foundation, Portugal

PANEL:

- MR. STEFAAN DEPYPERE, Director for International Ocean Governance and Sustainable Fisheries, Directorate General for Maritime Affairs and Fisheries, European Commission, Belgium
- MS. CRISTELLE PRATT, Deputy Secretary General, Pacific Islands Forum Secretariat
- MS. HEIKE IMHOFF, Head of Division, Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Germany
- MR. H.W.J. OVINK, Special Envoy for International Water Affairs for the Kingdom of the Netherlands, The Netherlands
- MS. MONICA SCATASTA, European Investment Bank, Head of the Environment, Climate and Social office
- MS. ANNE-FRANCE DIDIER, SDG14 Coordinator and special advisor for regional and local governance, Delegation of the Sea and Coast, Ministry for an Ecological and Solidary Transition

FLOORSPEAKERS FROM THE EUROPEAN COMMISSION

11:45– 13:15 OCEANS, CLIMATE AND THE ROLE OF SCIENCE I: MARINE OBSERVATION, DATA AND INFORMATION SYSTEMS

Session lead: Mercator Ocean, European Centre for Medium Range Weather Forecasts (ECMWF) and GEOMAR - Helmholtz Centre for Ocean Research Kiel

SCENE SETTER: MR PROF. DR. MARTIN VISBEK, Head of the Research Unit for Physical Oceanography, GEOMAR - Helmholtz Centre for Ocean Research Kiel, Germany

PANEL:

- MS. ELISABETH HOLLAND, Professor of Climate Change, Pacific Center for Environment and Sustainable Development, University of the South Pacific, Fiji
- MS. CECILIE MAURITZEN, Senior Scientist, Research and Development Department, Norwegian Meteorological Institute, Norway
- MR. TOSTE TANHUA, Senior scientist, GEOMAR, Helmholtz Centre for Ocean Research Kiel, GOOS panel chair, Germany
- MR. JEAN-NOËL THÉPAUT, Head of the Copernicus Climate Change Service, European Centre for Medium Range Weather Forecasts (ECMWF), United Kingdom
- MS. KARINA VON SCHUCKMANN, Oceanographer, Mercator Ocean, France
- MS. ANN-KATRIEN LESCRAUWAET, International Liaison Officer, Flanders Marine Institute (VLIZ), Belgium

14:15– 15:45 OCEANS, CLIMATE AND THE ROLE OF SCIENCE II: SCIENCE AND SCIENCE FUNDING FOR UNDERSTANDING THE OCEAN-CLIMATE NEXUS

Session lead: Leibniz-Centre for Tropical Marine Research – ZMT, German Commission for UNESCO as well as the Intergovernmental Oceanographic Commission of UNESCO, Institute of Advanced Sustainability Studies (IASS), EU PolarNet, the COST Action 'Ocean Governance for Sustainability' and GEOMAR Helmholtz Centre for Ocean Research Kiel

OPENING ADRESS:

- MR. DR. VLADIMIR RYABININ, Executive Secretary, UNESCO IOC, France
- MS. PROF. DR. ANNA -KATHARINA HORNIDGE, Professor of Social Sciences, Leibniz-Centre for Tropical Marine Research – ZMT & Chair of the COST Action *Ocean Governance for Sustainability*, Germany

MODERATOR: MR. SEBASTIAN UNGER, Head of the Ocean Governance research, Institute of Advanced Sustainability Studies (IASS), Germany

PANEL:

- MR. PROF. DR. PETER HAUGAN, Professor at the Geophysical Institute at the University of Bergen (UiB), Research Director II at Institute of Marine Research, and Chair of the Intergovernmental Oceanographic Commission of UNESCO (UNESCO IOC), Norway
- MR. MinDirig WILFRIED KRAUS, Deputy Director General 'Sustainability, Climate, Energy', Federal Ministry of Education and Research (BMBF), Germany
- MS. SIGI GRUBER, Head of Unit Marine Resources, Directorate General for Research and Innovation, European Commission, Belgium
- MS. DR. FRANÇOISE GAILL, former Director of the Department of Environmental Sciences and Sustainable Development, National Center for Scientific Research (CNRS), France
- MS. DOROTHÉE HERR, Manager Oceans and Climate, IUCN, Germany

CLOSING: MS. DR. RENUKA BADHE, Chair of the Expert Advisory Board of the EU PolarNet and Executive Secretary of EU Polar Board, The Netherlands

16:00 – 17:00 OCEANS, CLIMATE AND THE ROLE OF SCIENCE III: FROM CHALLENGES TO SOLUTIONS

Session lead: Plymouth Marine Laboratory (PML), BNP Paribas Foundation, Biological Impacts of Ocean ACIDification-GER, UK Ocean Acidification programme and Ecole Pratique des Hautes Etudes France

SCENE SETTER AND MODERATOR: MS. CAROL TURLEY Senior Fellow NERC, United Kingdom

PANEL:

- MR. ULF RIEBESELL, Professor of Biological Oceanography at GEOMAR Helmholtz Centre for Ocean Research Kiel and Coordinator of German national project Biological Impacts of Ocean ACIDification (BIOACID), Germany
- MR. PHILLIP WILLIAMSON, NERC Science Coordinator and fellow at University of East Anglia, United Kingdom
- MR. VALERIANO PARRAVICINI, Professor at Ecole Pratique des Hautes Etudes (EPHE), France
- MS. JAN NEWTON, Professor and Principal Oceanographer with the Applied Physics Laboratory of the University of Washington and Executive Council member of the international Global Ocean Acidification Observing Network (GOA-ON), United States of America
- Ms. Ana Queiros, Senior Scientist, Plymouth Marine Laboratory, United Kingdom
- MS. Isabel Torres de Noronha, President, Future Ocean Alliance, Portugal

17:00 – 17:45 CLOSING SESSION: FINDINGS OF THE DAY AND WAY FORWARD

Session lead: European Commission, Directorate-General for Maritime Affairs and Fisheries

RAPPORTEUR: MS. BILIANA CICIN-SAIN, President Global Ocean Forum

OUTLOOK:

- **MR. SUSENO SUKOYONO, Senior Adviser to the Minister on Civil Society and Inter-institutional Relationships, Indonesian Special Envoy for UNEA-2, Indonesia**
- **HON. AIYAZ SAYED-KHAIYUM, Attorney-General and Minister for Economy, Public Enterprises, Civil Service and Communications, Fiji**

CLOSING:

- **H.E. KARMENU VELLA, European Commissioner for Environment, Maritime Affairs and Fisheries, European Commission, Belgium**