



## **SUMMARY OF THE 14TH MEETING OF THE UNITED NATIONS OPEN-ENDED INFORMAL CONSULTATIVE PROCESS ON OCEANS AND THE LAW OF THE SEA: 17-20 JUNE 2013**

The fourteenth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (Consultative Process or ICP-14) took place from 17-20 June 2013, at UN Headquarters in New York. The meeting brought together representatives from governments, intergovernmental organizations, non-governmental organizations and academic institutions to examine this year's topic: the impacts of ocean acidification on the marine environment.

Delegates convened in plenary sessions throughout the week to discuss: views on ocean acidification; inter-agency cooperation and coordination; the process for the selection of topics and panelists so as to facilitate the work of the UN General Assembly; issues that could benefit from attention in future work of the General Assembly on oceans and the law of the sea; and the outcome of the meeting. In addition, three panel discussions were held on: the process of ocean acidification; impacts of ocean acidification and ongoing activities at the global, regional and national levels to address those impacts; and opportunities and challenges for addressing the impacts of ocean acidification on the marine environment, including through enhanced cooperation on scientific and technical aspects.

The Co-Chairs, Amb. Don MacKay (New Zealand) and Amb. Milan Jaya Nyamrajsingh Meetarbhan (Mauritius), distributed a Co-Chairs' summary of discussions on Thursday morning. After all the paragraphs of the report had been reviewed, Co-Chair Meetarbhan gavelled the meeting to a close at 1:14 pm.

## **A BRIEF HISTORY OF THE LAW OF THE SEA AND THE CONSULTATIVE PROCESS**

On 1 November 1967, Malta's Ambassador to the UN, Arvid Pardo, asked the nations of the world to recognize a looming conflict that could devastate the oceans. In a speech to the General Assembly, he called for "an effective international regime over the seabed and the ocean floor beyond a clearly defined national jurisdiction." The speech set in motion a process that spanned 15 years and saw: the creation of the UN Seabed Committee; the signing of a treaty banning the

emplacement of nuclear weapons on the seabed; the adoption of a declaration by the General Assembly that all resources of the seabed beyond the limits of national jurisdiction are the "common heritage of mankind"; and the convening of the Stockholm Conference on the Human Environment. These were some of the factors that led to the Third UN Conference on the Law of the Sea during which UN Convention on the Law of the Sea (UNCLOS) was adopted.

**UNCLOS:** Opened for signature on 10 December 1982, in Montego Bay, Jamaica, at the Third UN Conference on the Law of the Sea, UNCLOS sets forth the rights and obligations of states regarding the use of the oceans, their resources, and the protection of the marine and coastal environment. UNCLOS entered into force on 16 November 1994, and is supplemented by the 1994 Deep Seabed Mining Agreement and the 1995 Agreement for the Implementation of the Provisions of UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

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**GENERAL ASSEMBLY RESOLUTION 54/33:** On 24 November 1999, the General Assembly adopted resolution 54/33 on the results of the review undertaken by the UN Commission on Sustainable Development at its seventh session on the theme of “Oceans and Seas.” In this resolution, the General Assembly established an Open-ended Informal Consultative Process to facilitate the annual review of developments in ocean affairs. The General Assembly decided that the Consultative Process would meet in New York and consider the Secretary-General’s annual report on oceans and the law of the sea, and suggest particular issues to be considered by the General Assembly, with an emphasis on identifying areas where intergovernmental and inter-agency coordination and cooperation should be enhanced. The resolution further established the framework within which meetings of the Consultative Process would be organized, and decided that the General Assembly would review the effectiveness and utility of the Consultative Process at its 57th session.

**ICP-1 to 3:** The first three meetings of the Consultative Process identified issues to be suggested and elements to be proposed to the General Assembly, and highlighted issues that could benefit from attention in its future work. The first meeting of the Consultative Process (30 May - 2 June 2000) held discussion panels addressing fisheries and the impacts of marine pollution and degradation. The second meeting (7-11 May 2001) focused on marine science and technology, and coordination and cooperation in combating piracy and armed robbery at sea. The third meeting (8-15 April 2002) held discussion panels on the protection and preservation of the marine environment, capacity building, regional cooperation and coordination, and integrated oceans management.

**GENERAL ASSEMBLY RESOLUTION 57/141:** On 12 December 2002, the 57th session of the General Assembly adopted resolution 57/141 on “Oceans and the law of the sea.” The General Assembly welcomed the previous work of the Consultative Process, extended it for an additional three years, and decided to review the Consultative Process’ effectiveness and utility at its 60th session.

**ICP-4 and 5:** The fourth meeting of the Consultative Process (2-6 June 2003) adopted recommendations on safety of navigation, the protection of vulnerable marine ecosystems, and cooperation and coordination on ocean issues. The fifth meeting (7-11 June 2004) adopted recommendations on new sustainable uses of oceans, including the conservation and management of the biological diversity of the seabed in areas beyond national jurisdiction.

**ICP-6:** The sixth meeting of the Consultative Process (6-10 June 2005) adopted recommendations on fisheries and their contribution to sustainable development, and considered the issue of marine debris.

**ICP-7:** The seventh meeting (12-16 June 2006) enhanced understanding of ecosystem-based management, and adopted recommendations on ecosystem approaches and oceans.

**ICP-8:** The eighth meeting (25-29 June 2007) discussed issues related to marine genetic resources. Delegates were unable to agree on key language referring to the relevant legal regime for marine genetic resources in areas beyond national

jurisdiction, and as a result no recommendations were adopted. However, a Co-Chairs’ summary report was forwarded to the General Assembly for consideration.

**ICP-9:** The ninth meeting (23-27 June 2008) adopted recommendations on the necessity of maritime security and safety in promoting the economic, social and environmental pillars of sustainable development.

**ICP-10:** The tenth meeting (17-19 June 2009) produced a Co-Chairs’ summary report collating outcomes of its discussions on the implementation of the outcomes of the Consultative Process, including a review of achievements and shortcomings in its first nine years, which was forwarded to the General Assembly for consideration.

**ICP-11:** The outcome of the eleventh meeting (21-25 June 2010) was a Co-Chairs’ summary of discussions, including on: capacity building for marine science; inter-agency cooperation and coordination; issues that could benefit from attention in future work of the General Assembly on ocean affairs and the law of the sea; and the process for the selection of topics and panelists so as to facilitate the work of the General Assembly.

**ICP-12:** The outcome of the twelfth meeting (20-24 June 2011) was a Co-Chairs’ summary of discussions forwarded to the General Assembly for consideration. The meeting considered, *inter alia*: progress to date and the remaining gaps in the implementation of oceans- and seas-related outcomes of the major summits on sustainable development; new and emerging challenges for the sustainable development and use of oceans and seas; and the road to the UN Conference on Sustainable Development (UNCSD, or Rio+20) and beyond.

**ICP-13:** The thirteenth meeting (29 May - 1 June 2012) produced a Co-Chairs’ summary of discussions detailing: a general exchange of views on marine renewable energies; inter-agency cooperation and coordination; the process for the selection of topics and panelists so as to facilitate the work of the UN General Assembly; issues that could benefit from attention in future work of the General Assembly on oceans and the law of the sea; and the outcome of the meeting. The Co-Chairs’ summary was forwarded to the General Assembly for consideration.

## ICP-14 REPORT

Co-Chair Amb. Don MacKay opened the fourteenth meeting of the Open-ended Informal Consultative Process on Oceans and the Law of the Sea (the Consultative Process or ICP-14), on Monday, 17 June, noting there is room to improve coordination and cooperation on the topic of ocean acidification. With Co-Chair Amb. Milan Jaya Nyamrajsingh Meetarbhan, he expressed the expectation for ICP-14’s discussions to fill some remaining knowledge gaps and clarify the range of actions to be taken.

Co-Chair Meetarbhan introduced the annotated provisional agenda (A/AC.259/L.14), which was adopted without amendment.

Thomas Stelzer, Assistant Secretary-General for Policy Coordination and Inter-Agency Affairs, UN Department of Economic and Social Affairs, emphasized the need for

oceans and seas to receive ample attention in the sustainable development goals and the post-2015 development agenda.

Patricia O'Brien, Under-Secretary-General for Legal Affairs and UN Legal Counsel, emphasized the adverse impacts of ocean acidification on the three pillars of sustainable development and recalled the need for increased research and coordinated actions by all stakeholders.

### DISCUSSION PANELS

On Monday afternoon and Tuesday morning and afternoon, delegates heard presentations during three panel discussions on the topics of the process, the impacts, and opportunities and challenges for addressing the impacts, of ocean acidification on the marine environment.

**The Process of Ocean Acidification:** On Monday afternoon, Richard Feely, National Oceanic and Atmospheric Administration (NOAA), US, explained the process of ocean acidification, indicating that oceans have absorbed 26% of anthropogenic carbon dioxide (CO<sub>2</sub>) emitted since the mid-1700s. He also highlighted the most vulnerable areas for ocean acidification, in particular the Arctic and Antarctic areas, coral reefs, and certain coastal areas, and the impacts on marine life.

Wang Juying, National Marine Environmental Monitoring Center, China, discussed ocean acidification processes in case studies of: the Bohai Sea; the North Yellow Sea; the Changjiang estuary and the adjacent East China Sea; and the northern South China Sea. She also emphasized national activities in China on: the impacts of ocean acidification on calcifying organisms; the impacts on coastal ecosystems; and an air-sea CO<sub>2</sub> flux operational observing programme.

In the ensuing discussion, Feely addressed a question from India on the scale of changes and projections, saying the models and observations agree extremely well in the open ocean, but uncertainties are higher with respect to coastal and deeper waters. To Co-Chair MacKay's question on the causes of previous mass extinctions, Feely said most of these extinctions were related to volcanic activities, but that at present, all volcanic activity on earth releases only 1/100 the level of CO<sub>2</sub> that humankind is emitting.

### Impacts of Ocean Acidification and Ongoing Activities at the Global, Regional and National Levels to Address those Impacts:

On Monday afternoon, Carol Turley, Plymouth Marine Laboratory, UK, presented on the potential ecological and foodweb impacts of ocean acidification. She indicated that changes to ocean chemistry are occurring at a speed and level not experienced for at least the past 60 million years. She also presented modeling projections for ocean pH (potential for hydrogen), noting that, especially in upwelling regions, estuaries, cold polar waters, and cold-water corals, levels of aragonite are forecast to reach a saturation tipping point within decades. On foodwebs, she discussed species most sensitive to high CO<sub>2</sub> levels, such as krill, brittle star larvae, and benthic ecosystems, and underscored that some communities and ecosystems are also likely to change, but that these changes are hard to predict.

Yoshihisa Shirayama, Japan Agency for Marine-Earth Science and Technology, presented on biological impacts of ocean acidification and the use scientific information for conservation

of marine biodiversity. He stressed the importance of long-term experiments and high-accuracy CO<sub>2</sub> manipulation systems for accurate results. He also discussed the results of observations of different coral ecosystems off the coast of Japan combined with coral bleaching predictions and highlighted areas that should be protected in the future.

In the subsequent discussion, Turley responded to a question from Canada on research priorities, opining that they should vary by region. For Canada, she suggested focusing on the northern cold waters, including the interaction of retreating marginal sea ice and eroding polar coastlines that will intensify the acidification process. She also suggested looking into the interactions of ecological communities and species behavior. Responding to Thailand's question about the scientific consensus on ocean acidification, Turley said there is a high level of certainty about the chemical changes and the persistent effects of high levels of CO<sub>2</sub> in the oceans, and these strong results will be reflected in the upcoming fifth assessment report of the Intergovernmental Panel on Climate Change (IPCC). In response to Co-Chair MacKay's question about changes in fish-migration patterns, Turley said models have predicted northward migration of adult fish, such as cod, but as acidification increases in the poles, this might prevent a complete move toward the pole, due to possible foodweb-related changes. She added that fish larvae development may also be impacted by acidification.

To a question from the US on scenarios wherein corals in Japan would remain intact, Shirayama indicated that they persist under the IPCC's B1 scenario from the fourth assessment report, which is the IPCC scenario that reflects the most dramatic reductions of greenhouse gas emissions compared to business as usual.

Further topics that were discussed include: the effect of acidification on sound absorption, particularly at lower frequencies; immediate actions that can be undertaken to reduce acidification, including reducing CO<sub>2</sub> emissions, and addressing local environmental anthropogenic stressors; and research on marine protected areas (MPAs) and species that are resilient to ocean acidification.

On Tuesday morning, Nathalie Jeanne-Marie Hilmi, Centre Scientifique de Monaco, presented on the outcomes of two workshops, organized by the Centre Scientifique de Monaco and the International Atomic Energy Agency (IAEA), which discussed the socio-economic impacts of ocean acidification. She discussed several expert recommendations from the workshops, including: reducing CO<sub>2</sub> emissions; establishing *ad hoc* coastal monitoring networks; supporting research on valuable species in high CO<sub>2</sub> conditions and on the socio-economic impacts on food security; establishing best practices on adaptive management; increasing adaptive capacities of fishing communities; and improving the information exchange among stakeholders and decision makers.

Carol Turley spoke on behalf of Cliff Law, National Institute for Water and Atmospheric Research, New Zealand, presenting on the ecosystem impacts of ocean acidification in deep, coastal and surface waters in the southwest Pacific. She highlighted, *inter alia*: the uncertain net effect of ocean acidification on the oceanic biological pump; the impacts on cold-water corals of the

saturation horizon moving toward the surface; the impacts of ocean acidification on the growth and reproductive capacities of wild-harvest species; and New Zealand's monitoring activities related to ocean acidification.

Bill Dewey, Taylor Shellfish Farms, US, discussed different types of oyster, clam, and mussel farming, indicating problems farmers in the US Pacific Northwest encountered due to ocean acidification. He highlighted several adaptation measures that have been implemented in the region, including: research and monitoring; treatment of hatchery rearing water; and the breeding of oysters resistant to ocean acidification. He also noted the work of the Washington State Blue Ribbon Panel, which led to US\$3.3 million being assigned in the state's budget to implementing the panel's recommendations.

Yimnang Golbuu, Palau International Coral Reef Center, discussed research in Palau that examined all coral sites impacted by a 2010 coral bleaching event, noting that the most resilient sites were located in a very diverse and more acidic area, providing hope for the future of coral reefs in light of climate change. He noted the need for MPA networks that incorporate resilient sites.

Robert Dunbar, Stanford University, US, presented on ocean acidification, small island developing states (SIDS), and pathways to resilience in the 21st century. He noted that SIDS will be affected more and sooner by ocean acidification impacts. To increase resilience, he suggested: identifying coral reefs at greatest risk; eliminating local stressors with strong community involvement; and strategically creating MPAs. He underscored that coral reefs can modify their own chemistry, and if carefully managed and protected, some coral reefs may prove to be their own saviors.

In the ensuing discussion, Golbuu and Dunbar responded to a question from Singapore on MPAs, indicating that what is permitted in MPAs varies, but restrictions on fishing are important for healthy and resilient reefs. Golbuu added that assessments of socio-economic impacts can miss the hard-to-quantify cultural value of corals. Responding to a question from the European Union (EU) on MPA design, he said incorporating resilient ecosystems is important, and design can be improved with time. To the UK, Dunbar said it has been observed that healthy coral reefs can better protect coastal areas from sea-level rise as opposed to unhealthy reefs. Responding to the US, he said large and top predatory fish communities and genetic variation are possible causes of differences in reef resilience.

In response to Australia, Hilmi noted four types of socio-economic impacts of ocean acidification, those on: fisheries and aquaculture; tourism; coastal protection from storms; and cultural and heritage values. Responding to New Zealand, Viet Nam and Nauru, Hilmi said social impacts related to job creation and revenue loss from fisheries should also be noted, and underscored that ocean acidification and sustainable development goals are interrelated.

Responding to the EU, Dewey said sodium carbonate has been added to about 300 liters per day to Taylor Shellfish Farms' hatchery operations, and that this approach could be used by other hatcheries. To Co-Chair Mackay, he stressed that, as the ocean continues to acidify, the problems will spread to adult

shellfish and will require a different and longer-term solution. Responding to the US, he indicated that the best tools to share with other countries relate to monitoring and adaptation.

Turley, on behalf of Law, reiterated the importance of cold-water and deep-water corals, and responding to Australia, stressed that decreasing CO<sub>2</sub> levels is the critical long-term solution. Addressing questions from the US and the UK, she explained that seamounts do not prevent the saturation horizon from rising, but they can provide refugia for cold-water corals as the horizon rises. To Viet Nam, she mentioned the development of an ocean acidification coordination center by scientists to share data on global ocean monitoring and assessments.

In response to Thailand on the need for national versus international action, Dunbar stressed the scale of the problem justifies a global response involving information sharing and funding to expedite action on local stressors.

Shirayama, in response to the US and the UK, said certain varieties of algae that live in symbiosis with coral reefs are resistant to high ocean temperatures, but little is known on whether they are also resistant to heightened acidification. He also reviewed recent research that indicates species may adapt to higher acidity to underscore that the relationship between coral reefs and acidification is complicated.

**Opportunities and Challenges for Addressing the Impacts of Ocean Acidification on the Marine Environment, including through Enhanced Cooperation on Scientific and Technical Aspects:** On Tuesday afternoon, Lisa Suatoni, Natural Resources Defense Council, discussed current and future tactics to address ocean acidification in coastal ecosystems beyond decreasing CO<sub>2</sub>. Discussing aquaculture, wild-capture and ecosystem-scale tactics, she highlighted: monitoring CO<sub>2</sub> levels in water; buffering water with sodium carbonate; selecting resistant strains of shellfish; reducing local sources of CO<sub>2</sub>; replenishing habitats with used shells; strategically planting seagrass beds; preserving the natural diversity that occurs offshore; reducing sedimentation from dredging; creating MPAs; employing compatible coastal development strategies; and promoting sustainable fishing practices. She also noted the importance of integrated spatial assessments using the risk assessment framework proposed by the IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.

Michel Warnau, IAEA, noted several ocean acidification research projects IAEA is involved in related to monitoring and applications of nuclear and isotopic techniques. He particularly highlighted the work of the Ocean Acidification International Coordination Centre (OA-ICC), describing its origin, funding, and activities, including acting as a platform to facilitate, promote and communicate a series of global activities on ocean acidification.

Elizabeth Jewett, NOAA, US, presented on the recently created Global Ocean Acidification Observing Network (GOA-ON). She described the creation of GOA-ON as a project designed to better understand global ocean acidification conditions and ecosystem responses, and provide data needed to optimize modeling for ocean acidification. She highlighted the involvement of 27 countries, and noted areas where observation gaps or limitations still exist, such as in the Indian Ocean and

the Coral Triangle. She stressed that data will be openly shared, and that NOAA will likely coordinate data sharing among participants.

Ilna Coaracy Wainer, Universidade de São Paulo, Brazil, presented on ways to address the impacts of ocean acidification from the perspective of developing countries. She described emerging Brazilian initiatives on: capacity building for oceans- and science-related programmes; the development of a network of long-term monitoring of biogeochemical and physical parameters in ocean and coastal regions of economic and social importance; the creation of a South Atlantic Ocean biogeochemical dataset; and regional-scale habitat mapping.

Germain Michel Ranjoanina, Ministry of Foreign Affairs, Madagascar, reviewed: the Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention); and the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region. Each convention, along with UNCLOS, he explained, provides a legal framework for addressing ocean acidification. He added that the African scientific community is aware of research on ocean acidification, but stressed the need for further funding, technology transfer, and capacity building to support assessments of ocean acidification in developing countries.

In the ensuing discussion, Mexico and Argentina called for greater coordination among the activities of various international organizations working on ocean acidification and for a greater role for the General Assembly in providing this coordination. Mexico also asked about the use of the precautionary approach when ocean treatments, such as water treated with sodium carbonate, are being deployed to address ocean acidification.

Responding to Canada, Ranjoanina called different levels of awareness of ocean acidification and national activities to address it major obstacles to international cooperation. Jewett added that capacity building is critical in countries where hot spots of ocean acidification are likely to exist. Suatoni offered that the human dimension of developing data-sharing platforms is often the most difficult and needs to be addressed early.

Responding to Argentina, Warnau said the idea for OA-ICC came from IAEA members and that participation is open to all members, either as funders or participants. To Mexico, he noted that they aimed to increase the project's visibility, and that it did not only examine fisheries impacts, but that these impacts were the focus of a second international workshop, titled "Bridging The Gap Between Ocean Acidification Impacts and Economic Valuation," held in November 2012.

In response to a question from China, Jewett said countries, organizations, and other entities are involved in GOA-ON, and she clarified who from China has been involved. Responding to Mexico, she noted that NOAA does research on the economic impacts on fisheries and is working with Australia to develop ecosystem assessment models. On a question from Thailand, she reiterated the importance of making the outcomes from the two meetings of GOA-ON widely available.

Responding to Argentina, Suatoni said MPAs serve the same purpose in areas beyond national jurisdiction as in territorial seas—they limit the effects of local stressors and help build resilience.

On a question from the US, Wainer elaborated on ways to link the South Atlantic monitoring network to other existing networks. Responding to Japan, Jewett noted the participation of other monitoring networks in the meetings of GOA-ON, and both Jewett and Warnau stressed it is not the intention to reproduce existing initiatives.

To a question from the US on expanding participation in OA-ICC and GOA-ON, Jewett noted the possibility of organizing additional regional workshops when countries indicate specific scientific needs. Warnau noted OA-ICC's awareness raising activities, and the expansion of its technical assistance projects from one national project in the current cycle to three national and three regional projects during the next cycle.

The Dominican Republic and Viet Nam noted capacity challenges in implementing adaptation strategies. Suatoni responded that such strategies do not require enormous resources; Jewett added that protecting marine resources from local stressors increases resilience to ocean acidification. Also on adaptation, Wainer opined that sustainable instead of no-take MPAs are best for balancing human demands for ocean resources and ocean health.

Turley, for the UK, stressed the remarkable consensus among scientists regarding the severity of ocean acidification and efforts of scientific coordination. Both Turley and Jewett expressed the hope for similar coordination on the side of policy makers.

#### **GENERAL EXCHANGE OF VIEWS ON THE IMPACTS OF OCEAN ACIDIFICATION ON THE MARINE ENVIRONMENT**

On Monday and Wednesday, delegates exchanged views on ocean acidification. Fiji, for the Group of 77 and China (G-77/China), underscored that the discussions should focus on technical issues and not climate change policies. He highlighted that the impacts of ocean acidification disproportionately affect developing countries, especially SIDS, since coral reefs and fish stocks are mostly impacted. Supported by Nauru, New Zealand and the US, he called for the implementation of paragraph 166 on ocean acidification from the outcome document of the UN Conference on Sustainable Development (UNCSD, or Rio+20), titled *The Future We Want*.

Ireland, for the EU, underscored that research shows an unprecedented 30% increase of ocean acidification since the industrial revolution. He discussed potential mitigation and adaptation strategies, including carbon capture and storage, and MPAs to increase ecosystem resilience, and detailed the EU's commitment to marine protection and CO2 emission reductions. He also noted the importance of research projects, such as the European Project on Ocean Acidification (EPOCA).

New Zealand, for the Pacific Islands Forum, said ocean acidification in its region is the most pressing threat to coral reefs, which provide tourism attractions and protection from tropical cyclones. She noted that fostering resilience via

ecosystem restoration is possible through MPAs, and underscored the international commitment to protect at least 10% of marine and coastal areas by 2020 made at the Convention on Biological Diversity's (CBD) tenth meeting of the Conference of the Parties (COP10) and referenced in *The Future We Want*.

Supporting the G-77/China and New Zealand, Nauru, for the Pacific SIDS, said Pacific SIDS are highly reliant on oceans and therefore preservation is critical. She noted that CO<sub>2</sub> and other greenhouse gases threaten Pacific SIDS and called for: action under the UN Framework Convention on Climate Change (UNFCCC); greater capacity building; and increased cooperation and integration. She said MPAs improve resilience, and noted the need for more MPAs, including in areas beyond national jurisdiction.

Japan detailed its monitoring work on ocean acidification following international frameworks, such as the Global Ocean Observing System and, supported by Canada, stressed the vital need for international coordination, information sharing, and standardization.

Malaysia, supporting the G-77/China, noted its high coastal biodiversity is sensitive to ocean acidification and reviewed monitoring done to assess ocean conditions, including acidification. He reviewed international and regional instruments and processes relevant to ocean acidification, but stressed problems with data availability and coordination, and negative impacts on fisheries and livelihoods.

Madagascar stated that Article 192 of UNCLOS, which obliges states to "protect and preserve the marine environment," is relevant to the issue of ocean acidification. He reviewed the status of coral reefs in Madagascar and the impact on fisheries, and called for greater monitoring, particularly in developing countries.

China, supporting the G-77/China, stressed the lack of knowledge on the risks and effects of adaptation and mitigation strategies, and called for more international cooperation and information exchange on technical issues to build capacity for developing countries.

Indonesia, supporting the G-77/China, highlighted the work of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security, and noted the high cost of not addressing the human impact on the marine environment.

The US emphasized building on Rio+20 commitments on ocean acidification, and highlighted the importance of the recently formed GOA-ON, and, with Monaco and South Africa, the IAEA's OA-ICC.

South Africa, supporting the G-77/China, cautioned against quick-fix technological solutions that may adversely impact people in developing countries.

Several delegations, including India, Monaco, Norway and the US, noted the importance of reducing CO<sub>2</sub> emissions for addressing ocean acidification.

Norway stated priority should be given to research on trends, impacts on organisms and biodiversity, and monitoring activities. She highlighted several of Norway's relevant research projects and the importance of applying an ecosystem approach to oceans management.

Mexico reviewed needed action to address ocean acidification, including: building awareness among decision makers; cooperation with civil society and academia; integrated watershed management; the application of an ecosystem approach to fisheries management; and better international coordination.

Argentina, supporting the G-77/China, said measures for mitigating ocean acidification must be consistent with UNCLOS obligations on marine scientific research and technology transfer. Referencing various provisions in UNCLOS, including the precautionary principle as contained in Articles 195 and 196, he expressed concern over geo-engineering activities that can be perceived as mitigation measures, despite the high uncertainties over their effects.

Trinidad and Tobago, supporting the G-77/China, emphasized the negative socio-economic impacts of ocean acidification on tourism, in particular for coral reefs, and fisheries.

The CBD Secretariat updated delegations on its work on ocean acidification pursuant Decision X/29 of COP10 and Decision XI/18 of COP11, including: the report on the Joint Expert Review Processes to Monitor and Assess the Impacts of Ocean Acidification on Marine and Coastal Biodiversity; and the preparation of a systematic review document on the impacts of ocean acidification on biodiversity and ecosystem functions, the final draft report of which will be presented during COP12 in 2014.

The UN Educational, Scientific and Cultural Organization's (UNESCO) Intergovernmental Oceanographic Commission (IOC) emphasized the IOC's: support for OA-ICC and GOA-ON; cooperation with the Global Environment Facility in the Transboundary Water Assessment Programme, and with the Scientific Committee on Oceanic Research in the International Ocean Carbon Coordination Project and the symposium series on "The Ocean in a High CO<sub>2</sub> World"; and participation in the preparation of the Blueprint for Ocean and Coastal Sustainability for Rio+20. She noted that, unlike climate change, the science on ocean acidification and future ocean acidity in a business-as-usual CO<sub>2</sub> emissions context is unequivocal. She further emphasized: that Member States should be encouraged to take actions toward developing practical procedures to monitor ocean acidification; the need to ensure that scientific work conducted at the international level is provided in an appropriate format and language so as to be useful to the national and the UN levels; and that since processes in the ocean know no geographical barriers, every country, including developing ones, must have the capacity to manage the oceans.

The International Union for Conservation of Nature (IUCN) stressed that his statement is drawn almost intact from a statement on ocean acidification given in September 2009 at UN Headquarters during an expert panel on ocean acidification, and that since then the only change on this topic has been the increase in CO<sub>2</sub> concentrations in the atmosphere and oceans. He noted that, while it is clear that reducing CO<sub>2</sub> emissions is necessary to address ocean acidification, diffused responsibilities, legal uncertainties, and policy inconsistencies hamper a coordinated and efficient approach. He further highlighted current steps that can be taken, including: building healthy and

resilient marine ecosystems; performing environmental impact assessments; monitoring; marine spatial planning; establishing MPAs, including marine reserves; improving fisheries management; reducing marine pollution; and protecting natural carbon sinks, including seagrasses and mangroves.

The Secretariat of the UN Environment Programme (UNEP) emphasized that the primary means to address ocean acidification is reducing CO<sub>2</sub> emissions and maintaining and restoring carbon sinks. She provided an overview of UNEP's projects in these areas, including on: sustainable consumption and production; carbon capture and storage; the green economy, such as a focus on oceans and SIDS; marine and coastal ecosystem management; and capacity building to enhance the resilience of marine ecosystems through its Regional Seas Programme.

In response to the statement by the IOC/UNESCO, Argentina remarked that it should be made clear whether interventions are made on behalf of the secretariat or on behalf of the organization's or convention's Member States. He also questioned the mandate of the IOC to engage in several of the initiatives mentioned during her statement.

IAEA, for its Secretariat, described the role of nuclear techniques in the context of ocean acidification, noting that nuclear and isotopic techniques can help provide a better understanding on the implications of ocean acidification on marine ecosystems. He said IAEA laboratories have a key role to play in promoting further research on and understanding of ocean acidification and building the capacity of its Member States. He noted the launch of the IAEA's OA-ICC at Rio+20, stating that research and policy responses are required, but these should run in parallel.

The Economic Community of Central African States (ECCAS) welcomed this year's ICP topic, given its great importance for his region. He explained the composition of ECCAS as an intergovernmental body, noting that most of its states are coastal states that depend on the oceans. He underscored the importance of UNCLOS and other related instruments to his region, and thanked the UN for the capacity-building programmes, as well as for the Secretary-General's report on ocean acidification.

OceanCare and the International Ocean Noise Coalition commended the UN General Assembly for choosing this year's topic. She noted that changes to ocean chemistry alter the transmission of sounds and have implications for the communication of whales and their wellbeing. She added that uncertainties remain over the extent to which ocean acidification will affect sound transition, and encouraged states, international, regional and intergovernmental organizations to further study the potential cumulative and synergistic effects of noise and ocean acidification, in light of the precautionary approach.

#### **INTER-AGENCY COOPERATION AND COORDINATION**

On Thursday morning, Andrew Hudson, UN-Oceans, highlighting that the past year was a year of transition, reported on: the 2012 independent review of UN-Oceans, noting the transmission of the report with recommendations to the UN General Assembly in 2012; and the draft terms of reference, which continue to be negotiated and will be presented to the

UN General Assembly at its 68th session. Hudson also updated delegates on activities during the 10th session of UN-Oceans, including the Secretary-General's Oceans Compact.

Fiji, for the G-77/China, expressed concern about the Oceans Compact for not properly reflecting the interests of Member States and emphasized the initiative cannot currently be supported. He highlighted, *inter alia*, that: the initiative cannot be construed as the platform for an action plan for the implementation of the outcome document of Rio+20; even when conceived as a platform for UN institutional coordination, the initiative seems to expand beyond the realm of UN System coordination; the initiative has the appearance of being a policy-making undertaking; and the establishment of the "Advisory Group" is not encouraged.

The EU, supported by Mexico, emphasized the importance for UN-Oceans to remain focused on existing mandates of agencies and on coordination and preventing duplication of work.

Iceland mentioned he shares the concerns raised on the Oceans Compact, specifically regarding its appearance as a policy-making undertaking, the "Advisory Group," and the terms of reference.

Argentina, supporting the G-77/China and Iceland, noted the collection of secretariats of different international organizations operating within UN-Oceans cannot have competences that go beyond those assigned to these secretariats individually.

Responding to the interventions, Hudson emphasized the Oceans Compact is an initiative of the Secretary-General and coordinated through the High-Level Committee on Programmes.

#### **PROCESS FOR THE SELECTION OF TOPICS AND PANELISTS SO AS TO FACILITATE THE WORK OF THE GENERAL ASSEMBLY**

On Wednesday, Co-Chair MacKay opened the floor to interventions on the process for the selection of topics and panelists so as to facilitate the work of the General Assembly. Noting no delegation indicated the desire to speak, Co-Chair MacKay closed the agenda item.

#### **ISSUES THAT COULD BENEFIT FROM ATTENTION IN FUTURE WORK OF THE GENERAL ASSEMBLY ON OCEAN AFFAIRS AND THE LAW OF THE SEA**

On Wednesday, Co-Chair MacKay reminded delegates of the composite streamlined list of issues that could benefit from attention in the future work of the General Assembly on oceans and the law of the sea prepared by the Co-Chairs that is available on the UN Division for Ocean Affairs and the Law of the Sea (DOALOS) website. The topics include: MPAs; implementation of international instruments; uses of the oceans; science, technology and data, including capacity building; ecosystem approaches to oceans; food security; conservation and management of living marine resources; international cooperation and coordination; marine environment; issues discussed at previous meetings; marine biological diversity and genetic resources; flag state responsibilities; human rights and labor rights; maritime security; maritime safety; settlement of disputes; hazard preparedness and mitigation; social aspects of oceans and the law and the sea; climate change and oceans; and oceans and sustainable development. Co-Chair MacKay invited

delegates to propose additional topics for consideration, noting this is not the only time for submitting proposals, but it is an opportunity to air topics of possible interest.

Mauritius said the topic of ocean acidification was very informative and useful. He proposed as a topic for the next ICP meeting the many new opportunities for the development of the ocean economy beyond traditional sectors such as tourism and fisheries. He opined that despite many stresses to oceans, there are many new opportunities that may be vital for SIDS. A discussion on this topic, he offered, would provide a broad universal understanding and also feed into the Third International Conference on SIDS to be held in Apia, Samoa, in September 2014.

### **CONSIDERATION OF THE OUTCOME OF THE MEETING**

On Wednesday, Co-Chair MacKay explained that the meeting would adjourn for the afternoon to allow time to prepare a draft of the Co-Chairs' summary of discussions. Vladimir Jares, DOALOS, then provided an update on the financial status of the voluntary trust fund, which was established by the General Assembly to assist the participation of developing states, in particular the least developed states, SIDS, and land-locked developing states, to attend the meetings of the Consultative Process by covering travel costs. He thanked New Zealand for its contribution. He then reviewed the balance and contributions to other trust funds that help delegates from developing countries participate in various ocean-related processes, including the voluntary fund for the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects (Regular Process); the Hamilton Shirley Amerasinghe Memorial Fellowship; the fund for supporting developing country participation in the Commission on the Limits of the Continental Shelf; the fund to support submissions to the Commission on the Limits of the Continental Shelf; and the fund for the International Tribunal for the Law of the Sea.

Jares thanked countries for their ongoing contributions, and asked those that were in a position to provide funds to do so. He also urged countries to nominate experts from their respective regions that have the qualifications to be listed as experts for the purposes of Article 2 of Annex VIII (Special Arbitration) to UNCLOS.

**CO-CHAIRS' SUMMARY OF DISCUSSIONS:** On Thursday, Co-Chair Mehtarbhan introduced a draft version of the Co-Chairs' summary of discussions. He reminded delegates that the document is not a "negotiated text" and thus serves only for reference purposes, and invited delegates to identify major and substantive issues for revision and clarification. Delegates considered the summary document page by page. Sections that received comments are discussed below.

**General exchange of views:** To a reference in the report on "the view expressed by delegates" about the relevance of the UNFCCC and the Kyoto Protocol to the causes of ocean acidification, Argentina asked for the insertion of language to reflect that "many" delegations expressed this view.

On the need for a precautionary approach in dealing with ocean fertilization and ocean geo-engineering by "some" delegations, Mexico asked for the deletion of the term "some" to better reflect the general consensus on this.

On the "importance of management tools" such as environmental impact assessments, Argentina asked for the deletion of the term "management," as environmental impact assessments are tools, but not management tools per se.

**The process of ocean acidification; impacts of ocean acidification and ongoing activities at the global, regional and national levels to address those impacts:** The UK suggested a number of refinements to the text to accurately reflect panelists' presentations, including on: the time-scale of the current changes to marine ecosystems; the saturation horizon as one of several tipping point for the impacts of ocean acidification; and the resilience of some species of corals to ocean acidification.

On "the suggestion that ocean acidification should be included in the sustainable development goals," Argentina noted that this was the view expressed by a single delegation. Responding to Canada, Co-Chair Mehtarbhan said the Secretariat will check on whether this suggestion was made in reference to oceans or to ocean acidification.

**Opportunities and challenges for addressing the impacts of ocean acidification on the marine environment, including through enhanced cooperation on scientific and technical aspects:** On a panel presentation referencing the GOA-ON, the UK and the US suggested language to clarify that this is not an OA-ICC project, but it is "working closely with the OA-ICC."

Monaco clarified that the Second International Workshop on Economics of Ocean Acidification was co-organized by the IAEA and the Centre Scientifique de Monaco, with the participation of the UN Food and Agriculture Organization (FAO) and IOC/UNESCO.

Responding to US comments, Argentina clarified that the establishment of "universal guidelines on ocean acidification research" would be useful, and not guidelines for adaptation. In response, the UK noted the development of best practices guidelines by the EPOCA, with Argentina indicating that the reference was to "universal guidelines," which the EPOCA's guidelines do not represent.

On the relationship between OA-ICC and GOA-ON with the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects, Argentina, supported by Mexico, recommended that these initiatives "should contribute to the work of the Regular Process" rather than "within the framework of the Regular Process."

The US opposed a suggestion by the IUCN to add reference to the lack of a legal mechanism for the establishment of MPAs in areas beyond national jurisdiction, saying this is a contentious issue, which is being addressed by a specific working group.

With reference to the "South Atlantic monitoring network," Argentina asked for inclusion of "in some areas" of the South Atlantic.

**Inter-agency cooperation:** On UN-Oceans' terms of reference, Argentina requested a clarified text that indicates that not UN-Oceans but Member States, with input from UN-Oceans, are the ones to conduct the work.

Responding to the Republic of Korea's request for clarification on the expressions "some," "several" and "many delegates," Jares said "some" is used for two or three delegates, "several" for up to six or seven, and "many" for more than that or for a group, such as the EU or the G-77.

### **CLOSING PLENARY**

On Thursday, Co-Chairs Meetarbhan and MacKay thanked delegates and participants for their active participation and thanked the panelists for the excellent and focused presentations as well as Mexico for proposing the timely topic of ocean acidification. Co-Chair Meetarbhan adjourned the meeting at 1:14 pm.

### **A BRIEF ANALYSIS OF ICP-14**

What would come of a discussion on ocean acidification? This was the question on the minds of many delegates as they arrived at UN Headquarters in New York for the fourteenth meeting of the Open-ended Informal Consultative Process on Oceans and the Law of the Sea. Indeed, discussions took place at a time when many issues on the global oceans agenda are competing for attention, including the post-2015 development agenda and the drafting of sustainable development goals as they relate to oceans, and the Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction (BBNJ Working Group). The answer, to the surprise of several participants and delegates, was a fruitful discussion on a matter of grave importance to the oceans that, for the most part, has been under the radar of decision makers.

This brief analysis situates ICP-14 in the longer development of the Consultative Process to understand how this meeting has become a "safe space" to discuss ocean acidification as a complex and pressing challenge.

### **MIGRATING TO SAFER WATERS**

The recent trajectory of the ICP has been an incremental migration to safer, less political waters. An important turning point in this migration was ICP-8 in 2007, when delegates were unable to agree on recommendations on marine genetic resources to forward to the UN General Assembly for its consideration during the negotiations of the Oceans and the law of the sea resolution in the fall of that year. Subsequently, many delegates expressed a desire to see the Consultative Process focus on more technical topics relevant to oceans and sustainable development, not topics heavy in policy, political content, or controversy. During ICP-10 in 2009, delegates then examined and reviewed the achievements and shortcomings of the first nine years of the Consultative Process. This led to the implementation of two instrumental reforms. First, since ICP-11, each session results in a Co-Chairs' summary of discussions, which is forwarded to the UN General Assembly for reference only, and not for recommendatory purposes. Second, changes were made in the

way topics and panelists are chosen for a given meeting of the Consultative Process. A country's proposal for topics is now disseminated earlier in the form of a white paper outlining a justification for the idea. This then informs the General Assembly's negotiations, allows for greater preparation by the DOALOS Secretariat, creates more transparency, and enables further engagement from countries with the chosen topic.

The migration to safer, less political waters, however, has been a double-edged sword. On the one hand, it helps avoid protracted "negotiations" that may be necessary to develop an agreement among countries on a given marine topic, which may then be repeated during the fall session of the UN General Assembly. Yet, on the other hand, it limits the Consultative Process to topics that are, in the views of some delegates, "boring" or "already well understood." Given this tension, certain delegates and participants arrived in New York for ICP-14 with low expectations. Numbled by the high-tech nature of last year's meeting on marine renewable energies, some feared being overwhelmed by scientific facts, while others considered these facts to be too well known for ICP-14 to contribute new understandings to extant knowledge and awareness of the problems posed by ocean acidification.

### **A SAFE SPACE FOR LIFE-LONG LEARNING?**

Early in the week, it appeared that some of the fears about ICP-14 were justified. The first panel segment on the process of ocean acidification silenced the room. Finding delegates willing to pose a question to the panelists was like searching for marine species with unimpaired shells in a low-pH, increasingly acidic ocean. However, much like the rising saturation horizon in the oceans below which calcium carbonate dissolves—which panelists described as an important consequence of ocean acidification—delegates' interest in the topic rose. Engaging factual presentations combined with inquisitive interventions from the audience created visible upwellings in the energy level in the room, even though the overall message on the state of the oceans was often rather gloomy.

A number of participants, indeed, noted the effective way panelists had communicated ocean acidification as the "other CO2 problem," which is caused by heightened CO2 emissions, but results from chemical processes entirely separate from the greenhouse effect. Panelists explained that there has been pH variability in the oceans for the past 25 million years, but the current rate of change and projected values are unprecedented. Since the industrial revolution, the oceans have become 30% more acidic. Many delegates seemed overwhelmed by the irrefutable scientific evidence of current and predicted significant impacts of ocean acidification on marine life, especially on coral reefs, cold-water corals, polar regions, food webs, fish larvae and shellfish species, and the associated drastic global, regional and local socio-economic consequences. While the entire world is being affected, it became clear that SIDS are the most vulnerable. And as one SIDS delegate stated: "Time is a luxury we cannot afford."

With this new knowledge in hand, some delegates reflected on the "safe space" ICP provided to openly discuss ocean acidification without having to deal with the "elephant in the

room”—mitigation measures to reduce CO<sub>2</sub> emissions. One reason for this “safe space” quality of the discussions, some believed, was the way in which the topic had been chosen, the early engagement of several countries in helping refine the original white paper proposing the topic as submitted by Mexico, and the identification of potential panelists to present on ocean acidification. In this regard, one delegate mentioned that the three panel segments provided a comprehensive overview of the different aspects of the topic, from the chemical processes occurring in the ocean to the impacts on ocean marine life and coastal communities, and the challenges of and opportunities for using local adaptation measures. In addition, others felt that the growing recognition of ICP as a non-political venue, used for sharing information that can then be brought to other fora dealing with the more politically contentious aspects of oceans issues, helped facilitate discussions. This message was also brought home during the very first intervention of the opening plenary when Fiji, on behalf the Group of 77 and China, reminded participants that discussions should not focus on climate change policies. Hence, delegates, participants and panelists appeared comfortable explicitly identifying CO<sub>2</sub> emissions levels as the key driver of ocean acidification, without then discussing mitigation measures.

Against this backdrop, delegates and participants turned their attention to possible, shorter-term types of adaptation measures. A recurrent measure discussed was the establishment of marine protected areas (MPAs) within and beyond areas of national jurisdiction. As one panelist put it, our oceans can be compared to the health of a smoker: “Think of a person who smoked for many years,” she said. “You can’t change the past, but you can make sure the person stays as healthy as possible from now on so as to avoid catching colds, lung infections and so on.” Panelists agreed that strategically placed MPAs can help boost the health and resilience of ocean ecosystems by reducing other stressors. This enables species to focus their energy on adapting to the new acidic environment, giving them a chance to survive. In this light, seamounts were highlighted as important geological features that can, for instance, provide refugia for cold-water corals. Other valuable adaptation measures discussed in the meeting included: adaptive shellfish aquaculture methods and techniques; ecosystem-based management; environmental impact assessments; elimination of local stressors, such as overfishing and destructive fishing practices; protection of carbon sinks, top predators and vulnerable marine habitats; and prevention of marine pollution. Panelists also highlighted that cumulative and synergistic effects of ocean acidification with other human pressures, such as noise pollution, need to be better understood, but that there are indications that some of the effects include the modification of some species’ behavior, making them more vulnerable to predators.

The importance of further monitoring and coordinated research, in accordance with paragraph 166 of the outcome document of the UN Conference on Sustainable Development (UNCSD, or Rio+20), was also widely discussed. A number of relevant initiatives were brought to light throughout the week, including: the Ocean Acidification International Coordination Centre (OA-ICC) at the IAEA, which was launched during

Rio+20; the recently established Global Ocean Acidification Observing Network (GOA-ON); the upcoming IPCC fifth assessment report; and a systematic review document on the impacts of ocean acidification on biodiversity and ecosystem functions by the Convention on Biological Diversity.

While most of the attention was focused on local and short-term adaptation measures, some delegates were, nonetheless, disappointed in the lack of willingness to go further and critically discuss the impacts of some of the suggested measures, in particular those related to geo-engineering. Furthermore, while several delegates explicitly commended—and further encouraged—the scientific community’s coordination and cooperation efforts on the issue of ocean acidification, delegates’ comments on inter-agency cooperation and coordination turned rather sour. In particular, in the context of the negotiations on the new terms of reference for UN-Oceans, several delegations highlighted that UN-Oceans should remain focused on inter-agency coordination and prevent the duplication of existing efforts, while refraining from operating beyond the individual mandates of the entities involved in its inter-agency network. Furthermore, several delegates expressed the concern that the Secretary-General’s Oceans Compact—which has been established to strengthen system-wide coherence to deliver on the UN’s oceans-related mandates—is operating beyond Member States’ interests and consent, and is entering too much into the policy-making space of Member States.

#### ***RETURNING TO ITS BASE, OR GOING SOUR?***

With the ICP having been renewed for two years by the General Assembly in the fall of 2012, ICP-14 was able to be a session free of explicit considerations of the future of the Consultative Process. In this environment, the growing enthusiasm for the reformed process for topic selection—which allows for greater and earlier country engagement—and the quality of the panel presentations and ensuing discussions at ICP-14 were a welcome indication that ICP continues to serve a useful role for the ocean community. Ocean acidification, in this light, represented a return to ICP’s base—or that it had effectively stabilized its own pH level.

Delegates indeed expressed hope that the knowledge and awareness generated during the meeting would serve as a useful foundation for the negotiations of the Oceans and law of the sea resolution at this year’s meeting of the UN General Assembly. Whether the expressed hope translates into action on ocean acidification may hinge on how well the upcoming General Assembly negotiations can navigate the competing issues on the oceans agenda. Despite this uncertainty, it remains clear that many delegates, benefiting from the safe space created by ICP-14, left New York with a heightened awareness of ocean acidification as a global issue of urgent concern.

## UPCOMING MEETINGS

### Joint Meeting of the Pacific Platform for Disaster Risk Management and the Pacific Climate Change Round Table:

The purpose of the joint meeting is to progress discussions on the development of an integrated Pacific Regional Strategy for Disaster Risk Management and Climate Change, which is targeted for completion before 2015. **dates:** 9-12 July 2013 **location:** Sofitel Fiji Resort and Spa, Denarau Island, Nadi, Fiji **contact:** Secretariat of the Pacific Regional Environment Programme **email:** joycet@sprep.org **www:** <http://www.sprep.org/event/35-joint-meeting-of-the-pacific-platform-for-disaster-risk-management-a-pacific-climate-change-round-table>

**Second International Workshop of the Global Ocean Acidification Observing Network (GOA-ON):** This meeting is by invitation only. **dates:** 24-26 July 2013 **location:** University of St. Andrews, North Haugh, St. Andrews, Scotland **contact:** UKOA Science Coordinator **phone:** +44-1603-593111 **email:** p.williamson@uea.ac.uk **www:** <http://www.nerc.ac.uk/research/programmes/oceanacidification/events/130722/>

**Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction:** The *Ad Hoc* Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (Informal Working Group on Marine Biodiversity) will meet in August 2013. **dates:** 19-23 August 2013 **location:** UN Headquarters, New York **contact:** Division for Ocean Affairs and the Law of the Sea **phone:** +1 212-963-3962 **fax:** +1 212-963-5847 **email:** [doalos@un.org](mailto:doalos@un.org) **www:** <http://www.un.org/Depts/los/biodiversityworkinggroup/biodiversityworkinggroup.htm>

**20th Session of the Commission on Sustainable Development and First Meeting of the high level political forum on Sustainable Development:** The 20th and final session of the Commission on Sustainable Development (CSD 20) will take place back-to-back with the first meeting of the high level political forum (HLPF). **dates:** September 2013 **location:** UN Headquarters, New York **contact:** UN Division for Sustainable Development **phone:** +1-212-963-8102 **fax:** +1-212-963-4260 **email:** [dsd@un.org](mailto:dsd@un.org) **www:** <http://sustainabledevelopment.un.org/index.php?menu=1211>

**European Wave and Tidal Energy Conference 2013:** The tenth European Wave and Tidal Energy Conference (EWTEC) will bring together policy makers and technical and scientific experts to discuss wave and marine current energy conversion technologies, research and development, and demonstration projects. **dates:** 2-5 September 2013 **location:** Aalborg, Denmark **contact:** Vivi Søndergaard **phone:** +45-9940-7230 **email:** [ewtec2013@ewtec.org](mailto:ewtec2013@ewtec.org) **www:** <http://www.ewtec.org/ewtec2013>

**Global Ocean Action Summit:** The Global Ocean Action Summit, organized by the Government of the Netherlands and the World Bank, is meant to “seal major deals for worldwide action” addressing the threats to the health and productivity of oceans. The meeting aims to mobilize financial and technical

support for attaining established goals under the Global Partnership for Oceans (GPO). It will also host the first official assembly of GPO partners, and will mark the implementation phase of the GPO. In addition, a report indicating priority areas and regions for action will be launched by the GPO Blue Ribbon Panel, an independent group of ocean experts. Attendance is by invitation only. **dates:** 9-13 September 2013 **location:** The Hague, the Netherlands **contact:** Elisabeth Mealey **phone:** +1 202-458-4475 **email:** [emealey@worldbank.org](mailto:emealey@worldbank.org) **www:** <http://www.globaloceansactionsummit.com/>

### 68th Session of the UN General Assembly (UNGA 68):

The 68th Regular Session of the UN General Assembly (UNGA 68) will convene at UN Headquarters on Tuesday, 17 September 2013. The General Debate will open on Tuesday, 24 September 2013. **location:** UN Headquarters, New York **www:** <http://www.un.org/ga/>

### UNGA Special Event to Follow up Efforts made towards achieving the MDGs:

This one-day event will represent the occasion for leaders to identify actions to complete the MDG process and to provide guidance on priorities. **date:** 25 September 2013 **location:** UN Headquarters, New York **contact:** Saijin Zhang **phone:** +1-212-963-2336 (General Assembly Affairs), +1-212-963-7172 (Protocol and Liaison) **fax:** +1-212-963-1921 **www:** <http://www.un.org/en/ga/info/meetings/67schedule.shtml>

### 28th General Meeting of the International Coral Reef Initiative:

The International Coral Reef Initiative (ICRI) will hold its 28th General Meeting (GM28) in Belize. ICRI members use annual General Meetings to interact, discuss past and upcoming ICRI-related activities and adopt resolutions or recommendations that bring international attention to specific issues affecting coral reefs. **dates:** 14-17 October 2013 **location:** Belize City, Belize **contact:** ICRI Secretariat **email:** [icri@gbrmpa.gov.au](mailto:icri@gbrmpa.gov.au) **www:** <http://www.icriforum.org/ICRIGM28>

**CBD SBSTTA 17:** At its seventeenth meeting, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) of the Convention on Biological Diversity (CBD) is expected to address, among other things, implementation of the strategic plan and collaboration with Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). **dates:** 14-18 October 2013 **location:** Montreal, Canada **contact:** CBD Secretariat **phone:** +1-514-288-2220 **fax:** +1-514-288-6588 **email:** [secretariat@cbd.int](mailto:secretariat@cbd.int) **www:** <http://www.cbd.int/doc/?meeting=SBSTTA-17>

### Second World Heritage Marine Site Managers

**Conference:** The second World Heritage Marine Site Managers conference will be co-hosted by the World Heritage Centre (WHC) of the UN Educational, Scientific and Cultural Organization (UNESCO) and the French Marine Protected Area Agency (AAMP). **dates:** 17-20 October 2013 **location:** Corsica, France **contact:** UNESCO **phone:** +33-1-45-68-10-00 **www:** <http://whc.unesco.org/uploads/activities/documents/activity-13-25.pdf>

**Third International Marine Protected Area Congress:** The third International Marine Protected Areas (MPAs) Congress aims to define actions to promote cooperation through different

initiatives, and to inspire a new way of thinking to face global challenges, such as climate change, poverty reduction, and resource sharing. **dates:** 21-27 October 2013 **location:** Marseille and Corsica, France **contact:** Agence des aires marines Protégées and IUCN **email:** info@impac3.org **www:** <http://www.impac3.org/en/>

**Fifth Session of the OWG on SDGs:** OWG-5 will focus on sustained and inclusive economic growth, macroeconomic policy questions (including international trade, international financial system and external debt sustainability), infrastructure development, and energy. **dates:** 25-27 November 2013 **location:** UN Headquarters, New York **contact:** UN Division for Sustainable Development **phone:** +1-212-963-8102 **fax:** +1-212-963-4260 **email:** dsd@un.org **www:** <http://sustainabledevelopment.un.org/index.php?menu=1549>

**Sixth Session of the OWG on SDGs:** OWG-6 will focus on means of implementation; the global partnership for achieving sustainable development; needs of countries in special situations: African countries, LDCs, land-locked developing countries, and SIDS as well as specific challenges facing middle-income countries; and human rights, the right to development, and global governance. **dates:** 9-13 December 2013 **location:** UN Headquarters, New York **contact:** UN Division for Sustainable Development **phone:** +1-212-963-8102 **fax:** +1-212-963-4260 **email:** dsd@un.org **www:** <http://sustainabledevelopment.un.org/index.php?menu=1549>

**Seventh Session of the OWG on SDGs:** OWG-7 will focus on sustainable cities and human settlements, sustainable transport, sustainable consumption and production (including chemicals and waste); and climate change and disaster risk reduction. **dates:** 6-10 January 2014 **location:** UN Headquarters, New York **contact:** UN Division for Sustainable Development **phone:** +1-212-963-8102 **fax:** +1-212-963-4260 **email:** dsd@un.org **www:** <http://sustainabledevelopment.un.org/index.php?menu=1549>

**Eighth Session of the OWG on SDGs:** OWG-8 will focus on oceans and seas, forests, biodiversity; promoting equality, including social equity, gender equality and women's empowerment; and conflict prevention, post-conflict peacebuilding and the promotion of durable peace, rule of law and governance. **dates:** 3-7 February 2014 **location:** UN Headquarters, New York **contact:** UN Division for Sustainable Development **phone:** +1-212-963-8102 **fax:** +1-212-963-4260 **email:** dsd@un.org **www:** <http://sustainabledevelopment.un.org/index.php?menu=1549>

**31st Session of the FAO Committee on Fisheries:** The 31st session of COFI will review, *inter alia*: the activities of the COFI Sub-Committees on Aquaculture and Fish Trade; progress in implementation of the Code of Conduct for Responsible Fisheries (CCRF) and associated International Programs of Action (IPOAs); and selected activities of the FAO on fisheries and aquaculture that have occurred since COFI 30. **dates:** 9-13 June 2014 **location:** Rome, Italy **contact:** Hiromoto Watanabe, FAO **email:** hiromoto.watanabe@fao.org **www:** <http://www.fao.org/unfao/govbodies/gsbhome/committee-fi/en/>

**CBD SBSTTA 18:** At its eighteenth meeting, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) of the Convention on Biological Diversity (CBD) is expected to meet in June 2014. **dates:** 16-20 June 2014 [tentative] **location:** Montreal, Canada [tentative] **contact:** CBD Secretariat **phone:** +1-514-288-2220 **fax:** +1-514-288-6588 **email:** secretariat@cbd.int **www:** <http://www.cbd.int/meetings/>

**15th meeting of the Open-ended Informal Consultative Process on Oceans and the Law of the Sea:** The meeting is expected to take place in May or June 2014, at UN headquarters in New York. The decision on the topic of discussion will be made by the General Assembly in the fall of 2013. **dates:** May or June 2014 **location:** UN Headquarters, New York **contact:** UN-DOALOS **phone:** +1-212-963-3969 **fax:** +1-212-963-5847 **email:** doalos@un.org **www:** <http://www.un.org/Depts/los/>

### GLOSSARY

CBD	Convention on Biological Diversity
CO2	Carbon dioxide
COP	Conference of the Parties
DOALOS	UN Division for Ocean Affairs and the Law of the Sea
EPOCA	European Project on Ocean Acidification
GOA-ON	Global Ocean Acidification Observing Network
IAEA	International Atomic Energy Agency
ICP	UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
MPAs	Marine protected areas
NOAA	National Oceanic and Atmospheric Administration
OA-ICC	Ocean Acidification International Coordination Centre
pH	Potential for hydrogen
SIDS	Small island developing states
UNCLOS	UN Convention on the Law of the Sea
UNCSD	UN Conference on Sustainable Development (Rio+20)
UNESCO	UN Educational, Scientific and Cultural Organization
UNFCCC	UN Framework Convention on Climate Change