

GLOBAL OCEAN FORUM NEWSLETTER – DECEMBER 2013

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Editorial

As 2013 winds down, the GOF team sends you very best wishes for a happy, healthy, peaceful, and productive year in 2014. To this list, I would add the word "hopeful," as we have a "duty to hope," coupled with the "duty to act."¹

When I consider global ocean affairs in 2013, quite a mixed picture emerges.

After the "high" of the Rio+20 process where oceans featured so prominently in the Rio+20 outcome, it was, frankly, painful to watch the very fragmented and complex process involved in the development of sustainable development goals and the new development agenda post 2015. On the other hand, there is growing support for a sustainable development goal on oceans, both among countries and civil society, and certainly there is receptivity on the part of the Open Working Group on Sustainable Development Goals to consider the ocean issues (see story below). This will be a big issue to mobilize around in 2014.

On the issues surrounding Areas Beyond National Jurisdiction (ABNJ), after six years of negotiation and after some fruitful UN workshops held in May of this year, there was forward movement in the August 2013 ABNJ meeting—agreement on a series of discussions to attempt to bridge the differences among countries as they relate to actual issues in the ABNJ as well as to determine the feasibility, scope, and parameters on a possible implementing agreement to UNCLOS on areas beyond national jurisdiction (see story).

The GOF has long stressed the importance of having a focal point on oceans at the level of the UN Secretary General, noting that in this new era in which climate change effects ineradicably pose a situation of higher risk and of possible tipping points, an enhanced and decisive high-level United Nations mechanism is needed for

¹ The "duty to hope" and the "duty to act" were discussed extensively at the November 2013 meeting of the recipients of the Haub awards in international environmental law and international environmental diplomacy in Murnau, Germany.

dealing with the new level of risk as well as for realizing the opportunities that lie ahead in moving toward a low-carbon economy. We cannot count solely on the incremental actions of a myriad of specialized agencies, each with different missions and governing bodies. This was materializing in 2012-2013 with the UN Secretary General's initiative on the Oceans Compact, but this effort has been called off due to opposition from member states (see story). Perhaps such a mechanism could be mobilized at a later date, with the requisite member state and civil society consultation, engagement, and support.

With regard to climate change and the vulnerability of oceans and coasts and their populations, coastal vulnerability was again tragically highlighted with the Super Typhoon Haiyan, the largest tropical cyclone ever recorded, which struck the central Philippines on November 8, 2013, impacting the lives of over 25 million people. The Category 5 super storm harbored winds exceeding 200 mph along with torrential rain, causing massive destruction and loss of life.

The complex situation of how to achieve resilience in coastal communities in the case of island nations, as the Philippines, where both national and local governments have varying, and not always well coordinated, responsibilities, was highlighted in this tragic case.

Regarding climate change, a significant accomplishment in 2013 was the issuance by the Intergovernmental Panel on Climate Change (IPCC) of the IPCC's Fifth Assessment Report's Summary for Policymakers. A special article by Dr. Magdalena Muir in this newsletter summarizes the ocean related findings of this report (see story).

A positive development in 2013 was the significant international mobilization taking place around ocean protection issues manifested at the International Marine Protected Areas Congress (IMPAC 3), held in Marseille and in Corsica, which attracted more than 1700 participants from countries around the world, demonstrating the significant political power involved in the marine protected area movement (see story).

Looking ahead to 2014, please keep your attention focused on the debates surrounding the Sustainable Development Goals and an SDG on oceans, debates on whether and how an implementing agreement on the management of marine areas beyond national jurisdiction might be mobilized, and on preparations for the UNFCCC climate negotiations in Lima, Peru (2014) and in Paris (2015), where ocean interests are expected to mobilize, once again, to articulate the oceans, coasts, and small island developing States issues related to climate change.

Happy holidays and best wishes for 2014,

Biliana Cicin-Sain, President, Global Ocean Forum

Progress in the United Nations Toward Improving the Global Framework for Areas Beyond National Jurisdiction

The sixth meeting of the UN 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 (ABNJ Working Group) took place August 19 to 23, 2013, at the UN headquarters in New York. Spurred by the Rio+20 outcome and the productive discussions of a set of intersessional workshops of the Working Group held in May 2013, the sixth meeting of the ABNJ Working Group sought to lay out tangible steps towards a means to improve governance of ABNJ. The recent Rio+20 outcome, which called for countries to decide on whether or not to negotiate a new agreement for ABNJ by the end of the 69th session of the UN General Assembly, lent a heightened sense of urgency to the meeting.



At the outset of the meeting, the Working Group focused on the need for more detailed discussion on the scope of a potential agreement, and especially how it would address complex issues related to marine genetic resources and implementation of management tools in ABNJ. As with previous meetings of the Working Group, countries reiterated their support for, or opposition to, an Implementing Agreement under UNCLOS for marine biodiversity in ABNJ. A growing number of delegations (including the G-77 and China, and the European Union) stressed the need for a new UNCLOS Implementing Agreement as the ideal means to provide a coherent global framework for ABNJ, address legal issues related to marine

genetic resources and bioprospecting, and provide a framework for implementing conservation and management tools such as marine protected areas and environmental impact assessments, among other potential benefits.

In contrast, a number of developed countries (including Canada, Japan, Russia, and the US) have long opposed the development of an UNCLOS Implementing Agreement, and noted that other approaches, such as strengthening the application of existing instruments and improving coordination among States, could better address implementation gaps without a long and costly negotiation process. Moreover, these countries have noted that the need for a new agreement has not yet been demonstrated and that there has been a lack of discussion on how such an agreement would function.

Despite the persistent divergence in perspectives regarding a potential new agreement, there was general consensus that the issues brought forth at the intersessional workshops in relation to marine genetic resources and management tools required more detailed discussion and analysis. In this context, there was general consensus that the Working Group should meet at more frequent intervals, and that a new process was needed to determine the feasibility, scope, and parameters of an Implementing Agreement. However, cautions were aired on prematurely rushing into negotiations for a new agreement, with many countries underscoring the need for further discussion of the issues at hand before making any decisions.

After deliberations on the appropriate format, mandate, and focus for future discussions, the Working Group agreed to initiate a new process with the aim of holding detailed and focused discussions specifically on a potential UNCLOS Implementing Agreement for ABNJ. The Working Group agreed to meet three times, for four days each, to discuss issues related to the scope, parameters, and feasibility of a new Implementing Agreement under UNCLOS in order to decide before the end of the 69th session of the UNGA on whether or not to negotiate a new agreement.

These meetings will be held at UN headquarters on the following dates:

April 1-4, 2014

June 16-19, 2014

January 20-23, 2015

While falling short of initiating tangible measures, the August ABNJ meeting represented an important step towards addressing complex legal and technical issues and moving forward in developing a tangible approach to improving the conservation and management of marine biodiversity in ABNJ at the global level.

Despite this positive step, however, a prominent concern raised at the meeting was the notable lack of transparency. The majority of the Working Groups discussions this year were held in closed-door meetings of the “Friends of the Co-Chairs,” a small group of countries tasked with developing the text of the outcome of the

meeting. Representatives of international organizations and civil society groups do not have access to the meetings of the “Friends of the Co-Chairs.” In past meetings of the Working Group, the “Friends of the Co-Chairs” have met in the final days of the meeting to finalize the outcome text. In recent years, however, these closed-door meetings have progressively taken over the majority of the Working Groups discussions, significantly undermining the transparency and inclusiveness of the process. During the closing plenary session, civil society representatives expressed strong opposition to the over-reliance on closed-door meetings and called for more inclusiveness in these intergovernmental deliberations. These sentiments were echoed by a number of statements from country delegations, which expressed the need for a transparent and democratic process.

Side Event on Capacity Development in ABNJ

The Global Ocean Forum organized a side event during the UN BBNJ meeting to highlight the importance of capacity development, *Capacity Development Regarding Areas Beyond National Jurisdiction Needs, Initial Efforts, Possible Future Directions*, with the following speakers:

- Mr. Árni Mathiesen, Assistant Director-General, Fisheries and Aquaculture Department, Food and Agriculture Organization of the United Nations (FAO)
- Ambassador Palitha Kohona, Permanent Representative of Sri Lanka to the United Nations and Co-Chair of the UN BBNJ Process
- Dr. Jihyun Lee, Environmental Affairs Officer for Marine and Coastal Biodiversity, Secretariat of the Convention on Biological Diversity
- Manuel Cira, World Ocean Network and Nausicaa, France
- Tina Farmer, Communications and Publications, FAO
- Dr. Biliانا Cicin-Sain, President, Global Ocean Forum



Copies of presentations may be obtained from Biliانا Cicin-Sain (bcs@udel.edu).

GOF/FAO Multi-Stakeholder Dialogue Stresses the Importance of Oceans in the Sustainable Development Goals Process

The Global Ocean Forum and the FAO Liaison Office in New York organized an informal dialogue to discuss oceans in the Sustainable Development Goals on August 21, 2013, on the margins of the 6th meeting of the UN ABNJ Working Group. This meeting was aimed at stimulating informal dialogue among governments, international organizations, and civil society on how to integrate oceans into the discussions on the Sustainable Development Goals (SDGs) to ensure that the future sustainable development framework recognizes and supports the integral role played by oceans and coasts in sustainable development.

The meeting was co-chaired and moderated by Ambassador Eugene Newry, Permanent Representative of the Bahamas to the UN, and Dr. Biliانا Cicin-Sain, President of the Global Ocean Forum. The meeting was attended by a number of government representatives, including members of the Open Working Group on Sustainable Development Goals who provided invaluable perspectives on the Open Working Group process. There were a number of representatives from the countries that are part of the Open Working Group in attendance, including representatives from the following countries: Australia, Canada, France, Hungary (also co-chair of the Open Working Group), India, Mexico, Nauru, Palau, Sri Lanka, and the US.

The Open Working Group (OWG) on Sustainable Development Goals, which is tasked with outlining a proposal for Sustainable Development Goals to the UN General Assembly, will address “oceans and seas” during its eighth session on February 3-7, 2014 (program of work of the OWG available at: <http://sustainabledevelopment.un.org/content/documents/1778Pow2805.pdf>). Members of the OWG present noted during the informal dialogue that the Working Group aims to have a final set of SDGs by June/July 2014 and that the period from February 2014 to June/July 2014 will be a key time frame for engaging the Open Working Group process.

There has been growing attention on the importance of oceans in the discussions on SDGs on the part of both governments and civil society, building on the momentum of the Rio+20 Conference. A number of countries and organizations have shown strong leadership on oceans in the SDG process and have put forth specific proposals for integrating oceans into the SDGs, in the form of an oceans SDG or including oceans in various cross-cutting SDGs. In particular, the permanent mission of Palau to the UN has developed a proposal for an SDG focusing on achieving “healthy, productive, and resilient oceans,” also endorsed by the Pacific Island countries (more information on this proposal available at: <http://palauun.files.wordpress.com/2013/05/oceans-sustainable-development-goal-and-brief-palau-17-april-2013.pdf>).

This informal discussion presented a key opportunity for discussion of various proposals for integrating oceans in the SDGs and for exploring opportunities to ensure that oceans are adequately addressed in the SDGs. The meeting addressed a number of issues with regards to oceans in the SDGs, including scope and content of oceans in the SDGs, indicators and targets, pursuing a stand-alone goal vs. incorporating oceans across the SDGs in a cross-cutting approach, and opportunities to advance oceans in the SDG process.

A number of participants emphasized the need to centrally incorporate economic and social issues in the context of oceans, and highlight the many opportunities to utilize ocean resources to sustainably address a wide range of social and economic problems. Also discussed was the form that such a goal should take, with some expressing the difficulty inherent in formulating a goal for one area without knowing what the broader framework would look like. A central decision facing the ocean community is whether to pursue a stand-alone goal on oceans or to push for the inclusion of ocean issues into other goals in a thematic cross-cutting approach. Some preferred to push for a stand-alone goal, while using the cross-cutting approach as a fallback. Participants also agreed on the need to conduct visioning exercises, conceptualizing the world we want for 2030 and crafting proposals to achieve these goals. Some specific ocean topics were discussed, including fisheries, capacity building, and pollution, although many countries have not yet developed a clear position on oceans in the SDGs. A number of participants cautioned against developing a ‘laundry list’ of issues and stressed the need to focus on a small number of key issues that touch on all three pillars of sustainable development.

Conceptually, participants wrestled with the need to develop goals that are measurable and attainable, but also aspirational. Many also highlighted the value of developing indicators with accompanying sub-indicators to provide for more detailed tracking and accountability. One participant noted the difficulty in developing targets and indicators that align with the unique needs, priorities, and capabilities of different regions and countries, and the challenge faced when incorporating this diversity into a coherent framework.

Those present were pleased with the productive discussions of this gathering, which allowed for creative thinking and exploration of opportunities in an informal setting. Many also expressed appreciation for the opportunity to advance dialogue across different sectors of the ocean community (e.g., governments, civil society, intergovernmental organizations). The meeting also demonstrated the support for oceans of those active in the Open Working Group process, including representatives from governments that have not yet formulated their position on oceans. As well, the discussion outlined the need for the ocean community to coalesce under a key set of ocean priorities and for civil society organizations to work together in a coordinated effort to advance oceans in the SDG process. In light of the success of this event, the Global Ocean Forum plans to organize

additional discussions on this important topic. As well, the Global Ocean Forum will coordinate the development of a position paper for the Major Groups thematic cluster on Oceans and Seas.



Summary of Oceans Issues from IPCC Fifth Assessment Report's Summary for Policymakers - Special Article by Dr. Magdalena Muir²

Abstract

The article is a brief compilation of key oceans observations in the Intergovernmental Panel on Climate Change Fifth Assessment Report's Summary for Policy Makers issued in September 2013. It begins with introductory remarks about the Fifth Assessment Report and the Summary for Policy Makers and their importance for oceans. It reiterates key observed changes for oceans in the climate system, specifically ocean warming, sea level rise and Arctic sea ice changes, and ocean acidification. The article then discusses the role of oceans in the climate system and recent changes. Finally, it considers future global and regional climate change for oceans. Oceans observations are generally consistent between this assessment report and the prior report but that more research and more accurate oceans measurements are considered in the current report.

² Magdalena A.K. Muir, B.A., J.D., LL.M., Research Associate, Arctic Institute of North America, University of Calgary; Associate Professor, Aarhus School of Business and Social Sciences and affiliated with Arctic Research Centre and Nordic Centre of Excellence for Nordic Strategic Adaptation Research, Aarhus University; Adjunct Professor, Masters of Science: Energy Policy and Climate, Johns Hopkins University, Washington DC; and Advisory Board Climate, Coastal and Marine Union (EUCC). For 2014, Dr. Muir is implementing a Fulbright Scholarship with Columbia University and University of Delaware. This article was written at the request of the Global Ocean Forum for publication in its newsletter.

Introduction

The Working Group I contribution to the Intergovernmental Panel for Climate Change (IPCC) Fifth Assessment Report (AR5)³ considers evidence of climate change based on independent scientific analyses of the climate system, paleoclimate archives, theoretical studies of climate processes, and simulations using climate models. IPCC AR5 is consistent with and builds the IPCC Fourth Assessment Report (AR4), incorporating subsequent research up to June 2013. The Summary for Policymakers (SPM)⁴ follows the structure of the Working Group I report, and contains the key points and highlights from the IPCC AR5.

This article focuses on the implications of IPCC AR5 SPM for oceans through examining key oceans observations in the report. It looks through an oceans lens at some observed changes in the climate system, understanding that system and current changes, and future global and regional climate change. Where possible, similar language is used in this article as used in the SPM to describe confidence and certainty.⁵ However, this summary does not contain the breadth and complexity of analysis contained in the underlying documents. A more technical summary underpins this summary, and can be accessed here.⁶ For further information, please refer to the SPM and the underlying AR5 documents.⁷

Oceans are very important for the climate system. Key issues for oceans are the warming of the oceans, the heat present in the surface layer and different depths of the ocean, Arctic sea ice, sea level rise, and ocean acidification. These issues may be inter-related and also indicate the importance of oceans in the global climate system. For example, the AR5 SPM highlights the role of oceans in storing CO₂ and heat, and thus the oceans' role in moderating the impacts of global warming in the atmospheric and terrestrial realms.

Given the important role of oceans play in global warming and the global climate system, it would be useful to have more frequent and regional assessments of the oceans. This has already occurred for ocean acidification, but could also be useful for ocean warming and heat distribution.

Observed Changes for Oceans in the Climate System

Ocean Warming

Ocean warming dominates the increase in energy stored in the climate system, accounting for more than 90% of the energy accumulated between 1971 and 2010 (*high confidence*). More than 60% of the net energy increase in the climate system was stored in the upper ocean up to 700 metres in depth during the period from 1971 to 2010, and about 30% is stored in the ocean below 700 m. Evaporation and precipitation over the oceans have also changed as indicated by regional changes in salinity (*medium confidence*).

It is *virtually certain* that the upper ocean layer from the surface to 700 metres in depth warmed from 1971 to 2010, and it *likely* warmed between the 1870s and 1971. On a global scale, the ocean warming is largest near

³ The final draft Report, dated 7 June 2013, of the Working Group I contribution to the IPCC 5th Assessment Report "Climate Change 2013: The Physical Science Basis" was accepted but not approved in detail by the 12th Session of Working Group I and the 36th Session of the IPCC on 26 September 2013 in Stockholm, Sweden. See IPCC website <http://www.ipcc.ch/report/ar5/wg1/#.Uq9f8fRDv14> and Chapter 3 - Observations: Ocean http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_TechnicalSummary.pdf.

⁴ IPCC, 2013: Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G. -K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA; located at http://www.climatechange2013.org/images/uploads/WGI_AR5_SPM_brochure.pdf

⁵ The following terms are used to describe the available evidence: limited, medium, or robust; and for the degree of agreement: low, medium, or high. The level of confidence is expressed using five qualifiers: very low, low, medium, high, and very high; with increasing levels of evidence and degrees of agreement correlated with increasing confidence. The following terms have been used to indicate the assessed likelihood of an outcome or a result: virtually certain 99–100% probability, very likely 90–100%, likely 66–100%, about as likely as not 33–66%, unlikely 0–33%, very unlikely 0–10%, exceptionally unlikely 0–1%. Other terms (extremely likely: 95–100%, more likely than not: 50–100%, and extremely unlikely: 0–5%) may be used when appropriate.

⁶ Technical Summary of Oceans Issues from IPCC Fifth Assessment Report's Summary for Policymakers, http://www.eucc.net/en/climate_change/Dec17-2013-OceansTechnicalSummary-SPM-AR5-IPPC.pdf.

⁷ Readers are referred to footnotes 3 and 4 for more information.

the surface, and the upper 75 metres was warmed by 0.11°C per decade over the period 1971 to 2010. Since AR4, instrumental biases have been identified and reduced, enhancing confidence in measurements; temperature changes are now also being more consistently measured for oceans depths.

Sea Level Rise and Arctic Sea Ice Changes

The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia (*high confidence*). Over the period 1901 to 2010, global mean sea level rose by 0.19 m. Since the early 1970s, glacier mass loss and ocean thermal expansion from warming together explain about 75% of the observed global mean sea level rise (*high confidence*). Over the period 1993 to 2010, global mean sea level rise is, with *high confidence*, consistent with the sum of the observed contributions from ocean thermal expansion due to warming, from changes in glaciers, Greenland ice sheet, Antarctic ice sheet, and land water storage.

Over the last two decades, the Greenland and Antarctic ice sheets have been losing mass, glaciers have continued to shrink almost worldwide, and Arctic sea ice and Northern Hemisphere spring snow cover have continued to decrease in extent (*high confidence*). The annual mean Arctic sea ice extent decreased over the period 1979 to 2012. The average decrease of Arctic sea ice has been most rapid in summer (*high confidence*); the spatial extent has decreased in every season, and in every successive decade since 1979 (*high confidence*). There is *medium confidence* that, over the past three decades, Arctic summer sea ice retreat was unprecedented, and sea surface temperatures were anomalously high compared to at least the last 1,450 years.

Ocean Acidification

The atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased to levels unprecedented in at least the last 800,000 years. Carbon dioxide concentrations have increased by 40% since pre-industrial times, primarily from fossil fuel emissions and secondarily from emissions arising from changes in land uses (or the emission or sequestration of CO₂ as land uses change). The ocean has absorbed about 30% of the emitted anthropogenic carbon dioxide, causing ocean acidification.

Understanding Oceans in the Climate System and Recent Changes

Human influence on the climate system is clear, and evidence has grown since IPCC AR4. Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes.

It is *extremely likely* that human influence has been the dominant cause of the observed warming since the mid-20th century. It is *very likely* that anthropogenic forcings have made a substantial contribution to increases in global upper ocean heat content (0–700 m) observed since the 1970s. There is evidence for human influence in some individual ocean basins.

Climate models have improved since the AR4, with models reproducing observed continental-scale surface temperature patterns and trends over many decades, including the more rapid warming since the mid-20th century and the cooling immediately following large volcanic eruptions (*very high confidence*).

It is likely that anthropogenic influences have affected the global water cycle since 1960. Anthropogenic influences have contributed to observed increases in atmospheric moisture content in the atmosphere (*medium confidence*), to global-scale changes in precipitation patterns over land (*medium confidence*), to intensification of heavy precipitation over land regions where data are sufficient (*medium confidence*), and to changes in surface and sub-surface ocean salinity (*very likely*).

Anthropogenic influences *very likely* contributed to Arctic sea ice loss since 1979. It is *very likely* that there is a substantial anthropogenic contribution to the global mean sea level rise since the 1970s. This is based on the *high confidence* in an anthropogenic influence on the two largest contributions to sea level rise: thermal expansion and glacier mass loss.

Future Global and Regional Climate Change for Oceans

Projections of changes in the climate system are made using a hierarchy of climate models that simulate changes based on a set of scenarios of anthropogenic factors. Representative Concentration Pathways (RCPs)⁸ (which are an agreed upon set of standards used for climate modelling based on emissions, emissions concentrations and global energy imbalances) were used for the new climate model simulations carried out under the framework of the Coupled Model Intercomparison Project Phase 5 of the World Climate Research Programme.

In all RCPs, atmospheric CO₂ concentrations are higher in 2100 than the present day. Projected climate change based on RCPs in AR5 is similar to AR4 in both patterns and magnitude, after accounting for scenario differences. Projections of sea level rise are larger than in the AR4, primarily because of improved modelling of land-ice contributions.

Changes in the global water cycle due to global warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions, and between wet and dry seasons will increase, although there may be regional exceptions. Projected changes in the water cycle over the next few decades show similar large-scale patterns to those towards the end of the century, but with smaller magnitude. Changes in the near-term, and at the regional scale will be strongly influenced by natural internal variability and may be affected by anthropogenic aerosol emissions. Extreme precipitation events over most of the mid-latitude land masses and over wet tropical regions will very likely become more intense and more frequent by the end of this century, as global mean surface temperature increases.

Globally, it is likely that the area encompassed by monsoon systems will increase over the 21st century. While monsoon winds are likely to weaken, monsoon precipitation is likely to intensify due to the increase in atmospheric moisture. Monsoon onset dates are likely to become earlier or not change that much. Monsoon retreat dates will likely be delayed, resulting in lengthening of the monsoon season in many regions.

The strongest ocean warming is projected for the surface in tropical and Northern Hemisphere subtropical regions. At greater depth, warming will be most pronounced in the Southern Ocean (*high confidence*). Best estimates of ocean warming in the top one hundred meters are about 0.6°C to 2.0°C, and about 0.3°C to 0.6°C at a depth of about 1000 m by the end of the 21st century. The global ocean will continue to warm during the 21st century. Heat will penetrate from the surface to the deep ocean and affect ocean circulation. Due to the long time required for heat to transfer from the ocean surface to depth, ocean warming will continue for centuries.

It is *very likely* that the Arctic sea ice cover will continue to shrink and thin, and that northern hemisphere spring snow cover will decrease during the 21st century as global mean surface temperature rises. Global glacier volume will further decrease. Global mean sea level will continue to rise during the 21st century. Under all scenarios, the rate of sea level rise will *very likely* exceed that observed during 1971 to 2010 due to increased ocean warming and increased loss of mass from glaciers and ice sheets.

Confidence in projections of global mean sea level rise has increased since the AR4 because of the improved physical understanding of the components of sea level, the improved agreement of process-based models with observations, and the inclusion of ice-sheet dynamical changes. These ranges are derived from climate projections in combination with process-based models and literature assessment of glacier and ice sheet

⁸ See Guardian article for further information on RCPs: "Now available, a guide to the IPCC's new RCP emissions pathways" <http://www.theguardian.com/environment/climate-consensus-97-per-cent/2013/aug/30/climate-change-rcp-handly-summary> (downloaded December 18, 2013)

contributions. In the projections, thermal expansion accounts for 30 to 55% of 21st century global mean sea level rise, and glaciers for 15 to 35%. Sea level rise will not be uniform. By the end of the 21st century, it is very likely that sea level will rise in more than 95% of the ocean area. About 70% of the coastlines worldwide are projected to experience sea level change within 20% of the global mean sea level change.

Ocean uptake of anthropogenic CO₂ will continue under all projects through to 2100, with higher uptake for higher concentration pathways (*very high confidence*). Further uptake of carbon by the ocean will increase ocean acidification, with a global increase in ocean acidification for all scenarios. Cumulative emissions of CO₂ largely determine global mean surface warming by the late 21st century and beyond.

Most aspects of climate change will persist for many centuries after CO₂ emissions are stopped, so substantial changes will continue to occur based on past, present and future emissions. A large fraction of anthropogenic climate change resulting from CO₂ emissions is irreversible on a multi-century to millennial time scale, unless there is a large net removal of CO₂ from the atmosphere over a sustained period. Surface temperatures will remain approximately constant at elevated levels for many centuries after a complete cessation of net anthropogenic CO₂ emissions.

UN Oceans Compact Will Not Be Pursued Due to Concerns from Governments

In August 2012 at the Yeosu International Expo in Yeosu, South Korea, the UN Secretary-General launched the UN Oceans Compact, an initiative aimed at improving coordination related to oceans in the UN system and supporting the UN in delivering on its ocean-related mandates, consistent with the Rio+20 outcome, in a more coherent and effective manner. The Compact was to be driven by a results-oriented Action Plan that would be guided by a dedicated Ocean Advisory Group composed of 20 to 30 members from government and civil society.

However, the UN Secretary-General recently announced that the Oceans Compact will not be undertaken, following strong concerns raised by some countries about the lack of involvement by States in the development of the Oceans Compact and the potential policy-making nature of the Advisory Group.

At the 23rd meeting of the State Parties to UNCLOS, the G-77 and China, in particular, expressed significant concern to the UN Secretary-General, noting that they were not in a position to support the Oceans Compact as it "...does not properly reflect the interests of member States..." In particular, the G-77 and China articulated the following issues with the UN Oceans Compact:

“(i) The initiative cannot in any way be construed as the platform for an action plan for the implementation of the outcome document of Rio plus 20 developed by any other than Member States. Even if the Oceans Compact is conceived primarily as a platform for UN institutional coordination, it would seem to be an initiative that expands beyond the realm of UN System coordination, and hence its ample acceptance by Member States is a requirement for it to succeed;

(ii) The initiative had the appearance of being a policy-making undertaking;

(iii) None of the five experts appointed by the High Level Committee on Programme to draw up the first draft of the Oceans Compact represented developing countries;

(iv) The absence of reference to the competent office on oceans issues in the Secretariat, which is the Division for Ocean Affairs and Law of the Sea (DOALOS);

(v) The lack of clarity about how Member States would be informed and consulted;

(vi) On questions of substance: the content of the Oceans Compact posed several difficulties and concerns such as on the issue of Biodiversity in Areas Beyond National Jurisdiction (BBNJ), marine protected areas (MPAs), fisheries subsidies, the expressions "oceans management," "ocean observation," marine spatial planning, eco-

certification and "green economy," among others;

- (vii) The relationship between the Oceans Compact and the Global Partnership for Oceans of the World Bank;
- (viii) The establishment of the "Advisory Group," which was discouraged; and
- (ix) The fact that the initiative was not officially launched at the United Nations.”

These concerns led the G-77 and China to request that the Secretary-General undertake open and regular consultations with Member States on all aspects of the Oceans Compact (Intervention on Behalf of the Group of 77 and China by H.E. Mr. Peter Thomson, Permanent Representative of Fiji to the UN, Chairman of the Group of 77, to the Twenty-third Meeting of the State Parties to the UN Convention on the Law of the Sea, 11 June 2013).

Other countries articulated similar concerns as well, noting that the Compact would seem to operate beyond Member States’ interests and consent. At the 14th Meeting of the UN Open-Ended Informal Consultative Process on Oceans and the Law of the Sea, the EU, Mexico emphasized the importance of UN-Oceans remaining focused on the existing mandates of agencies and on coordination. Iceland raised concerns about the appearance of the Oceans Compact Advisory Group as a policymaking undertaking (ENB 2013).

On October 1, 2013, the United Nations Deputy Secretary-General sent a letter to Members States announcing that “the UN Secretary-General has decided that the Oceans Compact Advisory Group will not be established and that other actions in relation to the Oceans Compact will not be undertaken” (Letter from the UN Deputy Secretary-General 1 October 2013).

Although the Compact was built on existing mandates and ongoing activities by United Nations system organizations already sanctioned by Members States, this development outlines the importance of Member State primacy in the context of the policymaking in the United Nations and the need to ensure that initiatives within the UN system are developed with the central involvement and support of Members States. As well, in our view, civil society involvement must be a central part of such initiatives.

Intervention on Behalf of the Group of 77 and China by H.E. Mr. Peter Thomson, Permanent Representative of Fiji to the UN, Chairman of the Group of 77, to the Twenty-third Meeting of the State Parties to the UN Convention on the Law of the Sea, 11 June 2013:

<http://www.g77.org/statement/getstatement.php?id=130611b>

Earth Negotiations Bulletin (ENB) Summary of the 14th Meeting of the UN Open-Ended Informal Consultative Process on Oceans and the Law of the Sea, 17-20, June 2013: <http://www.iisd.ca/vol25/enb2589e.html>

3rd International Marine Protected Areas Congress Held in Marseille, France

The Third International Marine Protected Areas Congress (IMPAC 3) was held on October 21 to 25, 2013, in Marseille, which was followed by a high-level policy meeting on October 26-27, 2013, in Corsica. The Congress, which was co-organized by the French Marine Protected Areas Agency, together with the International Union for the Conservation of Nature (IUCN), involved 1700 participants and 4000 online viewers, with a total of 91 workshops held and 37 knowledge cafés. The Congress focused on three main themes: (1) Governance, (2) Partnerships



and Industry Involvement, and (3) Regional Approaches.

The Congress aimed to provide a global link among all marine conservation players and to define ways to reconcile ocean conservation and the sustainable development of coastal and maritime activities. The overall goal of the meeting was to develop a new vision and new tools to achieve the 2010 Aichi Biodiversity Target of conserving 10% of all marine and coastal ecological regions in Marine Protected Areas (MPAs) by 2020. Marine biodiversity in areas beyond national jurisdiction (ABNJ) was also a prominent topic at the Congress, with a number sessions focused on issues related to capacity development in ABNJ, establishing a global network of MPAs, high seas legal issues and regulations in the governance of ABNJ, and regional approaches in establishing MPAs in ABNJ.

Another notable output of the Congress was a Ministerial Message for the Conservation of the High Seas. Following the main portion of IMPAC 3, Philippe Martin, French Minister of Ecology, Sustainable Development and Energy, convened nineteen high-level ministers from various countries to Ajaccio, France, to discuss three key strategic areas, including: protection through MPAs, conservation at scale, and Aichi Biodiversity Target 11 in the high seas. The Ajaccio Ministerial message underscores the urgency of conserving and managing the high seas sustainably. It calls for the international community to adopt before the end of 2014 the decision of the General Assembly of the United Nations allowing for the launch of negotiations on an implementing agreement of the United Nations Convention on the Law of the Sea for the conservation and sustainable management of marine biodiversity in areas beyond national jurisdictions (ABNJs). Its signatories reaffirmed their determination to reach the target of protecting 10 percent of the oceans through marine protected areas by 2020 (Aichi Biodiversity Target 11).

The Global Ocean Forum played a prominent role in IMPAC 3. In relation to the theme of “Regional Approaches,” the Global Ocean Forum organized a workshop on “Cross-sectoral Policy Dialogue and Linking Global and Regional ABNJ Processes and Capacity Development in ABNJ.” Dr. Biliiana Cicin-Sain, President of the Global Ocean Forum, spoke during a plenary session on “Governance, Partnerships and Industry Involvement” and was also a participant in the high-level Ajaccio Ministerial Conference in Corsica. The Global Ocean Forum, with support from the French Marine Protected Areas Agency, also produced policy briefs on the following topics to inform the Congress discussions:

--Implementation of Rio+20 Outcomes: Challenges and Opportunities

<http://globaloceanforumdotcom.files.wordpress.com/2013/03/policy-brief-on-implementation-of-rio20-ocean-outcomes-challenges-and-opportunities.pdf>

--Recent Progress in Management of Marine Areas Beyond National Jurisdiction at Global and Regional Levels

<http://globaloceanforumdotcom.files.wordpress.com/2013/05/policy-brief-on-recent-progress-in-the-management-of-marine-areas-beyond-national-jurisdiction-abnj-at-global-and-regional-levels.pdf>

The GOF also prepared a report on lessons learned at IMPAC 3 on the issues related to Areas Beyond National Jurisdiction (available at: <http://globaloceanforumdotcom.files.wordpress.com/2013/05/summary-report-of-workshops-addressing-marine-areas-beyond-national-jurisdiction-at-impac-3-marseille-france-october-21-25-2013.pdf>). The report summarizes the key points that emerged from the IMPAC 3 sessions that were focused on ABNJ issues, including the need to develop capacity in the management/governance of ABNJ at the global, regional and national levels, the importance of adequate public outreach efforts, the need to incorporate new elements in existing management frameworks of MPAs in order to address new threats and emerging issues, and the importance of building on progress achieved in recent years on biodiversity conservation in terms of fishing gear moratoria, closures, and establishment of high seas MPAs.

More information on IMPAC 3 available at:
<http://www.impac3.org/en/>

The Ajaccio Ministerial Statement is available at
http://www.impac3.org/images/pdf/Ajaccio/ajaccio_declaration_en.pdf.

The appendix to the Ajaccio Ministerial Statement, which contains the recommendations from IMPAC, is available at http://www.impac3.org/images/pdf/Ajaccio/ajaccio_appendix1_en.pdf.

Videos of various IMPAC sessions, interviews, and other stories about IMPAC 3 are available at:
<http://www.oceanplus.tv/en/>

Global Ocean Forum Active at the 7th GEF Biennial International Waters Conference

The Global Environment Facility International Waters Conference, “Economic Valuation as a Tool to Bridge the Science-Policy Gap,” was held on October 28 - 31, 2013, in Bridgetown, Barbados. The conference gathered over 215 participants, including project managers from the GEF International Waters (IW) portfolio, representatives of beneficiary countries, non-governmental organizations, transboundary management institutions, UN Agencies, and the private sector. Collectively, the participants represented approximately 50 active GEF IW projects, 85 countries, and the various GEF Agencies.

The IWC7’s objective was to facilitate experience sharing across the GEF International Waters portfolio, with a special emphasis on reviewing the economic valuation of international waters and the links between economic valuation and science, as well as mechanisms for linking both to policymaking. A central aim of the Conference was to facilitate cross-sectoral and portfolio-wide learning and experience sharing. IWC7 also aimed to solicit advice from the existing GEF IW portfolio on important issues, and to assist in building participant capacity in key management and technical areas. Participants reported on progress achieved and also looked to the future of programming within and beyond the GEF IW focal area.

The IWC7 featured an innovation marketplace (exhibit area); extensive opportunities for focused learning on scientific and technical innovations; interactive training for IW project managers and country representatives, and; interaction with the GEF Secretariat, GEF agencies, and several partner institutions working on International Waters projects.

As a part of the FAO/GEF ABNJ Program, the Global Ocean Forum organized a workshop on “Communities of Practice in the Management of Areas beyond National Jurisdiction.” The objectives of the workshop were: to promote the establishment of communities of practice (COPs) in the ABNJ in the areas of 1) fisheries, biodiversity, and climate change, and 2) regional multiple use area-based management; and to solicit input from IWC7 participants on the goals of the two communities of practice, the nature, function, and operation of COPs, membership and levels of participation in COPs, the tools that could be used to support COPs, the possibility of formation of COPs from existing working groups, the potential products and other outputs, and how to assess the effectiveness of COPs.

More information on the workshops presented at IWC7 is available at:
http://iwlearn.net/abt_iwlearn/events/conferences/iwc7-2013/index_html.

Global Ocean Forum Enhances Collaboration with the SeaOrbiter Project

Through the signing of a Memorandum of Understanding, the Global Ocean Forum and the SeaOrbiter have agreed to enhance their cooperation in coming years. The Global Ocean Forum and SeaOrbiter will work together in awareness-raising for critical ocean issues among policymakers and the general public.

The SeaOrbiter project, which has been under development for more than 10 years, is the brainchild of French architect Jacques Rougerie. The SeaOrbiter will be a 190-foot slow-moving vessel, powered by solar and wind energy transiting the world's oceans. The SeaOrbiter's revolutionary design will allow scientists to research and explore the marine environment for extended periods of time.



In addition to being an innovative ocean exploration vessel, SeaOrbiter will also be a powerful communication platform that will allow continuous sharing of its discoveries through various types of media. Combined with the Global Ocean Forum's policy analysis work and network of ocean leaders in more than 110 different countries, collaboration between these two organizations provides a key opportunity to engage a broader range of stakeholders, informed by the latest developments in ocean exploration and policy.

More information on SeaOrbiter available at: <http://seaorbiter.com>

Global Ocean Forum Secretariat “Happenings”

Korea Institute of Ocean Science and Technology (KIOST) Fellows

Following the terms of a recent agreement between the KIOST and the Global Ocean Forum and the Mangone Center for Marine Policy, five fellows from KIOST, Dr. Chan Joo Jang, Mr. Giyoung Chae, Mr. Hak Soo Lim, Mr. Kwang Jin Kyung, and Mr. Won Tae Kim spent the Fall semester at the University of Delaware, studying marine policy, taking intensive language classes in English, and taking part of fieldtrips in the Mid-Atlantic region. It was a distinct pleasure for the GOF Secretariat to host the fellows and to discuss diverse perspectives on national and international ocean policy. The program will be continued and enhanced in 2014.



“Soft Launch” of New Global Ocean Forum Website, globalocean.com

We invite you to view the new Global Ocean Forum website, globalocean.com (not as previously globalocean.org) and give us your suggestions on how the site can be further enhanced. Please send your comments to Alexis Martin (atmartin@udel.edu). We very much appreciate your feedback on further improvement of the site.

Joe Appiott, Gwenaëlle Hamon, and Alexis Martin

This month, Global Ocean Forum Secretariat is saying “so long” to policy researchers Joe Appiott and Gwénaëlle Hamon as they undertake new activities, and welcoming onboard Alexis Martin. While we are sad to see these excellent researchers go, we know that they will continue to be part of the GOF network! Please join us in wishing Joe and Gwen the best in their new endeavors and welcome Alexis to the GOF team.



Joe Appiott joined the GOF in 2009 as a researcher while studying for his Master's degree in Marine Policy from the University of Delaware. After earning his Master's degree, Joe continued on in the University of Delaware's PhD program in Marine Policy and is currently a doctoral candidate working on his dissertation research. During his time at the GOF, Joe was a most effective GOF team member producing a range of excellent policy analyses and playing a central role in organizing policy dialogues at the global level. Joe focused on a range of issues, especially marine areas beyond national jurisdiction (ABNJ), offshore renewable energy policy, and oceans and climate change issues. Joe has accepted a position at the Secretariat of the Convention on Biological Diversity in Montreal, where he will work on a range of marine biodiversity issues, including ecologically or biologically significant areas (EBSAs), marine protected areas, marine spatial planning, coral bleaching, and underwater noise.

Gwénaëlle Hamon joined the GOF in 2009 as a Research Fellow. Gwénaëlle has been a key part of the GOF's work in coordination of multi-stakeholder dialogues and policy analysis efforts on a range of topics, including climate change, marine biodiversity, and areas beyond national jurisdiction. In particular, Gwénaëlle led the preparation of the section on small island developing States in the GOF's *Oceans at Rio+20* report. Endowed with excellent organizational abilities, Gwénaëlle was a key organizer of many of the GOF efforts in the Rio+20 process, the UNFCCC, and the CBD, as well as of the Global Ocean Conference 5 at UNESCO. Most recently, she was in charge of the complete overhaul of the GOF website. She will be returning to her native France for additional studies.



Alexis Martin, a master's student in the University of Delaware's Marine Policy Program, comes to the GOF with an extensive background in marine policy at the national level, working for the Consortium for Ocean Leadership in Washington DC. She has a strong interest in regional ocean governance and in multiple use planning for areas beyond national jurisdiction. Her thesis is focused on the lessons that can be learned from the Nairobi Convention, the UNEP Regional Seas Programme in Eastern Africa, and how they affect the protection, management, and sustainable development of the Western Indian Ocean region. In October 2013, Alexis participated in the Western Indian Ocean Marine Science Association Regional Symposium in Maputo, Mozambique.



Miriam Balgos

In summer 2013, Miriam Balgos, the GOF Program Coordinator, served as Deputy Team Leader of the final evaluation of the 5-year U.S. Coral Triangle Initiative (US CTI) Support Program. Dr. Balgos, who is from this region, directed the substantive aspects of the evaluation in the areas of ecosystem approach to fisheries management, marine protected areas, and climate change adaptation.



The Coral Triangle is an area covering about four million square miles of marine waters in the Southeast Asian and Pacific nations of Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands and Timor-Leste. The biological resources of the Coral Triangle, which directly sustain more than 120 million people living within and outside this area, are at risk due to overfishing, destructive fishing practices, land- and ocean-based sources of pollution, climate change, among other threats. The US Agency for International Development (USAID) Regional Development Mission for Asia, through which U.S. government funding in the amount of \$42 M for the US CTI Program was channeled, commissioned the evaluation, which assessed the effectiveness of the regional

collaboration and integration approach that the US CTI has taken to support the establishment and implementation of a regional ocean governance regime in the Coral Triangle.

Dr. Balgos also taught a new course in coastal management and adaptation to climate change in the Marine Policy Program at the University of Delaware.



Biliana Cicin-Sain

Biliana Cicin-Sain made several presentations on the Rio+20 outcomes and implementation challenges at a number of conferences in Fall 2013, including at the Law of the Institute workshop (Berkeley, US, October 2013), the International Council on Ocean Law's symposium (Murnau, Germany, November 2013, which brought together the recipients of the Elizabeth Haub Prizes for Environmental Law and Diplomacy to discuss new directions in international environmental law and policy), and at the Ocean Policy Research Foundation, Tokyo in December 2013 (where new directions in ocean governance were discussed).

Dr. Cicin-Sain gave a keynote presentation, as well, on the need for capacity development regarding areas beyond national jurisdiction at the Western Indian Ocean Marine Association Regional Symposium (Maputo, Mozambique, October 2013). Biliana taught a graduate course in International and National Policy and a first-ever course on governance of marine areas beyond national jurisdiction in the Marine Policy Program at the University of Delaware. These courses were enhanced by lectures from colleagues from around the world, including, inter alia, from UNDOALOS, UNESCO, FAO, IMO, IUCN, and the Global Ocean Commission.



**Global Ocean Forum Holiday Party- December 18, 2013
Good Luck to Gwénaëlle and Joe!**

Acronyms used in the GOF Newsletter

BBNJ - Biodiversity in Areas Beyond National Jurisdiction

CBD - United Nations Convention on Biological Diversity

CoPs - Communities of Practice

DOALOS – United Nations Division for Ocean Affairs and the Law of the Sea

ENB - Earth Negotiations Bulletin

FAO - Food and Agriculture Organization of the United Nations

GEF - Global Environment Facility

GEF IWC7 – 7th GEF Biennial International Waters Conference

GOF – Global Ocean Forum

IMO - International Maritime Organization

IMPAC 3 -3rd International Marine Protected Areas Congress

IPCC - Intergovernmental Panel on Climate Change

IPCC AR5 - Intergovernmental Panel on Climate Change Fifth Assessment Report

IPCC AR4 - Intergovernmental Panel on Climate Change Fourth Assessment Report

IUCN - International Union for the Conservation of Nature

KIOST - Korea Institute of Ocean Science and Technology

MPAs - Marine Protected Areas

OWG - Open Working Group on Sustainable Development Goals

SDG – Sustainable Development Goals

SPM - Summary for Policymakers

UN – United Nations

UNCLOS – United Nations Convention on the Law of the Sea

UNEP - United Nations Environment Programme

UNFCCC - United Nations Framework Convention on Climate Change

UNGA – United Nations General Assembly

USAID - United States Agency for International Development

US CTI - United States Coral Triangle Initiative