# The Impacts of Ocean Acidification on Marine Biodiversity CBD Secretariat - IOC/UNESCO Side Event

at

United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (14th Meeting)

### Tuesday, 18 June 2013, 13:15 – 14:45, Conference Room 6, North Lawn Building, UNHQ

biodiversity implications of ocean acidification for marine and coastal systems, including information on the less-reported paleo oceanographic research

CBD decision XI/18, Section A, para 23

Maps from Cao and Caldeira (2008)









A targeted synthesis of the







## The Impacts of Ocean Acidification on Marine Biodiversity CBD-IOC/UNESCO Side Event

The United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea Fourteenth meeting, 17 to 20 June 2013, UNHQ, New York

Tuesday, 18 June, 13:15 – 14:45 Conference Room 6, North Lawn Building, UNHQ

#### **Provisional Program**

Co-Chairs: CBD Secretariat and IOC/UNESCO

**Opening by Co-Chairs** (10 min)

#### Theme presentation by Phillip Williamson (20 min)

• Preliminary result of preparing a systematic review document on the impacts of ocean acidification on biodiversity and ecosystem functions

#### Panel Discussion (Moderator: Carol Turley) (30 min)

 Ambassador Ronald Jumeau (Seychelles Ambassador for Climate Change and Small Island Developing State Issues)

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- Richard Feely (NOAA)
- Yoshihisa Shirayama (Japan)
- Jacqueline Alder (UNEP)
- Yimin Ye (FAO)
- Michel Warnau (IAEA)

**Open Forum** (20 min)

**Summary and Conclusion by Moderator** (5 min)







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#### **Speaker Biographies**

Jacqueline Alder is the Coordinator of the Marine and Coastal Ecosystem Branch at the United Nations Environment Programme (UNEP), where her role is to develop and strengthen UNEPs Marine and Coastal Programme. Before joining UNEP, Jackie was a Marine and Fisheries Policy Analyst and Researcher at the Fisheries Centre at the University of British Columbia in Vancouver, Canada (2001-2008) and Edith Cowan University in Perth, Australia (1995-2001). She has extensive experience working with governments, researchers, NGOs and coastal fishing communities throughout the Asia and Pacific Regions, Australia and Canada. She has published numerous articles in a range of peer-reviewed journals, books and co-authored the popular book *Coastal Planning and Management*. She has worked extensively on coral reef island communities and marine-protected area management and has keen appreciation of the impacts of climate change on oceans and coast, as well as what the future holds for marine and coastal communities. Jackie is a dual citizen of Australia and Canada. She obtained a B.Sc. (Hons) in Canada and a PhD. (Marine-Protected Area Management) in Australia.

Richard Feely (NOAA) is a Senior Scientist at the National Oceanic and Atmospheric Administration (NOAA) Pacific Marine Environmental Laboratory in Seattle, WA. He also holds an affiliate full professor faculty position at the University of Washington School of Oceanography. His major research areas are carbon cycling and ocean acidification processes in the oceans. He received a B.A. in chemistry from the University of St. Thomas, in St Paul, Minnesota in 1969. He then went onto Texas A&M University where he received both an M.S. degree in 1971 and a Ph.D. degree in 1974 in the field of chemical oceanography. He is also a member of the U.S. Science Steering Committees for the U.S. Carbon Cycle Science Program and the U.S. Carbon and Biochemistry Program. He is a member of the American Geophysical Union and the American Association for the Advancement of Science. Dr. Feely has authored more than 180 refereed research publications. He was awarded the Department of Commerce Gold Award in 2006 for his pioneering research on ocean acidification. In 2007, Dr. Feely was elected to be a Fellow of the American Geophysical Union.

Ambassador Ronald Jumeau is Seychelles Ambassador for Climate Change and Small Island Developing State Issues. He held various ministerial positions in the Government of the Seychelles from 1998 to 2007, including Permanent Representative of the Seychelles to the United Nations and Ambassador to the United States. Early in his career he was a journalist; he was the first Editor of Seychelles Agence Presse from 1980 to 1982, and he also worked as Chief Editor of the Seychelles Nation daily newspaper. Subsequently he was an adviser with special press duties at the Ministry of Education from 1991 to 1993, and he was Secretary to the Cabinet in the office of the President of Seychelles and at the same time secretary of four inter-ministerial Cabinet committees from 1994 to 1998; additionally, Jumeau was in charge of the government's relations with the National Assembly from 1995 to 1998. Jumeau was Minister for Agriculture and Marine Resources from 1998 to 1999, then Minister for Culture and Information from 2000 to September 2001, Minister for the Environment from September 2001 to 2003, and Minister for the Environment and Natural Resources (i.e. agriculture and marine resources) from 2003 to 2007. He was appointed as Permanent Representative to the UN and Ambassador to the United States in 2007. He is a champion of islands and the environment and a steering committee member of the Global Islands Partnership.

- Jihyun Lee is the Environmental Affairs Officer for marine and coastal biodiversity within the Secretariat of the Convention on Biological Diversity/the United Nations Environment Programme. As such, she covers various issues related to the implementation of Jakarta Mandate, such as integrated marine and coastal management, marine and coastal protected areas, conservation of deep sea biodiversity, marine invasive alien species, etc. In particular, she coordinates the organization of a series of CBD regional workshops to facilitate the description of ecologically or biologically significant marine areas, including marine areas beyond national jurisdiction; the implementation of the CBD's Sustainable Ocean Initiative as a global platform of partnership and capacity development toward achieving Aichi Biodiversity Targets related to marine and coastal biodiversity; and the implementation of COP decisions on ocean acidification.
- Yoshihisa Shirayama, was born in 1955 in Tokyo, Japan, obtained D. Sc. Degree from Graduate School of Science, The University of Tokyo (UT), in 1982. He then served Assistant and then Associate Professor at Ocean Research Institute, UT. In 1997, he became a professor of Seto Marine Biological Laboratory, Faculty of Science, Kyoto University. In 2003, the laboratory moved to Field Science Education and Research Center. He served as Director of the center from 2007. In April 2011, he became Executive Director of Research, Japan Agency for Marine-Earth Science and Technology. His major research field is marine biology, especially taxonomy and ecology of deep-sea meiobenthos. He also is working on the marine biodiversity and the impact of ocean acidification upon it.
- Carol Turley works at the Plymouth Marine Laboratory, Plymouth, UK. Carol's research has been centred on the ocean's biogeochemical cycles. She was a member of The Royal Society Working Group on ocean acidification and was a Lead Author on the 2007 IPCC 4th Assessment Report on Climate Change and is a Review Editor for the 5th AR. She is a member of the Executive Board of two EU funded projects on ocean acidification and is the Knowledge Exchange Coordinator for the UK Ocean Acidification Research Programme. She has published and presented on a wide range of topics within the field of ocean acidification and briefs national and global stakeholders. She has over 100 peer reviewed publications.
- Michel Warnau completed his PhD at the Free University of Brussels, Belgium, in 1996, with a specialization in Marine Ecotoxicology. In January 2012, he was appointed as Head of the Radioecology Laboratory at the IAEA Environment Laboratories in Monaco where, together with his staff, he is in charge of the IAEA activities related to improving current knowledge on the behaviour and fate of radionuclides and other contaminants in the marine biosphere and to supporting IAEA Member States in the field of radioecology and its applications to ecotoxicology, biogeochemistry and global change issues, including related seafood safety issues and socio-economic impact studies. Michel is the Project Manager the IAEA Peaceful Uses Initiative (PUI) project "Ocean Acidification International Coordination Centre (OA-ICC)", which aims at optimising previous and current efforts and research investments and is used as a platform to communicate, promote and facilitate a number of overarching activities on ocean acidification, to the benefit of the scientific community and science users. The OA-ICC project is collaborating with the major national and international OA Programmes worldwide.
- Wendy Watson-Wright is the Executive Secretary and Assistant Director General of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO). Headquartered in Paris, IOC-UNESCO is the focal point within the United Nations system for ocean science, ocean observations, ocean data and

information exchange and ocean services, including global tsunami warning systems. It is also the competent international organization for marine science under the United Nations Convention on the Law of the Sea. From 2001 to 2009, she was Assistant Deputy Minister, Science, for Fisheries and Oceans Canada in Ottawa where she was responsible for providing the leadership, and policy and scientific direction for all science activities in the department's fifteen science institutes throughout Canada. A Killam scholar, Dr. Watson-Wright holds a Ph.D. in Physiology from Dalhousie University in Halifax, Nova Scotia, Canada.

Phil Williamson works for the UK Natural Environment Research Council (NERC) on the planning and delivery of major strategic initiatives in the topic areas of climate change, marine biogeochemistry and marine biodiversity. He is a Visiting Fellow (with a very untidy desk) at the University of East Anglia, with current activities including co-leadership of the Global Ocean Acidification Observing Network (GOA-ON) and science coordination for the UK Ocean Acidification (UKOA) research programme. UKOA is funded by NERC and two UK government departments, Defra and DECC; it involves around 120 researchers at more than 25 universities and research centres. Phil was educated at the universities of Cambridge and Durham, and carried out research at Portsmouth and Leeds – in both terrestrial and marine environments. He was closely involved in the early development of Plymouth Marine Laboratory (PML), the International Geosphere-Biosphere Programme (IGBP), the Ocean-Atmosphere Observatory at Cape Verde, and the Chagos/BIOT Marine Protected Area. Phil has coordinated the UK science contributions to the Joint Global Ocean Flux Study (JGOFS), the Global Ocean Ecosystems Dynamics Project (GLOBEC) and the Surface Ocean-Lower Atmosphere Study (SOLAS). In 2012, Phil was lead author of CBD Technical Series 66 Impacts of Climate Related Geoengineering on Biological Diversity.

Yimin Ye is the Chief, Marine and Inland Fisheries Branch (FIRF), Fisheries and Aquaculture

Department of the United Nations Food and Agriculture Organization, based in Rome, Italy. His scientific interest covers fishery stock assessment, management strategy evaluation, survey design, fishery bioeconomics, and right-based fishery management. He has published about 50 peer-reviewed papers. Yimin received his PhD in fishery stock assessment and management from the Imperial College, University of London. He worked at Shanghai Ocean University, Kuwait Institute for Scientific Research, and the Commonwealth Scientific and Industrial Research Organization, Australia.