



## Scientific Call for Ocean-based Action to Tackle the Climate Crisis

We are experts from ocean related disciplines from all regions and ocean basins of the world, convened under the auspices of the High Level Panel for a Sustainable Ocean Economy.

We are deeply alarmed by the conclusions of the IPCC Sixth Assessment Report and the impact that anthropogenic climate change is having on the health of our ocean and ocean-dependent communities.

Urgent action is required to safeguard the ocean's critical role in regulating the Earth's climate, feeding billions of people and driving the world's economy.

For too long the ocean has been relegated to being the victim of climate change. This view ignores the existence of a host of ocean-based solutions - both natural and technological - that are underpinned by science and able to support global mitigation and adaptation efforts.

As scientific understanding of the ocean has increased, its central role in improving the health, wealth and well-being of people has become clearer. The UN Decade of Ocean Science for Sustainable Development can be a catalyst for identifying and meeting the most urgent ocean knowledge needs to unlock even greater innovation and opportunity to respond to the climate crisis.

The climate crisis is too urgent to continue to discount the range of measures and innovations found within the ocean and ocean economy. We must utilise every part of our economy to tackle climate change.

### We call on all Parties to the UNFCCC to:

- Incorporate ocean-based measures in mitigation and adaptation strategies, plans and policies, taking into account the best available science and ensuring sustainability.
- Account for all ocean-based sources and sinks in national inventories and accounting frameworks in accordance with IPCC guidance, including the 2013 IPCC Wetlands Supplement.
- Commit to sustainably manage 100% of the ocean area under national jurisdiction and protect 30% of the ocean by 2030 to build the resilience of our oceans and ocean-dependent communities and harness ocean-based mitigation opportunities.
- Increase investment in ocean science capacity to fill data gaps and digitise information on ocean-based sources and sinks, including coastal and marine ecosystems such as mangroves, seagrasses, coral reefs, salt marshes and kelp.

Signed

**Dedi S. Adhuri**  
Research Centre for Society and  
Culture, National Research and  
Innovation Agency, Indonesia

**Dr. Kamal-Deen Ali**  
Centre for Maritime Law and  
Security Africa, Ghana

**Edward H. Allison**  
WorldFish, Malaysia

**Dr. Diva Amon**  
SpeSeas, Trinidad and Tobago

**Kwasi Appeaning Addo**  
University of Ghana, Ghana

**Ward Appeltans**  
Intergovernmental  
Oceanographic Commission of  
UNESCO, Belgium

**Zainal Arifin**  
Indonesia Institute of Sciences,  
Indonesia

**Sophie Arnaud-Haond**

Marine Biodiversity, Exploitation and Conservation, University of Montpellier; Institut Français de Recherche pour l'Exploitation de la Mer; Centre National de la Recherche Scientifique; Institut de Recherche pour le Développement, France

**Dra. Inés Arroyo-Quiroz**

Centro Regional de Investigaciones Multidisciplinarias, Universidad Nacional Autónoma de México, Mexico

**Lisa T. Ballance, Ph.D**

Oregon State University, USA

**Dominique Benzaken**

Australian National Centre for Ocean Resources and Security, University of Wollongong, Australia

**Dr. Wiebren J. Boonstra**

Natural Resources and Sustainable Development, Department of Earth Science, Uppsala University, Sweden

**Rodrigo H. Bustamante**

Commonwealth Scientific and Industrial Research Organisation, Australia

**Reniel Cabral**

University of California Santa Barbara, USA

**Adelino V.M. Canário**

Centre of Marine Sciences, University of Algarve, Portugal

**Ling Cao**

School of Oceanography, Shanghai Jiao Tong University, China

**Dr. Thierry Chopin**

Seaweed and Integrated Multi-Trophic Aquaculture Laboratory, University of New Brunswick; Chopin Coastal Health Solutions Inc., Canada

**Joachim Claudet**

Centre National de la Recherche Scientifique, France

**Duncan Copeland**

Trygg Mat Tracking, Norway

**Professor Christopher Costello**

University of California Santa Barbara, USA

**Philippe Cury**

Institut de Recherche pour le Développement, France

**Dr. Minhan Dai**

Xiamen University, China

**Helen Ding**

World Resources Institute, The Netherlands

**Carlos M. Duarte**

Red Sea Research Center and Computational Biosciences Research Center, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia

**Brajesh Kumar Dubey, Ph.D**

Department of Civil Engineering, Indian Institute of Technology Kharagpur, India

**Elva Escobar-Briones**

Instituto de Ciencias del Mar y Limnología Ciudad Universitaria, Universidad Nacional Autónoma de México, Mexico

**Dr. Katharina Fabricius**

Australian Institute of Marine Science, Australia

**Fabio Favoretto**

Centro para la Biodiversidad Marina y la Conservación, A.C.; Universidad Autónoma de Baja California Sur, Mexico

**Christopher Free**

University of California Santa Barbara, USA

**Steven Gaines**

University of California Santa Barbara, USA

**Elsa Galarza**

Universidad del Pacífico, Peru

**Stefan Gelcich**

Instituto Milenio en Socio-Ecología Costera; Center of Applied Ecology and Sustainability, Pontificia Universidad Católica de Chile, Chile

**Christopher Golden**

Department of Nutrition, Harvard T.H. Chan School of Public Health, USA

**Kristine Grimsrud, Ph.D**

Research Department, Statistics Norway, Norway

**Professor Patrick N. Halpin, Ph.D**

Nicholas School of the Environment and Duke Marine Lab, Duke University, USA

**Britta Denise Hardesty**

Commonwealth Scientific and Industrial Research Organisation, Australia

**Peter M. Haugan, Ph.D**

Institute of Marine Research, University of Bergen, Norway

**Gakushi Ishimura**

Faculty of Agriculture, Iwate University, Japan

**Dr. Jenna Jambeck**

University of Georgia, USA

**Professor Marcel Jaspars**

University of Aberdeen, UK

**Svein Jentoft**

Faculty of Bioscience, Fisheries and Economics, The Arctic University of Norway, Norway

**Dr. James Kairo**

Kenya Marine and Fisheries Research institute, Kenya

**Dorte Krause-Jensen**

Department Ecoscience and Arctic Research Centre, Aarhus University, Denmark

**Joy A. Kumagai**

Senckenberg Biodiversity and Climate Research Center, Germany

**Jim Leape**

Stanford Center for Ocean Solutions, USA

**Amanda Leland**

Environmental Defense Fund, USA

**Lisa A. Levin**

Scripps Institution of Oceanography, University of California San Diego, USA

**Dr. Elizabeth Lindstad**

SINTEF Ocean, Norway

**Professor Junguo Liu**

Southern University of Science and Technology, Shenzhen, China

**Tony Long**

Global Fishing Watch, USA

**Priscila F.M. Lopes**

Fishing Ecology, Management and Economics Group, Universidade Federal do Rio Grande do Norte, Brazil

**Catherine E. Lovelock**

The University of Queensland, Australia

**Ms. Sarika Maharaj**

Fisheries Division of the Ministry of Agriculture, Land and Fisheries, Trinidad and Tobago

**Dr. Michael Melnychuk**

School of Aquatic and Fishery Sciences, University of Washington, USA

**Marie Antonette J. Meñez**

Marine Science Institute, University of the Philippines, The Philippines

**Mark Michelin**

CEA Consulting, USA

**Professor Karyn Morrissey**

Department of Technology, Management and Economics Sustainability Division, Technical University of Denmark, Denmark

**Umi Muawanah, Ph.D**

The Agency for Marine Affairs and Fisheries Research, Indonesia

**Mari Myksvoll**

Institute of Marine Research, Norway

**Aidin Niamir**

Senckenberg Biodiversity and Climate Research Institute, Germany

**Finn Gunnar Nielsen**

Geophysical Institute and Bergen Offshore Wind Centre, University of Bergen, Norway

**Eliza Northrop**

World Resources Institute, UK

**David Obura**

CORDIO, Kenya

**Elena Ojea**

Future Oceans Lab, Centro de Investigación Mariña, Universidade de Vigo, Spain

**Dr. Bethan O'Leary**

University of Exeter, UK

**Ayodeji Olukoju, Ph.D**

University of Lagos, Nigeria

**Dr. Robert Parker**

GHG Emissions, Aquaculture Stewardship Council, The Netherlands

**Dr. Karen Raubenheimer**

Australian National Centre for Ocean Resources and Security, University of Wollongong, Australia

**Budy P. Resosudarmo**

Australian National University, Australia

**Gabriel Reygondeau**

Changing Ocean Research Unit, Institute for the Oceans and Fisheries, University of British Columbia, Canada

**Professor Callum Roberts**

Centre for Ecology and Conservation, University of Exeter, UK

**Bangabandhu Chair Professor****Joyashree Roy**

School of Resource, Environment and Development Asian Institute of Technology, Thailand; Jadavpur University, India

**Tanya Brodie Rudolph**

Centre for Sustainability Transitions, Stellenbosch University, South Africa

**Dr. Hide Sakaguchi**

Ocean Policy Research Institute, Sasakawa Peace Foundation, Japan

**Dr. Megan Saunders**

Commonwealth Scientific and Industrial Research Organisation, Australia

**Dr. Andy Steven**

Commonwealth Scientific and Industrial Research Organisation, Australia

**Martin Stuchtey**

SYSTEMIQ, Germany

**Rashid Sumaila**

Fisheries Economics Research Unit, University of British Columbia, Canada

**Albert G.J. Tacon, Ph.D**

Aquahana LLC, Honolulu, USA

**Louise Teh**

Institute for the Oceans and Fisheries, University of British Columbia, Canada

**Torsten Thiele**

Global Ocean Trust, Germany

**Associate Professor Dr. To Thi Hien**

Faculty of Environment, University of Science, Vietnam National University, Ho Chi Minh City, Vietnam

**Steven Trent**

Environmental Justice Foundation, UK

**Amy Trice**

Ocean Conservancy, USA



**Sebastian Unger**

Ocean Governance Research  
Group, Institute for Advanced  
Sustainability Studies, Germany

**Professor Hennie Van As**

Nelson Mandela University,  
South Africa; Australian  
National Centre for Ocean  
Resources and Security;  
University of Wollongong,  
Australia

**Enriqueta Velarde**

Instituto de Ciencias Marinas y  
Pesquerías, Universidad  
Veracruzana, Mexico

**Adrien Vincent**

SYSTEMIQ, France

**Vu Thanh Ca**

Faculty of Environment, Ha Noi  
University of Natural Resources  
and Environment, Vietnam

**Dr. Melissa Walsh**

Marine Conservation Finance  
Consulting, Australia

**Sandra Whitehouse**

Ocean Conservancy  
(Consultant), USA

**Chris Wilcox**

Oceans and Atmosphere  
Business Unit, Commonwealth  
Scientific and Industrial  
Research Organisation,  
Australia

**Jan-Gunnar Winther**

Centre for the Ocean and the  
Arctic, Norway

**Emma Witbooi**

Department of Public Law,  
Nelson Mandela University,  
South Africa

**Tony Worby**

Flourishing Oceans, Minderoo  
Foundation, Australia

**Professor Rachel Wynberg**

Department of Environmental  
and Geographical Science,  
University of Cape Town, South  
Africa

**Junjie Zhang**

Nicholas School of the  
Environment, Duke University;  
Environmental Research Center,  
Duke Kunshan University, China