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A strong call for ocean science to lead climate solutions

GEOMAR participates in international climate change conference COP28 and supports the “Dubai Ocean Declaration” launched today

20.11.2023/Dubai/Kiel. Partnering with other leading scientific and stakeholder organisations, GEOMAR Helmholtz Centre for Ocean Research Kiel participates in this year’s United Nations climate change conference in Dubai, United Arab Emirates. GEOMAR contributes to the Ocean Pavilion, a central hub for leveraging ocean science and solutions for the climate crisis coordinated by the Woods Hole Oceanographic Institution (WHOI) and Scripps Institution of Oceanography. Today, the partners call on world leaders to enhance protection of the ocean and expand the observational capacity that is the foundation of the scientific evidence to guide progress in the “Dubai Ocean Declaration”.

The Ocean Pavilion returns to the United Nations climate change conference (Conference of the Parties of the United Nations Framework Convention on Climate Change, UNFCCC, COP28) to underscore the integral role of our ocean in climate. The pavilion serves as the central hub for conference delegates to exchange ideas on addressing the climate crisis by leveraging ocean science – for the first time with support from GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany. The conference is expected to host more than 70,000 delegates from 30 November to 12 December 2023 in Dubai, United Arab Emirates, including heads of state and world leaders. It aims to build consensus and facilitate progress on climate action among 197 countries, the European Union and thousands of non-government organizations, companies, youth groups and other stakeholders focused on efforts to achieve the goals laid out in the Paris Agreement.

Throughout the two-week conference, the Ocean Pavilion will feature more than 80 events, meetings, and in-depth discussions that elaborate on a set of conference themes, including Rising Seas, Climate and the Living Ocean, and Blue Economy and Finance. Visitors will also be able to learn more about the work of Ocean Pavilion partners and to speak with scientists, thought leaders, and students engaged in the search for solutions to some of the world’s most pressing challenges. The Ocean Pavilion and its programme are coordinated by Woods Hole Oceanographic Institution (WHOI) and Scripps Institution of Oceanography. As one of the 35 pavilion partners, GEOMAR coordinates two events at the pavilion and contributes to several additional ones. The focus of these events is on the carbon cycle and carbon uptake, ocean oxygen as well as digital ocean twins as a tool for science-based decision support.

“With our contributions to the ocean pavilion, we put the ocean – our strongest ally in the fight against climate change – centre stage at the climate change conference in Dubai”, says GEOMAR director Professor Dr. Katja Matthes. “The ocean helps us to mitigate climate change – while on the other hand we also need to ensure people around the world adapt to ocean changes and reduce risks for their lives and livelihoods. This requires profound scientific knowledge and a strong will to take action. The ocean pavilion and related activities of its partners aim to provide relevant information, facilitate dialogues and inspire change.”

In their “Dubai Ocean Declaration” launched today, the pavilion partners call on world leaders to enhance protection of the ocean, starting with an expansion of the observational capacity that is the

foundation of the scientific evidence to guide progress. “With it, society may better understand and more fully mitigate the risks being posed by climate change to the ocean on which we all depend”, the declaration emphasises.

The United Nations Framework Convention on Climate Change (UNFCCC) is the world's highest decision-making body on climate issues and its annual Conference of the Parties is one of the largest international meetings in the world. The meeting is the sole venue at which world leaders and climate experts from nearly 200 countries, as well as experts and leaders in industry, trade, transportation, finance, labour and more convene on the shared mission of meeting the commitments made under the Paris Agreement. Under that 2015 pact, countries pledged to collectively cut their greenhouse gas emissions enough to keep the planet from warming by no more than 1.5-2° C (2.7-3.6° F) relative to pre-industrial times.

As mandated by the Paris Climate Agreement, COP28 will deliver the first ever Global Stocktake – a comprehensive evaluation of progress against climate goals. The United Arab Emirates presidency will lead a process for all parties to agree upon a clear roadmap to accelerate progress through a pragmatic global energy transition and a “leave no one behind approach to inclusive climate action”. By most estimates, however, the planet is currently on track to exceed these limits, even with a complete phase-out of fossil fuels and other sources of greenhouse gasses.

As a result, many science and policy experts are growing increasingly vocal about the need to develop and deploy methods of removing more carbon dioxide from the atmosphere than human activities produce, in addition to drawing down greenhouse gas emissions. This “net negative” emissions pathway relies on vastly improving knowledge about the ocean and potential impacts of continued climate change and any proposed solutions through enhanced ocean observing networks and technologies, with ocean science leading the way to ensure the efficacy of solutions being implemented are monitored, reported, and verified and the environmental impacts are fully understood.

Better knowledge about the ocean and increased capacity development can also help address a much broader array of challenges faced by people around the world, including increasingly extreme weather, food security, energy production, water management, biodiversity loss and sustainable growth. For that reason, the partners in the Ocean Pavilion are carrying their message of the ocean’s importance in all human activity and in the health of the planet.

GEOMAR at COP28:

01 December 23, 11:00-12:00 local time, Ocean Pavilion
“Carbon Sequestration in Seabed Sediments: Prospects and Perils”, coordinated by the National Oceanography Centre, with Professor Dr. Andreas Oschlies

01 December 2023, 15:30-16:30 local time, Ocean Pavilion
“Ocean Research Coalition: Scientific Coordination to Inform Ocean Sustainability Decisions”, coordinated by CNRS, with Dr. Toste Tanhua (tbc)

01 December 2023, 17:00-18:00 local time, Ocean Pavilion
“The North Atlantic Carbon Observatory – A Needed Starting Point for Climate Strategies and Climate Mitigation Solutions”, coordinated by GEOMAR, with Dr. Toste Tanhua

01 December, 16:30-18:30 local time, German Pavilion
“From Science to Action: Overcoming Challenges in Implementing Carbon Dioxide Removal (CDR) Pathways”, coordinated by The Science Coalition, with Professor Dr. Andreas Oschlies

02 December 2023, 08:00-09:00 local time, Ocean Pavilion
“Ocean Alkalinity Enhancement: A Guide to Responsible, Transparent, and Inclusive Research”, coordinated by the Prince Albert II of Monaco Foundation, with Professor Dr. Andreas Oschlies

02 December 2023, 09:30-10:30 local time, Ocean Pavilion

“Climate Change, Deoxygenation and Biodiversity in the High Seas and Deep Ocean: Interactions and Policy Opportunities”, coordinated by Scripps Institution of Oceanography, with Professor Dr. Andreas Oschlies

03 December 2023, 14:00-15:00 local time, Ocean Pavilion

“One Ocean Science Congress: A UN Special Event (Nice, France, June 2025)”, coordinated by CNRS, with Professor Dr. Katja Matthes (virtual, tbc.)

09 December 2023, 15:30-16:30 local time, Ocean Pavilion

“Ocean Observations, Information and Advisory Services for a Sustainable and Resilient Blue Economy” coordinated by the Indian National Centre for Ocean Information Services (INCOIS) with Professor Dr. Martin Visbeck

10 December 2023, 11:00-12:00 local time, Ocean Pavilion

“Digital Twins of the Ocean: A Novel Tool for Science-Based Decision Support”, coordinated by GEOMAR, with Professor Dr. Martin Visbeck

Links:

<https://oceanpavilion-cop.org> The Ocean Pavilion 2023

<https://www.youtube.com/watch?v=r6e2l4bfVpY> Live Stream of Ocean Pavilion events

<https://oceanpavilion-cop.org/cop28-dubai-ocean-declaration> Dubai Ocean Declaration

<https://www.german-climate-pavilion.de> German Pavilion at COP28

<https://en.unesco.org/go2ne> Global Ocean Oxygen Network

<https://www.ioc.unesco.org/en/global-oxygen-decade> Global Ocean Oxygen Decade (GOOD)

<https://www.geomar.de/en/discover/ocean-for-climate-protection> GEOMAR Discover: Ocean for Climate Protection

Images:

Images are available for download at <http://www.geomar.de/n9204-e>

Contact:

Maike Nicolai (GEOMAR, Communication & Media), media@geomar.de