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# 44th Session of the WCRP Joint Scientific Committee (JSC-44)

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# Ocean Acidification (and the Decade)



The ocean decade proposal lead by GOA-ON and supported by IOC-UNESCO, Ocean Acidification Research for Sustainability (OARS) has been formally recognised as an UN Ocean Decade programme. Through OARS, and with our continued, the scientific community will work effectively together to provide MS, society and decision makers with the scientific evidence they need in order to sustainably monitor, mitigate and adapt to the threats of ocean acidification; from our local coasts and estuaries to the open oceans.

@Alexis Valauri-Orton, The Ocean Foundation, ocean acidification water sampling in Suva Harbor during 2017 training in Fiji

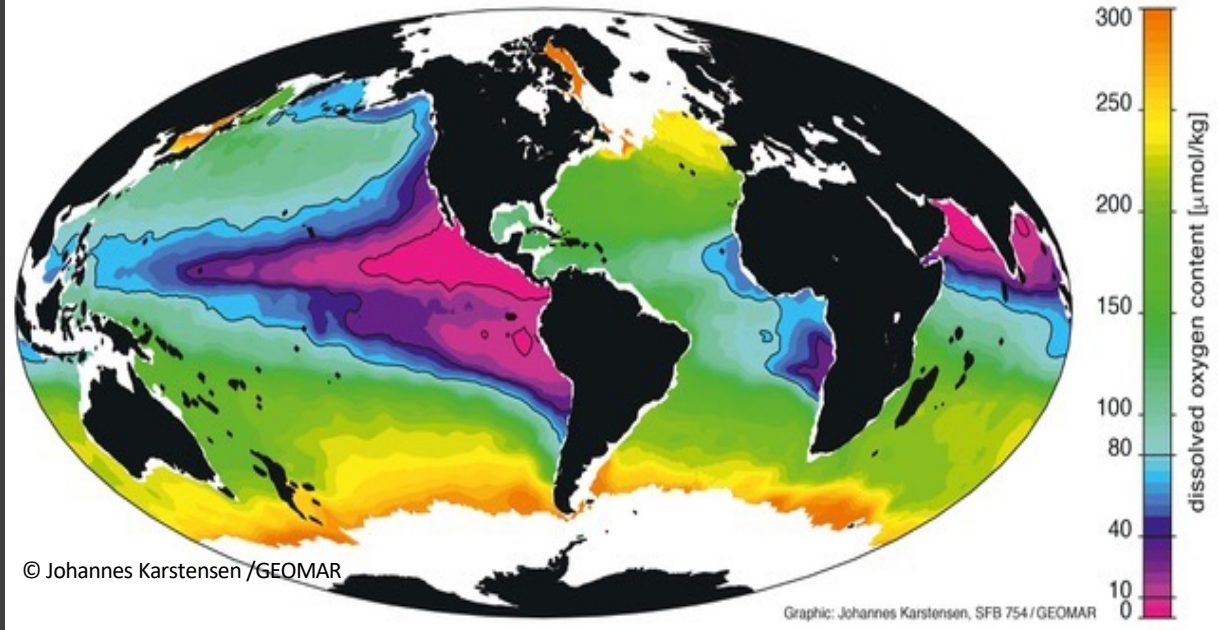
# Deoxygenation (and the Decade)

**GO<sub>2</sub>NE**  
Global Ocean Oxygen NETWORK



Stakeholder engagement (© Kirsten Isensee, GO2NE)

**DISTRIBUTION OF OXYGEN** at about 300 – 500 m depth ( $\sigma_\theta=26.9 \text{ kg/m}^3$ ).



In the framework of GOOD, the recently endorsed ocean decade programme lead by the IOC working group GO2NE, we will raise awareness about ocean deoxygenation, provide knowledge for action and, together with stakeholders, co-design and develop mitigation and adaptation measures at regional to global scale.

# Blue Carbon

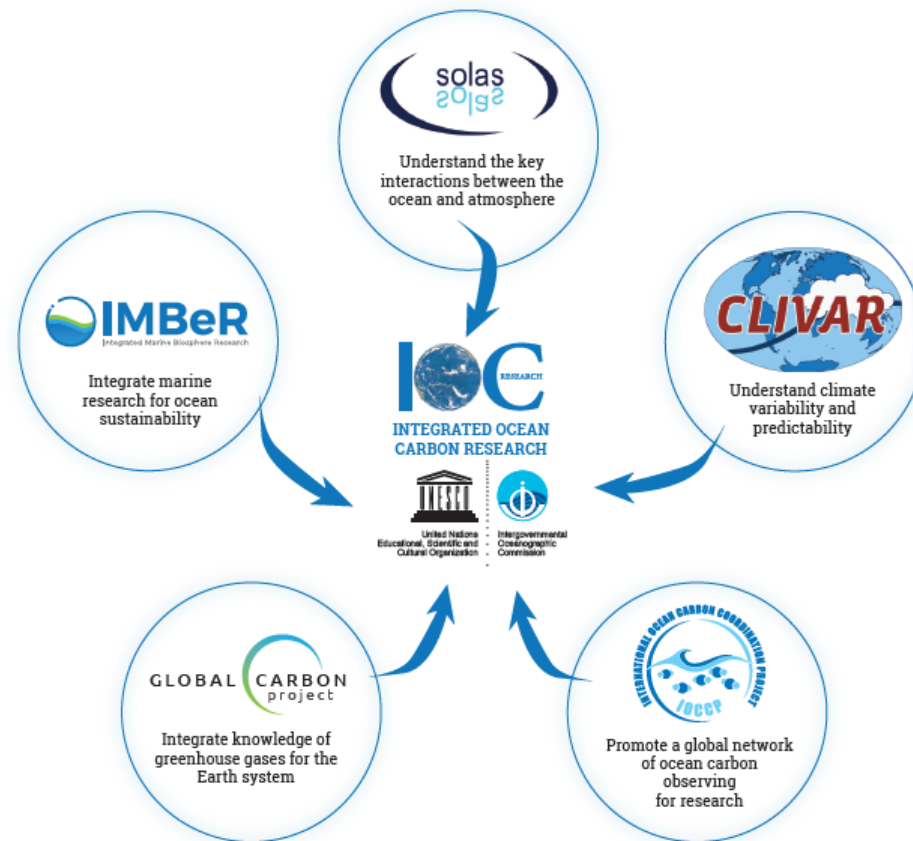
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- IOC has strengthened its role at the interface between blue carbon science and policy by becoming part of the Coordinator Team of the International Partnership of Blue Carbon together with the Australian Government last year. By connecting scientists united under the Blue Carbon Initiative with governments, the IOC is scaling up efforts towards the protection of blue carbon ecosystems, contributing to climate change mitigation, adaptation, biodiversity, ocean economies and livelihoods of coastal communities.
- Scaling-up of efforts towards the protection of blue carbon ecosystems through the shared coordination of the Blue Carbon Initiative and the International Partnership for Blue Carbon, contributing to climate change mitigation and adaptation, biodiversity and livelihoods.



# Integrated Ocean Carbon Research (IOC-R)

A formal IOC working group sponsored by:



<https://unesdoc.unesco.org/ark:/48223/pf0000376708>

# IOC-R frames ocean carbon research around 4 foundational questions

- Will the ocean uptake of anthropogenic carbon dioxide (CO<sub>2</sub>) continue as primarily an abiotic process?
- What is the role of biology in the ocean carbon cycle, and how is it changing?
- What are the exchanges of carbon between the land-ocean-ice continuum and how are they evolving over time?
- How are humans altering the ocean carbon cycle and resulting feedbacks, including possible purposeful carbon dioxide removal (CDR) from the atmosphere?

Understanding	
	Reasonable
	Limited
	Very Limited
	Poor