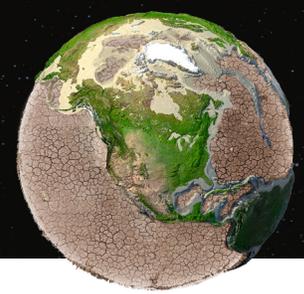


SYNTHESIS: OCEAN CARBON WORKSHOP

FRIDAY, OCTOBER 1, 2021 | OCEAN FRONTIER INSTITUTE | HALIFAX, NOVA SCOTIA, CANADA



The Ocean Frontier Institute (OFI), in partnership with the Global Ocean Observing System (GOOS), organized an online “Ocean Carbon Workshop” on October 1, 2021, gathering key policymakers, opinion leaders and ocean carbon scientists to discuss the critical role of the ocean in controlling our climate and the importance of including it appropriately in net-zero calculations supporting climate targets.

The scientific community has identified a critical gap in climate target calculations - the ocean’s uptake of carbon has not been taken into consideration. This risks the credibility of national net-zero ambitions and jeopardizes major international efforts to reach global climate targets.

Scientists, Drs. Wallace / Fennel (Canada), Tanhua (Germany), Bopp (France), Doney (USA) highlighted:

- the importance of the ocean carbon cycle in regulating our planet’s climate, **the ocean taking up almost 40% of the carbon dioxide** released historically from fossil fuel emissions .
- the role of the North Atlantic Ocean as a critical ocean carbon sink accounting for 30% of ocean carbon uptake, and climate moderator, particularly in maintaining a mild Europe.
- recent climate-driven ocean changes, such as melting in the Arctic and Greenland, slowing of the Gulf Stream and other currents, ocean acidification, which will reduce ocean carbon uptake.
- the excellent capacity of the ocean science community to support the linked-up design and implementation of observations, data management, and modeling to provide information to nations from globally linked observations.
- increased interest in natural blue carbon solutions (currently absorbing 1/50 to 1/20 of the ocean’s carbon) and commercial Carbon Dioxide Removal heighten the importance of establishing a scientifically verifiable carbon-absorption baseline.
- the urgent need for improved observations to support global resilience to future changes.

- the development of efficient new observation tools, particularly autonomous robotic instruments (e.g., biogeochemical Argos)

Scientists emphasized that an excellent ocean carbon observation system would lower climate risk, make actions and strategies taken by policymakers more efficient, and improve preparedness of the world’s communities for global change, with a clear warning that surprises are likely to emerge in the future.

Mark Carney, UN Special Envoy on Climate Action and Finance, underscored the challenge this posed for policymakers, and the critical importance of addressing the issue at the Council of Parties (CoP26) in November. He and other attendees raised the importance of aligning the financial sector with the transition to net-zero, nations’ strong interest in engaging scientifically and logistically with an international observation initiative and the important role of international philanthropy. Mr. Carney welcomed the OFI’s leadership, particularly through partnership initiatives between Canadian and international ocean research institutions.

Jonathan Wilkinson, Canada’s Minister, Environment and Climate Change, cited Canada’s interest in building an ocean carbon observatory in the North Atlantic, but emphasized that to be effective this would need to be scaled up to a global system through collaborative international initiatives. The observatory would deliver near-real-time information to complete the missing piece of the net-zero equation and could be an international exemplar in the critical North Atlantic Ocean.

Policymakers underlined the importance of involving multidisciplinary actors in the proposed ocean carbon observatories, from scientists to engineers, managers, economists, conservationists, media, and local communities who should benefit from observational efforts.

Policymakers also said that the science highlighted during the workshop is striking and now is time to act, through mobilizing respective governments, financial engines and philanthropists, and with a focus on discussion at CoP26 in Glasgow.