

Ocean Carbon for Climate (OC4C)

Sarah Connors

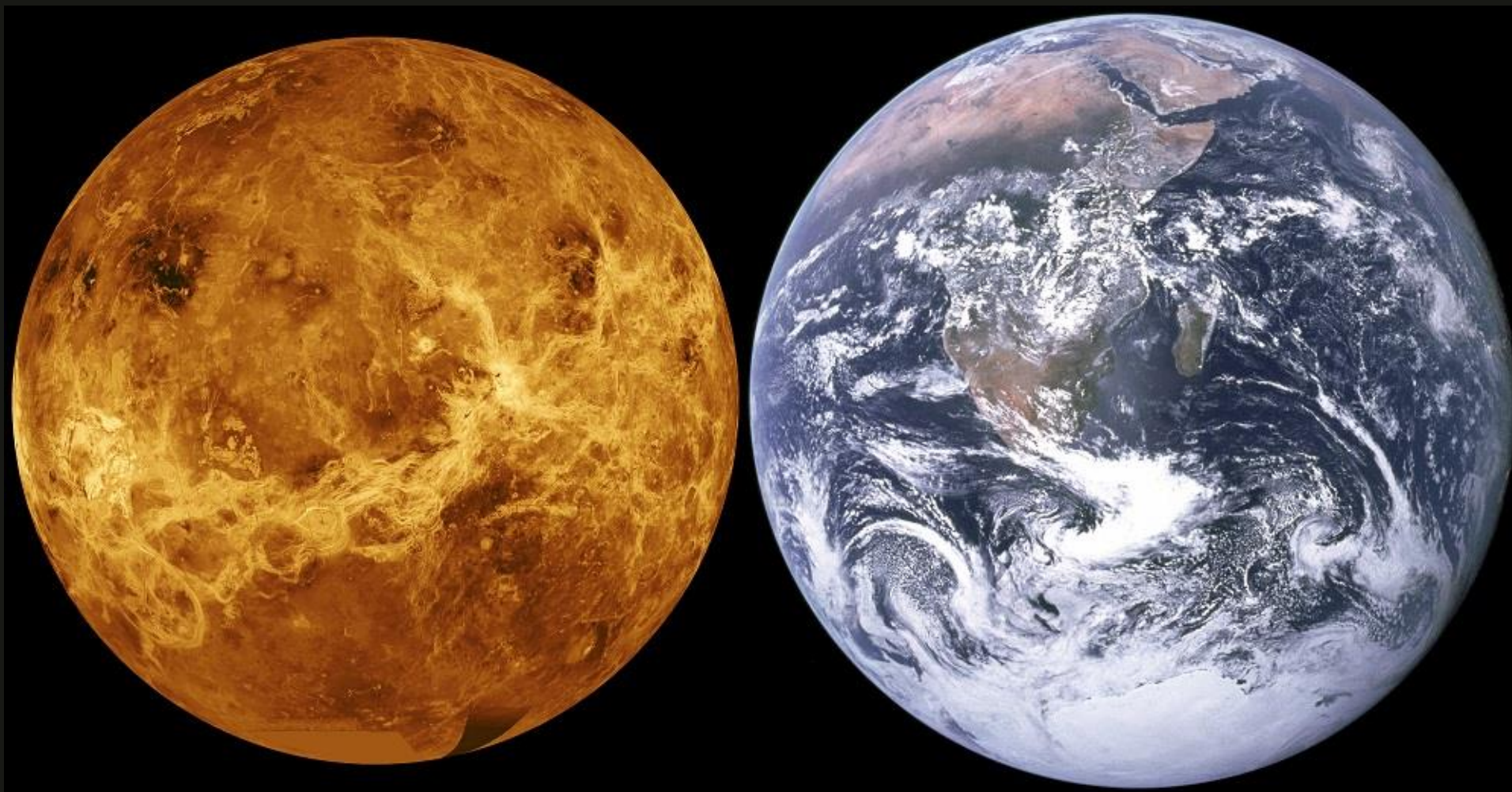
17/02/2026

Project Objectives



- Ocean Carbon for Climate
- Project (iTt/RFP): RFP 1000039339 (CCI+ phase 1)
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- Clear and urgent need to better understand and quantify the ocean carbon cycle in an integrated fashion, in light of the rapid changes that are currently occurring.
- Initiate preliminary activities towards a longer-term generation of Climate Data Records (CDRs) based on ECVs related to ocean carbon. The initial focus of this project is on the air-sea interaction, with a major emphasis on the carbon fluxes and on the related sink/source distribution and dynamics.

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- Intention to actively guide the Global Carbon Budget, GCB (eg project includes the Ocean GCB leads).
- Linked to ESA SCOPE (Science for Society), and via SCOPE (EC-ESA Earth Science Initiative) linked with EC OceanICU.
- Longer-term aims to link and guide the IPCC assessments, G3W and Planetary Boundary Assessments.

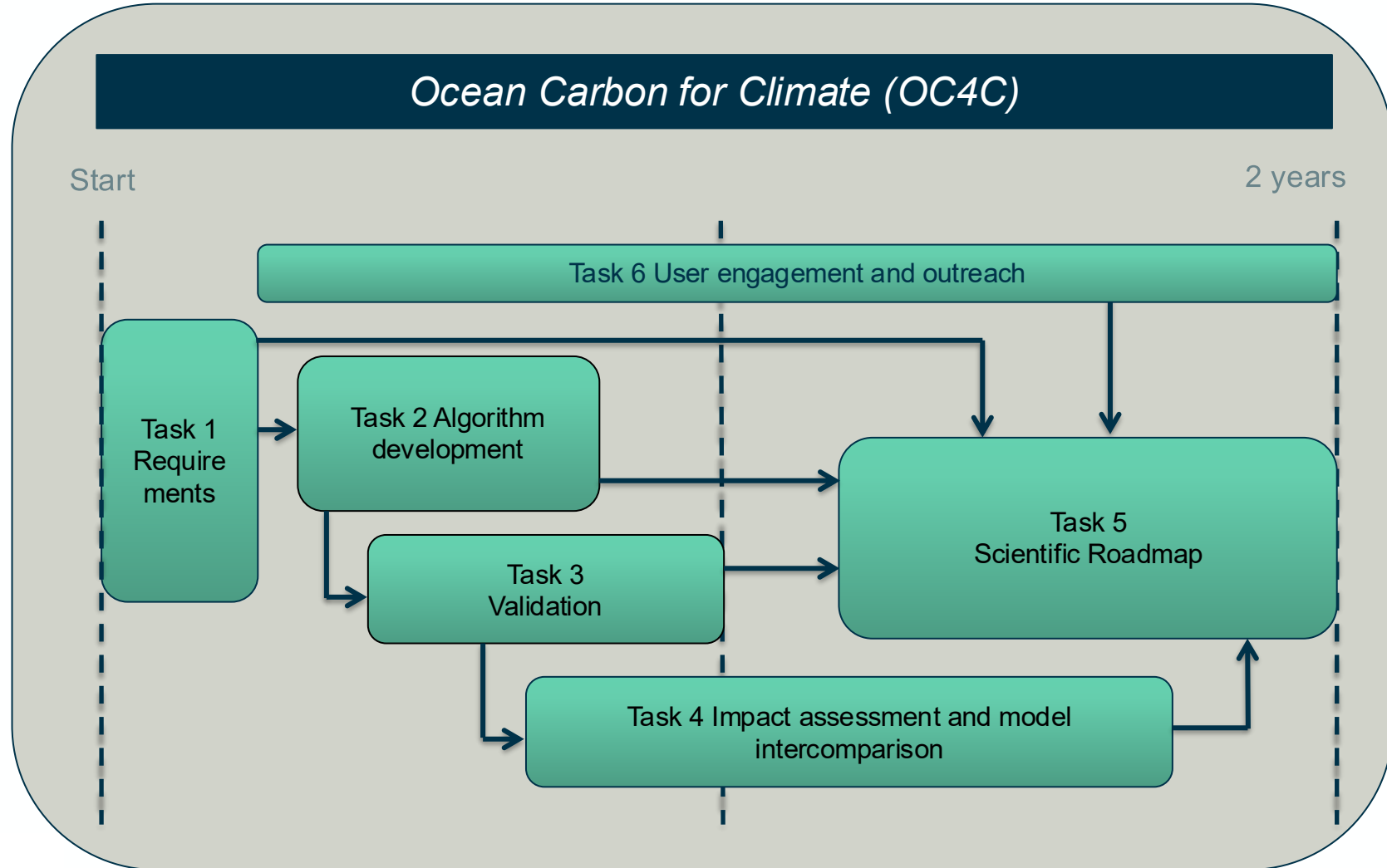
Skeleton overview of the approach



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COLUMBIA CLIMATE SCHOOL
LAMONT-DOHERTY EARTH OBSERVATORY



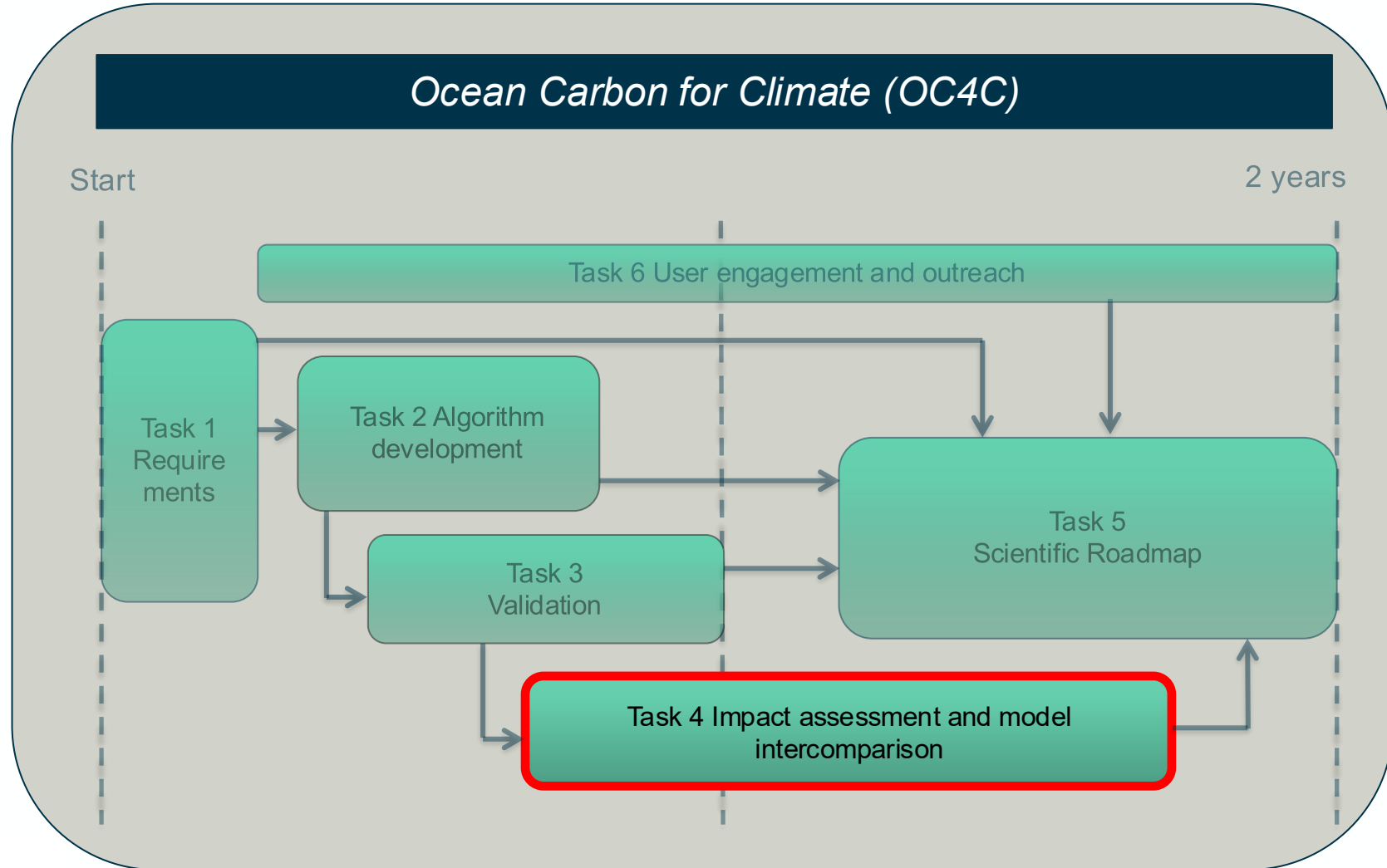
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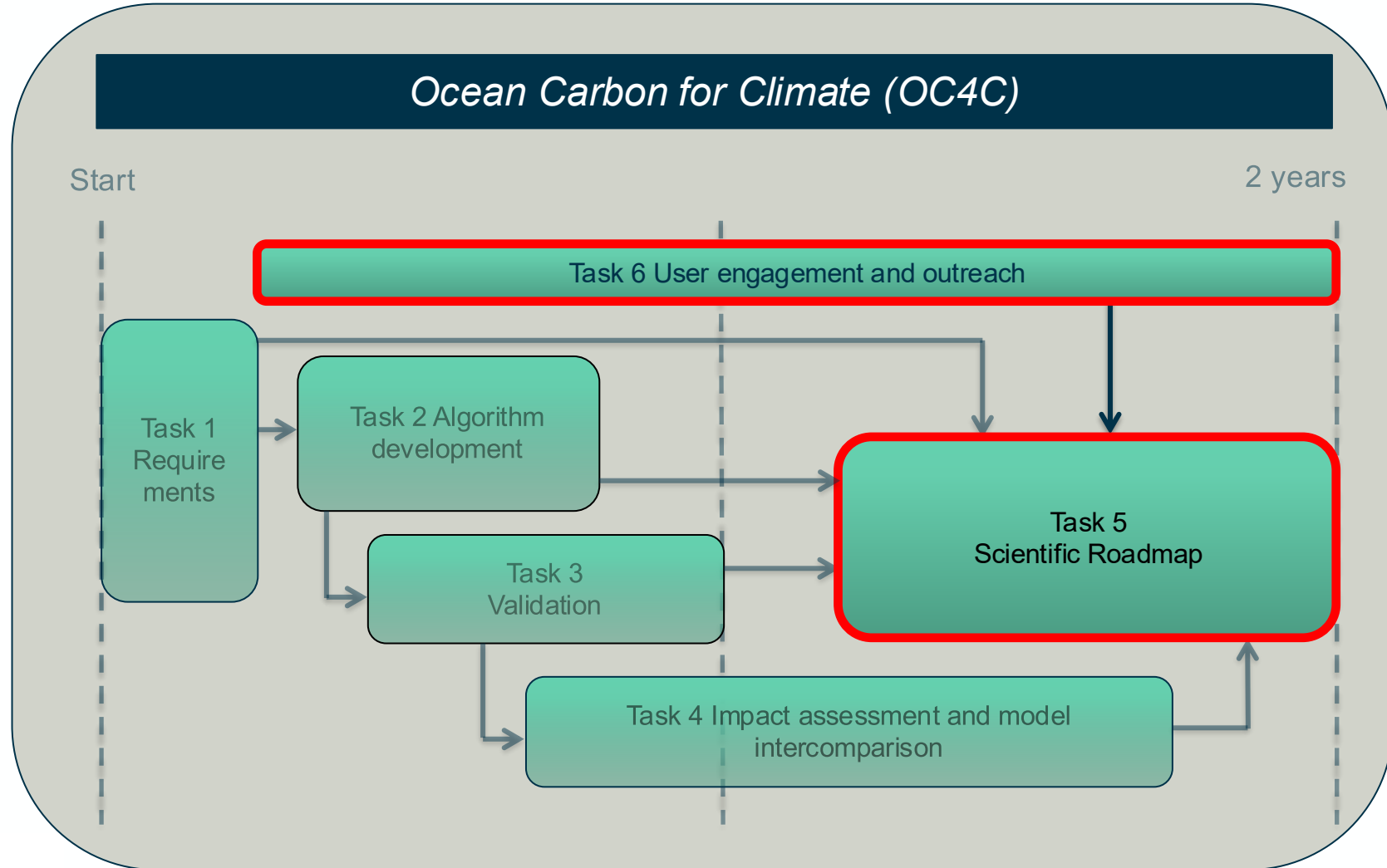
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ECVs being used

- **5** ECVs being used: Sea surface temperature, salinity, ocean colour, land cover, ice concentration.
- Why they were chosen: to ensure consistency and stability through time (e.g., 1990-present). eg SST identified artificial warming in key in situ carbon data (and allowed us to correct).
- Strengths and weaknesses – no major weaknesses, we want to use more! For salinity we use a ranked approach to overcome lack of data pre-2010.



Example references:

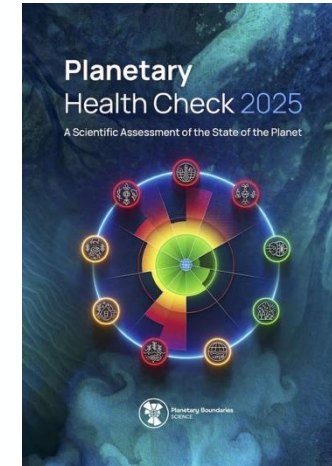
- Uncertainty analysis, Ford et al., (2024) in *Global Biogeochemical Cycles*.
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<https://oceancarbon4climate.org/>



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esa Online Workshop
Ocean Carbon 4 Climate
Thank you for attending
Thursday 12 March 2026 13:00 to 16:30 GMT
Featured speakers (focus of talk):
Levke Caesar (PIK), Peter Landschützer (VLIZ), Rik Wanninkhof (NOAA), Judith Hauck (Alfred Wegener Institute), Galen McKinley (Columbia University), Jamie Shutler (University of Exeter)
Panels co-chaired by:
oceancarbon4climate.org

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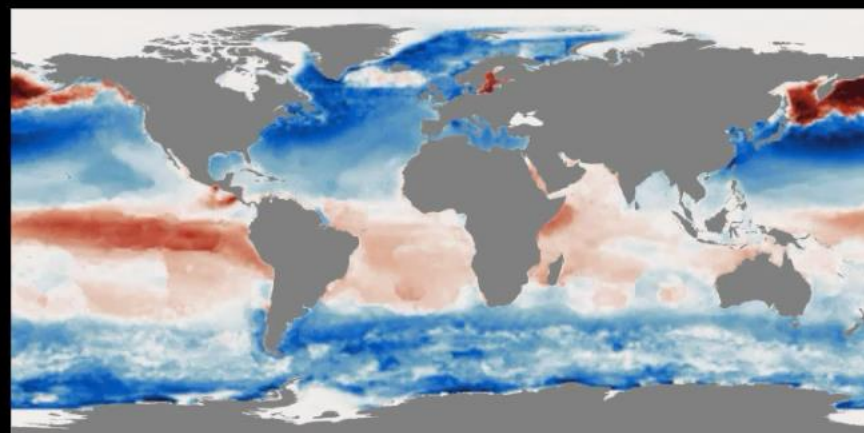
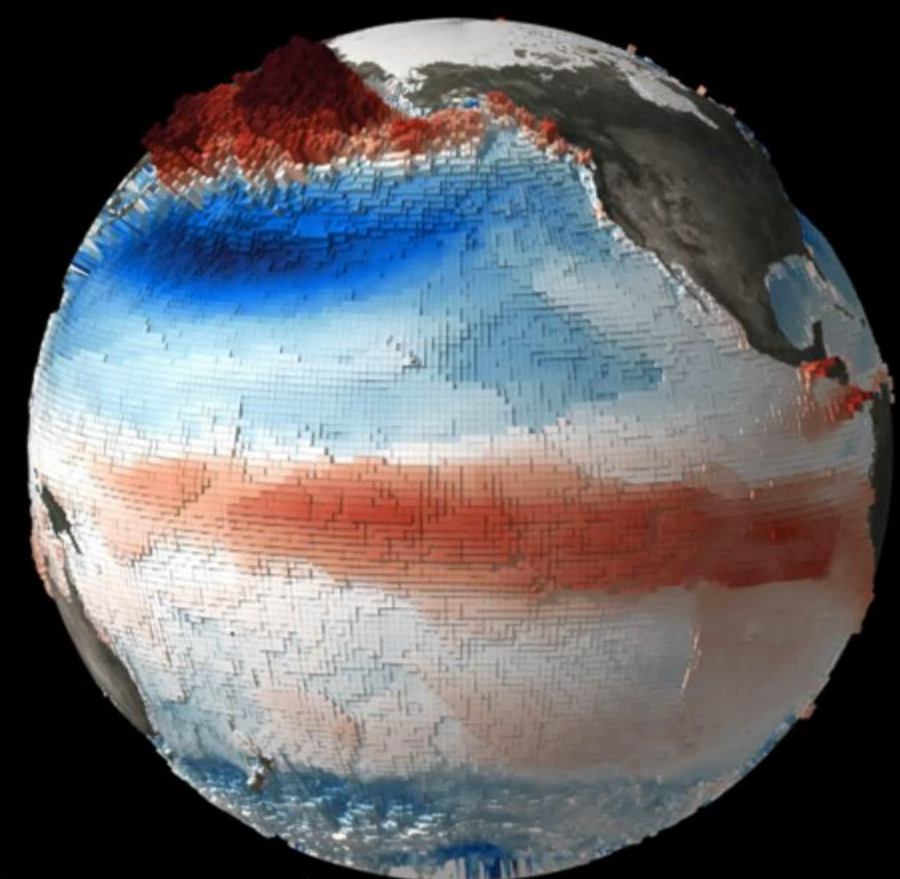
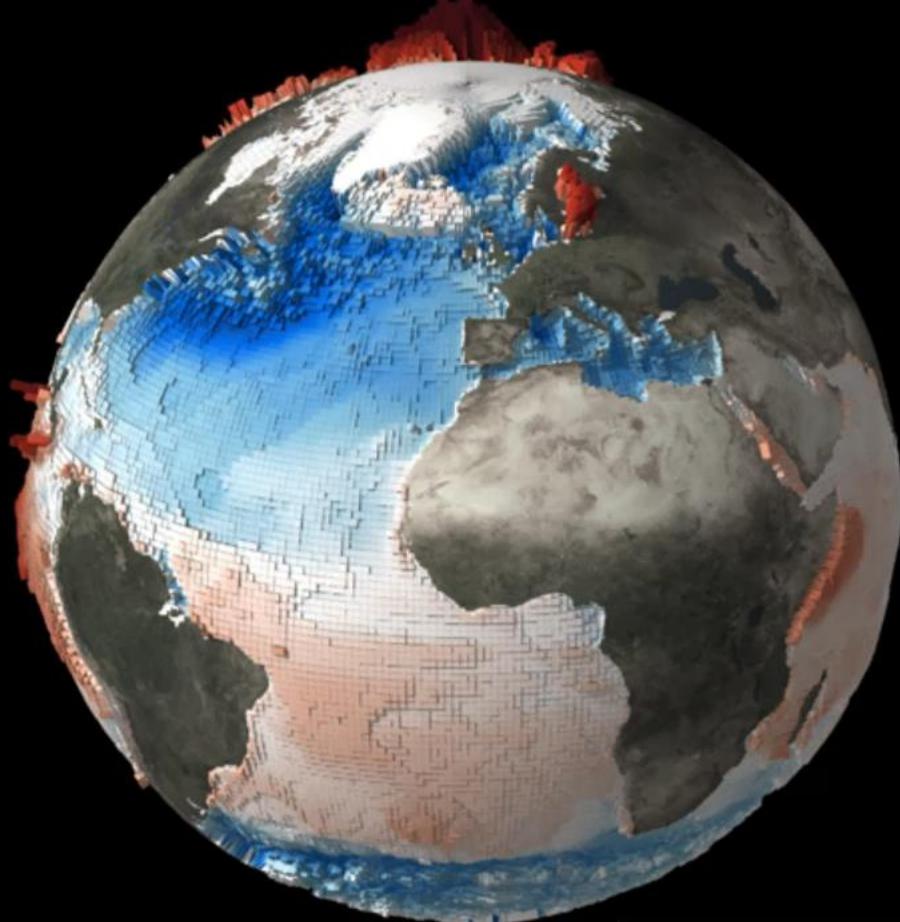
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Integrated Ocean Carbon Research
A Summary of Ocean Carbon Research, and Vision of Coordinated Ocean Carbon Research and Observations for the Next Decade



<https://oceancarbon4climate.org/>



Jan 2022
Ocean Carbon Flux

