

The Surface Ocean – Lower Atmosphere Study

Linking Ocean-Atmosphere Interactions with Climate and People

What is SOLAS?

International research project established in 2004, aiming to achieve quantitative understanding of the key biogeochemical-physical interactions and feedbacks between the ocean and atmosphere, and of how this coupled system affects and is affected by climate and global change.

- A scientific community of ~1200 people from over 30 countries and regions
- Scientific Steering Committee of 17 members from 14 countries
- Dual International Project Office in Ireland and China
- 1 MSc. programme on Ocean, Atmosphere and Climate in collaboration with the National University of Ireland, Galway
- 4 Sponsored Projects, 15 Endorsed Projects and 3 Endorsed Time Series Stations
- 7 SOLAS Open Science Conferences have welcomed ~1500 participants
- 8 International SOLAS Summer Schools have trained ~ 540 young scientists
- Communication of over 100 e-bulletins, Newsletters, and Event Reports
- Over a hundred sponsored and co-sponsored events

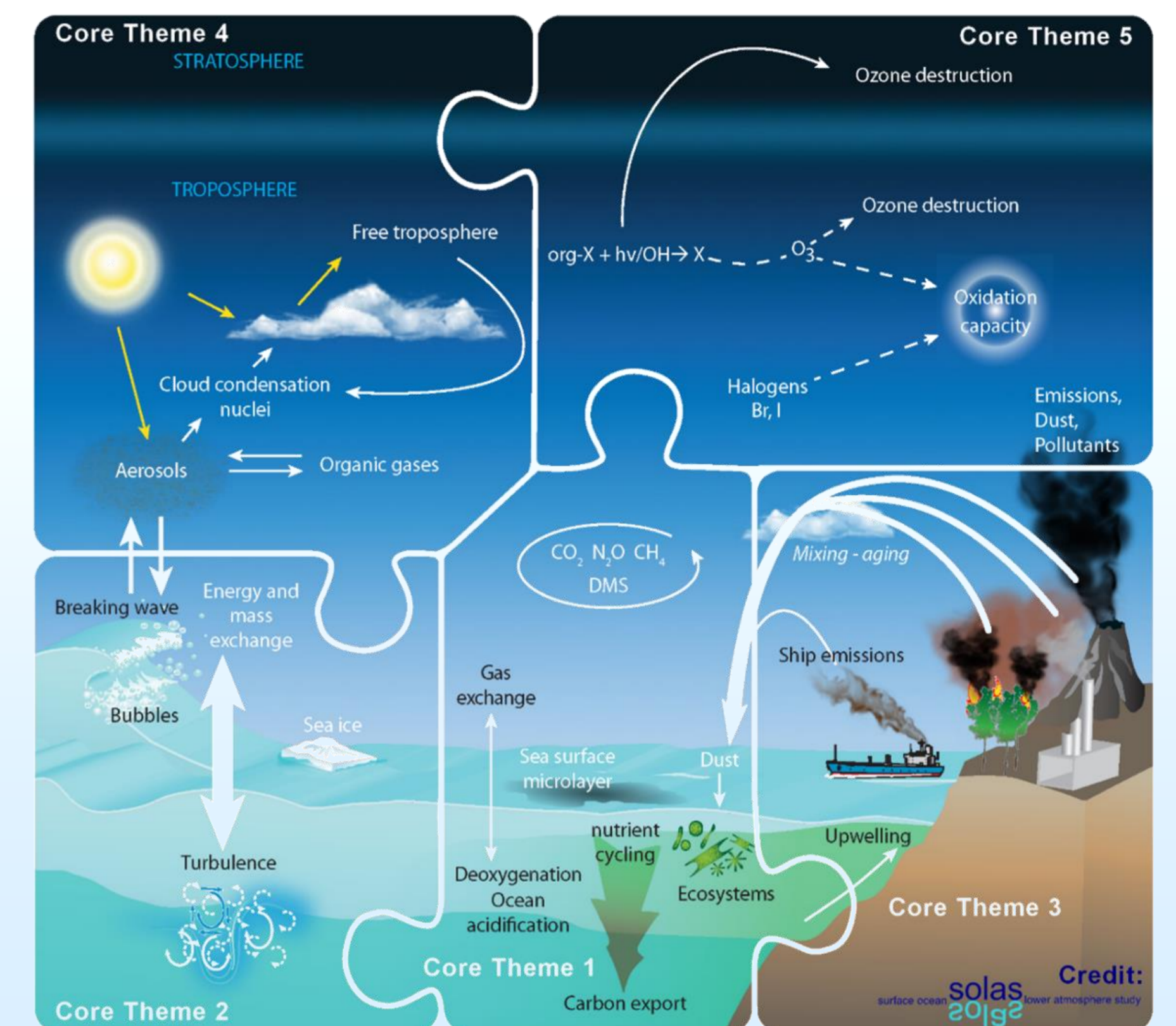
SOLAS 2015-2025 Science Plan

Core Themes:

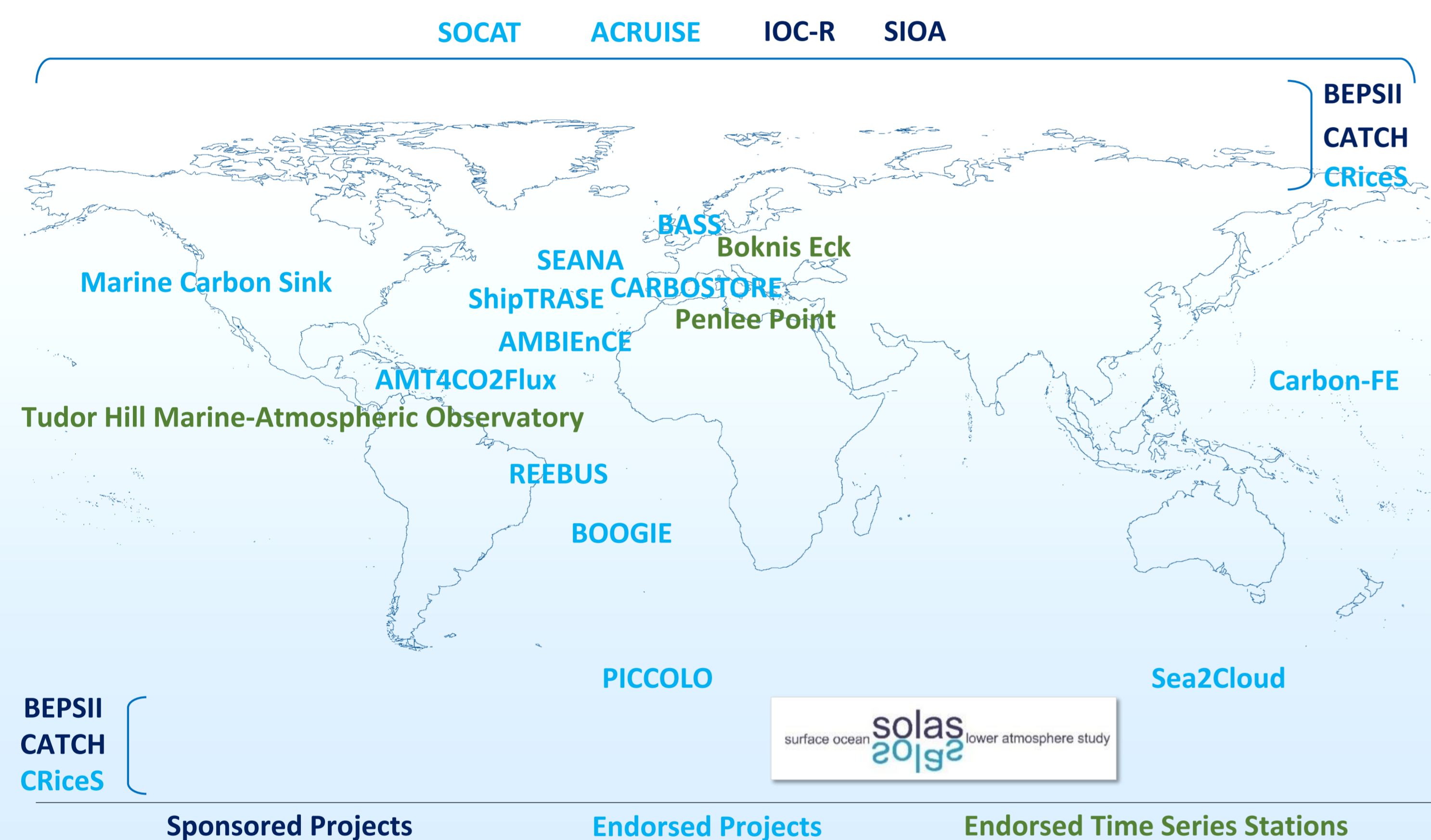
1. Greenhouse gases and the oceans
2. Air-sea interface and fluxes of mass and energy
3. Atmospheric deposition and ocean biogeochemistry
4. Interconnections between aerosols, clouds, and marine ecosystems
5. Ocean biogeochemical control of atmospheric chemistry

Cross-Cutting Themes:

- Integrated topics (e.g., upwelling systems, polar oceans, Indian Ocean)
- Evaluating the environmental efficacy and impacts of climate intervention
- Science & Society (e.g., impacts of ship-plume emissions on ocean biogeochemistry, blue carbon, open-ocean stewardship)



Present Activities and Initiatives

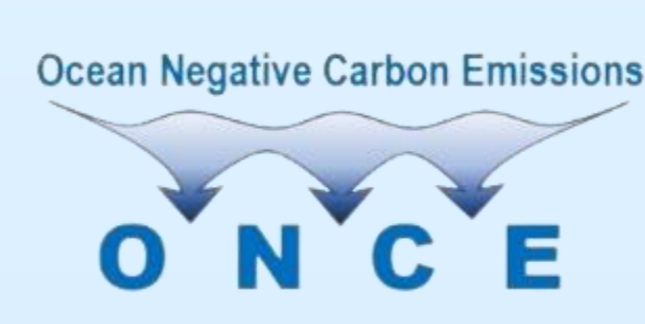
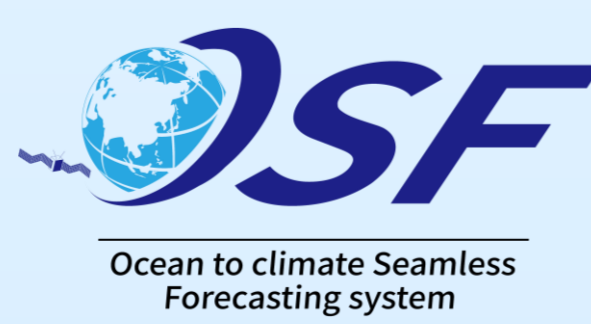


- **IOC-R: Integrated Ocean Carbon Research Working Group**
 - Established on the basis of the SOLAS/IMBeR carbon working groups on Surface Ocean System and Interior Ocean Carbon
 - In cooperation with CLIVAR/GCP/IOCCP/WCRP, under the auspices of Intergovernmental Oceanographic Commission
- **SIOA: SOLAS/IMBeR Ocean Acidification Working Group**
 - Launched by SOLAS and IMBeR in 2006
 - SIOA serves as the scientific advisory committee of the Ocean Acidification International Coordination Center
- **BEPSII: Biogeochemical Exchange Processes at Sea-Ice Interfaces**
 - Jointly sponsored with CliC/IASC/SCAR
 - <https://sites.google.com/site/bepsiiwg140/home>
- **CATCH: Cryosphere and Atmospheric Chemistry**
 - Jointly sponsored with IGAC
 - <https://www.catchscience.org/>



Societal Impacts

- **United Nations Framework Convention on Climate Change**
 - 13th meeting of the Subsidiary Body for Scientific and Technological Advice (SBSTA) Research Dialogue, 1–2 Jun 2021
 - COP26 UN Climate Change Conference Side Event: Carbon conservation and sequestration in ocean: nature-based and technology solutions, 6 Nov 2021
 - BEPSII Arctic Policy Brief highlighted at COP26 within sessions of the Cryosphere pavilion
 - COP27 UN Climate Change Conference Side Event: Fire risk increase, a challenge for Earth system and societies, 6–18 Nov 2022
- **United Nations Decade of Ocean Science for Sustainable Development (2021-2030)**
 - Report on Integrated Ocean Carbon Research (IOC-R) developed as part of the Decade, IOC-R aiming to be endorsed
 - 1 proposal under way for endorsement application
 - Partner of 5 endorsed programmes/projects



Upcoming Events

- **8th SOLAS Open Science Conference**
 - 25–29 Sep 2022, Cape Town, South Africa and online
 - plenary lectures, discussion sessions, side meetings, early career researcher events
- **3rd SOLAS Seminar**
 - Oct 2022, online
 - hosted by the SOLAS Endorsed Project “AMBIEnCE”
- **6th Xiamen Symposium on Marine Environmental Sciences**
 - co-sponsored by SOLAS
 - 9–12 Jan, Xiamen, China and online
 - SOLAS session and townhall
- **9th SOLAS Summer School**
 - Jun/Jul 2023, Mindelo, Cape Verde
 - 70 students & 20 lecturers, lectures & practicals
- **GOOD – OARS Summer School 2023**
 - co-sponsored by SOLAS
 - 6–12 Nov 2023, Coquimbo-La Serena, Chile



Sponsors



Get involved

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