

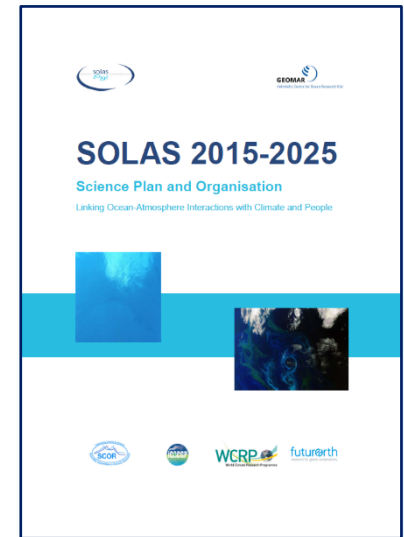
What is SOLAS?

- International research initiative aiming at understanding the key biogeochemical-physical processes, interactions, and feedbacks between the ocean and atmosphere
- Established in 2004 and today under the sponsorship of the Scientific Committee on Oceanic Research (SCOR), Future Earth, World Climate Research Programme (WCRP), and the International Commission on Atmospheric Chemistry and Global Pollution (iCACGP)
- Network of over 2200 scientists from 70 countries
- National representatives in 30 countries
- Scientific Steering Committee with 17 members from 14 countries
- International Project Office (IPO) at GEOMAR Kiel, Germany

SOLAS 2015-2025

Science Plan and Organisation (SPO)

- Replaces the SOLAS Science Plan and Implementation Strategy (2004)
- Forms a solid basis to successfully continue SOLAS for the period 2015-2025

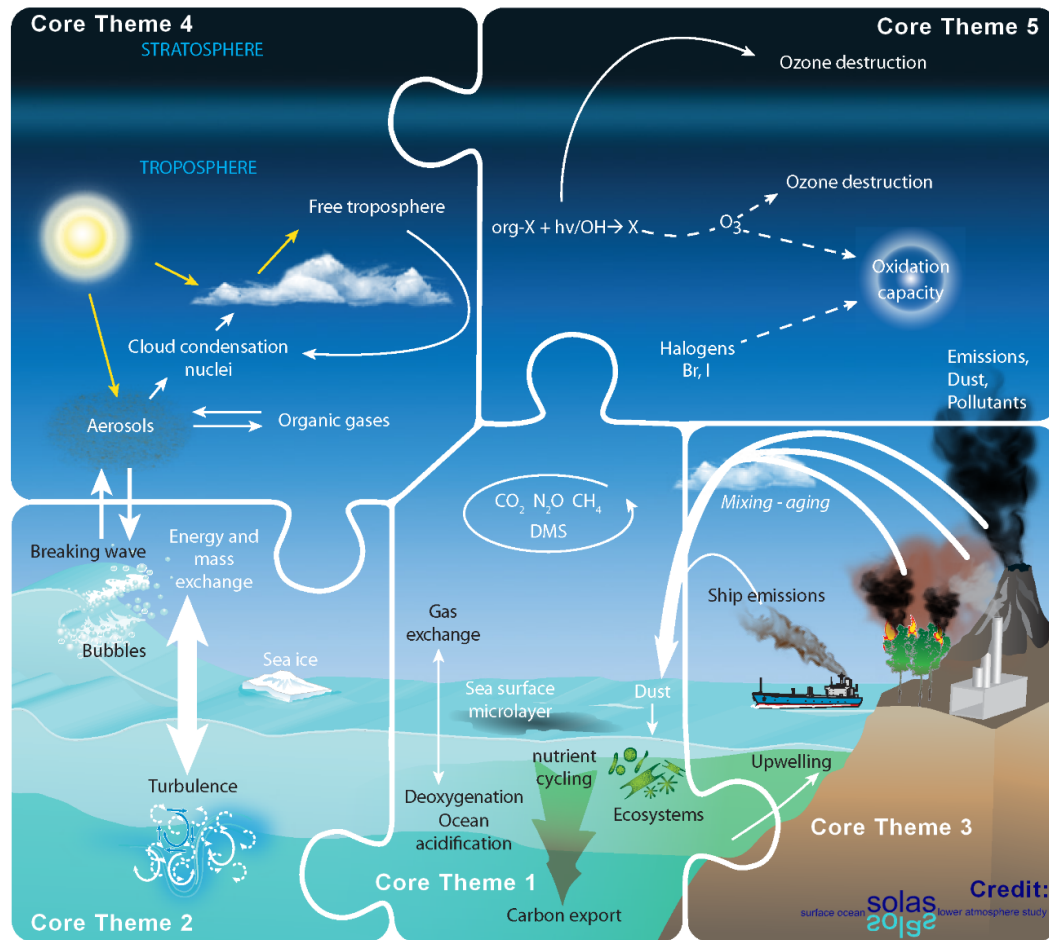


Implementation Strategy

- Details activities and events that directly address SOLAS science
- Provides information about established working groups and planned developments



What are SOLAS Core Themes?



4. Interconnections between aerosols, clouds, and marine ecosystems

5. Ocean biogeochemical control of atmospheric chemistry

2. Air-sea interface and fluxes of mass and energy

3. Atmospheric deposition and ocean biogeochemistry

1. Greenhouse gases and the oceans

What are SOLAS activities?

Capacity Building and Outreach

- 6 SOLAS Open Science Conferences welcomed over 1250 participants
- 6 International SOLAS Summer Schools trained over 420 young scientists
- SOLAS Summer School Alumni create a young network
- Over hundred e-bulletins provided relevant information
- Several funded programmes, over 100 workshops, and several hundred publications contributed to international ocean-atmosphere science



Events

- **Workshop on 'How to evaluate Blue carbon?'**
March 30 and April 1, 2017, Monaco
- **Annual meeting of Biogeochemical Processes at Sea Ice Interfaces (BEPsII) April 3-5, 2017,**
Scripps Institute of Oceanography, La Jolla, San Diego, US
- **Community workshop on the development of CATCH**
(Cryosphere and ATmospheric CHemistry)
April 19-20, 2017, Paris, France
- **Workshop on '*Frontiers in ocean-atmosphere exchange: Air sea interface and fluxes of mass and energy*'**
May 15-19, 2017 Cargese, France
- **Conference on 'Shipping and the Environment – From Regional to Global Perspectives'**
October 24-25, 2017, Gothenburg, Sweden

<http://airsea.nuigalway.ie/cargese/workshop>



WORKSHOP

Frontiers in ocean-atmosphere exchange: Air sea
interface and fluxes of mass and energy

15-18 May 2017 Cargèse, Corsica, France

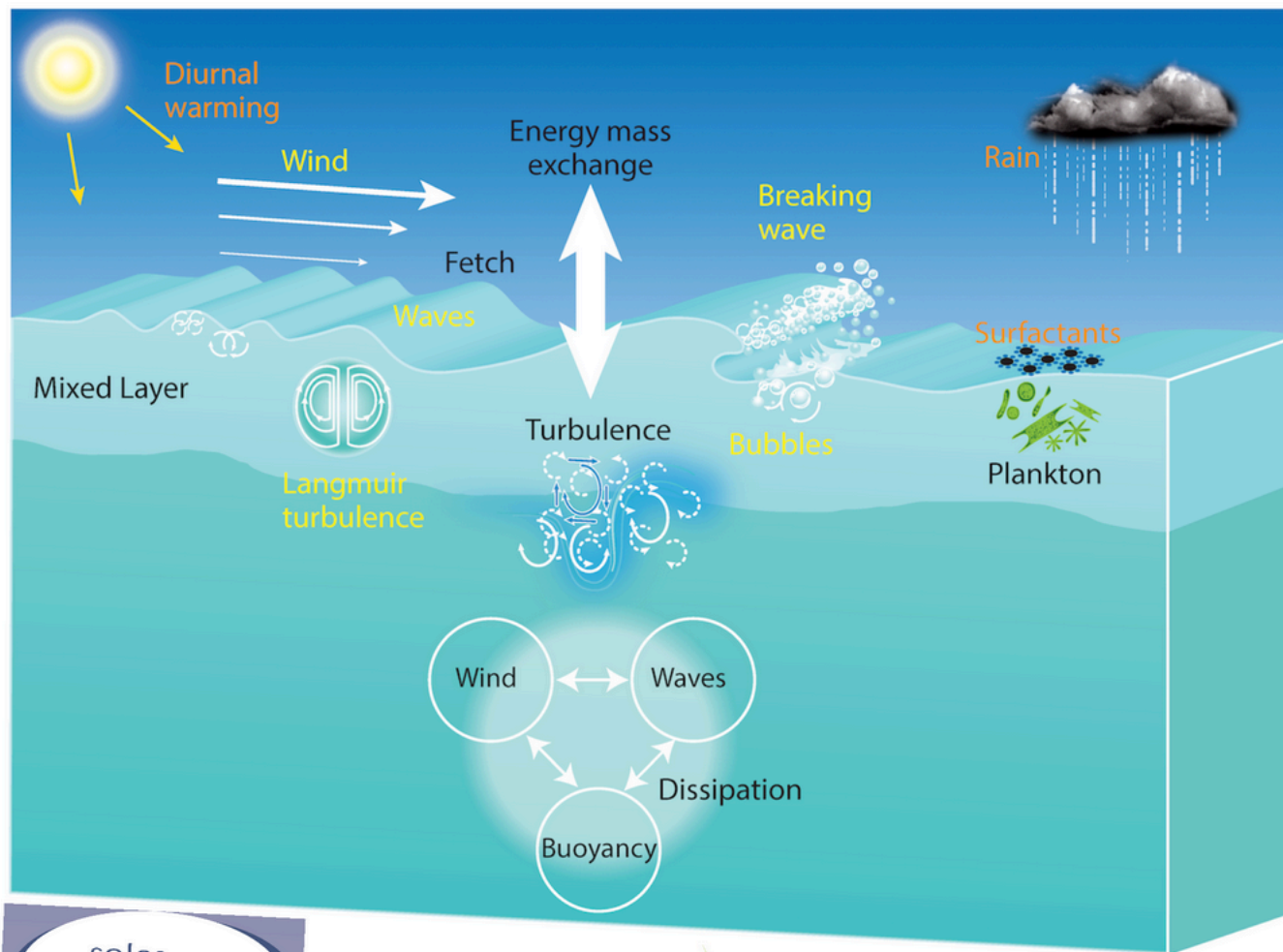
WORKSHOP

PROGRAMME

VENUE

LOGISTICS

PARTICIPATE



List of Confirmed Invited Speakers

- **Maggie Anguelova, Naval Research Laboratory, USA:** *In situ measurements of air-sea fluxes in support of ocean remote sensing*
- **Kai Christensen, Norwegian Meteorological Institute, Norway:** *Impact of surfactants on surface waves and wave drift*
- **Michael Cunliffe, Marine Biological Association, UK:** *Do we need biology and ecology to understand ocean-atmosphere exchange?*
- **Kyla Drushka, Applied Physics Laboratory, Seattle, USA:** *Impacts of rainfall on the upper ocean*
- **Anja Engel, GEOMAR, Kiel, Germany:** *The organic matter composition of the sea surface microlayer in response to increasing wind speed and potential implications for air-sea exchange processes*
- **Luisa Galgani, University of Siena, Italy:** *The sea-surface microlayer: biogenic composition in a changing climate*
- **Ilan Koren, Weizmann Institute, Israel:** *Clouds in the SOLAS system*
- **Peter Liss, University of East Anglia, UK:** *SOLAS: Reflections on the Journey to the Frontiers in Ocean-Atmosphere Exchange of Mass and Energy*
- **Anna Rutgersson, Uppsala University, Sweden:** *Water-side convection, and the impact on air-sea gas exchange*
- **Rik Wanninkhof, AOML/NOAA, USA:** *Advances in estimating anthropogenic CO₂ uptake by the ocean*

Surface Flux Task Team

Report from CA Clayson, Chair

- (1) We sponsored and participated in a Town Hall on Surface Fluxes at the AMS Annual Meeting.
- (2) **Frontiers in ocean-atmosphere exchange, Corsica**
- (3) We have finalized the Terms of Reference
- (4) The website is coming along
- (5) Anton Beljaars, Jim Edson, and I are working on the white Paper. We just about have a good draft ready.
- (6) I've been working with Anton as the official WDAC liaison for getting evaporation as an ECV.

Surface Flux Task Team

Carol Anne Clayson, Woods Hole Oceanographic Institution, USA

Brian Ward, National University of Ireland, Galway, Ireland

Carlos Jimenez, LERMA, Observatoire de Paris, France

James Edson, University of Connecticut, USA

Pierre Phillipe Mathieu, European Space Agency, Italy

Peter Gleckler, Lawrence Livermore National Laboratory, USA

Joerg Schulz, EUMETSAT, Germany

Paul Stackhouse, NASA, USA

Hape Schmid, Karlsruhe Institute of technology, Germany

Anton Beljaars, ECMWF, UK

Saigusa Nobuko, National Institute for Environmental Studies, Japan

SOOS Working Group on Southern Ocean Air-Sea Fluxes

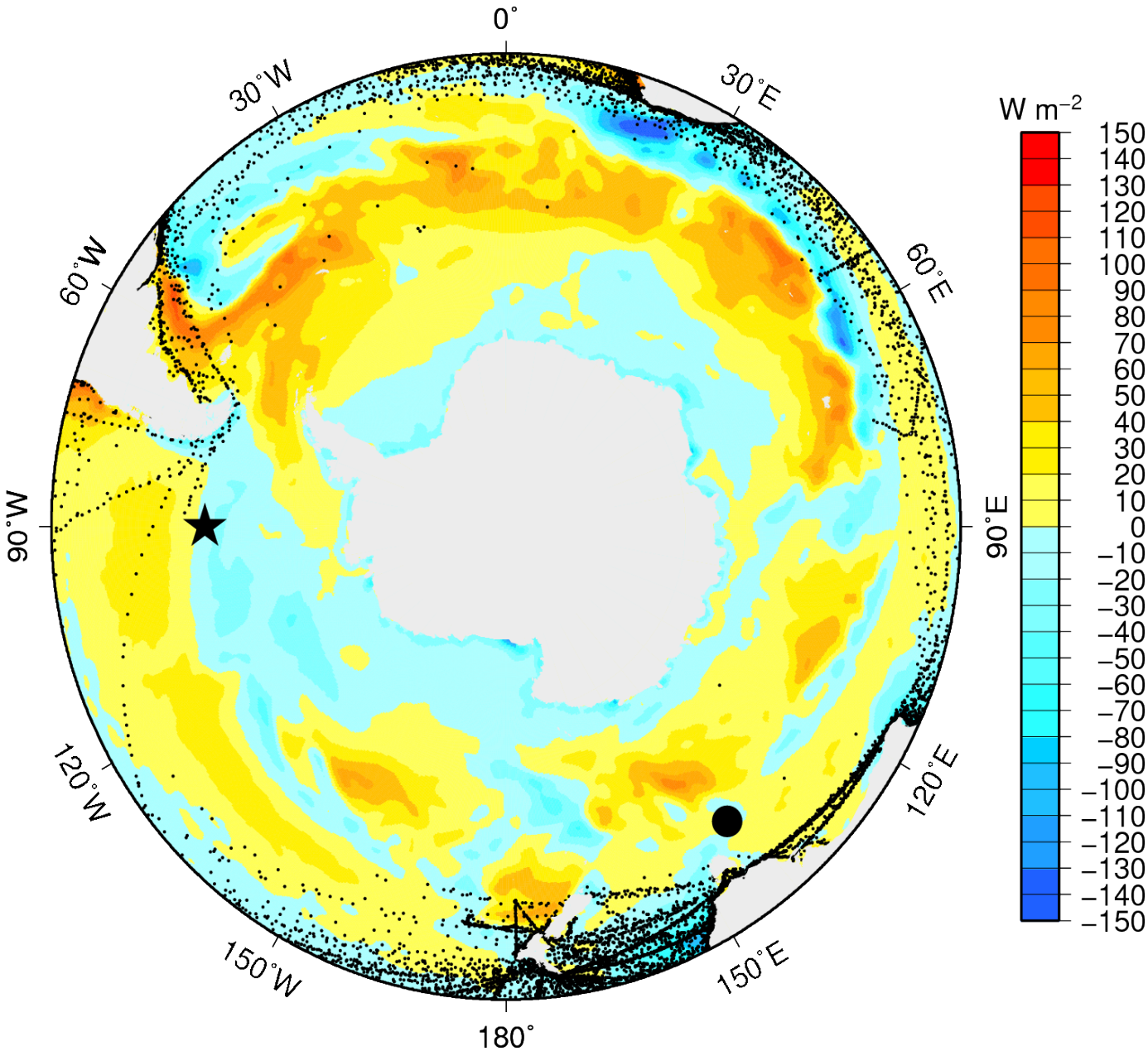
Co-chairs: Sarah Gille, Seb Swart

Steering committee: Mark Bourassa, Carol Anne Clayson, Bruno Delille, Simon Josey, Andrew Lenton, Eric Schulz, Inga Smith, Brian Ward

Membership: Dorothee Bakker, Abderrahim Bentamy, Ivana Cerovecki, Ronald De Souza, Jim Edson, Chris Fairall, Giannetta Fusco, James Girton, Judith Hauck, Pat Hyder, Luc Lenain, Pierre-Philippe Mathieu, Matt Mazloff, Ken Melville, Scott Miller, Pedro Monteiro, Alberto Naveira Garabato, Lucian Ponzi Pezzi, Marcos Portabella, Brent Roberts, Craig Stevens, Sarat Tripathy, Bob Weller, Margaret Yelland, Chris Zappa

Photo: Peter Guest, SHEBA, 1998,
http://www.weather.nps.navy.mil/~psguest/sheba/pictures/maui_rescue.html

Air-Sea Flux Observations: woefully sparse



- Q_{net} from ERA-Interim (2008-2010; blue=loss to atmosphere).
- Small dots: 5 years of July flux observations (2000-2004)
- Large circle: SOFS mooring
- Large star: OOI mooring

SOOS Air-Sea Flux Working Group Priorities

- Pilot study (in situ observations, coordinated with satellite, modeling, reanalysis), turbulent and non-turbulent components, bulk parameterizations, direct flux covariance observations.
- Define flux requirements for EOVs and provide ECV input

Photo: Chris Fairall, Southern Ocean GasEx

Task Team Structure for Air-Sea Flux Working Group

1. Science/logistics plan for pilot study. OOI effort underway by Girton/Thomson. What else? What international cooperation is feasible? An equivalent survey at SOFS mooring? (Swart, Girton)
2. Define flux requirements. Journal article articulating needs for specific science applications. (Gille)
3. Interface with GCOS/GOOS to define observing system requirements. (Bourassa)
4. Modeling capabilities and remote sensing retrievals to coordinate with in situ work and extend to full Southern Ocean. (Lenton, Mazloff, Clayson)



