

# CLIVAR/CLiC/SCAR Southern Ocean Panel Meeting SOP-9

The Hague  
July 14-15, 2014

# SOP Members (2014)

Matthew England (co-chair) (2014)	University of New South Wales, Sydney, Australia
Lynne Talley (co-chair) (2015)	Scripps Institution of Oceanography, USA
→ Isabelle Ansorge (2016)	University of Cape Town, South Africa
Teresa Chereskin (2014)	Scripps Institution of Oceanography, USA
→ John Fyfe (2016)	Environment Canada, Canada
Hartmut Hellmer (2014)	Alfred Wegener Institute, Germany
→ Katsuro Katsumata (2016)	JAMSTEC, Japan
Nicole Lovenduski (2014)	University of Colorado, Boulder, USA
Alberto Naveira Garabato (2015)	National Oceanography Centre, Southampton, UK
Alex Orsi (2014)	Texas A&M University, College Station, USA
→ Alberto Piola (2016)	Servicio de Hidrografia Naval, Argentina
→ Joellen Russell (2016)	University of Arizona, USA
→ Jiuxin Shi (2016)	Ocean University of China, China

# SOP-9 tasks

- Review terms of reference (beginning and end)
- Review relationship between CLIVAR/CLiC/SCAR (ongoing)
- CLIVAR achievements report (past due) (Monday)
- CLIVAR strategy and implementation plan input (focus for panels at pan-CLIVAR) (Tuesday)
- Planning with Ocean Model Development Panel (OMDP) (formerly WGOMD)
  
- Panel business: new activities, projects, workshops, national plans that are of interest for CLIVAR endorsement?

# CLIVAR/CLiC/SCAR SOP Terms of Reference

1. Design a strategy to assess climate variability and predictability of the coupled ocean-atmosphere-ice system in the Southern Ocean region.
2. Engage and interact with the Southern Ocean Observing System (SOOS) programme on Southern Ocean sustained observations and model experiments needed to meet the objectives of CLIVAR, CLiC, SOOS and SCAR.
3. Work in concert with relevant CLIVAR panels (e.g. regional panels, numerical experimentation groups), ACSYS/CLiC Panels (DMIP, OPP, NEG) and other groups (e.g. Ocean Observation Panel for Climate, Argo Science Team) to integrate Southern Ocean observations with those in neighboring regions to ensure the objectives of CLIVAR/CLiC/SCAR are met and resources are used efficiently.
4. Enhance interaction between the meteorology, oceanography, cryosphere, biogeochemistry and paleoclimate communities with an interest in the climate variability of the Southern Ocean region.
5. Serve as a forum for the discussion and communication of scientific advances in the understanding of climate variability and change in the Southern Ocean region.
6. Work with the CLIVAR, CLiC, SCAR, SOOS and WCRP Data Council data systems on issues related to distribution and archiving of Southern Ocean observations.
7. Advise the CLIVAR, CLiC, SOOS and SCAR SSGs on progress achieved towards implementation.

# CLIVAR/CLiC/SCAR SOP roles

1. Dialog with SOOS to ensure that observing system satisfies or is moving towards satisfying needs for scientific understanding of S.O. and for model validation/ comparison: where does input to SOOS occur? (mechanism? Cross-membership – formalize?)
2. Coordination of S.O. science internationally, including
  1. modeling, model intercomparisons (SOP role relative to CliC?)
  2. process studies (SOP role relative to CliC?)
  3. major expansions of observing system (SOP role relative to SOOS and GOOS?)
  4. What do the national programs hope to see from the SOP?
  5. New relationships with external biogeochemical programs (IOCCP? SOLAS? Imber?) that are not currently part of our structure/ToRef.

# CLIVAR/CLiC/SCAR SOP science

- CLIVAR Research Foci
- CLIVAR Imperatives and objectives
- WCRP Grand Challenges

Closely related

- CLiC (Krinner on Tuesday)
- SCAR (information from M. Sparrow)
- SOOS

# CLIVAR, WCRP and partners

WCRP Core projects (science)  
(governance: Joint Scientific Committee, JSC)

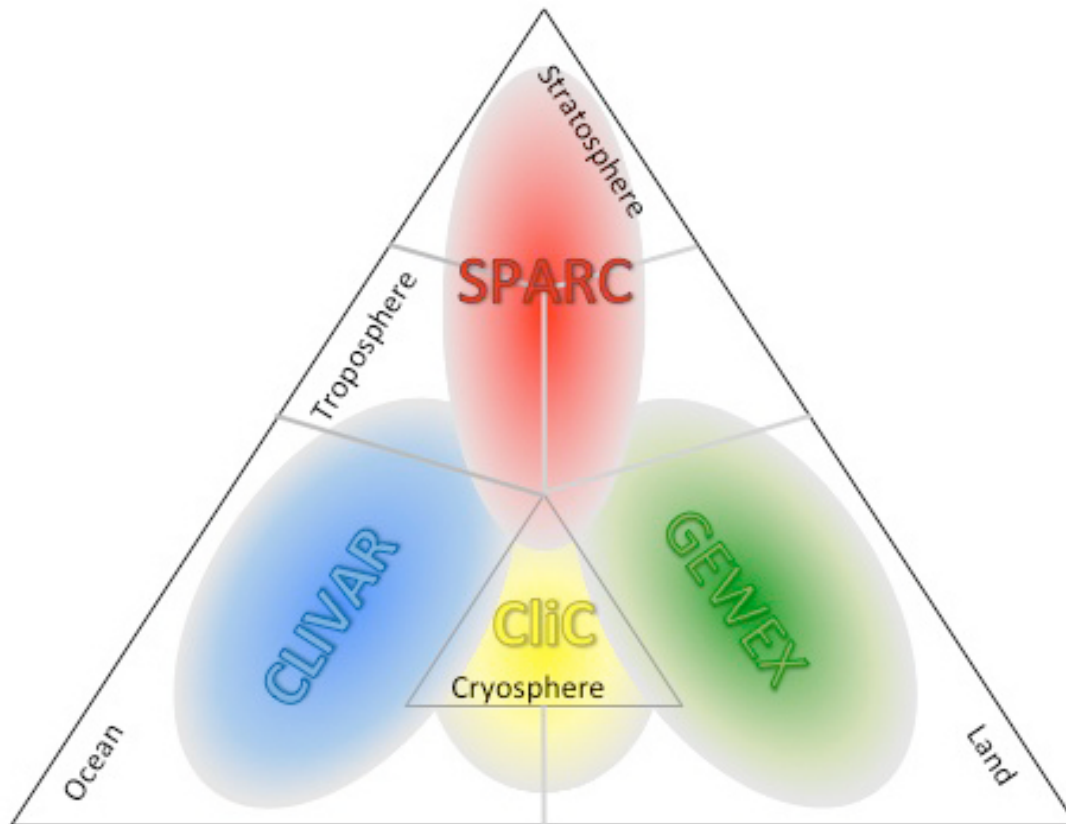


Figure 1. The four core WCRP projects and their interactions

CLIVAR Partners



# WCRP Grand Challenges

## WCRP Organization

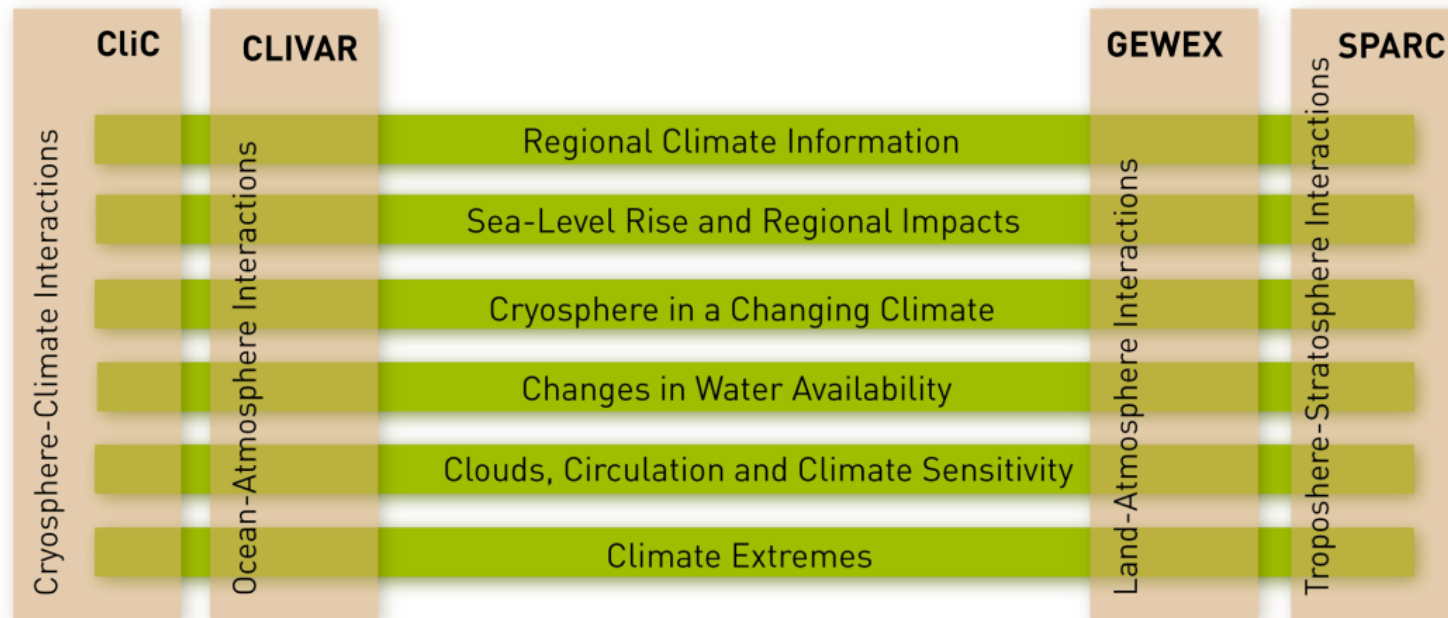
Joint Scientific Committee

Joint Planning Staff

Modeling Advisory Council

Data Advisory Council

**Working Groups on:** Coupled Modelling (WGCM), Regional Climate (WGRC), Seasonal to Interannual Prediction (WGSIP), Numerical Experimentation (WGNE)





# CLIVAR Research Foci

- Intraseasonal, seasonal and interannual variability and predictability of monsoon systems
- Decadal variability and predictability of ocean and climate variability
- Science Underpinning the Prediction and Attribution of Extreme Events
- Marine biophysical interactions and dynamics of upwelling systems
- Dynamics of regional sea level variability
- Consistency between planetary heat balance and ocean heat storage
- ENSO in a changing climate

# WCRP Grand Challenges – mapping to SOP

WCRP Grand Challenges	Southern Ocean Panel relevance?
Regional Climate Information	
Sea-Level Rise and Regional Impacts	
Cryosphere in a Changing Climate	
Clouds, Circulation and Climate Sensitivity	
Changes in Water Availability	
Science Underpinning the Prediction and Attribution of Extreme Events	

# CLIVAR Research Foci – mapping to SOP

CLIVAR Research Foci	Southern Ocean Panel relevance?
Intraseasonal, seasonal and interannual variability and predictability of monsoon systems	
Decadal variability and predictability of ocean and climate variability	
Science Underpinning the Prediction and Attribution of Extreme Events	
Marine biophysical interactions and dynamics of upwelling systems	
Dynamics of regional sea level variability	
Consistency between planetary heat balance and ocean heat storage	
ENSO in a changing climate	

# CliC projects, working groups and panels relevant to SOP

West Antarctic Glacier-Ocean Modelling Activity  
Interactions between cryospheric elements

ASPeCT (Antarctic Sea ice Processes and Climate): SCAR expert group co-sponsored by CliC  
detailed science and implementation plan (2011)  
To what extent does SOP do sea ice?

CLIVAR/CliC/SCAR Southern Ocean Panel: discussion Tuesday with G. Krinner about CliC and SOP

ISMALSS (Ice Sheet Mass Balance and Sea Level) co-sponsored by SCAR, Int'l. Arctic Science Committee and WCRP Climate and Cryosphere Project (started in 1993, reorganized in 2012) (SCAR report no. 38 science plan, 2009)

Sea ice and climate modeling forum: Large-scale sea ice simulations workshop coming up in Sept., U. Reading.

# SCAR

Many relevant overlaps with SOP

AntClim21 (Antarctic Climate Change in the 21<sup>st</sup> century)

ACCE (Antarctic Climate Change and the Environment)

SOOS (SCOR/SCAR activity)

ISMALSS (SCAR/CliC/IASC activity)

Scanning the Horizon (SCAR visioning activity): meeting in April, upcoming Aug. workshop in New Zealand

# SOOS

Primary sponsors: SCOR and SCAR

Other sponsors: several different national and university entities

Endorsers: POGO, WCRP (CLIVAR & CliC), GOOS, CAML

What is the relationship to GOOS and the IOC? (GOOS website very out of date)

Spearheaded by the SCAR/SCOR Expert Group on Oceanography and **the CLIVAR/CliC/SCAR Southern Ocean Panel**

# Recommendations: organizational

New website:

- Full org chart

- highlight links to all of the endorsed and joint projects as well as its own projects (use CliC as an example)

- keep track of relevant workshops and highlight on home page

- keep track of opportunities for young scientists – postdocs, cruises, etc.

SOP has produced a number of different reports over the years in addition to meeting reports. Archive and link to website (vision and progress documents, for instance).

Strengthen relationship with CliC: discussion with Krinner Tuesday. Joint sponsorship of projects and workshops, ensuring cross-membership.

Strengthen relationship with SCAR: cross-membership, involvement of SOP in SCAR's ocean-relevant activities? Gets to heart of what the CLIVAR is (advisory principally?) and SCAR is (activity and project based?)

Define relationship with SOOS:

Maintain strong relationship with CLIVAR OMDP

Being relationships with biogeochemical panels?