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
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?
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)

CLIVAR Partners

Figure 1. The four core WCRP projects and their interactions
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)

CliC  CLIVAR

- Cryosphere-Climate Interactions
- Ocean-Atmosphere Interactions

- Regional Climate Information
- Sea-Level Rise and Regional Impacts
- Cryosphere in a Changing Climate
- Changes in Water Availability
- Clouds, Circulation and Climate Sensitivity
- Climate Extremes

GEWEX  SPARC

- Land-Atmosphere Interactions
- Troposphere-Stratosphere Interactions
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

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## CLIVAR Research Foci – mapping to SOP

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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

ISMASS (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 21st century)
  ACCE (Antarctic Climate Change and the Environment)
  SOOS (SCOR/SCAR activity)
  ISMASS (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?