

IPY Legacy of Observing Systems

SCAR's efforts on the development of observing systems as part of the IPY legacy are summarised on <http://www.scar.org/researchgroups/observingsystems/>. The focus has been on (i) the Cryosphere Observing System (CryOS), and (ii) the Southern Ocean Observing System (SOOS).

The CryOS plan was developed jointly by SCAR and WCRP and was published in late 2007 as a contribution of the Partnership for an Integrated Global Observing System (IGOS)(<http://www.igospartners.org/Part.htm>). The CryOS plan now forms part of the Global Earth Observing System of Systems (GEOSS), which is managed by the Group on Earth Observations (<http://earthobservations.org/>). This system guides national operators on the ground, and space agencies, in determining what things to observe, when, and how (temporal and spatial resolution), to contribute to a comprehensive Earth observing network. In part SCAR is supposed to have a role in evaluating annual implementation, for example through groups such as ISMASS. However, this has not worked out well in practice.

The SOOS plan is being developed by SCAR, SCOR, CAML, GOOS, WCRP and POGO (Partnership for Observations of the Global Ocean), under the leadership of SCAR. A SOOS White Paper has been developed for the OceanObs09 conference, which takes place in Venice in September 2009. The SOOS plan has also been presented in outline (Paris, June 2009) to the Intergovernmental Committee for the Global Ocean Observing System (I-GOOS), which is a subsidiary body of the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The SOOS plan has been called for by the IPY Joint Committee, and is endorsed by Resolutions of the Antarctic Treaty. The plan exists in penultimate draft form and will be finalised at a SOOS meeting on September 26th, in Venice, directly after the OceanObs09 meeting. The process is managed by the SCAR/SCOR Expert Group on Oceans (which is now jointly owned by SSG-PS and SSG-LS to reflect its interdisciplinary nature). When it becomes operational, SOOS will be considered to be a component of the Global Ocean Observing System (GOOS), which is itself part of the GEOSS mentioned above. Whether or not it becomes the core component of a GOOS Regional Alliance run by the IOC for the Southern Ocean remains to be seen. If it does not, it will be run in effect by the research community as a contribution to global and national programmes of both a research and an operational nature. Further details can be found at: <http://www.clivar.org/organization/southern/expertgroup/SOOS.htm>

SOOS and CryOS have both been developed in the IPY, both with IPY projects at their core (in the SOOS case it was the CASO project on Climate of the Antarctic and Southern Ocean).

SCAR has recognised a need for the future to develop a broad range of observing systems, particularly though not entirely, for observing physical processes. Among the biological entities is the Continuous Plankton Recorder programme (now an Expert Group). It is SCAR's intent to develop these under the umbrella of a Pan-Antarctic Observations System (PAntOS). The PAntOS Expert Group plans

to focuses on compiling details about the currently existing or planned observational networks over the Antarctic in various scientific disciplines covered under the umbrella of the SSG/PS. A primary goal is to address the scope and implementation strategies for the follow-on development of the multidisciplinary Pan-Antarctic Observations Network encompassing the Antarctic Continent and the Southern Ocean. This activity would encompass 4 main goals:

1. Address, identify, and understand current and planned observation networks over the Antarctic:
2. Identify key variables that need to be observed in the Antarctic over long time for terrestrial climate change studies
3. Deliver a comprehensive analysis of the existing observations networks
4. Provide recommendations to SCAR for improving and enhance existing systems.

The PAntOS group met during SCAR's business week in St Petersburg in July 2008, but has thus far failed to report on that meeting. It is not evident what progress is being made, nor what plans are on the table. Attempts are currently being made to contact the convenor (Scott Palo).