

**SCAR Cross-Linkages Workshop, Nov. 6-8th, 2006  
Societa Geografica Italiana,  
Villa Celimontana, Rome, Italy**

**Carlo Barbante, Italy, Member SALE  
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Kirsti Kauristie, Finland, Co-chair ICESTAR SRP  
Chuck Kennicutt, USA, Secretary SALE SRP, V-P SCAR  
Toni Meloni, Italy, Vice President SCAR  
Guido di Prisco, Italy, Co-chair EBA SRP  
Volker Rachold, Sweden, Director IASC (by telephone)  
Claudio Rafanelli, Italy, Member JCADM  
Colin Summerhayes, UK, Executive Director SCAR  
John Turner, UK, Chair AGCS SRP**

**Report based on minutes compiled by Colin Summerhayes (thanks!)**

# LOCATION



# AGENDA

- (i) primary objective:
  - to encourage the development of cross-discipline research within SCAR,
  - to develop concrete actions that will lead to a closer working relationships between SCAR's SRPs and the SSGs, including ways to make these interaction work better – such as joint sponsorship of workshops, science sessions at meetings, combining efforts on education, outreach and communication, and on data where appropriate, and
  - other activities that will bring the communities together.
- (ii) how are the different SRP planning to deal with the data sharing and archiving issues.
- (iii) IPY developments

# Cross linkages already active

- Cross-discipline research within SCAR is already working within the SSG' s;
- One example: atmospheric parameters that characterise the atmosphere are relevant to astronomers; cross disciplinary research is being done by atmospheric physicists and astronomers, to determine the properties of the atmosphere in Antarctica, as relevant to the design of telescopes.
- Another example: the Oceanography group under SSG-PS should also have links with and make presentations to SSG-LS;
- Still another example – the cross disciplinary AGCS-ACE-EBA workshop in Hobart in July 2006
- Should we develop more joint sponsorship of workshops, science sessions at meetings?

# Possible further cross linkage areas

- SSG/LS and ECA action group of SSG/PS:  
organic pollutants

Penguin droppings have a good potential for use as another biomonitoring material in detecting the organochlorine pesticides and other contaminants in the maritime Antarctic. Because penguin droppings can be well preserved in lake sediments, they also provide a good and continuous historical record of these contaminants. The slight increase of DDTs since the 1990s, as observed in the aged penguin droppings in the sediment cores, suggests there have been new inputs of DDT into the Antarctic coastal ecosystem, probably from the illegal use of DDT in the Southern Hemisphere.

Human and Ecological Risk Assessment, 12, 2 (2006), 328-338  
L. G. Sun, X. B. Yin, X. D. Liu, R. B. Zhu, C. P. Pan, Y. Z. Zhao, F. M. Liu, S. R.  
Jiang, Y. H. Wang

## 2. GOALS, OBJECTIVES, AND IMPLEMENTATION OF THE SPECIAL RESEARCH PROGRAMMES

(they will be covered in the individual SRP presentations)

- Action 6: Put link to NOTUS on SCAR web site (ASAP). **DONE**
- Action 7: Put link to OCEAN-READER on web site (ASAP). **DONE**
- Discussion identified need to link AGCS work on upper atmosphere cloud and tropospheric warming to research going on in CAWSES and ICESTAR.  
**Action 8: work on links between AGCS and ICESTAR (ongoing). Possible linkages between AGCS and the solar terrestrial community: gravity waves propagating upwards from the troposphere, possible area for collaboration. **COORDINATE WITH CAWSES2 (SCOSTEP)****

## 2. continued

- Action 9: to consider links between ACE and AGCS – where possible (ASAP). **AGCS not mentioned in ACE report**
- Action 10: Get connections developed between IPICS, SCAR's Ice Drilling Technology Group, and the SSG-GS SIGE Group (by mid 2007). **ICE DRILLING MERGED TO IPICS. IPICS IS EG IN SSG/PS**
- Action 11: Aim to get front-page articles on our activities in EOS or similar journals (ongoing). Reported in SRP reports. **ON GOING**

# More linkages

- There are potential links between SSG-GS and SSG-PS in using the networks of GPS receivers in the SSG-GS geodetic network, which can be used for ionospheric tomography:
- **Proposal from SSG-PS ICESTAR, SSG-GS POLENET (IPY projects).**

**UAMPY (Upper Atmosphere Monitoring for Polar Year) consortium formed by:**

- **INGV (Istituto Nazionale di Geofisica e Vulcanologia - Rome, ITALY)**
- **IFAC/ISC-CNR (Istituto di Fisica Applicata "Nello Carrara"/Istituto dei Sistemi Complessi, Florence, ITALY)**
- **UNIVERSITY OF BATH (UK)**
- **SRC-PAS (Space Research Center, Polish Academy of Sciences Warsaw, POLAND)**
- **UNIVERSITY OF CALGARY (CANADA)**
- **HMO (Hermanus Magnetic Observatory, Hermanus, SOUTH AFRICA, together with other collaborators of the South African Space Physics community:**
- **ISSA (Institute for Satellite and Software Applications)**
- **HartRAO (Hartebeesthoek Radio Astronomy Observatory)**
- **NWU(Northwest University)**
- **UND (University of KwaZulu-Natal in Durban)**
- **UP (Department of Electrical, Electronic and Computer Engineering, University of Pretoria).**

# More linkages continued

- There are also potential links between SSG-PS' s new expert group on PantOS [Pan Antarctic Observing System] (the analog of AON, the Arctic Observing Network). **AND MORE TO EMERGE**
- There are also potential links with other groups through the SSG-PS new action group on Environmental Contamination in Antarctica (ECA).
- Action 12: link the proposed aerosols activity with the contamination group. ASAP. Bring in biological contamination component through interaction with EBA. **ACCE. NEED TO INVOLVE ECA IN ACCE? EBA has representative in ECA.**
- Action 13: Create links between terrestrial biologists and permafrost group. ASAP **CLiC?**
- Action 14: create link to permafrost group for studies of climate forecasts and their effects. **CLiC?**
- Action 15: Create web page linking all SCAR databases. ASAP. **ON GOING**
- Action 16: link plankton and climate data. **BUDGET-MANPOWER connect with SSG/LS new Expert Group on Continuous Plankton Recorder Research**

# Improving linkages: IASC

- Action 17: Send details of the ICESTAR Kick-off meeting to Volker (ASAP). **DONE. IASC COULD NOT PARTICIPATE DUE TO OTHER COMMITMENTS**
- Action 19: make connections between the Arctic and Antarctic paleoclimate communities. **WORK IN PROGRESS**
- Action 20: contact Volker with a view to assisting IASC to develop a comprehensive approach to data and information management. **DELAYED (IASC REORGANIZATION) GOOD DATA MANAGEMENT ALREADY AVAILABLE (DAMOCLES,..)**
- Action 21: discuss how best to make a SCAR presentation during ASSW in March 2007, and to discuss this with Volker. **DONE**
- Action 22: connect US SCAR and SCAR 'international' during ASSW, and to explore the possibility of a SCAR presentation being made to US SCAR. **DONE**
- Action 23: KGI (i) station list (COMNAP); (ii) check national reports for activities; (iii) SC-AGI GIS data; (iv) develop contacts for each country and station; (v) develop inventory of activities; (vi) relate it to SCAR activities; (vi) check Ny Alesund coordination; (vii) report on science; recommend for coordination. **ACTION DEVELOPPED AT ST. PETERSBURG**
- Action 24: circulate information about SCAR programmes to KGI bases, with a view to encouraging them to integrate their research with SCAR programmes. **DONE IN ST.PETERSBURG**
- Action 25: plan a half day workshop for XXX SCAR on KGI scientific research coordination. **DONE IN ST.PETERSBURG**
- Action 26: check on palaeocean chemistry in relation to ocean acidification. **ISAES 2007**

# LONG TERM MONITORING AND OBSERVATORIES

- Colin Summerhayes reported that the SCAR/SCOR Oceanography Group had taken on the challenge of developing a **Southern Ocean Observing System (SOOS)**, something that had been called for by the IPY. **SOOS IS PART OF OCEANS EG IN SSG/PS**
- Colin Summerhayes also reported on the effort to develop a sustained **Observing System for the Cryosphere**, which would take the form of a contribution to the work of the Partnership for an Integrated Global Observing Strategy (IGOS), which involves the UN agencies, the international research agencies (ICSU, WCRP, IGBP) and the space agencies. **CONNECTION WITH NEW IACS**
- **Action 27: mechanism to use to get ‘buy-in’ from the SSGs for the implementation of the Cryosphere Theme. CONNECTION WITH NEW IACS**
- **Action 28: identify the data sets for which data fields were required, and to arrange for them to go on the SCAR web site. ON GOING**

# 6. BREAK-OUT GROUPS: SPECIFIC REQUIREMENTS FOR IMPROVING LINKAGES

- 6.1 POLENET-ICESTAR-GPS-Meteorology
- Action 29:create a POLENETICESTAR-GPS-Meteorology Working Group within GIANT. **AG CREATED IN SSG/PS TO DEVELOP INTO SRPPG WITH SSG/GS**
- 6.2 Climate Change (AGCS-EBA)
- Action 30:continue with the planning for an Antarctic Climate Analysis with a view to producing a book draft for XXX SCAR, and developing a budget plan for the Executive Committee. **ACCE. MERGE: Microbiological and Ecological Responses to Global Environmental Changes in Polar Regions**
- 6.3 Weather and Upper Atmosphere Linkages (AGCS-ICESTAR)
- Action 31:check the funding status of TIMIS, check plans for preparatory work with the existing databases, and introduce people to the above mentioned opportunities for collaboration. **TIMIS NOT FUNDED**
- 6.4 EBA-SALE-ACE(+)
- Action 32: establish the joint ACE, EBA, SALE working group to examine the history and effects of refugia **SESSION EVOLUTIONARY BIOLOGY AT ISAES 2007**

# CONCLUSIONS

- Main achievements of Rome cross SSG workshop:
  - **Proposal from SSG-PS ICESTAR, SSG-GS POLENET (IPY projects).**
  - **More connections among SRP's**
- New developments as consequence of Rome workshop
- **KGI developments**
- Results and open questions
  - **Chemistry**
  - Actions completed: **22/35 ok, 6/35 no, 7/35 pending**
  - Next workshop
    - **Coordinate OS' s**
    - **Involve IACS? SCOSTEP (CAWSES2)?**

# Outlook as of January 2009

## Cross SSG ACTION GROUPS

King George Island Science Coordination Group GS/LS/PS

[http://south.aari.nw.ru/default\\_en.html](http://south.aari.nw.ru/default_en.html) ToR/King George Island and SCAR Science

GPS for Weather and Space Weather Forecasting (GWSWF) GS/PS

Prediction of Changes in the Physical and Biological Environment of the Antarctic  
(PCPBEA) LS/PS

<http://www.scar.org/researchgroups/pcpbea.html> ToR /Members/Report 1<sup>st</sup> meeting

Code of Conduct for the Exploration and Research of Subglacial Aquatic Environments  
(AG-CCER-SAE) GS/LS/PS

<http://www.scar.org/researchgroups/agccersae.html> Tor/Rationale/Members

Cold Seeps and Hydrothermal Mounds (CSHM) GS/LS

Pan Antarctic Observing System (PAntOS) PS should be cross SSG

[http://www.scar.org/researchgroups/physicalscience/PAntOS\\_Plan\\_Rev1.pdf](http://www.scar.org/researchgroups/physicalscience/PAntOS_Plan_Rev1.pdf)  
Implementation Plan

Action Group on Antarctic Fuel Spills (AGAFS) LS should be cross SSG

<http://www.scar.org/researchgroups/lifescience/fuelspills/> Members

## Actions still pending (as far as I know!)

Action 1: create focus on SCAR web site for chemistry

Action 3: develop AEROSOL-READER

Action 4: key field database section on SCAR web site

Action 12: link aerosol act. with ECA (June 2009 workshop)

Action 13: link permafrost and biology

Action 14: link permafrost and climate

Action 15: web page linking all databases

Action 16: link plankton and climate

Action 19: connect arctic and antarctic paleoclimate

Action 26: connect paleo-ocean chemistry and acidification

Action 28: data sets fields to SCAR web site (same as 4?)

## The following actions were outstanding since the Amsterdam meeting:

- **Action 1: Secretariat: Create a focus for SCAR's chemical research activities on the SCAR web site (by end 2006).**
- **Action 2 (related to 1): Secretariat (with John Turner): Put a note on the SCAR web site about how ozone measurements are made and by whom (i.e. outside the SCAR groups)(by end 2006).**
- **Action 3: (Turner): Working with Eric Wolff (BAS and IGAC), and T. Yamanuchi (Japan), develop a possible Aerosol-READER (by mid 2007).**
- **Action 4: (Secretariat and John Turner): Design and populate the key fields database section on the SCAR web site, under Antarctic Information with links to SSG-PS (e.g. including ICE-READER; OCEANREADER, monthly sea-ice fields, and global data sets of ECMWF etc)(by end 2006).**

It was noted that no significant action had taken place on one of the recommendations from the Amsterdam, cross-linkages meeting, which led to continuance of the following action:

- **Action 5: Secretariat: Results obtained within SCAR activities on Place names, Map production and collection, and GIS systems implementation should be made available to all SSGs and SRPs, to help to establish cross-linkages between the SSGs and SRPs.**