

# **Draft minutes of the Second Meeting of the Scientific Steering Committee for the Surface Ocean – Lower Atmosphere Study (SOLAS)**

24-27 November 2002

Hotel “Le Village” Gif-sur-Yvette, France

## **Present:**

### *SSC Members:*

Peter Liss (PL) (Chair), Elsa Cortijo (EC), Ken Denman (KD), Barry Huebert (BH), Tim Jickells (TDJ), Truls Johannessen (TJ), Gebrand Komen (GK), Dileep Kumar (DK), Bill Miller (BM), Uli Platt (UP), Peter Schlosser (PS), Mitsuo Uematsu (MU), Doug Wallace (DW), Ilana Wainer (IW).

### *Other participants:*

Wendy Broadgate (WB) (Deputy Director, Natural Sciences, IGBP), Ed Urban (EU) (Executive Director, SCOR), Maria Hood (IOC), Vladimir Ryabinin (VR) (WCRP), Wade McGillis (WM), Gerritt de Leeuw (GL), Adele Chuck (AC) and Casey Ryan (CR).

## **Introduction**

PL introduced VR, TJ, GL, WM, AC and CR, and welcomed everybody.

Apologies were received from Paty Matrai (PM), Philip Boyd (PB) and Katherine Richardson (KR).

## **Minutes of first SSC Meeting**

Approved in full.

## **Writing of the Implementation Strategy part of the Science Plan and**

### **Implementation Strategy (SP & IS) Document**

It was decided to integrate the Cross Cutting Activities (CCA) into the Foci as much as possible, using common terminology. There would be shortened sections about the CCAs added to the front of the document.

Para 3, Page 15 to be moved to Introduction

After a comment from VR, each Foci was asked to make clear what criteria would be used to judge when the activity was complete.

Because of the nature of an Implementation Strategy the detail would be found in the national plans, and a list of deliverables would not be appropriate. This needs to be made clear in the document. Effectively, having an IS moves the detailed planning down to a lower level. This is the crux of the JGOFS vs IGAC model debate (see later item).

The Foci were asked to add one or two deliverables in as quantitative a way as possible.

In terms of the Science plan alone, F1 made no major changes, F2 made significant changes and F3 made one small change.

ACTION: Focus leaders to send AC latest versions of Science Plan, AC to compile and send to VR.

### **Review of Progress since last Meeting (S.F., December 2001)**

- Science within SOLAS: see country reports. Highlights include the Japan/Canada joint cruise and the Meteor Cruise.
- Science Plan: finished and on the webpage. Further amendments to the SP to be incorporated with the SP & IS on the SOLAS webpage.
- Implementation Strategy: Work is ongoing after the start made in Amsterdam.
- WCRP have decided to be co-sponsors.
- IPO: No permanent office yet. Thanks to AC, CR and Phil Wiliamson.
- Summer school: funding for students from a variety of sources.
- Web pages moved to UEA, updated and SP added.
- Mailing list currently 500+ members, available for SSC members for SOLAS use by contacting CR.
- 15 000 copies of publicity leaflet distributed.
- Bob Duce and PL produced an article in *Atmospheric Environment* about SOLAS. Ran an evening session at IGAC (attended by ~200 people). All aimed at raising interest in the atmospheric community.
- IGBP Global Change News Letter No.50 contained an article about SOLAS by PL.
- Several SOLAS Science Meetings – see later item.

### **Evolution of IGBP II**

WB gave a presentation of the changes and structure of IGBPII. She drew the SSC's attention to the current draft of Ocean Vision: A Framework for Future Research on Global Change in the Ocean. This document aims to give a common theme for all marine IGBP projects. Karin Lochte (IfM- Kiel) is the point of contact for this.

Updates on programmes:

- JGOFS has set its own sunset date and is ending at the end of 2003. The final JGOFS Open Science Conference will be held from 5-8 May in Washington DC, USA.
- GAIM – proposed 23 Earth System questions, 5 were adapted for use in the Ocean Vision
- OCEANS - International Open Science Conference (modelled on SOLAS Damp meeting) 7-10 Jan 2003 Paris is designed to develop a new international research project. After this the Transition Team, (BM is a member) will write a SP. The SSC was encouraged to send in comments by email for the construction of the OCEANS SP & IS.
- IGAC have written their synthesis book. There is a new structure for IGACII and a provisional SP is on the web, but this will need much more work. Moving forward by focusing on shorter-term questions that are revised regularly.

- LOICZ is currently undergoing synthesis. LOICZII will involve more social aspects and social scientists.
- PAGES have reduced the number of Foci. IMAGES is their most relevant one to SOLAS.

The Earth System Science Partnership of WCRP, DIVERSITAS, IHDP and IGBP has new Joint Projects on Global Sustainability focusing on Food (GECAFS), Freshwater (JWP) and Carbon (GCP). A set of Regional Studies is also being developed

SOLAS will feed into the GCP. Maria Hood (IOC) gave detail of the programme so far. It has been a slow process to get all aspects of C-science on board due the wide range of scientific backgrounds.

When the GCP has decided what 'related topics' they will include, it will be important to ensure SOLAS links to these groups.

The GCP will not initiate SOLAS type science and will not duplicate SOLAS work.

### **News items from SCOR**

EU highlighted several SOLAS related SCOR activities including various working groups:

- WG101 (Wind Stress over the Ocean) and WG109 (Fe inter-comparison) have both recently produced publications.
- WG120 (Marine Phytoplankton and Global Climate Regulation: The Phaeocystis spp. Cluster as a Model) DK is a member of this group.
- Symposium on the science of ocean carbon sequestration in late 2003 will provide a special journal issue on the science of this topic. Will develop recommendations and put on web.
- LOICZII: SCOR to co-sponsor Focus 3, which relates to coastal and shelf science. There is a possibility of funding for the SOLAS - LOICZ interactions
- The GCP-CO2 Panel Ocean Carbon Coordination Project. Several SOLAS members will attend the Meeting in Paris in January 2003.

### **Interaction with adjacent parts of IGBP:**

**IGAC/IGACII** propose UP is the joint SOLAS rep, he is on IGAC SSC and has been suggested by IGAC as the link after the New Year. Accepted by SOLAS SSC. Thanks to MU for doing this to date.

BH was concerned that due to the many SOLAS type researchers in IGAC, more interaction may be needed. And a clear point of contact might need to be established on the IGAC side.

Action: UP to convey BH's concerns and get SOLAS on next IGACII SSC agenda

**LOICZ** is currently synthesising LOICZ1 and planning LOICZII. In short, LOICZ is moving closer to IHDP and closer inshore and towards policy issues. The embryonic SP has two areas of overlap with SOLAS:

- Determination of the contribution of atmospheric sources to nutrient and contaminant loading in coastal seas and shelf areas.

- Identification of the role of the continental shelf in sea-air exchange processes for trace gases.

There was debate about the boundary of SOLAS and LOICZ-science. LOICZ may need SOLAS if they are to go beyond what they have achieved in the last 10 years.

Action: TDJ to continue to liaise with LOICZ to ensure that work on overlapping areas is not allowed to slip through or be duplicated

**JGOFS** (also see Evolution of IGBP above and Task Teams below) A letter regarding some of the data management issues that JGOFS had encountered was circulated. The SOLAS Data task team will consider this (see later item).

**GAIM** has two models that may be of interest:

- Green Ocean Model
- Coupled Carbon Cycle Climate Model Intercomparison Project: C4MIP

It was recognised that SOLAS should be aware of these, but that SOLAS should avoid favouring one model over another, hopefully SOLAS could bring various groups together. No immediate interactions between GAIM and SOLAS but our improved flux parameters will be inputted in future. GAIM's role in IGBP is currently being formulated.

**PAGES** is very open to cooperation with SOLAS, there are many potential strong linkages in both SPs. There will be a chance to liaise with IMAGES at the IGBP Congress.

**GLOBEC** There are ongoing issues with communication here. Some opportunities exist for cooperation e.g. grazing and DMS production, Neuston Layer. Different national programmes are at very different stages, but International GLOBEC will continue until 2009.

**ACTION:** Investigate and develop linkages to GLOBEC

**OCEANS**'s draft framework has been reviewed and the Open Science meeting in Paris and the SP & IS will follow the SOLAS template. There is large potential for overlap between SOLAS and OCEANS, and the relative merits of this were discussed. 5 members of the SSC will be attending the Open Science meeting and when OCEANS develops a central philosophy the issues of overlaps will need to be resolved.

### **Interaction with projects outwith IGBP**

**WCRP** will be a co-sponsor of SOLAS but not at the same level as IGBP/SCOR. As such, SOLAS may be required to report to the JSC, this will be confirmed in writing and WCRP will participate in the review of the SOLAS SP & IS. WCRP will also establish an Air - Sea flux group that SOLAS will be involved with. They also believe a review of the state of mass flux science is desirable and encourage direct contact with e.g. CLIVAR, WG on Numerical Experimentation and WG on Coupled Modelling.

**CACGP** have a new president (Ann Thompson) and this could be used as a communication route to the atmospheric community. There is a need for an annual formal report.

Reports were also received relating to **GCP** (see above) and **AICI** (Atmosphere-Ice Chemical Interactions)

### **National Committee Reports**

**Australia's** report is contained in that from **New Zealand**

**Belgium** is active, but did not submit a report. There is a possibility of funding to second a Belgium scientist to the IPO.

**Brazil:** See report on web.

**Canada:** SERIES Fe addition went very well. Have a secretariat and secretary. An industrial partner withdrew support, but the Department of Fisheries and Oceans is committed to SOLAS. CANSOLAS has been very productive since last SSC and has several cruises planned.

**Chile** is active, but did not submit a report

**China (Beijing)** 20 page report is available, but no 1 page report yet submitted. There has been progress and a meeting was held in Qingdao.

**China (Taipei)** is conducting work that is very close to LOICZ. As yet, no pan E Asian collaboration. PICES is an existing structure for this region and might be willing to organise a regional programme. PICES has been trying to get SOLAS representation at their annual meeting next year. SOLAS will try and get a member of the SSC or IPO at the next meeting in Korea next summer. SCOR and IGBP need to be careful to avoid favouring a certain region.

**Denmark:** Plenty of activity in planning stages.

**France:** a presentation of French SOLAS was received, for details of the current French SOLAS-related activities see the report available on the SOLAS web site.

**Germany** have submitted a letter of intent for a SOLAS programme. The preliminary findings of a recent Meteor cruise were presented

**India:** after initial problems, the atmospheric community is likely to come on board. The link between brown clouds and DMS production is an important point of interest for both communities. A brain storming meeting has been arranged and then a national SOLAS plan will be formulated in the next six months. Many time series experiments planned in the Arabian Sea and off the coast of Goa.

**Italy** has considerable interest, but there are some organisational problems at present.

**Japan** has held a national meeting (30 members) and a cruise planning meeting for three SOLAS related programmes: SEEDS (subartic), SNIFFS (subtropical), and STAGE (Antarctic). Upwelling experiment using pipes to draw up nutrient rich waters are planned and a flying boat may become available for use in fertilisation experiments.

**Republic of Korea:** report on web.

**Netherlands:** report on web.

**New Zealand** raised the problem of special issues of journals and finding an appropriate journal to present Atmospheric and Ocean research. Issue to be returned to.

**Norway** has many institutions working on SOLAS science. A new ship is being built, in part with SOLAS in mind.

**Russian Federation:** as yet no one page report [EU offered to get more info at the SCOR meeting].

**Spain:** Report on web is still current.

**Sweden:** No committee formed yet, but this may change. SOLAS activities are taking place (MEAD etc), but this is not shown in their report.

**United Kingdom:** 87 people attended a UKSOLAS meeting and a 2 page statement was produced. This is currently being expanded to a full proposal for a thematic programme for £13 million. The AMT has been funded to £2 million and uses the BAS survey boat to conduct Atlantic transects twice a year. CASIX, a remote sensing programme aiming to advance knowledge of air-sea fluxes has also received funding.

**United States:** the USSOLAS workshop of May 2001 was well attended and report is currently being synthesised. NSF seems very supportive of SOLAS generally and especially gas exchange. NASA has also expressed interest. USSOLAS will maintain a planning team /proto steering committee which will evolve as proposals are developed and projects funded. Funding is being sought for a project office. The upbeat report on the funding of USSOLAS bodes well for SCOR support of the SOLAS SSC.

### **Organisation of SOLAS Research - JGOFS versus IGAC Models**

It was decided to establish a Working group for each Focus. The Focus Leader would be a member of this group, but, to avoid overloading the Focus leaders, not necessarily the chair, the Focus Leader would act as rapporteur to the SSC. Groups could include any member of the relevant communities. A diversity of age and nationality is desirable.

ACTION: Recommendations for Foci WG members and chairs to be sent to PL

### **Task Teams**

Although the value of Task Teams was recognised, it was decided to husband resources and only establish them as the need becomes evident.

**Large-scale fertilisation experiments** will be considered by the Focus 1 WG.

**Modelling** will be incorporated into the Foci WGs and the Data and Model Output Management WG (see later).

**Coupled atmosphere-ocean experiments** and **interaction with ice** are perhaps cross cutting activities that would be best served by a Task Team, for now they will be considered by the F1 and F2 WGs

**Atmospheric transformation experiments** will be considered by the F1 WG

A **Microbial** task team is not needed yet, but in future F1 and F3 WGs will decide on the need for one. The outcome of the OCEANS Open Science meeting may be relevant here.

**Air - Sea mass fluxes** will be considered by F2 WG. It had been agreed with WCRP that this would be set up but F2 to decide whether this needs a separate group.

**Data and Model Output Management** is an issue of considerable importance. To ensure SOLAS attains best practice in this area a Data and Model Output Management WG will be established to last as long as SOLAS. Resources for this will need to be found quickly.

This group needs to:

- produce a statement on data for the SP & IS
- Produce a policy document. There may then be a need to employ a data and modelling manager.
- Liaise with, inter alia, JGOFS SSC, WOCE, ASCOE data managers, CLIVAR and WCRP in general

ACTION: WB to arrange a meeting with JGOFSSSC at Banff  
VR to provide on information on WCRP experience regarding data management.

### **Recognition of SOLAS Research**

This will be done, as agreed at the 1<sup>st</sup> SOLAS SSC meeting.

ACTION: IPO to plan how this will be implemented

### **SOLAS Communication Issues**

Thanks to AC for her work on the website. The SSC are to make the IPO aware of any updates etc and check for possible improvements.

A section of the website that listed relevant oceanographic cruises and provide contact details would be established.

CR would put together a PowerPoint presentation about SOLAS that all of the SSC could use. SSC members to send images to CR. Although presentations are not subject to full copyright restrictions, it is important that the source and author are credited on such images.

Bibliography for SOLAS. If SSC members have any suggestions the IPO will compile a list on the webpage. IGBP also require that the outcomes of SOLAS research are listed.

A SOLAS image library is being established by the IPO. SSC Members to send any SOLAS related diagrams, photos etc to the IPO.

ACTION: All SSC to 1) send SOLAS related graphics to CR, 2) check webpage for updates, 3) submit suggestions for a bibliography.

CR to make 1) ppt presentation 2) image library, 3) bibliography, 4) upcoming cruises page, 5) updates to web page. Also to contact Charlotte Wilson in IGBP for details on listing SOLAS outcomes.

### **SOLAS IPO**

The current situation is that AC has 3 months remaining of her SCOR and IGBP funding. CR has a year of NERC funding

There is a need for secretarial help for Foci WGs and Data group. Funding for travel to these meetings will be needed.

There are several possibilities for a long term IPO. A small review group to decide on relative merits of different IPO bids may be needed if several come to fruition. All bids need to propose a minimum of three years funding.

Possibilities include:

- Canada – Dalhousie is interested in hosting both the CANPO and an IPO.
- France - IPSL could host an IPO, but France cannot have two IPOs and currently hosts the SPARC IPO. When this ends there may be an opportunity for long term funding of a SOLAS IPO.
- UK – The NERC proposal includes an IPO. The outcome of this will be known in Feb 2003.
- Norway has put in a proposal to fund a share of an IPO. This could be anywhere in the world and this is suggested as a way for all countries to help the development of an IPO.
- The Belgium ministry is interested in seconding a Belgium scientist to the IPO.

Countries that did not want to host an IPO were encouraged to host meetings, help with publications and fund the WGs.

EU funding may produce an EUSOLAS PO as part of funding for science.

### **SOLAS SSC Membership**

Members were initially appointed for 2 years and this finishes at the end of 2003. The Chair requested that most members of the committee serve at least 1 year extra.

Peter Liss may be requested to take over as Dean of the School of Environmental Sciences at UEA and thus would not be able to continue as Chair past 2003. This will be resolved in the next 2-3 months.

<b>ACTION:</b> All SSC members to notify PL if they no longer wish to continue on the SSC. Ideas for new members should be sent to PL.
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### **SOLAS Summer School**

Funding is sufficient and applications are starting to be made. May be oversubscribed, especially with accommodation. The SOLAS Summer School Scientific Committee (SSSSC) will determine the total number of places, and will act as the selection committee.

The intent is for it to run every 2-3 years. This will depend on demand

### **Forthcoming Meetings**

#### **The 3rd IGBP Congress, 19 - 24 June, Banff, Canada (Includes the next SOLAS SSC meeting)**

A list of WGs that have been suggested was presented. Comments on these and possible leaders of these groups should be sent to WB. Time to meet with other SSCs was requested.

3 members (EC, TDJ and DK) of the SOLAS SSC are unable to attend and so there is the possibility of inviting others.

<b>ACTION:</b> Suggestions as to invitees should be emailed to PL.
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All SSC to email confirmation of attendance to the IPO by the end of Jan 2003

### **SOLAS Science Conference 10-15<sup>th</sup> Oct 2004 Halifax, Nova Scotia**

○ **Structure:** The structure would be invited talks in the morning and posters in the afternoon. It would be good if the posters could be up as long as possible and this would require a large space, the possibility of hosting the posters on a webpage is to be investigated.

High profile keynote speakers should be a priority.

Estimate is 300+ attendees

There should be an organising committee of ~6 that forms as soon as possible. BM volunteered. Representation is needed from all three Foci and is not restricted to the SSC. AGU/EGS in Nice might be a good meeting point for this organising committee.

**ACTION:** Interested parties to contact BM - millerwl@is.dal.ca

○ **Communication:** Advertising on SOLAS and IGBP web and newsletter and email. Adverts in EOS. AGU and national bodies of all 22 countries via country reps. Email to come soon. Nature and Science not to be used. CLIVAR Newsletter.

○ **Budget:** 100-120 000 USD is typical cost inc travel for speakers. Typically for past meetings of this type, 25% provided by SSC/IPO, 50% from SCOR and 25% local. Host nation to provide receptions etc.

May need to budget for additional human resources at conference. The IPO will help as much as possible.

Travel money for developing countries scientists is often available and this is well worth pursuing, the IOC may be helpful here.

A fee may be needed to balance the budget. Corporate sponsorship and equipment demonstrations were deemed acceptable and this may be especially beneficial as Halifax is a large oceanographic centre.

Other countries to be encouraged to fund their nationals as invited speakers.

○ **Proceedings:** a special issue in a journal would be preferable, but might be expensive. Chance for the JGR to do a special oceans and atmosphere issue. GRL may be an option.

### **OCEANS Open Science Conference 6-10 January 2003, Paris, France**

Concern that the geographical spread of speakers was as not as wide as it could be.

**Ocean Carbon Coordination Project**, 13-15 January 2003 UNESCO Headquarters, Paris, France

3 members of SOLAS SSC attending

### **EGS - AGU - EUG Joint Assembly, Nice, France, April 2003**

The SOLAS symposium was noted

### **IUGG Sapporo**

SOLAS presentation on the 3-4 July 2003

Will also try to have a pan Pacific or E Asia SOLAS meeting. PICES has an interest in this.

ACTION: MU to email CR text of email to be sent to SOLAS mailing list. A splash on the SOLAS web page with link will be added.
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**Thanks to EC for a smoothly run meeting**

**Summary of Actions**

PERSON	ACTION
All SSC	<p>Recommendations for Foci WG members and chairs to be sent to PL</p> <p>Send SOLAS related graphics to CR.</p> <p>Check webpage for updates.</p> <p>Submit suggestions for a bibliography.</p> <p>All SSC members to notify PL if they no longer wish to continue on the SSC. Ideas for new members should be sent to PL.</p> <p>Suggestions as to invitees to Banff should be emailed to PL.</p> <p>Email confirmation of Banff attendance to the IPO by the end of Jan 2003</p> <p>Members wishing to be on the SOLAS Science Conference organising committee to contact BM.</p>
Focus leaders and AC	Focus leaders to send AC latest versions of Science Plan, AC to compile and send to VR.
VR	VR to provide on information on WCRP experience regarding data management.
WB	WB to arrange a meeting with JGOFSSSC at Banff
IPO	IPO to plan how recognition of SOLAS research will be implemented
CR	CR to make 1) ppt presentation 2) image library, 3) bibliography, 4) upcoming cruises page, 5) updates to web page. Also to contact Charlotte Wilson in IGBP for details on listing SOLAS outcomes.
MU + CR	MU to email CR text of email to be sent to SOLAS mailing list. A splash on the SOLAS web page with link will be added.
UP	UP to convey BH's concerns about communication between IGAC and SOLAS and get SOLAS on next IGACII SSC agenda.
TDJ	TDJ to continue to liaise with LOICZ to ensure that work on overlapping areas is not allowed to slip through or be duplicated
CR + PL	Investigate and develop linkages to GLOBEC