

Minutes of the 6th SOLAS Scientific Steering Committee Meeting

Terminus Hotel and KNAW

Amsterdam

May 8-10 2006

In attendance:

AH - Ann Henderson-Sellers (WCRP Executive Director; Tues and Weds)

BB - Beatriz Balino (IGBP; Monday and Tuesday)

BH - Barry Huebert

BM - Bill Miller (Imp1 Co-Chair; Departing member)

CL - Christiane Lancelot

DT - Daniela Turk (Imp2 Secretariat)

DW - Doug Wallace (Departing member)

EB - Emily Breviere (IPO Project Officer)

EdU - Ed Urban (SCOR; Mon and Tues)

GD - Gerrit DeLeeuw (Local host)

GS - Guang-Yu Shi

HK - Hartwig Kremer (LOICZ; Monday and Tuesday)

IC - Isabel Cacho (New member)

JuH - Julie Hall (IMBER; Monday only)

JeH - Jeff Hare (IPO Executive Officer)

KD - Ken Denman (Departing member)

MU - Mits Uematsu (Imp1 Co-Chair)

PL - Peter Liss (Chair)

PM - Paty Matrai (Vice-chair)

SD - Sarah Doherty (IGAC)

SG - Sergey Gulev (New member)

TrJ - Truls Johanessen (SIC Co-Chair)

TiJ - Tim Jickells

UP - Uli Platt

VR - Vladimir Ryabinin (WCRP)

VS - Vero Schoemann (Monday only)

WM - Wade McGillis (Imp2 Chair)

Apologies:

ST – Shigenobu Takeda

OU – Osvaldo Ulloa

Day One: May 8; Hotel Terminus

SCOR Report and Discussion - EdU

New Working Groups proposed each year after May 31. Proposers should work through country representatives. These groups are funded for 4 years at \$48000 total. About 10 members, 4 years, focused on a product (book, special issue, etc), with established terms of reference. SCOR can fund up to 2 per year.

WG124- Paleo / Current climate links, WG120, WG127, WG128, GEOTRACES. **TiJ** is on GEOTRACES planning committee, cooperation / collaboration with SOLAS is sought

to add scientists on board cruises, for example. Science Plan is complete. Once the SSC is formed, it would be desirable to have a SOLAS person participate in SSC meetings (TiJ?).

2nd symposium on High CO₂ world ocean, Jim Orr is the chair, and they plan to meet in late 2007/early 2008. JGR Special issue is target.

Underway pCO₂ workshop planning is underway. April 2007.

Friends of Oxygen (FoO) – Niki Gruber leads.

SCAR/SCOR expert group will coordinate projects in the Southern Ocean.

SOLAS/INI in Norwich, 17-20 Nov 2006, 2-4 papers output is target.

IGBP-SCOR FTI on Atmospheric CO₂ and Ocean biogeochemistry, 28-30 September at LDEO. This activity is focused on paleo, with modern context.

SCOR was recently provided funds from the Sloan Foundation for a summit of projects in London Dec 7-8. Topics include data management, GOOS interactions, IPY, cruises, visualization, web tools, ocean color, outreach, carbon offsets.

Waiting approval for \$50,000 NSF money per year for SOLAS. SCOR will continue to contribute \$40,000 (from NSF). SCOR is receptive to providing funds for developing and Eastern European scientists.

IGBP - BB

FTI's – they address a key question within 3 years. Ocean acidification runs 2005-2007. ESSP conference in Beijing in November.

IGBP congress will be held in Capetown in March of 2008 (or April). SSC's, IGBP National committees, partner organizations are invited. Theme is tentatively "Managing change in the Earth System". Format includes SSC meeting on Day one and Day five, Day 2 is open lectures, Day 3 and 4 are cross-cutting themes. Day 4 includes National committee meetings. The cross-cutting themes should be forward looking, address critical issues of global change, of interest to several core projects.

IMBER - JuH

IMBER/GLOBEC working together on end-to-end food webs. **KD** was a member of the panel.

SIBER will happen in Goa October 3-6. This workshop focuses on long-term time series in the Indian Ocean. Raleigh Hood is the lead.

Data management coordination between IMBER and SOLAS is critical.

Need support for Joint group secretariat. Resources for meetings of this group is critical. SOLAS/IMBER session at EGU, with IMBER as the lead is proposed by **PL** for 2007.

PL asks how does IMBER catalog its projects, etc? Any plans?

JuH explains their endorsement procedure: 1) Contributing project, 2) Regional activities, 3) National activities; Short discussion ensues on data management and how cataloging may occur.

IGAC - SD; IGAC IPO Executive Officer

UP is the SOLAS liaison. IGAC has no national committees.

Implementation: 1) Tasks – endorsed and supported. 2) Workshops – cosponsored with funding (for example, HitT).

SOLAS relevance in IGAC: AICI, OASIS, MegaCities-Asia, ITCT, AMMA, DEBITS, POLARCAT, ABC-Asis (brown cloud), HitT, VOCALS.

Workshops – Aerosol indirect effect, AICI will happen May 10-12 in Grenoble.

HitT whitepaper. What is the next task for this group? What role can IGAC and SOLAS play?

VOCALS – delayed until 2008. Aerosols/chemistry. What role can IGAC and SOLAS play? Need a champion for surface measurements.

Wet deposition modeling needs improvement. Also, scavenging. Workshop planning underway. See next issue of IGACtivities.

Linkages: co-endorsements – AICI, POLARCAT?, HitT, VOCALS.

Consider co-sponsoring workshops, exchange of liaisons and communication between IPO's.

How to add value? Go beyond the endorsements to require champions to come forward from the SSC.

VOCALS – workshop for measurements and modelers and pre-campaign planning. Active engagement of local scientists, facilitate aerosol/meteorology/oceanography. AMMA?

IGAC/SOLAS/iLEAPS – coordinated interaction with AIMES and GEIA.

Action: We need SOLAS representation for Climate/Chemistry interactions initiative. JeH to provide a list of names to SD (DONE).

LOICZ - HK; LOICZ IPO Executive Officer

Priorities for next 5 years. Implications of economic and ecological change to land and sea use. Changes to flow of fresh and estuarine waters, analysis and feedback to policy in changing ecosystems.

Links with SOLAS – 1) Observations and modeling strategies in coastal regimes, 2) coastal air-sea flux measurements and evaluation, 3) Address exchanges with atmosphere over coastal and shelf waters.

PL – task team on trace gas fluxes in coastal areas worldwide should be convened to provide budgets of gas transfer.

Action: Could **KH** provide a paragraph to his SSC stating this desire ahead of their SSC meeting next month (**JeH** sent a reminder to **KH** on May 19)?

CarboOcean – continental water in the Mediterranean and North seas.

Connections w/WGSF, budgets of fluxes in arctic seas, arctic coastal dynamics. AIMES has templates for interaction across core projects.

Action: **JeH** talk with Kathy Hibbard about the templates (**DONE**).

Activities 1) WG synthesis trace gas fluxes in coastal regimes and 2) Deposition of wet and dry processes, together with SOLAS and IGAC.

SD –there will be a workshop on the latter, SOLAS will send a rep, LOICZ should send one as well.

SG could they meet in Heidelberg?

PL – **Action:** – we should set up a task team to assess the current state of air-sea trace gas fluxes in the coastal zone and find a way forward. This is a joint activity between SOLAS and LOICZ. Measure transfer processes and concentration gradients. Need a definition of ‘coastal zone’. Should this be a IGBP-FTI?

BB – LDEO fast track initiative on high CO₂ and paleoclimate. Could SOLAS please send someone there?

Action: Send a nominee to Thorsten Keifer of PAGES (**DONE**).

PL – **Action:** we also need to nominate someone to the SC-IGBP who has SOLAS interests.

LUNCH

IMP3 - TrJ

Overview of SOLAS/IMBER joint group carbon work. Joint committee includes: **TrJ**, Arne Koertzing, Nicolas Metzl, Britt Stephens, Gerhard Herndl, Ken Johnson, Niki Gruber, Kevin Arrigo, Dick Feely, Kitack Lee, Toshi Saino, and Hermann Bange. We need a coastal person and finding this person is underway within LOICZ (KK Liu, Nancy Rabalais and Helmuth Thomas have been discussed).

Boulder meeting- **TrJ** and Arne decide that they will not be part of the subgroups (there are 3: Surface ocean lower atmosphere – Nicolas Metzl leads; Interior ocean – Niki Gruber leads; Sensitivity and future oceans – Kitack Lee leads).

1. Surface group – Dorothee Bakker, Alberto Borges, Toshi Saino, Britt Stephens, Nick Bates, Gregory Beaugrand. Niki and Bronte Tilbrook will co-chair a workshop at UNESCO in April 2007 on surface observations.

2. Interior ocean subgroup has a subgroup of its own ...Friends of Oxygen (FoO). Writing a white paper on adding O2 sensors to ARGO buoys, **EdU** points out that the groups is very heavily US-centric. Scott Doney, Steve Emerson, Denis Gilbert, Steve Rise, Greg Johnson, Ken Johnson, **OU**, Arne Koertzing.

At the end of June, there will be a meeting in Iceland on repeat hydrography. The FoO will also attempt to meet at the same time.

Europeans are funded by CarboOcean to attend this meeting, but US-contingent has no funds. **Action:** Identify these people, find their needs, and try to fulfill (**DONE**). Note: SOLAS and IMBER support this, in principle, but we need more information.

WM suggests adding Andrew Manning (UEA) and Swedish engineers to the FoO, but **TrJ** says that they are only working on the whitepaper, perhaps these people don't need to be in conversation. **Action:** **JeH** contact Niki Gruber to suggest adding Manning and Swedes to the FoO (**DONE**).

3. Sensitivity group – Kitack Lee is the lead. Lacks direction. **PL** states that this group is the least well-formed and is of lower priority.

IOCCP should work on best practices, but are they doing this for mesocosms? Kitack should synthesize results from mesocosm experiments and leave the protocol to Maria Hood (**TrJ**).

PL asks what is needed to push tasks forward?

TrJ: Group 1 needs to meet to discuss what is needed for surface observations.

PL: Who will update Takahashi?

TrJ: Group 1 must lead

Group 1 also needs a few more individuals and needs executive help.

Group 2 will write the FoO whitepaper and push forward the coordination of repeat hydrography.

Who are the people who need support to attend Iceland? Wanninkhof, Feely, Sabine, etc? Meeting in Iceland is the North American synthesis meeting.

Action: JeH contact all involved and co-support (with IMBER) those people (non-US) who need travel support.

Group 3 needs to gel.

JuH – support for these groups is needed.

IMP1 - BM

Indicates that **PM** was omitted from minutes of Honolulu meeting of this group. They are working on a list of projects and an executive summary for the IMP1 plan. Working on a bibliography of classic papers and new development, working on fall AGU meeting of the group.

There will be a DMS meeting in December in Brussels.

INI in Norwich in November

Aerosols – a new Japan / New Zealand endeavor

IPY projects

ADOES – Asian dust

UP asks about satellites . Are satellites included?

Synthesis session, including satellites should be considered.

PL suggests 2 brainstorming groups under IMP1....

1) Adventurous vision for big experiments. Group to push for big experiments.

2) Satellites and SOLAS

Discussion ensues about merits of having the 2 groups together or separate.

UP – Satellite measurements can be discussed in their own right.

Suggestion is to try a combined group. Keep it small and effective.

Action: Get a special session for SOLAS at the Fall AGU in San Francisco.

AMMA - BH

SOLAS focus within AMMA is lost, and looks unlikely to be regenerated. The program has switched focus away from dust and evolution of convective complexes. UK-SOLAS has had activity in the area, uncoordinated with AMMA.

VOCALS - BH

Radiator fins, stratocumulus deck, Pockets of open cells are important radiatively. There is a recognized aerosol interaction to clouds and induce the pockets of open cells (POC's). DMS and CO₂ seem to behave differently vs wind speed, and **BH** will continue to work on this issue in the VOCALS regime. There will be complementary coastal work done by the locals (Chileans).

Action: JeH find out what is happening with VOCALS and the SOLAS participation.

OASIS - PM

OASIS science plan and implementation strategy are online. 200 scientists, 60 projects, 22 countries, no funding. There will be OASIS sessions at 2006 Capetown and 2005 Fall AGU. OASIS has no icebreaker, but will depend upon network of platforms.

AICI - PM

Polar program (OASIS is Arctic), SOLAS/IGAC workshop in Grenoble next week.

EurOceans - CL

EU-funded network of excellence. About global change and pelagic marine ecosystems. 160 PI's, 66 institutes, \$10 million euros. Pelagic = open ocean and continental margins. Mostly IMBER, but some SOLAS.

CarboOcean - TrJ

EU-integration project with 47 institutions, \$15 million euros. **BB** suggests AIMES needs to be brought in. GCP needs to coordinate with CarboOcean.

HitT – UP

Reactive Halogens (X + XO) are found in troposphere from variety of often unknown sources. Halogens in the Troposphere is meant to determine importance of these compounds and devise a strategy for observation. HitT includes a 9 year study plan (3 phases of 3 years each). **UP** and Roland Von Glassow are asking SOLAS for official endorsement. This is also an IGAC task.

Action: **JeH** ask IGBP about publication protocol, etc (DONE).
SOLAS SSC is ready to endorse HitT.

Fe-fertilization – TiJ

Oct/Nov 2005 meeting in NZ was an outgrowth of a group discussion at Halifax. Full report in SOLAS newsletter. 21 people involved. Phil Boyd will lead the paper, due in June. No proposal to continue iron addition experiments, due to the scale of the problem (next generation would require a very large scale look). Natural systems appear to be better suited for investigation at this stage.

CL presents a SCOR working group proposal as an outgrowth of the NZ meeting. Proposal to compile data (assemble a common open-access database) and modeling (simulation of 2-10 experiments). TOR for 4 years, assemble the database, organize 2-3 workshops with modelers and experimentalists, presentation at a special session, final publication.

Action: SOLAS will endorse this. It is due at SCOR at the end of July. Each national SCOR rep should be contacted for endorsement to assure success.

DMS – PM

The 4th DMSP conference was held at UEA last week. Focused on precursors to DMS. About 60 participants, 50% young scientists.

CL– DMS model intercomparison workshop in Brussels 4-8 December 2006. Outgrowth of a group discussion from Halifax. Not necessarily to find the best model, but to find the benefits and pitfalls of each. CL, Maurice Levasseur, Alain Vezina, and Yvonnick LeClainche are the organizing committee. **VS** is the local organizer.

Day Two: May 9th; KNAW

ADOES – GS

Asian Dust and Ocean Ecology System. ADEC is the Asian Dust Effect on Climate ongoing network of observations. Discussed in Halifax. 1st workshop in Weihai in October 2005. Welcome non-Asians. The 2nd symposium will be held 9-11 August in A'er city. Perhaps will hold this in conjunction with 2nd Asian SOLAS workshop.

Action: JeH identify someone to be sponsored by SOLAS office to attend the workshop.

AIMES – JeH

AIMES needs to have more ocean linkages and it is up to SOLAS, IMBER, and GLOBEC to provide this. IGBP needs to influence process. Is the science plan ready?

Action: talk with Kathy Hibbard about how to use the templates to integrate between SOLAS and AIMES (**DONE**).

C-SOLAS – KD

1st phase ends, end of June, extension until December. Final annual meeting in June. Arctic SOLAS proposal has one long cruise (90 days). Mid-June review, mid-July decision. Biogeochemistry over ice.

D-SOLAS – DW

SOPRAN – Anthropocene. Submitted, review in mid-June, 3 years, 6.5 million euros, 12 institutions, 43 PI's, 23 projects. 4 themes (Cape Verde base for most): 1 ocean response to dust, 2 high CO₂ effects on fluxes and marine ecosystems (also with mesocosms), 3 production of radiatively active gases, 4 interface transfer using a platform in the Baltic and the lab. Start January 2007. There is other EU money for Cape Verde, offshore site. Ship to be refit. Mooring is in place next month.

UP – MAPHINS – field, modeling, and lab. 3 phases of 4 years each. 1.5 million euros per year.

HK suggests interaction between D-SOLAS and LOICZ, as there is significant overlap.

Action: HK also suggests a regular presence of LOICZ at SOLAS' SSC and vice-versa.

US SOLAS – WM

4 themes, science plan will be released soon. OCB project office initiated, Summer 2006 workshop on OCB planned. ORION workshop in March 2006, cabled observatories.

Action: Ask Manuel Barange how GLOBEC and AIMES have interacted and interfaced. A workshop was held last fall, and another one planned this year (**DONE**).

Day Three: May 10th; KNAW

J-SOLAS- MU

Japan SOLAS proposal will be reviewed this summer. Includes access to a drilling ship. Asian dust special session at WPGM (AGU). **ST** was recently awarded a prestigious 2006 Japan scientist's award.

SOLAS-China (Beijing) - GS

200 people are involved, including 25% young people (includes Masters and PhD students). ADOES, Xiamen conference for SOLAS

SOLAS-Belgium – CL

DMS meeting in Brussels later in the year, Secretariat for Focus 1 is in Brussels (ends in December 2006). Science for sustainable development. Received money for networking (cluster) within the nation, through 2006-2007. Some money for promotion of young scientists, Summer School. New website from Liege. Some work in the Antarctic.

Action: CL prepare bid for continuation of funding for IMP1 Secretariat at end of 2006.

Norwegian SOLAS - TrJ

Will have a cruise in summer 2006 for Focus 2 and 3 science in the Norwegian Sea.

UK SOLAS – JeH

1st Meeting in mid-July, 10 million GBP over the course of 5 years.

INI – PL

Nitrogen impacts to the open ocean. Workshop in November at UEA. Papers are expected. SOLAS, SCOR, NSF, ESF funding.

EU – PL

STREPS are small projects of order 2 million euros each. 2 STREPS are currently SOLAS-related. OOMPH, which is about organic compounds and new particles. Led by Jonathan Williams in Mainz. MAP is the Marine Aerosol Production campaign, led by Colin O'Dowd in Ireland. There will be a cruise in June for MAP.

Data Management – DW

This group met in November, renamed a ‘task team’ as opposed to an ‘implementation team’. Evaluate and document data products and handling, develop policy, reporting, create an implementation team. Types of data: Geographic / time resolved, experimental data, data from models. Type 1, table shows data types, dimensions (x, y, z, t, etc), whether the data is atmospheric, oceanic or both, existing data centers, additional SOLAS requirements. Type 2, for example, come from gas exchange, mesocosm and iron addition experiments. These are non-traditional data sets. Type 3 are model output. Operational models and SOLAS specific models.

Implementation steps: Establish a SOLAS data portal, including access to background data, access with pointers to existing data centers. Later, training and workshops should be conducted on data management. Suggestions sought on how to move forward. Identify a ‘hero’ with resources to take up the charge. We need to establish the data portal and work with the SOLAS community to populate it. **DW** suggests Jim Orr be included in the SOLAS Data Management group and/or his advice sought. **DMS** intercomparison group should be resourced to help develop protocols for the community. Ask Alain Vezina etc to keep this in mind when designing the **DMS** intercomparison protocol.

For example, a nation may have an experiment. On the data portal, notice will show the presence of this data, what the data are, who can access.

BH – standard needs to be established for metadata. Conversation ensues on data quality, meta data, how this will be structured, how to establish standards, **JCOMM-OPS** has developed standards, and **VR** suggests we look to them for help. **IPY** has a subcommittee on Data Management, and we can also look to them. Fe-fertilization data formatting exercise that **CL** is attempting to establish with the **SCOR** working group, and we should also encourage these people to work toward community standardization. We need a point of entry to these groups...that is, someone who knows how the process works and can speak with the data centers, etc.

TrJ – carbon system has a structure and **CARBOOCEAN** has also thought of these issues.

SG – **WOCE** and **JGOFS** expertise is also needed and should be tapped.

VR – **IPCC** has significant expertise, **CLIVAR** is also useful for their earth system modeling framework.

IC – **PANGEA** in Germany (and another one in the US) are used for Paleo data sets.

The way forward – The data management group exists and should get together for more talks. The new **NERC-KT** funding may help the situation.

AH – **GEOSS**, funded by the nations, and perhaps we can get help from them. Perhaps we can seek funding from them.

VR – **WCRP** can help with this process.

WCRP - VR

Framework and new strategy to facilitate analysis and prediction of Earth System variability and change. COPEs – topics are monsoons, sea level change, IPY, climate change, chemistry and climate, extreme events, seasonal forecasting. Task teams will be assembled for each. ICSU will review ESSP, IGBP, and WCRP soon. New panel formed on observation assimilation. New panel on modeling. CLIVAR/SOLAS links through VOCALS, but we need a SOLAS representative on VOCALS. Carbon coordination is also a SOLAS link with CLIVAR. Also, there are aerosol links. WCRP has recently published WOCE atlases. CliC has a new director. OASIS and AICI have been endorsed by CliC. Arctic carbon is of major interest to CliC. Asian-CliC recently had a meeting. Coordinated enhanced observing period (CEOP) in Tokyo to assemble satellite and model metadata.

GEWEX – SeaFlux activity has obvious SOLAS ties. SPARC is initiating a chemistry and climate effort. JSC has encouraged linkages with IOC's efforts on marine chemistry and climate with SPARC.

IMP2 / WGSF – WM

Mission statement given, and ongoing efforts to develop a project database and assembly of projects in IMP2. Encourages international collaboration, provides information. Also, encourages collaboration with IMP1 and IMP3. IMP2 is establishing a website, cataloging gas exchange. WGSF had a first meeting in Halifax with IMP2. WCRP/WGSF wants to hold a flux summer school, Bernard Barnier raised the idea. SeaFlux is led at FSU by Mark Bourassa and Carol Ann Clayson at Purdue is leader.

WM has a template of projects which others should emulate. Database is under assembly. A meeting (invite only) will be held in Heidelberg in early September (6-8) as a workshop on transport at the air-sea interface. JSC in Pune suggested WGSF to work with WGCM, supported the meeting in Heidelberg, supported links with iLEAPS. In 2010, there will be a meeting in Kyoto for Air-Sea Gas Transfer. New IMP2 members are nominated: Lisa Miller, Mary-Elena Carr, Satoru Komori, and Jacqueline Boutin. **WM** seeks connections with other IMPs. Southern Ocean GasEx, a UK ship is sought for an international effort, as the US has a ship (Ron Brown).

Action: **WM** and **DT** will also look for Asian contributions, South African, Belgian, Chinese for the project database.

WGSF is working on 2 manuscripts, standard references for cross-comparison, parameterizations, air-sea aerosol fate and production, outline is done. The second paper is on review of gas transfer and is written, but more work needed.

AH – asks if it would be better that IMP2 merge with WGSF, but most people think they do different things. WGSF also does physical fluxes. They will also move toward land-based fluxes. WGSF has developed a handbook on measurement of fluxes and associated

variables from ships. **SG** suggests that this is a critical product. In the 2nd issue of WGSF's fluxnews, there will be an elaboration of SeaFlux. There will also be an expose of SOLAS.

VR – WGSF expires in 2007. Group is currently AdHoc, should the WGSF summer school merge with SOLAS Summer School. Most people think No.

Linkages – **PL** suggests chemistry and climate need to identify SOLAS input (ocean biogeochemical input). **PL** was invited to this meeting but cannot go. We need to identify someone from Focus 3. We need to ask **SD** on what is the intention of the meeting.

Action: Suggest some SOLAS names for the IGAC meeting (**DONE**).

How do we feed information to IGOS/GOOS on mixed layer depth from satellites?

Xiamen Open Science Meeting – EB

Schedule with plenary talks. 21 plenary talks of 35 minutes, including discussion. List of speakers given. We need suggestions for the final 6-8. Need proposals for synthesis sessions at the conference. Posters only up for each day instead of all the time (this situation may change, as we are still researching it).

Speaker travel costs are of order 55K (USD), local costs are about 60K, locals have about 37K, which leaves 79K unfunded. Registration fee for 250 people is about \$315, for 300 it is \$265, for 350 registrants we charge \$225, and if 400 people attend we charge \$200.

Website developed with the conference manager system that SCOR has.

We need to develop travel funds for scientists and students.

DT suggests students pay either half or 100 dollars less.

Planning and synthesis sessions suggestions:

PM and **BH** – SouthEast Asia Pacific has a wide range of issues to be discussed.

PM – Molecular techniques for measurements.

IC – Paleo.

DW – Dust impacts on ocean interface between Atlantic and Asia.

UP – Satellite data and synthesis.

PL – Atmospheric chemistry.

VR – Earth System Science in the global perspective and SOLAS as it pertains to it.

DW – Nitrogen in the marine atmosphere.

TiJ – INI.

PL – Large scale experiments task team.

The 1st plenary talk session is actually time for ceremonial opening.

Speaker suggestions:

Mike Smith, Colin O'Dowd, **GD** to speak on aerosols.

Bob Duce, Jim Galloway, John Zehr (USA), Bess Ward (USA), Maren Voss (Germany) to speak on nitrogen cycling.

KK Liu or An Zhisheng to speak on remote sensing.

Christina Faccini to speak on organic aerosols.

Focus 3 talks could include Laura Farias, KK Liu, **DW**, Taro Takahashi, Yukihiro Nojiri (Activity 3.1).

Paleo names Eric Woolfe on EPICA, Wally Broecker. Ralph Keeling.

Sylvia Kloster on DMS modeling (Germany).

Hans Huebberden (Germany) on methane undersea resources.

SD suggests a "funding" button on website.

Paleo - IC

SCOR/IGBP FTI on Ocean Acidification. Meeting in Woods Hole in September 2006, and encourages SOLAS to attend.

Summer School – EB

2nd Summer School was held in 2005. 3rd SSS will be held October 22- November 3, 2007. Missing a lecturer on coastal biogeochemistry and possibly on social sciences and climate change. Special themes are proposal writing, science, the press, IPCC process. In 2009, there are plans for a book for early grad students. A new coordinator is sought, and there was an idea floated to hold the summer school in Slovenia. Special sessions suggestions: fieldwork, planning large experiments, experimental design. Science and society. International organization of science. To fill the missing lecturer slots, SSC suggests Don Connelly (Denmark), Hans Pearl, John Turner, Nancy Raibelais. Social scientist suggestions are Bob Constanza, Kerry Turner, Jeff Sax. Another site floated is in the Florida Keys, Tiberon, Cape Verde.

SSC membership – JeH

Extensions for 3 years sought for **WM**, **CL**, **ST**, **GD** and **OU**. These are approved and will go forward.

Departing are **BM**, **DW**, and **KD**.

Dave Kieber can fill **BM**'s role.

For **DW**'s position, suggestions are Cliff Law and Nicolas Metzl.

KD's replacement should be Veronique Garcon or Christoph Heinze.

We may be able to extend a few individuals into 2008, according to IGBP rules.

New chair. **PL** is out at the end of 2007. **GD** is nominated by **TiJ** (**WM**).

Action: All - Identify candidates for SOLAS Chair

Communications – JeH

Newsletter, Bulletin, Website.

VR suggests asking some individuals from the SOLAS-Netherlands session to write for the next newsletter. Feedback on e-bulletin is positive, feedback on newsletter is positive.

Meetings / Long term plans – PL

SSC May 2006 Amsterdam. March 2008 will be in Capetown at the IGBP congress.

When should we meet in 2007? Xiamen or Beijing before and/or after. Flights leave China in the morning for Europe. Friday afternoon after the Xiamen conference could be a wrap-up session. We will meet on Sunday and Monday the 4th and 5th. Next open science conference could be in Chile in Feb or March.

End

Summary of Action Items

Action: We need SOLAS representation for Climate/Chemistry interactions initiative. **JeH** to provide a list of names to **SD (DONE)**.

Action: Could **KH** provide a paragraph to his SSC stating this desire ahead of their SSC meeting next month (**JeH** sent a reminder to **KH** on May 19)?

Action: **JeH** talk with Kathy Hibbard about the templates (**DONE**).

Action: – **PL** we should set up a task team to assess the current state of air-sea trace gas fluxes in the coastal zone and find a way forward. This is a joint activity between SOLAS and LOICZ. Measure transfer processes and concentration gradients. Need a definition of ‘coastal zone’. Should this be an IGBP-FTI?

Action: **JeH** send a nominee to Thorsten Keifer of PAGES (**DONE**).

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Action: Identify people to attend Iceland repeat hydrography workshop, find their needs, and try to fulfill. **JeH** contact all involved and co-support (with IMBER) those people (non-US) who need travel support.

Action: **JeH** contact Niki Gruber to suggest adding Manning and Swedes to the FoO (**DONE**).

Action: Get a special session for SOLAS at the Fall AGU in San Francisco (**MU DONE**).

Action: **JeH** find out what is happening with VOCALS and the SOLAS participation.

Action: **JeH** ask IGBP about publication protocol, etc (**DONE**).

Action: SOLAS will endorse **CL**’s proposal for a SCOR Working Group for Fe-fertilization data. It is due at SCOR at the end of July. Each national SCOR rep should be contacted for endorsement to assure success. **JeH** will assist in this process.

Action: **JeH** identify someone to be sponsored by SOLAS office to attend the ADOES workshop.

Action: **JeH** talk with Kathy Hibbard about how to use the templates to integrate between SOLAS and AIMES (**DONE**).

Action: **HK** also suggests a regular presence of LOICZ at SOLAS’ SSC and vice-versa.

Action: JeH ask Manuel Barange how GLOBEC and AIMES have interacted and interfaced. A workshop was held last fall, and another one planned this year (**DONE**).

Action: CL prepare bid for continuation of funding for IMP1 Secretariat at end of 2006.

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Action: JeH suggest some SOLAS names for the IGAC meeting (**DONE**).

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