

Minutes of the Executive IMBER SSC Meeting

Institut Universitaire Européen de la Mer, Brest
October 25-27th, 2005

Present:

IMBER SSC Members:

Julie Hall, Patrick Monfray, Coleen Moloney, Sylvie Roy, Sophie Beauvais

Participation on conference call:

Wajih Naqvi, Arne Körtzinger, Jack Middelburg, Raymond Pollard

Invited participants:

Wendy Broadgate (IGBP), Ed Urban (SCOR)

Apologies:

From IMBER Executive member:

Dennis Hansell

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1 Welcome, IPO update and Introductions

Sylvie welcomed the members of the SSC present and introduced the IPO staff, Sophie Beauvais (new Deputy Executive Officer) and Elena Fily (Administrative assistant). Sylvie presented an outline of the major accomplishments of the IPO since August 2005. She mentioned that her main expectation from this meeting was to identify priorities for the IPO for the next 6 to 12 months.

Julie gave an overview of the aims of the meeting, which follow:

- Review of the implementation activities of IMBER;
- Develop a plan for the promotion of IMBER;
- Set priorities for the IPO;
- Develop a framework for the interaction between IMBER and GLOBEC from now until 2009;
- Develop a framework for the incorporation of ongoing GLOBEC initiatives into the IMBER project post 2009.

2 IMBER Implementation

2.1 Working groups

2.1.1 End to end food web Task Team

The proposed terms of reference for the e2e food web task team are to **prepare a short paper for publication in a journal such as Science, Nature, or similar, during 2005/6**. The publication will be a concept-type paper that lays out:

- (i) Why we need to tackle end-to-end food webs in our studies at this time,
- (ii) What the key challenges are and how we can meet them, and
- (iii) How we can make headway in the experimental, observational and modelling components of marine end-to-end food webs.

The task team membership has just been finalised as follow:

Ken Denman (Canada)
Dave Karl (USA)
Fritz Köster (Denmark)
Coleen Moloney (South Africa, co-chair)
Mike St John (Germany, co-chair)
Svein Sundby (Norway)
Rory Wilson (U.K.)

Coleen reported on the points emerging from GLOBEC F3 WG discussions (Sept 2005):

1- The terminology has different connotations for different people (end-to-end food webs, viruses-to-whales). It is suggested that the e2e task team should provide a clear and thoughtful definition of end-to-end food web in paper. Coleen presented a draft definition of end-to-end food web:

“Food webs that incorporate interactions among organisms and between organisms and their physical and chemical environments. The focus of the study should be on the different processes of different levels in the food web.”

It is proposed to circulate the definition for comment to the SSC members early in the process, for "in principle" agreement.

Action/Recommendation: Coleen to circulate the updated definition of end-to-end food webs to the GLOBEC and IMBER SSC members for "in principle" agreement.

2- It is proposed to build on the rhomboid approach (DeYoung et al. 2004), considering the levels of detail and processes in the overlap areas between adjacent "rhomboids", depending on the food web questions being addressed.

3- It is suggested to advocate a diverse approach where different tools, models and methods are used to analyse different parts of the food web. The processes of interest are scale-dependent and vary from one food web component to another. It is possible to construct a conceptual model of an entire e2e food web, but not a mathematical or numerical model.

4- It is proposed to focus the activities by identifying specific examples from JGOFS and GLOBEC food web/ecosystem research, and proposing realistic ways of extending the scope of each. This leads naturally into a discussion of bringing together two complementary approaches, and building on these. This might be a more tractable approach than considering the full spectrum of food web components from the start.

5- An advantage of the e2e approach is that it is a vehicle for integrating different "mind sets", i.e. researchers working in different discipline (physics, microbes, zooplankton, fish, etc). The composition of the task team reflects this.

What next?

The e2e task team is planning a meeting for Nov/Dec 2005. Suggestions for location were Dartington Hall (*near Plymouth, UK*), Brest or elsewhere in Europe. It should be a 2-3 day meeting for brainstorming, careful planning of the paper, and producing a bulleted outline. The cost of this meeting will be split 50:50 between GLOBEC and IMBER. It was agreed that primary support will come from the IMBER IPO for this meeting but the task team is to be supported by both IPOs. All relevant communications regarding the task team should be circulated to the SSC chairs, IPOs and task team co-chairs.

The task team will decide where to submit the paper (Science, Nature, Journal of Plankton Research, Trends in Ecology and Evolution, Advances in Marine Biology, Progress in Oceanography, Oceanography, Marine Ecology Progress Series, etc). The plan is to submit the paper by March 2006.

The Life span of task team should end with the publication of the paper. Further questions to be clarified were discussed with the GLOBEC Executive and it was agreed that after publication of the manuscripts (mid-2006).

1. The task team will make recommendations regarding scientific issues that need to be addressed and write the terms of reference for an e2e working group. These are to be prepared for the SSC meetings April/May 2006 (* maybe earlier in March/April 2006 after the draft stage we can have yet iterations on potential WG member list, jointly to the Term of the Reference just below);
2. The task team will make recommendations regarding scientific issues and draft the terms of reference for the e2e working group. This should be prepared for the next SSC meetings of both projects. (April 2006);
3. The members of the task team will not necessarily carry on in the working group though some continuity would be good; the GLOBEC and IMBER SSC will appoint future working group members.

Action/Recommendation: Coleen to get consensus on a meeting date and to communicate it to the IMBER IPO for the organisation of the e2e fall meeting.

Action/Recommendation: Elena to explore for a venue to hold the e2e meeting in early December in the Brest area.

Action/Recommendation: e2e Task team to prepare terms of reference for the e2e working group to be presented at the next SSC meetings (April/May 2006).

2.1.2 Human Dimension

Julie presented some suggestions for the membership of this group. It was suggested that members should include natural scientist, coastal scientist, someone with carbon cycle knowledge, maybe a scientist involved with nitrogen research, representation from laws, politics, economics, and sociology/anthropology fields. The areas of fisheries and coastal are to be avoided to avoid overlap with LOICZ and GLOBEC. Julie will talk to Ian Perry who was chairing a human dimension group for GLOBEC for suggestions. The link with the SSC should be kept. Julie is willing to do it but it is suggested to bring in Jack Middleburg or Ann Bucklin for rotation.

The plan is to form a task team within the next 6 weeks. This task team should meet in the first quarter of 2006 to plan a workshop to develop the issues to be addressed in Theme 4.

Action/Recommendation: Julie to propose list of members for the Theme 4 planning group by December 2005.

2.1.3 Capacity building

We need to develop a capacity building strategy. This will be completed by the capacity Building Working Group Chaired by Wajih.

The proposed membership is:
Adnan Al-Azri (Oman) Chemistry.
Carina Lange Palaeo

Action/Recommendation: Wajih to ask Carina if she would accept to be a member of the capacity building group.

Venu Ittekkot (Germany) Geochemist
Coleen Moloney (South Africa) Modeller
Very happy to participate.

Temel Oguz (Turkey) Modeller
Temel put a proposal for summer school last year to the IMBER SSC. Obviously a good person for this.

Jing Zhang (China) Biogeochemist

Erllich Desa (France) Head of TEMA.

Action/Recommendation: Wajih to ask Ehrlich Desa if he would accept to be a member of the capacity building group.

Laura David (Phillipine) Physical Oceanographer.

Coleen suggested including someone from the Eastern countries like Ukraine, Poland or Russia.

This group is to work by e-mail. Terms of reference (ToR) have to be written for this group for the IPO to send out an official letter of invitation and prepare a draft for the next SSC meeting. The ToR should include the preparation of a capacity building plan for IMBER to be implemented by the SSC and the IPO. A draft document should be prepared for the next SSC meeting.

Action/Recommendation: Sylvie & Julie to draft ToR for the Capacity building group and send to Wajih for him to finalise.

Action/Recommendation: IPO to send out official letter of invitation to the member of this group once terms of reference finalised. This should be done before end of November.

2.1.4 Joint SOLAS/IMBER Carbon working group

The editorial work on the implementation plan is almost done. The members were to have a last look at the document and return their comments/suggestions to the co-chairs (Truls and Arne). The document is to be formatted by Jeff and Sylvie, reviewed by the SSCs and then published on our respective websites.

Action/Recommendation: Sylvie (and Jeff) to chase people to get their input by a certain deadline and assure the publication of the implementation plan within a reasonable timeframe.

Three working groups have been formed:

WG1: Surface Oceans Systems (chaired by Nicolas Metzl)

WG2: Interior Ocean (chaired by Nicolas Gruber)

WG3: Sensitivity (chaired by Kitack Lee) (including mesocosms activities)

The chairs were asked to suggest a membership of 6-8 persons for their working group. The ToR have not been written. These groups are likely to work through email or meet in conjunction to major meeting. Jeff has already looked for funding through European funds (COST).

Action/Recommendation: Sylvie (and Jeff) to get a list of potential members for each WG, to get terms of reference from the chairs of the WGs, and to write official letters of invitation.

The Joint SOLAS/IMBER Carbon working group should meet in one year in conjunction with other major meeting and at the same time as IOCCP.

2.1.5 Indian Ocean Biogeochemistry Workshop (Goa, October 2006)

This is a good occasion to bring young scientists together. This could be a way to improve IMBER's visibility in the Indian Ocean and link with other activities in the region. The agenda as presented is missing a link between biogeochemistry and ecosystems. People from IMBER should be involved. Wajih is on the organising committee.

Action/Recommendation: Julie to email Wajih to report on the Executive's thoughts about the workshop agenda so Wajih can report to the organising committee.

Action/Recommendation: Julie will send a letter to Raleigh Hood to tell him that IMBER will seek funding to support this activity via the SCOR developing country travel fund and will support the meeting with \$1000.

3 Interactions other IGBP/SCOR projects

3.1 AIMS SSC meeting

IGBP have encouraged AIMS to collaborate with other projects to develop an integrated Science plan. Representatives of each program were invited to attend their next SSC meeting (Julie will attend, Nov. 18-21). AIMS is trying to include a human dimensions group that could be linked with IMBER.

3.2 SCOR Hypoxia Working Group

This working group is planning to meet at the AGU meeting next Spring. It is a well organised WG that is also linked to continental margins work. Coleen mentioned that there could be a good link with the African community (Pedro Monteiro, South Africa) within this programme. The funding of this WG by SCOR adds a value to IMBER.

3.3 IGBP Fast Track Initiative on Carbon

FTI started in 2003. This initiative is a cross cutting involving various programmes to address different questions and resulting in the publication of manuscript creation of databases. In February 2005, PAGES proposed a FTI on Ocean Acidification. The core of the initiative is focussed on biogeochemistry and geo-proxies, to evaluate how the ocean acidification has varied. This FTI needs more development and IMBER could contribute through workshop

activities. It is suggested to wait for request from PAGES and then ask the SSC to suggest people for this.

Other core projects later met with PAGES to express their concerns about the proposal being very broad. The programme was presented a second time in at the SCOR meeting. Julie wrote a letter expressing concern regarding the wide breath of the proposal and also the lack of consultation with IMBER. A letter has been received from IGBP indicating that PAGES have been asked to reconsider the ToR for the FTI and to look at a more focussed proposal and to ensure links are made with other projects regarding collaboration.

3.4 GEOTRACES

This project was been accepted in August 2005 at the SCOR SC meeting in Cairns. The science plan is written but they have to reply to the reviewers comments. They have a strategy for inter-calibration. GEOTRACES is holding a data management meeting in November that will be chaired by Raymond Pollard. IMBER reviewed and commented the science plan and Jay Cullen has been asked to be the liaison with IMBER. The SSC will be formed and Ed will make sure there is a good link with IMBER.

Action/Recommendation: **Julie** to invite GEOTRACES to attend the next IMBER SSC meeting.

3.5 Joint LOICZ/IMBER Activity

LOICZ II held their kick off meeting in June in the Netherlands. John Parslow reported back to the LOICZ SSC about a joint LOICZ/IMBER activity. LOICZ is supportive of the joint Open Science. LOICZ will come up with a list of names for organising and will send IMBER a formal letter of approval for the joint activity. We propose that each project appoint 4 people to this organising committee. Names proposed are: KK Liu, Rick Yahnke (from the transition team), Jing Zhang, and Wajih Naqvi. Proposed conference should be held in early 2007. We need to hold a planning meeting early next year.

Action/Recommendation: **Jack** will talk to John Parslow and propose a joint list of people to form the LOICZ/IMBER Open Science organising committee.

Costs will be split with LOICZ 50:50 for meeting of the committee. Once we have a list of people, Julie will write a letter to LOICZ including the terms of reference for this group and a way forward for LOICZ.

Action/Recommendation: **Julie** will write a letter to LOICZ including the terms of reference for this group and a way forward for LOICZ. Take example on the GLOBEC letter.

3.6 Joint IMBER/GLOBEC activity

See document entitled: Joint IMBER/GLOBEC Executive meeting for minutes' details.

4 Promotion of IMBER

4.1 Website

The revamping of the website is a first priority. We want a neat tidy website, with all information needed. This should be done in phases, start simple. We should make sure this is dynamically manage to stimulate users to visit the website (perception has an impact on users). We need to decide on a structure that will support the content. The objective is to have a draft website in 2 months.

Suggested content for the website:

- Use original pictures

Action/Recommendation: **Wendy** to send the IPO the original pictures from the science plan

- Figures catalog: use the high resolution figures

- IPO staff and SSC members contact information
- National contacts linked to related National activities (abstracts)
- List of endorsed projects: this should be structure in a visual way (by themes, by country?) and updated by National contact. We should include information about how to get endorsed (endorsement form). It is also suggested to gather a critical number of endorsed projects before putting them up.
- Pages for working groups: include their names, term of reference, summary, membership, contacts, and current status (starting, ongoing, completed). It could be interesting to have photos or group photos when possible. This also should apply to the whole website. The possibility of exchanging document on the website is also discussed but clearly not a priority at this point.
- News highlight
- Data management policy: when we have one.
- Request for mailing list: we should think of long term for the database and request more information like who they are (scientists, manager, student) and what is their discipline.
- Low resolution logos and power point presentation under meeting and poster page
- A SSC protected page but not a priority
- Meetings: highlight of IMBER activities (ie Humboldt Workshop) and related meetings
- An electronic copy of the indexed Science Plan and Implementation Strategy

4.2 Poster

It should be focussed on the scientists and funding agencies first. We need to stimulate the interest of the scientists for IMBER. We should aim at February to have something for the ASLO/AGU meeting in Honolulu. The content should be organised around Theme 2 since it is the heart of IMBER. The four themes need to be there but we could use illustration from theme 2 to target the science. The poster should present the goal of IMBER and introductory text. We should also make sure we have the website address and email address to reach the IPO on the poster. If we want these posters to be downloadable, we should think of the format. It is proposed to use A0 for poster and A3 for hand out. We should have an IMBER email address redirected to Elena; this can be done in conjunction with the domain name.

Action/Recommendation: Sophie to prepare material for poster by mid December.

Action/Recommendation: Julie to work with graphic artist at NIWA to develop poster layout using IMBER “look” as a base to work from.

4.3 Brochures

We should also aim for end of February for a brochures but the poster should be first. SOLAS has used their brochure broadly at the beginning of the program to broadcast their existence. It has to tell what the program is. It was suggested to use a graphic designer to help us with the presentation but there is concerned about continuity. There are three options on the table: IGBP graphics, NIWA, and UBO graphics.

Action/Recommendation: Sophie to prepare a draft of brochure content and circulate for comments and suggestions by mid December.

Action/Recommendation: Julie to work with graphic artist at NIWA to develop brochure layout using IMBER “look” as a base to work from.

4.4 Newsletter

Everyone is favourable to the idea of having an “IMBER Update” published every few months instead of a Newsletter. It is suggested to have just a few pages first. We should use the visual identity from IGBP but keep in mind the size of the document and the printability on black and white when creating it. A small version, without graphics, could be send as an attachment with a link to the website. A larger version could be downloadable on the web when launched. The publication should be roughly 4 per year. The objective is to have a first number out in December.

The first issue of **IMBER Update** should include:

- Information about the opening of the IPO (photos, IPO emails)
- What is coming up in IMBER: Executive meeting, special sessions
- Promotion of the endorsement
- Link to Executive summary and Science Plan
- Information from e2e task team set up
- Joint SOLAS/IMBER carbon Implementation plan
- Up coming relevant open Workshops or Conferences (as Humboldt, AGU Session OS031 & 049, etc...)

Some discussion about the design :

Header: **IMBER Update** and logos from IMBER, SCOR and IGBP

Footer: last page website and email address

Issue and date: keep them with no background

Action/Recommendation: **Elena** to get high resolution templates from Hilarie.

Action/Recommendation: **Elena** to layout the smallest version possible to send by email.

Action/Recommendation: **Julie and Sylvie** will prepare and email bulletin to send out to the email list for diffusion of information about IMBER before the **IMBER update** is launched.

4.5 Gorick image

Because of the short timeframe, it will not be possible to use the Gorick image for poster and brochure. The artist is working on iLEAPS on the moment. SOLAS and IGAC have just started the process.

Action/Recommendation: **IPO** to talk to Wendy about contacting Glynn Gorick and find out a timeframe for working on a draft. Sylvie to get input from SSC for content.

4.6 Special Session

Gerhard Herndl and Dennis Hansell will convene a special session at the 2006 Ocean Sciences Meeting (Honolulu, Hawaii, February 20-24) OS031: "The Mesopelagic and Bathypelagic Realms of the Ocean: Microbial Activity and DOM Cycling".

Ken Buesseler, Cindy Lee and Hiroaki Saito will convene a special session at the 2006 Ocean Sciences Meeting (Honolulu, Hawaii, February 20-24) OS049: Sinking particle fluxes in the twilight zone.

Action/Recommendation: **Sylvie** to contact **Jay** again about convening a special session at the ASLO meeting in Victoria

4.7 Endorsement

The feedback from GEOHAB is that the endorsement form is not working well for them. We should have a shorter form and ask for more information later if/when needed. The committee reviewed the endorsement form point-by-point. Patrick suggests that endorsement information be sent to programs or projects by the SSC members to promote IMBER towards highly relevant initiatives.

Action/Recommendation: **IPO** will use the information from the discussion about the endorsement form to update it. The new version will to be posted on the website in November.

4.8 Outreach policy

The document presented is targeting the public and schools. IMBER is not ready for that level of outreach yet. It is suggested to elaborate to a multi-phase policy to target the different groups at the right phase of the program. The first phase should focus on the promotion of IMBER science to the scientists and funding organisation over the next 2 years. Phase II, outreach of science results, should still include scientist and funding agencies but also include public, policy makers and educational. This phase should start slowly after year 2 and go on until year 10.

Facts sheet from IGBP could be used for outreach.

Ed suggested that the IPO gets a library of Congress number (ISSN) for any publication from IMBER.

Action/Recommendation: Ed will send the IPO the information regarding library of Congress number (ISSN) for any publication from IMBER.

Action/Recommendation: Julie and Sylvie to update the IMBER Outreach policy document and circulate to the SSC for comment.

4.9 Business cards

Action/Recommendation: Elena to use the templates from IGBP to prepare business cards for the IPO staff before November 20.

5 Data Management

Plymouth (PML) has offered to look for funding to provide assistance for data management but it would have to be at the metadata level. We may need a full time data manager as the number of projects rises but we need a data management policy first.

GEOTRACES will be holding a meeting about data management in November at the British Oceanographic Data Center (BODC) in Liverpool. Raymond Pollard, Jing Zhang and Ed Urban will be attending this meeting. The objective of this meeting is for GEOTRACES to meet with expert from several data centres to get their advice and maybe find funding possibilities for data management.

Data management for IMBER will be more complicated than for GEOTRACES since we will have to consider a wider set of parameters, regional studies, process studies, etc. Templates for physical parameters are well developed but biology is always more difficult. IMBER wants to start early to start managing the data from the start. It is suggested to manage at the metadata level while encouraging scientist to submit their data to National data Centre. CDs or DVDs are the ultimate product for distribution. Funding will be an issue. European Union might have funding for this.

Action/Recommendation: Raymond to report back from the Liverpool GEOTRACES meeting with suggestions/recommendations for a way forward for data management for IMBER.

Action/Recommendation: Sylvie to find out the state of data management in SOLAS for possibility of joint effort.

6 Interactions other programmes

6.1 Carbo-Ocean

This project will hold their first Annual meeting in November. The data portal from CARINA is reviving (Benjamin, data manager, in Bergen) in collaboration with CDIAC. Carbo-Ocean takes up initiatives that were in place for a while.

Action/Recommendation: Arne to provide an update of the first Annual meeting to the IMBER SSC and joint SOLAS/IMBER carbon group.

It was proposed to start developing a M.O.U. between Carbo-Ocean and IMBER.

Action/Recommendation: Sylvie to start developing a draft of the M.O.U with Christophe Heinz and copy Julie and Arne.

6.2 CLIVAR Basin Panels

Carina is liaison between IMBER and CLIVAR. Wilco made a presentation of IMBER at the CLIVAR meeting. Arne presented a similar talk to the CLIVAR Atlantic Basin Panel and Carina

gave an IMBER presentation at the Pacific Basin Panel. There is a lot of overlaps and place for joint efforts. CLIVAR is looking for strong links to multidisciplinary efforts.

Action/Recommendation: Sylvie to contact Dick Feely (Pacific), Bronte Tilbrooke (Indian Ocean), and Chris Sabine (Southern Ocean) to establish a link. Sylvie to work with Maria to ensure a representative of IOCCP/IMBER attends the Indian Ocean Panel meeting in La Réunion.

6.3 EUR-OCEANS

Paul Tréguer presented an overview of the different work packages of EUR-OCEANS, distributed around joint program activities (JPA), Jointly Executed Research (JER), and Spreading of Excellence (SE). The systems studied are Arctic and Nordic Seas, Baltic Sea, Mediterranean Sea, North Atlantic Ocean and Shelf, Southern Ocean, and Eastern Boundary upwelling systems. EUR-OCEANS is a network of excellence and gives money for networking only.

6.3.1 EUR-OCEANS activities

BASIN: Workshop in March 2005. Participants from European countries and US.

The programme is structured around four working groups: Key basin scale hypotheses, Data, Model, and Basin scale Ecosystem management. The decadal and basin scale implies interfacing the trophic models (see figure from Brad De Young's paper). Also, the link between meso-, and microzooplankton, and phytoplankton are interfaces important for IMBER. IMBER should get more involved with this activity.

Basin initiative: Meeting in Brussell, October 2005

No joint support possible (NSF and EC). Specific support activity from the European Union (FP6). The proposal coordinated by M. St John will be submitted by November 3). There is a connection with ESSAS.

Baltic system: Workshop in Helsinki on February 22-24, 2006, Theme I and III Physic and Biology, Theme II, Nantes, April 2006

EUR-OCEANS PIs meeting, March 15-16, Spain

6.3.2 Public Outreach

EUR-OCEANS is associated to an association of eleven Aquarium and Science Centres in Europe lead by Oceanopolis. This association is used to spread results from the Network. EUR-OCEANS have two websites: one for scientific purpose and member exchange (<http://www.eur-oceans.org/>), one for public outreach (<http://www.eur-oceans.info/>). EUR-OCEANS have produced small movies, brochures, and educational activities. They also had a web-based press conference.

6.3.3 Links between IMBER and EUR-OCEANS

Linking IMBER and EUR-OCEANS for public outreach could be a very good idea.

Action/Recommendation: Sylvie to get a copy of the model agreement for interaction (MOU) from Caroline defining interactions between IMBER and EUR-OCEANS and develop MOU between IMBER & EUROCEANS.

Sophie to insert a link to the EUR-OCEANS website on IMBER website, as a contributing project

Mike St-John is an obvious link of the e2e activity of IMBER. We could think of having joint workshop EUR-OCEANS/IMBER in that working group.

Workshop on "Parameterisation of Trophic Interactions" planned for end 2006/early 2007: link needed with e2e task team then working group, for a co-sponsorship EUROCEANS, GLOBEC and IMBER and a joint committee (tbd).

Action/Recommendation: Patrick to give us the final dates of the workshop in November (see above after iteration at EUROCEANS NSC with M. St John and M. Barange). Consequently:

Action/Recommendation: Coleen needs to talk about the Workshop setup with Mike St John at the next e2e meeting.

IMBER could link with WP2 for data management. We could use the guidelines provided by the marine projects data management meeting.

The idea of having a “Floating University” joint EUR-OCEANS/IMBER instead of a standard Summer school was presented. Paul mentioned that UBO/IUEM have an agreement with Institut Paul-Emile Victor (IPEV) about ship time. We only have to pay the cost for travel to meet the ship in La Réunion, IPEV provides ship time. The main constrain is availability. Number of participants (students and teachers) would be limited (20!). POGO did something similar and the Russian on a UNESCO vessel.

Action/Recommendation: Sophie to develop the idea of “Floating University” and present it at the next SSC meeting.

6.4 GODAE

Patrick will attend GODAE in November in Exeter meetings to raise awareness in these groups about taking into account biology and biogeochemistry systems in their models. Few more points that should get attention are:

- High horizontal resolution (eddy resolving) AND high vertical resolution in upper ocean
- Reanalysis starting from availability altimetry data (1992)
- Assimilation methods that limit spurious diapycnal fluxes below the mixed layer
- (ie effective diapycnal diffusivity in the cost function, balanced data assimilation methods (see e.g. Burgers et al), use "observed" variable energy dissipation from internal waves (see Simmons et al))
- Include biogeochemical observations (O₂, pCO₂, Ocean Colour etc.)
- Include biogeochemical modules?

CODAE is a potential coastal project of GODAE. The big issues are to study the coast and marine resources. The Joint LOICZ/IMBER continental margin Conference should link with a CODAE effort. There is also a need to link LOICZ and the IGOS. Coastal Theme. GODAE does short time scale carbon modelling but it is not formalised and more related to SOLAS.

6.5 PICES

Hiroaki, Julie, and Angelica Pena wrote a one pager project proposal for PICES to consider in their development of future programmes. Julie contacted Alex Bychkov (Executive Officer of PICES) who wants to build a relationship with IMBER. They are considering having a biogeochemistry component in the new long term programme (2007). It is suggested that look IMBER at a co-sponsorship development with PICES (like ICES and JGOFS!).

There will be a special session at the next PICES Annual meeting October 13-21, 2006 in Yokohama (Hiroaki and Angelica).

Action/Recommendation: IMBER to fund Jointly (PICES/IMBER) a plenary speaker for the PICES Annual meeting. Julie to write an official letter to PICES to notify them that IMBER accepts to fund a plenary speaker at the workshop.

Action/Recommendation: Julie to contact Alex to discuss the development of the relationship between IMBER and PICES.

6.6 PACMEDS

Jing, Wajih and Bjorn Sundby are involved. They are looking for funding to prepare a workshop. The science is more focus on LOICZ.

Action/Recommendation: **Jing, Wajih and Ed** to report to IMBER the result of the March meeting (Bremen, March 26-27, 2006).

6.7 Marine projects meeting

The SCOR Meeting on Coordination of International Marine Research Projects was held in Mestre, Italy last September. A review of the recommendations resulting from the meeting was presented as well as the progress made towards these since the meeting.

Joint membership: a review of the membership lists of SSC of various projects indicates a cross-membership of Tim Jickells (SOLAS SSC and GEOTRACES), Raymond Pollard (IMBER SSC and GEOTRACES) and Ed Boyle (GEOTRACES and IMAGES). It was suggested that a more practical approach could be to appoint liaison among projects who has very clear responsibilities.

List-server system: a list-server system has been set up at John Hopkins University and is now available for communication among projects. The IPO executive officers and chairs have been added to the listserv.

Next meeting: There has been a proposal to hold another meeting in 2006. SCOR has started discussions with the Sloane Foundation for funding a meeting before the SCOR General meeting in Concepcion, Chile in October 2006. Executive Officers and Chairs will be invited to attend.

Cruise data base joint with POGO: It was proposed to share resources with POGO regarding the establishment of a searchable database of research cruises. Ed will meet with POGO in December to discuss what might be done and what kind of information should be in such a database. The data would have to be inserted by the IPO.

Action/Recommendation: **Sylvie** to send Ed some suggestions about the content of such a database.

Interactions with GOOS: It was recommended that GOOS presentations should be made at the SSC meetings to inform SSCs about GOOS plans and to encourage projects to provide input to GOOS. Projects should also make sure there is a link between project SSC, project website and GOOS.

Action/Recommendation: **Julie** to invite GOOS representatives to next IMBER SSC meeting.

6.8 DIVERSITAS

This programme is in the process of writing a science plan. Ann Bucklin is our liaison. Another link is Carlo Heip, for marine DIVERSITAS. Some follow up is needed by Ann on the development of the DIVERSITAS marine science plan.

6.9 Ocean Observation Panel for Climate (OOPC)

This is an activity from GOOS that is physically focussed. The chair, Ed Harrison, is interested in bringing a biogeochemist onto the OOPC and has asked for suggestion of person. Arne would be good but he is already very committed.

Action/Recommendation: **Julie** to ask Arne to be a liaison for the OOPC or to suggest someone else.

7 National programme updates

7.1 Update from India

A committee on IGBP activities in India has approved the joint SOLAS/IMBER programme. The long term time series SOLAS/IMBER has started. There is two major cruises planned next

year, one before the Indian Ocean workshop, the other one later. The IMBER endorsement of the two cruises was discussed.

Action/Recommendation: **Wajih** to send proposal of the SOLAS/IMBER programme to the IPO for formal IMBER endorsement of the programme.

A proposal for meeting in Polar Year has been forwarded to the funding agencies but has not yet been funded.

7.2 Update from Germany

Lead by Mike St-John, a three pages letter was sent to the Research Ministry of Germany to express interest about forming a Germany IMBER group. The ministry have shown interest for 2007-2008.

At the Bremen meeting, two regional foci, Baltic Sea and upwelling regions in the North and South Atlantic have stimulated interest from the German scientists. There is a plan for a special issue about IMBER science to build the momentum for IMBER in Germany.

7.3 Update from United States

Dennis attended the meeting earlier in the year. There is a proposal to have a joint SOLAS/IMBER/OCCC office at the Woods Hole Oceanographic Office.

Action/Recommendation: At the next SSC, talk to Dave, Ann, and Dennis to discuss about what to do to promote the non-carbon science strategy of IMBER to make it happen in the US.

7.4 Update from South Africa

There is a scientific proposal written by the marine community with Indian scientists. The program will contribute to "Society Ecosystems in Change".

7.5 Update from France

There is a meeting in Lille on November 21-23 about the future plans for ocean and atmospheric science in France. Patrick and Sylvie have been invited to attend.

PROOF is a combination of JGOFS and SOLAS that tries to push for coastal studies and higher trophic levels studies. These activities will be a good contribution to IMBER

Three cruises that could be endorsed:

KEOPS: Kerguelen plateau

BIOCOPE: South Pacific gyre

PRIMU: Peru/Chile upwelling system

Action/Recommendation: **Patrick** will contact programme leaders re endorsement of programmes by IMBER.

7.6 Update from New Zealand

One cruise undertaken last year and one more next year that will contribute to IMBER. The programme is called "N cycle" and endorsement by IMBER will be sort.

7.7 Update from Finland

The Finnish SCOR Committee expressed their interest to IMBER programme in an official letter. They decided to make actions to join the programme by participating with researchers in international IMBER oriented cruises and organising international research cruises on the R/V Aranda in the Baltic Sea and elsewhere in near future.

7.8 Update from Japan

In Japan, a joint SOLAS/IMBER committee is investigating funding options.

7.9 Update from the Netherlands

There is an Indian Ocean cruise planned for 2007. A shelf or coastal biology program is being discussed.

7.10 Update from UK

The core funding is being renewed in UK and may include IMBER type research.

Action/Recommendation: Julie to contact Carol and Raymond to see how we implement IMBER and endorse projects in the UK

7.11 Update from Chile

An overview of the COPAS project was provided by Carina Lange.

7.12 Humboldt Workshop

The scientific committee asked for a representative from IMBER but Carina has been approached but could not assist. We should offer someone to work remotely with the committee. The organising committee also asked IMBER to fund a plenary speaker. It is suggested to support a speaker from the biogeochemistry since there is already a strong ecosystem composition. There is a potential link to the Large Marine Ecosystem (LME) of Humboldt.

Action/Recommendation: Sylvie to send a letter to organising committee to suggest a biogeochemist for the scientific committee to work meeting remotely and giving support of \$1000 for the meeting.

7.13 The Ocean in a High CO₂ world

Planning committee should include members from IMBER, SOLAS, IOCCP, IMAGES. This programme will focus on carbon but also biology, chemistry and fluxes.

Action/Recommendation: Ed to ensure committee has good links to IMBER.

8 IMBER Budget review

The IMBER budget was presented in an Excel sheet. The IMBER budget runs on a calendar year.

Action/Recommendation: IPO to fill in the IPO France amount paid for salary in 2005.

Action/Recommendation: Patrick to talk to Nicole Papineau about the 30K/year proposed for travel of the IPO staff or broader terms.

SCOR will renew their NSF grant in May and provide 50K to IMBER. Leverage of the IPO funds would be difficult this year. We should remember to request the travel funds for developing countries maybe for the Continental margins OS, in our next SCOR report.

Expected expenses until year end:

2005 Julie will travel to Boulder for AIMES SSC (November)

Patrick will travel to Exceter for GODAE (November)

Action/Recommendation: IPO to get a financial package software and should consider the package SCOR works with.

Action/Recommendation: Sylvie to clarify the level of in kind support of the IPO from IUEM with Paul Tréguer.

9 Review of Action Items from last SSC meeting

Action/Recommendation: IPO to clarify Action items from last SSC, writing below what has been done or not, and re-circulate to SSC.

Action/Recommendation: Joint SOLAS/IMBER carbon group to make a link with GCP.

Action/Recommendation: Patrick will send Sylvie the information related to the status of the draft of the carbon section of the IGOS Carbon Theme.

Action/Recommendation: Julie will ask Keith Alverson and Paul DiGiacomo how IMBER can contribute to the revision of the Ocean Theme.

10 Priorities for the IPO

- GLOBEC Letter of agreement: Edit, circulate to Executive, circulate to SSCs, post on website.
- Endorsement form: Modify, circulate to SSC, post on website
- End-to-end Task team: provide logistics and financial support for e2e task team meeting and activities.
- Joint SOLAS/IMBER carbon implementation plan: Edit document, circulate to SSCs, post on website
- SOLAS/IMBER carbon working groups: get a proposed membership, write terms of reference, and send invitation letters.
- Capacity building: get a proposed membership, write terms of reference, send invitation letters, elaborate a Floating University project.
- Human dimensions group: get a proposed membership, write terms of reference, send invitation letters, prepare a meeting of the group in the second quarter of 2006.
- Joint LOICZ/IMBER Open Science: Get proposed people for organising committee from John and Jack, write terms of reference for the membership, provide logistic support for organising a planning meeting potentially in Hawaii in February.
- New IMBER website: decide on software to use and hosting of the site, prepare a drafted website for circulation to SSC by the end of the year, launch new website in 3 months.
- IMBER poster and brochure: draft a poster/brochure targeted at the scientist and funding agencies, get a graphic designer to help with design, circulate to SSC for comments and suggestions, have a final version for the end of February.
- IMBER update: use the template provided by IGBP, develop a version of electronic IMBER update to be send out as an attachment and printable in black and white, circulate a draft to SSC for comments and suggestions, launch IMBER update in December.
- EUR-OCEANS interactions: Finalise a letter of agreement of interaction with EUR-OCEANS, circulate to SSC.
- Data management: follow on report from Raymond for the formation of a team.

11 Next IMBER SSC meeting

The next IMBER SSC will be held in Brest. It is proposed to open the May-June window and decide a final date from members' availability.

Action/Recommendation: Elena will set up a meet-o-matic page to determine when would be the best time to hold the SSC meeting next spring.

12 Draft of a framework of interactions between IMBER and GLOBEC

12.1 Joint IMBER/GLOBEC activities

- Finances to be split 50:50 by GLOBEC and IMBER;
- Existing and future Task Teams (TT) supported by both IPOs, but with primary support to be identified for each TT;
- All (relevant) communications regarding the task team to be copied to SSC chairs, IPOs, and TT co-chairs;
- The IMBER and GLOBEC SSC's will jointly appoint members for combined working groups (e.g. E2E working group) and approve the terms of reference.

12.2 Interactions GLOBEC/IMBER

- Executive meetings will be co-located to allow a joint session of both Executive Committees on an annual basis;

- Sections to be established in IMBER and GLOBEC Newsletters to highlight joint activities (timing to be decided);
- A special issue of a combined GLOBEC-IMBER Newsletter to be considered (likely by 2007/8);
- The IPOs to actively facilitate the communication between the two projects;
- IMBER and GLOBEC will develop a section of their website to highlight joint activities;
- In the case of combined activities (e.g. ICED) the IPOs will coordinate the publication of Reports. Each Report will have dual number to reflect the Report series of both programmes.

12.3 Transition of GLOBEC science:

- Joint session of GLOBEC-IMBER SSCs will be held at the IGBP congress (2007);
- At the 2007 joint Executive meeting, a Transition Task Team (TTT) will be appointed to develop the scientific content of the addendum to the IMBER science plan , to reflect the science of the second phase of IMBER, including:
 - Outstanding questions identified during the GLOBEC synthesis
 - Ongoing research in GLOBEC's CLIOTOP and ESSAS regional programmes.
 - Results of first phase of IMBER
- GLOBEC will forward CLIOTOP and ESSAS reports to the IMBER IPO from 2006 to facilitate communication.

12.4 National programs

- IMBER and GLOBEC agree that co-endorsement of national projects can occur if requested.

12.5 New IMBER/GLOBEC initiatives (i.e. ICED)

- The SSC members will be jointly appointed by the IMBER and GLOBEC SSC's.
- Cost will be evenly shared for publication of co-sponsored activities;
- IMBER and GLOBEC will co-fund (50:50) the SSCs.

Appendix: Actions – recommendations

2 IMBER implementation

2.1.1 End to end food web Task Team

- **Coleen** to circulate the updated definition of end-to-end food webs to the GLOBEC and IMBER SSC members for “in principle” agreement.
- **Coleen** to get consensus on a meeting date and to communicate it to the IMBER IPO for the organisation of the e2e fall meeting.
- **e2e Task team** to prepare terms of reference for the e2e working group to be presented at the next SSC meetings (April/May 2006).

2.1.2 Human Dimension

- **Julie** to propose list of members for the Theme 4 planning group by December 2005.

2.1.3 Capacity building

- **Wajih** to ask Carina if she would accept to be a member of the capacity building group.
- **Wajih** to ask Ehrlich Desa if he would accept to be a member of the capacity building group.
- **Sylvie & Julie** to draft ToR for the Capacity building group and send to Wajih for him to finalise.
- **IPO** to send out official letter of invitation to the members of this group once terms of reference finalised. This should be done before end of November.

2.1.4 Joint SOLAS/IMBER Carbon working group

- **Sylvie (and Jeff)** to chase people to get their input by a certain deadline and assure the publication of the implementation plan within a reasonable timeframe.
- **Sylvie (and Jeff)** to get a list of potential members for each WG, to get terms of reference from the chairs of the WGs, and to write official letters of invitation.

2.1.5 Indian Ocean Biogeochemistry Workshop (Goa, October 2006)

- **Julie** to email Wajih to report on the Executive’s thoughts about the workshop agenda so Wajih can report to the organising committee.
- **Julie** will send a letter to Raleigh Hood to tell him that IMBER will seek funding to support this activity via the SCOR developing country travel fund and will support the meeting with \$1000.

3 Interactions other IGBP/SCOR projects

3.4 GEOTRACES

- **Julie** to invite GEOTRACES to attend the next IMBER SSC meeting.

3.5 Joint LOICZ/IMBER Activity

- **Jack** will talk to John Parslow and propose a joint list of people to form the LOICZ/IMBER Open Science organising committee.
- **Julie** will write a letter to LOICZ including the terms of reference for this group and a way forward for LOICZ. Take example on the GLOBEC letter.

4 Promotion of IMBER

4.1 Website

- **Wendy** to send the IPO the original pictures from the science plan

4.2 Poster

- **Sophie** to prepare material for poster by mid December.
- **Julie** to work with graphic artist at NIWA to develop poster layout using IMBER “look” as a base to work from.

4.3 Brochures

- **Sophie** to prepare a draft of brochure content and circulate for comments and suggestions by mid December.
- **Julie** to work with graphic artist at NIWA to develop brochure layout using IMBER “look” as a base to work from.

4.4 Newsletter

- **Elena** to get high resolution templates from Hilarie.
- **Elena** to layout the smallest version possible to send by email.
- **Julie and Sylvie** will prepare and email bulletin to send out to the email list for diffusion of information about IMBER before the IMBER update is launched.

4.5 Gorick image

- **IPO** to talk to Wendy about contacting Glynn Gorick and find out a timeframe for working on a draft.
- **Sylvie** to get input from SSC for content.

4.6 Special Session

- **Sylvie** to contact Jay again about convening a special session at the ASLO meeting in Victoria.

4.7 Endorsement

- **IPO** will use the information from the discussion about the endorsement form to update it. The new version will to be posted on the website in November.

4.8 Outreach Policy

- **Ed** will send the IPO the information regarding library of Congress number (ISSN) for any publication from IMBER.
- **Julie and Sylvie** to update the IMBER Outreach policy document and circulate to the SSC for comment.

4.9 Business cards

- **Elena** to use the templates from IGBP to prepare business cards for the IPO staff before November 20.

5 Data management

- **Raymond** to report back from the Liverpool GEOTRACES meeting with suggestions/recommendations for a way forward for data management for IMBER.
- **Sylvie** to find out the state of data management in SOLAS for possibility of joint effort.

6 Interactions other programmes

6.1 Carbo-Ocean

- **Arne** to provide an update of the first Annual meeting to the IMBER SSC and joint SOLAS/IMBER carbon group.
- **Sylvie** to start developing a draft of the M.O.U with Christophe Heinz and copy Julie and Arne.

6.2 CLIVAR Basin Panels

- **Sylvie** to contact Dick Feely (Pacific), Bronte Tilbrooke (Indian Ocean), and Chris Sabine (Southern Ocean) to establish a link. Sylvie to work with Maria to ensure a representative of IOCCP/IMBER attends the Indian Ocean Panel meeting in La Réunion.

6.3.3 Links between IMBER and EUR-OCEANS

- **Sylvie** to get a copy of the model agreement for interaction (MOU) from Caroline defining interactions between IMBER and EUR-OCEANS and develop MOU between IMBER & EUROCEANS.
- **Sophie** to develop the idea of "Floating University" and present it at the next SSC meeting.
- **Patrick** to give us the final dates of the workshop in November (see above after iteration at EUROCEANS NSC with M. St John and M. Barange). Consequently:
- **Coleen** needs to talk about the Workshop setup with Mike St John at the next e2e meeting.

6.5 PICES

- **IMBER** to fund Jointly (PICES/IMBER) a plenary speaker for the PICES Annual meeting. **Julie** to write an official letter to PICES to notify them that IMBER accepts to fund a plenary speaker at the workshop.
- **Julie** to contact Alex to discuss the development of the relationship between IMBER and PICES.

6.6 PACMEDS

- **Jing, Wajih and Ed** to report to IMBER the result of the March meeting (Bremen, March 26-27, 2006).

6.7 Marine project meeting

- **Sylvie** to send Ed some suggestions about the content of such a database.
- **Julie** to invite GOOS representatives to next IMBER SSC meeting.

6.9 Ocean Observation Panel for Climate (OOPC)

- **Julie** to ask Arne to be a liaison for the OOPC or to suggest someone else.

7 National programme updates

7.1 Update from India

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- At the next SSC, talk to Dave, Ann, and Dennis to discuss about what to do to promote the non-carbon science strategy of IMBER to make it happen in the US.

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- **Patrick** will contact programme leaders re endorsement of programmes by IMBER.

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- **Julie** to contact Carol and Raymond to see how we implement IMBER and endorse projects in the UK.

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11 Next SSC meeting

- **Elena** will set up a meet-o-matic page to determine when would be the best time to hold the SSC meeting next spring.