

## **U. S. GLOBEC Science Committee for Synthesis Meeting**

### **Gulf of Maine Research Institute Portland, Maine 15-16 May 2008**

**Thursday, 15 May 2008**

The meeting was called to order at 9:08 am.

**SCS members in attendance** were Chairperson Dale Haidvogel (Rutgers), Jon Hare (NOAA) Art Miller (Scripps), Dennis McGillicuddy (WHOI), David Mountain (NOAA), and Elizabeth North (UMCES).

**Guests in attendance** were: Enrique Curchitser (Rutgers), Michael Fogarty (NOAA/NMFS), Linda Lagle (Rutgers), and Elizabeth Turner (NOAA).

**Participating via conference call** or WebEx at various times were: Jennifer Burns (UA Anchorage), Eileen Hofmann (Old Dominion), Phil Taylor (NSF), Nick Bond (UW) and Michael Alexander (NOAA)

Not in attendance: Francisco Werner (UNC Chapel Hill), Cabell Davis (WHOI), Ken Rose (LSU), John Steele (WHOI), Zack Powell (UC Berkeley)

Dale introduced the local host and guest speaker, Lew Incze, who provided a quick overview of the GMRI facility where the group was meeting.

The minutes from the previous SSC Meeting in Chicago were approved.

Dale then reviewed intercession activities for the group.

- A Beta version of the new homepage for the US GLOBEC web site was presented with a brief explanation.

- The Synthesis Implementation Plan (Report 21) was completed and is now on the web site.

- The program had three and a half pages in the April International Newsletter and the office hopes to have a science article from the Southern Ocean Program in the fall newsletter. The April edition will be up on the new web site as well.

- Skill Assessment activity (Dennis McGillicuddy):

- Articles for a special issue have been sent to Elsevier. Articles should be online within a few months but the hardback will be in about a year as they are behind on printing.

- 17 papers covered four areas: Carbon cycle; Ecosystem Dynamics and Fisheries; Harmful Algae Blooms; an Estuarine and Coastal Water Quality.

- Themes were cross-cutting: skill vocabulary; metrics; and Data assimilation. They didn't achieve the metrics tool box but the algorithms

were described within the papers. It was suggested that Dennis keep in touch with Manu DiLorenzo at Georgia Tech as he has a ROMS toolbox.

- Final stages of completion include the final report to the funding agency. A general discussion followed about “What is Truth” and how one can talk about a skill with respect to that truth.

- Update on model evaluation (Enrique Curchitser)

- The fifty year assimilation of NEP is completed. Enrique hopes to have it coupled with the higher trophic level when at NCAR this summer.

- The “GLOBEC Session.” at the Ocean Sciences meeting was a great success.

Over 40 abstracts were submitted with fewer than half from the traditional GLOBEC sources. There were other parallel sessions on California Current and Northwest Atlantic. It was a very successful session and well attended.

- Enrique will attend the Asia Oceanography Geophysics Science Meeting in Korea this June.

### **Other Intercession Information:**

The Climate Change and the World’s Oceans ’08 conference is coming up. David is going to Spain for this. He will take a poster and GLOBEC brochures from Mike Fogarty. A brief discussion followed in regard to what message David could provide about GLOBEC that participants at the sessions could take away.

The Final Symposium: Dale reminded all that the Open Science Meeting for International GLOBEC will be in June 2009 in North America. It was also noted that the pan-regional phase of US GLOBEC was just recommended for funding so most programs would still be in the middle of their projects. It was suggested that the timeframe for the final symposium be changed. In addition, Phil Taylor from NSF had identified some potential fiscal year funding for the effort.

### **Regional Program Updates**

#### **NEP Program**

Nick Bond presented the NEP report via WebEx and conference call. He showed slides to highlight some of the work begin done. In general, he noted that within the CCS the linkages from climate to biology are becoming better established. In the CGOA they are fragmented and many mechanistic linkages remain unsettled. He mentioned work by Manu DiLorenzo on the NP gyre oscillation; the work Hermann and company are doing on validating ROMS output against observations on the Seward line; the work Tim Cowles and his group are doing on the lower-trophic level and comparing with those from various model on a mesoscale; and that Hal Batchelder is working with bio-energetic modeling.

Nick and Hal serve as guest editors for a special issue of DSR II. Some 13 papers were submitted.

He then talked about a mock exercise they implemented on ecosystem response to La Nina at their SI meeting. They submitted a summary write up of the exercise and lessons learned to EOS. He then talked about the “final” book and reported that there is little

enthusiasms for the project. He is having trouble getting folks to commit to this without any financial remuneration for their effort.

A general discussion followed. It was thought that a month or two of financial support per person might be enough to get individuals to write the articles. In addition, the group commented that they want to reach people who might not have read all the primary literature and how there should be coordination among the three volumes (one per program), if possible. It was noted that the SO and NWA programs are both interested in coordinated volumes.

### **Southern Ocean Program**

The next report came from Eileen via Web Ex and conference call as well. Two special issue of DSR were published. The third volume is now in development on synthesis and integration. At least 15-16 papers are promised with the possibility of more coming. The manuscripts are due this fall. She, too, highlighted some of the work going on including Caryn Ashjian's work with other food web structures and Dan Costa's work on biological hot spots in crab eating seals.

The science implementation plan for ICED was reviewed, revised and resubmitted. Following a few minor corrections it goes to GLOBEC and IMBER for joint publication.

The first workshop on food web modeling was held in April 2008 at CCPE at Old Dominion University with about 30 people attending. There they began the process for the basics of modeling of circumpolar Southern Ocean ecosystems. They had participants from ESSAS, CLIOTOP among others. They are working on articles for the GLOBEC and IMBER newsletters. She also mentioned that there will be a joint sessions of GLOBEC/IMBER/ESSAS at IGBP in Cape Town and their will be a joint session with CoAML and SCAR at the Open Science Meeting in St. Petersburg in July 2008.

### **Northwest Atlantic Program**

Dale presented the NWA report with materials from Cabell Davis who could not participate in the meeting. Dale presented a series of slides showing some of the work being done in the Phase IVB synthesis projects. In addition he announced the NWA SI meeting in June 2008 and that a proposed synthesis volume for NWA was accepted by Progress in Oceanography that will be published in 2010.

There will be a fall 2008 workshop to transition the NWA science to management tools. The workshop will be at WHOI and will include modeling-observing systems and an ecosystem approach to management. It was suggested that the workshop efforts be broader within GLOBEC and should go beyond NWA.

### **International GLOBEC**

Enrique gave the report on behalf of Cisco Werner who could not be present. (NOTE: Cisco was named the new Director of IMCS at Rutgers). He announced the Open Science Meeting June 22-26, 2009 to be held in Victoria, BC. Workshops will be held the first two days and there will be plenary sessions.

There will not be any parallel sessions other than the workshops during the main meeting and there will be a poster session throughout the event. They hope for 400-600 attendees. He also said there are three books in various stages: a Cod book, a SPACC book, and a GLOBEC book with a targeted publishing date of June 2009. The hope is to have it available at the Open Science Meeting. A special volume in Progress in Oceanography will include the outcomes from the CCCC/PICES Synthesis meeting of 2006.

One of the big issues is the transition to IMBER. The transition team is to meet twice in 2008 with final recommendations due in the fall of 2009. In addition, they are working on some legacy products such as a brochure of science highlights from the program.

Following a break for lunch, local site host Lew Incze presented the Science Talk. Lew spoke about the Census of Marine Life program, "Making Ocean Life Count." The program began in 2000 and is slated to go through 2010. The goal is to assess and explain diversity. They are now in the synthesis phase of the project. Core funding for the census is provided by the Sloan Foundation. Incze stated that they have discovered 5300 new marine animals since 2003. The projects have four themed areas: Historical; Future; Data Infrastructure (Ocean Biographic Information System or OBIS); and Present. He gave various examples of some of the field study areas, including in the Gulf of Maine where research has been ongoing since 2003. There are three missions associated with the research overall to explore; to explain; and to apply.

### **Education and Outreach**

The proposal seeking funding for education and outreach activities to be implemented by David Mountain did not receive funding. CoSEE felt it was premature and that the partnership idea and activities were not developed as fully as they would like. The committee now needs to decide how to proceed.

Art gave an update on the status of a GLOBEC exhibit at Scripps. The concept is still alive but he suggested it might be more productive to select a smaller organization than Scripps as it would be more responsive. He also suggested the possibility of using a PPT presentation for members to take around to high schools.

Elizabeth proposed that a documentary be created for broadcast on NOVA. It could be created in sections that can then be transferred to CoSEE web pages or that can be pulled out for presentation in classrooms, at aquariums, used for conferences, etc.

This led to the partnership between NOAA and the Smithsonian for the new Oceans Hall exhibit which is going to open next fall. According to Beth, NOAA's PR person has gotten requests for ideas to help augment things. The exhibit in the hall is set but will have kiosk-type displays. These need to be interactive exhibits so people can go in there and click through displays. There will also be some hands-on exhibits that will take visitors into some area of ocean science.

Beth put together something on Andy Pershing's work on right whale calf rates and its relation to calanus last summer. She used items from the GoMOOS site with all sorts of clickables already in place. The Smithsonian is still asking for ideas for this kiosk.

It was suggested that she needs a GLOBEC-wide idea of an interactive exhibit that she could pitch. The kiosks are not intended to be a permanent display. The Smithsonian wants to have a rotating set of these things so it may be an ongoing request. Kiosk exhibits will probably stay in place a couple of months at a time. It is a long process and takes months and months of back and forth to set up something at the right level of interaction. Beth would serve as the conduit if people are willing to put a concerted effort.

As a result of this information, several ideas were tossed out during a brainstorming session;

Cod Eggs --

Simplest one is cod eggs on GB, where do you release them.

Have the people drop in cod eggs and say this is 1990, 2000, just be a way to learn about the circulation of GB and the surrounding areas.

If you click eggs in here do they end up on the best spot? Do they end up on the bank? Do they go to the bank? Lot of things you could do.

Particle tracking --

Different places, different positions.

What is the learning that you are hoping to get the student to come out with?

If you do particle tracking with organisms they're learning circulation patterns, learning life history about charismatic mega fauna.

Which types of animal, which type of behavior do you want to have? You could choose to be lobster, you could choose to be krill, cod, or something like that.

GLOBEC would have to choose the type of scenarios and constrain them and then develop movies or scenarios from the model output that would show the tracking. Every conceivable grid or location could be done and then could run a particle tracking model and store all the output in the grid file. Visitors would click on the grid and see the movie. It would be easiest to start with a small matrix.

Criteria needs to include:

Balance of programs

7<sup>th</sup> or 8<sup>th</sup> grade level

Something with animation

Something with different types of animals

Has to be canned, not an on-demand run.

### **Model Evaluation Discussion**

It was suggested that Enrique work with Dennis and that perhaps over the summer they put together a white paper. Model evaluation might gel more when it is known what was

funded for the PRS phase. Then it might be clearer where intercomparisons might fit. It is hard to define a good test bed within the nominal composition of a working group in order to put a model evaluation into play. It also was suggested that a tool box be incorporated.

### **Final Symposium Discussion**

*(NOTE: This discussion was split between the two meeting days. However, the full discussion is placed together here for reading convenience.)*

General summary of JGOFS costs:

Total budget was \$336,000 in 2003

330 attendees

2 levels registration fees (\$150 advance; \$250 after early deadline)

Their working budget included several funding sources. All registrations for meeting plus all travel arrangements were handled by Preferred Travel. JGOFS used a lot of their budget to cover travel and speaker fees. The registration fee included two receptions and some souvenirs. Several program offerings cost extra, such as box lunches, a spouse registration fee, and a final cruise/lunch.

Locations explored since the last meeting included NAS and the Smithsonian Natural History Museum. NAS is offline until April 2011 and will not accept any non-academy requests for space until all internal requests are filled. This rules out US GLOBEC. The Baird Auditorium is expensive and not particularly flexible. Cost is \$10,000/day with no access to public space until night time. The Ocean Sciences Exhibit hall costs \$28,000/night for use for receptions.

JGOFS used the National Academy which cost \$2300/day. AAAS is too small for the audience GLOBEC hopes to attract. There was some discussion about rethinking location, perhaps looking into spaces DC universities have available in the summer months. Another less desirable possibility due to location outside of DC is the new Gaylord Conference center in Maryland.

There was a general discussion on staffing and salaries. JGOFS had six members on the scientific steering committee and seven on a local organizing committee. The JGOFS staff person worked full time plus overtime for the ten mos. in advance of the program. Salaries were not included the working budget. They were covered in the office grant proposal for the final years of the program. The Integrated Application Network Conference Coordinator at UMCES would be a good source for assistance with a lot of the organization, registration, etc. Linda will check with them.

Printed materials included a full color, glossy mail out invitation/brochure and a three-fold version of the same written in laymen's terms for specific use for members of Congress.

GLOBEC is less able to draw on as many outside sources of funding as did JGOFS. However, Phil mentioned earlier that he may have identified some funding for this project.

How will individuals fund their participation in the final symposium? It appears that many of the PRS grants will still be active as their initial funding has been delayed until about Oct. 2008 and most grants are for three years. Even if the symposium is in spring 2011 many should still have funds available.

In addition, if modeling the program after JGOFS, then speakers will be a critical draw. JGOFS had big, synthetic talks about big picture accomplishments. The program was the draw.

### **Final Symposium (Day 2 Discussion)**

All agreed that the talks will be critical to the success of event. Needed will be big, synthetic talks that represent the quality of the scientific program

Possible Symposium locations were discussed.

- The Natural History Museum (discussed in the previous SSC meeting) is too expensive. Perhaps it would be good for a social event. (Costly then as well).
- NAS is not available until spring 2011 and not able to book until internal events booked. It was decided this site is too iffy.
- Commerce Bldg. -- Has a courtyard area, good conference hall – Hoover Auditorium. In addition, there are a number of rooms available and a display area.
- Another idea was the OAS building -- nobody knew anything about the facilities there.

Beth is a DOC employee so she volunteered to pursue the Hoover Auditorium. The web site informed browsers of the following:

- 489 seats in Hoover Auditorium
- Rooms hold 15-50
- 2 hallways serve as “break” areas beside the main auditorium

International GLOBEC will have three days of posters and plenaries plus two days of workshops at their final event – The Open Science Meeting in June 2009. Preliminary discussion focused on something of the same format for US GLOBEC. The need for workshops at the final symposium for US GLOBEC was questioned.

Elizabeth will explore future press possibilities with a contact at UMCES. She suggested UMCES involvement because of previous experience in organizing a conference for her. (She was referring to the intergrated applications network division of UMCES.) They also have press connections.

Dale envisions a model similar to JGOFS with a local organizing committee and a scientific program committee. Original thinking on the size and composition of the

organizing committee includes Jenn, the three regional chairpersons plus, Dale, Peter, Zack and Mike.

### **NOAA Discussion**

Beth reported that NOAA is restructuring their office web site and one of the sections will be the coastal ecosystem effects of climate change. This will include information on GLOBEC and attendant links.

There is a need for an End of Life Oceanography issue as the last one was a “mid-life” issue.

A legacy document was distributed via email by Beth prior to the meeting. This document could be transferred into a PPT presentation with four themes: manage, understand, observe, and predict.

Discussion amongst the SCS produced the following suggested additions and comments for the legacy document:

- A contribution on cod and haddock (D. Mountain)
- Comparison between GB and the North Sea (J. Steele)
- How are these scientific accomplishments being used by those outside of GLOBEC?
- Examples of applications
- NEP can talk more about index development and how results made it to the Fisheries Management Council
- More on modeling (e.g., between regional modeling and global climate, and how GLOBEC contributes to understanding of climate effects on ecosystems)

Another outcome is to make the case that it's necessary to have a 12-year program in order to make these types of contributions. There needs to be an interactive timeline of events: What happened when and what is known.

It was also reported that the Seminar Series for NOAA fell victim to the lack of travel support and Beth encouraged anyone traveling to DC for something else to piggyback onto that visit a seminar presentation to NOAA .

### **US CLIVAR Summit**

David Mountain gave an overview of the upcoming US CLIVAR summit being held in July 2008 in Irvine, CA. He was invited by David Legler of US CLIVAR to give a 30-minute presentation on marine ecosystems. His idea for a topic is “Climate predictions for 2018: What can we say now and with what degree of uncertainty?”

The meeting was adjourned at 4:55 pm.



## **Friday, 16 May 2008 (Holiday Inn Hotel)**

The meeting was called to order at 8:35 am

**Members in attendance** were: Chairperson Dale Haidvogel (Rutgers), Jon Hare (NOAA) Art Miller (Scripps), Dennis McGillicuddy (WHOI), David Mountain (NOAA), and Elizabeth North (UMCES).

**Guests in attendance** were: Enrique Curchitser (Rutgers), Michael Fogarty (NOAA/NMFS), Linda Lagle (Rutgers), and Elizabeth Turner (NOAA).

**Participating via conference call** or WebEx at various times were: Cynthia Suchman (NSF), and Phil Taylor (NSF),

Not in attendance: Francisco Werner (UNC Chapel Hill), Cabell Davis (WHOI), Ken Rose (LSU), John Steele (WHOI), Zack Powell (UC Berkeley), Jenn Burns (UA Anchorage), Michael Alexander (NOAA), Nick Bond (UW), and Eileen Hofmann (Old Dominion).

The day's agenda was altered to accommodate items not covered in the previous day's meeting.

### **Website**

Individuals offered suggestions for changes and additions to the new web page design. An ongoing need will be to work on the member list so it is as complete as possible in time for the final symposium. In addition, there also needs to be a way for PIs to add information – perhaps provide a template – to their abstracts. This, too, should be done by the final symposium to serve as a historical record.

### **Documentary Project Proposal**

Elizabeth North presented the idea for a one-hour GLOBEC documentary that could be broadcast on NOVA or another PBS type format. She suggested the following:

- Use “shiny rocks” from the four GLOBEC regions
- communicate the findings to the public and policy makers
- interview scientists and use video/pictures of cruises
- segments should complement other outreach efforts
- movie would premiere at the Final Symposium

She has worked with Michael W. Fincham a producer, director and writer with the Maryland Sea Grant Program. He translates science to the public and GLOBEC has his interest. His questions are:

- What is the story
- What is new?
- What are the Big Ideas that should be communicated/dramatized?
- Are there other documentaries that communicate similar information?

- How do you link the four regions?
- How do you make this a story that links all of this to the general public

She suggested the following way to pitch the idea:

The water motion in each region links climate change to organisms. Use animations of circulation patterns to communicate the concept of water mass circulation. Move from the climate effects people know on land (El Nino) to those on water. Show how changes in water mass relate to changes in underwater current and what humans catch. Target species are ideal charismatic mega fauna to make links from climate through oceans to humans.

Elizabeth will write a planning grant to develop the concept and script (\$50-75K) and then write a full proposal to produce the film (\$250-350k). Question: Where does agency oversight come into play? Budget will need to include funds to get a film crew on a vessel in each of the four regions. The committee was enthusiastic about this project.

### **Upcoming Events**

**PRSW** needed to be re-scheduled due to the timing of the funding of PRS proposals. New timeframe should be within Feb. 17-27, 2009. National Office will firm up dates with that timeframe.

**Next SCS Meeting** moved to Nov. 6-7, 2009 in New Orleans (to accommodate change in PRSW dates)

**Final Symposium** most likely now in Spring 2011. (Additional discussion on this event is captured on day one of this meeting.)

### **Agency Reports**

#### **Phil Taylor - NSF**

The PR AOs – 16 projects were submitted (50 individual proposals). Six were funded, six were declined and four are on hold.

CAMEO – CAMEO is a priority within Ocean Sciences at NSF. \$5 million from NSF and NOAA requested but they didn't get it. The AO was released and it is very wide open. The CAMEO website (Cameo.noaa.gov) was updated recently.

There is \$2 million available for both years. Both NSF and NOAA have the \$5 million in their '09 budgets but have no expectations. NOAA is the lead agency in the process so all proposals are going there. Mike Ford is the point person for that process.

He noted that one group within GLOBEC that was funded for PRS is looking to propose to CAMEO for funds that would allow NOAA scientists to participate in PRS.

#### **Beth Turner-NOAA**

Beth gave an overview of some financial problems that are affecting GLOBEC PIs.

In 2007 Beth's office was asked to reexamine all programs and spending rates on projects that could be postponed to 2008. Several GLOBEC investigators revised their needs for '07 with the intent to receive remaining funds in 2008. All were informed and this plan agreed to in NOAA.

GLOBEC PIs then met with a representative from NOAA at Ocean Sciences and were told that NOAA intended to keep its promise for the funds in 2008. However, the plan was not approved due to policy changes. This has dire implications for the original projects set to end in 2007 and have dangling funds. As of this meeting no final spending plan for 2008 has been issued. These financial decisions were made at the NOAA NOS level.

Those affected in NWA include:

- Davis project
- Leising portion of Runge proposal
- Durbin portion of Werner proposal
- Lough portion of Werner proposal

Affected in the CCS:

- Casillas' salmon project
- Peterson project
- Hickey portion of the mooring project

Lastly, the action items were reviewed. The meeting adjourned officially at 12:00 noon EST.