

Ridge 2000 (R2K) Steering Committee Meeting Minutes
Boston, MA
November 6-7, 2008

Attending: Dan Fornari, Donna Blackman, Mike Cheadle, Marie-Helene Cormier, Rob Dunn, Susan Hautala, Pete Girguis, Anna Metaxas, Peter Michael, Lauren Mullineaux, Joe Resing, Ken Rubin, Jeff Seewald, Bill Seyfried, Costa Vetriani, Spahr Webb, Vicki Ferrini, Liz Goehring, Katie Phillips, Breea Govenar, Janet Moore, Phil Taylor, Dave Garrison, and Barbara Ransom.

Not Attending: Rick Carlson

Summary of key discussion points

- Integration & Synthesis (I&S) Oversight Committees (ISOCs) for the three Integrated Study Sites (ISSs) were very useful for putting together productive workshops, and they need to continue to facilitate integration and synthesis efforts. Considerable discussion was had among the StCom about the results stemming from the September 2008 I&S workshops. Two new ISOCs should be set up, one for Time Critical Studies, and one for Modeling. The pre-workshop research summaries and various group summaries compiled during the workshops are posted on the R2K website.
- One important missing data set identified at all three ISS workshops is the quantification of the heat flux at the site, both in terms of high-temperature venting and, importantly, low-temperature diffuse flow.
- The R2K Data Portal is becoming easier to navigate, and the next major effort will be to add secondary metadata and derived data – a new release of the search interface should be out by Fall AGU.
- The R2K website will be transferred to Lamont, who will help with improvements to the site. WHOI R2K office personnel will be responsible for the administrative functions to the website.
- Compliance with NSF and Ridge 2000 Data Policies will be enforced by NSF and facilitated by Ridge 2000 Program.
- The focus of the Ridge 2000 research in the final phase of the program is integration and synthesis of existing data and samples. However, a limited number of future R2K field programs may be considered if a strong case is made for how they are necessary for integration and synthesis of R2K thematic research.
- There is a need to better define “integration and synthesis (I&S)” for the community so that researchers know the general scope of activities and can respond appropriately with new proposals to carry out I&S over the next 3 years.
- Meetings and workshops will continue to help stimulate integration and synthesis, but the Program Office will also facilitate discussions through web-conferencing, and smaller proposals “out of cycle” were suggested as a means to increase I&S productivity.
- Funding for Time Critical Studies grant has ended, but TCS are still considered to be an important part of the Ridge 2000 Program. A new TCS proposal is encouraged and will be advertised widely to engage a broader community of scientists who are interested in eruptions and other large-scale disturbances, as well as projects that would seek to integrate existing TCS data sets.
- Scheduled rotations on the Steering Committee will ensure that appropriate disciplinary expertise and experience in various ISS field studies is covered as well as engaging new, modeling expertise.
- The budget for the Ridge 2000 office at WHOI is smaller than previous offices. Efforts will be focused on facilitating integration and synthesis for the R2K community.

- Expenditures by the Ridge 2000 office at SIO were under budget, and the residual funds will be used for participant support in workshops and meetings under the management of the Ridge 2000 office at WHOI.
- Exploration by mining companies has begun at the Eastern Lau Spreading Center, but the companies involved are in contact with scientists and have made efforts to avoid any experiments and instruments deployed on the seafloor.
- NEPTUNE Canada laid the cable to begin the establishment of a seafloor observatory network on the Endeavour Segment of the Juan de Fuca Ridge. Endeavour Segment is also a Marine Protected Area, managed by Canada, but scientists are able to continue field studies by submitting an application to the government agency.
- Education and Public Outreach activities in the final phase of R2K will continue, but because of funding cut-backs this facet of R2K will primarily focus on GLOBE/FLEXE, the Distinguished Lecturer Series, and published articles in the popular scientific and lay literature.
- Three external requests for support were submitted to the Ridge 2000 Program office, which were discussed by the Steering Committee. One for support of a MOR drilling workshop, the other for a deep-sea mining workshop, and the third for support of a deep-sea vent biology meeting in Japan in 2009. The conclusion is that efforts and funds should be directed to activities that support integration and synthesis. Efforts will be made to help these groups secure funds from other sources, and then StCom will decide whether to provide additional funds.
- The Chair of the Ridge 2000 Program had been the US representative to InterRidge, while the InterRidge office was located in the US with two co-chairs. The InterRidge office is moving to a new location (not yet determined), and if the location is outside of the US, there should be two representatives from the US (StCom Chair and one additional person TBD).
- There are many Ridge 2000-related sessions at the AGU Fall Meeting, as well as booths for the Ridge 2000 Program and Lamont-MGDS. There are also Ridge 2000-related sessions at other upcoming international meetings. More information will be available through bi-weekly e-mails from the Ridge 2000 Program office and on the Ridge 2000 website.

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Thursday, November 6

9:00 AM – Welcome, opening remarks (D. Fornari), introductions and approval of March 6, 2008 StCom meeting minutes

- Overview of discussions with NSF and others to prepare for the meeting, listing of resources (folders, CDs with workshop reports, copies of the NSF and R2K data policies).
- Minutes from the previous March08 Portland StCom meeting accepted and will be converted to .pdf and posted on the website.
- Website will be transferred from SIO to LDEO in early Nov., some changes to web site organization will be made but basic content will remain with additional links to Data Portal and improvement in file naming and access.
- Opening for additional comments, suggestions for agenda.

9:15 AM – Discussion of Septemer 2008 Lau, Endeavour, EPR Integration & Synthesis (I&S) Workshops Results; Presentations by each ISS leader

Eastern Lau Spreading Center (P. Michael), .ppt presentation

- Update on the status of Lau datasets by discipline: petrology, fluid chemistry, chimney chemistry, microbial data, macrofauna, diffuse-flow chemistry, and MOCNESS tows.

- Review of missing data. Noted that scales are different between petrological and geochemical (fluid) samples at ABE vent site where linkages between fluids and rocks could be established. Also noted that the site found by Chinese may be important for elucidating the steep geochemical gradient between TowCam and ABE vents.]
- Discussion about maintaining momentum for collaborative/integrative studies. The idea of weekly web-conferences was not well supported. There were suggestions to have a champion for integrated papers from conception to publication. ISOC needs to meet and discuss 2009 plans for PIs to meet and discuss research.

Endeavour Segment (MEF), Juan de Fuca Ridge (W. Wilcock), no .ppt presentation

- Overview of the workshop
 - Goal was to get people working in small groups to make commitments to publish results.
 - Meeting started with introductory talks and review of data collected.
 - Presentation of NEPTUNE Canada- observatory will be up and running in Summer 2009.
 - It was noted that the meeting lacked expertise in macrobiology.
- Little MEF data has been contributed to Data Portal because most of the funding hasn't come from Ridge 2000, recognition that this needs to be reconciled with data needs of R2K scientists to help with I&S, some datasets recently contributed (e.g., Kelley et al. Endeavour bathymetry and mapping from Glickson et al. G-cubed paper)
- Long-term interests in future research at MEF and JDF made possible by NEPTUNE. There will be:
 - Instrumentation opportunities
 - Segment-scale investigations to address missing datasets
 - Once NEPTUNE Canada is in the water, more emphasis will be placed on engaging scientific community.
- Endeavour Segment MPA has a Technical Advisory Committee, of which Ridge 2000 Program Chair (DB) has been a member. The new Ridge 2000 Chair (DF) should stay involved
- Strategies for maintaining momentum were met with mixed opinions, different people liked web-conferences, video conferences, wiki, face-to face-meetings.
 - For Endeavour ISS, meeting at UW was inexpensive because the facility costs were low and many of the scientists were close.
 - Suggestion for more frequent meetings, but nobody took the lead for organizing them as of yet.

East Pacific Rise (D. Fornari), no .ppt presentation

- A focus site for a long time and two eruptions (1991-92 and 2005-06)- provided an opportunity to map morphological, volcanological- lava distribution mechanisms- and the new flow area- and collect a large number of samples for geochemistry and Po-dating.
 - Extensive samples for petrology, rock geochemistry, fluid chemistry, biology, geophysics
 - Co-located studies of fluid chemistry, microbiology, and macrobiology.
 - Collaborative studies at the 9°03' OSC
 - Collaborative modeling efforts.
- Interface group identified off-axis regions to be important.
- Fair-use policies were discussed to facilitate data sharing and compliance with R2K data policies
- Workshop reports included all of the pre-workshop research summaries submitted by the participants and the notes from the discussion leaders. These documents will provide a resource to scientists who were not able to attend.
- Executive summaries of all ISS workshops will also be written and provided to the community

- At the meeting there was a consensus that the primary results of the integration and synthesis efforts will be papers.

General discussion about all three I&S ISS workshops

- Workshops were helpful and fruitful for bringing together PIs for each ISS and identifying missing data.
- E-mail or online discussions could help make sure that opportunities are not lost for sampling on upcoming cruises.
 - Listservs exist for different ISS and a forum for online discussions is available on the website.
 - Other types of online discussions could include a ticker to go along the bottom of the R2K webpage, an RSS feed, listservs, wiki sites, etc.
 - Web-conferencing options are being evaluated by Ridge 2000 office.
 - Consensus for bi-weekly e-mails from Ridge 2000 office with news and updates.
- Discussion about the differences between integration and collaboration.
- Most of the missing data that was identified at the workshops were those represented by the individual interests/data sets of the PIs, but one measurement that was universally identified as missing was heat flux.
 - Peer-review process may not favor a consensus of the best methods for measuring heat flux, may need to entrain the community to address the question
 - Questions about fluxes may benefit from engaging a broader (non-R2K) community of scientists.
- The ISOCs for each ISS developed chronologies of collected data (field programs) with references, which were provided to the DMO prior to the workshops. These will be posted on the R2K website.
- Follow up strategy for all I&S activities for ISSs needs to be worked on in early 2009 and should be a major focus of the R2K Office and StCom in collaboration with the ISOCs.

11:30 AM – R2K Data Portal, Compliance with Data Policies (V. Ferrini, D. Fornari, B. Govenar)

Introduction (D. Fornari)

- Vicki Ferrini was at all three ISS workshops and Suzanne Carbotte attended the MEF and EPR workshops. Fornari encouraged StCom to think about adding a member of Data Management Office team to the StCom, and would propose this as part of the new membership roster.

Presentation of Ridge 2000 Data Portal (V. Ferrini), .ppt presentation

- Same basic presentation as given at all the I&S workshops with additional information based on discussions at the workshops.
- Ridge 2000 Data Portal is a relational database, object (not value) oriented database with discovery tools to get to value-derived databases, e.g. PetDB.
- Since the workshops- got lists of legacy datasets, compiled reference lists, new data submission, data release (two ways of not releasing- password protection and proprietary hold).
- New event logger to help log metadata (3rd iteration based on feedback from the community) to streamline the process of getting the metadata.
- DF- We are close to 100% compliance with metadata.
- Improvements to R2K Data Portal:
 - Data access- new search interface to be released by AGU, with results to be found by URL as well; demo of finding data- look at stations, samples, vents, newly implemented track lines (clickable, to be colors for different cruises), balloons will go to the cruise page.

- New search interface and a customized Ridge 2000 search interface- which will include a species search function.
 - Redesign includes menus, data access pathways- planned new release of DP site at AGU.
 - New search interface, including maximum results per page, references as search, tool tips (pop-up windows), sort by columns, main search parameters on left side, advanced search on right side, including participants, activity parameters (a particular dive) and funding parameters.
 - Media Bank- launched in March, collaborative effort with Liz Goehring and SIO office- can also accommodate images that are proprietary or protected, in which case permission can be granted by DMO, instructions on how to contribute.
- Accessibility:
 - GeoMapp App (download to local machine)- massive dataset to 100 m resolution, can plot different datasets, live access- working on better documenting capabilities, better resolution of export function for maps Virtual Ocean- using NASA whirlwind technology, like Google Earth but with greater analytical ability, it is a web-start application- click and it loads.
 - Google Earth- to reach a broader audience with live images from Alvin and Jason image databanks, tiling of images for effect of mosaic with lower computational costs.
 - Live demo- menu under site, lists of all expeditions, dynamically generated lists- can get at either field or derived datasets, now it's limited that has a flag to lists of data for which there is data entered- also for derived data.
- Suggestions and comments for Data Portal from StCom:
 - Use test groups to see where people are getting stuck in terms of use of site.
 - Could be used for EPO to educate researchers and involve classrooms.
 - It was noted that it has been used in college classes classroom and students understand how to use it quickly.
 - Efforts should be focused to optimize resources to reach the community who is involved in the integration efforts.
 - Community input needed- terms of use, to download requires that someone downloads/reads the terms of use, so input on 'fair use' and other policies needs to be given to DP group from StCom.
- Answers to questions about Data Portal:
 - The technical team for the MGDS includes Robert Arko, Suzanne O'Hara, Joyce Alsop, Rose Anne Weissel, Andrew Melkonian, Andrew Goodwillie, Juliet Bonczkowski, Justin Coplan, Allen Leung, and Dale Chayes (LDEO). Science support is provided by Suzanne Carbotte, William B.F. Ryan, Vicki Ferrini, John Diebold, and Kerstin Lehnert (LDEO), along with Tom Shipley (UTIG), Tim Shank (WHOI), and David Becker (TAMU). William Haxby, who passed away in January 2006, was an original team member and the creator of GeoMapApp.
 - Support for MGDS comes from various NSF programs, not only R2K.
 - NEPTUNE Canada would like to link to data in the Data Portal, and R2K would like to link to data collected by NEPTUNE Canada. Bob Arko (of MGDS) went to a workshop to understand the linkages.
 - Funding was recently acquired by Data Portal and WHOI NDSF to start building a relational database for NDSF.
 - To link to supplemental data in publications, a link to the URL can be added in the Data Portal.

Talking points for R2K Data Compliance (D. Fornari), .ppt presentation

- Introduction to issues related to compliance with the R2K and NSF data policies, including pressure from Congress on NSF, to Program Managers response to annual and final reports on funded grants, and misunderstandings of scientists about definitions, requirements, and expectations related to providing data at the end of grants and being ‘compliant’ with this aspect of their grant funded research.
- StCom and R2K office will work with NSF program managers and the community to clarify misunderstandings and facilitate compliance with data policies.
- There was a discussion about why there are misunderstandings and resistance toward compliance, such as lack of enforcement (recently there has been a greater effort to enforce data compliance at NSF), inter-laboratory biases, different levels of certainty (i.e. taxonomic identification of organisms), and the opinion that publications are equivalent to making the data publically available (which is not viewed as compliance with data policies).
- Submitting secondary metadata to the Data Portal could help the PIs and the community to at least know what analyses are being conducted and where the samples reside. This was viewed as an important step towards data compliance.

1:00 PM – LUNCH (off-site)

2:15 PM – Compliance with Data Policies

Discussion about Compliance with Data Policies (D. Fornari , B. Govenar)

- Presentation of “talking points” to clarify different interpretations or misunderstandings re: data compliance.
- Examples of two high-impact papers with biological samples from different ISS to reach a consensus on the definition of derived data and what needs to be submitted to the Data Portal.
 - Rather than the specific scanning electron micrographs, genetic sequences, or growth rates of the organisms, the “universal” information of the identity the sample or the organism (to the best known taxonomic level), the abundance, and if possible, the biomass. For microbiological data, the number of isolates could be useful secondary metadata.
 - Secondary metadata could include the preservation and physical location of a sample.
- Review of the NSF/R2K data policies
 - In NSF data policy Levels 1-4 refer to data and metadata.
 - Within 1 year of the collection, all data accompanied by the metadata must be made available.
 - First two years remain proprietary for the principle investigator, and the Data Portal can password protect the data- so that the listing of the data product is visible, but not the data itself, until the password is removed.
 - Secondary metadata will be an important step to obtaining the appropriate derived data.
 - StCom won’t rewrite any of the data policies but will write a letter to the community that highlights sections of the data policies with further explanation and reference to the discussions and reports of the workshops. The R2K Office will take the lead on this in Jan. 2009.

2:30 PM – Discussion of Ridge 2000 Budget and Program Announcement and (D. Fornari, B. Ransom, D. Garrison)

- Presentation of the Ridge 2000 budget from NSF, comparison to previous years and anticipation for the coming years- overall contribution from core programs and total amount hasn’t changed much, totals seem smaller because of mortgaging of other funded programs that were scheduled later

- Mortgaging should be avoided to facilitate data integration and synthesis in the next phase of the program.
- Approximately \$3 million (total) available in 2009 for new R2K research after all ongoing projected costs have been deducted.

Discussion about R2K Program Announcement

- Following the mid-term review and change in program managers at NSF, the Ridge 2000 Program announcement needs to be rewritten- a decision made by NSF program managers.
 - StCom expressed concern about how quickly the announcement can be rewritten and approved.
 - NSF made the point that with a January 15 deadline, the notification would be in ~July- but with an April deadline, notification would still be in July, so it should not affect getting funding to PIs and would not affect scheduling of ships/vehicles for field work in 2010.
 - UNOLS scheduling now takes place in the fall, so a Jan versus an April deadline would not affect scheduling for field work for R2K research.
 - As long as there are no other significant changes to the program or the NSF leadership, future program announcements may not need to be rewritten and the deadline could return to January 15 in 2010.
 - Once the new Announcement text is approved and published a notice could be sent out in January providing the final ‘date’ of the 2009 R2K proposal target.
- Announcement should reflect the next phase of the program, revision of the status of field programs at Lau, and the focus on integration and synthesis – the suggested text for this was provided to NSF program managers at the meeting.
- The announcement will be written by NSF program managers and approved by NSF management, but input from the StCom will be solicited.
- StCom letter to the community (April 2008) was used for the language that describes the state and future directions of the Ridge 2000 Program – this was used as the program description input to the new announcement text to be prepared by NSF.

Discussion on Integration and Synthesis (K. Rubin, D. Fornari), .ppt presentation

- There was discussion about the need for statement by StCom as to the ‘charge’ or mandate for the ISOCs - and what their composition should be in the future, as well as establishing new ones (i.e., for Time Critical Studies and Modeling). Discussion about suggestions for how the ISOC members interacted.
 - Web-conferences (UCSD system) for ISOC meetings worked pretty well for 5 people (10 was too many), it could run programs off the desktop.
 - Next step will be to identify where are we headed after the Sept.’08 workshops- we know the goal but need to decide exactly how to achieve that, including respective roles of ISOCs and StCom, promoting new directions and to highlight a recent I&S publication on R2K website (to encourage others to also write I&S papers), and implementing broader research initiatives.
 - Diagrams and other conceptual models were presented about whether there is direct or indirect relationship between disciplinary studies, if I&S can move forward without all possible data sets, defining what is integration and synthesis and what is not and providing guidance to the community on this definition
 - Suggestion for several smaller proposal targets for specific IS activities, also to engage (old)RIDGE (pre-R2K) scientists in the process
- Status of ISOCs, plans following the workshops are unclear, so the ISOC chairs will meet and discuss

- Discussed willingness of current ISOC chairs (Wilcock, Michael, Rubin) to continue to serve on ISOCs, interface between StCom and the community, move forward on the questions raised at the workshops, ensure that data is submitted to the DMO, coordinate the focus on integration and synthesis. They agreed.
- Function of ISOCs is to make sure that integration and synthesis are at the “top of the pile” for PIs, who have been collecting data.
- Some discussion of need to better define continuing role of ISOCs and division of labor with StCom.
- Ideas were discussed to facilitate ways to stimulate discussions and activities of within and among the ISOCs. One idea that was discussed was that groups of scientists who want to integrate and synthesize their data for papers or proposals may need access to funding at more than the current one R2K funding cycle per year. One option could be the use of NSF SGERs or supplements to current proposals, in addition to meetings organized by the ISOCs and R2K office. All of these options will be the focus for early 2009 discussion among the ISOCs and StCom to plan for 2009 R2K workshops/meetings.

Friday, November 7

9:00 AM – Revision of the agenda

- Started with the StCom contributions to the revision of the new R2K Program Announcement, written by DF and sent to StCom by e-mail late Thursday, November 6.

Discussion of StCom contributions to revision of the R2K Program Announcement

- Consensus on the StCom contributions to revision of the R2K Program Announcement, based on the letter sent by the StCom in April 2008.
- Suggestion for a different (earlier?) target date in 2010, but agreement among StCom that January is better to avoid the February 15 target date. This needs to be revisited in 2009 once the new R2K program announcement is published.

9:30 AM – Time Critical Studies (K. Rubin, D. Fornari), .ppt presentation

- Review of the final report for Time Critical Studies, which he (KR) can make available. (NB this will be posted on the R2K site – Jim Cowen will be contacted and he will provide it).
- The R2K mid-term review recommended to continue TCS but to refocus, move toward hypothesis-driven questions, integration and synthesis of existing datasets to get to the next level of understanding.
- Next activities would be to submit another proposal for TCS.
 - If another proposal isn't funded, there wouldn't be funds to respond to an event
 - NSF does provide funds for rapid response to major events, i.e. Hurricane Katrina, the funding structure is similar to SGERs.
 - Effort should be made to engage new members, including scientific community outside of R2K.
- Hypotheses from the first TCS proposal were not fully addressed, because there wasn't an opportunity (i.e., megaplumes), so those questions still remain.
- NEPTUNE Canada will provide an opportunity to monitor Juan de Fuca Ridge, but there was general agreement to continue TCS as part of Ridge 2000 as well.
 - Other opportunities may exist for monitoring through SOUSUS and ESONET.
 - Will remove “Northeast Pacific” from the Program Announcement to encourage a broader range of TCS.

- Results of present TCS efforts are currently discussed on the R2K website (JdFR) and being published. Need to improve TCS website material on R2K site, the program office will do this as part of their restructuring of the R2K website.
- Scientific community may not realize that there is no longer an umbrella proposal that covers TCS activities, so StCom will write a letter that is widely disseminated to encourage proposals for TCS.

10:30 AM – StCom Membership Rotations (D. Fornari, D. Blackman)

- Mullineaux, Michael, Metaxas, Resing, Wilcock, Girgus would normally rotate off after 2008, each had the opportunity to comment, and all decided that they would rotate off and would like to see their expertise represented by new members on the StCom.
- Discussion of nominees and other solicitations from the community to fill gaps left by members who would rotate off and focus of the Ridge 2000 Program on integration and synthesis.
- Consideration of reducing the size of the StCom and adding a member of the DMO as a member of the StCom.
- Discussion of a nominated a second US representative to InterRidge- there had only been one US representative, the Ridge 2000 chair, while the InterRidge Office was located at WHOI and two US scientists, Jian Lin and Chris German, were co-chairs.
- All agreed to continue paying member dues to InterRidge and to have a second representative, but will decide later who that person will be depending on new StCom membership.
- Emily Hooft will serve as US liaison for MoMAR activities, suggestion for more information about InterRidge on the R2K website and cross-linking. The R2K office will do this.

Break

Budget for the Ridge 2000 Program Office at WHOI (D. Fornari)

- Overview description of the budget for the R2K office at WHOI was presented.
- Two sub-awards- one for Liz Goehring for the limited EPO activities that were felt to be important to retain in the program, one for Bob Arko at LDEO to manage the R2K website.
- Will go through the website to make edits and updates without changing the look or feel of it, will solicit input from the StCom and the community.
- Will test different web-conferencing programs (e.g. ReadyTalk, WebEx, GoToMeeting) to facilitate meetings and discussions and reduce travel costs.

Expenditures for the Ridge 2000 Program Office at SIO (D. Blackman), .ppt presentation

- Review of costs, primarily salaries, workshops/meetings, and education & public outreach.
- Expecting to have residual funds from SIO to transfer to WHOI in a category that will not incur overhead costs and will facilitate integration and synthesis, such as participant support for meetings or data management.
- Discussion about a glossy and/or web document that summarizes the successes of the program. This will be discussed in 2009 with StCom and compilation of ‘successes’ can be an ongoing effort headed by the R2K office.
- Suggestion to resurrect the documents from the RIDGE program and make them available on the web- materials have been transferred to WHOI and they will do it early in 2009.

12:00 PM – Education and Public Outreach (EPO) (L. Goehring, K. Phillips, D. Fornari, B. Govenar)

Overview of EPO activities in the next phase of the Ridge 2000 Program (D. Fornari)

- Mid-term review said good things about EPO, but budget is limited and focused on integration and synthesis activities, so the ongoing R2K EPO scope will be reduced to primarily GLOBE/FLEXE and DLS.
- DLS will continue, but the number of speakers may be reduced in 2009. 2008 speakers are set and lecture schedules are being organized by speakers and Breea Govenaar at WHOI office.

Presentation of GLOBE/GLEXE (L. Goehring); handout, .ppt presentation

- FLEXE is a 4-year grant, beginning third year, to bring R2K in partnership with GLOBE, focused on K-12 audience, students and teachers.
- GLOBE started to collect real data, protocols from a variety of scientists, there are more than 50 protocols, students have been collecting data in a variety of categories, all studying their environments. International program in 110 countries, there are partners, for every country has a coordinator, which has a network of scientists that work with teachers, who work with students.
- Co-PI with Goehring on FLEXE/GLOBE is a science education faculty member at PSU.
- First unit focuses on energy transfer, with 4 FLEXE Forums, trained teachers on Adobe Connect.
- Opportunities for scientists to get involved, without creating any materials, in the process of building the activities in two new units, which have already been planned.
- Collecting what they write, so we have writing samples, peer review, embedded evaluation to look at their progress (no results yet), plan to publish on the results in Science Education journals.

Discussion about other EPO opportunities

- EG can write a description of different roles and it would be great for community to plug in, suggestion for a subcommittee or an advisory committee from StCom.
- Can pursue other funding for EPO.
- Articles for popular science literature, not all to be generated by R2K office, but to stimulate ideas and participation.
- Other venues for outreach through NY Times “Science Tuesday” and NPR “Science Friday”.

Presentation of Distinguished Lecturer Series (K. Phillips), .ppt presentation

- Overview of the purpose and goals.
- 2009 DLS applications managed by SIO, scheduling and organization will be managed by WHOI.
- R2K office provided a packet to each speaker with tips on speaking to public audiences, slides about the R2K Program, and sometimes graphics for posters or other advertisement to the host institutions.

12:30 PM – LUNCH (off-site)

1:30 PM – Marine Protected Areas (A. Metaxas and J. Seewald)

Update about activities at Lau Basin ISS (J. Seewald)

- Nautilus Minerals had a field season for exploration, just following the ISS workshop
 - Nautilus had contacted JS about the experiments on the seafloor, which were said not to have been touched.
 - Nautilus is interested in collaborating with scientists, example of 12 days added to a funded field program.
- Contacted Neptune (mining company), but they do not currently have plans for ELSC.
- Teck Cominco (mining company) found areas N and E that are closely related with seamounts and the arc, more closely related geologically to what has been found in Manus Basin.
- Tongan representative asked to contact R2K office as well as Site Coordinator (JS).
- Next cruises in 2009 to ELSC will be on the R/V Thompson.

Update about activities at Endeavour ISS (A. Metaxas)

- Technical Advisory Committee for Fisheries and Oceans (DFO) in Canada is close to developing a management plan for Endeavour, but it is complicated by how different Endeavour is from other MPAs.
 - For scientists, the application process to work at Endeavour has not limited research.
 - DFO would like to develop a database and may want to link to the R2K Data Portal.
- Considerable ship time has been planned in 2009 to instrument Endeavour for NEPTUNE Canada
 - A conference call with Canadian Coast Guard will determine ship availability.
 - NEPTUNE Canada will employ the R/V Thompson for some of that work.

2:00 PM – Support for participants to external, related workshops (D. Fornari)

- Review of three requests for funding- one from Haymon/Christeson at UTIG to help support a MOR drilling proposal, the second was a request from Maurice Tivey at WHOI to help support a workshop on the impacts of deep-sea mining, and the third was a request for support for a vent biology meeting to be held in Okinawa Japan in 2009.
- Consensus of the StCom is that all are worthy activities for R2K to support, but the budget is limited and not all of the objectives are directly tied to the focus of integration and synthesis in the next phase of the program.
- Some support may be provided to these requests after other sources of funding have been explored. The R2K Program Office will provide letters of support to these PIs and will follow up with them and with StCom regarding what support, if any can be provided.

Report from InterRidge (D. Blackman)

- Reviewed highlights of InterRidge StCom meeting held at Woods Hole in Oct 2008.
- Proposals are being accepted to host IR office, which even could be a different location in the US.

Other announcements (D. Fornari)*AGU Fall Meeting*

- StCom members encouraged to spend time at the R2K booth.
- E-mail will be sent to the community with a reminder of sessions, R2K booth, and MGDS booth.

ISOCs and future meetings

- Technology can help reduce costs and increase the number of meetings.
- Web-conferencing capabilities, travel to a closer location or institution that has video conferencing capabilities, facilitation by R2K office.
- Workshops are needed that will allow for some time to meet by ISS-specific PIs but also to foster research that integrates across ISSs as well as various disciplines.
- ISOC chairs will summarize the workshop reports into Executive Summaries and they will be posted on the R2K site.

References database

- Gather references from R2K website, workshop reports, and make sure everything is available through the Data Portal.

3:30 PM – Closing remarks and Adjourn