

IODP Science Advisory Structure Executive Committee

9th Meeting, 15-16 June 2009

Somerset Palace Seoul

Seoul, Korea

Science Advisory Structure Executive Committee - SASEC

Shoji Arai	Kanazawa University, Japan
Nicholas Arndt	Laboratoire de Géodynamique des chaînes Alpines, France
Keir Becker	University of Miami, USA
Se Won Chang (observer)	Korea Institute of Geoscience and Mineral Resources (KIGAM), Korea
Jan Willem de Leeuw	Royal Netherlands Institute for Sea Research (NIOZ), The Netherlands
Gabe Filippelli (non-voting)	Indiana University-Purdue University Indianapolis, USA
Susan Humphris	Woods Hole Oceanographic Institution, USA
Kenji Kato	Shizuoka University, Japan
Hiroshi Kitazato	Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan
Terry Quinn	University of Texas at Austin, USA
Rasik Ravindra	National Centre for Antarctic & Ocean Research, India
Maureen Raymo (chair)	Boston University, USA
Jianzhong Shen (observer)	Ministry of Science and Technology (MOST), China
Kiyoshi Suyehiro (non-voting)	IODP Management International, Inc., Tokyo Office, Japan
Yoshiyuki Tatsumi	Institute for Research on Earth Evolution, JAMSTEC, Japan
Chris Yeats (observer)	Australian Resources Research Centre, CSIRO, Australia
Unable to attend	

Liaisons, Observers, and Guests

Jamie Allan	National Science Foundation (NSF), USA
Rodey Batiza	National Science Foundation (NSF), USA
Connie Bertka	Deep Carbon Observatory Initiatives, USA
Richard Coleman	Australian Research Council, Australia
David Divins	Consortium for Ocean Leadership, USA
Dan Evans	ECORD Science Operator, British Geological Survey, United Kingdom
Neville Exon	Australia-New Zealand IODP Consortium, Australia
Jun Fukutomi	Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan
Dave Goldberg	Lamont-Doherty Earth Observatory, USA
Shinji Hida	Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan
Yoshio Isozaki	Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan
Hiroshi Kawamura	IODP Management International, Inc., Sapporo Office, Japan
Yoshi Kawamura	IODP Management International, Inc., Tokyo Office, Japan
Shin'ichi Kuramoto	Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan
Ian Ridley	National Science Foundation (NSF), USA
Hans Christian Larsen	IODP Management International, Inc., Sapporo Office, Japan
Catherine Mével	ECORD Managing Agency (EMA), Institut de Physique du Globe de Paris (IPGP), France
Julie Morris	National Science Foundation (NSF), USA
Takashi Nakagawa	Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan
Seung Il Nam	Korea Institute of Geoscience and Mineral Resources (KIGAM), Korea
Dhananjai Kumar Pandey	National Centre for Antarctic and Ocean Research (NCAOR), India
Yusuke Sakai	Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan
Shingo Shibata	Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan
Deborah Smith	National Science Foundation (NSF), USA
Barry Zelt	IODP Management International, Inc., Sapporo Office, Japan

IODP Science Advisory Structure Executive Committee

9th Meeting, 18-19 January 2010

Somerset Place Seoul, Seoul, Korea

Draft Executive Summary v1.0

1. Introduction

1.5. Approve SASEC meeting agenda

SASEC Consensus 1001-01: SASEC approves the agenda with minor changes for its ninth meeting on 18–19 January 2010 in Seoul, Korea.

1.6. Approve last SASEC meeting minutes

SASEC Consensus 1001-02: SASEC approves the minutes of its eighth meeting on 15–16 June 2009 in Washington, D.C., USA.

6. Approval of new SPC vice-chair

SASEC Motion 1001-03: SASEC unanimously approves the appointment of the new vice-chair of SPC, Dr. Junzo Kasahara.

Humphris moved, Becker seconded; 10 in favor (Arai, Arndt, Becker, de Leeuw, Humphris, Kato, Kitazato, Quinn, Raymo, Tatsumi); none opposed; 2 non-voting (Filippelli, Suyehiro)

7. Board of Governors

7.2. SASEC discussion of BoG request(s) to SASEC

SASEC Consensus 1001-04: SASEC requests that SPC/OTF develop and present to SASEC in June 2010 a small number of alternative drilling schedules for the remainder of IODP through 2013 that incorporate the highest priority science to be completed before the end of the program.

The first-order guiding principle for recommending expeditions for scheduling by 2013 should be scientific excellence, and a very high likelihood of having a major scientific impact in an ISP theme or initiative.

Other guiding principles, consistent with the 2008 SASEC Implementation Plan for IODP Expeditions 2008-2013, include:

- Accomplishing the best and most exciting science consistent with the program's resources
- Demonstrating an integrated and interdisciplinary approach
- Meeting objectives of high societal relevance.

In developing the alternative scheduling scenarios, SPC/OTF should:

- 1) Review and evaluate how well each theme and initiative of the Initial Science Plan has been addressed to date, what specific questions have been answered, and what specific questions remain;
- 2) Identify which proposed drilling projects that are mature enough to be scheduled between 2011 and 2013, could make a significant contribution to accomplishment of a major ISP theme or initiative, thereby helping build the case for renewal;
- 3) Consider from a strategic perspective which proposed drilling projects should be part of

the drilling schedule to best position IODP for its successor program.

10. Annual program plan

10.1. Appoint new members of Budget Subcommittee

SASEC Consensus 1001-05: New SASEC budget subcommittee members will be: Keir Becker (Chair), Jan Willem de Leeuw, Hiroshi Kitazato, and Gabe Filippelli. Yoshi Tatsumi continues as the BoG representative on the subcommittee.

11. Program renewal

11.1. IWG+ report

SASEC Consensus 1001-06: Terry Quinn and Chris Yeats volunteer to be available “on call” to IWG+ for consolidation and summarization of community input to the IWG+ email account.

11.2. INVEST meeting report

SASEC Consensus 1001-07: SASEC wishes to express its sincere thanks to the INVEST Steering Committee, and in particular the co-chairs Christina Ravelo and Wolfgang Bach, for the incredible amount of work that they put in to organize and run the largest scientific ocean drilling meeting ever held. Managing a meeting of close to 600 people is no mean feat – and it was conducted flawlessly. The Steering Committee provided an intricate, yet exceptionally conducive, set of working groups to encourage cross-fertilization of new scientific ideas that will focus the science of the new drilling program.

SASEC would also like to thank Gerold Wefer for hosting the meeting at the University of Bremen. With his calm demeanor under all circumstances, Gerold masterfully ensured that rooms in multiple buildings were available for meetings, an extraordinary dinner in the storage area was a big success, and that the demands for interviews by the press were met.

Through the wonderful efforts of all, the success of INVEST has provided a great platform for the next generation of international scientific ocean drilling.

11.3. Current status and recommendations for Science Plan Writing Committee (SPWC)

SASEC Consensus 1001-08: IODP-MI will distribute the INVEST report to SASEC and other SASEC meeting attendees. Comments and suggestions for SPWC should be forwarded to Raymo and Larsen before 1 February 2010 for conveyance to the SPWC.

13. Report of subcommittee assessing models for post-2013 proposal evaluation process

SASEC Consensus 1001-09: Keir Becker will report on the conclusions of the Second Triennium Review Committee and update SASEC at its June meeting on any related activities relevant to SAS structural reorganization for the future program.

SASEC Motion 1001-10: SASEC accepts the report of the Subcommittee Assessing Models for post-2013 Proposal Evaluation Process and forwards it to IWG+. We thank the subcommittee for their efforts in crafting a very thorough report.

Quinn moved, Humphris seconded; 10 in favor (Arai, Arndt, Becker, de Leeuw, Humphris, Kato, Kitazato, Quinn, Raymo, Tatsumi); none opposed; 2 non-voting (Filippelli, Suyehiro)

15. SASEC terms of reference: suggested changes

SASEC Consensus 1001-11: The SASEC forwards the following suggested changes to the SASEC terms of reference to the BoG.

* Section 4 Membership, Line 10; “China and South Korea (Asian Consortium) will be ...” to “associate members will be...”

* Section 7 Meetings, Line 1; “meet three times a year” to “twice a year”.

18. Review of action items, motions, and consensus statements

SASEC Consensus 1001-12: SASEC thanks Nick Arndt for his service over the last two years. Nick, who has been interested in komatiite genesis and earth evolution, is now acting as an anchor in the IODP. He also has been contributing a lot to the future proposal evaluation and science advisory systems of ocean drilling as a member of a subcommittee of SASEC. We are sincerely looking forward to seeing his further contributions to ocean drilling not only as an ECORD key person but also a petrology/geochemistry expert.

SASEC Consensus 1001-13: SASEC thanks Barry Zelt for his excellence in all aspects of his job at IODP-MI. We will miss his abilities as an efficient, accurate, and thorough Science Coordinator, and we wish him the very best as he moves forward with his career.

SASEC Consensus 1001-14: The SASEC extends its deep gratitude to Dan Evans for his tireless service to IODP. In particular his ability to successfully deliver and manage mission specific platforms has enabled new frontiers of science to be pursued in the program. His experience and guidance will be missed. We wish him all the best in his retirement.

SASEC Consensus 1001-15: SASEC thanks our host Dr. Se Won Chang for organizing a beautiful and efficient venue for our meeting with comfortable beds, fantastic foods, and awe-inspiring palaces nearby. We all look forward to tonight’s reception to reflect on a successful meeting and thank him sincerely for all his efforts on our behalf.

Science Advisory Structure Executive Committee

9th Meeting, 18-19 January 2010

Seoul, Korea

Draft Meeting Agenda (v1.5)

Monday	18 January 2010	09:00-17:00
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1. Introduction

1.1. Call to order and opening remarks

Maureen Raymo called the meeting to order at 09:00.

1.2. Introduction of participants

All meeting participants introduced themselves.

1.3. Welcome and meeting logistics

Local host Se Won Chang welcomed the meeting participants to Seoul and reviewed meeting logistics.

1.4. Rules of engagement (Robert's rules, COI policy, etc.)

Maureen Raymo presented an Integrated Ocean Drilling Program (IODP) acronym list. Raymo noted that the Science Advisory Structure Executive Committee (SASEC) terms of reference are in the agenda book. She explained that SASEC will discuss the SASEC terms of reference tomorrow and asked members to read it that evening.

Raymo explained that the meeting will follow Robert's Rules of Order and asked all participants to speak slowly.

Raymo summarized the SASEC conflict-of-interest (COI) policy and asked committee members to declare any potential conflicts. Raymo declared that she is a proponent of IODP Proposal 595-Full3. Keir Becker declared that he is a proponent of IODP Proposals 734-APL and 762-APL. Yoshi Tatsumi declared that he is the lead proponent of IODP Proposal 698-Full2 and other Izu-Bonin-Mariana (IBM) proposals.

1.5. Approve meeting agenda (Raymo) 5 min

Maureen Raymo asked if there were any suggested changes to the meeting agenda. Chris Yeats noted that he presented the Australian Research Council (ARC) report. Raymo noted the need to reserve a few minutes for the second part of the National Science Foundation (NSF) report given by Debbie Smith.

SASEC Consensus 1001-01: SASEC approves the agenda with minor changes for its ninth meeting on 18–19 January 2010 in Seoul, Korea.

1.6. Approve last meeting minutes (Raymo) 5 min

Maureen Raymo asked if there were any suggested changes or corrections to the draft minutes from the June 2009 SASEC meeting. No changes or corrections were suggested. Jan Willem de Leeuw commented that he read through the draft minutes and that they were very helpful for new members. He thanked Barry Zelt for his excellent minute taking.

SASEC Consensus 1001-02: SASEC approves the minutes of its eighth meeting on 15–16 June 2009 in Washington, D.C., USA.

1.7. Review of items approved since last meeting

Maureen Raymo reviewed background of SASEC Consensus 0911-01 and noted that all invited members agreed to serve on the Science Plan Writing Committee (SPWC). Raymo noted that the committee members are extremely committed to the program and willing to donate their time to do a really big job.

Mararu Kato asked how SASEC elected the chair of SPWC. Maureen Raymo replied that the International Working Group Plus (IWG+), in consultation with IODP-MI, decided that Mike Bickle would be the chair of the SPWC. Raymo noted that SASEC would hear more about the activities of SPWC later in the meeting when talking about future planning.

SASEC Consensus 0911-01: SASEC recommends to the IWG+ that the following slate of candidates be invited to participate in the Science Plan Writing Committee tasked with writing a science plan for a future ocean drilling program:

Christina Ravelo	Neogene paleoclimatology, isotope geochemistry, INVEST SC
Heiko Pälike	Paleogene, Arctic, paleoclimate, INVEST SC
Rob DeConto	Paleoclimate modeling, CO ₂ climate sensitivity, cryosphere evolution
Fumio Inagaki	Deep biosphere, INVEST SC
Katrina Edwards	Microbiology, INVEST SC
Naohiko Ohkouchi	Biogeochemistry, ocean chemistry, LIPs, impacts
Andy Fisher	Fluids, crustal evolution
Damon Teagle	Ocean crust, Moho, fluids
Mike Bickle	Hydrothermal, CO ₂ sequestration, climate-tectonic links, LIPs
Demian Saffer	Subduction, seismology, geohazards, NanTroSEIZE
Gilbert Camoin	Sea level, INVEST SC
Peter Barrett	Societal impacts, IPCC linkages
Shuichi Kodaira	Seismic imaging, crustal evolution, geophysics
Richard Arculus	Arc magmatism

2. Highlights of funding agency reports

2.1. NSF – United States Jamie Allan explained that there are two parts to the NSF report: (1) the report as read that includes Government Performance and Results Act (GPRA) ratings and (2) a report on the NSF Ocean Drilling small grants program by Debbie Smith. Allan introduced Ian Ridley as the newest addition to the NSF staff and then invited questions from SASEC.

Gabe Filippelli was intrigued by the acronym GPRA and asked for clarification. Allan replied that GPRA stands for Government Performance and Results Act and that it is a statistic calculated from planned hours of scientists at sea divided by actual hours at sea. Allan noted that the GPRA of the US Implementing Organization (USIO) is usually 95%; however, the GPRA increased to 99% recently. Filippelli asked if people in government look at the GPRA. Allan said yes. Allan noted that the recent GPRA is really a spectacular result, showing that all the hours spent in the shipyard overcoming problems was time well spent.

Debbie Smith presented an overview of the NSF Ocean Drilling small grants program and reviewed recently funded projects. Smith noted that the objective of this program is to fund

activities such as workshops, education and outreach, site surveys, downhole studies (geophysical, geochemical), and research related to expedition objectives. NSF feeds most of its funding into the US Science Support Program (USSSP) at the Consortium for Ocean Leadership. Smith explained that proposals for these activities come directly to NSF. Smith also showed a breakdown of US participants in the INVEST meeting and reviewed the Distinguished Lecturer series. Smith noted that USSSP held an IODP short course (primer) prior to the 2009 American Geophysical Union (AGU) fall meeting and approximately 30 participants, including some international participants, attended the short course.

Raymo commented that it was mentioned at the Asian Pacific IODP Consortium (APIC) planning meeting that many people do not know how to get involved in the program and asked if this primer course could be exported to new member countries and potential member countries. Rodey Batiza replied that this short course was primarily for the US community, but it could be adapted for these countries and that the Consortium for Ocean Leadership would probably be happy to share resources with someone that would want to put something together.

Smith reviewed activities related to Schlanger Fellowships. She explained that after funded research is completed, fellows are invited to Washington D.C. to present initial results. Terry Quinn asked if NSF tracks how many of the Schlanger students later become involved in ocean drilling. Smith replied that the Consortium of Ocean Leadership does track their carriers and Schlanger fellows are normally quite successful.

2.2. MEXT – Japan

Takeshi Nakagawa first introduced Shingo Shibata as the new director for IODP at the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Shibata started his new role in August 2009. Nakagawa introduced three parts to report: NanTroSeize, INVEST, and the IODP campaign. Nakagawa reviewed the NanTroSEIZE Stage 2 expedition. He noted that NanTroSEIZE Stage 2 was the first riser operation in the history of scientific drilling. Next Nakagawa reviewed Japan Drilling Earth Science Consortium (J-DESC) activities toward program renewal. Finally Nakagawa introduced the Japanese domestic IODP campaign in 2009, which was held in Ehime, Japan.

Nakagawa noted recent changes in Japan government resulted in review of all government funding programs. He thanked the IODP scientific community for voicing their opinions in support of DV *Chikyu*.

Susan Humphris asked how a university is selected to host the IODP campaign, specifically whether universities have to apply or if J-DESC chooses. Nakagawa replied that he does not know the answer. Yoshi Tatsumi replied that universities have to apply to host such activities.

Jan Willem de Leeuw asked for clarification about NanTroSEIZE Stage 4. Jun Fukutomi explained that long-term observatory systems will be installed during Stage 4 and that the main purpose of Stage 4 is real-time monitoring of earthquakes for scientific and national security purposes (i.e., disaster prevention).

2.3. EMA - ECORD

Catherine Mével apologized for not submitting a written report, noting the deadline was just after the European Consortium for Ocean Research Drilling (ECORD) council meeting and the deadline was very tight.

Mével explained that the chair of ECORD rotates every 6 months and that the new chair and vice chair are now in place. She also noted that the ECORD Science Support and Advisory

Committee (ESSAC) has a new office (Bremerhaven, Germany), new chair (Ruediger Stein), and new scientific coordinator (Jenny Lazius).

Mével reported outcomes from the November 2009 ECORD Council meeting in Rome, Italy. She reported that the council decided that it would like to implement two more Mission-Specific Platform (MSP) expeditions after the Great Barrier Reef (GBR) expedition. She also noted that ECORD began scoping of IODP Proposal 716-Full2 Hawaiian Drowned Reef. She reported that ESSAC has an open call to host the 2011 ECORD Summer School and that a limited number of scholarships for students to attend the summer school are also available. She also reported the ECORD Distinguished Lecturer Program. Achim Kopf, John Parkes, and Peter Clift were selected as lecturers for this year. She also noted that ECORD currently has an open call for nominations of the next distinguished lecturers.

Mével reviewed the status of the European Science Foundation (ESF) funded Magellan workshop series. She noted that the Magellan program ends in 2010 and ECORD is now talking to ESF to see how it can be extended.

Mével mentioned the report prepared for INVEST meeting (ECORD white paper) and reviewed planned activities for the May 2010 European Geosciences Union (EGU) meeting in Vienna. She reported that for the May 2010 EGU meeting, IODP and the International Continental Scientific Drilling Program (ICDP) jointly organized a dedicated session called "EuroFORUM 2010" where all European scientists who are interested in ocean drilling can meet and present their results.

Mével reported that the ECORD Council is getting ready for new program and decided to conduct independent evaluation of ECORD scientific achievements.. She reported that agreement in principle was reached to continue the consortium and to fund one MSP per year. She noted that ECORD plans to use *Aurora Borealis* if available. She also noted that the Deep Sea and Sub-Seafloor Frontier (DS3F) program led by Achim Kopf was recently funded (1 million Euro over 2.5 years) at the European Commission level.

Finally, Mével noted that Dan Evans is retiring and Bob Gatliff (BGS) would assume Dan Evans' role beginning in April 2010.

Keir Becker asked for clarification on the ECORD plan for the new program. He asked if there is any plan to expand the MSP concept to include seafloor drilling? Mével replied that the ECORD Council is interested, but cannot decide by itself. She continued that this is an international program, therefore needs international support. Hans Christian Larsen noted that a proposal is already in the system to use seafloor drilling.

Hans Christian Larsen questioned the difference between the two ECORD reviews. Mével replied that the first was on ECORD structure and the second will be on scientific achievements.

Susan Humphris asked for a brief update on status of planning of *Aurora Borealis*. Mével explained that this project is led by Germany and is on the priority list for large infrastructure. She added that there is financial support at the preparatory stage but no commitment yet for construction.

Maureen Raymo asked if NSF has grants to send US students to the ECORD International Summer School. Jamie Allan replied that the USSSP Small Grants program supported some US students to attend the summer school.

2.4. MOST – China

Jianzhong Shen was not present at the meeting, so there was no report from the Ministry of

Science and Technology (MOST).

2.5. KIGAM - Korea

Se Won Chang reported that the Korea Institute of Geoscience and Mineral Resources (KIGAM) signed a new Memorandum of Understanding (MOU) for 2009-2013 as an associate member at the rate of \$1M US/year. Chang noted that contribution of KIGAM will be \$1M US for 2010. Chang reported that K-IODP is working on a new science plan and that they intend to submit the finalized plan in March to governmental agencies. He also reported that K-IODP is in discussion with other countries (Australia, New Zealand, Taiwan, China, India) about possibly forming an APIC. He reported that Korean scientists held a symposium with Japanese scientists in order to prepare a proposal for Okinawa Trough.

2.6. ARC - Australia

Chris Yeats presented the current status of the Australia-New Zealand IODP Consortium (ANZIC). Yeats provided update of the ANZIC funding situation and noted that ANZIC now has some funding for post-cruise science available.

Yeats reviewed the current organizational structure of ANZIC and noted Richard Coleman is the Australian Research Council (ARC) representative. He mentioned of the ECORD distinguished lecturers was from ANZIC and his lectures had been well-received in Australia.

Yeats reviewed long-term plans for ANZIC including an ANZIC INVEST white paper. He mentioned that two ANZIC scientists, Richard Arculus and Peter Barrett, are on the SPWC and that Geoff Garrett is a member of the Second Triennial Review Committee. Yeats reported that Australia is planning to build a new research vessel with some seismic capability in 2013.

Yeats commented on the APIC initiative and suggested that the title of APIC should perhaps be "Indo" Pacific IODP Consortium. He noted that that ANZIC aims to get the equivalent of a full membership in the new program.

Nick Arndt questioned the absence of China at the APIC meeting. Kiyoshi Suyehiro explained that the Chinese representative could not attend the meeting due to a visa issue. Yeats added that ANZIC has received mixed messages from China such as they are building their own drill ship and getting a full membership on their own.

Yeats noted that India has not decided on how to participate in IODP. Neville Exon noted that the Indian representative (Dhananjai Kumar Pandey) was very positive about IODP. Pandey noted India is drafting a science plan and India has not decided whether or not to join APIC.

3. Highlights of IODP-MI report

3.1. Program management update

Kiyoshi Suyehiro noted that the agenda book contains the IODP-MI Third Quarterly report and that the Fourth Quarterly report is available on the IODP website.

Suyehiro reviewed function of the central management organization, the current status of IODP-MI, and future outlook. Suyehiro noted that Hans Christian Larsen oversees all Science Advisory Structure (SAS) support, operations, data management, and outreach and

Yoshi Kawamura joined IODP-MI as operations manager on 1 January 2010.

Suyehiro introduced the new IODP-MI Tokyo office at the Tokyo University of Marine Science and Technology. He described the functions of the main office and noted that main functions of the Sapporo and Washington D.C. offices will be merged into the Tokyo office. He also noted that the new office will provide cost savings for the program.

Suyehiro reviewed milestones and listed challenges ahead. One of the challenges is planning for projects that require long lead time. He said that it is easy to say, but very difficult to put into practice.

Suyehiro introduced IODP-MI core values:

Open: *IODP is a multi-national multi-cultural program. We operate in an open, transparent and fair manner in order to gain trust and confidence from the IODP community.*

Ocean: *IODP is engaged in unique scientific venture in the oceans. The ocean holds the key to better understanding of the Earth system; vital knowledge for the societies around the globe.*

Uniting: *IODP operates by coordination of SAS, IOs, Members and the scientific community at large. It is critically important that these constituents collectively work towards success of the program. CMO must be the central uniting body to manage, facilitate, and coordinate the efforts made by these constituents.*

Inspiring: *IODP is exciting science. IODP is open to emerging science and new technology. IODP must inspire the next generation of researchers and the general public for support.*

International: *IODP is only possible through international cooperation and, therefore, it is the most important aspect of the IODP. Think of the highest possible achievements through international partnership.*

Suyehiro listed key issues towards program renewal and acknowledged that a complex body of diverse constituents exists, so IODP needs to be adaptive to the diverse needs.

Nick Arndt questioned if there is a plan for preparing for long lead-time projects? Suyehiro replied that he was not sure if IODP-MI would manage the next program. Suyehiro noted that important thing is to start planning now for projects with components that require long lead time (e.g., engineering development). Yeats questioned if engineering development should continue and proposals should be accepted for the rest of program. Suyehiro replied that was an issue for IWG+.

Yoshi Tatsumi stressed the importance of a smooth transition from two IODP-MI offices into one consolidated IODP-MI Tokyo office and asked if most people will migrate to the Tokyo office. Suyehiro replied yes.

Maureen Raymo commented that SASEC has a lot to do with planning for renewal later in the meeting and that IODP-MI will be a very important player.

3.2. Science planning and operations update

Hans Christian Larsen noted that the IODP-MI Board of Governors (BoG) had charged SASEC to come up with a long-range plan for the remaining three years of the program (2010-2013).

Larsen reviewed current statistics of active proposals and Site Survey Data Bank (SSDB) activities. Larsen commented that these statistics show that the community is still engaged at

an acceptable level.

Larsen presented the *JOIDES Resolution (JR)* schedule and *Chikyu* schedule for late Fiscal Year (FY) 2010 and 2011. Larsen noted that due to complex operational issues (e.g., Kuroshio Current speeds up to 5 knots) the yellow options are preferred and that the current main focus is Case 2, although there is a big question mark around this. Larsen noted that because of a top-level governmental review of scientific projects in Japan, it is not clear what funding will be available and when. Larsen noted that the current plan is to start operations around 1 June 2010.

Keir Becker asked if IODP Proposal 601-Full2 and 505-Full5 options are all non-riser drilling. Larsen answered yes and explained that 601-Full2 was preferred because of special capabilities of the *Chikyu* (e.g., remotely operated vehicle (ROV) and high temperature capabilities). Larsen added that the USIO cannot drill Okinawa with current technology.

Larsen presented current Operations Task Force (OTF) activities, including those of the NanTroSEIZE Project Management Team (PMT), and noted that IODP-MI's perspective is that long-range planning must be documented in terms of science, readiness, and fiscal requirements in order to help long-range operation and fiscal planning. Larsen added that this approach would allow funding agencies to make stronger arguments to secure funding for relevant activities (e.g., for site surveys). Larsen noted IODP Proposal 537A-Full5 CRISP-A and 522-Full5 Superfast will share one expedition by dividing a two-month slot into two mini-expeditions. Larsen added that 537A-Full5 CRISP-A drilling must be able to scientifically stand alone (e.g., not just as preparation for CRISP B riser drilling).

Larsen reviewed proposals currently residing at OTF, Science Planning Committee (SPC), and Science Steering and Evaluation Panel (SSEP) levels. Larsen listed non-riser proposals at OTF, and then removed those proposals not ready to go due to technical, logistical, and/or safety issues. Larsen noted that there are not many proposals left, adding that IODP Proposal 716-Full2 Hawaiian Drowned Reefs is currently the only valid MSP option and that there is no valid option for *Chikyu*.

Larsen listed proposals at SPC and noted that there are a reasonably healthy crop of proposals that can be considered for long-term planning. Larsen presented a geographical distribution of OTF, SPC, and SSEP proposals and noted that several Arctic pre-proposals reside at SSEP.

Gabe Filippelli commented that he was disappointed to see how few Arctic proposals have developed beyond the preliminary proposal stage. Larsen agreed with the comments by Filippelli and commented that he does not know reason, but this might be due to difficulties obtaining proper site survey data in the Arctic. Terry Quinn commented that this might be due to the deficiencies in the system.

Keir Becker asked for clarification about the charge from BoG. Larsen replied that Yoshi Tatsumi would present it later in the BoG report. Maureen Raymo commented that the BoG requested that SASEC and others plan out straw schedules through the end of the program. Raymo added that OTF has a schedule until the beginning of FY12 and therefore SPC and OTF need to schedule for the last 18 months. Raymo noted that there was no specific agenda item for this matter and suggested discussing it now.

Larsen requested SASEC come up with some guiding principles for planning the last 18 months of IODP. Filippelli agreed with Larsen's comment but was not sure what would be most useful for the SPC. Larsen asked if SASEC should provide guiding principles for which oceans USIO should investigate until the end of program and which MSP proposals should be implemented. Larsen added that for *Chikyu* it is NanTroSEIZE, but that it is so ambitious,

technically difficult, and fiscally burdening that it therefore needs detailed fiscal planning to see what is feasible.

Keir Becker agreed with Filippelli and commented that SASEC does not know the proposals. Becker suggested that SPC develop 2 or 3 models of what could be done and explain to SASEC the science involved with each schedule. Becker mentioned SASEC's previous efforts at specifying science priorities (SASEC Implementation Plan). Becker requested wording of the BoG request.

Terry Quinn agreed with Becker and commented that he would also like to see several scheduling scenarios from SPC. Quinn commented that guiding principles already exist and SPC and OTF should not consider proposals that are technically not possible in this timeframe.

Nick Arndt questioned if SASEC should be talking not only about what can be done through the end of program, but also during transition to new program. Maureen Raymo replied that if SASEC has a clear view of the shiptrack until the end of the current program, it can then turn (in 2011) to planning for new the program. Raymo added that this would allow the new program to "hit the ground running". Raymo stressed that it would be very valuable to have a clearly defined plan to end of the current program. Raymo asked how many *JOIDES Resolution* expeditions expected to be done in 18 months. David Divins replied probably 7 expeditions not counting IODP Proposal Mediterranean Outflow.

Keir Becker commented on the guiding principles and suggested that it might be helpful to review what SASEC said in its Implementation Plan.

Susan Humphris commented that SASEC needed to hear about plans of shiptracks for science but also for non-IODP work and suggested tabling this until after hearing other reports.

Jan Willem de Leeuw commented that as a newcomer he needed much more information and that it is probably not enough to have one set of guiding principles. He suggested having different principles for each platform.

Neville Exon commented that it would be very nice to see some work in the Indian Ocean. Chris Yeats added that there were two proposals in the Indian Ocean.

3.3. Second Triennium Review update

Hans Christian Larsen summarized the mandate of the Second Triennial Review Committee, listed its membership, and presented the meeting schedule.

4. Highlights of implementing organization (IO) reports (including synopsis of recent IODP operations and non-IODP work)

4.1. USIO

David Divins presented scientific highlights of IODP Expeditions 320 and 321 Pacific Equatorial Age Transect (PEAT) I and II and results of a successful and productive Operational Review Task Force meeting in Collage Station in December 2009. He reported that IODP Expedition 321T Juan de Fuca cementing at two sites, U1301A and B, was done in preparation for upcoming IODP Expedition 327 Juan de Fuca Hydrogeology. He reported that one hole was sealed and the other was not sealed. Divins presented highlights of IODP Expedition 323 Bering Sea. He commented that Expedition 323 had very high recovery rate of Advanced Piston Corer (APC) coring. He reported that a total of 5741 m of sediment core

was recovered and that was close to the limit of what can be stored on the *JR*.

Divins presented highlights of IODP Expedition 324 Shatsky Rise. He reported that they had good basement recovery (about 53%) and it was the first successful re-entry in IODP. He noted that this expedition will help constrain how the Large Igneous Province (LIP) was formed. Divins reported that IODP Expedition 317 Canterbury Basin was just completed a few weeks ago and that during the expedition they set a new record for the deepest sediment core drilled in DSDP, ODP, or IODP (1927 m). He also reported that a new record was set for the deepest (1925 m) microbiology sample taken.

Divins gave an update of the plan for IODP Expedition 318 Wilkes Land.

Divins reviewed the upcoming approved *JR* schedule:

9 March-13 April, 2010 Transit (likely to Victoria)

13 April-2 July 2010 Maintenance

Divins noted that there is a proposal to equip the *JR* with the Riserless Mud Recovery (RMR) system while in the Gulf of Mexico sometime during the May-Aug 2011 period for field trials and that the USIO is looking at work with the British Geological Survey.

Divins summarized USIO personnel changes and noted that Greg Myers will continue a lot of his activities from IODP-MI and noted addition of two communications professionals.

Divins presented a review of port call and educational activities. Divins noted that there were a lot of ship-to-shore activities using video conferencing and reported that 24 conferences have been scheduled for Expedition 318 Wilkes Land.

Divins showed a movie trailer for Expedition 318 Wilkes Land expedition.

4.2. CDEX

Jun Fukutomi gave an update of progress in the NanTroSEIZE project and noted that the first Indian scientist was onboard the *Chikyu* during Expedition 322. Fukutomi summarized achievements of NanTroSEIZE Stages 1 and 2.

Fukutomi reviewed changes in Center for Deep Earth Exploration (CDEX) structure and introduced Wataru Azuma as the new director-general of CDEX.

Fukutomi gave an update of the Kuroshio Current problem and noted a Transocean ship similar to *Chikyu* is limited to working in maximum 2.2 knot currents whereas *Chikyu* may have to drill in much faster currents (up to 5 knots).

Kenji Kato asked about progress on negotiations for use of *Chikyu* for non-IODP use. Fukutomi replied that there is so far no good news. Fukutomi explained that the main problem is that industry would like to hire the vessel for a 2-3 year timeframe. Fukutomi noted that there are many opportunities for spot drilling.

Maureen Raymo asked for clarification about the Kuroshio Current problem such as current speed now and distribution over the year. Fukutomi replied that the Kuroshio Current is frequently over the targeted sites and affects dynamic positioning of *Chikyu*. Fukutomi explained the vibration problem of the riser pipe and noted that if riser pipe is damaged, *Chikyu* must leave the blow-out preventer on the seafloor and then has no way to recover it. Fukutomi explained that Kuroshio meandering is on the order of a few years and it is hard to predict its movement.

Jan Willem de Leeuw asked about ideas for guiding principles for *Chikyu*. Fukutomi replied

that he expected the Kuroshio Current would have to reduce speed or move slightly south to start drilling, noting that to drill to 7 km depth it would require continuous drilling over ~450 days.

Maureen Raymo asked if there is an alternative plan within the NanTroSEIZE project. Hans Christian Larsen said yes and replied that the decision would be made when operations should start. Larsen noted that CDEX is doing everything possible to mitigate effects of the current (e.g., riser fairing, monitors on fairing).

Yoshi Tatsumi asked if CDEX could not find non-IODP work, would it affect NanTroSEIZE drilling. Fukutomi replied that at least this year and next year CDEX would try to continue NanTroSEIZE drilling; however, CDEX does not know how many months of drilling there will be.

Terry Quinn asked when funding for next year would be known. Fukutomi replied in January 2011. Kiyoshi Suyehiro noted that SASEC should assume the *Chikyu* will have on the order of \$100M/year for IODP.

Kenji Kato asked if there is the alternative option for NanTroSEIZE. Hans Christian Larsen replied that currently there is no other mature alternative and added that CDEX is exploring options for dealing with the current. Nick Arndt commented that Larsen is taking a rather optimistic point of view. Larsen replied that there is another riser proposal in the system not forwarded to OTF because it was not highly ranked. Filippelli commented that the community had come up with some good riser proposals; however, these proposals turned out to not be drillable (for non-scientific reasons). Fukutomi commented that CDEX would like to be involved with proponents as early as possible in order to provide early guidance to proponents what is needed for riser proposals (e.g., 3D survey).

Kenji Kato commented that the current SAS framework is not adequate for riser proposals and therefore a new proposal evaluation system is necessary for riser proposals.

Arndt asked if anything could be done to fast-track IBM. Larsen replied that something could be done, but it is a question of funding.

Jan Willem de Leeuw commented that IODP is operating on the edge and needs to formulate Plan B now. Susan Humphris agreed with de Leeuw and suggested non-riser options either within NanTroSEIZE or another project. Larsen commented that currently a non-riser option is Plan B.

4.3. ESO

Dan Evans presented a review of IODP Expedition 313 New Jersey Shallow Shelf and related activities and noted that the expedition operation was overall successful. Evans reviewed the planning process for the Great Barrier Reef Expedition. Evans also reported that the ECORD Science Operator (ESO) began scoping of Hawaiian Drowned Reefs. He explained that New England Hydrogeology was highly ranked but still awaiting site survey. Evans presented six MSP proposals discussed at the November 2009 SSEP meeting.

Keir Becker asked about the status of IODP Proposal 548-Full2 Chicxulub Impact Crater because he thought it was too expensive to implement. Evans replied that he had not seen the revised proposal.

5. SPC report

Gabe Filippelli presented the SPC role in SAS and SPC activities since the June 2009 SASEC meeting. He noted that SPC is taking the approach of flexible implementation seriously. He introduced Superfast/CRISP-A as the first attempt for flexible implementation. He reported that SPC asked IODP-MI to ask proponents of SPC proposals to prioritize their objectives with understanding that they may only get one month of operations.

Filippelli presented alternative approaches to proposal discussion in SPC. He noted that with the current system, proposal discussion tends to fall into a “proposal vs. proposal” mindset, rather than a “global” mindset of which are important proposals to go forward. He also noted that SPC spends too much time redoing reviews that have already been done at SSEP in the current system. He explained an alternative approach aimed at shorten science discussion by supplying a template for watchdogs (e.g., watchdogs get 5 slides/10 minutes to summarize a proposal). Filippelli introduced planned business for the March 2010 SPC meeting.

Nick Arndt commented that SPC needs to start modifying the whole evaluation system for the new program and this would probably require some fairly significant changes in procedures. He stressed that SASEC needs to think about changing the system now in advance of new program.

Rodey Batiza asked Becker for thoughts on the current watchdog system and asked Filippelli if he sees a lot of variability in quality of watchdogs. Filippelli replied yes and commented that that is a problem. Batiza proposed to have a system where proponents give a presentation. Nick Arndt commented that watchdogs normally provide a balanced presentation of proposals.

Jamie Allan commented that SPC members commonly have great difficulty in separating their own internal views of what should be done versus what the Initial Science Plan (ISP) requires be done and that some members have trouble ranking highly outside their own areas of specialization.

Terry Quinn supported the alternative approach and commented weighing the SSEP evaluation higher should be useful. de Leeuw agreed with Quinn.

de Leeuw commented that he like the idea of regional and thematic watchdogs.

Barry Zelt noted that the IODP COI policy currently prevents proponents from presenting their own proposal and pointed out that it would be expensive for Program Member Offices (PMOs) to send proponents and that some might not be able to afford to send all proponents.

Hans Christian Larsen commented that he had been to all SPC meetings and was generally impressed by the process.

Quinn agreed with Larsen and commented that the highest ranked proposal was usually recognized by everyone as something important for the program to do.

Raymo summarized the discussion and asked Filippelli for a report at the June SASEC meeting.

6. Approval of new SPC vice-chair

Maureen Raymo reminded the committee that SASEC Terms of Reference would be discussed tomorrow. She noted that the SPC vice-chair candidate is Junzo Kasahara.

Keir Becker noted Kasahara would be in line to be new SPC chair in 2011.

<p>SASEC Motion 1001-003: SASEC unanimously approves the appointment of the new vice-chair of SPC, Dr. Junzo Kasahara.</p>

Humphris moved, Becker seconded; 10 in favor (Arai, Arndt, Becker, de Leeuw, Humphris, Kato, Kitazato, Quinn, Raymo, Tatsumi); none opposed; 2 non-voting (Filippelli, Suyehiro)

Raymo questioned the status of the SASEC vice-chair. Susan Humphris replied that BoG needed to ask the Japanese PMO for a nomination.

7. Board of Governors

7.1. BoG report, including request(s) to SASEC

Yoshi Tatsumi summarized BoG reports in the following three points:

1) BoG appreciates the effort of SASEC in organizing SPWC and are keen to see a draft from SPWC.

2) Relationship between BoG and SASEC; BoG subcommittee will prepare a position paper for the June meeting.

3) Long-range plan for remaining years of IODP; BoG requests SASEC prepare this by the June BoG meeting.

7.2. SASEC discussion of BoG request(s) to SASEC

Maureen Raymo explained that SASEC needed to address the third point:

3) Long-range plan for remaining years of IODP; BoG requests SASEC prepare this by the June BoG meeting.

Keir Becker commented that BoG minutes from the last meeting say “... with SPC to work out the details”. Raymo replied that SPC is already informed and clearly knows that this is something they have to do at the March 2010 meeting and SASEC should ask itself if there is anything important that could fall through cracks that would help SPC in its deliberations in March.

Gabe Filippelli raised concern about developing a straw-man schedule and asked what would happen if a proposal that appears on the schedule cannot be implemented.

Raymo added that bigger concern would be putting out a schedule to end of program and then stakeholders seeing that their project is not on the schedule, with no guarantee there will be a new program. She stressed the importance of proposals being carried over to the new program.

Jan Willem de Leeuw asked if it would be fair for current proponents to judge proposals in the current program against proposals for the future program with a new Science Plan. Humphris agreed with de Leeuw and suggested having scenarios produced by SPC, and that SASEC would look at these in terms of which scenarios would maximize accomplishment of the ISP. Hans Christian Larsen commented that the call for proposals in *Eos* noted that proposals not implemented in the current program would be carried forward as a resource for the new program and that this has already been explained to proponents. Catherine Mével commented that IWG+ was aware of the transition period problem and would discuss it later this week.

Larsen commented that it would be most useful for SPC if SASEC established some principles and guidelines for SPC, drawing on corporate experience in the room to give guidance.

Raymo asked for volunteers to gauge opinions of SASEC. Humphris volunteered to write some draft guidelines tonight for discussion tomorrow. Fukutomi asked if guidelines address purely scientific objectives or platform-specific issues. Raymo replied that guidelines have to be done by platform.

SASEC Consensus 1001-04: SASEC requests that SPC/OTF develop and present to SASEC in June 2010 a small number of alternative drilling schedules for the remainder of IODP through 2013 that incorporate the highest priority science to be completed before the end of the program.

The first-order guiding principle for recommending expeditions for scheduling by 2013 should be scientific excellence, and a very high likelihood of having a major scientific impact in an ISP theme or initiative.

Other guiding principles, consistent with the 2008 SASEC Implementation Plan for IODP Expeditions 2008-2013, include:

- Accomplishing the best and most exciting science consistent with the program's resources
- Demonstrating an integrated and interdisciplinary approach
- Meeting objectives of high societal relevance.

In developing the alternative scheduling scenarios, SPC/OTF should:

- 1) Review and evaluate how well each theme and initiative of the Initial Science Plan has been addressed to date, what specific questions have been answered, and what specific questions remain;
- 2) Identify which proposed drilling projects that are mature enough to be scheduled between 2011 and 2013, could make a significant contribution to accomplishment of a major ISP theme or initiative, thereby helping build the case for renewal;
- 3) Consider from a strategic perspective which proposed drilling projects should be part of the drilling schedule to best position IODP for its successor program.

8. Report on long-term thematic review: *Deep Biosphere and Subsurface Ocean*

Hans Christian Larsen presented the report structure and noted that draft of the final report is in progress.

9. ICDP-IODP linkages

Maureen Raymo showed SASEC Consensus 0706-11 and noted that none of the nominees received the message and so there was no input. Raymo reported discussion with Ulrich (Uli) Harms (ICDP) and noted that currently there are three proposals that have onshore/offshore components.

SASEC Consensus 0706-11: In an initial step towards integration with ICDP, SASEC recommends that an *ad hoc* implementation group be formed with 2-3 representatives from both programs, plus specific curatorial expertise. SASEC nominates Greg Mountain (US),

Jan Behrmann (Europe) and Tetsuro Hirono (Japan) as the IODP representatives to the *ad hoc* committee. The *ad hoc* implementation group is charged with: 1) developing an implementation plan that includes financial implications for common core storage and metadata integration; 2) fostering cross-program evaluation of proposals. We envision that the latter will be initially accomplished with liaisons between the ICDP Science Advisory Group (SAG) and the IODP SPC, but charge the committee to consider a broader view. SASEC requests a report for its June 2008 meeting.

Raymo commented that joint ICDP-IODP workshops could lead to joint projects.

Jamie Allan agreed with Raymo but noted that the two programs have very different funding system. Catherine Mével commented that IODP and ICDP could work very well together if project-based and noted that the main problem is having two independent evaluation systems.

Shoji Arai commented that he was a member of the Science Advisory Group (SAG) (ICDP equivalent of SPC) and noted that the size, budget, and evaluation system of the two programs are very different. Chris Yeats noted membership differences and commented that Australia is not a member.

Mével agree with Arai but noted that evaluation of science should not be so different. Suyehiro agree with Mével.

Raymo commented that SPC could initiate a process. Gabe Filippelli suggested building this issue in a new SAS system. Arndt suggested looking into ways to integrate the two programs. Mével replied that this idea is being considered very seriously at the ECORD council level.

Raymo questioned what SASEC should do about specific projects that are in limbo.

Raymo asked if SASEC should set up a committee to write a report on what would be best for a joint review process. Hans Christian Larsen commented that a joint review process should be relevant for other programs. Raymo agreed with Larsen and commented that the problem is broader than just ICDP and asked the committee for suggestions. Keir Becker suggested appointing another subcommittee to develop a mandate. Kiyoshi Suyehiro commented that the subcommittee needs to explore boundary conditions to see what sorts of possible collaborations there are.

Rodey Batiza agreed with Larsen that this is part of a broad issue. Raymo suggested Suyehiro report on scientific, financial, and logistical issues and that SASEC form a subcommittee on how to do joint proposal evaluations with other major programs. Raymo asked for volunteers for the subcommittee. Quinn, Arai, and Arndt volunteered to serve on the subcommittee.

Tuesday	19 January 2010	09:00-17:00
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Maureen Raymo reconvened the meeting at 9:00. She suggested moving Agendum 12 Deep Carbon Observatory report into Agendum 11 and inserting a new agenda item Planning until End of Program after Agendum 13.

10. Annual program plan

10.1. Appoint new members of Budget Subcommittee

Maureen Raymo presented a list of current members of the budget subcommittee of SASEC.

Keir Becker asked if the budget subcommittee was useful. Hans Christian Larsen replied that the subcommittee has been very useful. Larsen explained that the subcommittee does not have any power or role, but provided valuable help to IODP-MI when IODP-MI talked to IOs. Kiyoshi Suyehiro noted that Chris Harrison was the only attendee from the subcommittee for the FY10 budget meeting. Raymo asked for volunteers for the budget subcommittee. Becker, de Leeuw, Kitazato, and Filippelli volunteered to serve on the subcommittee.

SASEC Consensus 1001-05: New SASEC budget subcommittee members will be: Keir Becker (Chair), Jan Willem de Leeuw, Hiroshi Kitazato, and Gabe Filippelli. Yoshi Tatsumi continues as the BoG representative on the subcommittee.

Raymo commented that the new budget subcommittee has to be involved with IODP-MI and requested a report at June 2010 SASEC meeting. Raymo also suggested Larsen provide the subcommittee with changes to the FY10 budget. Larsen replied that he would do so when available.

10.2. Annual program plan approval process and timeline

Maureen Raymo presented the SASEC mandate and reminded the committee that review and approval of the Annual Program Plan (APP) is a mandate of SASEC.

11. Program renewal

11.1. IWG+ report

Rodey Batiza explained the mandate of IWG+ and its membership and noted that the next meeting takes place on Wednesday-Friday of this week and all are welcome to stay and participate. He also noted that IWG+ had a short meeting at AGU and that the minutes are posted on the IODP website (under "Council"). Batiza summarized action items from the AGU meeting and presented a status report.

Batiza reported that IWG+ decided at AGU to send out a letter to all INVEST participants regarding SPWC and a broader update on where IWG+ is in the planning process. He noted that the election in Japan has resulted in changes and IWG+ is waiting to see ramifications of this. He commented that IWG+ would like to see more community involvement and therefore created an email address < iwg_plus@iodp-mi-sapporo.org >. Batiza recommend SASEC form a subcommittee to review comments/suggestions from the community.

Batiza reported that IWG+ is working on two position papers: (1) program architecture and money flow and (2) SAS structure and transition, and drafts will be refined over the next three days. He also commented that once working drafts are available, he would circulate them to all. He explained that the purpose of the position papers is to sketch in a broad outline of how IWG+ sees the new program operating. He also reported that IWG+ decided that new program should have a new name and was considering the process for selecting a new name.

Batiza stressed the importance of the new science plan for securing funding for the new program. He explained that IWG+ would like to see a big version for scientists (30-40 pages), a smaller version (10 page) for non-scientists (e.g., funding agencies, government agency representatives), and an even smaller version (2-4 pages) for the general public.

Raymo asked for one or two volunteers to collate and summarize emails sent to the IWG+ email address. Quinn and Yeats volunteered to serve in this function.

SASEC Consensus 1001-06: Terry Quinn and Chris Yeats volunteer to be available “on call” to IWG+ for consolidation and summarization of community input to the IWG+ email account.

Larsen commented that unless the IWG+ asks for something very specific, IWG+ may not get much back that is of use and asked for mechanisms for engaging the community. Batiza replied that once the position papers are in better shape, they can be posted on the web for comment, and then IWG+ could send a message to the community asking for comments. Batiza commented that IWG+ could pose a series of questions to the community.

Batiza noted that IWG+ needed to distinguish between science and architecture issues and that the focus of community input should be on science.

11.2. INVEST meeting report

Hans Christian Larsen presented a summary of INVEST planning, conference themes, breakdown of white papers by conference theme, information on posters, summary of outreach and media coverage, and distribution of attendees. He also suggested SASEC create a consensus to thank the steering committee. Larsen noted ~10% of attendees were students. Larsen noted he just received a draft of the full report. Julie Morris asked if there would be an executive summary for the 150-page report for use by people like funding agency representatives for internal use. Larsen replied that he would make sure to include an executive summary.

SASEC Consensus 1001-07: SASEC wishes to express its sincere thanks to the INVEST Steering Committee, and in particular the co-chairs Christina Ravelo and Wolfgang Bach, for the incredible amount of work that they put in to organize and run the largest scientific ocean drilling meeting ever held. Managing a meeting of close to 600 people is no mean feat – and it was conducted flawlessly. The Steering Committee provided an intricate, yet exceptionally conducive, set of working groups to encourage cross-fertilization of new scientific ideas that will focus the science of the new drilling program.

SASEC would also like to thank Gerold Wefer for hosting the meeting at the University of Bremen. With his calm demeanor under all circumstances, Gerold masterfully ensured that rooms in multiple buildings were available for meetings, an extraordinary dinner in the storage area was a big success, and that the demands for interviews by the press were met.

Through the wonderful efforts of all, the success of INVEST has provided a great platform for the next generation of international scientific ocean drilling.

11.3. Current status and recommendations for Science Plan Writing Committee (SPWC)

Hans Christian Larsen introduced the history of formation and requirements of the SPWC. Rodey Batiza commented that the new science plan needs to be consistent with agency strategic plans. Larsen replied that he would be mindful of these.

Hiroshi Kitazato commented that observatory science and biodiversity should be closely linked with IODP issues.

Becker asked if the new science plan has to be better prioritized than the current ISP as discussed in June 2009. Larsen confirmed that and asked IWG+ to what extent the science plan would have tangible deliverables and milestones. Batiza replied that projects mentioned in the new science plan should have priority. Julie Morris agreed with Batiza and added that

the new ISP needs to make clear the process by which the next phase of drilling will do high impact science. Quinn commented that the new science plan has to focus on great science. Catherine Mével commented that it would be very important for the new science plan (10-12 page version) to be written so that people outside of the field could understand it.

Maureen Raymo introduced an outline of the INVEST report.

Susan Humphris, Nick Arndt, and Chris Yeats raised concerns that the INVEST report structure is different from the conference structure and that some themes might be lost in this transition. Larsen commented that the INVEST steering committee was instructed to follow the structure of the meeting in the report.

Keir Becker asked if there would be a review process for the invest report. Larsen replied that he does not want extensive comment and review; however, SASEC review of the report might be manageable.

SASEC Consensus 1001-08: IODP-MI will distribute the INVEST report to SASEC and other SASEC meeting attendees. Comments and suggestions for SPWC should be forwarded to Raymo and Larsen before 1 February 2010 for conveyance to the SPWC.

New 11.4 Report on the Deep Carbon Observatory

Connie Bertka first thanked Suyehiro for suggesting that someone from the Deep Carbon Observatory (DCO) come to SASEC and commented that she was struck by broad themes in the ISP and found some similarity to themes within the DCO.

Bertka introduced the DCO vision and gave an overview of DCO organization and the history of development of DCO and the founders committee, which is likely to become the executive committee of DCO. Bertka noted that the first workshop (The Deep Carbon Cycle) was held in May 2009 and that it addressed knowledge of carbon in the interior.

Nick Arndt asked how deep is “Deep” and why “Observatory”. Bertka replied that deep means crust to core and “Observatory” came out of the first May workshop and means investigating the nature of carbon from the crust to the core.

Jan Willem de Leeuw commented that there could be major overlap with the IODP (or ICDP) community, especially in the area of deep life.

Maureen Raymo asked what SASEC could do for DCO now. Bertka replied that she would like to see both programs stay in close communication. Bertka noted that Suyehiro is invited to join the DCO executive committee.

Hans Christian Larsen asked if there is any industry interest in DCO. Bertka replied that DCO is working hard to make connections with industry and noted that currently one co-chair for one of directorates is from SHELL. Bertka noted that some issues (e.g., intellectual property rights) exist when a science program works closely with industry.

Raymo asked if there is any move to submit drilling proposals to IODP. Bertka replied that the DCO community has not gotten that far yet and that it is too early to tell.

Arndt asked what type of IODP expedition would be most interesting for DCO. Bertka replied that the target of deep life would be a big connection to the program.

Larsen asked if DCO is interested in carbon sequestration. Bertka replied that DCO has decided not to focus on that because there are a lot of other groups doing that.

11.4. Strategies for creating linkages to other programs and initiatives

Kiyoshi Suyehiro noted that this is an important era for the program as there is not year-round operation for the *JR* and/or *Chikyu*. Suyehiro added that DCO is unique and has very little overlap in communities, although there is overlap in science. Suyehiro asked if it would be the right time to jointly plan for a workshop to get the two communities together and to seriously plan to reach the mantle. He noted that he plans to write a proposal to the Sloan Foundation for workshop funding.

Jan Willem de Leeuw commented that from a DCO perspective ICDP might be interested in collaboration as well. Suyehiro replied that DCO is already in touch with ICDP.

Raymo asked for suggestions for linkages to other programs. Suyehiro replied that the Ocean Observatory Initiatives (OOI), Neptune Canada, and Earthscope are potential partners. Suyehiro noted that he had tried to connect with Incorporated Research Institutions for Seismology (IRIS) representatives, but had not succeeded so far. Raymo asked Suyehiro how SASEC could be more proactive in facilitating such collaborations. Suyehiro replied that IODP-MI, by connecting with new initiatives, could demonstrate new opportunities to these programs and then SASEC could act on that.

Rodey Batiza noted that there has already been a lot going on between big programs and IODP (e.g., NanTroSEIZE and CRISP are MARGINS focus sites). He noted there has also been some links with ANDRILL.

Morris commented that the discussion highlights the importance of packaging and selling the program and the key for collaboration is the word “drilling” mentioned as an important element of strategic plans for other programs. Morris suggested that the new science plan should reach out to other communities.

Gabe Filippelli commented that current complicated proposal evaluation systems would make it very difficult for other groups to engage with IODP. Suyehiro agreed with Filippelli and commented that ICDP has been reluctant to attend IODP meetings because structure is too complicated.

Batiza commented that IODP-MI is the public face of the program and point of contact and stressed the need for a fast-track process. He added that it is within SASEC’s purview to craft policy/principles that would allow this to happen.

Becker reminded the committee about the complementary project proposal (CPP) category which requires outside funding for at least 70% of the operational expenses. Larsen explained that a CPP has one shot at SSEP; if it is good it goes to SPC and can then go to OTF. Allan commented that externally funded projects could be within or outside the program. Allan stressed that IODP-MI needed to make sure people are aware of that. Quinn noted that probably not many people at the meeting know much about CPPs.

Maureen Raymo reported her discussion with IOs during the lunch break and that Raymo thought it would be better to leave this matter to IODP-MI, together with IOs, to target other communities for use of the drill ships.

Barry Zelt noted that the guidelines for CPPs are in proposal guidelines. Humphris noted that the program has to provide 30% and this requirement is a significant programmatic commitment.

Allan suggested that the quickest and most flexible way is to have a call for CPPs year round and to evaluate electronically. Yeats asked how concrete the 70% of platform operating costs (POC) number is and how intellectual rights are treated in CPPs. Humphris replied that

intellectual rights follow IODP rules. Allan replied that NSF should determine what 70% is for the *JR*.

11.5. National initiatives

Rodey Batiza reported that NSF commissioned the National Research Council (NRC) to complete a study on the success of ocean drilling and that NRC would like to have a copy of the new science plan.

13. Report of subcommittee assessing models for post-2013 proposal evaluation process

Keir Becker noted that a draft report was distributed to the committee last week and a couple of minor changes were made to the version distributed. Becker noted IWG+ and the second Triennial Review Committee are also evaluating current SAS performance. Becker explained that the SASEC subcommittee focused on the science evaluation aspect and suggested that if the report was accepted by the committee, it should be forwarded to IWG+ to be considered along with other SAS review reports.

Becker presented key proposal evaluation functions that need to be improved for post-2013 SAS and also gave a historical perspective of panel structure and proposal evaluation. Becker noted that the advisory structure of the Deep Sea Drilling Project was most complex. Becker summarized that the inability to do long-range planning and responsiveness of the process have been issues for the last 30 years. Becker noted that each structure produced great science, so the exact structure may not be so important; simplest would be best.

Becker presented the following draft recommendations:

-Separate planning pathway for riser and complicated, multi-expedition non-riser projects.

-For the JR consider identifying operational regions a few years in advance.

Becker also presented the following suggestions for a simpler post-2013 SAS structure:

-Reduce SSEP/SPC/SASEC structure to 2 levels (BoG should approve APP).

- Possibly restore OTF function to highest level SAS panel?- Rely more on workshops and working groups (WGs) for proposal development.

-Possibly simplify the service panel structure.

-The transition has to begin within the next year.

Becker noted that it would be very important to bring IOs into the process early to help identify platform-specific issues. Becker also stressed the need for selecting future riser projects now for the new program.

Becker recommended a transitional structure put in place before 2013 be empowered to make scheduling decisions before the start of the new program. Becker noted that COI issues need to be addressed.

Humphris congratulated Becker for a great job and asked for clarification for two parts: (1) better definition of how proposals are put together and (2) transition between the programs; what is the design plan to morph SAS.

Raymo asked if IWG+ would define what the SAS structure should be morphed into. Batiza replied he would be happy if SASEC endorsed a new model for SAS and passed it onto IWG+ for consideration. Raymo asked about the role of the Second Triennial Review

Committee. Batiza replied that he would like to see their report in June 2010 and consider it together with SASEC subcommittee recommendations.

Raymo asked if a SASEC subcommittee should be formed to help define riser projects for new program. Humphris commented that the Japanese were already committed to do “Mohole” in the new program. Larsen commented that SPWC should come up with recommendations for riser projects. Becker suggested a mechanism in which a SASEC subcommittee asked SPWC and SPC for suggestions. Fukutomi asked if IOs have roles in selection of new riser projects. Yeats replied that IOs are members of IWG+ so they are involved in the selection.

SASEC Consensus 1001-09: Keir Becker will report on the conclusions of the Second Triennium Review Committee and update SASEC at its June meeting on any related activities relevant to SAS structural reorganization for the future program.

Kato asked if one less committee might lead to less community involvement. Becker replied that one less committee would mean a reduction in formal panel members, but would offer more opportunities to be involved in the new program via workshops.

SASEC Motion 1001-10: SASEC accepts the report of the Subcommittee Assessing Models for post-2013 Proposal Evaluation Process and forwards it to IWG+. We thank the subcommittee for their efforts in crafting a very thorough report.

Quinn moved, Humphris seconded; 10 in favor (Arai, Arndt, Becker, de Leeuw, Humphris, Kato, Kitazato, Quinn, Raymo, Tatsumi); none opposed; 2 non-voting (Filippelli, Suyehiro)

14. Externally-funded program activities relevant to IODP (i.e., up to 2013)

There were no additional comments.

15. SASEC terms of reference: suggested changes

In discussion on Section 4 Membership, Suyehiro asked if the sentence “IODP-MI president will be non-voting member” could be amended, because he feels conflicted. Suyehiro commented that he needs to consult with BoG to remove that requirement.

Raymo suggested changing “China and South Korea (Asian Consortium) will be represented by one observer each” to “associate members will be represented by one observer each”.

Raymo asked if the sentence “chair and vice-chair of SASEC shall rotate initially between Japan and the United States each with a term of office of two years” in Section 6 could be amended to make ECORD members eligible for chair and vice-chair of SASEC. Humphris replied that Suyehiro would look into whether ECORD is eligible.

Raymo noted that the sentence “The SAS Executive Committee will meet three times a year” in Section 7 should be changed to “twice a year”.

SASEC Consensus 1001-11: The SASEC forwards the following suggested changes to the SASEC terms of reference to the BoG.

* Section 4 Membership, Line 10; “China and South Korea (Asian Consortium) will be ...” to “associate members will be...”

* Section 7 Meetings, Line 1; “meet three times a year” to “twice a year”.

16. Review of rotation schedule for SASEC members

Barry Zelt noted that the SASEC member rotation schedule appears on page 212 of the agenda book and asked that any errors be reported to him.

17. Other business

Jan Willem de Leeuw commented on the IODP website. He suggested that the IODP website should include a diagram showing the structure of IODP with an acronym list. Suyehiro replied that he could do that.

18. Review of action items, motions, and consensus statements

The committee reviewed the motions, consensus statements, and action items from the meeting:

SASEC Consensus 1001-12: SASEC thanks Nick Arndt for his service over the last two years. Nick, who has been interested in komatiite genesis and earth evolution, is now acting as an anchor in the IODP. He also has been contributing a lot to the future proposal evaluation and science advisory systems of ocean drilling as a member of a subcommittee of SASEC. We are sincerely looking forward to seeing his further contributions to ocean drilling not only as an ECORD key person but also a petrology/geochemistry expert.

SASEC Consensus 1001-13: SASEC thanks Barry Zelt for his excellence in all aspects of his job at IODP-MI. We will miss his abilities as an efficient, accurate, and thorough Science Coordinator, and we wish him the very best as he moves forward with his career.

SASEC Consensus 1001-14: The SASEC extends its deep gratitude to Dan Evans for his tireless service to IODP. In particular his ability to successfully deliver and manage mission specific platforms has enabled new frontiers of science to be pursued in the program. His experience and guidance will be missed. We wish him all the best in his retirement.

SASEC Consensus 1001-15: SASEC thanks our host Dr. Se Won Chang for organizing a beautiful and efficient venue for our meeting with comfortable beds, fantastic foods, and awe-inspiring palaces nearby. We all look forward to tonight's reception to reflect on a successful meeting and thank him sincerely for all his efforts on our behalf.

19. Future meetings

The next meeting will be held the week of 14 June in Tokyo (JAMSTEC).

20. Closing remarks

The meeting adjourned at 15:47.