IODP Proposal Evaluation Panel

1st Meeting, 1-3 December 2012

San Francisco, USA

Proposal Evaluation Panel - PEP

Richard Arculus

Jennifer Biddle

Tim Bralower

Australian National University
University of Delaware
Pennsylvania State University

Julie Carlut CNRS (Centre national de la recherche scientifique)

Antonio Cattaneo^a IFREMER

Gail Christeson^b University of Texas Institute for Geophysics
Tim Ferdelman Max-Planck-Institut für marine Mikrobiologie

Ian Hall^c Cardiff University

David Hodell University of Cambridge
Matthew Hornbach University of Texas at Austin
Barbara John University of Wyoming

Juergen Koepke Institut für Mineralogie, Leibniz Universität Hannover

Dick Kroon* The University of Edinburgh Korea Maritime University Kyung Eun Lee John Maclennan University of Cambridge Cecilia McHugh Queens College, CUNY Katsuyoshi Michibayashi Shizuoka University Tomoaki Morishita Kanazawa University Marvline Moulin Instituto Dom Luiz Masafumi Murayama Kochi University

Clive Neal University of Notre Dame

Hiroshi Nishi Tohoku Úniversity

Koichiro Obana Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

Amelia Shevenell University of South Florida
Ashok Singhvi Physical Research Laboratory
Aleksey Smirnov Michigan Technological University

David Smith University of Rhode Island

Michael Strasser ETH Zurich
Nabil Sultan IFREMER

Yohey Suzuki The University of Tokyo

Yoshinori Takano Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

Eiichi Takazawa Niigata University
Jun Tian Tongji University
Jody Webster Sydney University
Yasuhiro Yamada Kyoto University
Yusuke Yokoyama The University of Tokyo

James Zachos University of California, Santa Cruz

Unable to attend.

a –Alternate for Sultan b –Alternate for Hornback c –Alternate for Hodell

Liaisons, Guests, and Observers

Jamie Allan National Science Foundation (NSF), USA Rodey Batiza National Science Foundation (NSF), USA

Peter Blum Integrated Ocean Drilling Program, Texas A&M University, USA

Sarah Davies University of Leicester, UK

David Divins
Ocean Drilling, The Consortium for Ocean Leadership, USA
Nobuhisa Eguchi
Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan

Julie Farver Consortium for Ocean Leadership, USA

Holly Given Consultant to IODP-MI, USA

Tom Janecek
Yoshi Kawamura
National Science Foundation (NSF), USA
IODP Management International, Inc., Japan

Yusuke Kubo Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan

Shin'ichi Kuramoto Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

Hans Chrisitian Larsen IODP Management International, Inc., Japan

Young-Joo Lee Korea Institute of Geoscience and Mineral Resources (KIGAM), Korea

Gilles Lericolais IFREMER, France

Alberto Malinverno Lamont-Doherty Earth Observatory of Columbia University, USA
Mitch Malone Integrated Ocean Drilling Program, Texas A&M University, USA
Charna Meth U.S. Science Support Program, Consortium for Ocean Leadership, USA

Catherine Mével ECORD Managing Agency, Paris Geophysical Institute, France

Kiyoka Miki Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

Dhananjai Pandey National Centre for Antarctic and Ocean Research, India

Terry Quinn University of Texas at Austin, USA

Sanny Saito Japan Agency for Marine-Earth Science and Technology, Japan Jeff Schuffert U.S. Science Support Program, Consortium for Ocean Leadership, USA Shingo Shitaba Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

Craig Shipp Shell International E&P

Angela Slagle Lamont-Doherty Earth Observatory, USA

Sean Toczko Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan

Shouting Tuo Tongji University, China

Keita Umetsu Japan Drilling Earth Science Consortium (J-DESC), Japan

Michiko Yamamoto IODP Management International, Inc., Japan

IODP Proposal Evaluation Panel 1st Meeting, 1-3 December 2012 San Francisco, USA

DRAFT minutes (Ver. 2)

| Thursday | 1 December 2012 | 08:30-17:30 |
|----------|-----------------|-------------|
|----------|-----------------|-------------|

1. Introduction

1.1. Call to order and self-introductions

PEP chair Dick Kroon called the meeting to order at 8:30. All meeting participants introduced themselves.

1.2. Welcome and meeting logistics

Local host Jeff Schuffert welcomed the meeting participants and outlined the logistics for the meeting.

1.3. PEP and new SAS

1.3.1. Role of PEP in SAS (terms of reference)

Kroon went over PEP's terms of reference and noted the following roles of PEP.

- 1. PEP evaluates all proposals in the context of the themes of the new science plan
- 2. PEP selects the best proposals and forwards them to SIPCOM and OTF
- 3. PEP stimulates proposal pressure in certain scientific areas in case needed

Kroon reminded the panel members of the following review procedure.

- 1. PEP evaluates Pre-proposals, identifies those ready for development into a full proposal (one revision!), nursing stage, MDP, etc.
- 2. PEP evaluates full proposals, identifies those ready for external review (note, only one revision possible if not ready for external review!).
- 3. PEP rates full proposals, taking into account reviewers comments and reply letter, the 'good and excellent ones' will move forward to OTF and SIPCOM (note, in the post 2013 system directly to Platform providers)

1.3.2. Approval of 4 vice chairs

Kroon introduced 4 vice chairs.

Tim Bralower - Climate and Ocean Change

Yoshinori Takano - Biosphere Frontiers

Richard Arculus - Earth Connections

Michi Strasser - Earth in Motion

Kroon asked the sub-chairs to lead the discussion in the thematic sub-panels and present the discussion summary in the agenda item 7.

1.4. Approve PEP meeting agenda

Kroon summarized the major agenda items for the meeting. He asked if there needed to be any changes to the agenda. No changes were suggested.

1.5. PEP Review Process

1.5.1 Rules and Policies

Kroon explained the following rules and policies applied to the PEP meeting.

[Voting]

- 1. When PEP makes a motion or consensus statement, chair assigns the sub-chair, or other who moves, to write down the statement on which we vote.
- 2. The sub-chair counts the votes
- 3. The information of who moved, who seconded, and who voted what is needed for agenda item 10 (Review of motions and consensus items"). The sub-chair sends information to Yamamoto (MI) and chair.

[Conflict of Interest]

The members who fit the following conditions are considered to have a conflict of interest and need to declare to chair beforehand.

- PEP members who are co-proponent of proposal leave the room during discussions
- PEP members who have a colleague as co-proponent don't comment during the discussions and abstain from voting

1.5.2. Design of discussions

Kroon explained the roles of watchdogs, chair and sub-chairs in PEP discussions.

- Watchdog 1 presents proposal (plenary or in break-out groups), comments on strengths and weaknesses of the proposal
- Watchdog 2 writes comments to proponents
- Watchdog 3 adds to the discussion
- Chair or vice-chair asks for additional comments from audience, discussion follows. Chair or vice-chair makes a proposition for the fate of the proposal. If there is no consensus, the panel members vote.

Kroon reminded that watchdogs must not ask the proponents for presentation slides.

1.5.3. Rating system and criteria

[Evaluation criteria]

- Are the scientific questions/hypotheses being addressed exciting and of sufficiently wide interest to justify the requested resources?
- Will the proposal significantly advance one or more goals of the Science Plan?
- Would the proposal engage new communities or other science programs into the drilling program?
- To what degree does the integrated experimental design of site characterization, drilling, sampling, measurements, and downhole experiments constitute a compelling and feasible scientific proposal?

[Rating]

(See the full set of rating parameters in appendix.)

Larsen commented that proposals which lack a partial site survey data set or EPSP related information could be forwarded into the holding bin.

1.5.4. Key points for feedback to proponents.

Kroon explained that the feedback to the proponents should describe how the proponents could clear the evaluation criteria above.

Larsen informed that PEP can recommend proponents, who have submitted a Pre-proposal,

to have a workshop, which is a new option from this meeting.

2. Question-and-answers to Agency reports

Agency reports have been previously tabled. Clive Neal asked for some insight from the NSF representative with respect to the future of the IODP, and clarification why the situation of the future platform implementation by separate agencies had developed during the past year. Rodey Batiza replied that the fundamental issues were budgetary, and it should be solved in a clear optimization of available funding for maximal scientific return for the largest community.

Catherine Mével informed that ECORD, NSF and MEXT had a meeting in August, and came to an agreement, which has been already partly published, but the details will be finalized at the next Goa meeting in January. The basic idea of the common international SAS structure as the only one entry will be kept for future.

Kroon stressed that PEP helps the bottom-up system driven by proposal pressure, which is very important for this program. Larsen added that PEP is the most important panel as it is the only panel to evaluate science.

3. IODP Management International, Inc. (IODP-MI) report

Michiko Yamamoto reported the statistics of IODP active proposals.

[Proposal statistic]

Total number of active proposal: 87

Breakdown by science plan theme

| Theme | Number of proposal | |
|--------------------|--------------------|--|
| Climate and Ocean | 40 | |
| Biosphere Frontier | 15 | |
| Earth Connections | 20 | |
| Earth in Motion | 12 | |

Breakdown by ocean

| Ocean | Number of proposal | |
|----------|--------------------|--|
| Arctic | 6 | |
| Atlantic | 23 | |
| Indian | 14 | |

| Pacific | 37 | |
|----------|----|--|
| Southern | 4 | |

Breakdown by SAS evaluation stage

| SAS Stage | Number of proposal | |
|-------------|--------------------|--|
| PEP(New) | 5 | |
| PEP(SSEP) | 38 | |
| PEP(SPC) | 6 | |
| OTF | 37 | |
| Holding Bin | 1 | |

() = Old SAS stage the proposals were transferred from.

Breakdown by lead proponent

| Country of PI | Number of proposal | |
|---------------|--------------------|--|
| US | 39 | |
| Japan | 12 | |
| ECORD | 29 | |
| China | 1 | |
| Korea | 1 | |
| ANZIC | 4 | |
| India | 1 | |

Breakdown by platform

| Platform | Number of proposal |
|-----------|--------------------|
| Non-Riser | 59 |
| Riser | 8 |
| MSP | 11 |
| Multiple | 6 |

[Approved IODP workshop list]

| Title | Lead_proponents | Country | Proposed date |
|---|-----------------|----------|---------------|
| Continental transform boundaries: Tectonic | | | |
| evolution and Geohazards | McHugh | USA | 2011 |
| Workshop to develop a conceptual | | | |
| framework for ocean drilling to unlock | | | |
| thesecrets of slow slip events | Wallace | ANZIC:NZ | June 2011 |
| | | | Oct-Nov. |
| Indian Ocean Drilling | Pandey | India | 2011 |
| Coordinated Scientific Drilling in the Canadian | | | |
| Beaufort Sea: Addressing Past, Present and | | | |
| Future Changes in Arctic Terrestrial and | | | Jan-Feb. |
| Marine Systems. | Matt O'Regan | UK | 2012 |
| Unlocking the opening processes of the South | | | |
| China Sea | Chun-Feng Li | China | Jan, 2012 |

[Schedule of SAS meeting]

| 19-Jan-12 | SIPCOM | GOA, India |
|-----------|-------------------|----------------------|
| April 1st | Proposal deadline | |
| 19-Mar-12 | STP | Kochi, Japan |
| 28-Mar-12 | EPSP | College Station, USA |
| May, 2012 | PEP | TBD |

[IODP-MI news]

- New IODP web site will be open in Spring 2012
- IODP-MI has received additional funding (up to 600K USD) to fund necessary instrumentation to pursue J-FAST as planned.
- New proposal submission system is under development.
- Change in staff: Hans Christian Larsen and Kevin Johnson leave IODP-MI at end of January.

Larsen informed that only 5 proposals have been submitted for the last October 1st deadline,

which is the lowest submission number since the start of IODP.

Kroon noted that keeping proposal pressure is very important. Mével informed that a letter was sent out to the Ocean Drilling community emphasizing the continuous need of submitting the best ideas as proposals to the system.

4. Implementing Organization (IO) reports

4.1. CDEX

Yusuke Kubo provided CDEX report.

Chikyu's activity over the last 12 months

| Expedition # | Title | Time window |
|--------------|---|------------------|
| Exp 332 | NanTroSEIZE Riserless Observatory 2 | 25 Oct to 12 Dec |
| Exp 333 | NanTroSEIZE Inputs Coring 2 and Heat Flow | 12 Dec to 10 Jan |
| Non-IODP | | 10 Jan to 7 Mar |
| Exp 337 | Deep Coalbed Biosphere off Shimokita | Postponed |
| Exp 338 | NanTroSEIZE Plate Boundary Deep Riser - 2 | Postponed |

[Exp 332: NanTroSEIZE Riserless Observatory 2]

- Installed a permanent riserless long-term borehole observatory at Site C0002
- Recovered the temporary SmartPlug and replaced it with a newly designed GeniusPlug at Site C0010
- The data collected from the recovered SmartPlug proved to be complete time series data over >15 months

[Exp 333: NanTroSEIZE Inputs Coring 2 and Heat Flow]

- Coring and in situ heat flow measurements at C0011 and C0012
- Basement coring at Site C0012
- Coring mass transport deposits associated with major splay fault at C0018

Chikyu activity over the coming 12 months

| Expedition # | Title | Time window |
|--------------|------------------|-------------|
| Non-IODP | At Sri Lanka | ~ late Jan |
| Non-IODP | At Nankai Trough | Feb-Mar |

| | Japan Trench Fast Drilling | |
|--|----------------------------|------------------------|
| Exp 343 | Project | 1 Apr to 25 May |
| Annual inspection (and installation of | | |
| a new thruster) in dry dock | | |
| | Coalbed biosphere off | |
| Exp 337 | Shimokita | 6 Jul to 16 Sep |
| | NanTroSEIZE Plate | |
| Exp 338 | Boundary Deep Riser - 2 | 19 Sep to 31 Jan, 2013 |

[Exp 343: Japan Trench Fast Drilling Project (1 Apr - 25 May, 2012)]

- LWD, temperature measurement, and coring across co-seismic slip will provide dynamic coefficient of friction and stress conditions

[Exp 337: Deep Coalbed Biosphere off Shimokita (15 Mar to 21 May, 2012)]

- Riser drilling with spot cores to 2200 mbsf
- Large diameter cores across the critical formations
- Formation fluid sampling by wireline tools
- Mud gas monitoring by newly installed lab

[Expedition 338: Plate Boundary Deep Riser – 2 (10 Aug, 2012 to 10 Jan, 2013)]

- Deepen the Hole C0002F to 3300 mbsf.
- The riser hole is intended to access the plate boundary faults at an ultimate depth of 7000 meters.
- Spot coring within the inner wedge accretionary complex
- LWD and wireline logging, downhole stress, pore pressure and permeability tests,
- A zero-offset and/or walkaway VSP

David Smith asked the status of the 6th thruster. Kubo replied that reinstallation is planned to May/June 2012

4.2. USIO

David Divins provided USIO report.

[Tie-Up Period – UPDATE]

JOIDES Resolution in Curacao: June 8 – September 13, 2011

Two major projects:

- LIMS Reports and DESClogik Application enhancement
- Completed and deployed September 2011

JOIDES Resolution transited to Bridgetown, Barbados to begin IODP Expedition 336: Mid-Atlantic Microbiology.

[LIMS Reports Scope Highlights]

- LIMS Reports provides scientists with a simple, intuitive, web interface to extract data and generate reports for scientific analysis.
- Project encompassed the development of 30 tabular-data reports.
- Each report includes a description, definitions, and examples to guide scientists not familiar with the data.
- Each report displays the primary data relevant for that system.
- Project includes overview tables (drill down capability).
- The reports do not encompass descriptive data, which will be addressed in a separate project.

[FY12 JR OPERATIONS Schedule]

| | EXP | | TOTAL DAYS | |
|-----------------------|------|-----------------------|---------------|---------------|
| EXPEDITION | # | DATES | (port/at sea) | CO-CHIEF |
| | | | | K. Edwards |
| Mid-Atlantic Mbio | 336 | 16 Sep-17 Nov '11 | 62 (2/60) | W. Bach |
| | | | | J. Hernandez- |
| | | | | Molina |
| Mediterranean Outflow | 339 | 17 Nov '11–17 Jan '12 | 61 (5/56) | D. Stow |
| Atlantis Massif | 340T | 17 Jan-6 Feb. 12 | 20 (5/15) | D. Blackman |
| | | | | A. Le Friant |
| Lesser Antilles | 340 | 6 Feb-18 March '12 | 41 (1/40) | O. Ishizuka |
| Tie-Up | | 18 March-18 Jun '12 | | |
| Newfoundland Sediment | | | | R. Norris |
| Drifts | 342 | 18 June–17 August '12 | 60 (4/56) | P. Wilson |
| Tie-Up | | 17 August-17 Oct. '12 | | |

[FY13 JR OPERATIONS schedule]

| | EXP | | TOTAL DAYS | |
|-------------------------|------|--------------------|---------------|------------|
| EXPEDITION | # | DATES | (port/at sea) | CO-CHIEF |
| Tie-Up | | 17 Aug-22 Oct '12 | | |
| Costa Rica | | | | |
| Seismogenesis Project 2 | | | | R. Harris |
| (CRISP) | 334 | 22Oct-17 Dec '12 | 56 (3/53) | TBD |
| Hess Deep Plutonic | | | | |
| Crust | 345 | 17 Dec-16 Feb. 13 | 61 (5/56) | TBD |
| Tie-Up | | 16 Feb-27 May '13 | | |
| Southern Alaska | | | | |
| Margin Tectonics, | | | | |
| Climate & | | | | J. Jaeger, |
| Sedimentation | 341 | 27 May–27 July '13 | 61 (3/58) | S. Gulick |
| Transit | 346T | 27 July-18 Aug '13 | 22 (5/17) | |
| Asian Monsoon | 346 | 18 Aug-26 Sep '13 | 39 (1/38) | TBD |

[Education & Outreach Activities]

School of Rock, 1-3 August 2011

- Onboard the JOIDES Resolution while in port in Curacao.

Port Call Events

- Ponta Delgada, Azores, 18-19 November 2011

Ship tours of the JOIDES Resolution:

200 High School Students on the 18th

70 adults including Secretary for Science and Technology for the Azores on the 19th

- -Teacher from Portugal to sail as Educator at Sea during Expedition 339: Mediterranean Outflow.
- Lisbon, Portugal, 18-19 January 2012 in partnership with ECORD Managing Agency.
- Press conference to be held during January port call; European VIPs to attend.

Jamie Allan commented that practicality issues would be put forward in the break-out sessions. Larsen commented PEP should concern mostly about science.

4.3. ESO

Sarah Davies provided the ESO report

MSPs at OTF

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| Proposal | Short title | Panel | Comments |
|----------|-----------------------------|-------|--|
| 672 | Baltic Sea Basin | OTF | SPC preferred option for 2013: Tender for all |
| | Paleoenvironment | | boreholes |
| 548 | Chicxulub K-T Impact Crater | OTF | SPC preferred option for 2014: Hazard survey |
| | | | in 2013 |
| 758 | Atlantis Massif Seafloor | OTF | SPC preferred mission for first sea floor drilling |
| | Processes | | expedition |
| 716 | Hawaiian Drowned Reefs | OTF | Forwarded March 2009 |
| 581 | Late Pleistocene Coralgal | OTF | Forwarded March 2010 |
| | Banks | | |
| 637 | New England Shelf | OTF | Forwarded March 2009: work required on |
| | Hydrogeology | | water sampling |

[Proposal 672 : Project Management Team Meeting (June 2011)]

Examined requirements for: Drilling / Microbiology sampling & analysis / Downhole logging Developments:Co-chiefs appointed (Thomas Andrén & Bo Baker Jörgensen) / Expedition scheduled for 2013 / Tender for platform in 2012

[Proposal 758: Project Management Team Meeting (June 2011)]

Examined requirements for: Drilling / Logging / Microbiology sampling/ Science party Developments:

- ESO assessing sea bed data for sea floor drill operation
- Number of organizations, including the British Geological Survey is developing logging tools for use from sea bed rock drills
- Site Survey Panel has approved information ready to implement

[Proposal 548]

Developments post Project Management Team Meeting October 2010:

- Quotes requested for hazard survey
- Submitted letter of project approval to the directors of the Ministry of Environment and Natural Resources and the National Council on Science and Technology
- Permit application will be submitted through UNAM

Expeditions

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[Exp. 325: Great Barrier Reef Environmental Changes (2010 Feb.-Apr.)]

- July 2011 Operations Review Task Force
- Expedition moratorium ended in July 2011
- Logging data ready for placement on database
- Great Barrier Reef cores now at Kochi Core Centre
- Second post-cruise is planned for July 2012

Data Management & QA/QC for Mission Specific Platform expeditions

- Bremen leading with IODP-MI
- Metadata for all Mission Specific Platform expeditions entered into IODP database
- Link metadata to analytical data
- QA/QC procedures for specific analytical equipment & data requests
- Developing online tutorials for offshore and onshore phases

Outreach

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- ECORD/ESO videos finalised with input from IODP-MI
- ESO Outreach Officer, Alan Stevenson, was interviewed about Chicxulub for a Norwegian daily newspaper
- August 2011 IODP booth at the Goldschmidt Conference (Prague)
- September 2011 IODP booth at the AAPG Polar Petroleum Potential Arctic Conference

(Halifax, Nova Scotia)

Holly Given asked ESO's perspective on the collaboration between IODP and Petroleum industry in Arctic. Mével replied that industry is interested in gaining general knowledge including geodynamics of the area. It is a sensitive issue but there is room for scientific proposals from them.

5. Borehole into Earth's Mantle (BEAM) Report

Holly Given, Manager of the BEAM Scoping Group, reported on the aims of this conceptual project which is supported with a \$US500K grant from the Alfred P. Sloan Foundation. The Project is to accelerate science planning for the first borehole through the entire ocean crust into Earth's mantle. The Project has been scientifically underpinned by a series of community workshops from 2006 to 2010, and has been identified as a priority scientific goal in both current and future scientific plans for IODP.

BEAM will test the design limits of IODP drilling platforms and require new partnerships between research, engineering, and industry. The Scoping Group will be formed from selected experts with a wide range of expertise to develop a roadmap with prioritized scientific goals and engineering approaches; define a conceptual international scheme of science and engineering management; inform the public and policy makers of the Project's goals; develop and refine relationships with the Deep Carbon Observatory, a multidisciplinary international initiative dedicated to understanding Earth's deep carbon cycle also funded by the Sloan Foundation; and define the management of risk for the Project.

The rough order of magnitude costs of BEAM are \$US500 million for a drilling commencement possibly in 2018. Relationships with the IODP and its scientific advisory structure will be explored in the future.

| | FY2009 | FY2010 | FY2011 | FY2012 | FY | /2013 | FY2014 | FY2015 | FY2016 | |
|-----------------------|---|--|--|--|------------------|--|---------------------------|-----------|-----------------|--|
| | program year 6 | program yr 7 | pgm yr 8 | pgm yr 9 | pgr | n yr 10 | IODP yr 1 | pgm yr 2 | pgm yr 3 | |
| | | | Site ecision Detailed site surveys | | | | | | | |
| | Communit y-wide | it INVEST Project Scoping Group Project Manager | | | | nagement Tea | am | | | |
| IODP | internatio nal workshop on scientific drilling in 2013-23 | Report; Internation al Workshop MoHole, Japan | Initial feasibility study | Conceptual Design Detailed Design Project Management Team Project Management Team | | | | nnagement | | |
| Sloan Founda | | Mantle Frontier | Initiate Project Scoping | | | | | | | |
| tion- IODP- DCO | | Internation al Workshop | Office; prepare for conceptu al design | Project Scopi Office | ng | | Project Management Office | | | |
| Project Executi | Domestic efforts for hyper-deep water deep drilling technology development | | | | Forma I start | Platform operators' preparatio ns | Operation procure | | | |
| | FY2017 | FY2018 | FY2019 | FY2020 | FY | /2021 | FY2022 | FY2023 | FY2024 | |
| roject | Operation planning, | Crust-Mol Camp | | Preparation | ns | | | Long-term | g-term research | |
| executi | procurem ents, outfitting | Step-by-st | ep results | First scienti Sample dist | | · · | | continues | | |

Tim Bralower commented that the scoping group should figure out the technical feasibility very quickly. Given agreed with Bralower, and recommended reading a commentary on the initial feasibility plan, in which many optimistic comments are introduced. Yoshi Kawamura commented that the commentary is based on much assumption, but it doesn't say "not achievable" at least. Given added that the balance on how much they can spend and scientific gain should be articulated.

Richard Arculus asked if the scoping group expected PEP to approve the BEAM proposal

when it will be submitted. Given commented that she did not know the details of the proposal. Allan commented that MI received the funding from Sloan Foundation independently, and NSF did not approve it prior to when it happened. He stressed that MI should step away from the proposal. Larsen agreed with Allan and noted that no one from MI can be a proponent of the mantle proposal.

6. Proposal review

6.1 Proposal review process

This agenda item was merged with the agenda item 1.5.3 and is not discussion here.

6.2. Proposal review

The first watchdog listed below presented their assigned proposal. They explained the scientific objectives, alignment with New Science Plan and site assessment. This was followed by the second and third watchdog's comments, and then the floor was opened for comments from everyone. After the panel reached a conclusion, the second watchdog writes the PEP recommendation.

6.2.1. (Plenary) 6 SPC proposals

| Proposal# | Version | Short Title | WD1 | WD2 |
|-----------|---------|------------------------|---------|-----------|
| 567 | Full4 | South Pacific | Zachos | Bralower |
| | | Paleogene | | |
| 589 | Full3 | Gulf of Mexico | Obana | John |
| | | Overpressures | | |
| 659 | Full | Newfoundland Rifted | Arculus | Takazawa |
| | | Margin | | |
| 698 | Full3 | Izu-Bonin-Mariana Arc | Neal | MacLennan |
| | | Middle Crust | | |
| 703 | Full | Costa Rica SeisCORK | Moulin | Cattaneo |
| 772 | APL2 | North Atlantic Crustal | John | Obana |
| | | Architecture | | |

6.2.2. (Plenary) 2 SSEP proposals with External reviews and PRLs

| Proposal # | Version | Short Title | WD1 | WD2 | WD3 |
|------------|---------|------------------------|------|----------|-----------|
| 696 | Full3 | Izu-Bonin-Mariana Deep | Neal | Takazawa | Morishita |
| | | Forearc Crust | | | |

| 747 | Full | North Atlantic Paleogene | Zachos | Bralower | Singhvi |
|-----|------|--------------------------|--------|----------|---------|
| | | Climate | | | |

| Friday 2 December 2012 | 08:30-17:30 |
|------------------------|-------------|
|------------------------|-------------|

6.2.3. (Plenary) 1 CDP and daughter proposal with PRL

| Proposal | Version | Short Title | WD1 | WD2 | WD3 |
|----------|---------|-------------------------|----------|--------|--------------|
| # | | | | | |
| 770 | Full2 | Kanto Asperity Project: | Strasser | John | Cattaneo |
| | | Observatories | | | |
| 707 | Full | Kanto Asperity CDP | Strasser | Moulin | Michibayashi |

6.2.4. (Plenary) 1 MDP and daughter proposal pair

| Proposal # | Version | Short Title | WD1 | WD2 | WD3 |
|------------|---------|-------------------|-----------|----------|--------|
| 781 | MDP | Hikurangi | MacLennan | Yamada | Moulin |
| | | subduction margin | | | |
| 781A | Full | Hikurangi: | Moulin | Cattaneo | John |
| | | observatory | | | |

6.2.5. (Plenary) 1 New and 1 revised APLs

| Proposal # | Version | Short Title | WD1 | WD2 | WD3 |
|------------|---------|--------------------|----------|-----------|--------|
| 791 | APL | Continental Margin | Biddle | Suzuki | Takano |
| | | Mathane Cycling | | | |
| 777 | APL2 | Okinawa Trough | Murayama | Shevenell | McHugh |
| | | Quaternary | | | |
| | | Paleoceanography | | | |

6.2.6. (Breakout) 18 existing SSEP proposals without external reviews The panel members were thematically divided into four breakout groups to review and

discuss on the proposals that have not reached the stage of external review.

Breakout group1 (chaired by Hall)

Theme: Climate and Ocean Change

| Proposal # | Version | Short Title | WD1 | WD2 | WD3 |
|---------------|---------|---------------------------------------|------|-----------|-----------|
| 625 | Full | Pleistocene Pacific Southern Ocean | Lee | Hall | |
| 751 | Full | West Antarctic Ice Sheet Climate | Hall | | |
| 771 | Full | Iberian Margin Paleoclimate 2 | Lee | Shevenell | |
| 784 | Full | Amundsen Sea Ice Sheet history | Hall | Cattaneo | Ferdelman |
| 615 | Full2 | NW Pacific Coral Reefs | Hall | Webster | |

Breakout group2 (chaired by Bralower)

Theme: Climate and Ocean Change

| Proposal | Version | Short Title | WD1 | WD2 |
|----------|---------|-----------------------|----------|-----------|
| # | | | | |
| 667 | Full | NW Australian Shelf | McHugh | Tian |
| | | Eustasy | | |
| 680 | Full | Bering Strait Climate | Yokoyama | Shevenell |
| | | Change | | |
| 702 | Full | Southern African | Zachos | Tian |
| | | Climates | | |
| 776 | Full | Arabian Sea | Bralower | Tian |
| | | Paleoclimate | | |
| 658 | Full2 | North Atlantic | Nishi | Bralower |
| | | Volcanism and | | |
| | | Paleoclimate | | |
| 778 | Full2 | Tanzania Margin | Zachos | Nishi |
| | | Paleoclimate Transect | | |

Breakout group3 (chaired by Strasser and Takano)

Theme: Earth in Motion and Biosphere Frontiers

| Proposal # | Version | Short Title | WD1 | WD2 |
|---------------|---------|---------------------------------------|------------|---------|
| 735 | СРР | South China Sea Tectonic Evolution | Christeson | Smirnov |

| 704 | Full2 | Sumatra Seismogenic | Smirnov | Obana |
|-----|-------|---------------------|---------|-----------|
| | | Zone | | |
| 635 | Full3 | Hydrate Ridge | Biddle | MacLennan |
| | | Observatory | | |

Breakout group4 (chaired by Arculus)

Theme: Earth Connections

| Proposal | Version | Short Title | WD1 | WD2 |
|----------|---------|------------------------------------|--------|----------|
| # | | | | |
| 640 | Full | Godzilla Mullion | Carlut | Koepke |
| 692 | Full | Flemish Cap Rifted | Koepke | Takazawa |
| | | Margin | | |
| 740 | Full | Galicia Margin Rift | Carlut | Yokoyama |
| | | History | | |
| 754 | Full2 | Norwegian Sea Silica Diagenesis | Koepke | Lee |
| 778 | Full2 | Tanzania Margin | Zachos | Nishi |
| | | Paleoclimate Transect | | |

| Saturday | 3 December 2012 | 08:30-17:30 |
|----------|-----------------|-------------|
|----------|-----------------|-------------|

6.2.7. (Breakout) 16 preliminary proposal

The panel members were thematically divided into four breakout groups to review and discuss on the preliminary proposals.

Breakout group1 (chaired by Bralower)

Theme: Climate and Ocean Change

| Proposal # | Version | Short Title | WD1 | WD2 |
|------------|---------|---------------------|----------|----------|
| 750 | Pre | Beringia Sea Level | Yokoyama | McHugh |
| | | History | | |
| 756 | Pre | Arctic Ocean Exit | Murayama | Hall |
| | | Gateway | | |
| 760 | Pre | SW Australia Margin | Takano | Bralower |
| | | Cretaceous Climate | | |

Breakout group2 (chaired by Shevenell)

Theme: Climate and Ocean Change

| Proposal # | Version | Short Title | WD1 | WD2 |
|------------|---------|-----------------------|-----------|-----------|
| 708 | Pre2 | Central Arctic | Lee | Shevenell |
| | | Paleoceanography | | |
| 730 | Pre2 | Sabine Bank Sea Level | Shevenell | Murayama |
| 753 | Pre2 | Beaufort Sea | Shevenell | Webster |
| | | Paleoceanography | | |
| 790 | Pre | Indian Ocean | Webster | Yokoyama |
| | | Neogene monsoon | | |

Breakout group3 (chaired by Arculus and Strasser)

Theme: Earth Connections and Earth in Motion

| Proposal # | Version | Short Title | WD1 | WD2 | WD3 |
|------------|---------|------------------------|--------------|-----------|------------|
| 729 | Pre | Western Lord Howe | Morishita | Nishi | |
| | | Rise Extension | | | |
| 731 | Pre | Papua New Guinea | Nishi | Morishita | |
| | | Orogenic Lifecycle | | | |
| 782 | Pre | Kanto Asperity | Michibayashi | Neal | |
| | | Project: Plate | | | |
| | | Boundary | | | |
| | | Deformation | | | |
| 788 | Pre | Shiva Impact | Arculus | Tian | Obana |
| | | Structure | | | |
| 789 | Pre | Arctic Slope Stability | Cattaneo | Yamada | Christeson |

Breakout group4 (chaired by Takano)

Theme: Biosphere Frontiers

| Proposal # | Version | Short Title | WD1 | WD2 |
|------------|---------|----------------------|--------------|------------|
| 749 | Pre | Gulf of California | Suzuki | Smith |
| | | Rifting & | | |
| | | Microbiology | | |
| 759 | Pre | EPR Fast-Spread | Michibayashi | Biddle |
| | | Crust | | |
| 761 | Pre | South Atlantic Bight | Ferdelman | Christeson |
| | | Hydrogeology | | |
| 780 | Pre | Rodriguez Triple | Smith | Suzuki |
| | | Junction | | |
| | | Microbiology | | |

7. Reports from breakout sessions

Sub-chairs presented the summary of the breakout discussions. The course of action regarding each of the 49 PEP proposals reviewed during the 1st PEP meeting was achieved by consensus of the full panel. The specific dispositions for each proposal were as follows:

| Proposal | Version | Short Title | Disposition |
|----------|---------|--|---------------------|
| # 567 | Full4 | South Pacific Paleogone | Forward to OTF |
| 589 | Full3 | South Pacific Paleogene Gulf of Mexico Overpressures | Submit revised full |
| | Full2 | NW Pacific Coral Reefs | |
| 615 | | | Deactivate |
| 625 | Full | Pleistocene Pacific Southern Ocean | Deactivate |
| 635 | Full3 | Hydrate Ridge Observatory | Submit revised full |
| 640 | Full | Godzilla Mullion | Deactivate |
| 658 | Full2 | North Atlantic Volcanism and Paleoclimate | Submit revised full |
| 659 | Full | Newfoundland Rifted Margin | Submit revised full |
| 667 | Full | NW Australian Shelf Eustasy | Submit revised full |
| 680 | Full | Bering Strait Climate Change | Submit revised full |
| 692 | Full | Flemish Cap Rifted Margin | Submit revised full |
| 696 | Full3 | Izu-Bonin-Mariana Deep Forearc Crust | Submit revised full |
| 698 | Full3 | Izu-Bonin-Mariana Arc Middle Crust | Forward to OTF |
| 702 | Full | Southern African Climates | Submit revised full |
| 703 | Full | Costa Rica SeisCORK | Submit revised full |
| 704 | Full2 | Sumatra Seismogenic Zone | Submit revised full |
| 707 | Full | Kanto Asperity CDP | Submit revised full |
| 708 | Pre2 | Central Arctic Paleoceanography | Submit full |
| 729 | Pre | Western Lord Howe Rise Extension | Deactivate |
| 730 | Pre2 | Sabine Bank Sea Level | Submit full |
| 731 | Pre | Papua New Guinea Orogenic Lifecycle | Deactivate |
| 735 | СРР | South China Sea Tectonic Evolution | Submit revised full |
| 740 | Full | Galicia Margin Rift History | Submit revised full |
| 747 | Full | North Atlantic Paleogene Climate | Submit revised full |
| 749 | Pre | Gulf of California Rifting & Microbiology | Submit full |
| 750 | Pre | Beringia Sea Level History | Submit full |
| 751 | Full | West Antarctic Ice Sheet Climate | Submit revised full |
| 753 | Pre2 | Beaufort Sea Paleoceanography | Submit full |
| 754 | Full2 | Norwegian Sea Silica Diagenesis | Submit revised full |
| 756 | Pre | Arctic Ocean Exit Gateway | Submit full |
| 759 | Pre | EPR Fast-Spread Crust | Deactivate |

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8. Future PEP meeting

Dick Kroon emphasizes that the relationship with SCP is very important. PEP needs specific advice from SCP for evaluating whether or not there are scientific concerns arising from site survey data. Considering the time proponents need to prepare site survey data between PEP and SPC meetings, alternating meetings of PEP and SCP are considered the most effective. Gilles Lericolais (SCP chair) seconded this statement. He noted that it is important to avoid proposals going back and forward between OTF and PEP.

Sanny Saito provided the STP report. He introduced STP's role in SAS and recent STP activities.

[STP mandates]

STP develops guidelines and provides advice on a wide range of IODP functions such as

shipboard measurements, downhole measurements/observatories, data management, publications and Curation.

- STP reviews QA/QC of data collection procedures on IODP platforms and expedition measurement plans to ensure consistent high quality data across the program.
- STP recommendations shall be sent to CMO, SIPCom, PEP, and IOs.

[Recent STP activities]

Routine tasks

- Review of expedition QA/QC report from the IOs
- Approval of measurement plans (non-standard measurements) for scheduled expeditions
- Evaluation of shipboard/on shore science system

Shorter-term issues: examples

- Cuttings sampling, measurements, archiving, and curation
- Routine microbiology sampling
- IODP Depth Scale implementation
- New publication format, etc.

Longer-term issues

-Development of Scientific Technology Roadmap. Current version 1.1 includes 56 items with periodization and availability.

Saito noted that the PEP-STP relationship is very important for proposal evaluation when it needs technical advice. He offered STP's help on assessment of technical issues by reporting back to PEP from STP watchdogs.

Kroon noted that PEP would identify proposals that need technical advice, which can be forwarded to STP for advice. Yasuhiro Yamada commented that PEP cannot wait for a next STP meeting for their advice. Saito replied that STP can discuss through emails between their meetings, and he estimated one month as maximum time for STP to answer.

9. Other business

No other business was discussed.

PEP1112 agenda

Dick Kroon praised Hans Christan Larsen and Kevin Johnson for their outstanding service to IODP over a long period.

10 Review of motions and consensus items

There was no motion or consensus to review.

11. Future meetings

Tom Janecek asked how the proponents receive the feedback from IOs. Larsen replied that IOs are given the opportunity to make comments during the PEP meeting. PEP will include IO's comments in their review. Janecek suggested that IOs would see the PEP reviews and add their comments before sending them out to the proponents. Allan agreed with Janecek and commented IO's reviews would benefit proponents very much. Larsen agreed on Janecek's suggestion but only for this meeting.

11.1 Liaisons to other panels and programs

Kroon attends SIPCOM. Kroon and sub-chairs attend OTF

11.2. 2nd PEP meeting

Host: Dick Kroon

Place: Edinburgh

Date: 14-15 May 2012

Kroon adjourned the meeting at 17:30.

[Appendix - PEP Rating System]

This rating system will be applied to all proposals that have passed through the full PEP review cycle, including external, anonymous peer-review. The rating is applied by PEP based on the proposal version reviewed by the external reviewers, and augmented with the proponent response letter (PRL). It is a three level rating system:

- Excellent (10 20 percent of proposals)
- Good (40 60 percent of proposals)
- Fair (20 30 percent of proposals)

Because proposals that have not been found of high enough quality by PEP to undergo external review, truly insufficient or unfeasible proposals are not expected to reach the stage of PEP rating (to be rejected if there is not meeting PEP approval for external review after the maximum one revision).

The rating value applies specifically to the science quality of the proposal. The technical feasibility and/or other logistical parameters are to be discussed in accompanying comments, but should not be used as a rating criterion by PEP, whose charge is to evaluate the scientific quality and merit of the proposal. This is in order to maintain simple and clear scientific evaluation criteria. These comments on technical drilling feasibility can be utilized by the experts that liaise with PEP, but are not PEP members with the responsibilities this implies. Technical drilling feasibility will therefore be commented on separately by relevant experts (typically Implementing Organization (IO) representatives). However, an experiment design can also have scientific risks (e.g., suggested measurements are at experimental, unproven stage, entire success depends entirely of one specific sampling target, imaging/presence of target is a concern etc.). PEP, assisted by SCP, STP, and other SAS expertise will comment on such kinds of 'science risk'.

The general evaluation criteria for IODP proposals are (as per PEP ToR):

- Are the scientific questions/hypotheses being addressed exciting and of sufficiently wide interest to justify the requested resources?
- Will the proposal significantly advance one or more goals of the Science Plan?
- Would the proposal engage new communities or other science programs into the drilling program?
- To what degree does the integrated experimental design of site characterization, drilling, sampling, measurements, and downhole experiments constitute a compelling and feasible scientific proposal?

Together with these general criteria, the 3 rating categories are defined as follows:

Excellent proposal:

Proposal is exciting, addresses new scientific problems, or will take novel approaches to existing problems that remain unresolved/controversial and considered of wide importance. May challenge existing paradigms, has strong potential for true discoveries and breakthroughs and most likely will open up new avenues of research in the field(s) pursued or even beyond. Should be drilled if at all possible:

- -The science plan proposed is innovative, cutting edge, aims at, or extends beyond, the vision of the new science plan
- -Excellent, succinct and carefully planned scientific drilling and research plan
- -In all probability, the expedition(s) will be regarded as a major achievement of scientific ocean drilling
- -In all probability, the scientific and technical achievements will have important societal impact in one way or another (e.g., application of results, outreach, or public education).

Good proposal

This second category of proposals also has potential for producing exciting science, and will apply compelling research strategies. Compared to 'Excellent' proposals, 'Good' proposals address more mature scientific problems with less potential for major new discoveries or paradigm changes. They are still highly likely to produce important datasets that can support long-term building of data archives, help resolve long-standing controversies in established fields of research, and thereby advance such fields of research in a significant way, possibly including new avenues of research within the fields pursued. Should be seriously considered for drilling if fitting into long-term efforts/planning and platform schedules:

- -Objectives are consistent with one or more themes of the new science plan
- -In all probability, the expedition(s) will result in important refinements of existing scientific concepts and advance the science plan. Data are very useful to test the hypotheses as formulated in the proposal.
- -Good and succinct drilling plan, feasible, carefully planned
- -The science plan is likely to result in successful expedition(s) with a good effort to outcome ratio
- -In all probability, the scientific and technical achievements will be important for society in one way or another.

'Fair' proposal

This third category of proposals falls behind in terms of excitement and potential for discovery. The research may still be able to provide important, complementary data sets that can help filling specific niches, but is unlikely to move the field of research significantly forward, or to lead to new avenues of research. Nevertheless, the proposal may contain elements that, if fitting into other proposals or other planned drilling activities (e.g., regional proximity), could provide a solid scientific return for a limited program investment, and therefore might be considered for (partial) implementation at some point:

- Objectives show a fair consistency with thematic priorities in the new science plan
- The science plan is not clear, and deficiencies are identified
- The expedition(s) could possibly result in some non-trivial achievements, but mostly of incremental nature, perhaps a partly relevant data set to test the hypotheses as formulated in the proposal, or the expedition(s) will not be successful.
- Insufficient drilling plan with unfavourable effort to output ratio
- The potential societal impacts from scientific and technical achievements are not high, or are poorly documented.