# ECORD Facility Board #1

## March 7th and 8th, 2013

### British Geological Survey, Edinburgh, UK

## MINUTES Draft

## Roster

| *MEMBERS* | *NAME* | *EMAIL* |
|---|---|---|
| ***ECORD ExecBureau*** | | |
| **ECORD Council** | Michael Webb | mweb@nerc.ac.uk |
| **ECORD Council** | Anne de Vernal | devernal.anne@uqam.ca |
| **ECORD Council** | Michel Diament * | michel.diament@cnrs-dir.fr |
| **ECORD Council** | Guido Lüniger | guido.lueniger@dfg.de |
| **ECORD Council** | Josef Stuefer | j.stuefer@nwo.nl |
| **EMA** | Gilbert Camoin | gcamoin@cerege.fr |
| **ESSAC** | Carlota Escutia Dotti | cescutia@ugr.es |
| **ESO** | Robert Gatliff | rwga@bgs.ac.uk |
| | | |
| ***Science Board*** | | |
| | Karsten Gohl (Chair) | Karsten.Gohl@awi.de |
| | Antonio Cattaneo | Antonio.Cattaneo@ifremer.fr |
| | Gerald Dickens | jerry@rice.edu |
| | Marta Torres * | marta.torres1@gmail.com |
| | Dominique Weis | dweis@eos.ubc.ca |
| | | |
| ***Funding agencies*** | | |
| **NSF** | Tom Janecek | tjanecek@nsf.gov |
| **MEXT** | Shingo Shibata | shibata@mext.go.jp |
| **KIGAM** | Gil Young Kim | gykim@kigam.re.kr |
| **IODP India** | TBD | |
| **IODP China** | TBD | |
| **ANZIC** | TBD | |
| **CAPES (Brazil)** | Manoel Cardoso | manoel.cardoso@capes.gov.br |
| | | |
| ***LIAISONS*** | | |
| **PEP** | Dirk Kroon | dkroon@staffmail.ed.ac.uk |
| **SIPCom** | Jan de Leeuw | Jan.de.Leeuw@nioz.nl |
| **SCP** | Gilles Lericolais | gilles.lericolais@ifremer.fr |
| **CDEX** | Wataru Azuma | azumaw@jamstec.go.jp |
| **USIO** | David Divins | ddivins@oceanleadership.org |
| | | |
| ***OBSERVERS/GUESTS*** | | |
| **ESO** | Alan Stevenson | agst@bgs.ac.uk |
| **ESO** | David McInroy | dbm@bgs.ac.uk |

| | | |
|---|---|---|
| **ESO** | Sarah Davies | sjd27@leicester.ac.uk |
| **ESO** | Ursula Roehl | uroehl@marum.de |
| **ESO** | David Smith | djsm@bgs.ac.uk |
| **EMA** | Milena Borissova | borissova@cerege.fr |
| **USSSP** | Jeff Schuffert | jSchuffert@oceanleadership.org |
| **MEXT** | Shin'ichi Kuramoto | kuramoto@mext.go.jp |
| **CDEX** | Nobuhisa Eguchi | neguchi@jamstec.go.jp |
| **USAC** | Anthony Koppers | akoppers@coas.oregonstate.edu |
| **J-DESC** | Hodaka Kawahata | kawahata@aori.u-tokyo.ac.jp |

* Apologies

## LIST OF ACRONYMS

| | |
|---|---|
| ACEX | Arctic Coring Expedition, Expedition 302 |
| ANZIC | Australia-New Zealand IODP Consortium |
| AP | Advisory Panels |
| APL | Anciliary Project Letter |
| APP | Annual Program Plan |
| BGS | British Geological Survey |
| BoG | IODP-MI Board of Governors |
| CIB | Chikyu Implementation Board |
| CMO | Central Management Office |
| CPP | Complementary Pre-Proposals |
| DIS | Drilling Information System |
| DLP | Distinguished Lecturer Program |
| EB | Executive Board |
| EC | European Commission |
| ECORD | European Consortium for Ocean Research Drilling |
| EDP | Engineering Development Panel |
| E-FB | ECORD Facility Board |
| EMA | ECORD Managing Agency |
| EPC | European Petrophysics Consortium |
| EPSP | Environmental Protection and Safety Panel |
| ESO | ECORD Science Operator |
| ESSAC | ECORD Science Support and Advisory Committee |
| ETP | ECORD Technology Panel |
| FB | Facility Board |
| ICDP | International Continental Scientific Drilling Program |
| ILP | ECORD Industry Liaison Panel |
| INSU-CNRS | Institut National des Sciences de l'Univers, France |
| IODP | Integrated Ocean Drilling Program |
| IODP | International Ocean Discovery Program |
| IODP-MI | IODP Management International, Inc. |
| IOs | Implementing Organizations |
| IWG+ | International Working Group + |
| JAMSTEC | Japan Marine Science & Technology Center |
| JFAST | Japan Trench Fast Drilling Project |
| JR | JOIDES Resolution |

| | |
|---|---|
| KCR | Kochi Core Repository |
| KIGAM | Korea Institute of Geosciences and Mineral Resources |
| LAs | Lead Agencies |
| MARCOM project | Towards an Integrated Marine and Maritime Science Community project |
| MDP | Multiple-phase Drilling Proposal |
| MEXT | Ministry of Education, Culture, Sports, Science & Technology |
| MOST | The People's Republic of China Ministry of Science and Technology |
| MoU | Memorandum of Understanding |
| MSCL | Multi Sensor Core Logger |
| MSPs | Mission-specific platform |
| NanTroSEIZE | Nankai Trough Seismogenic Zone Experiment |
| NERC | Natural Environment Research Council, UK |
| NJSS | New Jersey Shallow Shelf |
| NSF | National Science Foundation, USA |
| NSF-OCE | NSF Ocean Sciences |
| NWO | Netherlands Organisation for Scientific Research |
| ODP | Ocean Drilling Program |
| OSP | Onshore Science Party |
| OTF | Operation Task Force |
| PCT | Project Coordination Team |
| PEP | Proposal Evaluation Panel |
| PMO | Program Member Offices |
| PMT | Project Management Team |
| POC | Platform Operation Costs |
| PPO | Project Partner Office |
| RMS | Routine Microbiological Samples |
| SAS | Science Advisory Structure |
| SIPCOM | Science Implementation and Policy Committee |
| SCP | Site Characterization Panel |
| SO | Support Office |
| SOC | Science Operation Costs |
| SPC | Science Planning Committee |
| SSC | Magellan Plus Science Steering Committee |
| SSDB | Site Survey Data Bank |
| ToR | Terms of Reference |
| USAC | U.S. Science Advisory Committee |
| USIO | U.S. Implementing Organization |
| USSP | U.S. Science Support Program |
| US-JR FB/ JR-FB | U.S. JOIDES Resolution Facility Board |
| VTF | Vision Task Force |

## Thursday, March 7th 9:00 – 17:30

### 1. Introduction

#### 1.1 - Call to order and opening remarks (K. Gohl)

K. Gohl, the E-FB Chair, welcomed all participants, members and observers of the E-FB. He said that he is a geophysicist who has been involved in IODP as a proponent and co-proponent. He reviewed the meeting agenda.

#### 1.2 - Introduction of participants (K. Gohl)

All participants introduced themselves.

#### 1.3 - Welcome and meeting logistics (D.McInroy)

D. McInroy, the meeting host, welcomed all of the participants.

#### 1.4 - Rules of engagement (Robert's rules, COI policy, etc.) (K. Gohl)

K. Gohl reviewed the **'Robert's Rules' of Engagement**.
The meeting's official language is English. All participants were encouraged to be sensitive to the difference in native language and to speak slowly, to avoid slang and figures of speech, to be sensitive to differences in culture, and only one person should speak at a time. Also, when in debate, the members should not cross-talk or talk directly to each other, when another member is speaking. Each participant should request to speak through Chair and all participants should listen when others are speaking. Issues for which a vote must be made will be formalized by motions. The board members should understand the majority rules, but the rights of the minority are always protected, by assuring those members have the right to speak and vote. More details on how to run a meeting are described in: "Robert's Rules of Order: Newly Revised – In Brief", Da Capo Press, 2011.

**Decision Making**

The ECORD-FB (E-FB) will usually reach decision by **general consent**, i.e. when a motion is not likely to be opposed. Reasonable effort will be made to attain a general consent. If a motion fails to be approved by general consent, the Chair can decide either to defer further action, or to ask for a standard vote involving only the Science Board members. A motion will be accepted if approved by the majority of the votes that are cast at the meeting. Voting will be done usually by a 'show of hands'.

**Conflict of Interest (COI)**

All potential COIs should be declared at the start of every meeting, or at an otherwise appropriate time during the meeting. Members of the ECORD FB or other meeting attendees, determined as having a COI regarding an MSP-related proposal, should not be present when the relevant proposal is evaluated, considered for ranking, ranked, considered for scheduling, or scheduled. COIs will be documented in the meeting minutes.

*K. Gohl asked if there is a conflict of interest. D. Dickens said that he is institutionally involved with some of the proponents. The E-FB decided that there is no COI at such a level of involvement.*

### 1.5 - Meeting agenda approval (K. Gohl)

***Motion 13-01-01:*** *The E-FB #1 meeting agenda is approved unanimously.*
*G. Dickens, D. Weis seconded. All members in favor of the motion.*

## 2. IODP Facility Boards

### 2.1 - New IODP architecture (T. Janecek, G. Camoin and S. Shibata)

T. Janecek introduced **the structure of the International Ocean Discovery Program**. He reminded that many of the details of how the organization works would have to be determined in meetings such as the FB.

There are **4 major elements** to the program:

First, there will be three independent platforms that will be overseen by its corresponding Facility Board, instead of via co-mingled funds. There will be the US-JR FB, the Chikyu Implementation Board for Japan, and the E-FB for ECORD. Second, the **Advisory Panels** will be available to all Platform Providers and will consist of the Proposal Evaluation Panel, the Site Characterization Panel and the Safety/Environment Panel. Third, the support office will address proposal processing and logistics support for panels and the websites. Fourth, the IODP Forum is the international body that is intended for both the monitoring and advising of the Platform Providers.

**Platform provider management**

Each platform will be funded independently: national or consortia funding for MSP, for the JR-FB there will be national funding stream from the NSF and early subscription from the partners ECORD Brazil, China, India, Australia and New Zealand. There will be a project-by-project participation. The platforms are overseen by the FBs, which include several scientists, the funding agencies and the operators. They address the yearly scheduling, long-term planning and policies, and procedures of facility. The **Core Archives** consist of cores that are distribution according to the current IODP guidelines. The three main repositories locations include one in the Gulf Coast, one in Bremen and the **Kochi Core Repository**. T. Janecek reminded that the FB would have to further address the future distribution of the cores. The platform providers are responsible for the publications, engineering development, data management, and other duties.

The **three Advisory Panels (PEP, SCP and EPSP**) are internationally staffed and available for use by the platform providers. The selected membership is determined by quotas, which are in turn determined by the contributions to the JR Consortium. The members are selected by the **Program's Member Offices**. The proposals from the PEP are forwarded directly to the FBs. T. Janecek reminded that SIPCom will disappear after FY 2013 and its duties will be transferred to the IODP Forum and the Facility Boards.

The **Support Office** will be a small office that consists of 5 people. It will be funded by the *JR* Consortium and its primary functions include the support of the advisory panels for the proposal handling (such as drilling and workshop proposals), the meeting logistics for the Advisory Panel, the Forum, and the *JR* FB, support of the site survey data

bank and maintenance of the IODP website.

The Support Office functions on a 5-year cooperative agreement. The US expects to rate and select a support office by June/July with a 3-4 month transition between the current and new programs.

The **IODP Forum** will be the venue where all IODP entities will meet early. The primary functions of the forum are the monitoring of the science plan delivery and providing advice on the Platform Provider activity. The forum participants will include active community scientists, funding agencies, operators, program member offices and other participants. The IODP Forum will be chaired by one well-recognized scientist. K. Becker was chosen unanimously by the IODP Board of Governors. The support of the chair is provided by the home country. The ToRs have been developed by SIPCom and approved by IWG+.

T. Janecek introduced the structure with the corresponding money flows. He and G. Camoin are in the process of creating a structure that also includes the direction of the proposal flow.

He mentioned that project-by-project basis funding may occur for all of the platforms, which can come from members, industry and other countries.

The **Fundamental core of the new program** will not change from the current program. The Science Plan will remain the guiding scientific document. The proposals can be submitted for any platform, there will be internationally-staffed advisory panels. In addition, the scientific community heavily involved in scheduling and long-term planning for all platforms. The programs member offices are in charge of nominating scientists for platform berth and Advisory Panels.

*D. Smith asked if the platforms are compulsory. T. Janecek said that both the US and Japan want the proposals to go through an international proposal review system. R. Gatliff said that ECORD will maintain these standards by using the safety panels.*

*D. Kroon asked for the number of proposal for the Support Office. T. Janecek said that there were a lot of good proposals that presented good competition. An external panel of scientists was invited to review the applications. The reviews will be evaluated internally and a decision will be made soon.*

### 2.2 - *JOIDES Resolution* Facility Board (T. Janecek)

The first *JR*-FB will be held on March 18-20, 2013 in Washington D.C. The **FB has several primary tasks.** First, the FB determines the *JR*'s Schedule, including its annual and long-term regional track for up to 2-4 years, if possible, in order to give the community a sense where the platform is going in order to use the ship in a fiscally efficient way. Second, the FB approves the **Annual Facility Program Plan**, which involves the *JR*'s schedule, publications data management, core curation, and technological and scientific development. Third, the FB must approve the annual support office program plan that is created by the US operator. The plan includes items such as the proposal processing, the SSDB, the website, support of the Advisory Panel, the Forum, and *JR*-FB. Fourth, the FB oversees the Facility Advisory panels' ToR and monitors the panels' functionality. Fifth, the FB develops and monitors the facility policies, such as data publication, core curation, COI, and etc.

**The JR Facility Board Roster**

The JR-FB Roster includes the funding agencies, where one representative attends from US, ECORD, Brazil, Australia, China, Korea and India. In addition, the US operator and scientific community consisting of 5 international scientists and the Chair from the US, are invited to attend. The FB will be attended by liaisons, such as the PEP/SCP/EPSP chairs, the IODP Forum Chair, the Support Office Chair, ESO and JAMSTEC representatives. Several observers may attend from the additional funding agencies, the IO and PMO representatives. The meetings are open to all observers.

T. Janecek said that the US looks forward to the attendance of PMO representatives at the FB. He mentioned that in the previous week a panel has reviewed multiple proposals for the operation of the *JR*. The review will be completed in the next month and news will be released as to who will operate the *JR*.

The *JR*-FB was selected by open competition. The **scientific community members** selected from 22 applicants. The recommendations were sent to the FB, and the FB accepted. The following participants have been selected:

| | |
|---|---|
| Heiko Palike | University of Bremen - 3 year term |
| Rick Murray | Boston University - 3 year term |

| | |
|---|---|
| Susan Humphris | Woods Hole Oceanographic Inst) - 2 year term |
| Akira Ishiwatari | Tohoku University - 1 year term |
| Gabe Fillipelli | Indiana Univ  Purdue Univ Indianapolis - 1 year term |

Each member will first hold 1-2 year terms and then it is planned that the future science members will hold 3-year terms with a staggering rotation.

### 2.3 - *Chikyu* Facility Board (S. Shibata)

S. Shibata introduced the Chikyu Policy update. He reviewed the members' policy, proposed amendments of the Chikyu framework chapter, the Chikyu IODP CIB details, and the Project Partnership Office (PPO) policy.

**Members' Policy**

A **Regular Member** is defined as one who will provide regular funds to the *Chikyu* operations for multiple consecutive years and will receive benefits in return. The applicable party includes countries, research organizations, universities and/or their consortia. The minimum level dues per year would amount to $ 1 M USD. The benefits from such participation would include 1 berth per each *Chikyu* expedition per a contribution of $1 M USD and a membership status at the CIB.

A **Partnership Member** is defined as one who will provide modest funds to the *Chikyu* operations for multiple consecutive years and will receive benefits in return. This member is primarily targeted in order for new or smaller partners to help them enhance their capabilities in earth science. The applicable party involves countries, research organizations, universities and/or their consortia. The dues per year would amount to $300k USD, which is a fixed amount. The benefits from such participation would include the opportunity to board one *Chikyu* expedition per year subject to agreement of co-chief/availability of space, the prioritized opportunity to attend training courses conducted at Kochi Core Center, the opportunity to utilize selected Kochi Core Center research equipment by paying nominal fee, and an observer status at the CIB.

A **Project Member** is defined as one who will provide funds to the *Chikyu* operations of a particular project of interest and will receive benefits in return. The applicable party includes countries, research organizations, universities, foundations, private organizations, and/or their consortia. The dues would typically amount to more than $10 M USD per project. In addition to monetary contribution, in-kind contributions may also be accepted. The benefits from such participation would include a member status at the CIB and PCT (Project Coordination Team) and berths for the *Chikyu* expedition, if requested. Obtainable berths will be determined through negotiations based on the contribution level at each project team, and will be made clear in the MOU.

*T. Janecek asked for a clarification of the definition of a 'Chikyu expedition' in terms of time duration, as the current Chikyu expedition duration is defined by 5 months. N. Eguchi said that the expedition has been divided in sub-legs. T. Janecek asked if one berth is accounted for each sub-leg or for the whole 5 months of the expedition. M. Webb reminded that the ECORD understanding of a berth is based on the discussed cost of $1M USD per expedition. K. Gohl said that the definition of a 'berth' should be clarified. S. Shibata said that he will refer to JAMSTEC and will present the answer to the question on March 8th.*

**Chikyu Expeditions Policy Update, March 8th**

Following the March 7th question on the definition of a berth, S. Shibata clarified that the term **'Expedition**' is usually used to distinguish research voyages of different scientific themes. An expedition's length varies, typically 2-5 months, but it could be much longer, e.g. 10 months. He said that a '1berth per expedition' means that a space for one scientist during the expedition will be assured regardless of its duration. Since scientists usually rotate every 2 months, for example if Chikyu will have one 2-month expedition and another 4-month expedition for a certain year, 3 scientists in total will be on board for the year.

**Proposed Amendment of the *Chikyu* Chapter Framework**

S. Shibata said that he will propose the following changes to the Framework to be accepted by IWG+.

**The *Chikyu* Planning and Project Architecture and Financial Contributions**

**Framework item # 32**. The major portion of *Chikyu's* operational time will continue to be allocated for scientific drilling. With flexible scheduling and dynamic geographical

movement, the *Chikyu* will conduct large-scale riser projects, as well as ancillary shorter-term riserless projects of prioritized scientific themes.

**Framework item # 33.** Large-scale project proposals for *Chikyu* will be formulated and nurtured from an early stage through proposal formulation workshops participated by community scientists and engineers, Implementing Organizations, SAS representatives and potential partners among others.

**Framework item # 34.** The operation costs of the *Chikyu* will be supported through annual contributions of Regular Members, Partnership Members, and through project-based contributions of the Project Members.

**Framework item # 35.** Countries, research organizations, universities and/or their consortia can become a Regular Member by providing annual minimum contribution of $ 1 M USD for multiple consecutive years. Regular Member will obtain 1 annual berth of the *Chikyu* expedition per annual contribution of $1M USD, and will obtain a member status of CIB.

**Framework item # 36.** Countries/consortia, research organizations, universities and/or their consortia can become a Partnership Member by providing annual contribution of $300 k USD, a fixed amount, for multiple consecutive years. Partnership Member will obtain a boarding opportunity of *Chikyu* expedition every year subject to the approval of co-chiefs/space availability, obtain an observer status of the CIB, obtain prioritized opportunity to attend training courses conducted at the Kochi Core Center, and utilize selected scientific equipment at the Kochi Core Center by paying nominal fee. This member category is primarily targeted for new or smaller entities to help them enhance their capabilities in earth science.

**Framework item # 37.** Countries, research institutions, private organizations, universities, foundations or any other entities/consortia interested in supporting a *Chikyu* initiative/project are encouraged to become a Project Member by providing financial contributions that are typically more than $10 M USD per project. The Project Members' benefits will include a member status of the CIB/Project Coordination Team (PCT) and berths at the *Chikyu* expeditions, if requested.

**The *Chikyu* IODP Board (CIB) Details**

**Mandate**

The *Chikyu* IODP Board (CIB) will discuss and evaluate planning, technical and operational aspects of the *Chikyu* IODP implementations with a view to maximize the *Chikyu*'s engineering capacity and operational effectiveness, by obtaining attendances of the *Chikyu* members/project members, create liaisons of international IODP entities and other collaborators, and provide suitable recommendations to JAMSTEC and other relevant parties. The CIB specific tasks are that it discusses and evaluates: the Annual *Chikyu* IODP Implementation Plan of the next fiscal year; the Long-term *Chikyu* IODP Implementation Strategy every 4-5 years; the data management, core curation, publications, capacity building, outreach programs, and other related activities; the **Project Coordination Team (PCT)** and project scoping/formulation workshop issues; the activities of Project Partnership Office (PPO), and other related issues when needed.

**Membership**

The CIB will consist of **Members, Liaisons, and Observers**.

The CIB Members include three Japanese scientists and more non-Japanese, Regular Members, Project Members, the Director of IODP, MEXT, the Director of the Center for Deep Earth Exploration (CDEX) of JAMSTEC, and others that were appointed by JAMSTEC. The Liaisons include the IODP Forum Chair, the PEP Chair, the Director of the Project Partnership Office (PPO), the Director of the Support Office (SO), the USIO, ESO and the Director of the Kochi Core Center (KCC). The Observers include the NSF, the *Chikyu* Partnership Members, and the Program Member Offices. The Secretariat will consist of CDEX /JAMSTEC.

*J. de Leeuw asked how the CIB differs from the other FBs? Is it because JAMSTEC takes the ultimate decisions? S. Shibata confirmed that that is the case. The CIB would provide recommendations to JAMSTEC and perhaps MEXT, and other entities.*

**The Chair and CIB Scientific Members**

The Chair of the CIB will be selected from a list of Japanese leading scientists. The Chair will attend the IODP Forum meetings and other relevant international scientific conferences. The transportation and accommodation cost will be paid by JAMSTEC.

The Chair will serve for two years. The other five CIB scientific members will serve for three years in staggered rotations.

*C. Escutia asked about the total number of scientists in the CIB. S. Shibata said that there are 3 Japanese, 3 non-Japanese, and a Japanese Chair. The CIB is still under selection advertisement, with a deadline of March 22, 2013.*

**Decisions**

The CIB will make decisions by the common consent of the Members present. In the case that present Members fail to reach consensus, the Chair can make a final decision.

**Meetings**

The CIB will commence in late July, to be determined, in 2013. It will convene at least once a year. JAMSTEC will bear the transportation and accommodation costs for six CIB scientific members, including the Chair who will attend the CIB meetings.

**Revision to the Terms of Reference**

If it is needed, the Terms of Reference may be amended with the consent of the CIB Members after 2014. The CIB decisions are also made by common consent. The meetings will be held early July, at least once per year. The ToR may be amended with the consent of the CIB members when necessary.

**The Project Partnership Office (PPO) Policy update**

The PPO open to other platforms, multiplatform activities and initiatives. It provides relevant project planning and scoping support, fund raising, and attendance as a CIB member to provide suitable technical advice. The PPO functions will be conducted under the overall guidance of MEXT/JAMSTEC. The PPO will develop the collaborative partnerships of all stakeholders, and consortia if deemed appropriate, for large-scale IODP initiatives of *Chikyu*; and conduct relevant project planning and scoping support in close collaboration with *Chikyu* IODP Board (CIB), JAMSTEC and other relevant stakeholders. Also, the PPO will approach international foundations, research organizations and other relevant organizations, and secure international funding for the above initiatives. The PPO will attend the *Chikyu* IODP Board (CIB) as a member, and will provide suitable technical advice in long-term/annual planning of the platform.

**Other Functions (optional)**

The PPO may also facilitate multi-platform international collaborations for multi-platform initiatives; regularly update IODP science and engineering information, and

compile riser and riserless project ideas and proposals; and conduct other relevant tasks.

S. Shibata reviewed the **Tentative Implementation Schedule**, shown next.

| | |
|---|---|
| March | Preparation for Open Recruitment |
| April | Open Recruitment |
| May | Establishment of Selection Committee |
| June | Closing of open recruitment |
| July | Selection Committee |
| Late July | 1st CIB |
| August | International Consultation/Implementation |
| October | Initiation of Activities |

### 2.4 - ECORD Facility Board mandate and goals (G. Camoin)

G. Camoin reviewed the E-FB mandate and goals. The **E-FB purpose** is that it will serve as the key-planning forum for the MSP expeditions. The **E-FB mandate** is that it must determine the operations schedule for the MSPs to implement high priority science proposals that are forwarded to the E-FB by the Proposal Evaluation Panel (PEP), based upon science priorities, optimal geographic distribution and costs. In addition, the E-FB must approve the expedition section of the Annual ECORD Plan (the MSP schedule, Publications, Data Management, Core Curation, Technical Development, Education and Outreach) and will advise on long-term planning of MSP expeditions.

**E-FB Decisions**

The E-FB will usually reach decision by general consent, i.e. when a motion is not likely to be opposed. Reasonable effort will be made to attain a general consent. If a motion fails to be approved by general consent, the Chair of the E-FB can decide either to defer further action, or to ask for a standard vote involving only the Science Board members.

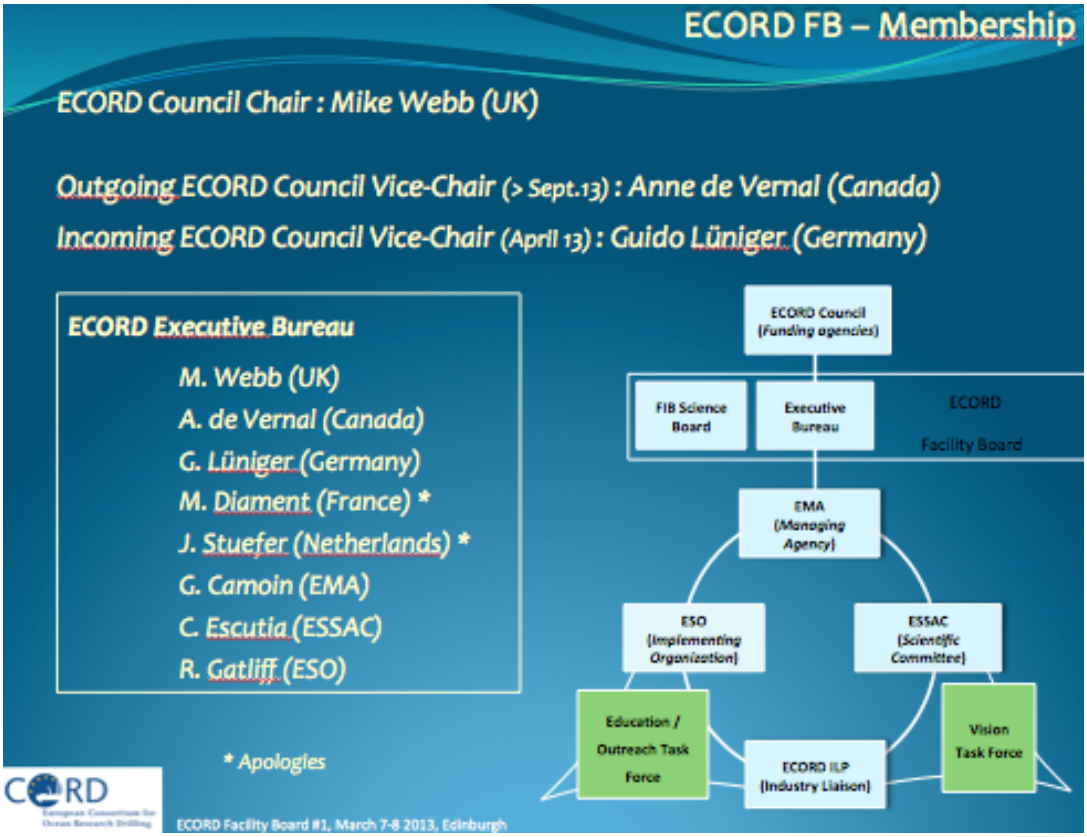
A motion will be accepted if approved by the majority of the votes cast at the meeting. Voting will be normally done by 'show of hands'.

**Conflict of interest rules**

All potential conflicts of interest will be declared at the start of every meeting, or at an otherwise appropriate time during the meeting. Members of the E-FB or other meeting attendees determined as having a conflict of interest regarding an MSP-related proposal should not be present when the proposals are evaluated, considered for ranking, ranked, considered for scheduling, or scheduled.

**E-FB Membership**

G. Camoin said that there is a new ECORD structure, shown below.




**Science Board**

The Science Board's call-for-an-applications was open from late June 2012 to October 2012. Seventeen applications were received by ESSAC, with 9 from ECORD, 7 from the US, and one from 1 Japan. All potential COI were considered. The first criteria was the candidates' expertise in order MSP scientific themes represented. ESSAC recommendations were sent to the ECORD Executive Bureau. The final nominations and

Chair were proposed by the ECORD Executive Bureau. The approval of the final nominations by the ECORD Council.

The **Science Board** consists of:

K. GOHL (Chair; ECORD) – Geophysics, sedimentary processes, ice sheet dynamics, paleoclimate.

D. WEIS (ECORD) - Geochemistry of the Earth's mantle

M. TORRES (US) *Apologies - Early diagenetic processes; Fluid transport processes at convergent margins; Methane hydrates; role of microbes in early diagenesis.

A. CATTANEO (ECORD) - Stratigraphy, Sedimentary Processes & Geohazards.

G. DICKENS (US) – Paleoclimate: geochemistry, paleoceanography, sedimentology, stratigraphy.

The FB members include the members of the Executive Bureau, the core group of the ECORD council and big contributors from ECORD, an additional ECORD Council member, the ESO chair, the ESSAC Chair and the EMA Director.

Additional **Members include** one representative from the Funding agencies: T. Janecek from NSF; S. Shibata from MEXT; S.L. De Matos Mello from CAPES; and Apologies for the absence of representatives from ANZIC, China, India and Korea.

**E-FB Liaisons**:

IODP Forum : K. Becker

SIPCom : J. de Leeuw

PEP : D. Kroon

SCP : G. Lericolais

CDEX : N. Eguchi

USIO : D. Divins

**E-FB Observes and Guests**

NSF : R. Batiza

ESO : S. Davies, U. Roehl, A. Stevenson, D. McInroy, D. Smith

USIO : Mitch Malone

EMA : M. Borissova

USSSP : J. Schuffert

J-DESC : Yasuhiro Yamada

J-DESC : Keita Umtesu

IODP-MI : Yoshi Kawamura

***Motion 13-02-01:*** *All members approved the E-FB Terms of Reference (ToRs).*

*G. Dickens, D. Weis seconded. All members in favor of the motion.*

*ACTION: G. Camoin C. Escutia, G. Dickens and A. Cattaneo and D. McInroy to participate in a working group that will determine the ECORD policies on publications.*

**3. Mission Specific Platform operations**

**3.1 - Mission Specific Platform concept and costs (R. Gatliff)**

**&**

**3.2 - Flow of activities related to MSP operations (D. McInroy)**

D. McInroy summarized the **MSP concept activities and costs**. ESO is the Implementing Organization (IO) and comprises of the British geological Survey (BGS), the University of Bremen-MARUM Center for Marine Environmental Sciences, and the European Petrophysics Consortium (EPC), that consists of the University of Leicester, a Geophysics and Borehole Research Group, the University of Montpellier and Aachen University. The ECORD Science Operator's (ESO) role is to provide MSP Expeditions under the auspices of IODP that are funded by ECORD and directed by E-FB.

**IODP Platforms**

IODP has had three types of platform operations: the US riserless *JR*, the Japanese riser *Chikyu* vessel and the ECORD MSPs.

**MSPs in the new IODP**

In the new IODP, the drillship-style will continue, along with MeBo, BGS Rockdrill 2, and long piston coring.

**The role of ESO**

ESO's role is to operate within the greater IODP set-up in several ways. First ESO **operates within the greater IODP set-up** by operating within the IODP framework and policies: staffing, environmental protection, sample policies etc. The expeditions will be assessed by IODP's Science Advisory Structure (SAS). ESO will act on the ECORD Facility Board's instructions. ESO is involved in the **early planning of expeditions** and acts as a liaison at all IODP-panel and related meetings. In this way ESO is aware of what proposals are coming. ESO also meets with proponents and other scientists; attends workshops, convenes scoping meetings, convenes **Project Management Team (PMT)** meetings; researches the operational methods (which may lead to engineering developments); explores the permitting routes for the expedition; and documents the expedition planning (Scientific Prospectus and associated web content). ESO is also involved in **engineering development**, by holding the **ECORD Technology Panel** meetings; scoping new developments that are required to deliver up-coming proposal objectives; develops new tools (in-house and/or in collaboration); and purchases new tools 'off the shelf' if possible. D. McInroy clarified that so far all development has taken place outside ESO.

ESO appoints the co-chief scientists and the science party, as it receives the nominations from each Program Member Office and maintaining the national balance and expertise.

As an operator, ESO contracts services for the vessels, coring, logging and other expertise such as ice management. The in-house capabilities include coring tools, logging services, operational oversight, curation scientific facilities, data management, contracting and permits. An example of these in-house capabilities is the set-up of the ACEX Viking Vidar.

The **ESO Mobile Container Laboratories** include a curation container, MSCL container, clear laboratory container for geochemistry, general science container for core description, in addition to containers that are used for ESO office, ESO database and Microbiology. D. McInroy showed an image of the configuration of the *Greatship Maya*.

In the implementation and management of the offshore operations, the on-board ESO staff includes an operations superintendent, drilling coordinators, expedition project managers, a petrophysics staff scientist, database managers, logging engineers, electronics engineers, core curators, technicians (e.g. petrophysics/geochemists). The listed crew is an addition to the drilling crew, ship's crew, logging crew (if contracted)

and the Science Party. The Onshore party always includes an ESO staff member that is 'on call' at the BGS.

**Differences between MSPs and IODP Platforms**

The MSPs include customized scientists participation offshore; a focused offshore science program; an Onshore Science Party (OSP) that is held at the IODP Bremen Core Repository and MARUM Germany, a few months after the offshore operation. The vessels are contracted in a commercial environment with industry competition for the platforms. It is often difficult to give precise timing of the offshore operations, thus this requires flexibility from the operator, scientists and contractors. The duration of the offshore expeditions are defined by the costs. The expedition's end-date may be undecided for the first half of the expedition.

**MSP Offshore Operations**

The offshore phase is focused to fit within the MSP operational concept through core recovery, logging of drilling data, core curation (cores are not split), initial lithological description (core-catcher sample only), measurements of ephemeral properties and sample preservation in geochemistry and microbiology, multi-core sensor core logging (MSCL) measurement of physical properties and downhole logging.

**The role of ESO: Implement and manage the Onshore Science Party (OSP)**

The OSP is held at the Bremen Core Repository and MARUM a couple of months after the offshore operation. The cores are split and the IODP minimum and standard measurements are completed.

ESO coordinates the IODP MSP Expedition publications in collaboration with the US Implementing Organization (USIO) Publication Services and co-ordinates the post-expedition activities, such as post-expedition science meetings and the publication of results in peer-reviewed journals.

D. McInroy reviewed a table, shown next, of the **ESO costs expenditures for the time period of 2003-2013**. (not for public access)

*T. Janecek asked that since ECORD is moving to different types of expeditions other than standard drillships and is using rock drills and piston cores, what advice and guidelines are given to the community as what consists of an acceptable level of operations, i.e. number of holes to be drilled? How is this information to be delivered to the community? G. Camoin*

*said that first PEP will have to review the expeditions and then the FB will have to make a statement about the piston coring expedition. For long-piston coring expedition, in reference to the IMAGES community, an acceptable hole is a large-transect. G. Camoin reminded that ECORD has funded and IMAGES has initiated workshops, which will serve to relay the guidelines. The proposal guidelines will have to include piston coring expeditions, and such guidelines must come from collaboration in the FBs. G. Dickens said that there are different platforms and different budgets. The funds could fluctuate, whereas the other drillship programs have a fixed contribution. T. Janecek said that it is up to the E-FB to run things as they choose in accordance to their funds. Hence, it is up to the E-FB to take the best scenario of the budget. G. Camoin said that he will comment on the overall plan for the expeditions, for which a two-year window must be allowed. ECORD does not have its final budget figures. This is why the E-FB needs a long-term view and why it is important to hear from PEP what proposals are currently in the system. ECORD will aim to implement the best proposals in the future based on co-funding sources. C. Escutia said that it would be best if the proposal guidelines are integrated with the other entities of the program.*

*G. Dickens asked how joint projects would be done. R. Gatliff said that there will be joint tests. D. Kroon said that despite costs for piston coring operations, PEP could handle some of these types of proposals, but would recommend some integration with the drilling expeditions. C. Escutia said that the MagellanPlus workshops could be a good venue to express these guidelines to the community. G. Camoin added that some IMAGES representatives intend to submit large-scale proposal transects. T. Janecek asked whether the proposals for piston coring could come from IMAGES or anybody else. G. Camion confirmed that the long-piston coring proposals can be submitted by anybody.*

*K. Gohl said that the types of future in-kind contribution are difficult to guess, as national operations could provide some ship-time. D. McInroy said that some of the cost estimates assume that the ship-time will be offered for free.*

*J. de Leeuw said that the proposal guidelines are implicitly based to deal with traditional drilling, and with the upcoming new technologies, the rules and guidelines have to be changed in order to make sure that PEP is not overloaded with small proposals. He suggested that PEP requires the submission of a pre-proposal, which clarifies that the piston coring will be connected to a later drilling event in the operation. K. Golh and D. Kroon agreed that the piston coring proposal numbers may inundate PEP and that should be avoided ideally, by linking the proposals to drilling.*

### 3.3 - Downhole logging data and core petrophysics measurements (S. Davies)

S. Davies presented the composition of the European Petrophysics Consortium (EPC). The Universities of Leicester Lead, Montpellier and Aachen have formed a consortium that provides ECORD with petrophysics staff scientists and petrophysicists, expertise in downhole logging and core petrophysics programs, dedicated equipment for core logging and discrete measurements, data calibration and quality control, and data evaluation and interpretation.

**Personnel**

The staffing is flexible and may consist of logging engineers, logging staff scientists, technicians, petrophysics staff and MSCL operators.

**The Offshore Expedition Phase**

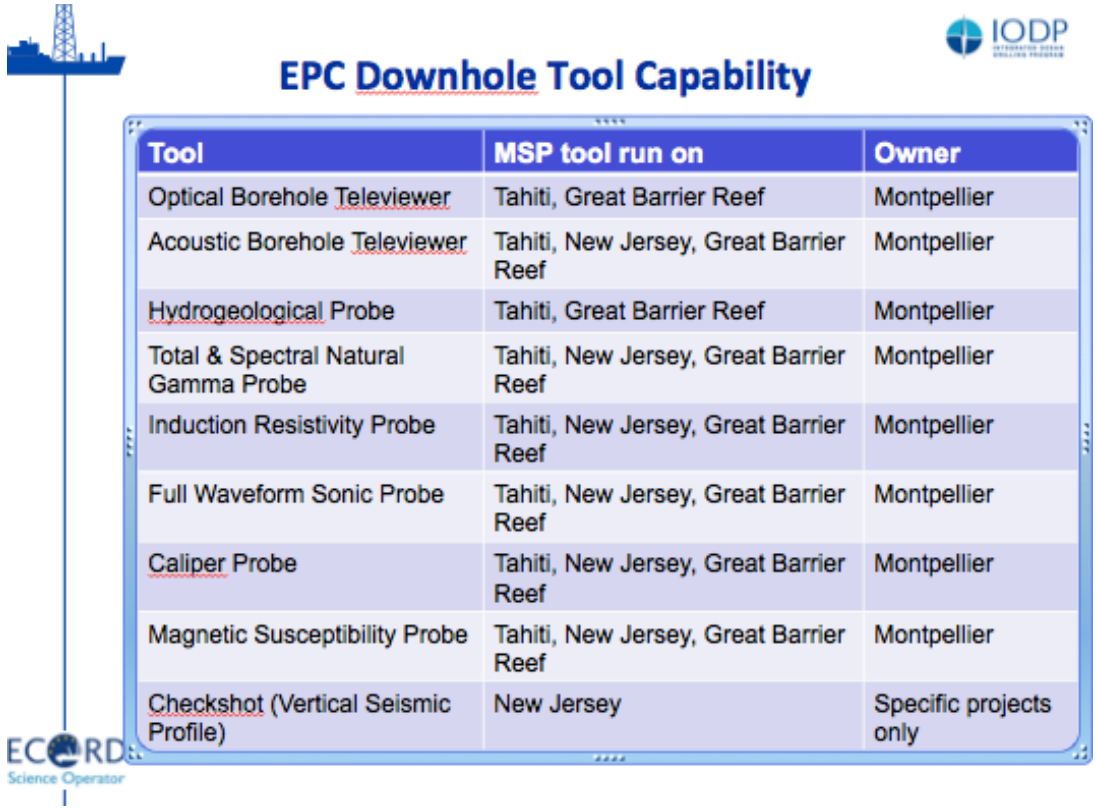
An expedition consists of an offshore expedition, a pre-onshore and a onshore expeditions.

**Typical Offshore Staffing from EPC**

The **ESO Petrophysics** Staff scientists ensure that the acquired petrophysical data meets the expedition's scientific goals and is responsible for all MSCL & downhole logging measurements. The Petrophysics Staff scientists work with logging contractors and acts as the liaison between the logging contractor, ESO and the Science Party. The **ESO Petrophysicist's** primary responsibility is the MSCL, MSCL QA/QC and supports the Petrophysics Staff Scientist in downhole logging.

**Downhole Logging for MSPS Expeditions** uses a commercial single contractor, university-based single contractor and combined university-based contractors. The different models are applied to address the different science goals. **Choosing logging tools** has to be tailored to the scientific requirements and also it must be compatible with the drilling equipment. For example, some of the applied tools are a Schlumberger-JR for 90mm, a Weatherford COMPACT 57 mm, and EPC 40mm. The staff has to work with the constraints of the drilling.

The **EPC Downhole Tool Capability table** was reviewed showing tool uses for the different expeditions.




| Tool | MSP tool run on | Owner |
|---|---|---|
| Optical Borehole Televiewer | Tahiti, Great Barrier Reef | Montpellier |
| Acoustic Borehole Televiewer | Tahiti, New Jersey, Great Barrier Reef | Montpellier |
| Hydrogeological Probe | Tahiti, Great Barrier Reef | Montpellier |
| Total & Spectral Natural Gamma Probe | Tahiti, New Jersey, Great Barrier Reef | Montpellier |
| Induction Resistivity Probe | Tahiti, New Jersey, Great Barrier Reef | Montpellier |
| Full Waveform Sonic Probe | Tahiti, New Jersey, Great Barrier Reef | Montpellier |
| Caliper Probe | Tahiti, New Jersey, Great Barrier Reef | Montpellier |
| Magnetic Susceptibility Probe | Tahiti, New Jersey, Great Barrier Reef | Montpellier |
| Checkshot (Vertical Seismic Profile) | New Jersey | Specific projects only |

S. Davies explained that Slimline Downhole Logging Tools are used for geo-technical logging, hence their slim diameter. She mentioned that there are current **MSP-Downhole Logging Innovations** in OBI optical and ABI acoustic core analysis.

**Core Petrophysics**

In terms of capability development, a Multi-Sensor Core Logger (MSCL) 152 would allow for the stratographics correlation of different holes and the use of data for microbiology.

**Pre-Onshore Expedition Phase**

**Natural Gamma Sensor** rays can run up to 6 cores. The core gamma and log gamma are useful for the stratographic correlation of cores. Some of the applied offshore whole core petrophysics also involve measurements of P-wave velocity, magnetic susceptibility and electrical resistivity.

**Capability development**

Sally Morgan worked with Geotek to develop a dedicated system for rapid magnetic susceptibility core logging. A Multi-Sensor Core Logger (MSCL) 152 that is installed in a offshore container will enable timely stratigraphic correlation and rapid logging of cores for microbiological analysis. The MSCL-XYZ has a natural gamma sensor. S. Morgan is

also working with Geotek to develop a more rapid NGR core logging system using a BGO, rather than NaI(TI). Further testing is expected in April 2013. **Thermal Conductivity** is used to measure the rate heat flows through material by heating material and measuring the temperature change with time.

**Onshore Expedition Phase**

During the onshore phase the cores are split and discrete samples are acquired. The typical Onshore staffing includes ESO petrophysics scientists and petrophysicists (EPC) and petrophysics technicians (EPS and Bremen).

The **Core petrophysical equipment** includes a standard MSCL-S, MSCL-XYZ (NGR), MAD, a PWLD and a Teka TK04. The MSCL is used offshore and serves as a discrete measuring system for p-wave velocities.

As EPC takes part in the **International consortium logging**, it provides logging operations on all of the platforms. The staff working on the platforms has a diverse experience in terms of logging. The consortium consists of the Lamont-Doherty Earth Observatory (US), the European Petrophysics Consortium (Leicester-Montpellier-Aachen) and the University of Tokyo (Japan). The provided services include **shipboard** logging operations and skilled logging/petrophysics staff scientists on each IODP platform, and ongoing scientific support for expedition participants and other interested scientists. The update of the IODP log database ensures aces to the **downhole legacy data**. The **Bremen Core repository Data Portal** ensures the legacy physical properties data.

EPC is also involved in **knowledge transfer** through the teaching, mentoring and advising on the acquisition and interpretation of downhole and core petrophysics measurements. ESO has participated in the 2010-2013 ECORD Summer Schools, Geosciences Summer School, UK IODP Student Conference and has welcomed visitors to the EPC Conference. The program's integrated approach encourages collaborative research. Over 750 publications have been generated, many of which are collaborative ventures.

EPC is involved in IODP, the International Logging Consortium, Teaching and research in petrophyics, has dedicated equipment, and in capability development and the academic-industry interface.

*T. Janecek asked if the 750 logging requirements document could be distributed. S. Davies confirmed that she will send him the document.*

It was mentioned that the **spectral gamma-ray tools** have a compatibility with the drilling equipment. The listed tools include: Schlumburger-JR 95.3mm, a Weatherford COMPACT 90 mm, and an EPC 40mm. Currently there is no ultra-slimline **resistivity-imaging tool** on the market. Two tools are available as part of the logging service: the Schlumberger FMI 127 mm and the Weatherford COMPACT 61 mm.

### 3.4 - Data collection, publications, and core curation (U. Röhl)

The MSP Operations include an Offshore and an Onshore Science Party. Bremen is the location of the European Core repository. U. Röhl showed a Offshore core flow chart and three diagrams of the equipment locations in the **Core Curation Container**, the **Geochemistry Lab Container** and the new **Microbiology Lab Container**, see PowerPoint. Such containers may be taken to the upcoming *Baltic Sea* Expedition.

**Offshore objectives**

The Onshore Science Party (OSP) splits the core and then there is a core flow for the onshore science party. The measurements and procedures are posted on the webpages, as well as online tutorials for the onshore phase. The Onshore objectives include performing the minimum and standard measurements, non-destructive analysis and sampling analysis. The Offshore objectives also include core recovery, logging of drilling data, core curation (cores are not split), initial lithological description (Core Catcher (CC)), core catcher photos, biostratigraphy (analysis of core catcher samples), physical properties (full core multi sensor core logging – MSCL) measurements, pore water geochemistry, microbiology, stratigraphic correlation (to aid drilling overlap and zonation), and downhole logging.

The Onshore science party performs a lot of analysis. U. Röhl showed a core flow diagram for the onshore science party. Online tutorials are available to the OSP.

**Onshore Objectives**

The objectives include the completion of the **minimum and standard measurements** and **non-destructive analysis** with whole core gamma rays, selected whole core repeats for density and magnetic susceptibility, thermal conductivity measurements, split core multi sensor core logging (MSCL), color reflectance of split-core surface, high-resolution digital imaging of split-core surface, and visual core description (macro- and microscopic). The sampling and analysis for Expedition Reports involves

lithostratigraphy (smear slides), biostratigraphic analysis, x-ray diffraction analysis, discrete physical properties, inorganic and organic geochemistry, microbiology - any outstanding, paleomagnetic measurements (U-channels or discrete samples), sampling for post-expedition research, and writing all sections for the Expedition Report.

**The OSP** performs high-quality analysis in accordance with the IODP standards. The laboratories are diverse with a state of the art instruments and experience staff. There is an integrated repository at the laboratory facility at BCR-MARUM.

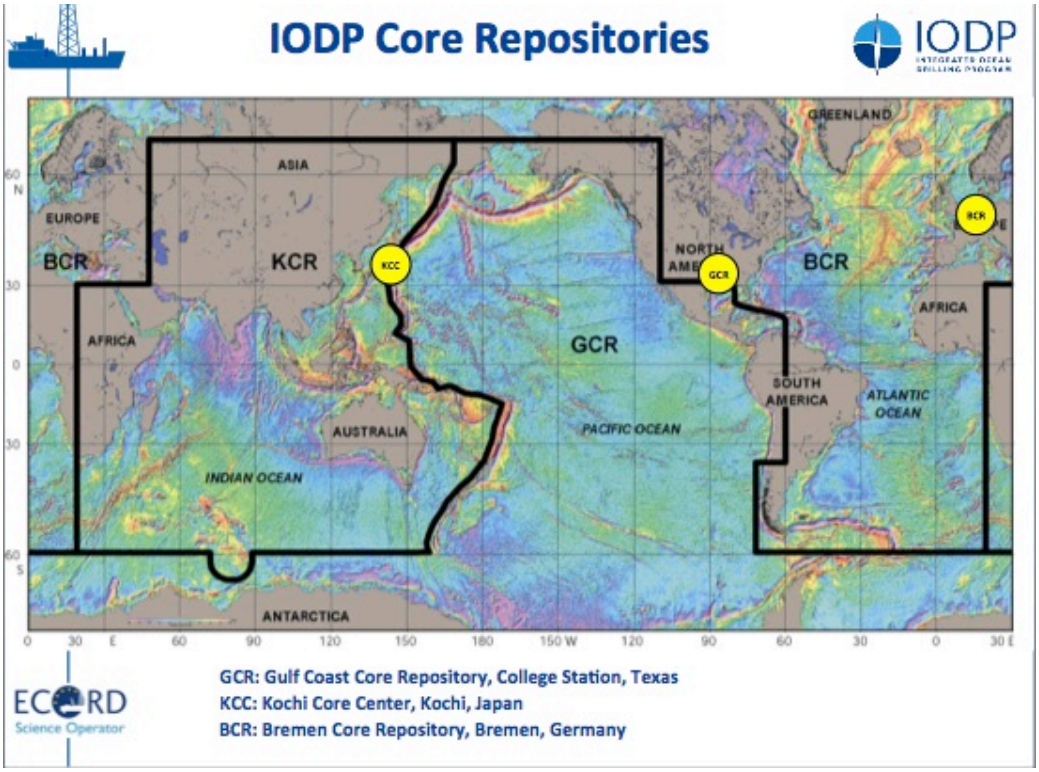
U. Röehl reviewed a diagram of the **IODP-MSP Data Management flow.** The correlation data and analytical data will go to the onshore expedition. PANGEA is the long-term storage of the data. There is an MSP Portal and a Bremen Core Repository Curation Data.

The **IODP-MSP datasets** can be found in PANGEA.

**IODP Core Repositories**

There are three core repositories: the Gulf Coast Core Repository (GCR), in College Station Texas, the Kochi Core Center (KCC) in Kochi, Japan, and the Bremen Core Repository (BCR), in Bremen Germany.

U. Röhl showed a map designation of how the cores are distributed regionally.



The **IODP Bremen Core Repository (BCR)**

There are over 152 km in core from the ECORD waters of the Atlantic-Antarctic-Mediterranean regions in Bremen. The BCR receives about 200 sample requests per year, *see PowerPoint*.

Generally a sampling party comes to the BCR.

Since 1969, there are over 5073 total sample requests from the BCR cores. A total of 1, 438,123 total samples were taken from the BCR cores, involving 2816 individual scientists.

**Drilling Information System (DIS)**

U. Röhl gave an example of a DIS sample entry window. DIS is a tool that produces a schematic lay out of the core to see what measurements have been already taken. There is a Web interface (XDIS) for curatorial data.

**Obligations and Publications**

The expedition obligations are to the: Scientific Prospectus (published at least 2 months before an Expedition); create a Preliminary Report (written during OSP and submitted 1 week after the OSP); and create an Expedition Report (written during OSP and submitted a.s.a.p. after the OSP). The **Post-expedition research obligations** are to Publish in either a peer-reviewed popular journal in English or as a Data Report in the Proceedings volume (submitted within 20 months postmoratorium*; all Science Party members have this obligation) and publish an expedition synthesis paper (submitted within 26 months postmoratorium*).

**IODP Sample, Data and Obligations policy** can be found at http://www.iodp.org/program-policies/.

**The Scientific Earth Drilling Information Service (SEDIS)**

SEDIS is a data portal for information from IODP.

**ECORD summer schools**

ECORD has held summer schools in Bremen since 2007. Overall themes rotate between several main themes and the science plan. The school combines a practical on IODP-style "shipboard" methodologies and lectures and leads interactive discussions on the main

themes of IODP.
The BCR is used for workshops such as the **2012 Crustal Processes Meeting**, which was a 3-day meeting, that was equally divided between a science conference and a training workshop, including the IODP-style "shipboard" methodologies.
In accordance to STP Consensus Statement 1209-11, the SEDIS portal will be continued in the new IODP. The ESO QAQC documents will be linked to the future databases.

*T. Janecek asked how the publications would be handled, now that IODP is operating with independent platforms, he asked if the E-FB has an expectation of a minimum publishing requirement of people who sail on the MSPs. He said that that is a question for the US-FB to solve as well. C. Escutia said there are no current answers to this question, but there should be a minimal requirement for the publications. She said that that is a current issue as the policy may be set, but the people will choose if they will follow this policy.*
*T. Janecek said that the current JR facility needs are being re-written, as each of the platform providers takes care of the cores in a pre-agreed way. Hence, this may be a good opportunity for all FBs to agree on a common policy and to then create a workshop that would draft a common documents implementing these policies. The roles, responsibilities and authority of each FB in publication have to be clarified. K. Gohl asked if this has been a problem for the JR. It is expected that IODP will require a top quality number of publications. T. Janecek said that under the past co-mingled funds system the repositories were funded, but now as the individual platforms are funded individually, there may be a question as to how to create an overarching system for the publications.*
*The US FB will apply the old publications policy and then will tailor it to the current phase. G. Dickens asked where the current repository cores would go. It may be complicated if there would be different publication policies with differently directed core repositories. G. Camoin recommended that 2-3 members from the FB should begin working on this question. He proposed to be part of this working group and then to relate it to the JR-FB.*

***Consensus 13-03-01:*** *The E-FB decides to create a sub-work group to answer the Core Repository Recommendations, rules and procedures questions (U. Röhl).*

*ACTION E-FB: to create a 'Recommendation, Rules and Procedures' work group, including U. Röhl, G. Dickens, A. Cattaneo, D. Weis, in order to write a start-up document.*

### 3.5 – Outreach and Education (A. Stevenson)

A. Stevenson reviewed the IODP Science Plan and the emphasis on pursuing opportunities to convey the IODP science.

**Main outreach objectives**

The main objectives are to co-ordinate and promote integrated planning via the ECORD Outreach and Education Task Force; to create program identity and materials such as logos, letterheads, PowerPoint templates, and leaflets; to compile and maintain common resources via a website portal, provided information about IODP scientists, and photo archives; to facilitate international program activities via expedition outreach, event booths, and media relations; and to advance outreach by engaging the international community through the collaboration with educators and science magazines.

**Co-ordinate and promote the integrated planning: the ECORD Outreach and Education Task Force**

A. Stevenson reviewed the current IODP Outreach structure, where IODP-MI is the overarching structure that works with the Japanese Center for Deep Earth Exploration (CDEX) and ECORD: the EMA Outreach and Web Manager, the ESO Outreach Manager and the ESO Media Relations. In addition, IODP-MI worked with several IODP representatives: the Consortium for Ocean Leadership, the Lamont-Doherty Earth Observatory, and Texas A&M University.

The current Outreach team consists of the ESO Outreach Manager, the ESO Media Relations, the EMA Scientific Outreach Coordinator, ESSAC Chair and Science Coordinator and the EMA Assistant Director and EMA Director. A. Gerdes and A. Stevenson take care of the ESO website and MSP outreach.

The Outreach Task Force **Creates Program Identity and Materials** such as newsletters, posters, leaflets and brochures. A. Stevenson mentioned that in the past conferences the attendees have used less paper brochures, which may be a good opportunity to begin sending the brochures via technologies such as e-readers, I-phones, etc.

**Compile and maintain common resources**

CDEX, USIO and ECORD each have a website. ECORD attempts to avoid any duplications

with the ESO-MSP website.

**Facilitate International program activities**

The MSP Communications Plan is compiled by the outreach and co-chief scientists, consists of communications objectives to target audiences, sends messages to convey FAQs, serves as the briefing document for the science party, aims for the organisation of press releases and media conferences, plans for the arrangement of port call visits (media, local school groups) and liaison with media for interviews, expects co-ordination with PR officers at universities, and the organisation of ship reports on the ESO website.

A. Stevenson explained that a press release is generally organized prior to an expedition. If there is an opportunity to hold a media conference for a port-call, the media is invited. For example, there were a series of successful interviews and conferences at the *New Jersey* expedition. A. Stevenson showed several examples of media coverage on IODP's science such as BBC news, The Washington Post, NBC news, and The NY Times. Other types of applied communication include RSS Newsfeed, Facebook and Tweeter.

An **ESO photo gallery** is in the process of development and is available for viewing on the ECORD website. So far only a few ECORD videos have been created due to considerations for the high costs. These videos were previously funded by IODP-MI, so the funding source of such projects will have to be identified in the future.

**Conference booths/events listed**

A. Stevenson reviewed the attended events such as Oceanology, London, the European Geosciences Union, in Vienna that includes media conferences on expeditions/IODP developments, the American Geophysical Union in San Francisco, the International Geological Congress, the Japanese Geosciences Union, the Asia Oceania Geosciences Society, the Polar Petroleum Potential (3P Arctic) Conference 2013 in Stavanger and the Goldschmidt 2013 in Florence.

ECORD has stopped attending the RTTC conference due to its high the cost of $6000 USD. It was decided that the conference was not targeted and effective enough as there are 35 000 people were attending.

**Advance education by engaging the international community**

Sometimes information about IODP-ECORD is made available on publications listed on

Amazon.com.

**ESSAC Activities**

The ESSAC activities include the ECORD Summer Schools and scholarships. The Bremen school addresses the topic of Deep-sea sediments and the Urbino school addresses Paleoclimatology. ESSAC oversees the Distinguished Lecturer Programme, with the following participants and discussion topics: R. Urgeles: Submarine landslides and tsunamis; B. Ildefonse: Mantle, ocean crust and seawater and C. Hillaire Marcel: The Arctic Ocean in the Cenozoic climate system. ESSAC overlooks the ECORD Research Grants, supports the 'Teachers at Sea' and 'School of Rock', and manages the distribution of teaching materials and core replicas.

A. Stevenson listed the IODP and ECORD websites.

*K. Gohl asked if there is a policy on questions from NGOs about potential environmental impacts. A. Stevenson said that this issue will come up more often, especially if ECORD were to start working with industry in the Arctic.*

*J. de Leeuw asked if there are real-life onboard activities during the expeditions as was done on the JR. A. Stevenson said that whenever possible they will invite the media, but it is more complicated as there is not enough accommodation space for the media. The New Jersey expedition is an example that was performed an interview on a platform, so it depends where the expedition is taking place. D. Smith asked about A. Stevenson's perception of ESO and ECORD in relation to IODP, as they do not know how the whole unit works. A. Stevenson said that it is not relevant to see how ECORD and IODP are interrelated and it is difficult to convince media to mention the consortium. D. Smith asked whether the attention should be more on IODP or ECORD. He emphasized that it is important to show recognition of ECORD, so a balance must be achieved between publicizing involvement in IODP and ECORD. One of the biggest critiques is that ECORD concentrates only on the mechanics and do not focus so much on the science, so the media has to be interested in the story.*

*S. Shibata said that after October 2013, IODP-MI will be dissolved. A part of its role will be absorbed by the new Support Office, but the main functions will be conducted to each platform. What will be the relationship with the support office? A. Stevenson said that the question will have to be addressed at the E-FB.*

### 3.5 - Site survey requirements (G. Lericolais)

G. Lericolais introduced the Site Characterization Panel's (SCP) Mandate. The SCP reviews site survey data packages the proponents submit to the IODP Site Survey Data Bank; verifies data quality and identifies data gaps for each proposal's site survey data package; provides early guidance to proponents and the PEP regarding necessary site characterization data; makes recommendations regarding the degree of completeness of each data package to the proponents, the PEP, and the SPC; assesses, on the basis of the proposal and data package, whether or not the scientific objectives of each drill site can be effectively achieved; examines and encourages opportunities for the use of new site survey technologies; and fosters cooperation and coordination for site survey data acquisition.

**Classification Decisions**

G. Lericolais said that the SCP begins its e-review discussions by email, but that is not enough, especially in situations where there are 3 watchdogs. He reviewed the classification mandate as following:

The site characterization completeness for each proposed drill site shall be evaluated by two or three SCP members serving as watchdogs and classified by general consensus of the SCP members during SCP meetings. Modifications of the site classification shall be by consensus of the SCP at a meeting or by e-mail. Site classifications shall be recorded in the meeting minutes.

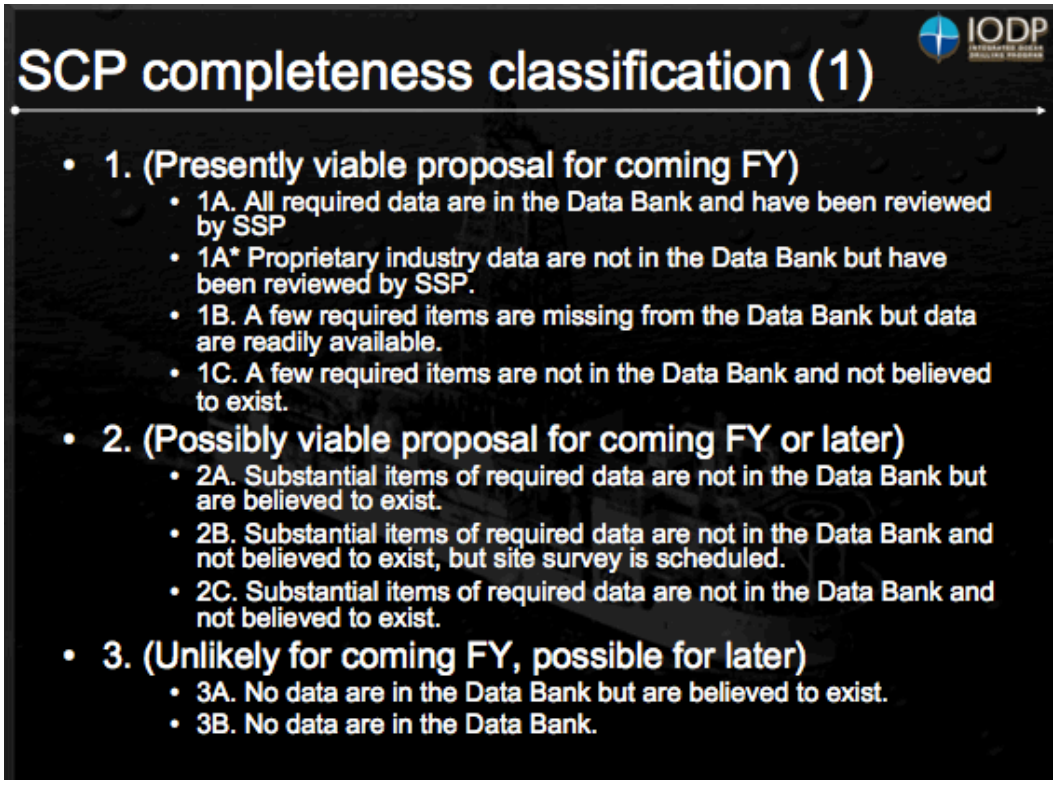
The site characterization completeness for each proposed drill site is assessed on a scientific basis by the SCP. The SCP's site classification does not preclude drilling.

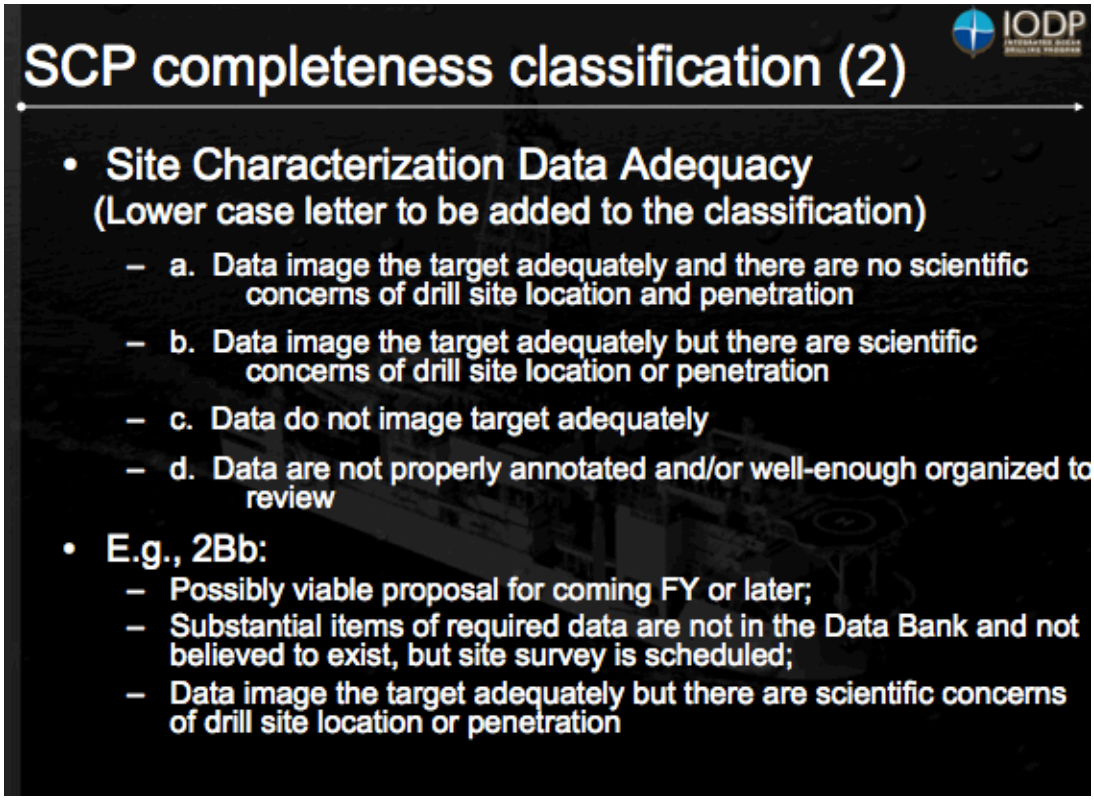
G. Lericolais explained a SCP Appendix C Matrix diagram, *see PowerPoint*. He said that some of the listed data is required also by EPSP. The SCP is performing the matrix exercise with the goal to become a more objective panel and to assist the proponents. They still need criteria in the long-run to make determinations for the case-by-case situations. The SCP does not wish to make subjective decisions that are inconsistent with the program's goals.

**SCP completeness classification**

G. Lericolais recommended that it will be better to send one combined review for each proposal, that would also include the discussions from PEP and EPSP in order to address

the global objectives of the proposal. A designation of 'A', means ready to drill, and small-case 'a' indicates that there is no scientific concern about the drill sites. Such classification needs to be clarified further, shown below.



The SCP will simplify this system, by adding the designation of a 'green light', meaning 'go ahead drill', 'orange light' indicates that the decision depends on the OTF, and 'red light' means a refusal to drill.

*T. Janecek clarified that the SCP should provide recommendations and information about the proposed drill sites, but this panel should not make a decision if something should be drilled. This is why the SCP recommendations should be forwarded to the FB, which will decide whether they would follow these recommendations.*

G. Lericolais said that the *Mediterranean Outflow* proposal was given an 'orange' recommendation and was sent to the proponents. The Segway was sent to the databank, so the drilling had gone to a wrong location.

G. Lericolais posed the question as to what will be the SCP future. The message that is received from the NSF and FB is considered in the SCP's function. The scientists will review most of the proposals, but there is a lacking review in geo-physics. For this reason a site survey is very important.

**The SCP/SSDB new Matrix**

A SCP back-to-back meeting has been organized with PEP in June. A sub-committee was created to review and revise the classification matrix. A background document was distributed during the E-FB. In 2003, a similar process was carried in order to review the matrix and to have automated guidelines. It was decided that there should be an easier process for inputting the site survey data into the databank for the review process.

*C. Escutia asked if the SCP is considering that the new piston coring drilling will require different scenarios in the matrix. G. Lericolais confirmed that these changes have been considered to be included.*

*G. Camoin asked whether the minimum requirements are listed for the scientific objectives and not on the various types of environments. He said that if the categories are created just based on the scientific objectives, it is not appropriate and it should be more technically oriented for the type-of drilling. G. Lericolais said that the distributed document represents the basic set of requirements. Following these requirements, the SCP then tries to understand the scientific objective with the sought-out data. The watchdog then looks over the proposal reviews. He emphasized that he is against an e-review, because it is important to involve different types of knowledge and skills.*

*C. Escutia asked whether the proponents are provided the different requirement lists for the different types of proposals. G. Lericolais said that this information is provided through a form that is to be completed by the proponent, but this process needs to be improved and more visible to the proponents.*

*T. Janecek said that the provided document fits both the E-FB and JR-FB purposes. The JR team can evaluate if the document meets their specific needs. T. Janecek said that any information that is relevant to the scheduling of an expedition should be related to the FB.*

*G. Lericolais said that the SCP tries to improve the proposal science. J. de Leeuw said that there are a lot of proposals at OTF, which will be never implemented, because the SCP and PEP did not match up with the evaluations. It is needed to better integrate both panels' advice. T. Janecek agreed with J. de Leeuw that the PEP and SCP have to work together but the FBs have to weight in and give their review if the SCP documents and information is appropriate for the FB's purposes. K. Gohl recommended setting-up a small group from the FB to write these recommendations for the SCP.*

*ACTION E-FB: G. Lericolais, G. Dickens, A. Cattaneo and M. Torres to set-up a small working group from the E-FB members, in order to write a recommendation if the SCP matrix documents and information are appropriate for the FB's purposes.*

## 4. ECORD Facility Board policies

### 4.1 - SIPCom legacy issues and transfer of SIPCom duties to Facility Boards (J. de Leeuw)

J. de Leeuw emphasized that little time has passed between the Science Implementation and policy Committee (SIPCom) meeting and the E-FB meeting in order to organize a list of issues for the FBs.

He summarized topics that were discussed at SIPCom. The real decisions will be made by the E-FB, *JR*-FB and the *Chikyu* IODP Board (CIB). This implies that efforts are required to make sure that the new program will remain a successful international program. The bodies within the new Science Advisory Structure are the PEP, SCP, and the EPSP. SIPCom met for the last time in January 2013. In June 2012, SIPCom decided that it was necessary to look at the proposal guidelines and the subcommittee re-drafted the document. SIPCom realized that during the transition period, it is not easy to draft

new guidelines and mainly discussed overarching/cross-platform issues to help the FB's and CIB as well as the future Forum to address these overarching issues in the future program. The overarching/cross platform building blocks for the new framework are the new Science Plan, the Science Advisory Structure (SAS) with its panels (PEP, SCP and EPSP), the Forum with the Forum Chair being "the face" of IODP, the website and the support office. The guidelines indicate at what stage the SCP and EPSP team should team up with PEP. PEP and SCP will meet back-to-back in June 2013 to discuss how they can better organize in the future.

The new guidelines describe the different types of proposals, how they are processed and how they are evaluated. The guidelines are flexible in the sense that both FB's as well as the CIB can adopt the rules despite their different procedures for selection of the best proposals to be implemented. The new guidelines also indicate how, at what stage and to what extent the Site Characterization Panel (SCP) and the Environmental Protection and Safety Panel (EPSP) team up with the PEP. It is interesting to note that a back-to-back meeting of PEP and SCP is planned for June 2013 to evaluate the new proposals.

J. de Leeuw reviewed several SIPCom consensus. SIPCom Consensus 1301-04 called for the creation of a document that provides guidelines and evaluation criteria. SIPCom Consensus 1301-04 stated the decision that Dick Kroon will remain as the chairman of the PEP. *See PowerPoint for details.*

J. de Leeuw said that the actual role of the new SAS is not clear and raised four questions for the FB, shown next.

The draft of the new guidelines for proponents leads to a number of questions on the exact role of SAS within the new IODP structure and on the roles of the individual panels within SAS.

1: The draft of the new guidelines for proponents suggests that the new SAS will provide advice on scientific, environment, safety and site survey issues to all FBs.
But when are the individual FBs going to decide whether they wish to use the new SAS and its panels or not? And what are the implications for the guidelines if a specific FB would not make usage of the new SAS or one of its panels?
The FB's and CIB indicated that they all will use PEP.

2: The authors of the draft of the new guidelines suggest a closer relationship between the two panels PEP and SCP but to what extent and how are PEP and SCP going to work together?

3: If PEP and SCP would collectively give advice on proposals, i.e. integrated advice to the FBs, then combining the two panels is a possibility/desirable. Is such a merger appropriate in future?
Ad. 2 &3. Actions are already taken for a much closer collaboration of PEP and SCP so that, for example, per proposal the minimum of required site surveys can be defined.

4. In the new system STP will be deactivated, but how is consistency/standardization of all measurements, sampling and data acquisition/assurance/quality/management maintained across the drilling platforms? Will the recently revised scientific Technology Roadmap be leading for each FB?
Q. 4 was discussed separately (see hereafter).

SIPCom received 5 letters of the present STP chair and 4 (ex)members of the STP expressing their serious concerns regarding the handling of technical issues in the new framework without a cross-platform operating technology panel. These letters were discussed during the meeting. SIPCom realized that in particular cross platform issues such as consistency and standardization of measurements, sampling and data acquisition/assurance/quality/management are crucial, also in the new IODP. However, SIPCom is of the opinion that these issues will be taken care of by the Forum and the FB's and CIB as expressed in Consensus 1301-03.
SIPCom Consensus 1301-03 recognized that the "IODP Forum mandate" and framework documents for the new IODP documents should include the appropriate safeguards, oversight, and discussion mechanism. *See PowerPoint for details.*

**Funding Workshop Proposals**

SIPCom emphasized that the new program a substantial funding should be made available for the further enhancement and continuation of workshops. Since there are no comingled funds in the new program, it is regarded as very important that the

individual FB's and CIB clearly indicate, through the IODP website with appropriate links, what possibilities exist for ECORD, US and Japanese leading scientists respectively. ECORD has established MagellanPlus to optimally support scientists to organize workshops. It is SIPCom's wish that the FB-JR and the CIB will also take actions to inform their scientific community how and where funding for IODP workshops can be obtained.

***Scientific Drilling*** **Journal**

SIPCom indicated that the journal is an important vehicle for scientific and technological developments and a joint publication of expedition results from IODP and ICDP. To reduce costs, SIPCom supported the new ideas for the future journal. i.e. a predominantly electronic journal to inform the scientific and technological community with a somewhat more outreach nature (extended newsletter) and with a limited number of hard copies, if possible being paid by those interested to have hard copies. An enhanced contribution (financial or in-kind) from ICDP would be welcome.

**Forum**

SIPCOm reviewed a "shopping list" of activities that should be taken care of the new program and the Forum. SIPCom realized that most of these activities will be monitored, fostered, advised by the Forum. Although the Forum will not have any decisive power SIPCom asks the FB's and CIB to communicate optimally with the FORUM and it's chair (the face of IODP) to ensure that the FORUM's voice is well heard.

SIPCom has asked how IODP expedition numbers will be arranged in the future.

J. de Leeuw reviewed a list of the transfer activities, shown below, and recommended that it should be revisited as a checklist and see if they are completed in the future.

*Transfer of SIPCOM duties to other IODP entities post 2013*
Jan de Leeuw's list of SIPCOM duties in black.
Draft response by Catherine Mevel and Tom Janecek in red

• Incidental workshop reviews
Depending on topic: Conducted by either Facility Governing Board (FGB) or Implementing Organization (IO).
• Monitoring science plan delivery
IODP Forum and individual Facility Governing Boards
• Long-term planning
Monitored by IODP Forum and implemented by Facility Governing Boards and Implementing Organizations
• Regional planning
Monitored by IODP Forum and implemented by Facility Governing Boards and Implementing Organizations
• Collaboration issues (ICDP,PAGES, OOI, DCO, etc.)
Coordinated by Forum Chair
• Monitoring website renewal
Support Office with advice from IODP Forum
• General performance assessment
NSF for JR; JAMSTEC/MEXT for Chikyu; ECORD/EMA for MSP
• Improving transparency at all levels
All entities; general IODP Forum discussion item

• Overarching educational issues
National and Facility Governing Board issues
• Overseeing the planning and scoping of the BEAM and other major projects which impact heavily on all other projects
Respective Facility Governing Board and Platform Provider issue
• Monitoring and evaluating engineering development
Implementing Organizations responsible for engineering development. Facility Governing Board monitor and determine level of interaction between platforms
• Monitoring and stimulating overarching outreach and PR activities
National Activity / Forum Chair
• Overseeing Rapid Response Drilling –type activities and their impact on planned expeditions.
IO/FGB activity
• Ethical issues, such as conditions of co-funding by commercial bodies
National/FGB issue
• Exploring optimum platform flexibility, e.g. exploring alternatives for corking expeditions by using local/regional research vessels, seabed drilling by local/regional research vessels, etc.
FGB/IO activity

• Standardization of reporting formats, an important issue now that individual FGBs will become responsible for data collection/archiving, shipboard reports, preliminary reports, etc., etc.
Framework specifies goal of common publications, sampling polices, etc. Individual FGBs to determine level of compliance.
• Budget approval for Support office
NSF –in consultation with Forum

Transfer of current IODP-MI tasks:

Data management - IO/FGB
Publications – IO/FGB
Outreach & PR – IO/FGB/National
New member attraction - Forum/FGB/IO
Curational Issues – IO/FGB/National
Technical Developments – IO/FGB

The E-FB discussed the 4 above-mentioned SIPCom questions.

*D. Kroon said that it is not as helpful to hold the meetings back-to-back as would be if scheduled as parallel, but the new scheduling will be followed. There will be a common SCP and PEP session, and then the two will split into different groups. For some of the proposals, which have not been reviewed by the SCP, PEP will say there is not enough information about the proposal yet. A feasibility statement for the proposal is very important and the funding needs have to be clarified. G. Lericolais said that a SCP parallel session may be better. He said that the pre-proposals can be reviewed for the science only, the SCP does not need to require site survey data and when they have an answer, the proponents would have to be informed that they would need a clear site survey data for the full proposal.*

J. de Leeuw said that the proponents are asked in the pre-proposal stage to indicate the site survey preferences. He proposed that PEP looks at these proposals.

***Consensus 13-01-01:*** *The E-FB decides to use PEP and SCP for proposal evaluation.*

***Consensus 13-02-01:*** *The E-FB supports the planed joined meetings between PEP and the SCP.*

## 4.2 – Maintenance of all measurements, sampling and data acquisition across drilling platforms in IODP (U. Röhl)

**IODP Measurements**

The current IOs are committed to maintaining a unified approach (with overarching STP). The Scientific Technology Panel (STP) will be deactivated at the end of the current program.

U. Röhl said that in reference item# 4 on J. de Leeuw's list, there is a recent **IODP Policies and Procedures/Guidelines documents**.

**IODP Minimum measurements**

The minimum measurements definition states that such a measurement shall be conducted in all boreholes and on all cores in IODP. This statement does not preclude the taking of whole-round core samples on an as-needed basis to achieve specific scientific objectives and/or obtain the legacy samples.

**IODP Standard Measurements**

The definition states that a standard measurement shall, whenever practicable and appropriate, be carried out across all platforms and/or shore-based labs.

**Measurements in the new IODP**

"Oversight of the technology, scientific measurements, and information handling on each platform is addressed by small panels and/or ad hoc committees working under each Implementation Organization (IO) to deal with platform specific issues." (*from*: 'Framework for the International Ocean Discovery Program')

Each IO will have autonomy to modify measurements and information management. Who will provide essential quality control and cross-platform standardization?

**IODP Sample, Data and Obligations Policy**

U. Röhl reviewed **STP Consensus Statement 1209-02**, which called for the continuation of the Existing Measurement and Sampling Policies into the New IODP.

STP strongly advises the leadership of the new IODP to continue to enforce the current IODP cross platform measurement and sampling policies regardless of the structure of the new IODP SAS.

**IODP Curators Meeting**

U. Röhl said that there is a lot of flexibility in how to implement the obligations policy. During the December 6th, 2012 AGU fall meeting in San Francisco, the three IODP Curators (BCR, GCR, KCC) and the Chair of the Curatorial Advisory Board (CAB) met and discussed several topics. The primary purpose was to ensure a continuation of high-quality, standardized repository service to the scientific community in the International Ocean Discovery Program. It was agreed that we should act before the new drilling program begins.

**Outcome IODP Curators Meeting**

In reference to the IODP Sample, Data, and Obligations Policy, it was agreed that it will be crucial to continue the application of the IODP Sample, Data, and Obligations Policy into the new program. However, similar to the way it has been applied in the current IODP, implementation of the policy should remain flexible. In reference to the role of the Curatorial Advisory Board (CAB), it was agreed that the (CAB) should be kept in the new program as an advisory and mediating body. The *"Framework for International Ocean Discovery Program"* document states that "the repository heads will select members of the community to act as a Curatorial Advisory Board, which will act as an appeals board for issues associated with sample distribution and assist in reviewing and approving requests to sample permanent archives." To ensure the continuity of the CAB´s responsibility the curators recommend that (1) the existing CAB members should be asked if they would be willing to continue to serve on the CAB, at least into the beginning of the new drilling program. If they do not wish to stay on the CAB in the new program, the curators should identify people with appropriate scientific expertise to replace them, and (2) in the absence of the Scientific Technology Panel (STP) in the new program we recommend that one CAB member be considered to serve in some capacity on each of the respective Facility Boards (FB) in the new program. In addition, it is recommended that (3) The role of the CAB should be expanded to include them in adopting possible changes in the IODP Sample, Data, and Obligations Policy, in the

absence of the STP. The IODP curators envisage the following process for making changes to the policy:

a. Curators submit any proposed changes in the policy to each other and to the CAB.

b. Once agreement has been reached, the CAB forwards the recommended policy change to the three facility boards for approval.

c. Approval by all the Facility Boards is followed by a written change in the policy to be made by the entity that hosts the policy document on its web page.

d. If the Facility Boards do not approve the change, they will suggest to the IODP Curators and CAB that they revise the proposed change or drop consideration of the proposed change.

In **reference to the sample and data requests systems**, there is a new "IODP Sample and Data Requests" system (**SaDR**). It was agreed to use it for post-moratorium requests, and then implement it for future IODP Expeditions when each IO agrees it is ready for their expedition requests. Expeditions currently using **SMCS** continue to use them through their moratorium period, so that all sample requests under the supervision of the Expedition SACs will be in the same database. When the post-moratorium period begins for each Expedition, the new system should then be used for them. The existing USIO consortium should ensure support for the new system through the end of FY14. Funding for the system in the future remains uncertain.

**The Routine Microbiological Samples (RMS)**

It was agreed at the **IODP Curators Meeting that taking Routine Microbiological Samples (RMS)** is a fundamental mandate of the Science Plan. Many geo-microbiologists are still not informed about the RMS or about the lists of available RMS in repository web pages.

The IODP curators identified the needs for better advertisement of the archived RMSs and agreed to ask the Center for Dark Energy Biosphere Investigations (C-DEBI) if they would be willing to link these lists on their webpage, as well as frequently mention RMS in their Newsletter.

**Central Inventory (CI)**

The IODP Curators agreed that **The Central Inventory (CI)** is intended for the creation of all sample records available in one database or through a single internet portal. The FY13 **Annual Program Plan (APP),** states (page 38) that the CI was launched in early FY2012. However, we have not yet seen anything related to the CI, and even lack of

information when it will be developed. It was agreed that there is needed to apply well-developed and proven procedures, including the multi-repository requests.

**Continuation of proven procedures**

**The IODP curators** agreed to keep the well-developed and proven procedures, including: the multi-repository requests will be reviewed for approval by the IODP and the curator/repository that houses the lowest numbered leg/expedition listed in the sample requests.

The creation of permanent archive lists is the responsibility of the IODP Curator for the drilling operator that obtained the cores. It was agreed to hold quarterly conference calls (or more/ad hoc if needed). The chair of the Curatorial Advisory Board (CAB), or another CAB member, in the chair´s absence, will be invited to participate in the conference calls.

**IODP Curation/repository web pages**

The IODP curators agreed that the entire IODP Curation/Repository web pages should be made more prominent than they are now and that the new IODP Sample/Data Requests be made easily accessible from the front pages of all IODP sites. This would help provide the science community with a more integrated service, in the same manner as the future Central Inventory system.

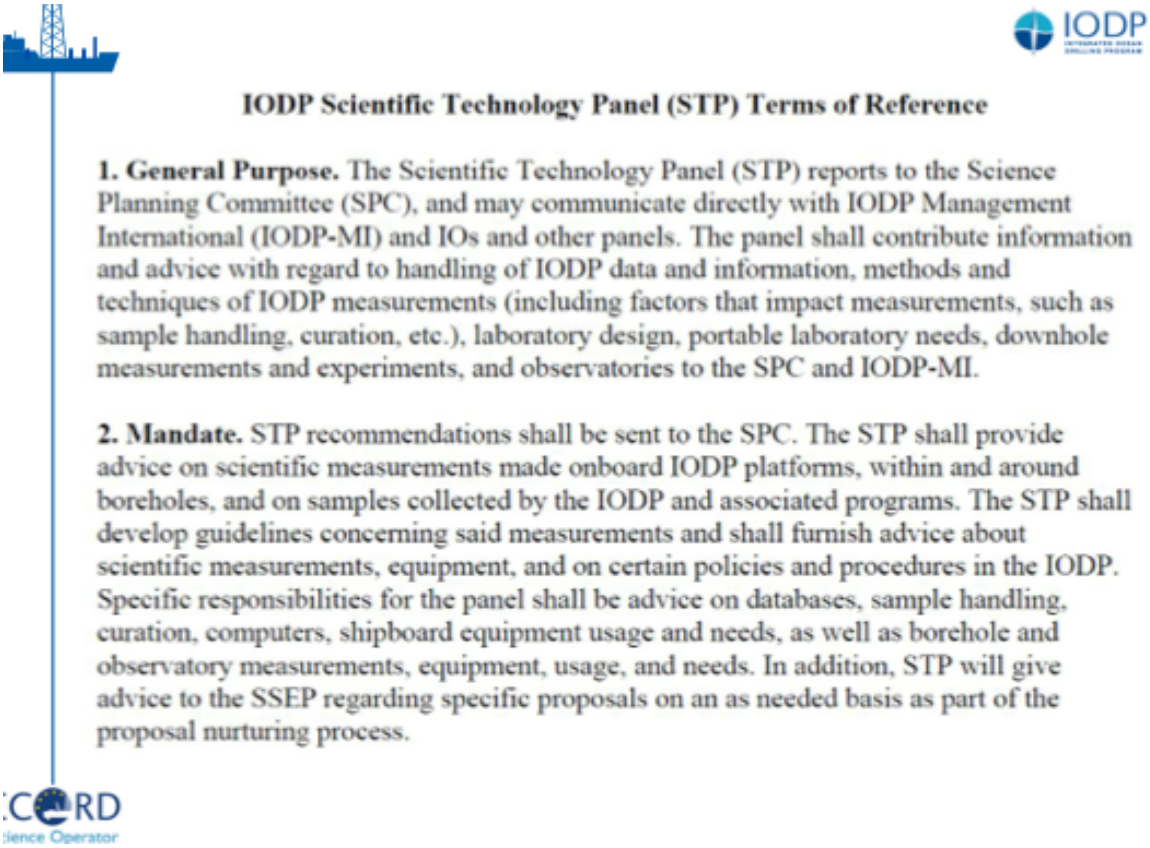
In reference to the continuation of a high-quality, standardized repository service, the IODP curators seek the FB support for their mission to ensure the continuation of high-quality, standardized repository service to the scientific community in the International Ocean Discovery Program. It was also recommended that the repository webpages should be more easily accessible via the IODP webpage.

**Shipping of core materials**

The IODP curators decided that the shipping of core materials should be for non-destructive analyses (U-channels, entire sections, thin sections). The curators discussed loan agreements and potential budget issues as well as the applied procedures (ship-requested cores vs. evaluation of requests in detail with respect to local lab capacity and deciding on a case-by-case basis), risks for core during transport, at scientist´s labs, and due to improper core handling by inexperienced staff. Identified the need for flexibility in shipping budget (to build in contingency). U. Röhl said that it is necessary to continue the standardized repository service.

**IODP Scientific Technology Panel (STP) Terms of Reference**

U. Röhl presented the following STP ToR.



IODP Scientific Technology Panel (STP) Terms of Reference

**1. General Purpose.** The Scientific Technology Panel (STP) reports to the Science Planning Committee (SPC), and may communicate directly with IODP Management International (IODP-MI) and IOs and other panels. The panel shall contribute information and advice with regard to handling of IODP data and information, methods and techniques of IODP measurements (including factors that impact measurements, such as sample handling, curation, etc.), laboratory design, portable laboratory needs, downhole measurements and experiments, and observatories to the SPC and IODP-MI.

**2. Mandate.** STP recommendations shall be sent to the SPC. The STP shall provide advice on scientific measurements made onboard IODP platforms, within and around boreholes, and on samples collected by the IODP and associated programs. The STP shall develop guidelines concerning said measurements and shall furnish advice about scientific measurements, equipment, and on certain policies and procedures in the IODP. Specific responsibilities for the panel shall be advice on databases, sample handling, curation, computers, shipboard equipment usage and needs, as well as borehole and observatory measurements, equipment, usage, and needs. In addition, STP will give advice to the SSEP regarding specific proposals on an as needed basis as part of the proposal nurturing process.

The IODP Sample, Data and Obligations policy was updated on March 2012.

It has been discussed as to whether it would be possible to ask the existing CAB members to continue their functions in CAB. In the absence of STP in the new program, it was recommended that one CAB member serves on each of the respective facility boards.

The core repository curators discussed the necessary changes and submitted the recommendations to the advisory boards. Next, the recommended changes are forwarded for the decision of the Facility Boards.

U. Röhl reminded that the above is a list of points and recommendations for improvements.

*K. Becker said that there exist policies and procedures that ECORD may apply to initiate some changes.*

*T. Janecek commented that the above-listed requests involves a lot of fiscal responsibility, but the Forum has no fiscal authority so it is rather the FB that should address these issues fiscally. First, it is essential to hear the issues that pass through the JR-FB. He asked for a prioritized list of the listed items and an indication of their corresponding associated costs.*
*D. Smith said that if ECORD defines the question list as the necessary items for each case, then it would be difficult to apply these recommendations to different projects across the world and may thus constrain the MSPs. U. Röhl said that the existing measurement document has different categories that must be addressed. It is expected that it must be considered what is acceptable and feasible with each separate expedition.*
*G. Camoin said that several principles and financial consequences for the addressed items would have to be further reviewed. He recommended that 2-3 members of the FB work with U. Röhl in redefining these principles in order and then these items could be evaluated in terms of financial consequences by the ECORD Council. K. Gohl recommended that these items should be also discussed via email.*

*ACTION: to create a 'Recommendation, Rules and Procedures' work group, including U. R., G. Dickens and A. Cattaneo, D. Weiss, in order to write a start-up document with the discussed above issues.*

***Consensus 13-03-01:*** *The E-FB decides to create a sub-work group to answer the Core Repository Recommendations, rules and procedures questions (U. Röhl).*

***E-FB Consensus 13-04-01:*** *The E-FB agrees to work on a revised guidelines document for the ethical and environmental MSP issues and to prepare a document to the circulated to the E-FB.*

D. Weiss said that she would participate in the work group if the necessary documents were made available.

*ACTION (FB Chair and one Scientist): K. Gohl and D. Weis to form a two-person working group to write a draft of the suggestions for the ECORD environmental policy for ECORD MSP operations.*

### 4.3 – ECORD Technical Development Panel and Scientific Technical Panel (R. Gatliff)

R. Gatliff said that it is needed to examine the current STP issues and to find a better approach than meeting each month as a panel.

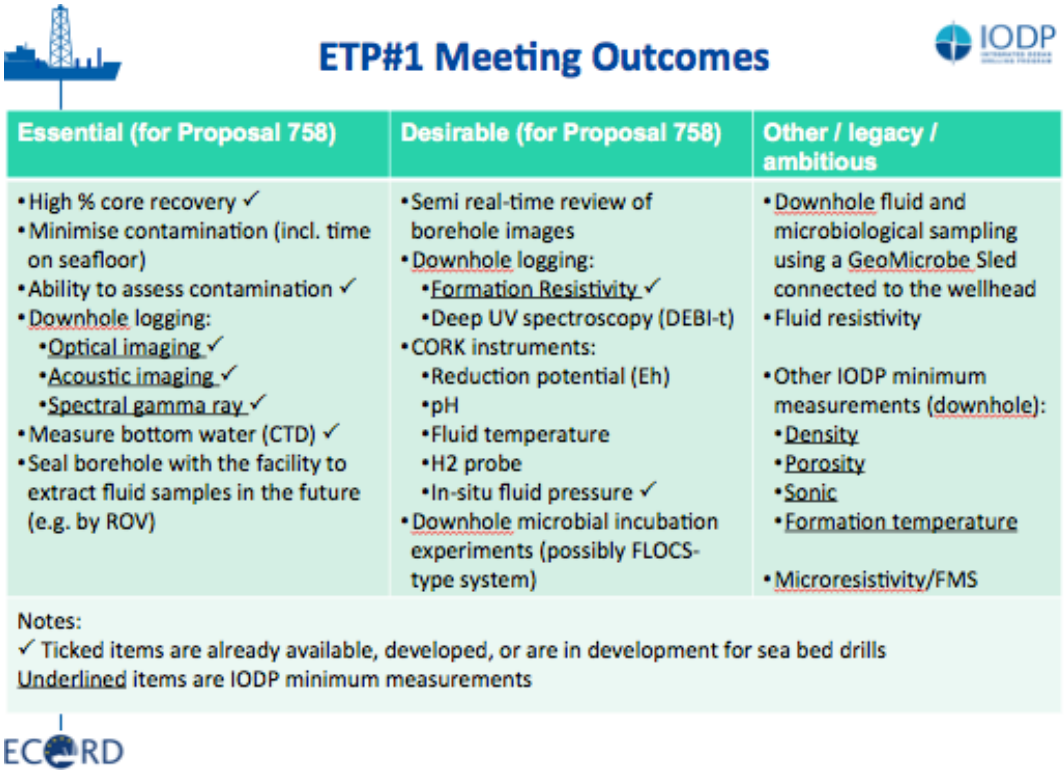
R. Gatliff reviewed the ECORD Engineering and Technology Panel ETP #1 Meeting aims. He mentioned that it is necessary to prioritize a list of elements in order to evaluate how to meet the minimum measurement goals. ETP Meeting #1 occurred on November 8th at the BGS in Edinburgh, the UK. The ECORD ETPs will be project-driven, i.e. will examine what technology is needed in order to implement and schedule highly–ranked proposals. The participants will largely vary from meeting to meeting. The first meeting examined the fluid and microbiology sampling from sea-bed drills. He reviewed a list of participants, *see PowerPoint*.

**ETP Meeting #1 Aims**

The first meeting was primarily an information gathering exercise for ESO. It focused on the question of how ESO should meet the minimum requirements of IODP Proposal **758: Atlantis Massif Seafloor Processes**. The second part of meeting focused on IODP and on the questions of how should ESO enhance an expedition based on Proposal 758 and how it should provide more of the expected IODP legacy data (minimum measurements). The third part of the meeting focused on how ESO should provide and test new tools that the community can use on future proposals. Ultimately, ESO would like a prioritized list of sea-bed drill developments, and an indication of the level of development required. If ESO is going to develop/modify something, ideally it would like to collaborate with MARUM so the tools will work on both the BGS Rockdrill and the MeBo.

**ETP Meeting #1 Outcomes**

The following meeting outcomes were reviewed.



## ETP#1 Meeting Outcomes

| Essential (for Proposal 758) | Desirable (for Proposal 758) | Other / legacy / ambitious |
|---|---|---|
| • High % core recovery ✓<br>• Minimise contamination (incl. time on seafloor)<br>• Ability to assess contamination ✓<br>• Downhole logging:<br>  • Optical imaging ✓<br>  • Acoustic imaging ✓<br>  • Spectral gamma ray ✓<br>• Measure bottom water (CTD) ✓<br>• Seal borehole with the facility to extract fluid samples in the future (e.g. by ROV) | • Semi real-time review of borehole images<br>• Downhole logging:<br>  • Formation Resistivity ✓<br>  • Deep UV spectroscopy (DEBI-t)<br>• CORK instruments:<br>  • Reduction potential (Eh)<br>  • pH<br>  • Fluid temperature<br>  • H2 probe<br>  • In-situ fluid pressure ✓<br>• Downhole microbial incubation experiments (possibly FLOCS-type system) | • Downhole fluid and microbiological sampling using a GeoMicrobe Sled connected to the wellhead<br>• Fluid resistivity<br>• Other IODP minimum measurements (downhole):<br>  • Density<br>  • Porosity<br>  • Sonic<br>  • Formation temperature<br>• Microresistivity/FMS |

Notes:
✓ Ticked items are already available, developed, or are in development for sea bed drills
Underlined items are IODP minimum measurements

ECORD

ESO will focus to perform all of the essential items before the end of the mission. The seal borehole will be an upcoming development project and ESO is in the process of discussion with MARUM. They envision to meet with the goal within the next 12 months. Under the desirable items, list reviewed. ESO prepared a list of the ambitious steps that could be undertaken and discussed the issues about how safe it is to use radioactive items for downhole measurements.

**The Science and Technology Panel**

SIPCom received and discussed 5 letters of the present STP chair and 4 ex-members of STP expressing their serious concerns regarding the handling of technical issues in the new framework without a cross-platform operating technology panel. SIPCom realized that in particular cross platform issues such as consistency and standardization of measurements, sampling and data acquisition/assurance/quality/management are crucial, also in the new IODP. However, SIPCom is of the opinion that these issues will be taken care of by the Forum and the FBs. R. Gatliff said that ESO views the STP type reviews are very important and will try to work with colleagues on a project basis.

According to **SIPCOM Consensus 1301-03** the "IODP Forum mandate" and "Framework for the International Ocean Discovery Program" documents include appropriate

safeguards, oversight, and discussion mechanisms by which should such concerns be raised in the future that they can be resolved. For example, Item #2 of the IODP Forum mandate and Items # 5, 6, 12, 14, and 20 of the Framework document, as well as others, provide specific identification of matters of relevance and how they might be handled in the new IODP.

*K. Gohl commented that the procedure for each MSP is well-thought out.*
*S. Davies said that the minimum and standard measurements were requested by the proponents and not done in isolation.*
*G. Dickens asked whether ESO foresees any long-term technological goals. R. Gatliff said that ESO is working with ECORD in creating a Research Infrastructure (RI), in hopes to get some funds for technological development from the EU. G. Camoin said that ECORD will begin working on such a proposal in the next few weeks and will submit it next year to the EU, as a second step of the ECORD development phase.*
*D. Smith said that expeditions in over-pressurized hydrate sediments and the Arctic could have a long completion schedule.*

### 4.4 – Overarching educational and outreach issues (A. Stevenson)

A. Stevenson said that the IODP 2013-2023 Science Plan is emphasized on the training the next generation of scientists. IODP's main outreach initiatives such as training, fostering stewards of the planet, and working with more museum and national parks facilities and information, inspire the public through webpage material and social networks tools.

**The IODP main outreach initiatives**

The initiatives include the training of the next generation of scientists by engaging early-career scientists and graduate students in science expeditions and other activities (summer schools, etc.) where experience can be passed on. Another IODP outreach initiative is the fostering of stewards of the planet by: inspiring a sense of environmental stewardship and science interest in homes and schools; hosting outstanding educational materials; helping science educators to develop materials for museums, nature centers, national parks; hosting educational activities at core repositories, etc.; informing and inspiring the public; providing web-based material and social networking tools; linking

classrooms and platforms electronically; and developing applications and other electronic media.

**ECORD's outreach objectives**

A. Stevenson said that ECORD's outreach objectives are created in accordance with the ECORD Business Plan. The objectives include reaching opportunities at a **government** level by demonstrating that the results meet the funding agencies' needs, at an **industry** level by demonstrating opportunities for joint expeditions and by participating in **new funding opportunities** through the pro-active involvement in European science planning.

A. Stevenson said that the EC has recognized that it is needed to have more input from scientists on how money should be allocated, especially in the creation of an infrastructure.

He showed as an example the USIO **research *JR* vessel virtual tour**, along with a fun-and-games blogs section as a reach out tool to a younger audience. He emphasized that that it is important to do such outreach as early as possible. Also it is important to maintain a frequently-asked-questions related page about the needed opportunities and skills. He reviewed the JAMSTEC webpage, the *Chikyu* TV links and the *Chikyu Hakken* CDEX newsletter. Tweeter is a strong outreach tool that is applied by ECORD to get the attention of media. He recommended that such outreach facilities should be used more constructively.

**Issues to consider in the new IODP**

A. Stevenson reviewed a list of issues that should be considered:

**relationship with Support Office** (which will maintain IODP website). This relationship needs to be further clarified in terms of IODP website maintenance; **delivering overarching outreach** defined in the new Science Plan e.g. social media policy; resources for activities previously funded by IODP-MI. Currently there are no more resources to make more professional videos for ECORD. **Achieving educational targets (developing materials) on a multi-national level** also needs to be clarified. A. Stevenson asked whether such activities will involve more input from the national offices? In addition, the list **includes conveying the new business model**, e.g closer liaison with industry, especially in environmentally sensitive areas. He emphasized that this activity is relevant **to ECORD in terms of coral reef expeditions**; and **keeping up**

**with media technology**, as ECORD needs to become technologically agile enough and to acquire the necessary skills, which also involve the funding issues.

*T. Janecek said that the delivering overarching outreach that is defined in the new Science plan should be dictated by the FB.*

### 4.5 – Ethical issues (R. Gatliff)

R. Gatliff said that there is a need to create a future plan in the generation of extra funding.

**Ethical Issues: Lessons from ICDP, JR, and Chikyu**

R. Gatliff said that they found an affordable ship from Tonga, which will be sailed from around the world. He asked whether ESO should have refused using this ship and used instead a local ship.

He commented that it is clear that ECORD would like to go to the Arctic. He presented some challenges to such similar cases, such as the recent UK House of Commons announcements about minimizing projects to the Arctic. Shell has pulled out of the Arctic due to some controversy with leading such projects. He reviewed that ICDP has been involved in work with industry and has received funding with such actions.

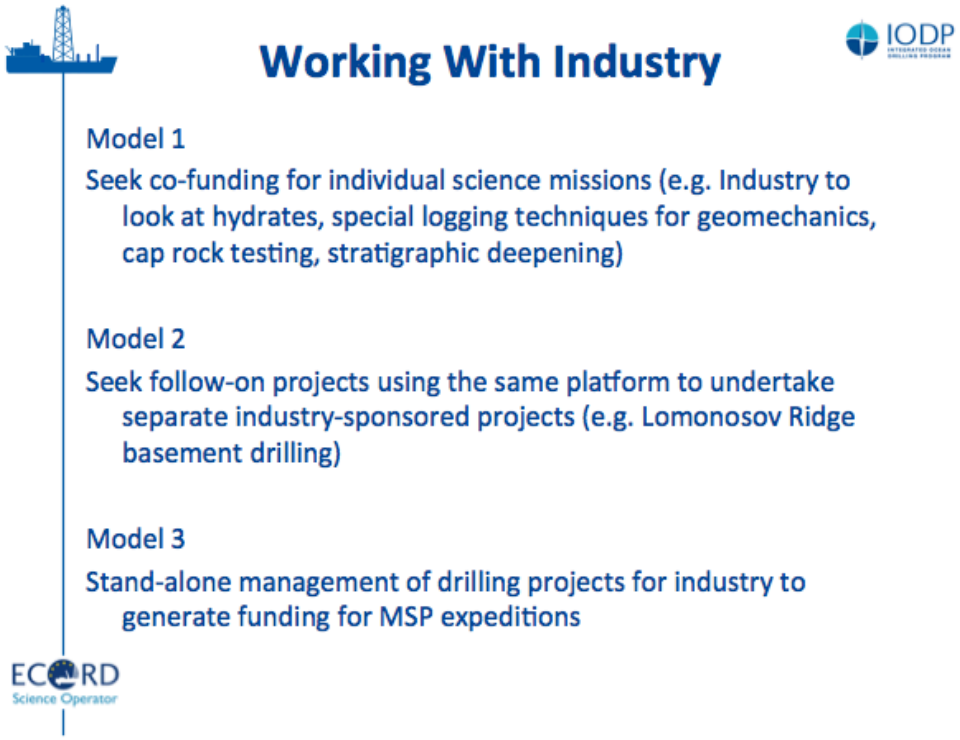
R. Gatliff concluded that the other platforms are working with industry for one reason or another and that such actions do not interfere with their science. Based on ECORD's future plans to hold operations in the Arctic, such as the ACEX expedition, it should be considered in the future how ECORD will work in this region and whether it would involve industry.

**Ethical Issues and Politics**

Israel will join ECORD and Russia will be approached to become a member. Should ECORD approach any countries and should ECORD work in offshore regions of some countries of interesting science cases? Currently, ECORD does not have a written environmental policy and this may be an issue. He listed some of the deep-sea and mining anti-exploration publicity.

**Working with Industry**

He presented three types of working models shown next.




R. Gatliff recommended using model #2 of future expeditions to the Arctic.

*D. McInroy said that IODP has a short environmental policy. J. de Leeuw commented that it is possible to follow model #3.*

*K. Gohl said that ECORD should not be too specific in its work plan with industry, but it should have some discussions about it in the future, especially for the purposes of Arctic drilling. Such discussions should be held specifically to each MSP, as each one is very different. C Escutia agreed that a broad document should be adopted, which can be applied to the individual MSP projects. T. Janecek agreed and said that they are also looking into developing a similar policy with the use of the JR, in which they will have to remove the label of many organizations that are not involved in the specific operations. He added that the JR environmental principles refer to when the JR operated in accordance with the IODP plan, but now the plan is written for an all-encompassing program, which in essence does not include the actions of other platform providers.*

*D. McInroy briefly displayed a short paragraph of the current program's Health, Safety, and Environmental policy, which may need to be clarified further in the future. T. Janecek said that there is no one entity on IODP so these types of questions will have to be decided by each operator.*

G. Camoin said that there is a new **ECORD Industry Liaison Panel (ILP)**, which is planned for May 2-3 2013, where representatives from industry and academia will meet.

***E-FB Consensus 13-04-01:*** *The E-FB agrees to work on a revised guidelines document for the ethical and environmental MSP issues and to prepare a document to the circulated to the E-FB.*

*ACTION (FB Chair and one Scientist): K. Gohl and D. Weis to form a two-person working group to write a draft of the suggestions for the ECORD environmental policy for ECORD MSP operations.*

### 4.6 – Long term planning (K. Gohl)

**Policy for scientists and chief scientists**

G. Camoin said that in the new system it has not been decided how the co-chiefs will be selected. The possibilities include either leaving this decision in the operator's hands or to leave it to the E-FB.

*T. Janecek said that this is up to the E-FB's decision. He asked whether ECORD would want PEP to provide suggestions or to just involve the FB as the key player. Initially, the Science Planning Committee provided nominations, so PEP may be asked to provide nominations to the FB. K. Gohl agreed because the co-chief scientists should be nominated with the goal to define the science on this specific mission, and PEP is the correct panel to give the FB such recommendations. C. Escutia said that it is important that the operator be involved in the process of making final selection decisions of who the co-chiefs will be. The FB and operator will have to work on this together. M. Webb asked how many scientists' names should be generally considered. G. Camoin said that a sufficient number will have to be nominated in order to meet the given quotas, the expertise and to include several potential alternates who would be able to replace a nominee. D. Kroon commented that the first proponent on the first proposal is normally chosen as the co-chief, so then the rest of the names should depend on the expertise. The FB may choose the relevant expertise from the submitted applications.*

*J. Schuffert recommended that the potential candidates selection process could include interactions with the PMOs.*

***Consensus 13-05-01:*** *The E-FB recommends that PEP should provide 5-6 name recommendations for the co-chief scientists, in congruence with the operator. The PMOs may participate.*

*ACTION FB: to ask PEP's recommendations for a minimum list of 5-6 co-chief scientists.*

K. Becker asked at what point of the process these nominations should be ready. Generally, the nominations were provided when a proposal was forwarded. G. Camoin said that this process could take some time for the MSPs.
T. Janecek said that the IOs are communicating with each other the planned expeditions, and as this system works well it should be kept.

***Consensus 13-06-01:*** *The E-FB recommends to keep the current system for expedition planning communications between the PMOs.*

G. Camoin recommended that the E-FB should make a two-plan expedition plan in order to ease the work process of ESO.

***Consensus 13-07-01:*** *The E-FB agrees to create a two-year plan for the ECORD expedition plan.*

## 5. Complementary Project Proposals and Ancillary Project Letters for Mission Specific Platforms (R. Gatliff)

R. Gatliff said that ECORD has no CPPs and no APLs, hence it is a good idea for ECORD to have some of these types of proposals. It is possible to get EU Research grants as partial funding for the platforms is a good option.

**Complementary Project Proposals (Full proposals with substantial external funding)**

If ECORD is to negotiate with other grant-giving entities, ECORD should be open to negotiate the involvement of industry in the use of MSPs.

**Anciliary Project Letters**

Individual scientists may propose a project that requires less than 5-10% of the dedicated platform time, including transit.

Also a profit-making project that is not an APL, but separate for fund raising should be considered. If an APL comes up, there is a need for discussion time and while it may not be applicable to the science it is profitable. Such a project can be treated as an IODP non-related project.

*K. Becker mentioned that there was a highly rated APL for the MSP, but the operator said that the proponent needed to raise the money. G. Camoin said that initially the APLs are done at the expense of another scheduled mission, so for the operator it is just a matter of time of scheduling.*

*M. Malone said that the APLs need a correct amount of time planning window in order to be implemented correctly. R Gatliff said that the other option is instead of taking time off from a mission, ECORD could spend extra funds on the APL. G. Camoin said that as the expedition schedule will be prepared two years in advance, the ESO would have more time to plan the scheduling of an APL. D. McInroy said that it is possible to be flexible by doing a change of tender in such a process.*

*T. Janecek said that if the terms of APL are written in an official FB document, such a project would relate to ECORD and not IODP. He said that the US will accept any money that would help the JR operations. The question is that at PEP, 70% funding level was enough to get the science through. But if there is a lower threshold of 10-20% funding, there is a dangerous situation in maintaining the integrity of the process, which may expedite science that is not good.*

*G. Camoin said that the 70% funding level was proposed for this reason, maintaining the scientific integrity. D. Kroon said that this step needs more discussion as PEP not only evaluates proposals, but also nurtures proposals. PEP makes sure that the proposals arrive at least at the "good" rating stage. In case that the science is not rated as such, then PEP would have to be honest and raise the question if there is good science. T. Janecek agreed that this is important to maintain the integrity of the program, as it must come under review.*

## 6. Overview of active Mission Specific Platform proposals (D. Kroon)

### Status of the MSPs within PEP

D. Kroon reviewed the proposal lists that are active and nurtured in PEP. The *Baltic Sea* expedition is included, as an overview as to how the science is progressing. Currently there are 17 MSP proposals. D. Kroon said that 3-4 proposals of this list might be forwarded to the E-FB.

| Proposal_Number | Latest_Version | Short_Title | Lead_Proponent_Calc | Country_Lead_P | Ocean | Platform | SAS_Stage |
|---|---|---|---|---|---|---|---|
| 548 | Full3 | Chicxulub K-T Impact Crater | Morgan | ECORD: UK | Atl | MSP | OTF |
| 581 | Full2 | Late Pleistocene Coralgal Banks | Droxler | USA | Atl | MSP | OTF |
| 637 | Full2 | New England Shelf Hydrogeology | Person | USA | Atl | MSP | OTF |
| 672 | Full3 | Baltic Sea Basin Paleoenvironment | Andrén | ECORD: Sweden | Atl | MSP | OTF |
| 680 | Full | Bering Strait Climate Change | Fowell | USA | Arc | MSP | PEP |
| 708 | Pre2 | Central Arctic Paleoceanography | Stein | ECORD: Germany | Arc | MSP | PEP |
| 716 | Full2 | Hawaiian Drowned Reefs | Webster | ANZIC: Australia | Pac | MSP | OTF |
| 730 | Pre2 | Sabine Bank Sea Level | Taylor | USA | ac | MSP | PEP |
| 756 | Pre | Arctic Ocean Exit Gateway | Jakobsson | ECORD: Sweden | Arc | MSP | PEP |
| 758 | Full2 | Atlantis Massif Seafloor Processes | Früh-Green | ECORD: Switzerland | Atl | MSP | OTF |
| 761 | Pre | South Atlantic Bight Hydrogeology | Wilson | USA | Atl | MSP | PEP |
| 796 | Full | Ligurian Landslide | Kopf | ECORD: Germany | Med | MSP | PEP |
| 806 | Pre | Beaufort Gas Hydrate | Paull | USA | Arc | MSP | PEP |
| 750 | Pre | Beringia Sea Level History | Polyak | USA | Arc | MSP+NR | PEP |
| 797 | Pre | Alaska Beaufort Margin | Ruppel | USA | Arc | NR+MSP | PEP |

Including 812-pre (Ross Sea glacial history) and 813-pre Antarctic paleoclimate

In the last two years, people have been very careful in submitting a full proposal because PEP gives them the opportunity to make only one revision.

D. Kroon highlighted the **812 Pre-Ross Sea Glacial History** and **813 Pre-Atlantic Paleoclimate** proposals.

For the '680 Full Bering Strait Climate Change' lead proponent S. Fowell, PEP decided that the proponents should submit a revised full proposals possibly with 750-Pre, because the two proposals are very similar. For 680-Full, PEP decided that the proposal should be clearly revised as there were no clear testable hypothesis. There was too much concentration on the Cenozoic rather than the Pleistocene record. ESO responded that a platform is likely to be created as a lift-boat or jack-up rig. There are logistical issues and cost questions as the proponents estimate about 7 days coring. PEP is expecting the revised version.

**750-Pre Beringia Sea Level History** is a well-focused proposal, with Polyak as the lead proponents. The proponents were asked to combine their efforts with the 680-Full proponents.

The 750-Full objective include the history of Arctic-Pacific connections via the Bering Strait gateway, the impact of Late Cenozoic sea-level fluctuations on the high-Arctic depositional system and shelf architecture, and the Paleo sea-ice history in relation to climate change. Some of the issues related to the history of Beringia and the Arctic-Pacific connection are addressed in the IODP proposal 680 focused on drilling just north of the Bering Strait. However, the evaluation of relative sea-level changes in the Chukchi region requires additional drilling farther north on the Chukchi shelf and slope, notably in the filled channels. PEP recommended that the proponents combine their efforts with the proponents of the 750-Pre. A. de Vernal said that there is a workshop under way and she will attend it next week.

**708-Pre2 Central Arctic Paleoceography (ACEX 2)**

The lead proponent is Stein and the proponents were advised to submit a full proposal. The objective is a paleocenographic transect of the Central Arctic Ocean. PEP's remark is that the proposal is about completing ACEX 1, and the proponents will need to satisfactorily demonstrate that the missing time intervals can be recovered at the proposed sites by integrating core-seismic data from ACEX 1 using existing and new seismic reflection data. PEP is awaiting a full proposal.

**730-Pre2: Sabine Bank Sea Level**

The lead proponent is Taylor. D. Kroon said he has his doubts about this proposal. The

goal is to reconstruct the climate history of the WPWP and to obtain better estimates of the chance in the sea level. The problem is that the science is circular. This is because there is a lack of some subsidence history, making it difficult to reconstruct the sea-level. PEP decided to give them the benefit of the doubt so they asked for a full proposal. It was submitted two years ago to SSEP and then to PEP.

**Proposal 756-Pre: Arctic Ocean Gateway**

The lead proponent is Jakobsson. The two main objectives are 1) the evolution of the Fram Strait through the tectonic and rifting history of the Morris Jesup Rise and its subsidence history with respect to the Yermak Plateau conjugate physiographic feature and 2) the paleoceanographic evolution of the Arctic Ocean Exit Gateway with emphasis on water mass and ice properties, sources and flux rates. PEP said that proposal 756-Pre (1 Oct 2009) addresses several relevant issues in tectonics and paleoclimatology that are highly relevant to the IODP Science Plan. It is clear that the Morris Jesup Rise location is well placed to investigate the Cenozoic evolution of the Arctic Ocean and specifically (i) to monitor variability in the outflow of waters and from the Arctic Ocean and associated ice dynamics and (ii) the tectonic and rifting history associated with the opening of the Fram Strait. PEP liked 756-Pre and asked for a full proposal.

**761-Pre: South Atlantic Bight Hydrogeology**

The lead proponent is Wilson. PEP recommended that the proponents should develop a full proposal. The goal is to drill in five sites that are located in shallow water using a mission-specific platform (MSP). The panel (SSEP) recognized that such a transect has not been drilled before, has clear ties to the IODP Initial Science Plan (ISP), and that good scientific hypotheses have been articulated. PEP liked this proposal because it offers links between the ocean, sub-seafloor and the land-based hydrogeology.

**796 Full: Ligurian Landslide**

The lead proponent is Kopf. PEP asked for a full proposal. Proponents decided to drill a series of holes in the landslide. This is a geohazard proposal. The proponents propose to drill a series of holes at the Ligurian slope south of Nice where the water depths are less than 50 m, so that borehole monitoring becomes affordable, even in real-time. The drill sites aim is to characterize the metastable slope E and W of the former collapse structure, and the re-deposited material partly occupying the present-day landslide scar and deeper. PEP said that the proposal lacked a testable hypothesis, so it awaits for a

revised full proposal. The proposal's strength is the assessment of the pore-pressure with time. PEP recommended that the proponents should focus on this aspect with model-based testable hypothesis.

**806-Pre: Beaufort Has Hydrate**

The proponent is Paul and the 797-Pre Alaska Beaufort Margin lead proponent Ruppel. PEP decided to ask the proponents to either write an individual proposal or to work together. PEP awaits one or two full proposals for this area, and hopes that there will be a comprehensive MDP proposal including ICDP drilling.

The 806-Pre objectives are to study the methane release and geological processes that are associated with the warming of permafrost and gas hydrate deposits beneath the Beaufort Sea Shelf and upper slope. In addition, they intend to study the geological processes that are caused by marine transgression, to determine the cause of observed seabed release and to estimate the sensitivity of this environment to climate change in the Arctic.

**812-Pre: Ross Sea Glacial history (Wilson) and 813-Pre Antarctic Cenozoic Paleoclimate (Williams) (off George V)**

The two proposals have the same objective of drilling and pro-grading sediment sequences using MeBo. PEP recommended that they develop a full proposal, including a well-designed drilling plan with the seismics.

*D. Kroon suggested that some of these proposals could use the MeBo.*

*K. Gohls asked whether the proposals are all paleoclimate change-oriented and if the proposals are concentrated on a specific topic. The group said that the Paleoclimate topic is included. D. Kroon said that the* ***Atlantis Massif*** *could be used for other purposes. G. Camoin said that once successful missions happen with the MeBo, it is likely that more proposals will be submitted.*

*D. Kroon said that he does not hear often from the proponents and asked the E-FB whether PEP should follow up on these proponents. G. Camoin said that he spoke with the lead proponent R. Stein, who was not sure when to submit the proposal. K. Gohl said that the delay in such proposals comes from the lack of site survey data and also having a one-chance for revision of the proposal. A. de Vernal said that such an update of data is a large endeavor, hence the delay in proposal submission.*

*M. Webb suggested that a brief statement should be requested from the proponents, to show the level of their proposal development.*

***Consensus 13-08-01****: The E-FB agrees to ask the proponents, at the PEP system, and upon PEP's recommendation, to submit a small status statement about their plans on the revised proposal version.*

*R. Gatliff said that the 3P Arctic session is coming up and there are no final proposals that could be presented. He asked that ESO be supported by PEP about which proposals are to be recommended in the October session. D. Kroon said if PEP does not dis-activate such proposals, then it means that the proposals have potential.*

*K. Gohl said that considering ECORD has funds for one MSP per year, he suggested that at each FB meeting, 4-6 proposals should be discussed as to which should be proposed for the next year. G. Camoin said that for the time being there are diverse proposals, with diverse costs and technologies.*

*K. Gohl said that seabed drilling is relatively cheap. There are groups that apply the usage of MeBo and that consider IODP as a funding source, but they know that with IODP they will have to wait 5-6 years before the expedition takes place. Hence, there are a lot of drop-outs from the system, because the proponents receive funding outside the IODP system.*

## Friday, March 8th

### 7. Overview of ECORD budget for FY14 and 15 Mission Specific Platform operations (G. Camoin) (not for public access)

*G. Dickens asked how the carry-over funds are used. G. Camoin said that ECORD could carry over the money if a cheaper MSP expedition is implemented, pay for one more year of the JR or add money to the Chikyu, based on what the Council decided. This sum includes only the ECORD countries' contributions and it does not take into account any potential co-*

*funding or in-kind contributions. The ECORD bank account is in US dollars and it accumulates some interest. R. Gatliff said that ESO cannot sign a contract unless it has some money on its account to prove that it could pay. G. Camoin said that it would be much easier for the operator to sign contracts if more countries decide to sign the MoU in the new phase for several year-contributions instead of for just one fiscal year.*

*S. Shibata asked what the KCC support would include. G. Camion said that this is to be determined in terms of the regional expedition agreement that is negotiated by ECORD and Japan.*

## 8. Review of the MSP proposals transferred from the Operations Task Force to the ECORD Facility Board

### 8.1 - 548-Full3 Chicxulub K-T Impact Crater

#### 8.1.2 - Scientific objectives (A. Cattaneo)

A. Cattaneo presented the **548-Full3 Chixulub** scientific objectives to drill in the Gulf of Mexico. The site location is an impact crater that is recognized as the mostly likely resort of an impact that led to mass extinctions, an unequivocal topographic "peak ring", global ejecta layer and is linked to the K-T mass extinction.

**Borehole Aims**

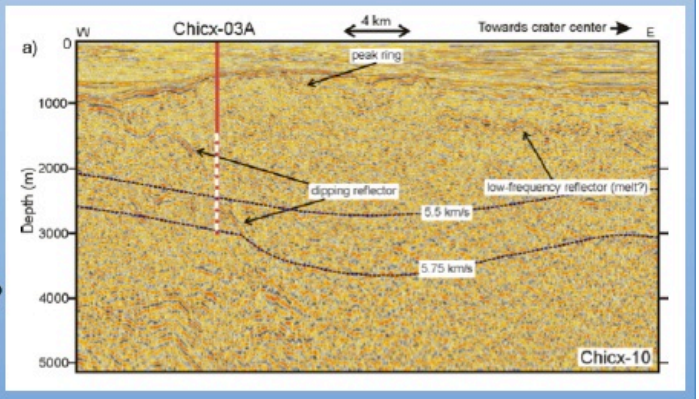
The aims are to constrain the formational processes and lithology of peak ring, and to determine the origin of the dipping reflections.

**Borehole targets and working hypothesis**

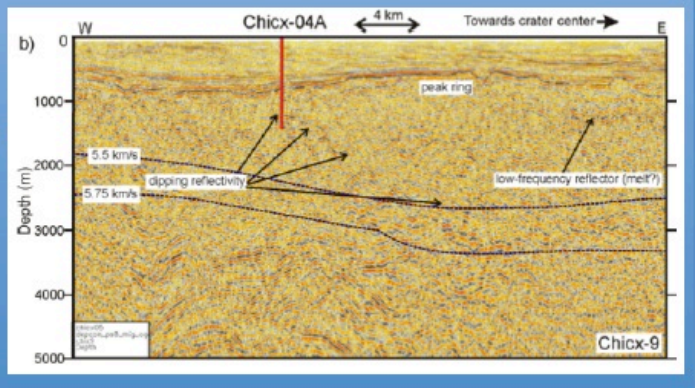
A. Cattaneo reviewed the following diagrams.

## Boreholes targets and working hypotheses

Hole Chicx-03A
1500 m penetration – 17 m w.d.
**peak ring forming material**
- overturned/uplifted basement rocks?
- megabreccia?
- other?




Hole Chicx-04A
1500 m penetration – 17 m w.d.
**enigmatic dipping reflector**
- lithologic boundary between uplifted basement and younger Mesozoic sediments?
- thrust fault formed during peak ring emplacement?
- result of hydrothermal circulation and mineral deposition?



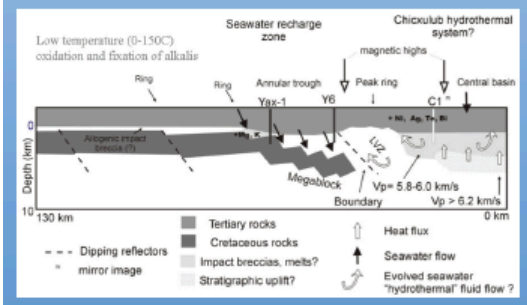

**Scientific objectives**

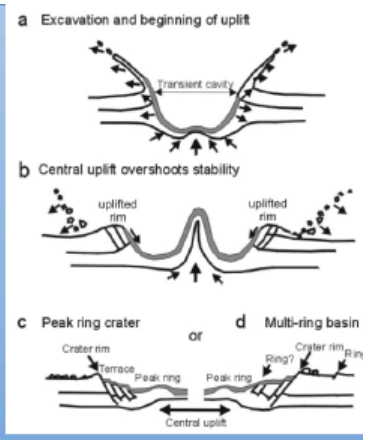
## Scientific objectives

1) Identify peak ring lithology, structure, and formational mechanism (and compare with current models)

2) Understand the effects of the Chicxulub impactor on the deep sub-surface biosphere (changes in porosity; colonisation)

3) Verify the extent of the hydrothermal system and the magnitude of chemical and mineralogical alteration of the crust




4) Assess the environmental effects of the impact: quantification of
- the energy of the impact (melt sheet volume = proxy)
- the amount/type of ejected material (pollutants with a role in K-T mass extinction?)

5) Explore the pattern of biotic recovery and response of a carbonate platform system to a marine-target impact

**Relevance to the IODP Science Plan**

The proposal is relevant to the deep biosphere and the ocean subseafloor topic, environmental change, processes and effects, in particular the environmental and biological perturbations that are caused by Chicxulub. In addition, the study is relevant to the Biosphere Frontier topic, involving deep life, biodiversity and environmental forcings of ecosystems.

**Summary**

A. Cattaneo summarized that the proposal aims are to study a unique site that has a fully preserved large impact crater. The sites that are associated with K/T global mass extinction have the potential to reveal the impact dynamics mechanisms and to detail the global effect of the ecosystems' impact. He commented that the proposal is written with clear hypothesis driven tests, detailed strategy and could present the occasion for an effective outreach communication.

*D. Kroon asked that considering this crater has been drilled not so long ago and considering the results of the previous drilling, whether this expedition will add to the previous expedition's result. A. Cattaneo said that there is a set of transects in the borehole that was drilled before the interpretation of the crater, it terms of hydrocarbons. The proponents make a point to demonstrate the complementarity of the proposed borehole. The marine based borehole would be more costly in an equivalent study on land.*

### 8.1.3 - Site survey data (G. Lericolais)

G. Lericolais **548-Add3 Chicxulub** received on January 15, 2007. Four sites will be analyzed. The SCP expressed concern that the first site information may not be enough to achieve the target. For the other three sites, the labeling is 1Aa, which means 'green light'. He said that the sites may be drilled without a problem. If necessary, the SCP can review the site again.

The site information is shown next.

# 548-Add3: Chicxulub – Drilling the K-T

**Joint ICDP/IODP Workshop – September 2006, GFZ, Potsdam**

- **Participants identify two Sites critical to improving understanding of large craters**
  - ***Offshore drill Site through crater's topographic Peak Ring***
    - **Newly proposed CHICX-03A – will require MSP with Riser (probable Jackup Rig)**
    - **548-Full2 deep reference Site (CHICX-01A) considered low-priority**
  - ***Onshore drill Site near crater center through melt sheet & structural uplift***
    - **Exact Site yet to be determined**

- **IODP to archive both cores (College Station or Bremen)**

Proposed Sites:

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| Chicx-03A | 21 27.0846 N<br>89 57.0648 W | 17 m | 3000 m | | 3000 m | Primary hole: constrain formational process and lithologies of a peak ring |
| Chicx-02A | 21 27.33 N<br>89 57.09 W | 17 m | 3000 m | | 3000 m | Original site; now contingency hole for Chicx-03A |
| hicxulub – Drilling the K–T | 28.6578 N<br>89 57.4404 W | 17 m | 1750 m | | 1750 m | Contingency site to reach dipping reflectivity beneath peak ring |
| Chicx-01A | 21 17.72 N<br>90 41.93 W | 23 m | 4100 m | | 4100 m | Identify the thickness, composition, and character of the pre-impact target rocks |

# 548-Add3: Chicxulub – Drilling the K-T

- **Site Characterization – Data Requirements**

  • **Recall : EPSP review - Need for significant Site Survey data & supporting technical information outstanding**
  - ***MSP (Jackup mobile offshore drilling unit) to be employed***
  - ***Riser employed (by default due to Jackup use) – target depth >1000m***
  - ***Jackup founding & shallow gas issues must be addresses***
  - ***Site offsets established petroleum production – Yax-1 observed hydrocarbon show***
  - ***Abnormal Pore-Pressure at depth may be an issue***

- 

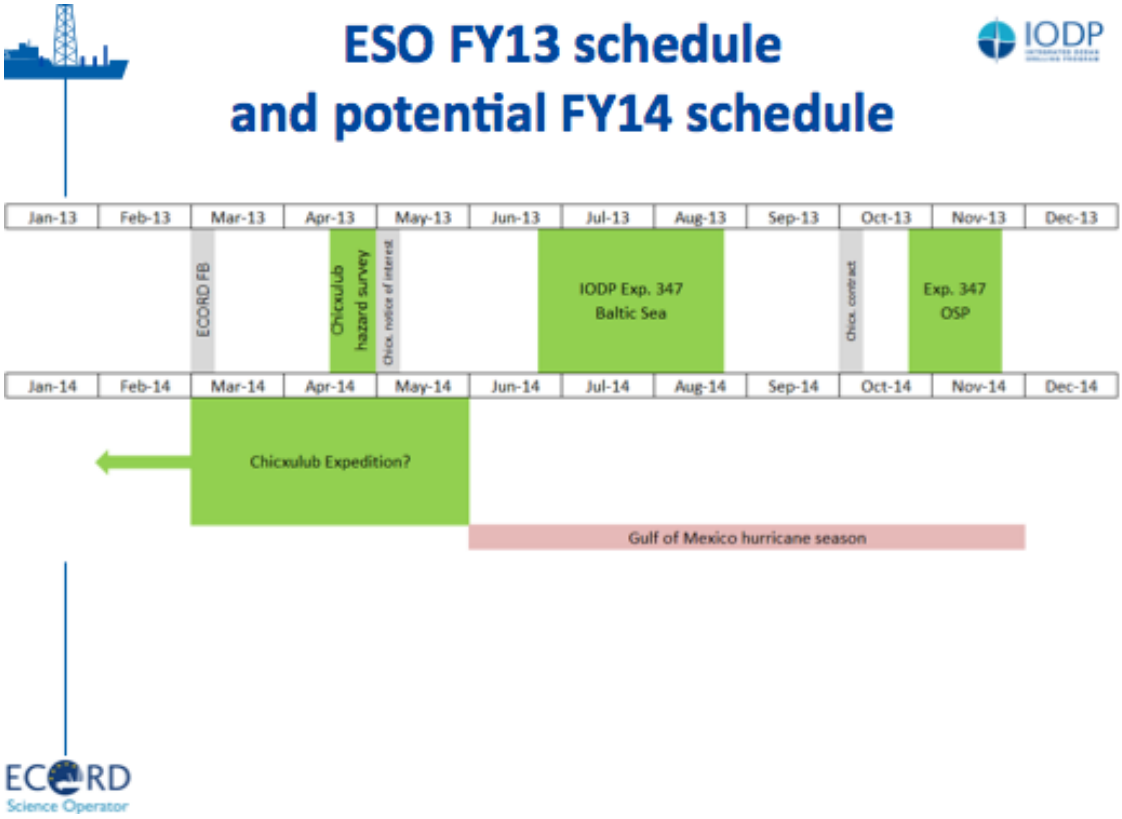
| Site | Classification | Latitude | Longitude |
|---|---|---|---|
| CHICX-1A | 2Cb | 21° 17.72' | -90° 41.93' |
| CHICX-2A | 1Aa | 21° 27.33' | -89° 57.09' |
| CHICX-3A | 1Aa | 21° 27.0846' | -89° 57.0648' |
| CHICX-4A | 1Aa | 21° 28.6578' | -89° 57.4404' |

***1A – All required data are in the SSDB and have been reviewed by the SSP***
***2C - Substantial items of required data are not in the Data Bank and not believed to exist***

***(a) - data image the target adequately and there are no scientific concerns of drill site location and penetration***
***(b) - data image the target adequately but there are scientific concerns of drill site location and penetration***
**** - represents a change from Jul '06 SSP Classification of 2A(b)***

### 8.1.4 – Drilling operations (ESO D. McInroy)

D. McInroy summarized the FY13 and potential FY14 schedules.




The **548-Full3 Chicxulub K-T Impact Crater** co-chiefs were nominated early because some PIs were sent to ICDP for a co-funding consideration. The cost estimate is about $17MUSD, but the relative figure will be apparent when ESO goes to tender, which will have a $2-3M USD difference.

## 548-Full3 Chicxulub K-T Impact Crater

/ater depths: 17 m
enetration: 1500 mbsf (1 hole at each of 2 sites)
rimary lithologies: Post impact Cenozoic sediments, impact breccia, hydrothermal minerals or melt, platform carbonates.
ossible platform type(s): Liftboat or jack-up.

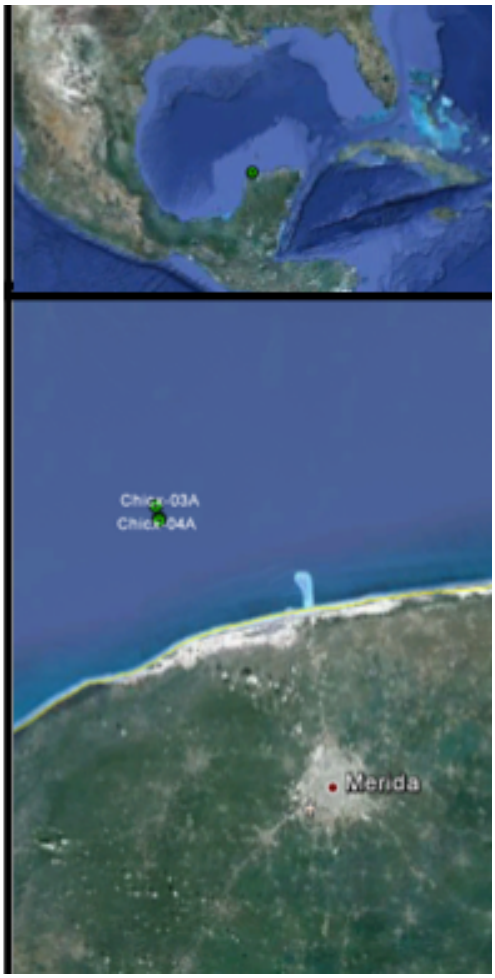
*coping so far*

ESO scoping and PMT.
Technically feasible, no technology development needed.
Cost estimate is **$17M** (includes operation and ESO costs). This is a ball-park figure and the actual cost will only be known after platform tender exercise.
ICDP proposal for $1.2M has been submitted by the Co-chiefs.
December to May is the preferred drilling window, to avoid hurricane season.

*ther factors*

Hazard site survey has been contracted for Spring 2013.
Potentially challenging permitting procedure (although no indications so far that permitting will be a problem).

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| hicx-04A | 21 28.6578 N 89 57.4404 W | 17 m | 1500 m | | | Peak ring formation processes. Origin of dipping reflectivity. Size of transient cavity (energy of impact) |
| hicx-03A | 21 27.0846 N 89 57.0648 W | 17 m | 1500 m | | | Peak ring formation processes. Document lithology and physical state of peak ring forming material. Document microbiology and hydrothermal processes. |
| hicx-02A | 21 27.33 N 89 57.09 W | 17 m | 1500 m | | | Contingency site for Chicx-04A |




The sea data and site hazard survey will begin on April 16th. There is no indication that there will be problems for gaining drilling authority. There is an upcoming Yucatan officials meeting with the goal to organize ESO for working with the Mexican government.

*D. Smith said that the time scale for the expedition is challenging. Chixculub has to happen somewhere between March 14th and April 14th, so in order to meet this deadline, they will need to go to tender in May 2013. R. Gatliff said that these would be the deepest two holes ECORD has ever drilled. Due to the high costs of the expedition, the net balance for FY13 would not be enough to fund this expedition. Hence, it is more likely that it would take place in 2015. D. Smith said that the platform also does not have enough berths places due to the deep biosphere technology equipment. R. Gatliff said that it will not be clear what size vessels would be used until ESO goes to tender. J. de Leeuw asked about the type of*

*proposal. D. McInroy said that it is an advanced logging operation, so a large percentage of the $1.2 M USD would be used for these costs.*
*G. Lericolais said that the SCP has never received the **Full-3** evaluation, and it has been considered that it can be drilled. The Full-3 proposal should be submitted to SCP again as the new proposal has not been submitted and it must go to EPSP.*

### 8.2 - 581-Full2 Late Pleistocene Coralgal Banks

#### 8.2.2 - Scientific objectives (K. Gohl)

K. Gohl presented proposal **581-Full2**. The proposal was in the system for 13 years. The proposed location is the southern and Baker Banks. The Southern and Baker Banks are currently drowned coralgal reefs that are about 40 to 50 m thick on the edge of the South Texas Shelf 55 km offshore Corpus Christi. They are interpreted to have grown during the first half of the last sea level transgression on top of topographic highs occurring along a lowstand **siliciclastic paleo-coastline at the Last Glacial Maximum**.

**The Drilling plan**

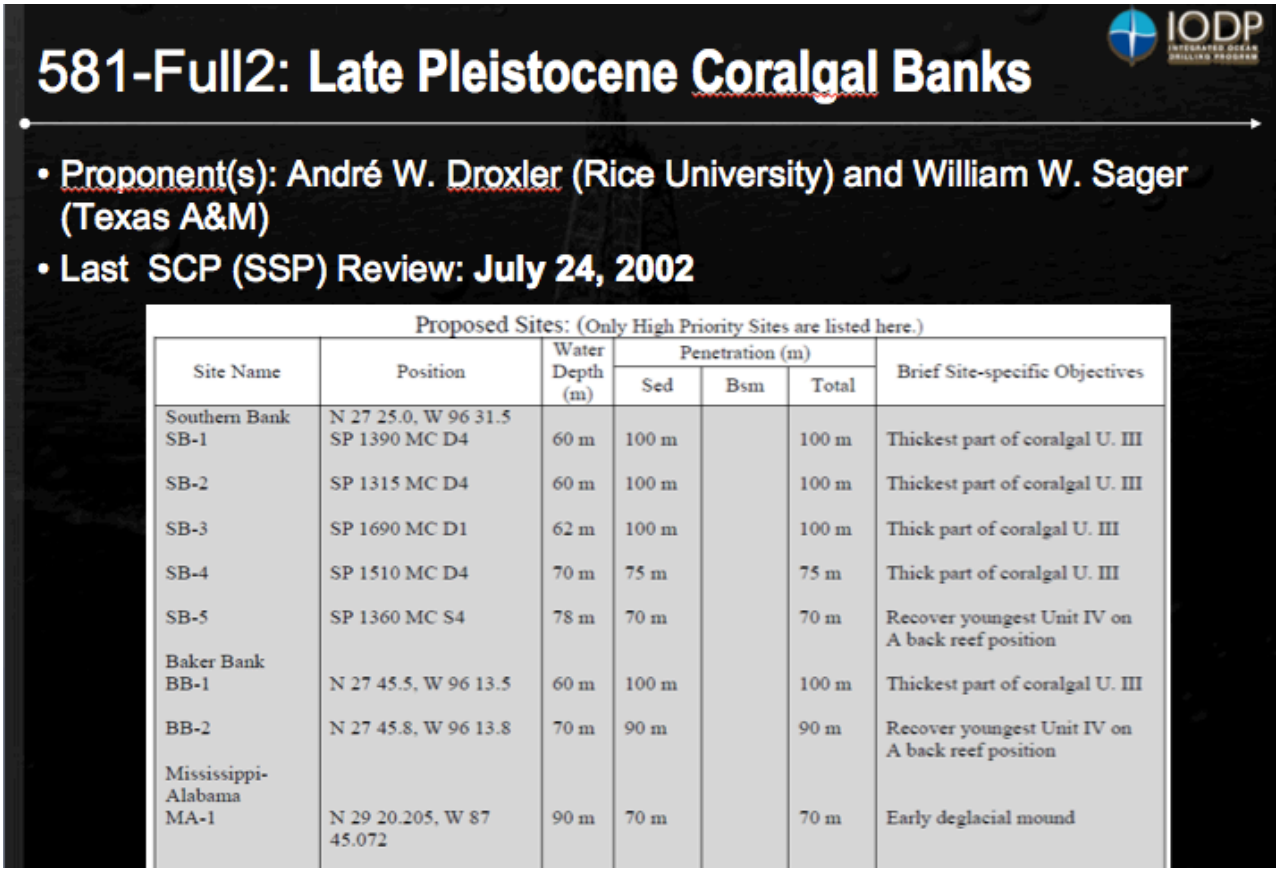
There were 9 total proposed drill holes. K. Gohl said that a total of **7 drill holes, each 80 to 100 m deep**, consisting of an array of 5 boreholes through Southern Bank and a 2 borehole-transect through Baker Bank and their siliciclastic substratum. Each borehole will include at least two of the three following sedimentary packages:
(1) the **siliciclastic substratum** of the reef edifice,
(2) the **coralgal sequence** itself,
(3) the **mud blanket** that partially covers the reef edifices.
**In addition a 2 borehole-transect** across similar transgressive banks, that were observed at the edge of the Mississippi-Alabama continental shelf, has been integrated to this drilling proposal.
K. Gohl presented the exams of the seismic lines. He presented a diagram of the Baker Bank. The objective is to find out how the Colargal edifices flourished. The drilled matrial will improve the resolution of the last deglacial sea-level history from the late Glacial to the Younger Dryas, it will help better understand the sedimentary and biological processes that are involved with the origin (initial establishment), growth, and demise of the carbonate reef tract. In addition, the latest Pleistocene transgressive

coralgal reefs on the edge of the South Texas Shelf can be studied as recent analogs for reefal reservoirs buried in siliciclastic shelves.

G. Camoin asked whether ECORD has decided not to drill several holes and to only consider the Southern Bank. K. Becker and K. Gohl confirmed.

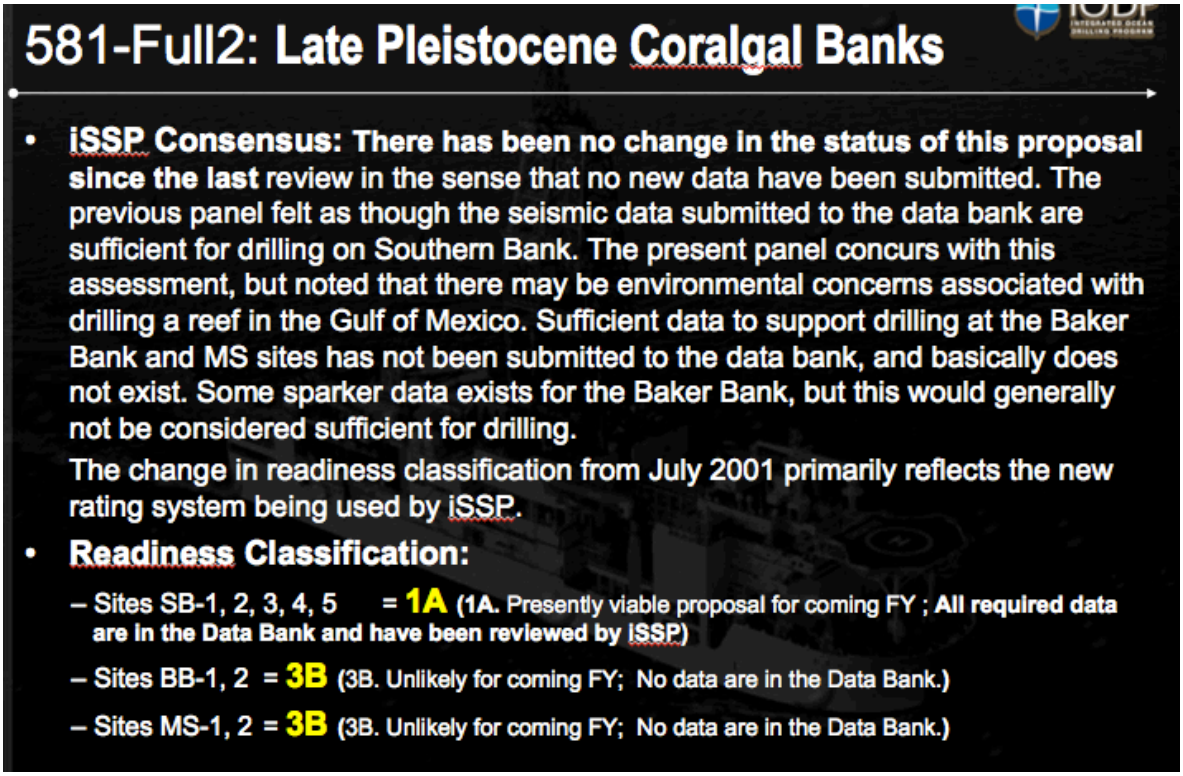
### 8.2.3 - Site survey data (G. Lericolais)

G. Lericolais presented the **581-Full2: Late Pleistocene Coralgal Banks** proposal. He said that all three sites are viable for drilling, as shown in the images below.




Proposed Sites: (Only High Priority Sites are listed here.)

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| Southern Bank | N 27 25.0, W 96 31.5 | | | | | |
| SB-1 | SP 1390 MC D4 | 60 m | 100 m | | 100 m | Thickest part of coralgal U. III |
| SB-2 | SP 1315 MC D4 | 60 m | 100 m | | 100 m | Thickest part of coralgal U. III |
| SB-3 | SP 1690 MC D1 | 62 m | 100 m | | 100 m | Thick part of coralgal U. III |
| SB-4 | SP 1510 MC D4 | 70 m | 75 m | | 75 m | Thick part of coralgal U. III |
| SB-5 | SP 1360 MC S4 | 78 m | 70 m | | 70 m | Recover youngest Unit IV on A back reef position |
| Baker Bank | | | | | | |
| BB-1 | N 27 45.5, W 96 13.5 | 60 m | 100 m | | 100 m | Thickest part of coralgal U. III |
| BB-2 | N 27 45.8, W 96 13.8 | 70 m | 90 m | | 90 m | Recover youngest Unit IV on A back reef position |
| Mississippi-Alabama | | | | | | |
| MA-1 | N 29 20.205, W 87 45.072 | 90 m | 70 m | | 70 m | Early deglacial mound |




### 8.2.4 – Drilling operations (D. McInroy)

D. McInroy said that for the **581-Full2** with a geotechnical ship and a seabed drill can be performed. The cost estimate is about $13M USD, which involves a simple and cheap drilling at fairly shallow depth holes. It is recommended that it should be considered to combine this expedition back-to-back with another expedition, shown next.

## 581-Full2 Late Pleistocene Coralgal Banks

Water depths: 60-78 m
Penetration: 70-100 mbsf (1 hole at each of 7 sites)
Primary lithologies: Coralgal limestone, coastal sandstone, shelfal shale, mud blanket.
Possible platform type(s): Geotechnical ship with coring rig (future: sea bed drill?)

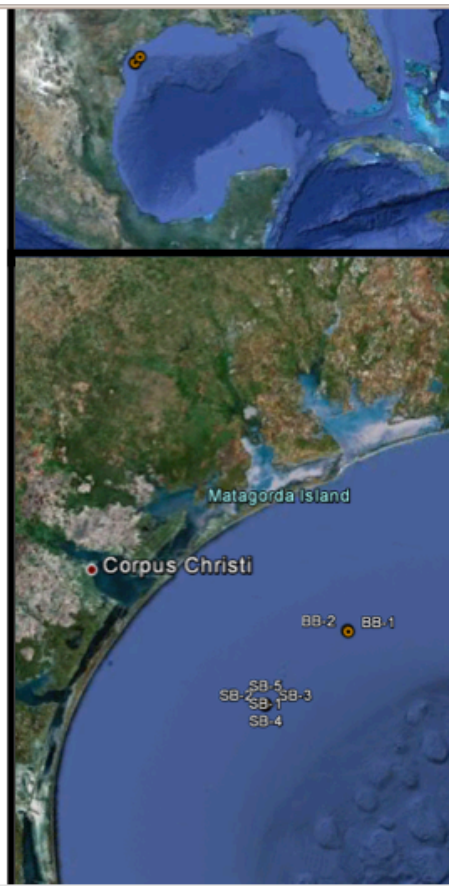
*Scoping so far*

- ESO scoping only, no proponent meeting or PMT.
- Technically feasible, no development needed.
- Cost estimate is ~**$13M** (includes operation and ESO costs).
  Mob/demob costs would be disproportionate to the length of the expedition
- December to May is the preferred drilling window, to avoid hurricane season.

*Other factors*

- 100 mbsf is just beyond the current reach of BGS RD2 and MeBo.

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| Southern Bank | N 27 25.0, W 96 31.5 | | | | | |
| SB-1 | SP 1390 MC D4 | 60 m | 100 m | | 100 m | Thickest part of coralgal U. III |
| SB-2 | SP 1315 MC D4 | 60 m | 100 m | | 100 m | Thickest part of coralgal U. III |
| SB-3 | SP 1690 MC D1 | 62 m | 100 m | | 100 m | Thick part of coralgal U. III |
| SB-4 | SP 1510 MC D4 | 70 m | 75 m | | 75 m | Thick part of coralgal U. III |
| SB-5 | SP 1360 MC S4 | 78 m | 70 m | | 70 m | Recover youngest Unit IV on A back reef position |
| Baker Bank | | | | | | |
| BB-1 | N 27 45.5, W 96 13.5 | 60 m | 100 m | | 100 m | Thickest part of coralgal U. III |
| BB-2 | N 27 45.8, W 96 13.8 | 70 m | 90 m | | 90 m | Recover youngest Unit IV on A back reef position |




D. McInroy said that A. Johnson who is the lead proponent had negotiated ship time with Fugro, and then set up a contract. Fugro then stopped all communication. ESO found out that they had lost the contract, because Fugro had another offer. The money for this purpose was carried over to the Baltic operation costs.

C. Escutia said that the reviews of this proposal indicated how this project could be complementary to the Tahiti expedition.

G. Camoin said that in order to solve the problems with the sea-level change questions, it is needed to have measurements of one site in the Caribbean and in the Indian Ocean. The Barbados record is biased. In 2009, the ranking was 20/28 and in 2008 the ranking measured 10/18 with the *JR* and MSPs included.

K. Becker commented that a past evaluation mentioned that the expedition was presented as inexpensive, but now the costs have increased. He asked if inflation has been taken into account. D. McInroy said that inflation has been partly accounted for in relation to the current market rates, but it is not clear what the costs will be until ESO goes to tender. D. Smith said that it is needed to fit the accommodation and facilities on a different vessel as such an operation would not fit on a geotechnical ship. Also if it would

be possible to scale down the number of scientists and onboard work, then it would be possible to scale down the costs.

*M. Webb asked when the MeBo will be ready and what will be the impact on the costs? K. Gohl said that according to MARUM, it is not clear when MeBo will drill at 2000m-water depth and this needs more tests if it will work. It has been discussed to use MeBo outside IODP, for the amount of $1-1.5M USD, not accounting for all of the IODP requirements. R. Gatliff said that the use of geotechnical ships and less people onboard, may cut costs, but as a result there may be a lack of some minimum measurements. G. Dickens said that going through the main objectives of the proposal are not pertaining to the main objectives, so could exclude some of these measurements. G. Camoin said that in order to get the glacial depth, they could drill at maximum 30-40 m. He recommended that D. McInroy asks the proponents that they relate the studies' aspects to the Tahiti expedition, in order to reconsider the equipment use and save on the costs.*

***Consensus 13-09-01:*** *The E-FB to approach the '581-Full2: Late Pleistocene Coralgal Banks' proponents and ask them if they could drill in lower penetration depths.*

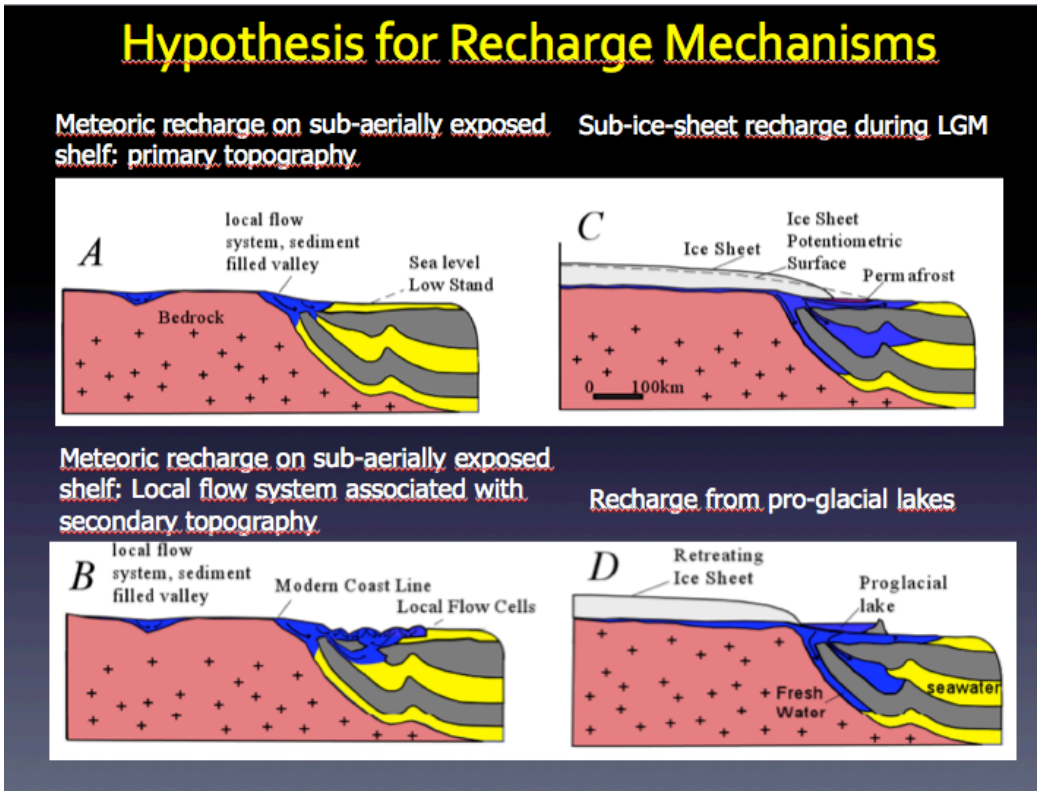
*ACTION E-FB: to approach the '581-Full2: Late Pleistocene Coralgal Banks' proponents if they could drill in lower penetration depths.*

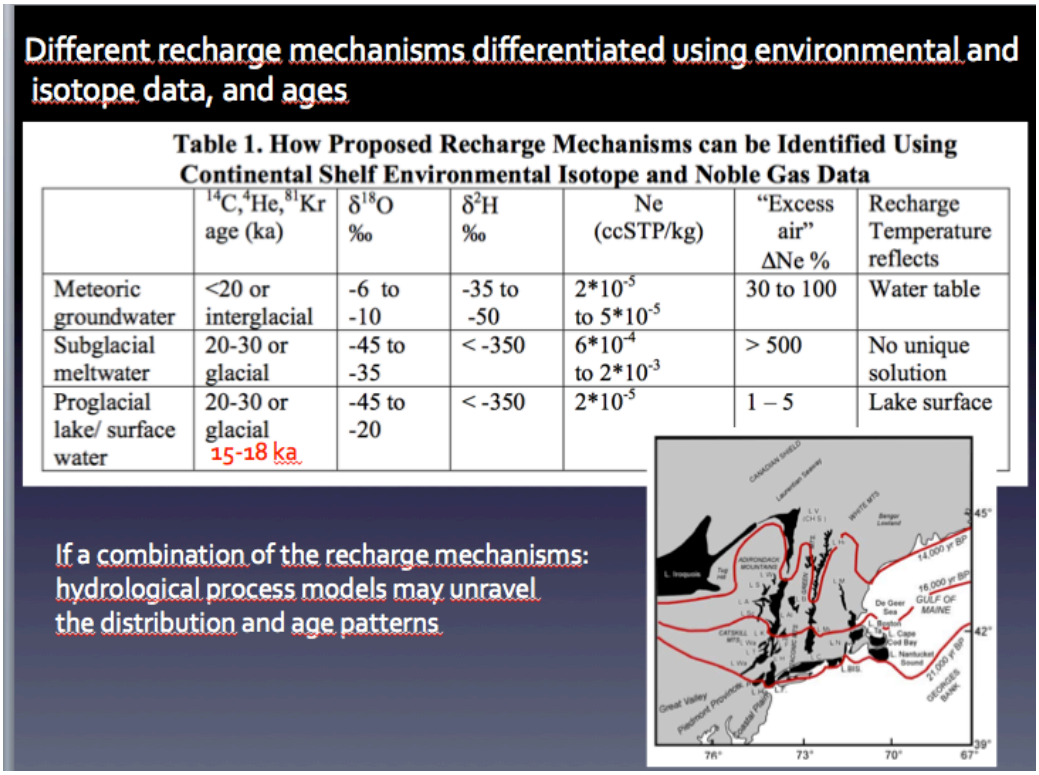
### 8.3 - 637-Full2 New England Shelf Hydrogeology

#### 8.3.2 - Scientific objectives (C. Escutia)

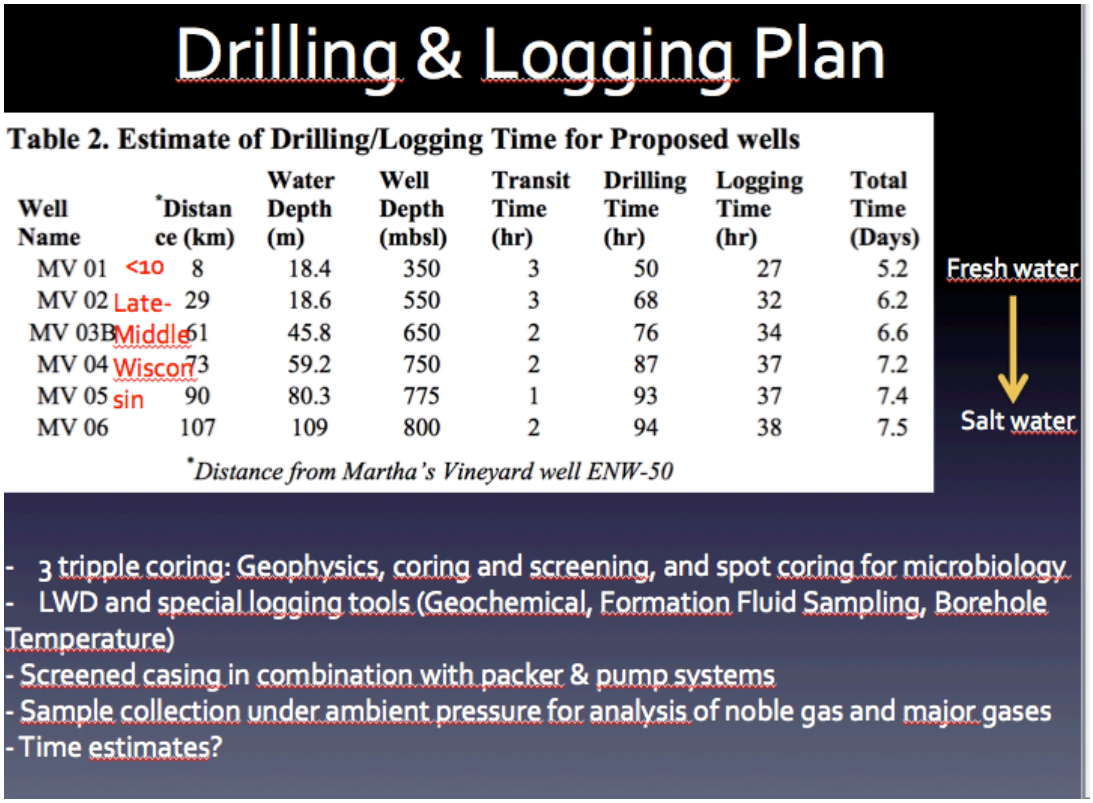
Apologies for M. Torres' absence. C. Escutia presented the **637-Full2**, which addresses drill areas from previous *New Jersey* expedition sites. The seismics in the proposal do not have much information, so the proponents had to provide a stratographic model of the depths. The study characterizes the distribution of the fresh-brackish water on the North-East shelf, the mechanisms and time of emplacement, quantity fluid, chemical and nutrient fluxes, and to understand the relationship between hydrogeochemistry, fluid flow and microbial activity.

C. Escutia presented the Hypothesis for the Recharge Mechanisms, shown next.



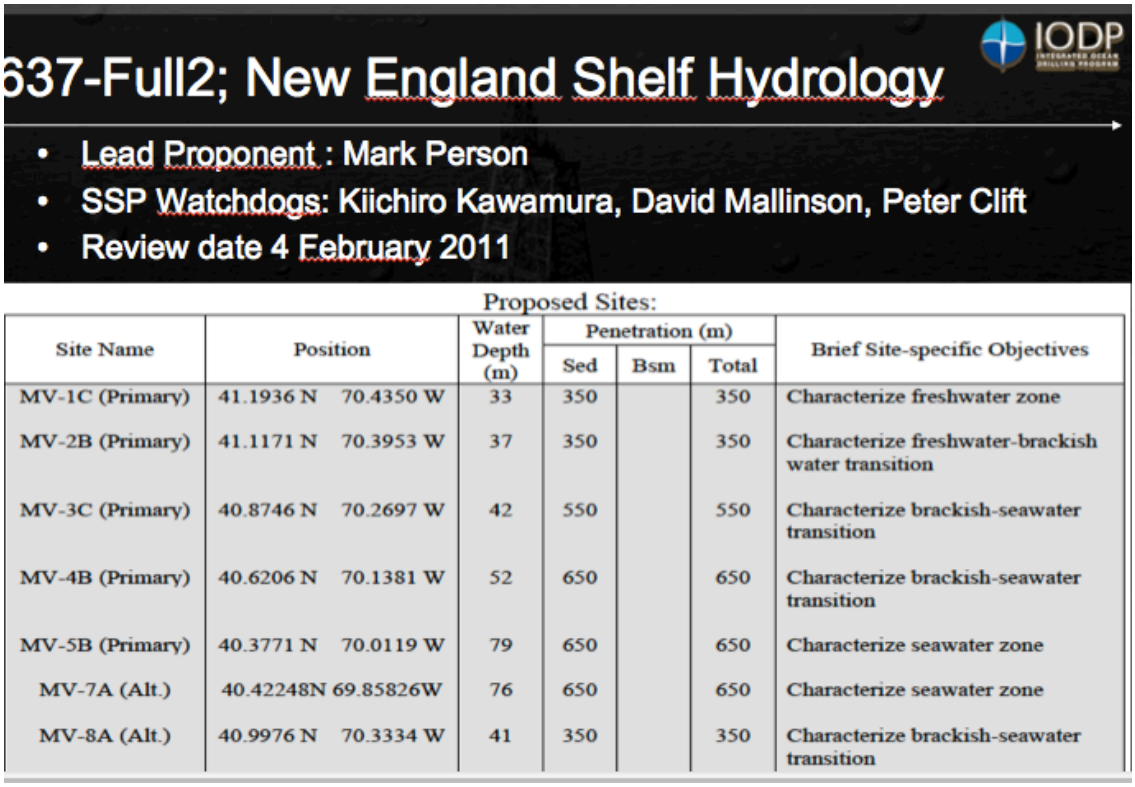

C. Escutia presented the drilling and logging plan of the expedition, shown next.




The study will undertake several sampling and analysis methods: full suite geochemical, isotopic, and noble gas samples and measure fluid pressure to conduct hydrologic modeling, in order to distinguish between different flow mechanisms, salinization mechanisms, and microbial processes. As of 2009, the SCP has twice strongly endorsed the proposal. According to the EPSP, before they can make a final recommendation, there is a need for an independent shallow hazard survey, including high-resolution seismic data. Depending on the drilling vessel, a geotechnical survey may be also required. In terms of hazards, the proponents must also consider that the hurricane season will occur in the proposed region between March-August amid strong currents.

### 8.3.3 - Site survey data (G. Lericolais)

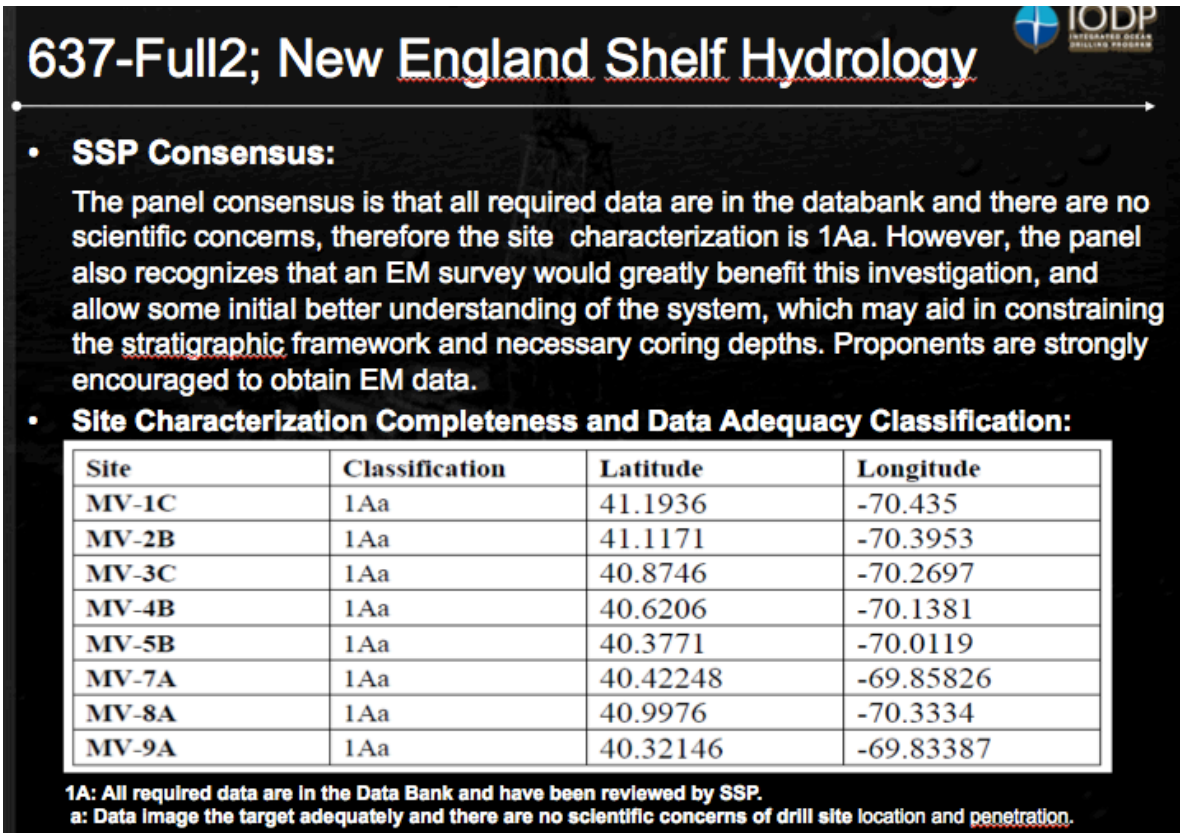
G. Lericolais said that the **637-Full2 New England Shelf Hydrology** site characterization is perfect, shown next.




Proposed Sites:

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| MV-1C (Primary) | 41.1936 N 70.4350 W | 33 | 350 | | 350 | Characterize freshwater zone |
| MV-2B (Primary) | 41.1171 N 70.3953 W | 37 | 350 | | 350 | Characterize freshwater-brackish water transition |
| MV-3C (Primary) | 40.8746 N 70.2697 W | 42 | 550 | | 550 | Characterize brackish-seawater transition |
| MV-4B (Primary) | 40.6206 N 70.1381 W | 52 | 650 | | 650 | Characterize brackish-seawater transition |
| MV-5B (Primary) | 40.3771 N 70.0119 W | 79 | 650 | | 650 | Characterize seawater zone |
| MV-7A (Alt.) | 40.42248N 69.85826W | 76 | 650 | | 650 | Characterize seawater zone |
| MV-8A (Alt.) | 40.9976 N 70.3334 W | 41 | 350 | | 350 | Characterize brackish-seawater transition |

He also presented some recommendations to the imaging of the sites.




| Site | Classification | Latitude | Longitude |
|---|---|---|---|
| MV-1C | 1Aa | 41.1936 | -70.435 |
| MV-2B | 1Aa | 41.1171 | -70.3953 |
| MV-3C | 1Aa | 40.8746 | -70.2697 |
| MV-4B | 1Aa | 40.6206 | -70.1381 |
| MV-5B | 1Aa | 40.3771 | -70.0119 |
| MV-7A | 1Aa | 40.42248 | -69.85826 |
| MV-8A | 1Aa | 40.9976 | -70.3334 |
| MV-9A | 1Aa | 40.32146 | -69.83387 |

### 8.3.4 – Drilling operations (D. McInroy)

D. McInroy said that the **637-Full2** is one of the most expensive and complex science projects. Given the range of the water depth, it is difficult to choose a platform. The use of a lift-boat or semisubmersible rig would require very high costs. There are a lot of technical requirements for a proposal. There are 18 holes of moderate penetration, so the estimate for the operation's duration is 5 months.

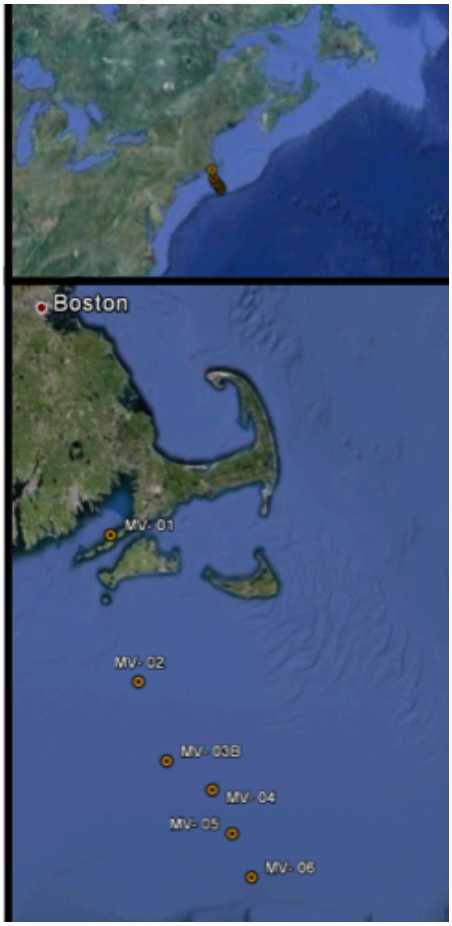
## 637-Full2 New England Shelf Hydrogeology

Water depths: 18-109 m
Penetration: 350-800 mbsf (3 holes at each of 6 sites)
Primary lithologies: Sands, silts and clays.
Possible platform type(s): Large liftboat or industry-style semi-submersible rig

*Scoping so far*

- Initial ESO scoping (no proponent meeting or PMT yet).
- Logging While Drilling required.
- Casing, screening, packing and pumping required.
- Hole A: LWD / Hole B: continuous coring, casing, screening and packing / Hole C: spot coring for microbiology
- Proponent coring rates are high:
  - they estimate ~200m/day, giving 20 days of coring (B hole only)
  - NJ rates of ~30m/day gives 130 days of coring (B hole only)
- Could potentially be a 5 month operation.
- ESO has not attempted to cost this expedition.

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| MV-01 | N 41:30 E 70:46 | 18 | 350 | | 350 | Characterize freshwater leg of transect |
| MV-02 | N 40:57 E 70:40 | 19 | 550 | | 550 | Characterize saltwater-freshwater transition zone |
| MV-03B | N 40:39 E 70:33 | 48 | 650 | | 650 | Characterize saltwater-freshwater transition zone |
| MV-04 | N 40:32 E 70:20 | 59 | 750 | | 750 | Characterize saltwater-freshwater transition zone |
| MV-05 | N 40:22 E 70:15 | 80 | 775 | | 775 | Characterize saltwater-freshwater transition zone |
| MV-06 | N 40:12 E 70:10 | 109 | 800 | | 800 | Characterize saltwater- leg of transect |




Another way to approach this expedition would be to involve two mobilizations and two platforms.

*C. Escutia asked whether ESO has all of the required technology for the drilling. D. McInroy said that they will need to contract all of the technology. It is estimated that it would be more expensive than the Arctic expedition. G. Dickens said that the scientists probably did not consider the concept of budget. He recommended that ESO should convey the message that the changes in the operations could lower the costs. M. Webb said that the UK*

*encourages early discussions with the operator. Is this happening now? D. McInroy said that it started happening more lately and ESO does contact the proponents for the costs. G. Camoin said that this is why the MagellanPlus program offers technological input early in the proposal process. In this way the conveners involve the technological team from ESO, in order for the proponents to apply technology in the proposals that is necessary for their scientific goals. J. de Leeuw said that in the new system, such considerations and difficulties could become clear at the PEP level, so PEP could forward the proposals back to the proponents with the cost concern. D. Kroon confirmed that some of the recent recommendations have concentrated on asking the proponents to combine proposals in order to save technological sites. G. Dickens said that this approach may be problematic, because if all of the sites are changed then the science would be also changed, and the proponents would have to re-submit a new proposal.*
*D. Smith said that if the use of LWD is reduced, the costs would be reduced, because it would involve using smaller vessels. Also removing a deeper water site could cut costs. The people that are interested in the Arctic, are usually the most proactive and asking questions. S. Davies said that the New Jersey expedition proponents requested a LWD, which they presently could not use successfully, but it would be possible to use other technology as normal wire-line logging*.

***E-FB Consensus 13-10-01:*** *The E-FB to contact the '637-Full2 New England Shelf Hydrogeology' proposal proponents that they must give feedback to ESO on how the expedition costs could be reduced if some of the sites are changed.*

***E-FB Consensus 13-11-01:*** *The E-FB to relate the message to the '637-Full2 New England Shelf Hydrogeology' proponents that they may also look for funds from outside ECORD and to keep PEP informed about the progress of this discussion.*

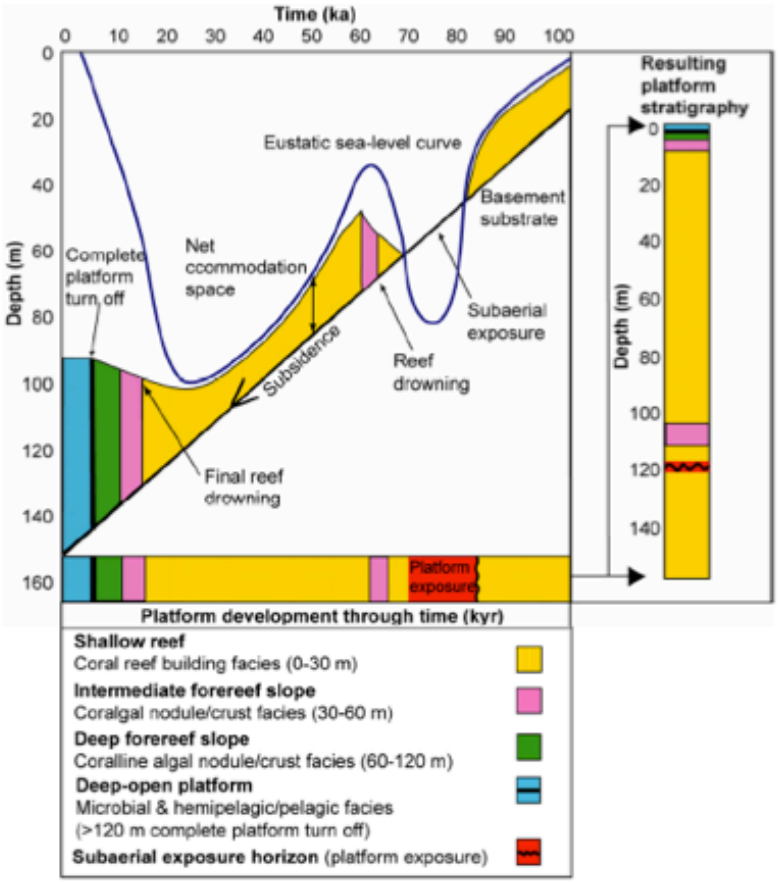
*ACTION FB: to contact the '637-Full2 New England Shelf Hydrogeology' proponents with the request that the proponents to communicate with ESO on how to reduce proposal costs by changing some of the sites, to look for outside funds and keep PEP updated about the proposal changes.*

*K. Gohl recommended that the proponents should further discuss with ESO in order to apply cheaper platforms, even if this would involve changing the drill sites. G. Camoin suggested that the PEP Chair should be kept updated to such changes. D. Kroon said that the E-FB should relate the message to proponents to also look for funds from outside ECORD.*

### 8.4 - 716-Full2 Hawaiian Drowned Reefs

#### 8.4.2 - Scientific objectives (G. Dickens)

G. Dickens introduced a map of the shallow-water sites near the coast of Hawaii. He revised the similarities and differences in comparison to previous expeditions. There are similarities to the *Tahiti*, *GBR*, (recent MSP drilling) and the *Huon Peninsual* (on-shore). The differences are that the study examines the subsiding Margin (accommodation space during sea-level fall) at an area that is always submerged (diagenesis). The margin is subsiding and the sea-level falls. The reef can grow even though the sea level drops. He presented 4 diagrams of the model site predictions. He showed a diagram of the platform development through time, listed proposed sites and science objectives, shown on the following page. The science objectives are to define the nature of sea-level change in the central Pacific over the past 500 kyr and to determine the critical processes that determine paleoclimate variability in central Pacific (SST analyses of massive corals; seasonal records). In addition, the goal is to establish the response of coral reef systems to abrupt changes in environment (sea-level and climate) and elucidate the subsidence history of Hawaii. The proposal addresses the following **Science Themes: Challenge 2: How do ice-sheets and sea level respond to climate change**, and **Challenge 7: How sensitive are ecosystems to environmental change**.




## Proposed Sites:

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| **Primary** | | | | | | |
| KON-01A | 19.600341N, -156.010975W | -145 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (leeward, dry) |
| KAW-03A | 20.018587N, -155.866458W | -154 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (leeward, dry) |
| KAW-04A | 19.995815N, -156.032933W | -419 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (leeward, dry) |
| KAW-06A | 20.036417N, -156.065696W | -737 | 140 | 10 | 150 | H4 reef that spans MIS 8-9 (leeward, dry) |
| KAW-07A | 20.137266N, -156.079341W | -988 | 140 | 10 | 150 | H6 reef that spans MIS 10-11 (leeward, dry) |
| MAH-01A | 20.055411N, -156.189697W | -1102 | 140 | 10 | 150 | H8a reef that spans MIS 12-13 (leeward, dry) |
| MAH-02A | 20.050262N, -156.192035W | -1154 | 140 | 10 | 150 | H8b reef that spans MIS 12-13 (leeward, dry)) |
| KOH-01A | 20.290268N, -155.651218W | -410 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (windward, wet) |
| KOH-02A | 20.273958N, -155.490294W | -930 | 140 | 10 | 150 | H7 reef that spans MIS 10-11 (windward, wet) |
| HIL-01A | 19.758805N, -154.985708W | -134 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (windward, wet) |
| HIL-05A | 19.876999N,-154.939618W | -402 | 140 | 110 | 150 | H2d reef that spans MIS 6-7 (windward, wet) |
| **Alternate** | | | | | | |
| KAW-01A | 20.011332N, -155.848480W | -109 | 140 | 10 | 150 | H1b reef that spans MIS 1-5 (leeward, dry) |
| KAW-02A | 20.017325N, -155.857206W | -131 | 140 | 10 | 150 | H1c reef that spans MIS 1-5 (leeward, dry) |
| KAW-05A | 19.978715N, -156.029159W | -466 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (leeward, dry) |
| HIL-02A | 19.883005N, -155.029932W | -271 | 140 | 10 | 150 | H2a reef that spans MIS 4?-7 (windward, wet) |
| HIL-03A | 19.867141N, -154.973387W | -338 | 140 | 10 | 150 | H2b reef that spans MIS 5a?-7 (windward, wet) |
| HIL-04A | 19.869407N, -154.954576W | -354 | 140 | 10 | 150 | H2c reef that spans MIS 5a?-7 (windward, wet) |
| MAH-03A | 20.140405N, -156.238194W | -1213 | 140 | 10 | 150 | H9 reef that spans MIS 14-15? (leeward, dry) |
| MAH-04A | 20.065165N, -156.266945W | -1234 | 140 | 10 | 150 | H10 reef that spans MIS 14-15? (leeward, dry) |
| MAH-05A | 19.994893N, -156.229296W | -1289 | 140 | 10 | 150 | H11 reef that spans MIS 14-15? (leeward, dry) |

*C. Escutia asked how well constrained is the topic about subsidence. G. Dickens said that perhaps the science objectives could be achieved through the examination of multiple sites. K. Gohl mentioned that a lot of alternate sites are listed.*
*R. Batiza asked how the sample will be dated. D. Koon said that since there is little alterations in these depths, the study would need a small range of samples. G. Camoin said the proposal seems to be strong. In reference to the thermal subsidence, it can be probably modeled, as there is a high potential of dating and it is exceptional that the proponents' goal is to explore going back to 500 million years. He insisted on the quality of the survey data, which presents exceptional images of the seafloor. G. Dickens mentioned that it was discussed during the review that there is no dynamic typography of the sea-level. G. Camoin said that some collaboration is possible. C. Escutia confirmed that the proposal does model well the subsidal topography.*

### 8.4.3 - Site survey data (G. Lericolais)

G. Lericolais said that the **716-Full2** proposal was previously discussed in 2009. He said that this proposal is a good example where they have asked the proponents new site survey data in order to review their proposals. The proponents sent data along with good explanations. The evaluation matrix asked for surface samples and video images. The video images were not provided but SCP agreed that that it is not really necessary even if it is in the matrix. They upgraded the sites to 1Aa, to proceed to drilling.

**Proposed Sites**

# 716-Full2: Hawaïan Drowned Reefs

- Lead Proponent: Jody Webster
- SSP Watchdogs: Ryota Hino, Christoph Gaedicke, Kiichiro Kawamura
- Review date: 28 July 2009

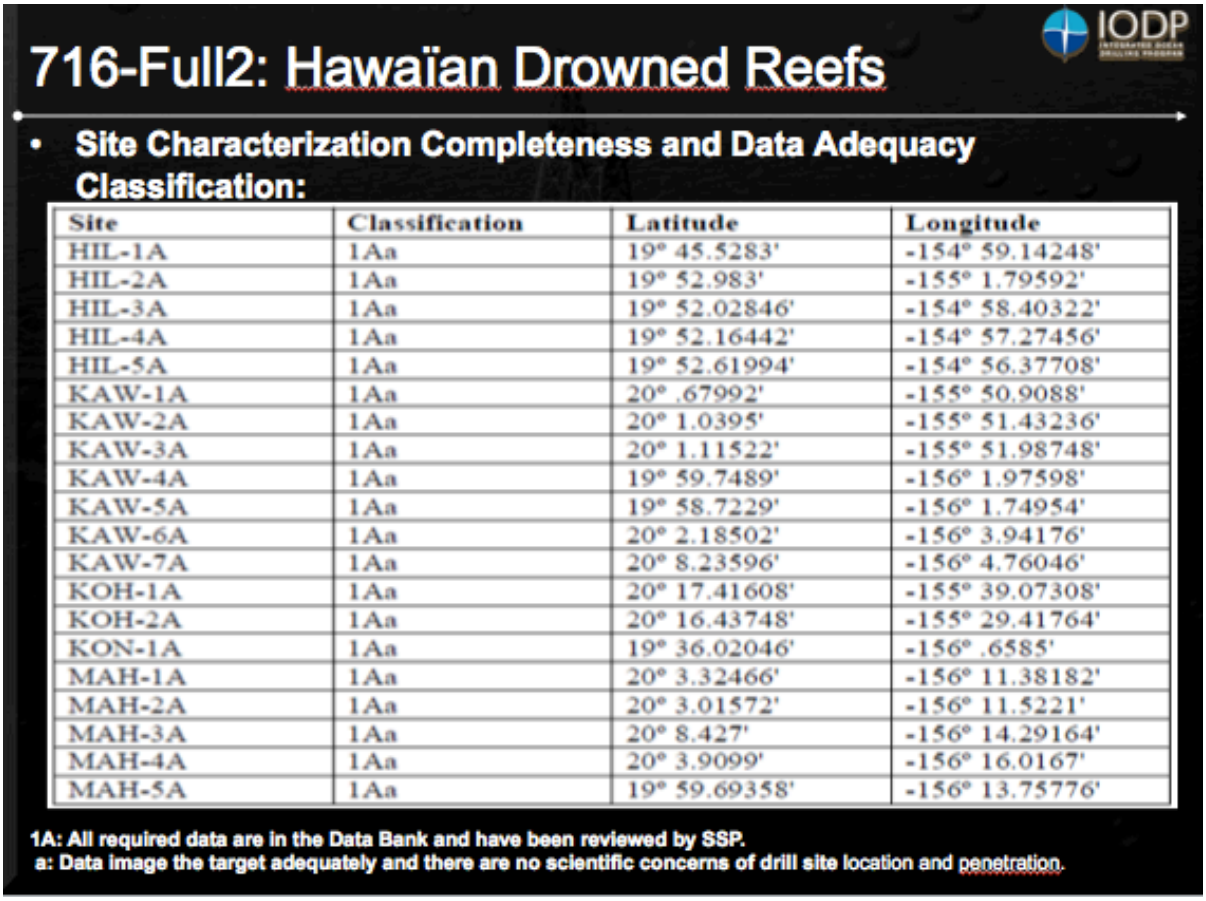
Proposed Sites:

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| **Primary** | | | | | | |
| KON-01A | 19.600341N, -156.010975W | -145 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (leeward, dry) |
| KAW-03A | 20.018587N, -155.866458W | -154 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (leeward, dry) |
| KAW-04A | 19.995815N, -156.042933W | -419 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (leeward, dry) |
| KAW-06A | 20.036117N, -156.065696W | -737 | 140 | 10 | 150 | H4 reef that spans MIS 8-9 (leeward, dry) |
| KAW-07A | 20.137266N, -156.079341W | -988 | 140 | 10 | 150 | H6 reef that spans MIS 10-11 (leeward, dry) |
| MAH-01A | 20.055411N, -156.189697W | -1102 | 140 | 10 | 150 | H8a reef that spans MIS 12-13 (leeward, dry) |
| MAH-02A | 20.050262N, -156.192085W | -1154 | 140 | 10 | 150 | H8b reef that spans MIS 12-13 (leeward, dry)) |
| KOH-01A | 20.290268N, -155.651218W | -410 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (windward, wet) |
| KOH-02A | 20.273958N, -155.490294W | -930 | 140 | 10 | 150 | H7 reef that spans MIS 10-11 (windward, wet) |
| HIL-01A | 19.758805N, -154.985708W | -134 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (windward, wet) |
| HIL-05A | 19.876999N,-154.939618W | -402 | 140 | 110 | 150 | H2d reef that spans MIS 6-7 (windward, wet) |
| **Alternate** | | | | | | |
| KAW-01A | 20.011382N, -155.848480W | -109 | 140 | 10 | 150 | H1b reef that spans MIS 1-5 (leeward, dry) |
| KAW-02A | 20.017325N, -155.857206W | -131 | 140 | 10 | 150 | H1c reef that spans MIS 1-5 (leeward, dry) |
| KAW-05A | 19.978715N, -156.029159W | -466 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (leeward, dry) |
| HIL-02A | 19.883005N, -155.029932W | -271 | 140 | 10 | 150 | H2a reef that spans MIS 4?-7 (windward, wet) |
| HIL-03A | 19.867141N, -154.973387W | -338 | 140 | 10 | 150 | H2b reef that spans MIS 5a?-7 (windward, wet) |
| HIL-04A | 19.869407N, -154.954576W | -354 | 140 | 10 | 150 | H2c reef that spans MIS 5a?-7 (windward, wet) |
| MAH-03A | 20.140405N, -156.238194W | -1213 | 140 | 10 | 150 | H9 reef that spans MIS 14-15? (leeward, dry) |
| MAH-04A | 20.065165N, -156.266945W | -1234 | 140 | 10 | 150 | H10 reef that spans MIS 14-15? (leeward, dry) |
| MAH-05A | 19.994893N, -156.229296W | -1289 | 140 | 10 | 150 | H11 reef that spans MIS 14-15? (leeward, dry) |

# 716-Full2: Hawaïan Drowned Reefs

- **SSP Consensus:**

  The panel acknowledges submission of new site survey data to the SSDB. The proponents' response to the previous SSP review provides good explanations for selection of the sites and clarifies open questions. The SSP recognizes that the newly submitted location maps show the correlation between the locations of ROV observation points and proposed drill sites. For site KON-01A, the panel recognizes that backscatter data and seafloor images in the SSDB characterize the site well. The panel discussed whether surface samples are required for all proposed sites, but agreed that surface samples are not necessary for each drill site and seafloor images obtained at remote locations are sufficient for site characterization, given that the images are taken at the same level of reefs as the proposed drill sites. Since the last evaluation no new data were submitted to the databank for sites MAH-03A,MAH-04A, MAH-05A, but, as a consequence of the discussion, the panel re-classified and upgraded these three sites to 1Aa. All other sites are also classified 1Aa.



716-Full2: Hawaïan Drowned Reefs

IODP

- **Site Characterization Completeness and Data Adequacy Classification:**

| Site | Classification | Latitude | Longitude |
|---|---|---|---|
| HIL-1A | 1Aa | 19° 45.5283' | -154° 59.14248' |
| HIL-2A | 1Aa | 19° 52.983' | -155° 1.79592' |
| HIL-3A | 1Aa | 19° 52.02846' | -154° 58.40322' |
| HIL-4A | 1Aa | 19° 52.16442' | -154° 57.27456' |
| HIL-5A | 1Aa | 19° 52.61994' | -154° 56.37708' |
| KAW-1A | 1Aa | 20° .67992' | -155° 50.9088' |
| KAW-2A | 1Aa | 20° 1.0395' | -155° 51.43236' |
| KAW-3A | 1Aa | 20° 1.11522' | -155° 51.98748' |
| KAW-4A | 1Aa | 19° 59.7489' | -156° 1.97598' |
| KAW-5A | 1Aa | 19° 58.7229' | -156° 1.74954' |
| KAW-6A | 1Aa | 20° 2.18502' | -156° 3.94176' |
| KAW-7A | 1Aa | 20° 8.23596' | -156° 4.76046' |
| KOH-1A | 1Aa | 20° 17.41608' | -155° 39.07308' |
| KOH-2A | 1Aa | 20° 16.43748' | -155° 29.41764' |
| KON-1A | 1Aa | 19° 36.02046' | -156° .6585' |
| MAH-1A | 1Aa | 20° 3.32466' | -156° 11.38182' |
| MAH-2A | 1Aa | 20° 3.01572' | -156° 11.5221' |
| MAH-3A | 1Aa | 20° 8.427' | -156° 14.29164' |
| MAH-4A | 1Aa | 20° 3.9099' | -156° 16.0167' |
| MAH-5A | 1Aa | 19° 59.69358' | -156° 13.75776' |

1A: All required data are in the Data Bank and have been reviewed by SSP.
a: Data image the target adequately and there are no scientific concerns of drill site location and penetration.

G. Camoin asked about the ranking of the proposal, as he was the watchdog. It was ranked #6 out of 28 proposals.

### 8.4.4 – Drilling operations (D. McInroy)

D. McInroy said that if the proponents use a vessel base rig, the proposal may be feasible. It is possible to use a geotechnical MSP vessel. The second option is to use the *JR,* although the US is not keen to do this project for several reasons. He said that the overall cost would be about $13M USD. He reminded that at this stage it is very difficult to estimate the expedition's price. D. McInroy introduced the weather windows. He said that this is a very straightforward possibility for drilling. ESO has to contact the Hawaiian authorities to acquire drilling permission. The authorities were previously presented the project goals, they reacted positively and encouraged ECORD to submit an application when ready.

## 716-Full2 Hawaiian Drowned Reefs

Water depths: 134-1154 m
Penetration: 150 mbsf
Primary lithologies: Carbonates and minor volcanics.
Possible platform type(s): Geotechnical ship with coring rig (future: sea bed drill?)

*Scoping so far*

- ESO scoping and PMT meeting.
- Technically feasible, no development needed if using vessel-based rig
- Various approaches could be adopted:
  1. 'Normal' MSP using a geotechnical vessel (no technology development required).
  2. Use the *JOIDES Resolution*.
  3. Use a sea bed drill as far as possible, and then use the *JR* for the deeper coring.
- Cost estimate is **~$13M** (geotechnical ship option, includes operation and ESO costs).
- March-April or September-October are the preferred windows for drilling, to avoid weather and whales.

*Other factors (concerning sea bed drill approach above)*

- 150 mbsf is beyond the current reach of BGS RD2 and MeBo.

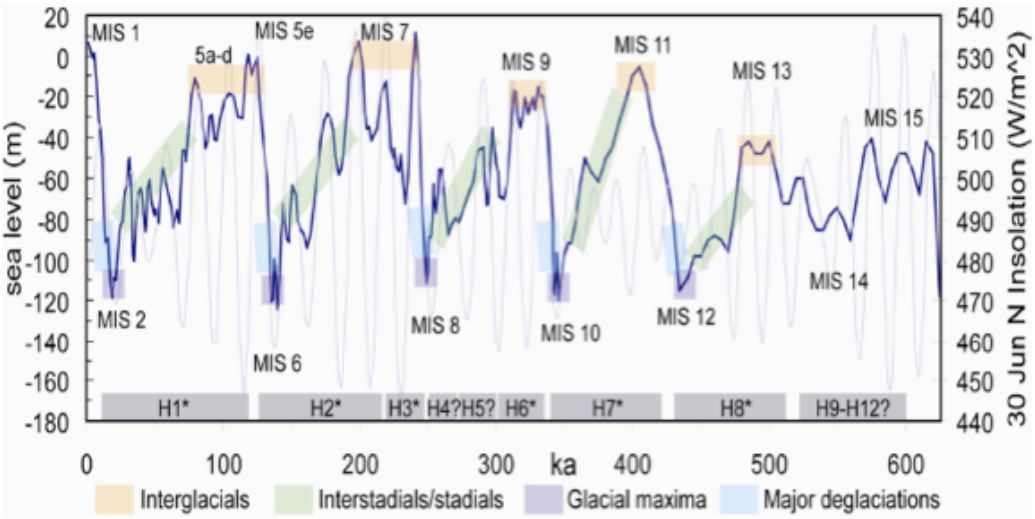
| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| **Primary** | | | | | | |
| KON-01A | 19.600341N, -156.010975W | -145 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (leeward, dry) |
| KAW-03A | 20.018587N, -155.866458W | -154 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (leeward, dry) |
| KAW-04A | 19.995815N, -156.032933W | -419 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (leeward, dry) |
| KAW-06A | 20.036417N, -156.065696W | -737 | 140 | 10 | 150 | H4 reef that spans MIS 8-9 (leeward, dry) |
| KAW-07A | 20.137266N, -156.079341W | -988 | 140 | 10 | 150 | H6 reef that spans MIS 10-11 (leeward, dry) |
| MAH-01A | 20.055411N, -156.189697W | -1102 | 140 | 10 | 150 | H8a reef that spans MIS 12-13 (leeward, dry) |
| MAH-02A | 20.050262N, -156.192035W | -1154 | 140 | 10 | 150 | H8b reef that spans MIS 12-13 (leeward, dry)) |
| KOH-01A | 20.290268N, -155.651218W | -410 | 140 | 10 | 150 | H2d reef that spans MIS 6-7 (windward, wet) |
| KOH-02A | 20.273958N, -155.490294W | -930 | 140 | 10 | 150 | H7 reef that spans MIS 10-11 (windward, wet) |
| HIL-01A | 19.758805N, -154.985708W | -134 | 140 | 10 | 150 | H1d reef that spans MIS 1-5 (windward, wet) |
| HIL-05A | 19.876999N, -154.939618W | -402 | 140 | 110 | 150 | H2d reef that spans MIS 6-7 (windward, wet) |


*R. Gatliff said that the technological needs should be considered as well as the depth of the drilling. D. Smith said that it does not make sense to do this as an MSP geotechnical when the JR is available. K. Gohl asked why the JR is not available. The group said that this is probably due to the recovery percentage and also D. Divins added that drilling in Hawaii is an environmentally sensitive issue, such as the potential impact of drilling next to whale-inhabited regions. The JR has strict rules. M. Malone said that it is possible to core this expedition with the JR, but the recovery would be only 15%. G. Camoin suggested that such a recovery rate is not sufficient. D. Smith said that the MSP recovery would not be very much different. D. Divins said that this should be further investigated. R. Gatliff said that the recovery would be better with a rock drill, which would mean waiting until the MeBo is ready.*

*K. Gohl asked if in a near-shore situation the coring activities could be done on land in order to reduce the costs. D. Smith said that it depends on the availability of the systems. R. Gatliff said that the costs would be clear when ESO goes to tender. D. McInroy asked if ESO could propose to the proponents a maximum drilling depth. G. Camion said that they are considering different periods so they need all of the sites. G. Dickens said that in reference*

*to the two deepest sites, H7 is relatively 340-400 k years, and because it is located on a subsiding margin, the shallow sites get deeper going back in time. He asked if H7 would be a big gain in terms of science.*

*G. Dickens presented the following chart:*




*C. Escutia said that the other #700 and #400 sites would be drilled as in the JR, and may not still get the younger record. S. Davies said that the site depth has been discussed at OTF and the proponents did generate different site depths scenarios. D. McInroy reminded that the sites are shallow, but are not deep enough to provide a drill-use environment.*

*K. Gohl asked if the E-FB recommends that the proposal should be shifted from an MSP to the JR. The proposal could be handed to the US-JR. T. Janecek confirmed that such a forwarding of projects process for the consideration of the US-FB is possible.*

*R. Gatliff said that Hawaii has sloping volcanoes and terraces and that the proponents chose the terrace with less condensed sequence. Hence, if the scientists approach closer to land then they will encounter a concentrated sequence. D. Kroon said that if the proponents go higher up, then they would lose a part of the sequence. G. Dickens asked whether the MeBo depth is 81m in sediments and not hard rock. He reviewed the H2 and H1 diagrams.*

*The E-FB discussed that 150m interval gives the entire distance, but 100 m also gives the interval of interest. G. Dickens questioned whether the whole depth is required. D. Kroon said that it is still needed if need the sea-level fall and to see the amplitude and timing. D. Weis asked if should model volcano evolution, the average is 1M years, the longest the topography the better. It would be ideal to model the volcanic input. G. Dickens said that it involves a series of different intervals that could be connected. However, none of the sequences go back 100k years, so then each sequence will have to be connected. D. Weis asked if the landslides' impact is known. The group did not have the answer. D. Smith said that the MSPs work for shallow water and high altitudes, so if a site is located in deep water, it can be done with alternative technology. M. Webb suggested that there is critical dependence on the new incoming technology to do the operation. D. Kroon said that several proposals could be done via MeBo 2, but the low recovery from the JR is not enough. He suggested to wait for the development of the MeBo2. S. Davies said that the proponents have given information that they need those depths for their science. D. Smith said that there are existing techniques that can be applied with a drill to reach the needed depths. S. Davies said that logging is needed to correlate the holes. C. Escutia said that the proponents need to know the risks in the operation JR low recovery results or to wait until the MeBo2 is developed.*

***Consensus 13-12-01:*** *The E-FB to delay scheduling the '716-Full2 Hawaiian Drowned Reefs' proposal until after 2014/2015 and to contact the proponents that there are three options for their proposal: to either accept the low recovery results risks in a JR operation; to wait until the MeBo2 is developed; or to find alternatives to MeBo.*

### 8.5 - 758-Full2 Atlantis Massif Seafloor Processes

#### 8.5.2 - Scientific objectives (D. Weis)

D. Weis introduced the **758-Full2 Atlantis Massif Seafloor Processes** proposal. The site location is in the *Atlantis Massif*. It is near a hydrothermal field, where 10 drill sites have been selected, using seabed rock drilling systems on an MSP for the first time. The proposal involves the integration of hard rock, geochemistry and the origin of organisms. The main goal is to explore the subsurface and its link to serpentinization, deformation and alteration processes in lithosphere of different age and rock type.

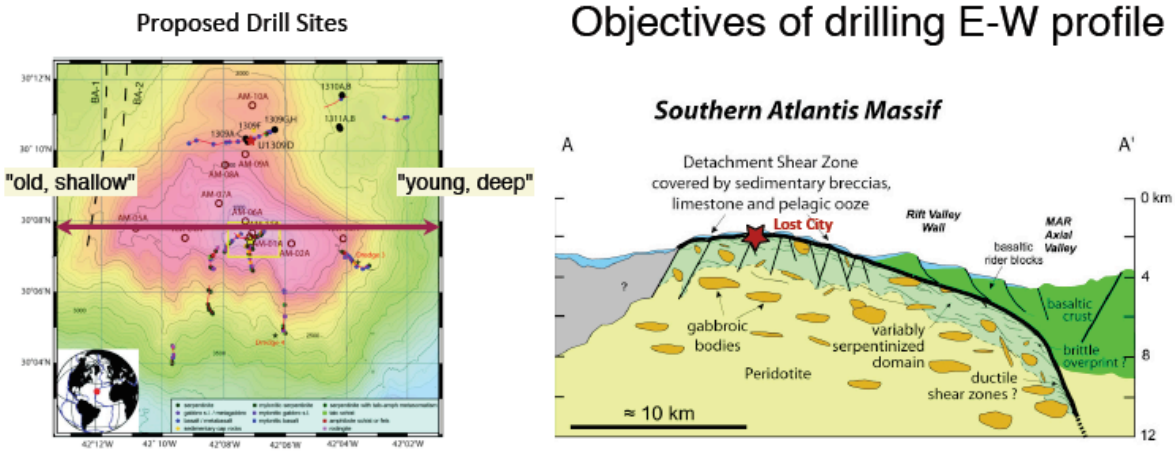
The study will do an East and West profile.

D. Weis emphasized that **serpentinization is a fundamental process**, that is identified as an important research target in the IODP New Science Plan.

The Lost City organisms are not related to the black smokers but related to alternation of sea magma rock. The Lost City is unlike any known submarine vent system, but is unlikely to be unique. Nothing is known of the sub-subsurface biosphere in this environment.

An Oceanic Core Complex exists at the *Atlantis Massif*. This provides an opportunity to study the seprentinization processes and microbial activity that is associated with the active fluid discharge at the Lost City. Also, the evolution of the massif may be further explored, including the understanding of the longetivity of and possible precursors to the Lost City, serpentinization processes and changes in the microbial activity in the footwall. Lastly, the *Atlantis Massif* provides an early history of the detachment fault which localized high stain deformation and fluid flow at 300-400 C° temperaure, possibly up to several kilometers below the seafloor.

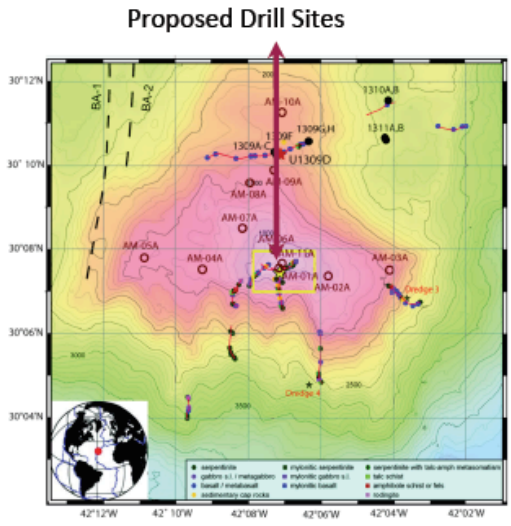
D. Weis presented the objectives of drilling the E-W profile.

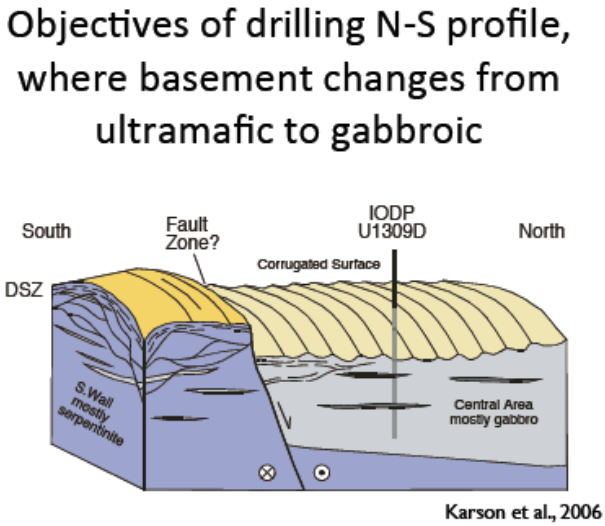



(1) To constrain the nature and distribution of microbial communities supported by $H_2$- and $CH_4$-rich fluids and determine how these vary with age and substrates;

(2) To investigate the controls on fluid flow and the consequences of serpentinization for global (bio)geochemical cycles and carbon fixation, as biomass or solid carbonate; and

(3) To evaluate the links between denudation and hydrothermal circulation & to test the hypothesis that detachment faults channel hydrothermal fluids and ultimately lead to mid-ocean ridge vent fields.




Investigate axis-parallel variations in lithologies, alteration, and microbial activity away from the focus of fluid discharge and in ~1.16 to 1.31 Ma lithosphere.

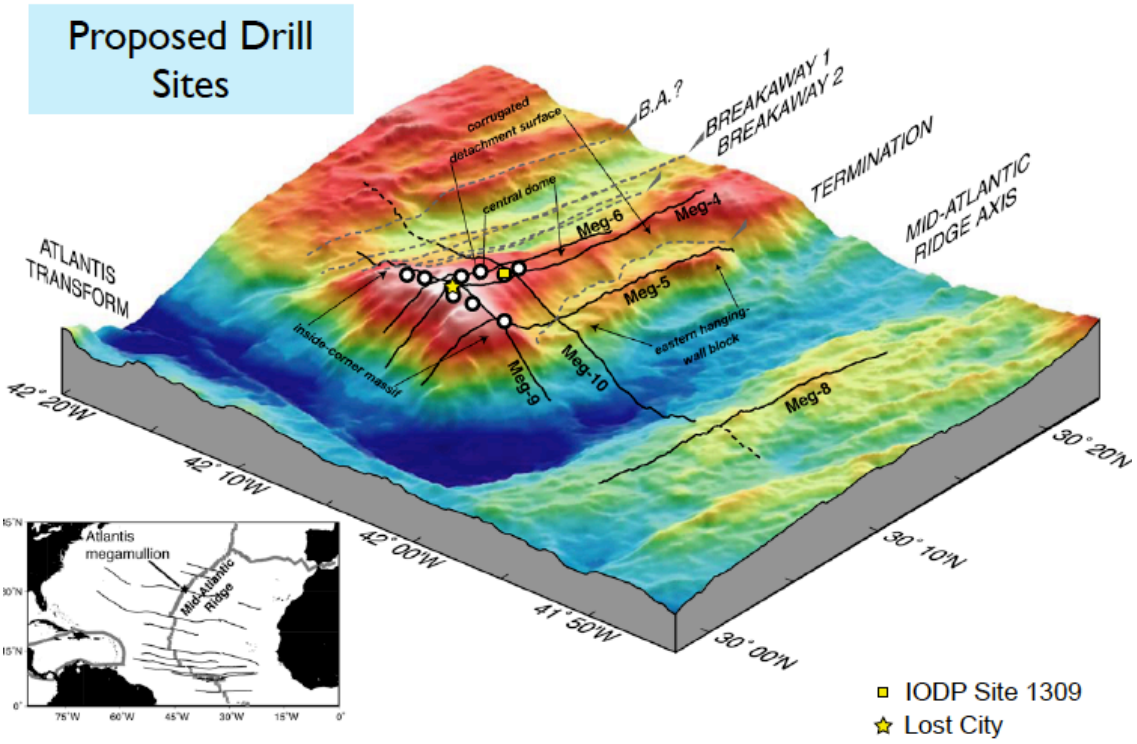
This profile will allow the evaluation of:

(1) the length scale of lithological and hydrothermal variability and the implications for heat and fluid flow paths/fluxes and microbial activity; and

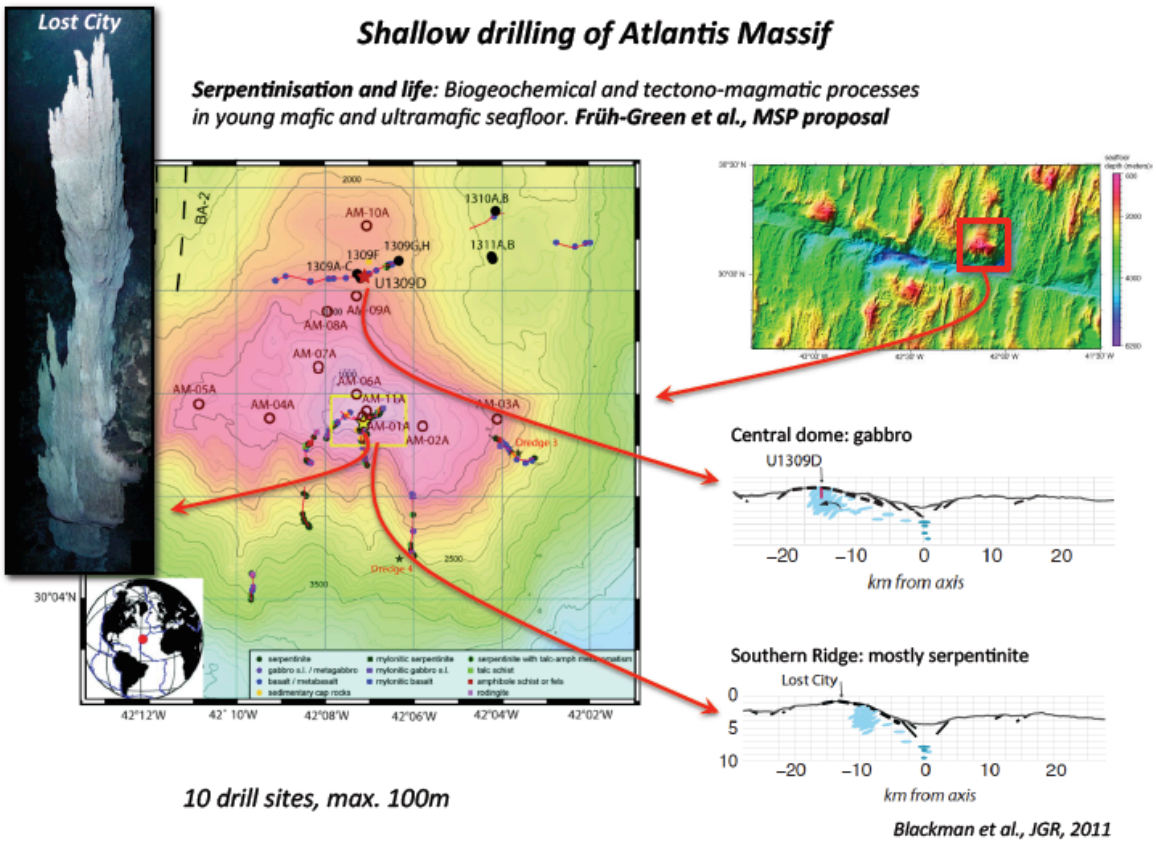
(2) the rheological role of competent gabbros and weaker serpentinised ultramafic rocks in localizing deformation.

D. Weis reviewed the advantages of using a seabed rock drill: the possibility for deployment from conventional R/V, high recovery rates at about 70m, and current developments explore the opportunity to drill at a depth of 200m to allow for downhole measurements, and sampling for microbiology and fluids. The associated challenges with the seabed rock drills are that there is a need to devise the microbial contamination and sampling schemes, to adapt the conventional logging tools and design the low-cost fluid sampling and microbial observatory capabilities. It is also possible that the downhole tools such as the Deep Exploration Biosphere Investigative tool (DEBI-t), may be modified for deployment with the seabed rock drills.

The next diagrams display the proposed drill sites and a shallow drilling map.



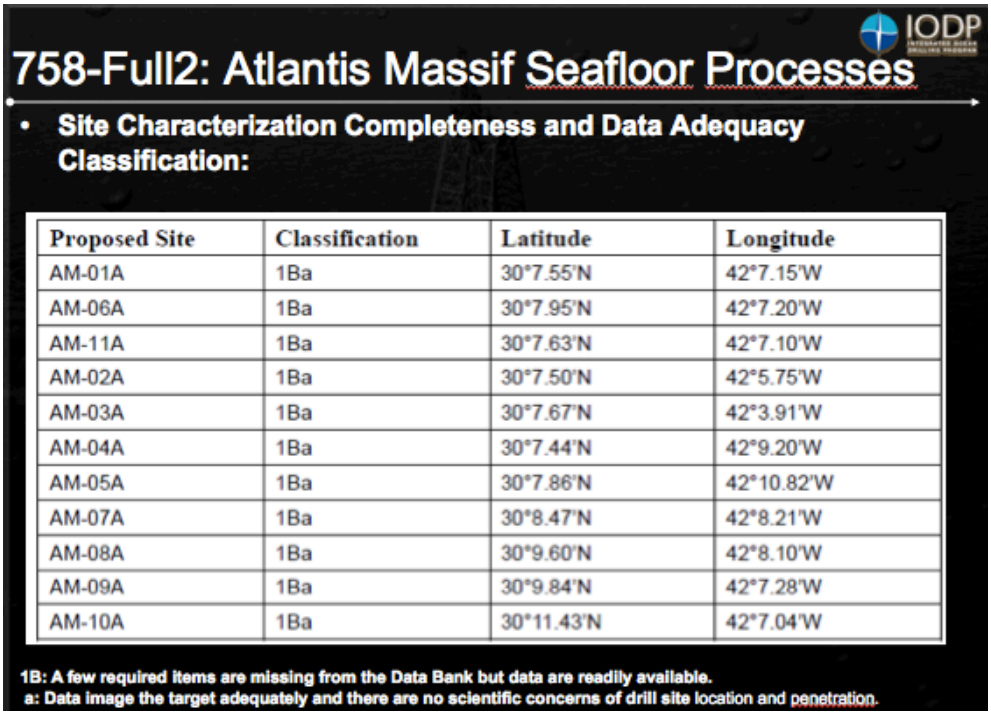

Canales et al.. 2004



*R. Gatliff asked if the science objectives would be reached if only 50m are drilled versus 100m. D. Weiss said that 50 m may be short, but it also depends on the drilled area.*
*R. Gatliff said that the MeBo is not available until 2015, so in order to launch this expedition in 2014, it could be done with parallel hole drilling. D. McInroy said that the proponents agreed to 50m deep drilling.*

### 8.5.3 - Site survey data (G. Lericolais)

G. Lericolais reviewed the outcomes of the **758-Full2** SSP review of the sites. The SSP coded the sites as 1Ba. This means that several items are missing from the databank.




| Proposed Site | Classification | Latitude | Longitude |
|---|---|---|---|
| AM-01A | 1Ba | 30°7.55'N | 42°7.15'W |
| AM-06A | 1Ba | 30°7.95'N | 42°7.20'W |
| AM-11A | 1Ba | 30°7.63'N | 42°7.10'W |
| AM-02A | 1Ba | 30°7.50'N | 42°5.75'W |
| AM-03A | 1Ba | 30°7.67'N | 42°3.91'W |
| AM-04A | 1Ba | 30°7.44'N | 42°9.20'W |
| AM-05A | 1Ba | 30°7.86'N | 42°10.82'W |
| AM-07A | 1Ba | 30°8.47'N | 42°8.21'W |
| AM-08A | 1Ba | 30°9.60'N | 42°8.10'W |
| AM-09A | 1Ba | 30°9.84'N | 42°7.28'W |
| AM-10A | 1Ba | 30°11.43'N | 42°7.04'W |

In accordance to the SSP Consensus, the data was evaluated as good enough, but some information is missing about how the proposed penetration will be achieved. Also, there is missing video information in the proposed locations, but such lack of information cannot stop the proposals. The SSC recommended that the proponents should use a camera during the drilling. Hence, the 1Ba rating indicates that they are ready to drill, provided that they include some photography or ROV procedures during the positioning of the drill.

### 8.5.4 – Drilling operations (D. McInroy)

D. McInroy reviewed the scoping of the projects that are close to entering the expedition phase. There is a need to set a system in place that will provide the ability to see the borehole. The current seabed drills do not provide all IODP minimum requirements. He posed the question as to whether ESO should go forward by following just the proposal's minimum requirements. The estimated operation cost is $3.5M USD.

## 758-Full2 Atlantis Massif Seafloor Processes

Water depths: 750-1770 m
Penetration: 50-100 mbsf
Primary lithologies: Lithified pelagic carbonates and basaltic breccias (in carbonate matrix), serpentinized peridotite with zones of talc-amph-chl schists.
Possible platform type(s): Sea bed drill deployed from research vessel.

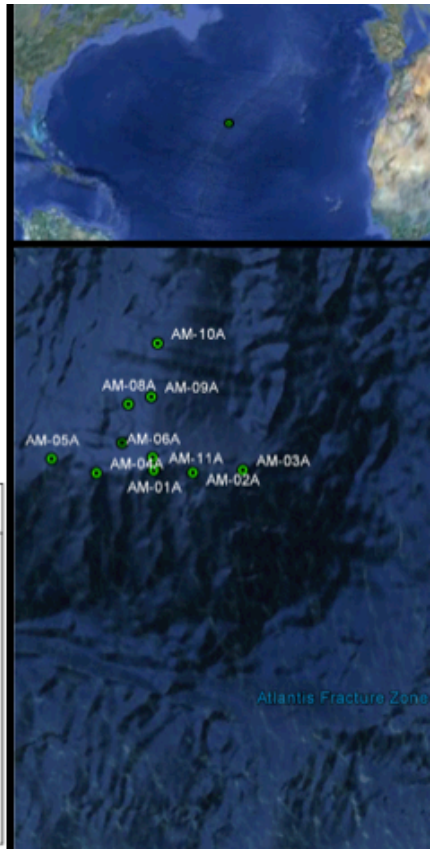
*Scoping so far*

- ESO scoping, 2 PMT meetings, and ECORD Technical Panel.
- Cost estimate is **~$3.5M** (includes operation and ESO costs, and assumes the research ship comes as a contribution in kind).

*Other factors*

- Sea bed drills do not currently provide all IODP minimum downhole measurements.
- Further sea bed drill tool development is needed to meet the minimum objectives of the proposal (developments identified at the ECORD Technical Panel) .

| Site Name | Position | Water Depth (m) | Penetration (m) | | | Brief Site-specific Objectives |
|---|---|---|---|---|---|---|
| | | | Sed | Bsm | Total | |
| AM-01A<br>AM-06A<br>AM-11A<br>(alt. for AM-01A) | 30°7.55'N 42°7.15'W<br>30°7.95'N 42°7.20'W<br>30°7.63'N 42°7.10'W | 800<br>870<br>750 | 1-3<br>1-3<br>1-3 | 50-100<br>50-100<br>50-100 | 100<br>100<br>100 | *Upflow region*: Recover sediments, hydrothermal deposits, fault surface & talc schist/serpentinite basement for petrological, chemical & microbiological analysis. Log if possible. |
| AM-02A<br>AM-03A<br>AM-04A<br>AM-05A | 30°7.50'N 42°5.75'W<br>30°7.67'N 42°3.91'W<br>30°7.44'N 42°9.20'W<br>30°7.86'N 42°10.82'W | 1140<br>1590<br>1400<br>1450 | 0.5-3<br>0.5-3<br>1-3<br>1-3 | 50-100<br>50-100<br>50-100<br>50-100 | 100<br>100<br>100<br>100 | *Variations with age*: Recover sediments, fault surface & talc schist/ serpentinite basement for petrological, chemical & microbiological analysis. |
| AM-07A<br>AM-08A<br>AM-09A<br>(U1309D)<br>AM-10A | 30°8.47'N 42°8.21'W<br>30°9.60'N 42°8.10'W<br>30°9.84'N 42°7.28'W<br>30°11.43'N 42°7.04'W | 1150<br>1510<br>1570<br>1770 | 1-3<br>1-3<br>1-3<br>1-3 | 50-100<br>50-100<br>30-50<br>50-100 | 100<br>100<br>50<br>100 | *Axis-parallel variations*: Recover sediments, fault surface & mafic basement for petrological, chemical & microbiological analysis. |




*D. Smith said that the proponents do not have enough information about the necessary technology. D. Weis asked about the sample contamination. D. McInroy said that a contamination assessment system is possible, but some level of contamination is inevitable. D. Weis asked how long it would takes to drill this operation. D. Smith answered that it would take about 24 hours.*

*J. de Leeuw asked if the applicants looked at proposal deadlines for a UK ship time and talked to national ship operators or if they are waiting for ESO's signal. R. Gatliff said that this is an ESO task. As it is late to get a research vessel, ESO will look to the possibility to*

*implement the operation by March 2015, the sooner a decision is reached.*

*M. Webb said that this FB meeting is well-timed with the marine planning deadlines, which take place in April for the UK 2014/ 2015, the same for France and the UK. So it is possible to submit and get a vessel for 2014. D. Weiss asked what would be the negative aspect of pushing this expedition to 2014 and if the proponents agree to the 50m depth. K. Gohl agreed that the other proposals need more time. R. Gatliff said that the downside is that if they proceed in 2014, they will have one rock drill. If ESO proceeds in 2015, they will have two drills, which may be better in case that one of the drills breaks down. K. Gohl asked if a MSP vessel can accommodate two drills. M. Webb confirmed that the James Cook can accommodate two drills. D. Smith recommended waiting until the two drills are available for use onboard. G. Camoin said that it would be good to have one MSP expedition in the first year of the program in order to send a good signal to the community. He asked when the MeBo would be available. D. McInroy said that it would be available in 2015. D. McInroy said that choosing an early expedition would narrow down the number of achievable goals.*

*K. Gohl remarked that there are good expedition possibilities for 2015. It seems that for 2014 the Hawaiian Reef and the Coralbank expeditions may be more applicable, but without the MeBo. It is possible that the costs for each expedition could be reduced.*

*G. Camoin said that it is possible that the final budget will be available by May or June 2013.*

*K. Gohl said that the Chicxulub is not realistic due to its high cost. The E-FB should consider in the future if this proposal is affordable. G. Camoin asked ESO if they could re-explore the affordability of the Chicxulub. K. Gohl reiterated that it is important to start 2014 with an MSP and to maintain one MSP on average per year. R. Gatliff recommended that ESO prepares and requests funds for the Chicxulub expedition to take place in 2015. D. Kroon said that the E-FB should look at the whole packet of proposals and see how all can be scheduled within the next 3-5 years. He said that that it should be OK if ECORD cannot do one MSP in 2014 and rather waits one more year. A. de Vernal agreed.*

*R. Gatliff said that since two Arctic and two Antarctic projects with very important science will go through PEP, each should be a priority. He recommended that ECORD does not spend all of its funds on proposals that are not as good as the Arctic projects. D. Kroon said that it is too restrictive if ECORD concentrates to do one platform for FY14.*

*D. Weis said that if the Chixculub and Atlantis Massif are implemented consecutively, the total results could be very important to follow on the scientific goals.*

*K. Gohl recommended that the E-FB considers a package of 3-4 proposals that will be to be implemented in the next few years and to consider two missions in FY 2015.*

*G. Dickens said that perhaps the Hawaiian and Coralbank could be operated for less funds with the MeBo and then could have enough of funds to do an Arctic expedition in the next five years.*

*T. Janecek asked when any IMAGES proposals will come to the system between early October 2013 and April 2014.*

*J. de Leeuw said that a faster development and testing of the MeBo2 might imply a very significant reduction of long-term costs, so it should be considered if it is possible to set aside funds to promote the faster development of the drills. D. Smith said that it is not a cash-flow problem, but rather that time is needed to develop the technology.*

*D. Kroon said that it is very important to prioritize the expeditions in a long-term plan. He said that the New England Hydrogeological proposal is too expensive and should be put aside for the moment. The Atlantis Massif, Hawaii, Chicxulub and Coralbanks are high on the list. He agreed that these proposals should be prioritized scientifically, so there is plenty of time for these to be developed.*

*G. Dickens proposed to go forward with the Atlantis Massif and Chixulub in 2015, and to place Hawaii as priority #3, while trying to lower the costs. D. Smith asked what would happen when other proposals come in? A. Cattaneo asked for some time to request a rapid feedback response from the proponents in order to check if the foreseen scenarios are suitable for them.*

**9. Operation schedule for MSPs for FY14 and FY15** (K. Gohl / All)

All five scientists voted for the implementation of the below mentioned operation schedules.

***Motion 13-03-01:*** *The E-FB to go forward with the Chicxulub (aim for end of 2014) and the Atlantis Massif (2015), provided that the budget objectives are met. The E-FB requests*

*a rapid feedback response from proponents, if the foreseen scenarios are suitable for them.*

*G. Dickens moved, M. Torres (C. Escutia as alternate) seconded, all approved.*

*ACTION E-FB: the E-FB to request a rapid feedback response from the Chicxulub (aim for end of 2014) and the Atlantis Massif (2015) proponents, if the foreseen scenarios are suitable for them.*

***Motion 13-04-01:*** *The E-FB to consider the 716-Full2 Hawaiian Drowned Reefs proposal as high priority for the next scheduling in the next years after 2015, with a rock drill or MeBo in order to try to lower the expedition costs, assuming it fits with the proposed science objectives.*

*G. Dickens moved, D. Weis seconded, all approved.*

**10 - Review of Consensus, Motions and Actions** (K. Gohl, M. Borissova / All)

K. Gohl reviewed the list of 'Consensus, Motions and Actions'.

*D. Kroon said that PEP could write to the proponents a scientific reply on the feasibility issues of each proposal. S. Davies agreed that the feasibility consideration is very important, rather than leaving PEP to only concentrate on the cost element. D. Kroon recommended that if it is clearly visible that a proposal is not feasible due to large costs, then PEP should contact the proponents.*

**11 - Next ECORD-FB meeting** (K. Gohl)

K. Gohl recommended that the E-FB meets in Bremen, Germany during FY14, in the first week of March.

**12 - Any Other Business** (K. Gohl)

*D. Smith asked what would be the **new phase budget due date** that would reveal if there is enough funding for the projects. G. Camoin said that the ECORD Funding Agencies will need to reply by June 2013.*

*R. Gatliff said that it is needed to acquire a contract from few members in order to guarantee that they will contribute funds and in order for ESO to have proof of **funds for future contract commitments**. G. Camoin mentioned that the presented ECORD budget projections assume free ship-time.*

*S. Shibata presented the Chikyu Expedition definition clarifications. See section **2.3** sub-topic 'The **Chikyu Expeditions Policy Update, March 8th'** for the updated information.*

*S. Shibata further addressed the possible suggestions for amending the Framework. G. Camoin suggested that S. Shibata should add to framework item #32 the outcomes of **the Chikyu +10 workshops**, in order to avoid receiving a large amount of proposals from different sources.*

- **K. Gohl thanked all of the participants**
- **Session dismissed at 2:15pm**