Minutes

First Meeting of the IODP Scientific Measurements Panel (SciMP)
December 15-18, 2003
Nagasaki, Japan

The Scientific Measurements Panel, liaisons, and guests on a tour of the *Chikyu* at their inaugural meeting, Nagasaki, Japan.

Attendees

SciMP

Aita, Yoshiaki	Japan, Utsunomiya University
Escartin, Javier	France, CNRS Institut de Physique du Globe
Gulick, Sean	US, Institute for Geophysics, Univ. of Texas
Hirono, Tetsuru	Japan, JAMSTEC
Kikawa, Eiichi (co-chair)	Japan, JAMSTEC
Lovell, Mike	UK, University of Leicester
Lyons, Tim	US, University of Missouri
Mandernack, Kevin	US, Colorado School of Mines
Murray, Rick (co-chair)	US, Boston University
Nanba, Kenji	Japan, University of Tokyo
Neal, Clive	US, University of Notre Dame
Okada, Makoto	Japan, Ibaraki University
Roehl, Ursula	Germany, University of Bremen
Saito, Saneatsu	Japan, JAMSTEC
Screaton, Elizabeth	US, University of Florida
Wilkens, Roy	US, University of Hawaii
Yamamoto, Masanobu	Japan, Hokkaido University

Notes: Neither Sagnotti nor his alternate (Arnold) could attend.
Hirono served as Sakamoto's alternate.

Liaisons and Guests

Becker, David	JOI Alliance, TAMU (Curation / Database)
Blum, Peter	JOI Alliance, TAMU (Science Services/Laboratories)
Coffin, Mike	SPC Chair, attended both PPSP and SciMP
Divins, David L.	US, National Geophysical Data Center, NOAA
Goldberg, Dave	JOI Alliance, Borehold Research Group
Ito, Hisao	SPC
Klaus, Ann	JOI Alliance, TAMU (Publications)
Kuroki, Kazushi	CDEX
Kuramoto, Shinichi	CDEX
Rack, Frank	JOI, Director, Ocean Drilling Programs (ODP/IODP)
Rea, Brice	ESO, Petrophysics Representative (UK, Leicester)
Robinson, Stuart	JOI Alliance, LDEO, Borehole Research Group (BRG)
Ruppel, Carolyn	NSF (US)
Schuffert, Jeff	SAS Office
Smith, David	US, Grad. School of Ocean., Univ. Rh. Island

Executive Summary

SciMP Recommendations, Consensus Statements, and Action Items

The first meeting of the Scientific Measurements Panel (SciMP) of the IODP occurred from December 15-18, 2003, in Nagasaki, Japan, with panelist Saneatsu Saito serving as host. The meeting highlight was a full tour of the *Chikyu* on Monday, December 15, which dramatically impressed all attendees. The SciMP meeting resulted in the following seven recommendations, six consensus statements, and twenty-one action items. These are forwarded to SPC for comment and/or approval. Brief overviews are provided where appropriate *in italics* before each recommendation and consensus statement. Detailed background information is provided in the full minutes.

Recommendations

The below recommendation results from repeated discussions through several meetings regarding how SciMP can be better prepared for drilling expeditions that have been scheduled. Often, by the time an expedition is scheduled, it is too late to raise issues regarding potential technical and database implications. When these considerations are considered too late in the cycle, "leg creep" commonly results. The below strategy is designed to combat this problem.

SciMP Recommendation 03-12-01: SciMP recognizes that input on technical and data issues on IODP proposals is not adequate at this point. In order to improve the ability to plan for anticipated technical and data needs, SciMP recommends that SciMP be involved in the formal proposal review process. SciMP recommends the following operating procedure:

1. SciMP discontinue sending a liaison to the SSEPs meetings.

2. SciMP will only review those proposals that are passed from the SSEPS to SPC, and SciMP's comments will be restricted to technical and data needs only (that is, SciMP will not review a proposal for its scientific merit).

3. Cover sheets of forwarded proposals be distributed by the SAS Office to SciMP members immediately after SSEPs meetings. SciMP co-chairs can specifically appoint SciMP members to study specific proposals based on expertise if deemed necessary.

4. Proposals will be reviewed and commented upon, if necessary, by SciMP either by email or at SciMP meetings. A summary of these comments, if any, will be forwarded to SPC in time for their (SPC's) next meeting.

5. SciMP encourages that the SSEPs proposal watchdogs consider aspects and issues that may need to be addressed by SciMP in a systematic and consistent manner, and actively solicit input or advice from SciMP wherever necessary.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

Three Recommendations regarding "Petrophysics"

The SciMP is taking a top-to-bottom reassessment of its physical property, downhole measurements, logging, and geophysics responsibilities. This reassessment has led the SciMP to internally reorganize these responsibilities under a broad umbrella of "petrophysics". This recommendation, as well as the following ones and many of the action items, results from these integrated discussions.

SciMP Recommendation 03-12-02: SciMP recommends that when visiting legacy holes, the standard suite of downhole measurements be conducted prior to the installation of instrumentation or an observatory. We recommend this policy due to continually improving resolution and accuracy of measurements as well as assessing hole conditions for safety and installation, and monitoring of physical properties.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

See above background information regarding Recommendation 03-12-02. These next two particular recommendations were provided to iPC / SPC from our last meeting as Rec 03-01-7 and -8, which received much support from SPC but were returned for further integration into the overall staffing and measurement plan. As described above, the new revamped "petrophysics" approach provides such integration. Thus, the recommendations are resubmitted with more detailed justification provided in the full minutes.

SciMP Recommendation 03-12-03: SciMP recommends a **Seismic Integrator** be included as part of the scientific party for any drilling project where core-log-seismic integration is required.

Vote: 16 yes, 0 no, 0 abstain, 2 absent (Sagnotti, Mandernack).

SciMP Recommendation 03-12-04: SciMP recommends that whenever correlation of logs to seismic is required for any IODP drilling project, either **checkshots or zero-offset VSPs** (velocity seismic profiles) should be routinely collected.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

See above background information regarding Recommendation 03-12-02. Additionally, it is expected that because these observatories are often funded by individual national initiatives, that these "discussions" need to be made by SPC, SPOCC, or at national levels.

SciMP Recommendation 03-12-05: SciMP recommends that discussion be initiated regarding the integration of observatories *within* IODP. Specific issues include, but are not limited to, databasing, further long-term legacy issues, conflicting scientific objectives, and funding.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

The below recommendation results from SciMP's own re-look at the IODP Sample and Data Policy as part of its normal meeting agenda. However, the SciMP is also aware of the discussions at the SPOCC (as articulated in several of their consensus statements) regarding obligations and other matters. The below recommendation addresses these.

SciMP Recommendation 03-12-06: SciMP recommends two revisions to the IODP Sample and Data Policy, as described below. The complete revised Sample and Data Policy is provided in Appendix 16.

1. The first sentence of Section 2 be deleted (that is, delete the sentence "IODP samples are generally distributed for research projects that can be completed within two to three years.").

2. Section 7 is revised as follows (additions or moved text in **bold** and deletions in ~~strikethrough~~). This revision brings into conformity potential issues regarding obligation fulfillment.

Section 7. Sample- and Data-Recipient Responsibilities

All scientific party members incur obligations to IODP that they must fulfill by ~~using samples or data from the drilling project to conduct post-project research and~~ publishing associated results **in agreement with the other terms of this policy, or submitting a progress report to IODP central management prior to the deadline for publication of results. In the event that research is discontinued, samples may have to be returned as per instructions from IODP central management.** Manuscripts for publication must be submitted within 20 months post moratorium.

All scientists who receive samples or conduct nondestructive analyses ~~from cores~~ after the moratorium are obligated to publish a paper in a peer-reviewed scientific journal or book that publishes in English, or submit a progress report to ~~the~~ IODP ~~Curator~~ **central management** outlining the status of the samples and/or the data no later than 36 months after receiving them. **In the event that research is discontinued, samples may have to be returned as per instructions from IODP central management.**

All publications incorporating IODP data or samples must **include "IODP" in the title, abstract, or as a formal keyword. The publication shall** explicitly acknowledge IODP and be submitted to ~~the~~ IODP ~~Curator~~ **central management** along with any applicable data.

Those not meeting the above obligations will be restricted from obtaining future samples and data and may not be allowed to participate in future drilling projects. Obligations incurred during the Ocean Drilling Program (ODP) will be carried forward into the IODP.

The SciMP has been asked by the SPC Publications Working Group to re-address multiple aspects of the IODP publications program. The below recommendation, which is revised in several key ways from SciMP's previous recommendation (03-01-10, made in summer, 2003), responds to the request from the SPC WG. Due to the varied nature of each paragraph, SciMP voted on each paragraph individually as indicated.

SciMP Recommendation 03-12-07: SciMP recommends that the **publications program** of the IODP include the components listed below. The responsibility for implementing and overseeing these components will lie within central management of the IODP. The publication obligations incurred by a member of the Scientific Party are described in the IODP Sample and Data Policy.

1. A print and electronic Expedition Report volume. Both versions will capture all information produced by the Scientific Party for each drilling project, including core images and descriptions, and will be consistent and standardized across all platforms and shorebased components. The Expedition Report may include electronic supplemental information.

2. A continually updated on-line bibliography of each drilling project.

3. An on-line peer-reviewed journal (e.g., Journal of Scientific Ocean Drilling). This journal may include, but is not limited to, scientific papers, data reports, and technical developments.

4. An Expedition Science Summary coordinated by the chief scientists of the expedition. The Expedition Science Summary will be submitted within the lifetime of the Editorial Review Board of that expedition.

Vote on Opening Paragraph:	**17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).**
Vote on Item 1:	**14 yes, 2 no, 1 abstain, 1 absent (Sagnotti).**
Vote on Item 2:	**17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).**
Vote on Item 3:	**16 yes, 0 no, 1 abstain, 1 absent (Sagnotti).**
Vote on Item 4:	**17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).**

Consensus Statements

The below consensus statement is designed to reinforce the urgency of this ad hoc WG meeting, and to provide further guidance to the conveners. The meeting was approved at the first SPC meeting (Sapporo, Japan), but the agenda was revisited and refined at this Nagasaki SciMP meeting.

SciMP Consensus Statement 03-12-01: The SciMP supports and endorses that the *ad hoc* Paleontology Working Group Meeting in March 15-16, 2004, to be hosted by Dr. Brian Huber at the National Museum of Natural History, Smithsonian Institution, Washington, DC. This WG meeting (approved by iPC-SPC based on the iSciMP Recommendation 03-01-05) will include academic and industrial micropaleontologists. In addition to other subjects, SciMP suggests discussion at the meeting should include but not be limited to (a) Micropaleontolgical digital image atlas and integration in IODP database structure, (b) Stratigraphic database, and integration into IODP database structure, and (c) Evaluation of existing or developing paleontological database efforts by IOs or others. The *ad hoc* Paleontology Working Group will provide a summary and a final set of recommendations at the next SciMP meeting.

The below consensus statement will provide support for the JOI Alliance plan to proceed with "ODP-like" measurements plans for those laboratories with working group reports still pending.

SciMP Consensus Statement 03-12-02: Pending completion of the Physical Properties, Chemistry, and Core Description WG reports, the non-riser sampling and data acquisition plans for these laboratories will follow standard ODP practice at a minimum.

The below consensus statement comes at the request of the IO's in order to reinforce their working together as a unified team.

SciMP Consensus Statement 03-12-03: The IO's clearly recognise a need for collaboration between operators in terms of laboratory and downhole petrophysics. A suggestion was made that meetings between interested parties may be the most appropriate way forward in exploring possible ways of sharing knowledge, resources, and personnel. SciMP encourages discussions between IO's on these issues.

The below consensus statement was made with the strongest possible support for a well-thought out plan provided by the JOI-Alliance, that was presented by D. Becker (TAMU).

SciMP Consensus Statement 03-12-04: The SciMP endorses the core repository consolidation plan for DSDP/ODP cores as presented by the JOI Alliance.

SciMP Consensus Statement 03-12-05: The SciMP expresses their thanks to Saneatsu Saito, Toru Nishikawa, and Mariko Tanaka for their hospitality and efforts towards supporting our meeting and associated functions. We are also grateful to the City of Nagasaki and Nagasaki University for providing the meeting venue. Furthermore, SciMP greatly appreciates the opportunity to tour the riser drillship *Chikyu,* and to observe first-hand its impressive laboratory facilities and engineering accomplishments. We find it highly appropriate that the *Chikyu* tour occurred at this first SciMP of the formal IODP, as the scientific capabilities of this ship are an outstanding example of international cooperation and an integrated scientific program.

SciMP Consensus Statement 03-12-06: The SciMP expresses their deep appreciation to Eiichi Kikawa for his long-term dedication towards the success of our panel's mission, and in particular for his efforts of the past years in his capacity as co-chair. We fully anticipate that he will continue to contribute to the success of scientific drilling in his new roles, and wish him the very best good fortune in his future endeavors.

Action Items

Action Item 03-12-01: Murray will assess SciMP mandate and distribute comments to SciMP by January 1, 2004. SciMP members will comment to Murray by January 15, 2004. Murray will incorporate by February 1, 2004 for distribution to SPC in time to be included in their pre-meeting packet.
Action to be taken by: *Murray and panel.*

Action Item 03-12-02: ESO will supply to SciMP and the IO's a sample and analytical plan for shipboard and shorebased procedures for the Arctic MSP program. Murray will distribute to the entire SciMP for comment. Individual SciMP members will send their comments to their WG leaders (Saito, Lovell, Neal) who will compile and send to Murray for communication to the IO's for discussion in Scotland.
Action to be taken by: *ESO (Rea and Rohl), Murray, and panel.*

Action Item 03-12-03: SciMP member Saito revise plan for sampling and curation of cuttings for the IODP and distribute to SciMP by June 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Saito.*

Action Item 03-12-04: SciMP member Saito, with assistance from the Core Description WG and the community as needed, will revise the Core Description WG Report and distribute to the SciMP by May 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Saito.*

Action Item 03-12-05: SciMP member Lovell, with assistance from the PP WG and the community as needed, will revise the Physical Properties WG Report and distribute to the SciMP by May 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Lovell.*

Action Item 03-12-06: SciMP member Neal, with assistance from the Chemistry WG and the community as needed, will revise the Chemistry WG Report and distribute to the SciMP by May 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Neal.*

Action Item 03-12-07: Digital imagery issues regarding, standards, calibration, archival, and implementation need to be urgently reviewed by SciMP. We request a coordinated single report from the three IOs to be presented to SciMP during the next SciMP meeting, with specific information on:

- Equipment and resolution of digital imagery, and comparison with present archival imagery,
- Protocol of imagery acquisition during core flow process,
- Personnel requirements for different possible scenarios,
- Standards and calibration to insure imagery homogeneity both during the duration of program and across platforms (riser, non-riser, MSPs).

Action to be taken by: *IO's.*

Action Item 03-12-08: IODP needs to address the issue of core description terminology and its standardization across the program. This standardization has to be linked to ongoing database efforts, and based on objective observations and descriptions of cores. We request a coordinated single report from the IOs discussing:

- Current data model for classification of lithologies,
- Cross-correlation between objective observations (composition, texture, alteration, deformation) and existing classifications (USGS, BGS, etc…),

-Implementation of a common model across platforms and databases within IODP,

-Specific recommendations to SciMP in order to implement a common, objective classification system.
Action to be taken by: *IO's*.

Action Item 03-12-09: Paleomag WG will continue to assess their instrumentation and procedural needs across all platforms and provide an updated report at next SciMP meeting.
Action to be taken by: *Okada*.

Action Item 03-12-10: SciMP develop an integrated petrophysics policy regarding laboratory and downhole petrophysics. To this end, the Petrophysics WG will provide a plan for next SciMP meeting.
Action to be taken by: *Lovell and Petrophyscis WG*.

Action Item 03-12-11: SciMP requests an integrated presentation at the next SciMP meeting from IOs on current status of downhole tools (temperature etc) and proposed developments.
Action to be taken by: *IO's*.

Action Item 03-12-12: In consultation with the IOs, each SciMP WG explicitly prepare draft plans for QA/QC and calibration issues for presentations at the next SciMP meeting. The plans should determine way forward for all measurements, on all platforms and shore-based facilities. At least three issues need be considered: (a) instruments requiring 3rd party calibration (onshore), (b) inter-facility standards, (c) blind calibration tests, and (d) establishing a means of recording the use of, performance of, identification of problems, and drifts/anomalies, in operation of measurement capabilities in a readily accessible manner.
Action to be taken by: *Lead SciMP panelists (Saito, Lovell, Neal) and IO's*.

Action Item 03-12-13: SciMP facilitate discussion of laboratory measurements on severely dilated samples.
Action to be taken by: *Lovell*.

Action Item 03-12-14: For the Phase 1 of non-riser operations, SciMP requests the JOI-Alliance investigate the cost and time implications of including:
a. Non-contact resistivity.
b. Colour reflectance upgrade.
c. Implementation of calibration standards.
d. Upgrade of natural gamma ray.
and report on the status of the above and physical property measurements for Phase 1 non-riser drilling.
Action to be taken by: *JOI-Alliance*.

Action Item 03-12-15: The microbiology working group of SciMP will develop a procedural manual in consultation with the microbiology community and IOs for routine on-site microbiological measurements and appropriate sampling (e.g., sterilization) procedures along with proper sampling and "shelf-life" of material for shore-based studies. The WG will report at our next meeting.
Action to be taken by: *Mandernack lead*.

Action Item 03-12-16: SciMP member Mandernack will provide information to the three IOs with regard to developing and implementing on-site sterile sub–coring procedures for microbiological studies. The IOs will report on the progress in this area will be given at the next SciMP meeting.
Action to be taken by: *Mandernack lead*.

Action Item 03-12-17: Due to impending decisions regarding ICP-MS/ICP-AES acquisition for the Chikyu, the CWG will communicate with CDEX regarding analytical specifications.
Action to be taken by: *Neal take lead.*

Action Item 03-12-18: The Chemistry Working Group of the SciMP will communicate with CDEX regarding the adequacy of available fume hood space in the chemistry laboratory.
Action to be taken by: *Neal, Lyons, Mandernack, Nanba, Yamamoto, Murray, coordinate through Yamamoto.*

Action Item 03-12-19: The IO's will present at the next SciMP meeting a single report on their ideas for how to best share technical support among the platform and shorebased laboratories. Their report will also include discussion on how to ensure appropriate technical skill-level for the IODP, given the greatly increased complexity of the laboratories in the new program.
Action to be taken by: *IO's.*

Action Item 03-12-20: Murray chair an *ad hoc* WG on the naming of IODP expeditions, sites, and holes. This WG will meet by email and develop a recommendation to the SPC that will be voted upon by the SciMP by email in advance of the IO meeting in Scotland. Members of the WG will include representatives from the IO's and SciMP members (Okada, Screaton, Gulick, Aita, Escartin).
Action to be taken by: *Murray lead.*

Action Item 03-12-21: SciMP recognizes the need to make more available to the IODP community various Working Group Reports, Technical data, Meeting Minutes, etc. Often such documents are buried in appendices of minutes of a variety of different panels and are virtually completely unable to be found by the community. Higher visibility of such documents is necessary to provide a memory of the program, insure continuity and availability of information, and facilitate the tasks of the different panels. We request feedback from the SAS Office at our next meeting on the possible options to make these documents more widely and easily available than they currently are (e.g., in SAS web pages, IODP-related electronic newsletter, linked to a possible IODP electronic journal, etc.).
Action to be taken by: *SAS Office (Schuffert)*

Minutes

The first meeting of the Scientific Measurements Panel (SciMP) of the IODP occurred from December 15-18, 2003, in Nagasaki, Japan, with panelist Saneatsu Saito serving as host. The meeting highlight was a full tour of the *Chikyu* on Monday, December 15, which dramatically impressed all attendees. The SciMP meeting resulted in seven recommendations, six consensus statements, and twenty-one action items, all of which are forwarded to SPC for comment and/or approval.

Appendices to these minutes are as follows:

Appendix 1 Agenda (Murray and Kikawa)
Appendix 2 SPC and J-DESC presentation (Ito)
Appendix 3 SAS Office presentation (Schuffert)
Appendix 4 *Chikyu* equipment list (Kuroki)
Appendix 5 SSEPs Report (Divins)
Appendix 6 OD21/CDEX Report (Kuroki)
Appendix 7 JOI-A Report (Rack)
Appendix 8 ESO-Arctic Report (Rea)
Appendix 9 Core Cuttings (Saito)
Appendix 10 Paleo WG Report (Aita)
Appendix 11 Micropaleontological Reference Centers (MRC) Report (Aita)
Appendix 12 Physical Properties/ Petrophysics WG Report (Lovell)
Appendix 13 Chemistry WG Report (Neal)
Appendix 14 Pipe and Core Diameter (Okada)
Appendix 15 ODP Publications Background (Klaus)
Appendix 16 Sample and Data Policy

December 16, 2003 (Tuesday)

1. Welcome and Logistics

Murray introduced himself and expressed thanks to Saneatsu Saito for serving as host. As this was the first meeting of the IODP's SciMP, Murray further commented on the international and integrated aspects of the program. Kikawa provided additional comments of welcome and called for a brief moment of silence with regard to the special nature the city of Nagasaki holds for all nations.

Saito introduced staff members who will be helping with logistics of the meeting.

2. Introductions of Continuing and New Members, Guests, Liaisons

Murray introduced all panelists, guests, and liaisons. Panelist Sagnotti was absent and his alternate (Arnold) could not attend either. Panelist Sakamoto was absent and Hirono was serving as alternate.

3. Review and Approval of Agenda

Murray asked for review of the agenda. Okada asked to add a discussion of pipe and core diameter to the agenda (added as Item 19A) and Saito asked to provide a small report regarding downhole measurements (added as Item 19B).

Motion to approve the agenda (*Appendix 1*) was moved (Lovell), seconded (Neal), and approved (17 yes, 0 no, 0 abstain, 1 absent [Sagnotti]).

For the remainder of these minutes, all unanimous votes will be recorded as "17-0-0-1".

4. Review and Approval of Minutes from July 2003 (Rhode Island) Meeting

Motion to approve the July 2003 minutes was moved (Gulick), seconded (Neal), approved 17-0-0-1 and forwarded on to the SAS Office for posting and distribution.

5. Review of IODP Panel Structure, SciMP Mandate, and SciMP Working Groups

For the benefit of the very many new members and attendees, Murray briefly reviewed these matters, paying particular attention to SciMP's mandate and interactive position in the Science Advisory Structure (SAS) and how to relate most efficiently with the Implementing Organizations (IOs).

Murray also discussed how the current SciMP mandate is wholly inherited from iSciMP, and thus the mandate needs to be updated. This led to the following Action Item:

Action Item 03-12-01: Murray will assess SciMP mandate and distribute comments to SciMP by January 1, 2004. SciMP members will comment to Murray by January 15, 2004. Murray will incorporate by February 1, 2004 for distribution to SPC in time to be included in their pre-meeting packet.
Action to be taken by: *Murray and panel*.

Murray also drew attention to the re-alignment of the SciMP Working Groups (WGs). WGs based on the individual laboratories, as laid out on the ODP *JOIDES Resolution* (JR), are being re-aligned so as to reflect the shared interests of many of these laboratories. This new alignment is as follows (with WG members in parentheses, with the WG leader underlined):

- Petrophysics (Lovell, Gulick, Hirono, Wilkens, Screaton)
- Core Description and Stratigraphy (Saito, Aita, Escartin, Kikawa, Okada, Roehl)
- Chemistry and Microbiology (Neal, Lyons, Mandernack, Murray, Nanba, Yamamoto)

6. Status of Recommendations from Prior Meeting

Murray reviewed the status of recommendations and action items from the July 2003 meeting (Rhode Island). The status (**in bold**) is as follows ("Nagasaki" means it needs to be discussed again at this meeting):

- Joint iSciMP-iTAP Rec 03-01-1: Joint Logging Subcommittee Report. **Rec'd via TAP**

- iSciMP Rec 03-01-1: Microbiology Working Group Report. **Rec'd, sent to IMI**
- iSciMP Rec 03-01-2: Database Working Group Report. **Rec'd, sent to IMI**
- iSciMP Rec 03-01-3: Paleomagnetics Working Group Report. **NAGASAKI**
- iSciMP Rec 03-01-4: Physical Properties Working Group Report. **NAGASAKI**
- iSciMP Rec 03-01-5: Paleontology Working Group Report. **NAGASAKI**
- iSciMP Rec 03-01-6: Underway Geophysics Working Group Report. **NAGASAKI**
- iSciMP Rec 03-01-7: "Seismic Integrator" Staffed In Scientific Party. **NAGASAKI**
- iSciMP Rec 03-01-8: Routine Checkshots or Zero Offset VSPs. **NAGASAKI**
- iSciMP Rec 03-01-9: Importance of Integrated Shorebased Laboratories and Facilities. **ACCEPTED**

•iSciMP Rec 03-01-10: Publications Plan. **RECEIVED, SPC WG, NAGASAKI**

•iSciMP Action 03-01-1: Continue revision of iSAS Proposal Cover sheet to include anticipated non-standard measurements" section. **Done.**

•iSciMP Action 03-01-2: Revise WG reports by Aug 14 for distribution, recommendation, and comment at September iPC meeting. **SEE ABOVE.**

•iSciMP Action 03-01-3: Get more information on Freifeld's x-ray CT system for inclusion as Appendix into minutes of meeting and for potential further consideration by SciMP and IOs. **Done.**

•iSciMP Action 03-01-4: Revisit IODP Sample and Data Policy with regard to linking obligations to publication policy.
NAGASAKI

•iSciMP Action 03-01-5: Forward to S. Saito all information gathered so far regarding drill cuttings. A. Kingdon to solicit European input and forward names to Murray. Saito and CDEX to provide full report and recommendations at next SciMP meeting. **NAGASAKI**.

Murray also informed the SciMP of multiple consensus statements recently made by SPPOC that potentially impact SciMP. In particular, Murray reviewed SPPOC Consensuses 03-12-05 (Arctic), 03-12-06, 03-12-07 (COI), 03-12-10 (Sample and Data Policy), 03-12-11 (Obligations), 03-12-15 (Publications), 03-12-16 (WGs), 03-12-18 (Database, microbiology, SS databank).

Saito observed that the SPC set up a special WG of their own to deal with Publications, yet SPPOC has also asked us to revisit the issue. Murray responded that the process will be iterative, with SciMP discussing it again here and reporting to SPC to assist in their own discussions.

7. Report from SPC and J-DESC

Ito reported on developments within J-DESC as well as items of relevance from SPC. His presentation is included as *Appendix 2*. In order to better understand the support structure, Murray asked whether J-DESC would be providing post-cruise support to Japanese scientists. Ito noted that this is being developed, and is likely also to include a budget for technology development.

8. Report from SAS Office

Murray had asked Schuffert to provide this report with specific reference to proportions of proposals that deal with each of the 3 main research initiatives of IODP Initial Science Plan (ISP). Schuffert's report is included as *Appendix 3*.

Schuffert noted that nearly every proposal has a deep biosphere component while less than 5 are primarily a deep biosphere proposal. The new cover sheet is in effect and has been in use since October 1, 2003.

9. Report from SSEPs Liaisons (Escartin and Divins)

Divins had attended the SSEPs meeting in Boulder and presented a summary (*Appendix 5*). Here at SciMP it was discussed how SciMP needs to be involved more with proposal assessment, with regard to anticipated measurements and technological needs. Escartin, Saito, and Divins led a discussion on this at this meeting, with regard to SciMP liaison to SSEPS. There was strong support that SciMP should examine any proposals that are getting sent for

ranking and send up any measurement issues to SPC to be considered when ranking. Escartin further noted that the SPC watchdogs need to be proactive and converse with SciMP. If such a system could be developed, SciMP need not have a liaison at the SSEPs. This discussion resulted in the following Recommendation (with additional background provided in *italics*).

The below recommendation results from repeated discussions through several meetings regarding how SciMP can be better prepared for drilling expeditions that have been scheduled. Often, by the time an expedition is scheduled, it is too late to raise issues regarding potential technical and database implications. When these considerations are considered too late in the cycle, "leg creep" commonly results. The below strategy is designed to combat this problem.

Recomendation 03-12-01: SciMP recognizes that input on technical and data issues on IODP proposals is not adequate at this point. In order to improve the ability to plan for anticipated technical and data needs, SciMP recommends that SciMP be involved in the formal proposal review process. SciMP recommends the following operating procedure:

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3. Cover sheets of forwarded proposals be distributed by the SAS Office to SciMP members immediately after SSEPs meetings. SciMP co-chairs can specifically appoint SciMP members to study specific proposals based on expertise if deemed necessary.

4. Proposals will be reviewed and commented upon, if necessary, by SciMP either by email or at SciMP meetings. A summary of these comments, if any, will be forwarded to SPC in time for their (SPC's) next meeting.

5. SciMP encourages that the SSEPs proposal watchdogs consider aspects and issues that may need to be addressed by SciMP in a systematic and consistent manner, and actively solicit input or advice from SciMP wherever necessary.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

10. Report from OD21 / CDEX (Kuroki)

Kuroki reviewed the on-going schedule for the *Chikyu* and also discussed the latest developments at the Kochi University core repository. Murray asked for an updated equipment list for *Chikyu* and Kuroki noted it had not changed since last SciMP meeting. It is included here as *Appendix 4*. Issue regarding technical staffing, raised by Wilkens, were deferred until later in the meeting. Gulick asked about where synthetics for CLS get put into system, and Kuroki said that sort of thing would be located in the Measurement/Observation Database (green box on his slides). Along these lines, Murray asked about how Kuroki sees JCORE integrating with the Information Services Center (ISC), and Kuroki said that doing so will be no problem, particularly since JCORE is based on JANUS database model (but not the JANUS interface). Integrating with ISC thus will be quite easy and desired. Neal queried as to whether a non-scanning (that is, "normal") XRF will be on the *Chikyu*, and the answer is "no". Kuroki's presentation is *Appendix 6*.

11. Report from JOI-Alliance (Rack)

Rack reviewed developments at JOI-A and the results from Legs 209 and 210. His report is *Appendix 7*. Murray queried as to how instrumentation was being maintained during the demobilization (were certain pieces of equipment being exercised, etc.) and Rack noted that they were, with technical staffing available as needed and appropriate. Ruppel (NSF) chimed in that the move to a Phase 2 is a top priority within NSF, but if it fails in Congress there is a plan to

extend Phase 1 if need be. Wilkens queried about the difference(s) between the Phase 2 ship and the JR, and Rack referred him to the CDC report. Questions from Saito and others regarding staffing and co-chief selection of first non-riser IODP expeditions, and Rack replied that it should be on-going throughout January, but there are difficulties since many of the deciding organizations are only now getting formulated and staffed.

Rack then discussed GEOWALL-2.

Rack requested that the IOs be able to comment and dialogue on SciMP recommendations and WG reports during this interim period, and the other IOs said that this would be helpful as long as proprietary information wasn't put on www and so forth. Communication will be enhanced by continued SciMP presence at the IO meetings (Murray will be attending Scotland's meeting in February).

Ruppel noted that one of the limitations to effective panel communication was a lack of minutes being made readily available, but she specifically commented that SciMP's minutes have been one of the best. Murray gave his thanks to her for noticing that, and commented that doing the minutes is the most difficult, time-consuming, tedious, boring, drawn-out, and mind-numbing aspect of his job, and that it would be terrific if the SAS Office or some other personnel could instead do them.

Screaton asked about which lab equipment and so on will be installed or reinstalled on the JR. Rack replied that most of the ODP equipment will be going back on the JR as it is suitable; some will need updating such as the Rock-Eval, Core Splitting, and XRD. In the future a lab plan will get developed and be shared with SciMP and request comments; hopefully at next meeting. Murray noted that we will need rapid turn around on lots of these issue to help out the IOs.

Neal asked if during Phase 1 was data quality being evaluated. Rack replied that they look at that all the time and will continue to do so.

12. Report from ESO Regarding Arctic Lomonosov Drilling (Rea)

Rea presented a status report (*Appendix 8*) regarding the ongoing planning for the first MSP expedition. This was a long and animated discussion and wide-ranging and jumped from subject to subject.

Lyons queried in general about safety measurements, and that if we are going to make measurements for safety, that we should make them as good as possible so they can be used for science as well. Rea noted that ephemeral properties can be made at the level for science but the other measurements can be done at a lower level just for safety and then done at a higher level for science back at Bremen, as a practical matter.

Ruppel inquired if re-entry of holes would be occurring, and the answer is "no". Rea said they would not wash but would just drill ahead to the appropriate depth before resuming coring or logging.

Murray asked about taking discrete physical property samples while at sea, with regard to how much of physical properties needs to be considered "ephemeral". Rea said that whole-round phys property samples will be taken and shipped to Bremen. Screaton and Lovell confirmed that this was acceptable. Rea confirmed to Murray that resistivity would be measured. Lovell also reiterated the importance of having an MST on board. Blum suggested that a10ml sample be taken from end of the core to measure porosity on. Screaton noted that if you take a whole round and then subsample it is easier to keep moist. Wilkens commented that natural variability would suggest you need to get a larger sample (whole round). Rack recommended weighing sample on drill ship and again on Oden or shore. Gulick and Rea both noted that it is okay to bring whole rounds as well as core catchers from drillship to Oden.

Rack asked about the status of the BGS interchangeable BHA. Rea replied that it exists and works. The piston core is still being designed and tested though but it is of ODP style and should be no problem. Ruppel inquired as to how much core will be able to be stored (A: 1000 m, in one van).

Murray reminded the attendees that the SciMP runs on the idea that on-board the following measurements must be made: (1) those that are ephemeral props, (2) those needed for safety, and (3) those that affect drilling decisions. Murray further noted that SciMP needs a clear idea of what is intended to be measured on the drillship vs the Oden vs shorebased in Bremen.

Regarding ephemeral porewater measurements, Screaton and Murray agreed that there is no danger in the gathering of the porewater or physical property whole rounds to compromise the paleoceanographic objectives. Murray reiterated that there will be whole rounds requested for porewaters and that ephemeral properties must be taken even if not tied in with objectives of the leg. Blum confirmed that a squeezer will be needed and that salinity and alkalinity will need to be measured onboard. Roehl mentioned that they were looking into the Rhizone sampler, although Murray commented that in fine-grained and indurated samples that would not work. Lyons noted that we don't want to decouple the pore waters from the microbiology. Smith noted that some of the microbio issues can be fixed by freezing a whole round and transferring it to Oden as well.

Mandernack questioned about the time delay involved in transfer of material to the Oden. Rea said the plan at this point is to send core catchers over, not cores. Mandernack inquired about the polymer used in drilling and if it may contaminate samples for microbiology, although Smith didn't think the contamination issue would not be significantly different than from seawater. Lyons, Mandernack, and Smith discussed how much carbon would be in the polymer.

Kikawa noted that paleomag emphemeral properties should be considered to be measured, although Rea noted that there will be no pmag instruments (e.g., cryomagnetometer) on board due to space considerations.

Ruppel questioned about which measurements will be done on the core catcher. Rea noted that since cores will not be split on board, only sedimentology, micropaleontology, etc will be done on the core catchers.

Murray questioned about safety measurements, and how safety was to be monitored. Rea replied that the BGS has been talking to PPSP with regards to safety and they intend to do these at industry standard which is lower than science requirements.

Gulick inquired about checkshots and using synthetics for drilling decisions. Rea noted that the plan is to do checkshots if at all possible and have seismic integrators sailing on Oden to generate the synthetics.

Goldberg inquired about a backup strategy to retract downhole tools if you have to get off site? How fast can you pull the memory speeds and still get useful data? Rea noted that they will take longer to pull pipe while logging with the memory tools.

Murray asked the panel how they wanted to handle and organize these comments. Schuffert recommended a prioritization of measurements since getting core must come first. Rea requested want the information in terms of ephemeral props but we are limited in space and not splitting the cores. Murray questioned what time frame did ESO need the feedback, and Rea responded that they wanted something prior to a pre-cruise meeting with the co-chiefs. Kuramoto pointed out that the Arctic scoping group is already established and maybe SciMP should give info to them, although Murray followed that SciMP's instructions from SPC are that we need to give advice to IOs.

This resulted in the following Action Item:

Action Item 03-12-02: ESO will supply to SciMP and the IO's a sample and analytical plan for shipboard and shorebased procedures for the Arctic MSP program. Murray will distribute to the entire SciMP for comment. Individual SciMP members will send their comments to their WG leaders (Saito, Lovell, Neal) who will compile and send to Murray for communication to the IO's for discussion in Scotland.
Action to be taken by: *ESO (Rea and Rohl), Murray, and panel.*

13. Status and Discussion of Information Services Center [ISC] (Divins)

Since the subject of an ISC was raised by iSciMP, and thus is new to the IODP's SciMP, Divins was asked to provide an overview of the ISC to this new panel. Divins noted that the Database WG Report is available and that it has been approved by all relevant members of SAS and is now in residence at IMI. Murray commented that the idea of a centralized coordinated center is what drives this.

Divins stressed the importance of this getting moving immediately. With drilling starting in 6 months, need to get moving on data management and SAS interaction needed. Wilkens asked how many people will be needed, and Divins responded that about 6-10 people depending on how much service you offer. Previously, numbers such as 15-20 FTE's had been suggested and erroneously propagated through the community. The number 6-10 is more in-line with reality. Klaus asked if these people are actually analyzing the data or working on the metadata? Divins replied that the ISC personnel would need to work with the community to make sure the formats are in the form that is most useful to the community. Lyons commented that it sounds similar to CHRONOS and has Divins been talking with them. Divins noted not yet, since ISC doesn't exist yet, but we need to get everyone talking. Aita noted that SciMP's Paleontology WG includes members from CHRONUS and that he and Divins can share notes.

Due to time constraints, Agenda Item 14 was tabled until Day 2. Numbering here stays with the original agenda numbering (as shown in Appendix 1).

15. Discussion of Logging While Drilling, Joint with PPSP

Because this discussion was led by PPSP, we refer the interested reader to the PPSP minutes.

December 17, 2003 (Wednesday)

14. Report from Drill Cuttings Team (Saito)

After Saito's report (*Appendices 9*), Murray reminded all attendees that the main focus of any cuttings plan needs to be that the science determines the sampling plan. For example, industry standard is 500g every 5 m but the well cuttings sampling plan needs to be defined on an expedition-by-expedition basis with some minimum sampling plan. Several persons noted that cuttings is vitally important as an issue, as sometimes we will get no core and the cuttings is all we get. Screaton noted, for example, that NanTroSEIZE for example will definitely not core the whole time. With regard to any proposed "cuttings plan", Lovell noted that we should look at what other groups do with their cuttings such as KTB, ICDP, and other programs.

Lovell noted that at this point in time we don't have some of the necessary tools currently to do phys props on the cuttings, but he and others thought that it appears that density, gamma ray, thermal conductivity, resistivity, mag susceptibility, and p-wave velocity, could be done. Gulick questioned as to the nature of who is the well site geologist, and Kuroki answered that the person will be from CDEX personnel who helps make drilling decisions based on hazards, as an

operations superintendent helper. Also looks after the wireline logging data, might be a geophysicist.

The depth resolution of cuttings recovery depends on drilling rate, and the grain size can range from sand sized to pebble sized material, or even chips. Discussion continued on different aspects of cuttings, and what measurements can be made or can not be made, on cuttings. Murray noted that Saito-san's report gets us 70-80% there. This led to the following Action Item:

Action Item 03-12-03: SciMP member Saito revise plan for sampling and curation of cuttings for the IODP and distribute to SciMP by June 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Saito*.

For Agenda Item #15, see previous discussion. Numbering here stays with the original agenda numbering (as shown in Appendix 1).

16. Report from Paleontology / MRC WG (Aita)

After Aita's presentations regarding the Paleontology WG (*Appendix 10*) and Micropalentological Reference Centers (MRCs) (*Appendix 11*), Lyons noted that it seems like there would be great potential for a virtual MRC. Several people noted that the IO's, independent efforts (CHRONOS), and others, are working towards that end. Gulick and Divins noted that one of the ISC's explicit goals is to serve as an IODP coordination/clearing house for this subject. Murray noted that the SPPOC returned to SPC and to SciMP our request for an *ad hoc* WG. We need to revisit this, acknowledge the work that's been done, and move ahead with the meeting. Our concept is to get the MRCs and SciMP panelists together so that they are part of the team and recommendations can be made. Blum noted that shipboard collections are one aspect that needs to be incorporated into this discussion. Historically there have been some communication issues between the community and the IOs. Eventually, the IOs should be a part of this discussion for the aspect of shipboard collection which needs to be addressed early on. Murray agreed that early on we have to get scientists, IOs, MRCs together. Murray noted that the MRC's need to understand better how IODP works, in that, for example, the MRCs have asked us in the past to support more high-latitude sampling, yet SciMP can't address that as that has to come from proposals and go through the proposal system. What we need to hear is how to integrate MRCs, curations, etc. This led to the following Consensus Statement

The below consensus statement is designed to reinforce the urgency of this ad hoc WG meeting, and to provide further guidance to the conveners. The meeting was approved at the first SPC meeting (Sapporo, Japan), but the agenda was revisited and refined at this Nagasaki SciMP meeting.

Consensus Statement 03-12-01: The SciMP supports and endorses that the *ad hoc* Paleontology Working Group Meeting in March 15-16, 2004, to be hosted by Dr. Brian Huber at the National Museum of Natural History, Smithsonian Institution, Washington, DC. This WG meeting (approved by iPC-SPC based on the iSciMP Recommendation 03-01-05) will include academic and industrial micropaleontologists. In addition to other subjects, SciMP suggests discussion at the meeting should include but not be limited to (a) Micropaleontolgical digital image atlas and integration in IODP database structure, (b) Stratigraphic database, and integration into IODP database structure, and (c) Evaluation of existing or developing paleontological database efforts by IOs or others. The *ad hoc* Paleontology Working Group will provide a summary and a final set of recommendations at the next SciMP meeting.

The next Agenda Item was switched in order for time considerations.

19. Report from Core Description WG (Saito)

After Saito's report, Kuroki and Rack further commented that they are investigating a new core splitting method. Rohl noted that a 1 mm smoothness of the surface is too poor for scanning XRF purposes. So we must prepare the surface. Blum noted that we are trying to develop a better core splitter by adjusting wire thickness but he was not sure they could put a number on it.

Murray cautioned that the multi-data browsing system should be an integral part of the WG report, but be careful not to mention a specific system. Much discussion followed about getting some level of consistency on VCD and lithologic descriptions. Wilkens said that some standardization could be achieved by having images of the cores available, and pull down menus with regularly used terms. Screaton noted that we must get standardization of core images from platform to platform, and Klaus added that standardization is also important within an expedition. Rack noted that the Chikyu VCD will be all digital and therefore we need a system that includes the metadata so we can understand the exact conditions of the digital photography.

Focusing on lithologic descriptive terms, Murray commented that he would like to see something about terminology and whether ODP current practice is acceptable and then make that common across platforms (with regard to terms on pull down menus, etc). Rack thought that pull-down menus are effective if limited number of terms. Murray expressed confidence in the IOs to handle this. Murray asked Saito's group to look at the existing terms and evaluate them to be put in place for whole program.

Blum noted that the reason TAMU doesn't have a common list today is people use different names. What we need to do is list the constituents and abundances of the sedimentary and rock components, as that is the "data", and then people can use their own names based on that "data". Murray thought, though, that we should have a list of ~30 most common terms. Lyons suggested that we could get standardization by putting in objective descriptors (abundances, etc) and then let software pick the term, as Blum noted as well. Saito thought that might work well for carbonates but not so good for igneous and other rocks. Murray thought that the hard rock WG report may help in that regard. Wilkens noted that there are ways to simplify number of terms given the types of lithology you might expect. Screaton raised the issue about structural geology terms which seem to have even more differences of usage.

A discussion followed about curation and someone suggested that cores be stored sealed in N2 gas. Rack queried as to how long the N2 lasts, and Mandernack thought that the N2 environment would be lost in a few days. Smith noted that there was a recent paper where with a trilaminate bag with an O2 scrubber that kept it good for a few months (wine bags). There was also widespread discussion about what would be practical (or not). Some of these techniques are already being done for special cores, but the question is how this differs from current system and why would we do it. Lyons noted that much of this is overkill for standard cores. Murray wondered if there was a significant problem with current practice. Lyons commented that as the microbiology becomes more important there needs to be facilities for special cores, but not for routine cores. Murray noted that we need to state that general archiving practices as were done in ODP are fine but for special measurements other practices need to be utilized.

Action Item 03-12-04: SciMP member Saito, with assistance from the Core Description WG and the community as needed, will revise the Core Description WG Report and distribute to the SciMP by May 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Saito*.

17. Report from Phys Props WG (Lovell)

After Lovell's presentation (*Appendix 12*), Neal and Lovell discussed how there might have to be a compromise between minimum measurements consistent across the whole IODP but with each expedition, particularly the MSPs, having some differences between them. Murray agreed with

this but noted that SciMP's immediate concern is how to handle the initial non-riser and MSP legs

Rack noted that in terms of resistivity there is a non-contact probe tested on Leg 204. Putting together a matrix of essential v. desirable measurements is most helpful to us. Murray pointed out that the Arctic will be covered by the Arctic WG, but non-riser needs to be dealt with. Blum suggested that IODP phase 1 start with ODP standard measurements plus a few additions such as non-contact resistivity. Screaton pointed out that the non-contact not of use on anything but APC cores. It was discussed that while no measurement is good on all cores, the scientists out there have to know what is of quality and what is not, and that there needs to be good documentation to back up the measurements. Screaton maintained that discrete resistivity for solid samples gives good results, but it would be tough to require that unless there is a vested interest. Murray told the WG to codify this matrix in the phys props WG report.

Action Item 03-12-05: SciMP member Lovell, with assistance from the PP WG and the community as needed, will revise the Physical Properties WG Report and distribute to the SciMP by May 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Lovell.*

18. Report from Chemistry WG (Neal)

After Neal's report (*Appendix 13*), Murray commented that a lot of the geochemical field is evolving towards better measurements in the spatial domain and at higher resolutions. The geochemical community wants the IODP to move in the same direction. Rack queried about the ballpark on costs for some of these new approaches. Neal suggested on the order of $100K for Laser Ablation, and $100K for ICPMS. Wilkens noted that these new instruments will need higher education level for the techs and may need to limit science party. Mandernack further noted that lots of time can be wasted on these new instruments in trying to get them to work so we will need more tech support. Murray pointed out that some of these applications will not effect drilling decisions but others will. Community is suggesting we need these new measurements. Neal agreed, and noted that on the Australia-Antarctic Discordance leg the current ICP-ES most certainly affected drilling decisions, in the positive.

Lyons commented that a quadrupole ICP-MS might be justifiable but a laser front-end might be a harder sale. Lyons was very much in favor of having a quadrupole ICPMS, and that they are becoming very stable and standard now. Rack pointed out that anything you recommend effect systems integration within the program, so consider instrument interactions, what needs to be made on site to help focus post-cruise studies, trade-offs in terms of space on platforms, etc.

Murray commented that the overall plan is to develop recs for the future but we need to make recs for non-riser. We need to double-check the instruments going back on the JR. We need to consider measurements made on the pore waters, the organics, and the inorganics.

Action Item 03-12-06: SciMP member Neal, with assistance from the Chemistry WG and the community as needed, will revise the Chemistry WG Report and distribute to the SciMP by May 1, 2004 for discussion and anticipated approval at next SciMP meeting.
Action to be taken by: *Neal.*

Upon completion of the previous several Agenda Items, the following consensus statement was constructed:

The below consensus statement will provide support for the JOI Alliance plan to proceed with "ODP-like" measurements plans for those laboratories with working group reports still pending.

Consensus Statement 03-12-02: Pending completion of the Physical Properties, Chemistry, and Core Description WG reports, the non-riser sampling and data acquisition plans for these laboratories will follow standard ODP practice at a minimum.

19a. Pipe Diameter and Core Diameter (Okada)

After Okada's presentation (*Appendix 14*), Saito commented that we need to figure out advantages or disadvantages of a larger diameter. Murray questioned whether there was any realistic potential for any real changes. The main question he had, however, was "Is the current diameter insufficient?" Kuroki noted that from CDEX's point of view it was not an advantage to go bigger. Murray commented that in the past SciMP has been comfortable with the MSPs sometimes having to return smaller diameter cores.

Rack pointed out that the 5-5.5 drill string has been adopted by both JR and Chikyu and were we to move to a larger drill string would raise a huge spectrum of issues. Screaton noted that tool size would also be affected. Lyons and Smith noted that for microbiology bigger would be better but they didn't think they could make such a compelling case to change the status quo.

19b. Report from Downhole Measurements WG (Saito)

After Saito's presentation, Rea noted that jack-up rigs don't require heave compensation, and so for some situations for on-site the needs will be quite different. Gulick suggested that for slimhole logging we should maximize our resolution (not make a minimum requirements). Gulick and Lovell both noted that minimum requirements are really for non-riser and riser with MSPs getting as close as possible. Murray reminded that in all cases the science should drive logging program as well so where warranted.

Gulick and Screaton thought that wording of support for LWD/MWD from SciMP may be worthwhile but is not required. Logistics might drive use of LWD/MWD for riser programs regardless.

20, 21, 22. Breakout meetings

The panel, guests, and liaisons met in three break out sessions for several hours. The discussions are not recorded here, as the main results from them resulted in the recommendations and action items presented here.

The three groups were:

- Core Desc., Paleomag, Paleo — Led by Saito
- Chemistry and Microbiology — Led by Neal
- Petrophysics — Led by Lovell

Three Recommendations regarding "Petrophysics"

The SciMP is taking a top-to-bottom reassessment of its physical property, downhole measurements, logging, and geophysics responsibilities. This reassessment has led the SciMP to internally reorganize these responsibilities under a broad umbrella of "petrophysics". This recommendation, as well as the following ones and many of the Action Items, results from these integrated discussions.

Recommendation 03-12-02: SciMP recommends that when visiting legacy holes, the standard suite of downhole measurements be conducted prior to the installation of instrumentation or an observatory. We recommend this policy due to continually improving resolution and accuracy of measurements as well as assessing hole conditions for safety and installation, and monitoring of physical properties.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

See above background information regarding Recommendation 03-12-02. These next two particular recommendations were provided to iPC / SPC from our last meeting as Rec 03-01-7 and -8, which received much support from SPC but were returned for further integration into the overall staffing and measurement plan. As described above, the new revamped "petrophysics" approach provides such integration. Thus, the recommendations are resubmitted with more detailed justification provided in the full minutes.

Recommendation 03-12-03: SciMP recommends a **Seismic Integrator** be included as part of the scientific party for any drilling project where core-log-seismic integration is required.

Vote: 16 yes, 0 no, 0 abstain, 2 absent (Sagnotti, Mandernack).

Recommendation 03-12-04: SciMP recommends that whenever correlation of logs to seismic is required for any IODP drilling project, either **checkshots or zero-offset VSPs** (velocity seismic profiles) should be routinely collected.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

See above background information regarding Recommendation 03-12-02. Additionally, it is expected that because these observatories are often funded by individual national initiatives, that these "discussions" need to be made by SPC, SPOCC, or at national levels.

Recommendation 03-12-05: SciMP recommends that discussion be initiated regarding the integration of observatories *within* IODP. Specific issues include, but are not limited to, databasing, further long-term legacy issues, conflicting scientific objectives, and funding.

Vote: 17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).

The below consensus statement comes at the request of the IO's in order to reinforce their working together as a unified team.

Consensus Statement 03-12-03: The IO's clearly recognise a need for collaboration between operators in terms of laboratory and downhole petrophysics. A suggestion was made that meetings between interested parties may be the most appropriate way forward in exploring possible ways of sharing knowledge, resources, and personnel. SciMP encourages discussions between IO's on these issues.

The following Action Items all resulted from the various breakout sessions.

Action Item 03-12-07: Digital imagery issues regarding, standards, calibration, archival, and implementation need to be urgently reviewed by SciMP. We request a coordinated single report from the three IOs to be presented to SciMP during the next SciMP meeting, with specific information on:

-Equipment and resolution of digital imagery, and comparison with present archival imagery,

-Protocol of imagery acquisition during core flow process,

-Personnel requirements for different possible scenarios,

-Standards and calibration to insure imagery homogeneity both during the duration of program and across platforms (riser, non-riser, MSPs).
Action to be taken by: *IO's*.

Action Item 03-12-08: IODP needs to address the issue of core description terminology and its standardization across the program. This standardization has to be linked to ongoing database efforts, and based on objective observations and descriptions of cores. We request a coordinated single report from the IOs discussing:

-Current data model for classification of lithologies,

-Cross-correlation between objective observations (composition, texture, alteration, deformation) and existing classifications (USGS, BGS, etc…),

-Implementation of a common model across platforms and databases within IODP,

-Specific recommendations to SciMP in order to implement a common, objective classification system.
Action to be taken by: *IO's*.

Action Item 03-12-09: Paleomag WG will continue to assess their instrumentation and procedural needs across all platforms and provide an updated report at next SciMP meeting.
Action to be taken by: *Okada*.

Action Item 03-12-10: SciMP develop an integrated petrophysics policy regarding laboratory and downhole petrophysics. To this end, the Petrophysics WG will provide a plan for next SciMP meeting.
Action to be taken by: *Lovell and Petrophyscis WG.*

Action Item 03-12-11: SciMP requests an integrated presentation at the next SciMP meeting from IO's on current status of downhole tools (temperature etc) and proposed developments.
Action to be taken by: *IO's*.

Action Item 03-12-12: In consultation with the IOs, each SciMP WG explicitly prepare draft plans for QA/QC and calibration issues for presentations at the next SciMP meeting. The plans should determine way forward for all measurements, on all platforms and shore-based facilities. At least three issues need be considered: (a) instruments requiring 3rd party calibration (onshore), (b) inter-facility standards, (c) blind calibration tests, and (d) establishing a means of recording the use of, performance of, identification of problems, and drifts/anomalies, in operation of measurement capabilities in a readily accessible manner.
Action to be taken by: *Lead SciMP panelists (Saito, Lovell, Neal) and IO's.*

Action Item 03-12-13: SciMP facilitate discussion of laboratory measurements on severely dilated samples.
Action to be taken by: *Lovell.*

Action Item 03-12-14: For the Phase 1 of non-riser operations, SciMP requests the JOI Alliance investigate the cost and time implications of including:
a. Non-contact resistivity.
b. Colour reflectance upgrade.
c. Implementation of calibration standards.
d. Upgrade of natural gamma ray.
and report on the status of the above and physical property measurements for Phase 1 non-riser drilling.
Action to be taken by: *JOI-Alliance*.

Action Item 03-12-15: The microbiology working group of SciMP will develop a procedural manual in consultation with the microbiology community and IOs for routine on-site microbiological measurements and appropriate sampling (e.g., sterilization) procedures along with proper sampling and "shelf-life" of material for shore-based studies. The WG will report at our next meeting.
Action to be taken by: *Mandernack lead.*

Action Item 03-12-16: SciMP member Mandernack will provide information to the three IOs with regard to developing and implementing on-site sterile sub–coring procedures for microbiological studies. The IOs will report on the progress in this area will be given at the next SciMP meeting.
Action to be taken by: *Mandernack lead.*

Action Item 03-12-17: Due to impending decisions regarding ICP-MS/ICP-AES acquisition for the Chikyu, the CWG will communicate with CDEX regarding analytical specifications.
Action to be taken by: *Neal take lead.*

Action Item 03-12-18: The Chemistry Working Group of the SciMP will communicate with CDEX regarding the adequacy of available fume hood space in the chemistry laboratory.
Action to be taken by: *Neal, Lyons, Mandernack, Nanba, Yamamoto, Murray, coordinate through Yamamoto.*

23 and 24. Publications (Klaus and Murray)

Murray introduced the multiple issues regarding publications policy, with specific reference to the last SciMP recommendation's fate up at SPC, the setting up of the SPC Working Group, and SciMP's role here. We are to re-examine and re-propose for presentation and discussion at March SPC meeting.

Klaus reviewed TAMU publications experience, in the context of their review of SciMP recommendations, moratorium issues, and so on. Her report is *Appendix 15*.

Following these discussions, there was abundant conversation about (partial list only):

- obligation fulfillment (is a data report sufficient, etc.),
- if a hard-copy IR volume was preferred how large a print run would be sufficient,
- is there a fundamental disconnect between expectation (that is, the obligation) of publication quality/scale and the post-cruise funding,
- indexing publications to data (via the acknowledgements and keywords),
- the diverse needs and desires of the diverse IODP community,
- the observations from PEC VI,
- the relationship to databases and curation (via the Information Services Center),

-whether the electronic version need to be precisely identical to the hard copy (could "ancillary material" be included in the e-version?),

-the role and scale of peer-review for putative data reports,

-the strengths of e-publishing in that it allows color, and

-the need for synthesis papers.

This discussion led to the close of the day's activities. Murray was tasked with re-looking at the Sample and Data Policy that night and presenting some options for discussion the next day.

December 18, 2003 (Thursday)

24. Continuation of Publications and Sample/Data Policy Discussion (Murray)

Sample and Data Policy

Murray began by presenting some revisions to the Sample and Data Policy, in order to bring the policy in conformity with programmatic developments that have occurred since it was constructed nearly one year ago. Discussion focused on the value of samples that are taken but not used, where (in the administration) enforcement of non-performance lies, the role of data reports vs publications, and allied issues. Klaus questioned the new definition of moratorium, in that it now is tied to samples being gathered as opposed to the end of the expedition. Klaus questioned if that meant we would have "n" number of moratoriums, where "n=#of science party members". Murray replied that the idea is that the moratorium starts when the bulk of samples are distributed. Coffin questioned about post-moratorium data gathered from CORKS, logs, and so on, but it was thought that such data would be no different from any other data, after factoring in 3rd party considerations.

The below recommendation is continued as well on the following page…

The below recommendation results from SciMP's own re-look at the IODP Sample and Data Policy as part of its normal meeting agenda. However, the SciMP is also aware of the discussions at the SPOCC (as articulated in several of their consensus statements) regarding obligations and other matters. The below recommendation addresses these.

Recommendation 03-12-06: SciMP recommends two revisions to the IODP Sample and Data Policy, as described below. The complete revised Sample and Data Policy is provided in Appendix 16.

1. The first sentence of Section 2 be deleted (that is, delete the sentence "IODP samples are generally distributed for research projects that can be completed within two to three years.").

2. Section 7 is revised as follows (additions or moved text in **bold** and deletions in ~~strikethrough~~). This revision brings into conformity potential issues regarding obligation fulfillment.

Section 7. Sample- and Data-Recipient Responsibilities

All scientific party members incur obligations to IODP that they must fulfill by ~~using samples or data from the drilling project to conduct post-project research and~~ publishing associated results **in agreement with the other terms of this policy, or submitting a progress report to IODP central management prior to the deadline for publication of results. In the event that research is discontinued, samples may have to be returned as per instructions from IODP central management.** Manuscripts for publication must be submitted within 20 months post moratorium.

All scientists who receive samples or conduct nondestructive analyses ~~from cores~~ after the moratorium are obligated to publish a paper in a peer-reviewed scientific journal or book that publishes in English, or submit a progress report to ~~the~~ IODP ~~Curator~~ **central management**

outlining the status of the samples and/or the data no later than 36 months after receiving them. **In the event that research is discontinued, samples may have to be returned as per instructions from IODP central management.**

All publications incorporating IODP data or samples must **include "IODP" in the title, abstract, or as a formal keyword. The publication shall** explicitly acknowledge IODP and be submitted to ~~the~~ IODP ~~Curator~~ **central management** along with any applicable data.

Those not meeting the above obligations will be restricted from obtaining future samples and data and may not be allowed to participate in future drilling projects. Obligations incurred during the Ocean Drilling Program (ODP) will be carried forward into the IODP.

Publications

Saito noted that the SPC has a Publications WG set up to examine publications, and he thus wondered about SciMP's role here. Murray noted that the SPC WG has asked for SciMP feedback and further discussion, and that Murray will be presenting our results at SPC in parallel to their WG.

Discussion continued about the topics listed above (see Agenda Items 23 and 24 from yesterday). Murray put up draft wording of a recommendation, and gave the panel explicit instructions regarding voting procedure. The panel will vote on each paragraph separately. Also, Murray encouraged the panelists to vote accurately according to their individual views, as it will be important for SPC (and higher panels) to see which portions of our recommendation are unanimous and which are more controversial. The final recommendation is as follows:

The SciMP has been asked by the SPC Publications Working Group to re-address multiple aspects of the IODP publications program. The below recommendation, which is revised in several key ways from SciMP's previous recommendation (03-01-10, made in summer, 2003), responds to the request from the SPC WG. Due to the varied nature of each paragraph, SciMP voted on each paragraph individually as indicated.

Recommendation 03-12-07: SciMP recommends that the **publications program** of the IODP include the components listed below. The responsibility for implementing and overseeing these components will lie within central management of the IODP. The publication obligations incurred by a member of the Scientific Party are described in the IODP Sample and Data Policy.

1. A print and electronic Expedition Report volume. Both versions will capture all information produced by the Scientific Party for each drilling project, including core images and descriptions, and will be consistent and standardized across all platforms and shorebased components. The Expedition Report may include electronic supplemental information.

2. A continually updated on-line bibliography of each drilling project.

3. An on-line peer-reviewed journal (e.g., Journal of Scientific Ocean Drilling). This journal may include, but is not limited to, scientific papers, data reports, and technical developments.

4. An Expedition Science Summary coordinated by the chief scientists of the expedition. The Expedition Science Summary will be submitted within the lifetime of the Editorial Review Board of that expedition.

Vote on Opening Paragraph:	**17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).**
Vote on Item 1:	**14 yes, 2 no, 1 abstain, 1 absent (Sagnotti).**
Vote on Item 2:	**17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).**
Vote on Item 3:	**16 yes, 0 no, 1 abstain, 1 absent (Sagnotti).**
Vote on Item 4:	**17 yes, 0 no, 0 abstain, 1 absent (Sagnotti).**

Note that Agenda Items 29 and 28 were switched in order due to time considerations.

29. DSDP/ODP Core Consolidation Plan (Becker)

Murray provided some background about Becker's presentation, and Klaus noted that JOI-A's contract proposal on this is contingent on community endorsement, thus the presentation to SciMP.

Following the presentation, which is endorsed by all repositories, Escartin asked whether the cost savings shown include the cost of core transfer (answer=yes). Ito asked about the history of the proliferation of repositories, and Rack replied that it was driven partly as spaced filled up that more centers were needed. RFP by NSF asked for plans on additional space and how to handle that. During DSDP West Coast was built by Scripps, and East Coast also DSDP. Scripps and LDEO want their spaces back now.

Coffin queried how the proposed relocation of DSDP/ODP fits in with the anticipated core distribution within IODP. While no one could point to an explicit document stating as such, it was thought that there was an "understanding" that Chikyu cores go to Kochi, with regional divisions for non-riser and MSP's. Ito commented that he thought the SAS needed to come up with a policy for core distribution within IODP. SciMP will discuss this at their next meeting.

The below consensus statement was made with the strongest possible support for a well-thought out plan provided by the JOI Alliance, that was presented by D. Becker (TAMU).

Consensus Statement 03-12-04: The SciMP endorses the core repository consolidation plan for DSDP/ODP cores as presented by the JOI Alliance.

28. Technical Staffing Issues, Uniformity, and Rotation (Murray)

Murray noted that we don't need to decide anything here, but that it would be good for us to make some basic statements that will perhaps assist IMI and the IOs as they build their technical support staff. There are two issues: (1) Training of technicians to handle the skilled laboratory positions, and (2) How to ensure uniformity throughout the program.

There is widespread concern among the community that the level of technical support within ODP, with regard to skill level, was not adequate for the higher end equipment. With the IODP, this problem is anticipated to become more acute, not less so.

Murray expressed his personal concern that technicians that are trained in routine measurement are not able to step outside the box or deal with unusual situations. This problem will only grow with increasing technical issues and more measurements being done of fewer instruments. Neal followed with what is needed is more and stronger technician and science connections so that what is truly critical gets understood by the technical staff. Murray and Neal suggested that perhaps doing some *ad hoc* exchanges of IODP staff with willing shorebased laboratories of scientists may help increase knowledge-base of the staff.

Gulick and Lovell noted that logistically we must come up with some sort of technical support pool that all IOs can draw upon. Also, we need to improve tech support and staffing and go towards more integrated petrophysical team, as identified in their WG's action items.

Nanba and Mandernack noted that from the microbiology perspective, they need technical support on both routine measurements and maintenance of equipment. Microbiology does not span so many techniques so it is more feasible for techs to handle routine measurements and maintenance, etc. He queried as to the life of a tech in the program and Rack replied that it takes a year to just train a tech but historically we have had high retention.

Kuramoto mentioned that CDEX believes they have enough skill but may have a problem with enough English speaking staff, which is needed to interact with the scientists. They very much support a technical exchange program and sharing techs to in part improve the communcation issues. The Kochi facility can serve as a training facility for techs and CDEX would like to invite techs and scientists to train there. Mandernack noted that reality is Japanese are more loyal to the company and so the IODP may have a long term experienced tech pool that has longer retention in Japan than elsewhere, which can work to IODP's advantage.

Rack and Murray noted that this subject will also be discussed at the upcoming IO meeting in Scotland, and that SciMP will revisit this issue at their next meeting as well.

Action Item 03-12-19: The IO's will present at the next SciMP meeting a single report on their ideas for how to best share technical support among the platform and shorebased laboratories. Their report will also include discussion on how to ensure appropriate technical skill-level for the IODP, given the greatly increased complexity of the laboratories in the new program.
Action to be taken by: *IO's*.

30. Naming / Numbering of IODP Expeditions (Murray)

Coffin started by pointing out that there has been interest expressed in perhaps changing from a number oriented scheme to a name oriented scheme. There was much discussion about the impact on databases, how to ensure proper sequencing, who would select/decide the names, the role (if any) of the platform in the name, how to integrate a new scheme with the tried-and-true DSDP/ODP scheme.

There was consensus among the SciMP in favor of exploring the naming protocol, with the hope that such a new approach could in fact be implemented.

Action Item 03-12-20: Murray chair an *ad hoc* WG on the naming of IODP expeditions, sites, and holes. This WG will meet by email and develop a recommendation to the SPC that will be voted upon by the SciMP by email in advance of the IO meeting in Scotland. Members of the WG will include representatives from the IO's and SciMP members (Okada, Screaton, Gulick, Aita, Escartin).
Action to be taken by: *Murray lead*.

31. Panel Membership Rotation (Murray)

Murray discussed the need for some general consideration of the composition of SciMP. He noted that the US has staggered rotations of member that came on at same time for continuity for old and new members. It was suggested that Japan and Europe do the same thing, so as to ensure continuity and not have too much changeover all at once.

Gulick expressed concern about the danger of becoming unbalanced with regard to expertise, and Schuffert noted that the national entities are communicating (JDESC, USSAC, ESSAC) to minimize this.

Murray reminded the panel that we can also invite whomever we wish as a guest and individual members of particular expertise can always bring in others of their community. Escartin suggested that we may need more logging expertise, although Lovell noted that the European situation is such that the there may be all new faces for the next SciMP meeting. Right now he thinks all is well with the logging and has been improved by having downhole tool expertise in Screaton.

32 and 33. These agenda items occurred.

There was general discussion about an issue that arose several times through the meeting, namely, the availability of the myriad of IODP documents. This discussion led to the following Action Item:

Action Item 03-12-21: SciMP recognizes the need to make more available to the IODP community various Working Group Reports, Technical data, Meeting Minutes, etc. Often such documents are buried in appendices of minutes of a variety of different panels and are virtually completely unable to be found by the community. Higher visibility of such documents is necessary to provide a memory of the program, insure continuity and availability of information, and facilitate the tasks of the different panels. We request feedback from the SAS Office at our next meeting on the possible options to make these documents more widely and easily available than they currently are (e.g., in SAS web pages, IODP-related electronic newsletter, linked to a possible IODP electronic journal, etc.).
Action to be taken by: *SAS Office (Schuffert)*

34. Next meeting location and host (Murray)

Murray offered to host the next meeting in late June-early July in Boston. This was accepted, and the date has subsequently been finalized to be June 23-25.

Pre-planning for subsequent meeting was also discussed. A tentative plan is as follows:

Jan 05	Hawaii
July 05	Bremen
Jan 06	Kochi

Prior to ending the meeting, Murray presented the following consensus statements.

Consensus Statement 03-12-05: The SciMP expresses their thanks to Saneatsu Saito, Toru Nishikawa, and Mariko Tanaka for their hospitality and efforts towards supporting our meeting and associated functions. We are also grateful to the City of Nagasaki and Nagasaki University for providing the meeting venue. Furthermore, SciMP greatly appreciates the opportunity to tour the riser drillship *Chikyu,* and to observe first-hand its impressive laboratory facilities and engineering accomplishments. We find it highly appropriate that the *Chikyu* tour occurred at this first SciMP of the formal IODP, as the scientific capabilities of this ship are an outstanding example of international cooperation and an integrated scientific program.

Consensus Statement 03-12-06: The SciMP expresses their deep appreciation to Eiichi Kikawa for his long-term dedication towards the success of our panel's mission, and in particular for his efforts of the past years in his capacity as co-chair. We fully anticipate that he will continue to contribute to the success of scientific drilling in his new roles, and wish him the very best good fortune in his future endeavors.

At the conclusion, Neal motioned to adjourn, and this excellent motion was seconded by Wilkens, with thoroughly unanimous approval by the panel with great rejoicing and celebration.

Agenda for the
First IODP SCIMP Meeting
December 15 – 18, 2003
Nagasaki, Japan

Attendees

SciMP

Aita, Yoshiaki	Japan, Utsunomiya University
Escartin, Javier	France, CNRS Institut de Physique du Globe
Gulick, Sean	US, Institute for Geophysics, Univ. of Texas
Kikawa, Eiichi (co-chair)	Japan, JAMSTEC, Washington DC
Lovell, Mike	UK, University of Leicester
Lyons, Tim	US, University of Missouri
Mandernack, Kevin	US, Colorado School of Mines
Murray, Rick (co-chair)	US, Boston University
Nanba, Kenji	Japan, University of Tokyo
Neal, Clive	US, University of Notre Dame
Okada, Makoto	Japan, Ibaraki University
Roehl, Ursula	Germany, University of Bremen
* Sagnotti, Leonardo	Italy, Instituto Nazionale di Geofisica e Vulcanologia
Saito, Saneatsu	Japan, JAMSTEC
** Sakamoto, Tatsuhiko	Japan, JAMSTEC
Screaton, Elizabeth	US, University of Florida
Wilkens, Roy	US, University of Hawaii
Yamamoto, Masanobu	Japan, Hokkaido University

* Neither Sagnotti nor his alternate (Arnold) can attend.
* * Hirono (Japan [JAMSTEC]) will serve as Sakamoto's alternate

Liaisons and Guests

Becker, David	JOI Alliance, TAMU (Curation / Database)
Blum, Peter	JOI Alliance, TAMU (Science Services/Laboratories)
Coffin, Mike	SPC Chair,will attend PPSP and SciMP
Divins, David L.	US, National Geophysical Data Center, NOAA
Goldberg, Dave	JOI Alliance, Borehold Research Group
Ito, Hisao	SPC
Klaus, Ann	JOI Alliance, TAMU (Publications)
Kuroki, Kazushi	CDEX
Kuramoto, Shinichi	CDEX
Rack, Frank	JOI, Director, Ocean Drilling Programs (ODP/IODP)
Rea, Brice	ESO, Petrophysics Representative (UK, Leicester)
Robinson, Stuart	JOI Alliance, LDEO, Borehole Research Group (BRG)
Ruppel, Carolyn	NSF
Schuffert, Jeff	SAS Office
Smith, David	US, Grad. School of Ocean., Univ. Rh. Island
Sugawara, Toshikatsu	CDEX

Meeting Schedule

Overview

Sunday, 12/14.	Arrive
Monday, December 15, 2003:	Detailed Tour of *Chikyu*
Tuesday – Thursday, 12/16-12/18:	Meeting of the SciMP
Friday, 12/19.	Depart

Monday, December 15

Detailed tour of the *Chikyu*. Hosted by JAMSTEC and SciMP Panelist Saneatsu Saito.

Tuesday, December 16

Morning

8:30 - 9:30

1. Welcome and logistics (Kikawa & Saito)
2. Introductions of continuing and new members, guests, liaisons (Murray)
3. Review and Approval of Agenda (Murray)
4. Review and Approval of Minutes from July meeting (Murray)
5. Review of IODP Panel Structure, SciMP Mandate, and SciMP WG's (Murray)
6. Status of Recommendations from Prior Meeting (Murray & Kikawa)

9:30 - 10:15 (15 mins each)

7. SPC and J-DESC (Ito)
8. SAS Office (Schuffert)
9. SSEPS (Divins)

10:15 - 10:45 (Coffee Break)

10:45 - 12:00 (30 mins each)

10. OD21 / CDEX (Kuroki)
11. JOI Alliance (Rack)

Afternoon

1:00 - 2:00

12. ESO--Arctic Lomonosov Drilling Plans (Rea / Roehl)

2:00 - 3:00

13. Status and Discussion of Information Services Center (Divins)
14. Report from Drill Cuttings Team (Saito & Kuroki)

3:00 – 3:30 (Coffee Break)

3:30 - 4:30

15. LWD, Joint with PPSP (Goldberg, Katz)

5:00 Finish for Day 1

Wednesday, December 17

Morning

8:30 - 10:00

16. Report from Paleontology / MRC WG (Aita)
17. Report from Phys Props WG (Lovell)

10:00 - 10:30 (Coffee Break)

18, Report from Chemistry WG (Neal)
19. Report from Core Description WG (Saito)

Afternoon

1:00 - 3:00

Simultaneous detailed break-out meetings of WG's with representatives from IO's and other organizations, in order to get into details of measurements questions, etc., including discussion of Pipe and Core Diameter

20. Chemistry, Microbiology, Paleo: Together meet with CDEX, JOI-A, ESO reps.
21. Paleomag, Phys Props, Core Desc: Together meet with CDEX, JOI-A, ESO reps.
22. D'hole Tools, Logging, Borehole: Together meet with CDEX, JOI-A, ESO reps.

3:00 - 3:30 (Coffee Break)

3:30 - 5:00

23. Publications (Klaus, JOI-A)
24. Reconciling dates and obligations between Publications and Sample/Data Policy (Murray)

5:00 Finish for Day 2

Thursday, December 18

Morning

8:30 - 10:00

25. Summaries of December 17's breakout sessions (SciMP)
26. Core Description Discussion (Saito)
27. Seismic Integrator Position (Gulick)

10:00 - 10:30 (Coffee Break)

10:30 - 12:00

28. Technical Staffing Issues, Uniformity, and Rotation (Murray)
29. Core Repositories (TAMU [Becker], CDEX [Kuroki], ESO [Roehl]), incl discussion of staffing levels, impact of shorebased parties, etc
30. Naming / Numbering of IODP Expeditions (multiple platforms, etc). (Murray)

Afternoon

1:00 - completion

31. Panel Membership Rotation (Murray)

32. Summary of Issues for IO Meeting in Edinburgh (Murray)

33. Review of Recommendations (Murray)

34. Next meeting location and host (Murray)

Recent Progress of IODP Planning

Hisao Ito
SPC
J-DESC

- SPC: Sep. 03 Sapporo
- J-DESC Activities

第23回 国際地球物理学測地学連合 札幌大会にて　2003年7月

SPC: Sep. 2003, Sapporo

- SPC Motion 03-09-7: The SPC receives iSciMP Recommendation 01-2-10 on addressing the role and maintenance of micropaleontology reference centers in the IODP.
- SPC Motion 03-09-8: The SPC endorses iSciMP Recommendation 02-1-4 on maintaining shipboard microfossil reference collections.
- SPC Motion 03-09-9: The SPC receives iSciMP Recommendation 02-1-5 and supports the development of the OD21 core description and visualization system.
- SPC Motion 03-09-10: The SPC receives iSciMP Recommendation 02-2-4 and supports further SAS investigations of standardizing the diameter of drill pipe used on IODP platforms.
- SPC Motion 03-09-11: The SPC receives iSciMP Recommendation 02-2-5 and endorses the development by JAMSTEC of the anti-contamination coring tool.

SPC: Sep. 2003, Sapporo

- SPC Motion 03-09-12: The SPC accepts the iSciMP laboratory working group reports on paleontology, paleomagnetics, and underway geophysics and forwards these reports to the SPPOC.
- SPC Motion 03-09-13: The SPC charges the SciMP to develop a section of the *Guide to IODP* identifying the skill sets recommended for the scientific staffing of various types of IODP expeditions. The SciMP should complete this task in time for the March 2004 SPC meeting.
- SPC Motion 03-09-14: The SPC charges the SciMP to develop, in collaboration with the implementing organizations, a section of the *Guide to IODP* describing required and recommended measurements necessary to complete an IODP scientific expedition. This section of the *Guide to IODP* should include all approved earlier working group reports and iSciMP recommendations on this topic.

SPC: Sep. 2003, Sapporo

- SPC Motion 03-09-23: The SPC accepts the IODP Sample and Data Policy and forwards it to the SPPOC.
- SPC Motion 03-09-24: The SPC establishes a working group to develop recommendations for an IODP publications policy. The working group, co-chaired by Miller and Tatsumi, will report at the March 2004 SPC meeting.

SPC: Sep. 2003, Sapporo

- SPC Consensus 03-09-39: The SPC requests the SciMP to draft a scheme for designating expeditions and boreholes in IODP for consideration at the March 2004 SPC meeting.

4.Presentation of FY2004 and FY2005 Program Plans

n.b. Procedure for the SAS developing its component of the program plan is outlined in Agendum 4

4.1 Juan de Fuca Flank Hydrogeology (545-Full3)

4.2 Arctic-Lomonosov Ridge (533-Full3)

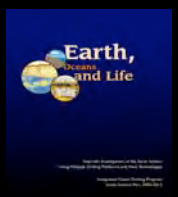
4.3 North Atlantic Neogene-Quaternary (572-Full3)

4.4 Oceanic Core Complex(512-Full3)

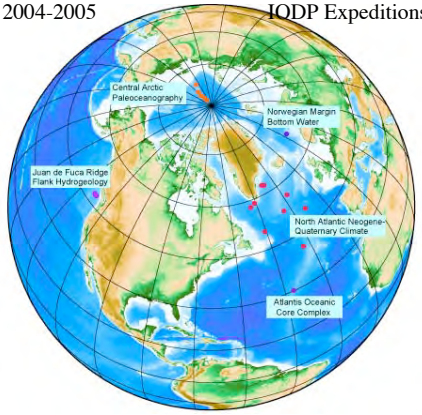
4.5 CORK in Hole 642E (543-Full2)

Earth, Oceans, and Life the IODP Initial Science Plan

- **The Deep Biosphere and the Subseafloor Ocean**
- **Environmental Change, Processes and Effects**
- **Solid Earth Cycles and Geodynamics**



2004-2005 IODP Expeditions



2004-2005 IODP Schedule

- **Jun-Aug 04: Juan de Fuca Ridge Flank Hydrogeology (Part 1)**
- **Aug-Sep 04: Central Arctic Paleoceanography**
- **Sep-Nov 04: North Atlantic Neogene-Quaternary Climate (Part 1)**
- **Nov 04-Jan 05: Atlantis Oceanic Core Complex (Part 1)**
- **Jan-Mar 05: Atlantis Oceanic Core Complex (Part 2)**
- **Mar-May 05: North Atlantic Neogene-Quaternary Climate (Part 2) + Norwegian Margin Bottom Water**

2004-2005 Non-riser and Mission Specific Platform Operations

FY04 Program Costs+

Entity	Specifics	SOCs	POCs	Total ($K)
IMI	TOTAL *	$ 2,000	$ -	$ 2,000
IOI Alliance				
	IOI	$ 730	$ 1,080	$ 1,810
	TAMU	$ 6,889	$ 10,438	$ 17,327
	LDEO	$ 2,367	$ 618	$ 2,984
	TOTAL	$ 9,986	$ 12,136	$ 22,121
ESO				
	Planning & maintenance	$ 694	$ 25	$ 719
	Arctic expedition	$ 2,061	$ 9,713	$ 11,774
	TOTAL **	$ 2,755	$ 9,738	$ 12,493
CDEX	TOTAL	$ 318	$ 3,082	$ 3,400
Grand TOTAL		$ 15,059	$ 24,956	$ 40,014

* Excludes subcontracts for database, repositories, and engin. dev.
SAS/SAO office costs are included, but amounts are not specified.
NSF ODP funds, through JOI, will support the data bank in FY04. IMI will be responsible for providing data bank services in FY05 and beyond.
** Excludes the commingled SOC's contribution to the EMA office.

+ for the JOI Alliance, includes long-lead time equipment items purchased for FY05 science, does not include $2.5M in vessel mobilization costs (POC)

- No budget guidance was provided by the Agencies.
- For FY04 only, both SOCs and POCs flow from the Agencies to the IOs.

IODP Operational Schedule, FY04 (and provisional FY05)

FY04 FY05

Exp. #	Expedition	Port (origin)	Dates[1,2]	Total Days (Port/Sea)	Days at Sea (Transit/Ops[3])
1/300	Juan de Fuca Hydro.	Astoria	[4]21 June – 29 Aug.	69 (6/63)	11/52
MSP-1	Lomonosov Ridge	Stavanger	~1 Aug. – ~15 Sept.	TBD	~35 (in ice)
	JR transit	Acapulco	29 Aug. – 13 Sept.	15 (1/4)	14/0
2/301	North Atlantic 1	Bermuda	13 Sept. – 30 Oct.	47 (2/45)	14/31
3/302	CORE 1	Ponta Delgada	30 Oct. – 18 Dec.	49 (4/45)	8/37
4/303	CORE 2	Ponta Delgada	18 Dec. – 10 Feb. '05	54 (5/49)	8/41
5/304	North Atlantic 2 & Norwegian Sea CORK	Ponta Delgada	10 Feb. – 5 April	54 (5/49)	15/34
?	JR transit[5]	Reykjavik	5 April – 23 April	18 (3/15)	15/0

[1] Ship is scheduled to arrive 0600 hr on first day of port call
[2] Initial expedition data reflect first day of port call; ship sails when ready
[3] Ops = Operations (includes both on-site and between-site time)
[4] Actual start date needs to be finalized
[5] no Phase 2 in FY05 – this transit now likely becomes additional *JR* science

Japan Drilling Earth Science Consortium (J-DESC)

Activities and New Japanese Science Plan of IODP

Prospectus of J-DESC

IODP is the follow-on project to ODP, and began on October 1st, 2003.

The goal of IODP is the creation of a new deep ocean drilling paradigm, "Earth, Oceans, and Life". IODP provides equal scientific and operational responsibilities to the US and Japan.

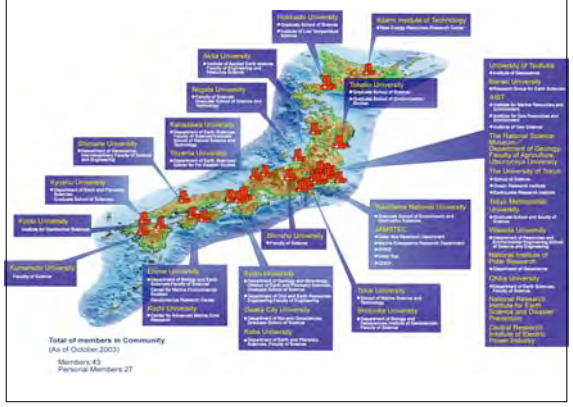
The establishment of IODP therefore necessitates the formation of a new scientific consortium of Japanese scientists involved in IODP who have the responsibility for the promotion of IODP.

We propose the launching of J-DESC in order to realize the goals of IODP science and make a great/strong Japanese contribution to IODP.

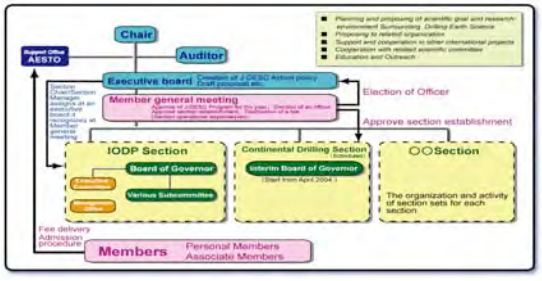
Ikuo KUSHIRO
Itaru KOIZUMI
Tomowo HIRASAWA
Tetsuya HIRANO

Scientific Consortium of IODP Japan

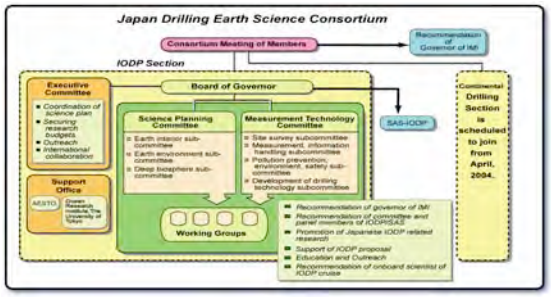
- A consortium established by scientists in order to promote IODP science
- To promote the initiation of new earth/ biological science based on the scientific achievements of IODP



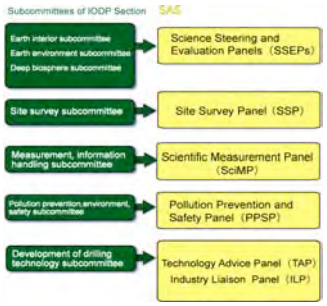
J-DESC Organization



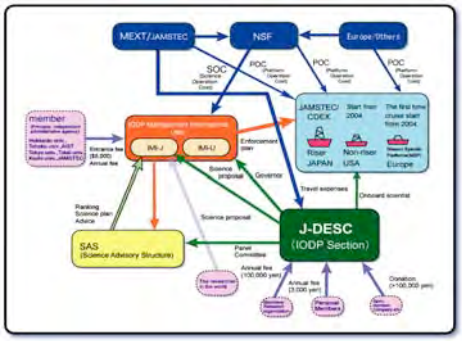
J-DESC IODP Section Organization



Correspondence relation between Subcommittees of IODP Section and IODP Science Advisory Structure(SAS)



Relation between J-DESC and IODP



J-DESC Science Plan in IODP

- The Deep Biosphere and the Subseafloor Ocean
- Environmental Change, Processes and Effects
- Solid Earth Cycles and Geodynamics
- Understanding of Mechanisms of Great Earthquakes in Subduction Zone

J-DESC History

2002/07/29	Started WG on IODP Consortium
2002/08/08	Issued IODP Prospectus
2003/02/22	1st Excecutive Board Meeting
	1st Members Meeting
2003/04/03	J-DESC Launching Ceremony

J-DESC Science Plan in IODP

- The Deep Biosphere and the Subseafloor Ocean

Subseafloor microbiology

- ***Subseafloor: scarcely unveiled another biosphere!***

- FINDINGS & MORE
- ODP reveals that bacteria exist up to 900m deep in subseafloor
- Sea water could penetrate until more than 1000 m deep (up to 1500 m) in subseafloor
- Bacteria exist in water of hydrothermal vent higher than 100 C
- There exist methane gas hydrate which is at least partly produced by bacteria(*Archaea*)

Evaluate microbial activity in subseafloor

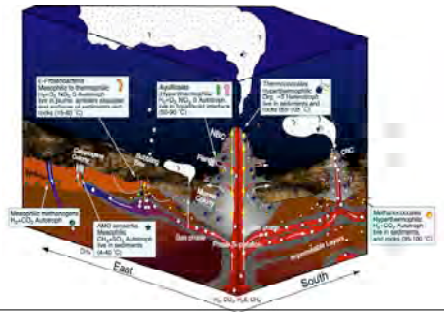
- Carbon cycling on Earth can't be estimated correctly when subseafloor microbial activity isn't considered.
- To estimate matter flux between deeper subseafloor and bottom water is essential.

- ***Subseafloor microbial activity must contribute to climate change of Earth ultimately.***

What's going on in subseafloor ?

- ***Microbial activity can't stop !***
- Reaction between rock and bacteria. What can be made ?
- Gas formation as methane. How fast ?
- Bacterial contribution to sediment formation.

Microbial activity in hydrothermal vent



J-DESC Science Plan in IODP

- Environmental Change, Processes and Effects
  - **Formation of Himalayan and Tibetan Mountains and understanding the Continent-ocean-atmosphere linkage.**
  - **Investigation of the history of ice-sheet development and abrupt climatic changes**
  - **Linkage of the geomagnetic variations and climatic changes**

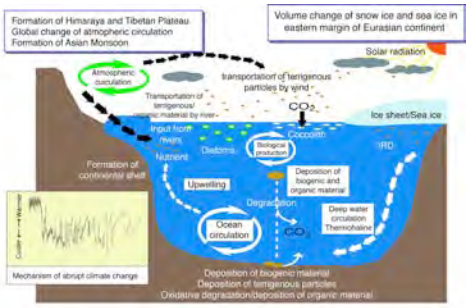
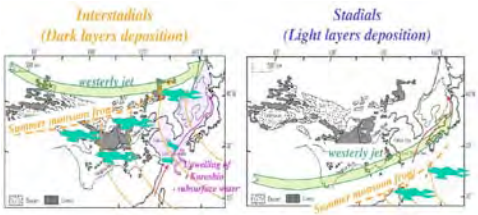


Figure 4. Understanding continent-ocean-atmosphere linkage by drilling in the marginal seas and continental slopes of Asia.



J-DESC Science Plan in IODP

- Understanding of Mechanisms of Great Earthquakes in Subduction Zone

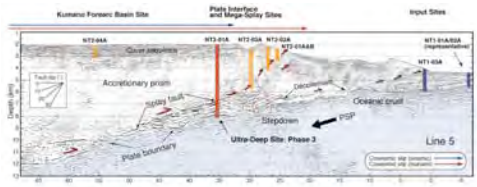
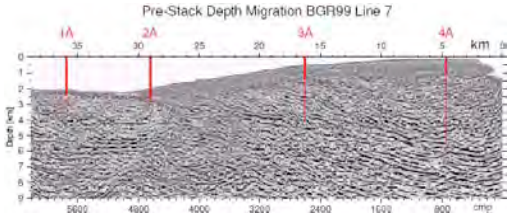


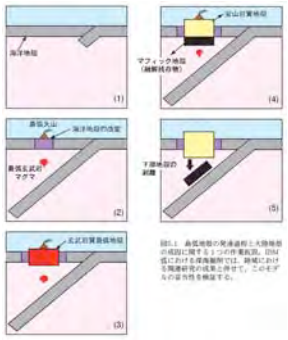
図 4.3. 南海トラフ地震発生帯の掘削予定断面図。



J-DESC Science Plan in IODP

- Solid Earth Cycles and Geodynamics

  IBM (Izu -Bonin -Mariana Arc)



J-DESC Science Plan in IODP

- Technology Development

  Long-term borehole monitoring

  High Temperature

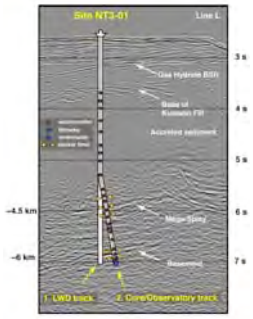


図 4.4 孔内長期観測概念図。

Lists of Scientific Research cost proposed from J-DESC as a core member country of IODP and present status

Research costs of IODP

- Pre-cruise research and site survey costs
  - Seismic survey and related research
- Scientific research costs related IODP
  - Post-cruise research
  - Seed research
  - Establishment of scientific facility
  - Feasibility and development cost of long-term monitoring tool
  - International conference/workshop
- Operation costs related IODP activities
  - J-DESC etc.
  - Education and Outreach
- Travel fees for IODP committees and panels meeting

Present funding status

- "Grant-in Aid for Scientific Research (Kakenhi)" similar to the US NSF research grants.
  - ODP research fund (FY2003&2004)
  - Proposition of new category focused on IODP related research within a framework of "Kakenhi"
- Budget proposal from J-DESC to MEXT
- Budget proposal from each organizations belonging to J-DESC to their funding agency

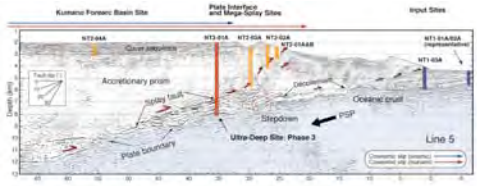
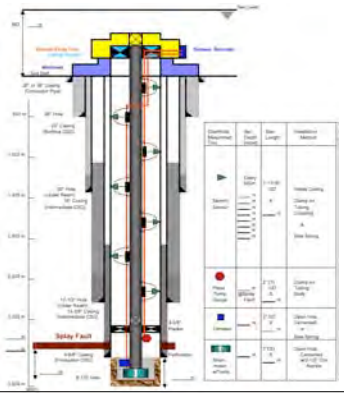


図 4.3. 南海トラフ地震発生帯の掘削予定断面図。



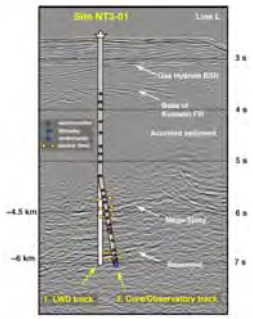


図 4.4 孔内長期観測概念図。

OD21 SHIPBOARD LAB EQUIPMENT (DRAFT) Status

As of March 31, 2003 (end of FY Japan 14)

	Item	No.	Provider/manufacture	Specification	Purchased
	CO-CHIEF & STAFF SCIENTIST'S OFFICE (Lab. Management Deck)				
H-50	PC(win)	3			
H-51	PC(mac)	3			
H-60	Compact Copy machine	1			
H-61	CATV monitor	1			
	Lab. Roof Deck				
Q-1	Core Container (20ft)	10			
Q-2	Gas monitor for Core container	1set			
Q-5	Core catcher bench with sink	1	Ship yard	Steel bench with steel sink, Hot, and cold water, and compressed air	yard provided
Q-7	Core rack	1	Ship yard		yard provided
Q-100,101	Utility for container lab. and RI lab.	1set	Ship yard	Hot and cold water, Chemical drain, Compressed Air, Telephone, and other utilities.	yard provided
	CORE REGISTRATION ROOM (Lab. Roof Deck)				
S-50	PC(win)	1			
S-60	BC printer	1			
S-61	Printer (mono)	1			
S-62	CATV monitor	1			
	DOWNHOLE MEASURE LAB (Lab. Roof Deck)				
P-4	Chain Block	2set	Osaka Futaba	Electric powered, Lifting weight: 250Kg. Lifting speed : 8.5m/min Chain size: 6.3	Yard Provided
P-50	WS	2			
P-51	Logging Units	1set			sub-contractor
P-52	PC(win)	6			
P-53	PC(mac)	2			
p-60	Printer (color)	1			
P-61	Compact Copy machine	1			
P-62	Plotter(A0)	1			
P-63	CD-RW	1			
P-64	MO	1			
P-65	ZIP	1			
P-66	DAT	1			
P-67	EXBYTE	1			
P-68,69,70	CATV monitor	1ea.			
	X-RAY CT SCANNER LAB (27m2) (Core Processing Deck)				
G-1	X-ray CT Scanner	1	GE Medical Systems: LightSpeed Ultra 16	16 channel, 1 slice: 0.65mm, x-y resolution: 0.35mm, axis resolution: 0.4mm	FYJ2003
G-100	X-RAY shield structure	1	Ship Yard	passed test (2mm pb, 4mm pb for the floor)	Yard provided
	QA/QC Sampling Room (35m2) (Core Processing Deck)				
I-1	Sampling device for microbiology	1			
I-2	Fluorescence microscope	1			
I-3	Gas chromatograph (ECD)	1			
I-4	Liquid chromatograph	1			
I-5	Fume Hood	1	Yamato kagaku: RBF-180S-Y	inside dimension: approx. 150x55cm, exhaust air volume: 19m3/min, Air flow rate: approx. 0.5m/s	Yard provided
I-6	Clean Bench	1	Yamato kagaku: PCV-1305BNG3	inside dimension: approx. W116xH72cm, Air flow rate: approx. 0.3m/s w/HEPA filter, Class 10	FYJ2003
I-7	Anaerobic glove box	1			
I-8	Autoclave	1			
I-9	4-Column 100-ton Press	3			
I-10	Fume Hood	1	Yamato kagaku: RBF-120S-Y	inside dimension: approx. 100x55cm, exhaust air volume: 12m3/min, Air flow rate: approx. 0.5m/s	Yard provided
I-11	LN2 bottle	2			
I-12	LN2 rack	1			
I-13	Pure water system	1			
I-14	Dry Heated Sterilizer	1			
I-15	Centrifuge	1			
I-17	Balance	1			
I-18	Drying oven	1	Tokyo rika: WFO-451SD	Internal Dimensions: 450mmWx450mmDx400mmH, Temperature control range: 40C~200C +/-1C	FYJ2003
I-50	PC(win)	2			
I-51	PC(mac)	2			
I-52	CATV monitor	1			
I-60	BC printer	1			

	Microbiology Laboratory (80m2) (Core Processing Deck)				
J-1	Safety cabinet	1	Yamato kagaku: SCV-1305ECIIAB	internal dimensions: 1300mmWx520mmDx675mmH, Air flow rate: 0.3~0.5m/s, Exhaust air volume: 8.6~10.9m3/min w/HEPA filters, Class II based on National Sanitation Foundation	Yard provided
J-2	Pharmaceutical refrigerator	1	SANYO: MPR-513R	internal Dimensions: 800mmWx465mmDx1300mmH, effective capacity: 486L, Temperature control range: 2C~14C,	FYJ2003
J-3	Freezer_-85 _C_	1			
J-4	Freezer_-150 _C_	1			
J-7	Pressure pump	1			
J-8	Pressure chamber for sample preservation	5			
J-9	Freeze drier	1			
J-10	Incubator (0-30_, 10-60_, 25-150_)	3			
J-11	Anaerobic glove box	1			
J-12	Autoclave (large)	1			
J-14	Fluorescent phase contrast microscope	1			
J-15	Fluorescent microscope	1			
J-17	Photo micrographic system	1			
J-19	Pure water system	1			
J-20	Electronic Balance	1			
J-21	Centrifuge with temp control	1			
J-29	Refrigerator (4_, -20_)	1			
J-32	Fume Hood	1	Yamato kagaku: RBF-180S-Y	inside dimension: approx. 150x55cm, exhaust air volume: 19m3/min, Air flow rate: approx. 0.5m/s	Yard provided
J-33	Clean bench	1	Yamato kagaku: PCV-1305BNG3	inside dimension: approx. W116xH72cm, Air flow rate: approx. 0.3m/s w/HEPA filter, Class 10	FYJ2003
J-34	Gas Chromatograph (TCD,FID)	1			
J-35	Ultrasonic Cleaner	1	Branson: 3510J-DTH	Digital control variable temperature: 200W, 42KHz, Tank: 5.7L	FYJ2003
J-36	Desiccator	1			
J-50	PC(win)	2			
J-51	PC(mac)	2			
J-52	Mobile PC(win)	1			
J-60	Printer (color)	1			
J-61	CATV monitor	1			
	Core Lab./PP (210m2) (Core Processing Deck)				
B-1	Whole Core MSCL	1			
	_Gamma-Ray Attenuation Porosity Evaluator(GRAPE)				
	_Magnet Susceptibility Meter				
	_P-Wave Logger(PWL)				
	_Electric resistibility				
B-24	_Natural Gamma-Ray Spectrometer				
B-2	Digital Image MSCL_____Color line scanner	1			
B-3	Whole/Split Core MSCL	1			
	_P-Wave Logger(PWL)				
	_Magnet Susceptibility Meter				
	_Electric resistibility				
B-25	Color spectrometer	1			
B-4	XRF Core Logger	1	JEOL: JSX-3600CA1	non-destructive measurement system, Detection Range: Na~U, Detector resolution: <150eV, X-ray tube: 5~50KV, 0.1~1mA	FYJ2003
B-5	Drill Press	2			
B-6	Laser Particle Analyzer	1			
B-7	Stereomicroscope	2			
B-8	Polarization Microscope	2			
B-11	Cut-off Saw/Tile Saw	2			
B-12	Parallel Saw	1			
B-13	Super Saw/Core Splitter	1			
B-14	X-Ray System (Soft X-ray camera)	1			
B-15	Heat sealer w/ vacuum	5			
B-20	Thermal Conductivity System	1			
B-21	Penta-Pycnometer	1			
B-22	Electronic Balance(2)	2			
B-23	XRD	1			
B-26	Oven dryer	1	Tokyo rika: WFO-601SD	Internal Dimensions: 600mmWx500mmDx500mmH, Temperature control range: 40C~200C +/-1C	FYJ2003
B-50	PC(win)	4			
B-51	PC(mac)	2			
B-52	PC(win)	2			
B-53	PC(mac)	2			
B-54	WS	1			
B-55	WS	1			

	Paleomagnetics Laboratory(28m2) (Core Processing Deck)				
C-1	Cryogenic Magnetometer System	1			
	(Alternating Field Demagnetizer)				
	(ARM Magnetizer)				
	(IRM Coil)				
C-3	Spinner Magnetometer (2)	1			
C-4	Thermal Demagnetizer	1			
C-5	3-Axis Fluxgate Magnetometer	1			
C-6	AF Demagnetizer	1			
C-7	Impulse Magnetizer	1			
C-8	Partial Anhysteric Remanence Magnetizer(PARM)	1			
C-9	Bartington MS2 Susceptibility Device	1			
C-10	Kappabridge	1			
C-11	Hall-Effect Magnetometer	1			
C-12	Fluxgate Digital Magnetometer	1			
C-14	Magnetic shield room	1	Kawatetsu techno construction	3.5mG shield	Yard Provided
C-50	PC(win)	3			
C-51	PC(mac)	3			
C-60	Printer (color)	1			
C-61	CATV monitor	1			
	OFF-TIME SPACE (Core Processing Deck)				
KK-50	WS	1			
KK-51	PC(win)	1			
KK-52	PC(mac)	1			
KK-60	Printer (color)	1			
KK-61	CATV monitor	1			
	CURATOR OFFICE (Core Processing deck)				
X-60	PC(win)	1			
X-61	CATV monitor	1			
	SAMPLE PREP ROOM(62m2) (Lab. Street Deck)				
E-1	Freeze Dryer	1			
E-3	Water de-ionizing System	1			
E-4	Electro balance	2			
E-6	Fume Hood	1	Yamato kagaku: RBF-120S-Y	inside dimension: approx. 100x55cm, exhaust air volume: 12m3/min, Air flow rate: approx. 0.5m/s	yard provided
E-9	Tabletop clean bench	1	Yamato kagaku: PCV-750APG	Outside dimension: approx. 750mmWx500mmDx1120mmH, Air flow rate: approx. 0.45m/s, Class 100	FYJ2003
E-10	Tabletop cooling centrifuge	1			
E-12	Forced convection constant temperature oven	2	Yamato kagaku: DNF400	Internal Dimensions: 400mmWx450mmDx450mmH, Temperature control range: 5C~260C +/-0.5C	FYJ2003
E-14	Steam Glassware Washer	1			
E-16	Ultrasonic Cleaner	2(1)	Branson: 8510J-DTH	Digital control variable temperature: 560W, 44KHz, Tank: 20.1L	FYJ2003
E-17	Ultraviolet Lamp	2	Sanhayato: BOX-W9B	Exposed dimension: 160mmx250mm	FYJ2003
E-19	Fume Hood for HF	1	Yamato kagaku:RFB-120VZ	inside dimension: approx. 100x55cm, exhaust air volume: 12m3/min, Air flow rate: approx. 0.5m/s	yard provided
E-20	High speed solvent extractor	1			
E-21	Tabletop Centrifuge(2)	1			
E-22	Bead Sampler	1			
E-24	Isotemp Programmable Ashing Furnace	1			
E-25 (37)	Mixer Mill	1			
E-31	Scientific Balance System(2)	2			
E-32	X-Press Motorized Hydraulic Press	1			
E-34	Desiccators Specimen Cabinet for XRF Standards	1			
E-35	Refrigerator (4_, -20_)	1			
E-36	Ice maker (flake ice)	1			
E-37 (25)	Ball Mill	1	Fritsch: P-5/4	Outside dimension: 580mmLx670mmWx570mmH, available pots: 2,4 or 8, Pot RPM: 65~870rpm, final grinding size: 1micron	FYJ2003
E-38	molder and pestle	1			
E-39	Hot plate	2	Advantec: TP-320	Temp control: 50~250C, plate size: 350mmx250mm	FYJ2003
	Hot plate stirrer	2	Advantec: SRS710HA	Temp Control: 50~300C, Stirrer rate: 100~1500rpm, Stirre volume: 100mL~7L	
E-50	PC (win)	1			
E-60	BC printer	1			
E-61	CATV monitor	1			

	PALAEONTOLOGY/ PETROLOGY LAB(47m2) (Lab. Street Deck)				
D-1	Automatic Point Counter	1			
D-2	Polarization Microscope	6			
D-3	TV Camera for microscope	1			
D-5	Camera for microscope	1			
D-7	Video copy processor	1			
D-8	Stereomicroscope _____	3			
D-11	Digital camera for microscope	3			
D-12	Color Video Image Printer	3			
D-13	Microscope camera	1			
D-15	Anti-vibration pad	6			
D-17	Image analysis system _main unit, color processing soft, printer, video printer_	1			
D-18	3CCD color video camera DXC-9000	1			
D-50	PC(win)				
D-51	PC(mac)				
D-60	printer (color)				
D-61	CATV monitor				
	GEOCHEMISTRY LAB(141m2) (Lab. Street deck)				
A-1	ICP-MAS	1			
A-2	ICP-AES	1			
A-5	CHNS/O analyzer	1			
A-7	Alkalinity Titrator System	1			
A-8	Other Titrator Systems	2			
A-9	Refrigerated Circulator for Waterbath(2)	2	Shibata: CW-301	Temp control: -20~80C, +/-0.5C, water tank size: 5L, Flow rate:16L/min	FYJ2003
A-11	Coulometer	1			
A-12	Ion Chromatograph	1			
A-13	Spectrophotometer	1			
A-14	Gas Chromatograph #1(NGA)	1	Agilent: 6890N	NGA: Wasson-ECE, attached FID and TCD	FYJ2003
A-15	Gas Chromatograph #2(MAS)	1	Agilent: 5973N	with Mass Selective Detector	FYJ2003
A-16	Gas Chromatograph #3(FID)	1	Agilent: 6890N	FID only	FYJ2003
A-18	Hydrogen Generator	3	Packerd: H2-90	Product purity: 99.9995% pure hydrogen, Reservoir Capacity: 4L, Flow Range: 90cc/min, Delivery Pressure: 0-90psig	FYJ2003
A-19	Rock Eval II	1			
A-25	Water de-ionizing System	1			
A-33	Liquid chromatograph	1			
A-34	Ultra-high temperature furnace	1			
A-35	Tabletop clean bench	1	Yamato kagaku: PCV-750APG	Outside dimension: approx. 750mmWx500mmDx1120mmH, Air flow rate: approx. 0.45m/s, Class 100	FYJ2003
A-41	Reefer showcase	1	SANYO: MPR-513R	internal Dimensions: 800mmWx465mmDx1300mmH, effective capacity: 486L, Temperature control range: 2C~14C,	FYJ2003
A-45	Clean air equipment	1set			
A-48	Trash box	1			
A-50	Compact Isotope ratio MS analyzer	1			
A-51,52	Micro balance	2			
E-7,18	Fume Hood	2	Yamato kagaku: RBF-120S-Y	inside dimension: approx. 100x55cm, exhaust air volume: 12m3/min, Air flow rate: approx. 0.5m/s	Yard provided
A-80	PC(win)	3			
A-81	PC(mac)	3			
A-90	printer (color)	1			
A-91	CATV monitor	1			
	THIN SECTION ROOM(18m2) (Lab. Street Deck)				
F-2	Polarization Microscope	1			
F-7	Fume Hood	1	Yamato kagaku: RBF-120S-Y	inside dimension: approx. 100x55cm, exhaust air volume: 12m3/min, Air flow rate: approx. 0.5m/s	Yard provided
F-13	cut off saw	1			
F-14	Thin section equip.				
F-15	w/ Vacuum system				
F-16	Polishing system				
F-17	Ultrasonic bath	1	Branson: 8510J-DTH	Digital control variable temperature: 560W, 44KHz, Tank: 20.1L	FYJ2003
F-18	Hot Plate	2	Advantec: TP-320	Temp control: 50~250C, plate size: 350mmx250mm	FYJ2003
F-50	PC(win)	1			
F-51	CATV monitor	1			
	ET SHOP (Lab. Street Deck)				
T-1	Anti electrostatic desk	1	Ship yard		Yard Provided
T-50	PC(win)	1			

	OFF-TIME SPACE (Lab. Street Deck)				
O-50	WS	1			
O-51	PC(win)	1			
O-52	PC(mac)	1			
O-60	printer (color)	1			
O-61	CATV monitor	1			
	STORAGE/ GAS BOTTLE RM (Lab. Street Deck)				
L-1	N2 generator	1	KURASEP MY-9S	99.999% 3m2/hr, 99.99% 6m2/hr	FYJ2003
L-3	Liquid Nitrogen generator	1	Iwatani: NL-100A-S	15 litter/day, 80 litter tank	FYJ2003
	COMPUTER/ USER/ LIBRARY (Lab. Management Deck)				
M-50	Servers	1set			
M-51	WS	1			
M-52	PC(win)	1			
M-53	PC(mac)	1			
M-54	Printer (color)	1			
M-60	PC(win)	4			
M-61	PC(mac)	4			
M-62	Printer (mono)	1			
M-63	Printer (color)	1			
M-64	Plotter	1			
M-65	Scanner	1			
M-66	CD-RW	1			
M-67	MO	1			
M-68	ZIP	1			
M-69	DAT	1			
M-70	EXBYTE	1			
M-80	WS(only for data integration software)	1			
M-81	WS	3			
M-82	Plotter (A0)	1			
	LOUNGE (Lab. Management Deck)				
MM-50	CATV monitor	1			
	CONFERENCE ROOM (Lab. Management Deck)				
N-1	Copy machine	1			
N-2	Ceiling projector	1			
N-3	VTR	1			
N-4	Audio system	1			
N-5	White board	1			
N-6	CATV monitor	1			
	LAB OFFICER'S OFFICE (Lab. Management Deck)				
Z-50	PC(win)	1			
Z-51	PC(mac)	1			
Z-52	CATV monitor	1			
	YEOPERSON'S OFFICE (Lab. Management Deck)				
Y-50	PC(win)	2			
Y-51	PC(mac)	2			
Y-52	CATV monitor	1			

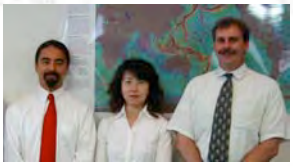
iSAS Office Update

- iSAS Office background
- SAS meeting schedule
- IODP proposal status

iSAS Office Background

- Who are we?
- What do we do?
- Where are we?

iSAS Office Staff



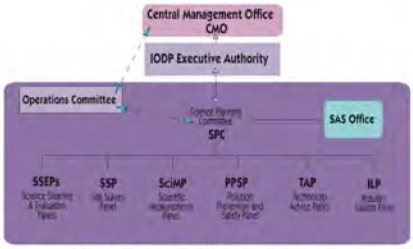
- Science Coordinators
  - Nobu Eguchi
  - Jeff Schuffert
- Administrative Assistant
  - Yayoi Suganuma

iSAS Office Responsibilities

- Coordinate and support SAS activities
- Manage IODP proposal process
- Provide information to SAS and community
- Promote IODP

iSAS Office Location

- JAMSTEC Headquarters, Yokosuka, Japan
  - Email: isasoffice@jamstec.go.jp
  - URL: http://www.isas-office.jp
- **MOVING SOON TO:**
  - Hokkaido University, Sapporo, Japan



IODP Science Advisory Structure

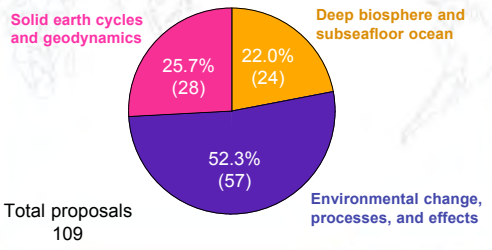
iSAS Office
Science Advisory Structure Office for The Integrated Ocean Drilling Program

IODP SAS Meeting Schedule

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
SPPOC				5-6 San Francisco, CA, USA					
SPC	15-19 Sapporo, Japan						22-26 Washington, DC, USA		
SSEPs			20-23 Boulder, CO, USA						Grenada, Spain
SSP						11-13 Tokyo, Japan			
SciMP				15-18 Nagasaki, Japan					
PPSP				15-17 Nagasaki, Japan					
TAP							Nagasaki, Japan		
ILP	Electronic					22-24 Houston, TX, USA			

iSAS Office
Science Advisory Structure Office for The Integrated Ocean Drilling Program

Scientific Themes of IODP Proposals

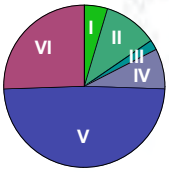


Total proposals 109

iSAS Office
Science Advisory Structure Office for The Integrated Ocean Drilling Program

Status of Active Proposals (as of 23 Nov. 2003)

I.	Scheduled for FY04/05 Drilling	5
II.	Ranked by SPC but not scheduled	12
III.	Forwarded to SPC	2
IV.	Ready for external review	9
V.	Not ready for external review	53
VI.	Not ready for SSEPs review	28
	Total	109



iSAS Office
Science Advisory Structure Office for The Integrated Ocean Drilling Program

Affiliation of IODP Lead Proponents (Oct. 2003)

Australia	2	Netherlands	1
Belgium	1	New Zealand	2
Canada	4	Norway	3
France	4	South Korea	1
Germany	11	Spain	2
Ireland	1	Sweden	2
Italy	2	United Kingdom	3
Japan	16	United States	54
		Total	**109**

iSAS Office
Science Advisory Structure Office for The Integrated Ocean Drilling Program

Affiliation of IODP Proponents (Oct. 2003)

Argentina	1	Ireland	6	Russia	5
Australia	15	Israel	2	South Africa	1
Belgium	3	Italy	8	South Korea	12
Brazil	1	Japan	126	Spain	8
Canada	25	Mexico	1	Sweden	6
Chile	6	Netherlands	20	Switzerland	2
China	6	New Zealand	7	Taiwan	1
Costa Rica	2	Norway	37	Turkey	2
Denmark	2	Pakistan	4	UK	60
France	47	Philippines	1	USA	395
Germany	92	Portugal	2	Vietnam	3
Greece	1	Romania	2	**Total**	**912**

iSAS Office
Science Advisory Structure Office for The Integrated Ocean Drilling Program

IODP Non-riser Vessel Schedule - Phase I

Expedition	Port (origin)	Dates	Total Days (Port/Sea)
Transit	Pusan	10-21 June '04	20 (2/18)
Juan de Fuca	Astoria	21 June - 24 Aug.	64 (6/58)
Transit	Acapulco	24 Aug. - 14 Sept	21 (2/19)
North Atlantic 1	Bermuda	14 Sept. - 31 Oct.	47 (2/45)
MAR Core 1	Ponta Delgada	31 Oct. - 19 Dec.	49 (4/45)
MAR Core 2	Ponta Delgada	19 Dec. - 12 Feb '05	55 (4/51)
North Atlantic 2	Ponta Delgada	12 Feb. - 7 April	54 (5/49)
Transit	Reykjavik	7 April - 25 April	18 (3/15)
Demobilization	Galveston	25 April - 17 May	22 (22/0)


iSAS Office
Science Advisory Structure Office for The Integrated Ocean Drilling Program
iSAS Office Location
• JAMSTEC Headquarters, Yokosuka, Japan
– Email: isasoffice@jamstec.go.jp
– URL: http://www.isas-office.jp
• MOVING SOON TO:
– Hokkaido University, Sapporo, Japan
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Scientific Steering and Evaluation Panels (SSEPs)

20-23 November 2003
Boulder, Colorado

SSEPs

- Proposal Review done in 4 Breakout Sessions
  - Fluid Flow & Deep Biosphere
    - 7 proposals (5) & pre proposals (2)
  - Seismogenic Zones & Tectonic /Climate Links
    - 6 proposals (5) & pre proposals (1)
  - Paleoceanogrphy & Paleoclimatology
    - 7 Proposals (6) & pre proposals (1)
  - Solid Earth & Geodynamics
    - 7 proposals (5) & pre proposals (2)

SSEPs

- Cultural Education Workshop
  - Key Words in Understanding the Japanese
  - Cross-Cultural Perceptions

IODP Non-riser Vessel Schedule for Phase I

Expedition	Port (origin)	Dates	Total Days (Port/Sea)
Transit	Pusan	10-21 June '04	20 (2/18)
Juan de Fuca	Astoria	21 June - 24 Aug.	64 (6/58)
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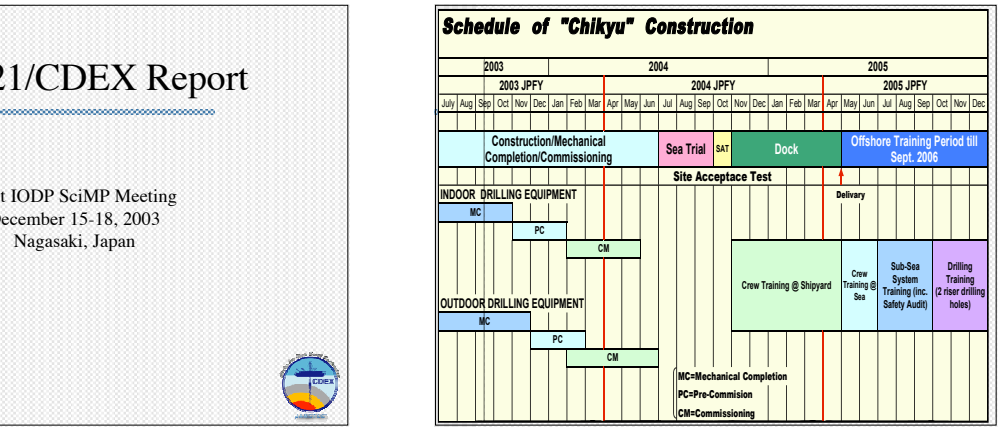
Transit	Reykjavik	7 April - 25 April	18 (3/15)
Demobilization	Galveston	25 April - 17 May	22 (22/0)

OD21/CDEX Report

First IODP SciMP Meeting
December 15-18, 2003
Nagasaki, Japan



Drilling Equipment Update

September 26, 2003

Mechanical Completion/Pre-commissioning Schedule

- Most of the major Drilling Equipment has been installed onboard

Riser Tensioner

Inside Derrick

Mechanical Completion/Pre-commissioning Schedule

Equipment	DEC	JAN	FEB	MAR	APR	MAY	JUNE
DERRICK, TOPDRIVE					Mech. Comp.	Pre-Commis.	Commis-sioning
Drawworks	Mech. Comp.		Pre-Commis.	Commis-sioning			
Drilling Mud Systems	Mech. Comp.	Pre-Commis.	Commis-sioning				
Well Control Equipment					Mech. Comp.	Pre-Commis.	Commis-sioning
Deck Cranes	Mech. Comp.	Pre-Commis.	Commis-sioning				

Science Equipment Update

As you saw during the ship tour yesterday

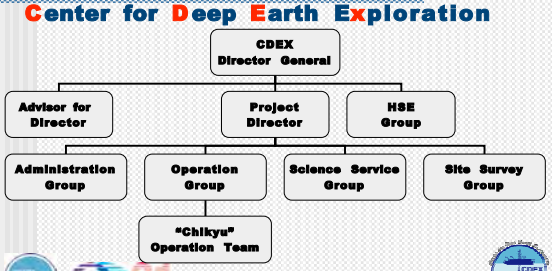
- ◆ Installed the Equipment as plan as the "CHIKYU" equipment list
- ◆ Continue to install rest of equipment on the list
- ◆ Training instrument as same time as installed
- ◆ Plan to stock supplies, chemicals and etc. before Offshore Training Period

OD21 Science Database Update

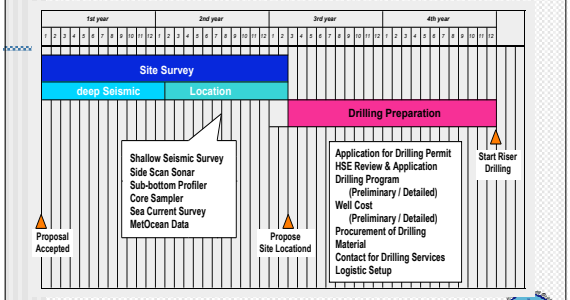
J-CORES
Jamstec - CORE Systematics

CDEX Program Report

Center for Deep Earth Exploration



Riser Drilling Preparation



Training Cruise Drilling Sites

Eastern Shimokita Peninsula

FY04 Activity: Preparation for First Riser Drilling

- Site Survey
  - First Half - Site for Crew Training Cruise
    (Date processing is ongoing)
    (Hole Location has been selected.)
  - Second Half - Site for the first riser proposal
    (3D(?) Survey + Engineering Site Survey)
  - Proposal Ranking - March 2004

FY04 Activity: Preparation for First Riser Drilling

- Preparation for Science Support
  - Staffing of Staff Scientists and Marine Techs
  - Science Database Management System
  - Ranked Proposal Support
  - Core Repository and Chikyu Onboard Facilities
- Engineering Developments
  - Long-term Monitoring System

IODP Integrated Core Repository

CDEX Core repository

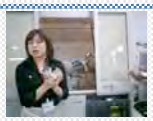
Center for Advanced Marine Core Research, Kochi University

CDEX Core Repository Status

- Training technicians for instrument as same as installed onboard the "CHIKYU"
- Safety Training for chemical (MSDS), X-ray and Radio active, etc.
- Make risk assessment using HAZID for instrument and work environment

Trained Instrument

CHNS/O



XRD

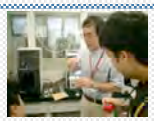
XRF

XRF CL

MSCL

Trained Instrument

Microscope

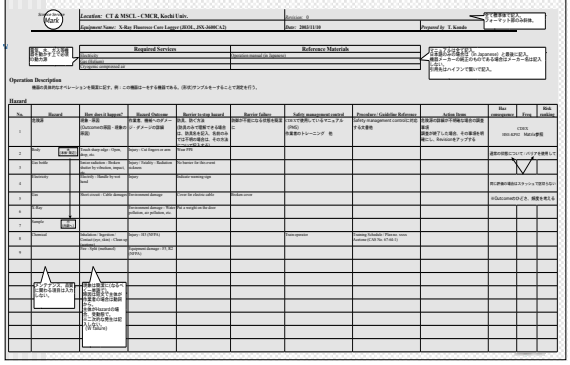


Coulometer

RIMS

Lq N2 Storage system

Example of HAZID sheet



Planning for JFY04

- Add a few FTE to keep train at the repository
- Cooperate with "CHIKYU" to cross train
- Keep update the safety issue
- Get ready for action

JOI Alliance Report to SCIMP

Nagasaki, Japan — December 15-18, 2003

JOI, LDEO,
TAMU/TAMRF

INTEGRATED OCEAN DRILLING PROGRAM

JOI ALLIANCE

New Address:

JOINT OCEANOGRAPHIC INSTITUTIONS

1201 New York Avenue, Suite 400
Washington, DC 2005
Tel: 1-(202) 232-3900
Fax: 1-(202) 462-8754
Email: info@joiscience.org
Web: www.joiscience.org

Outline of JOI Alliance Presentation

- **Overview of JOI Alliance**
  - JOI Alliance Proposal to NSF and Award of SIC
  - JOI Alliance Structure
  - JOI Alliance Management Teams
- **Review of Final ODP Legs**
  - ODP Legs 209 and 210
  - Demobilization of the JOIDES Resolution
- **IODP Expeditions Planned in Phase 1 (FY04-05)**
- **Other Issues and Recommendations to SCIMP**

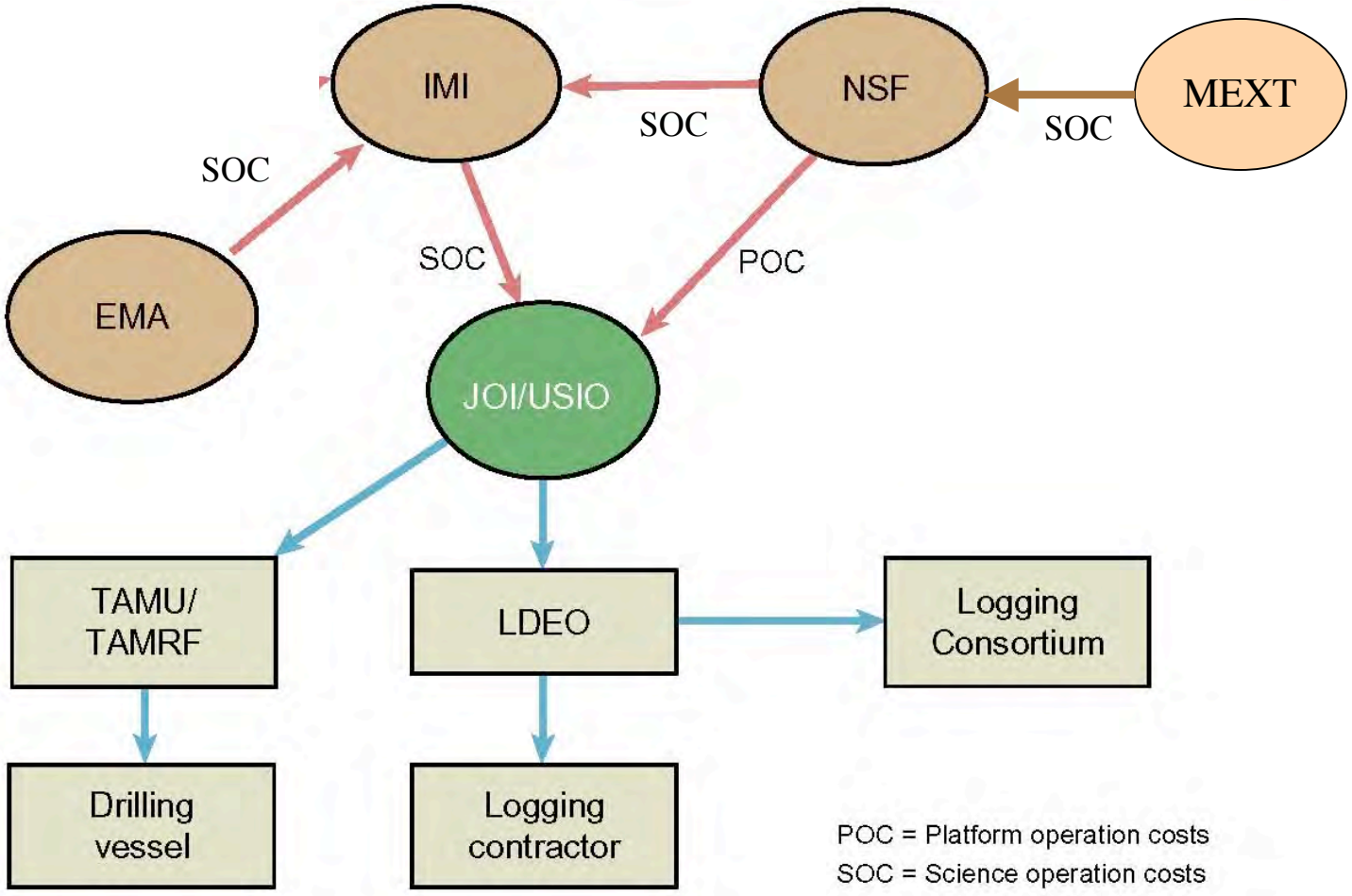
INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

JOI Alliance Proposal to NSF RFP

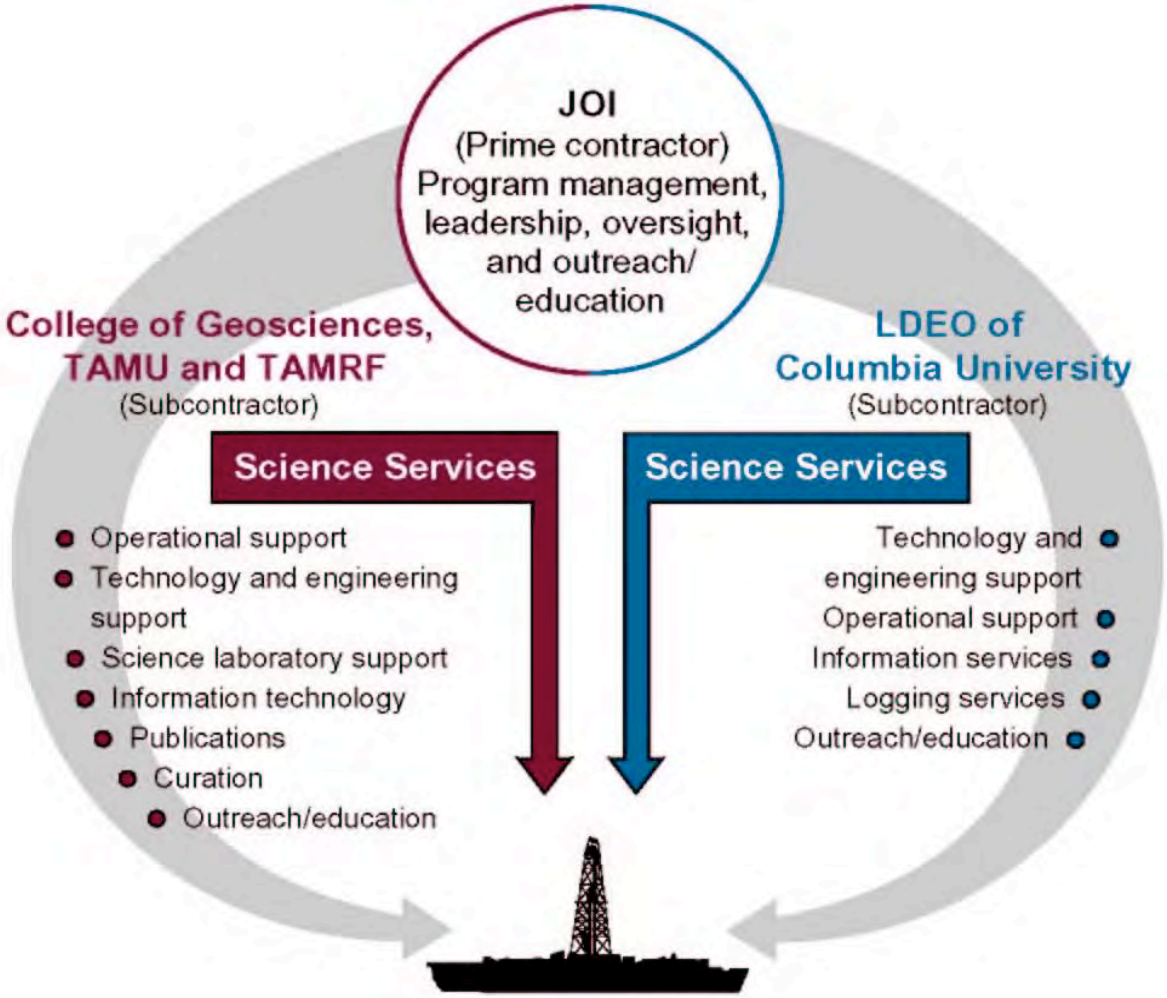
- Release of NSF Request for Proposals for SIC
- JOI Alliance (JOI, LDEO, TAMU/TAMRF) submits proposal to NSF for review
- NSF informs JOI of decision - Negotiation of SIC award to JOI as U.S. Implementing Organization
- JOI establishes subcontracts with other JOI Alliance institutions to establish Science Services, LDEO and Science Services, TAMU

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

IODP Contracting Relationships



JA Contractual Relationships and Responsibilities



JOI Alliance Management Teams

- **JOI Alliance Systems Integration Team**
  - **Oversees strategic planning for the JOI Alliance**
  - **Evaluates the effectiveness of the JOI Alliance**
- **JOI Alliance Systems Management Team**
  - **Program management and oversight of JA Teams**
  - **USIO Program Plan development**
  - **Allocation and prioritization of resources**
  - **Interactions with IODP stakeholders**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

JOI Alliance Management Teams

- **Joint Operations Team**

  Oversight of expedition project management

- **Joint Technology Development Team**

  Oversight of analytical tools, measurement systems, and projects

- **Joint Information Team**

  Support information infrastructure, database, and curation

- **Joint Reports, Publications, Outreach/Education, and Public Relations Team**

  Coordinate outreach and education activities, assure quality of printed products

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

D/V JOIDES Resolution
Ocean Drilling Program (1985-2003)

JOI ALLIANCE

ODP Ship Schedule - 2003

Leg 207: Demerara Rise	**13 Jan. - 6 March**
Leg 208: Walvis Ridge	**6 March - 7 May**
Leg 209: MAR	**7 May - 8 July**
Leg 210: Newfoundland	**8 July - 7 Sept.**
Transit	**7 Sept. - 21 Sept.**
Demobilization	**21 Sept. - 30 Sept.**

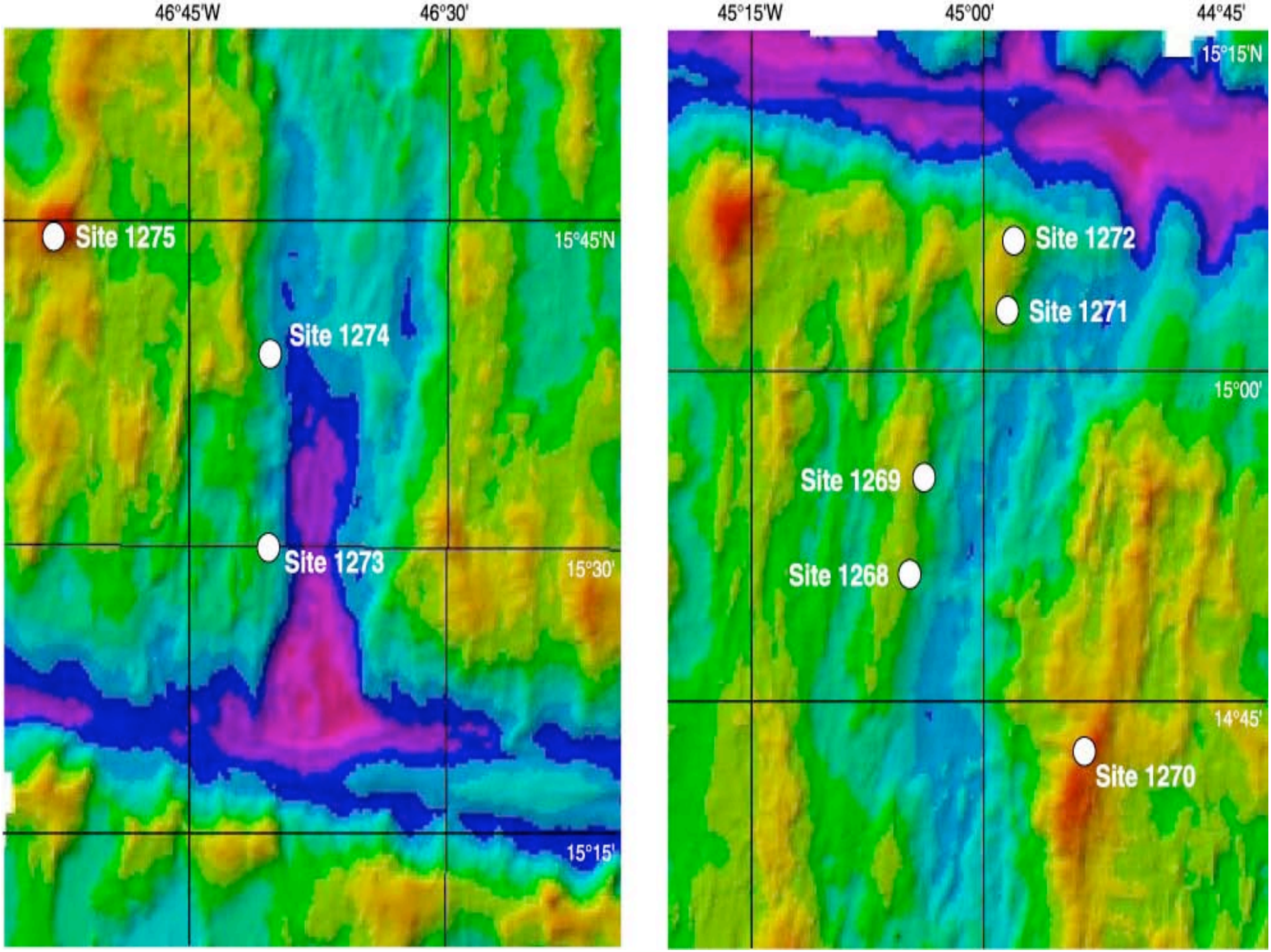
INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

ODP Leg 209

Primary objective was to complete multiple holes >100 mbsf at 6-7 sites to:

- **Characterize the spatial variation of mantle deformation patterns**
- **Determine residual peridotite composition**
- **Investigate melt migration features and alteration along axis**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE


46°45'W
46°30'
45°15'W
45°00'
44°45'
15°45'N
15°30'
15°15'
15°15'N
15°00'
14°45'
Site 1275
Site 1274
Site 1273
Site 1272
Site 1271
Site 1269
Site 1268
Site 1270

Leg 209 Highlights

- **Site 1268 – t.d. 147 mbsf.**

  Further penetration prevented due to stuck pipe

- **Site 1269 – Three holes (<20 m)**

  Completed into basaltic lava

- **Site 1270 - Four holes - t.d. 45.9 mbsf.**

  Terminated due to poor hole conditions

- **Site 1271 – t.d. 103 mbsf**

  Recovered serpentinized peridotite and gabbros

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

Leg 209 Highlights

- **Site 1272 - t.d. 131 mbsf**
- **Site 1273 - Three holes <27 mbsf**

  Site terminated due to hole collapse, basalt and peridotite
- **Site 1274 - t.d. 121 mbsf -**

  Site terminated due to hole collapse
- **Site 1275 - Four holes - t.d. 108.7 mbsf**

  LWC (RAB-C), t.d. 209 mbsf

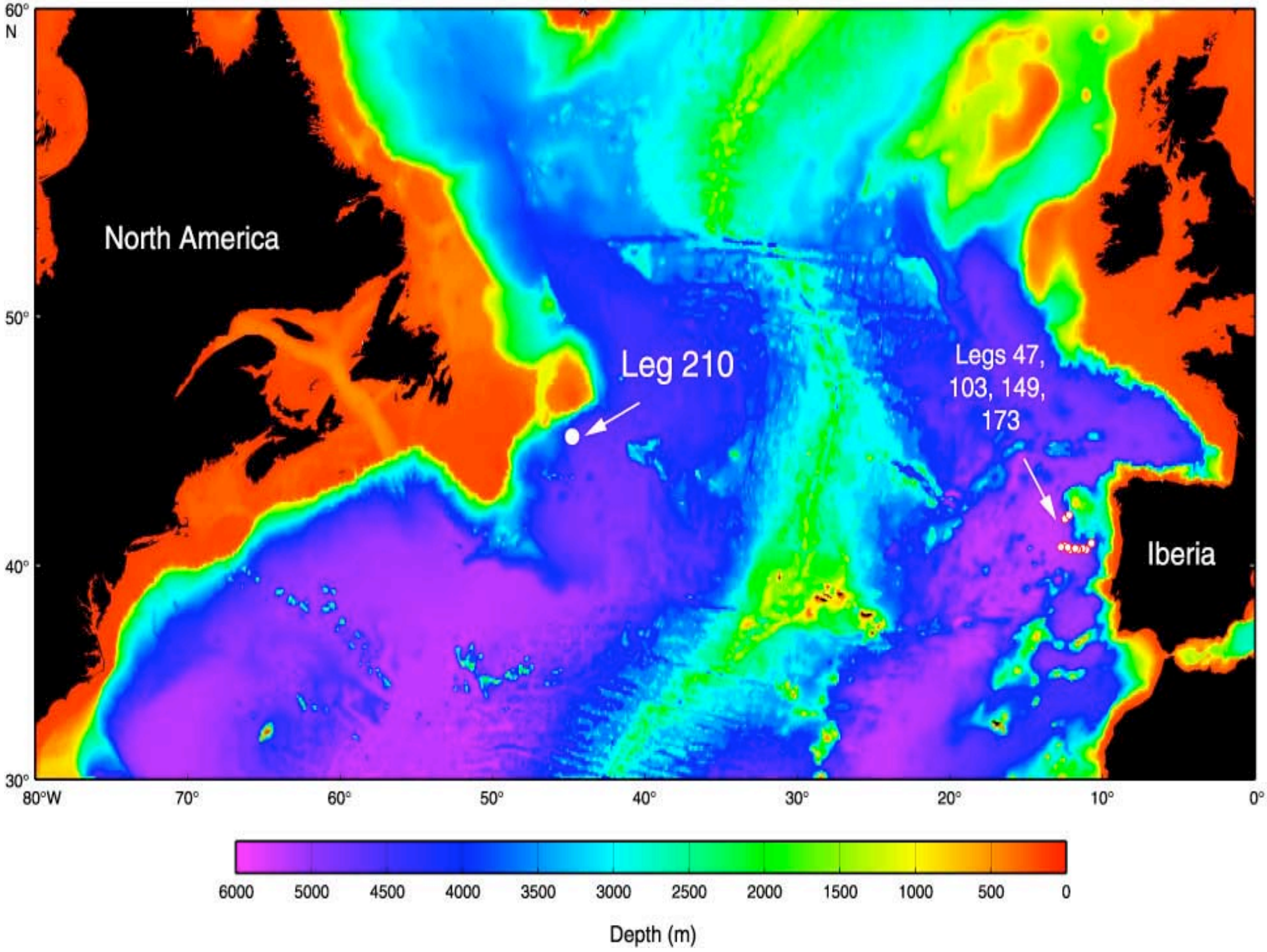
INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

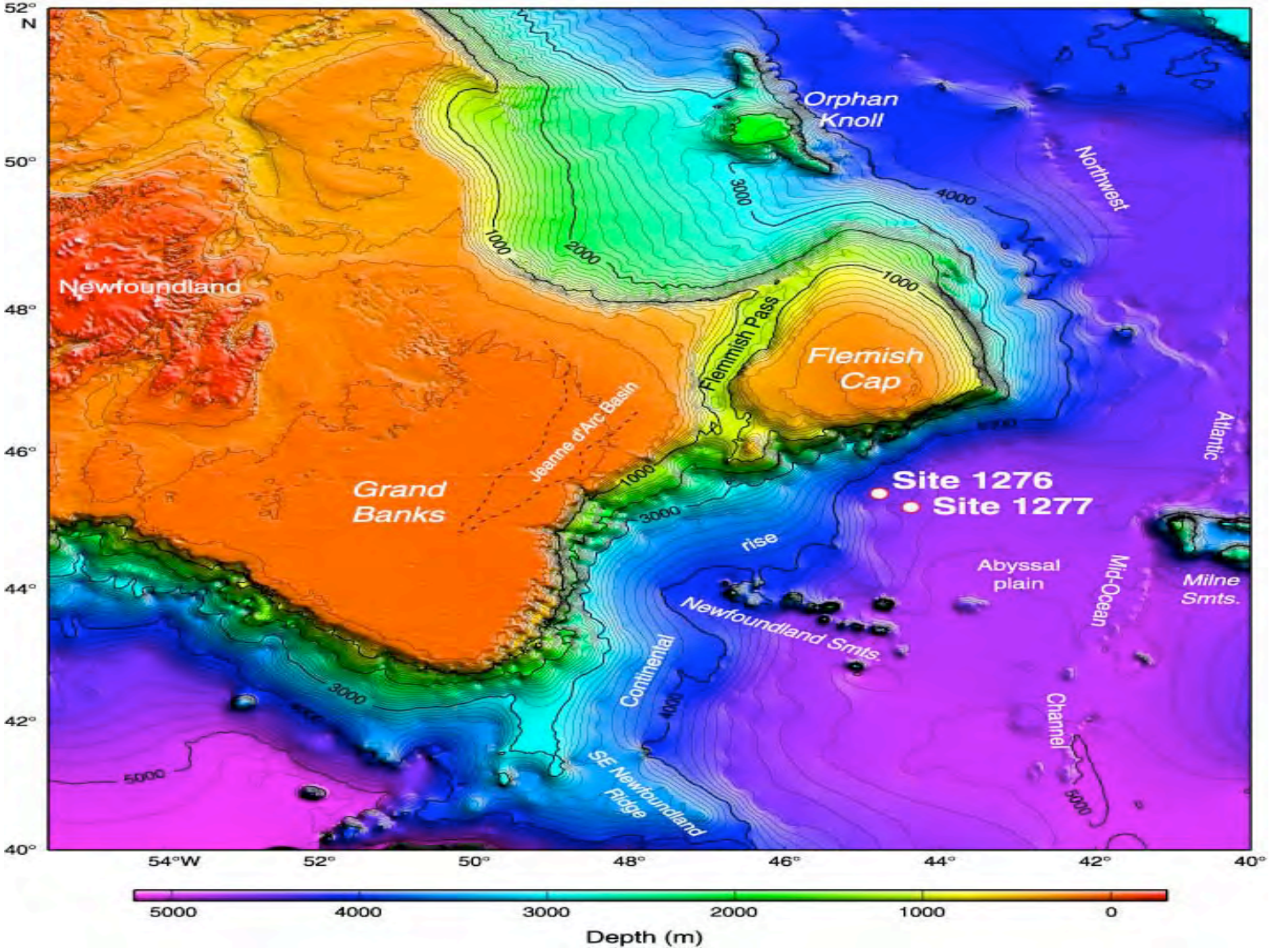
ODP Leg 210

Proposed 1 site (NNB-01A) ~2100 m cased holed, w/4 casing strings to:

- **Origin of transitional crust**
- **Investigating the rifting and postrift sedimentation history of this margin**
- **Paleoceanography**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE


60°
N
50°
40°
30°
80°W
70°
60°
50°
40°
30°
20°
10°
0°
North America
Leg 210
Legs 47,
103, 149,
173
Iberia
6000
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Depth (m)


52° N
50°
48°
46°
44°
42°
40°
54°W
52°
50°
48°
46°
44°
42°
40°
Orphan Knoll
Northwest Atlantic
Newfoundland
Flemish Pass
Flemish Cap
Jeanne d'Arc Basin
Grand Banks
Site 1276
Site 1277
rise
Abyssal plain
Mid-Ocean
Milne Smts.
Newfoundland Smts.
Continental
SE Newfoundland Ridge
Channel
1000
2000
3000
4000
5000
6000
5000
4000
3000
2000
1000
0
Depth (m)

Leg 210 Highlights

- **Site 1276 - primary site**

  Cored 800 - 1739 mbsf - 85% recovery

  Terminated due to unstable hole conditions

  Sills >10 m thick 100-200 m above basement

- **Site 1277 - alternate site**

  Drilled 80 m into a shallow basement high in oceanic crust

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

Site 1276 Challenges

- Installed 20” & 16” casing
- Reentry cone set about 7 m low, covered by sediment
- Currents 50 cm/s displacement of the drill bit up to 75 m laterally
- Top drive failures (swivel/ td shaft & crack in swivel box)
- Mud motor and underreamer failures

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

ODP Demobilization of JR

- **Transfer of permanently mounted equipment**
- **Partial demobilization**
  - **Inventory**
  - **Removed drill pipe, casing, collars, etc.**
  - **Computers and Microscopes**
  - **Equipment for refurbishment, or replacement**
- **Sailing property custodians**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

USIO Planning for IODP

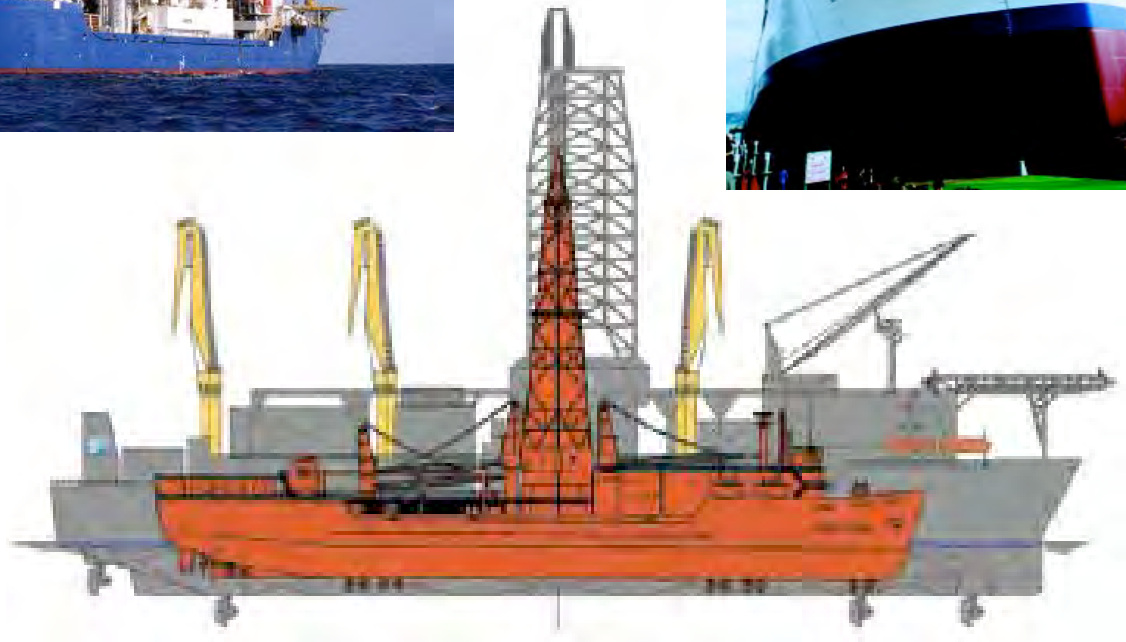
- **JOIDES Resolution will be provided to the JOI Alliance for USIO Phase 1 operations**
  - **Mobilization prior to start of Expedition 1**
- **JOI Alliance will work with NSF and IODP stakeholders to develop plans for Phase 2 vessel acquisition and conversion**
  - **Major Research Equipment and Facilities Construction (MREFC) account request is expected in NSF FY05-06 budget**
  - **Project Execution Plan (PEP) will be developed by JOI Alliance**
  - **JOI Alliance will gather input on plans as they are developed**
  - **Request for Proposals to provide and convert vessel for Phase 2**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

R/V JOIDES Resolution
Integrated Ocean Drilling Program (Phase 1)

JOI ALLIANCE

Comparison of JR and CHIKYU



INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

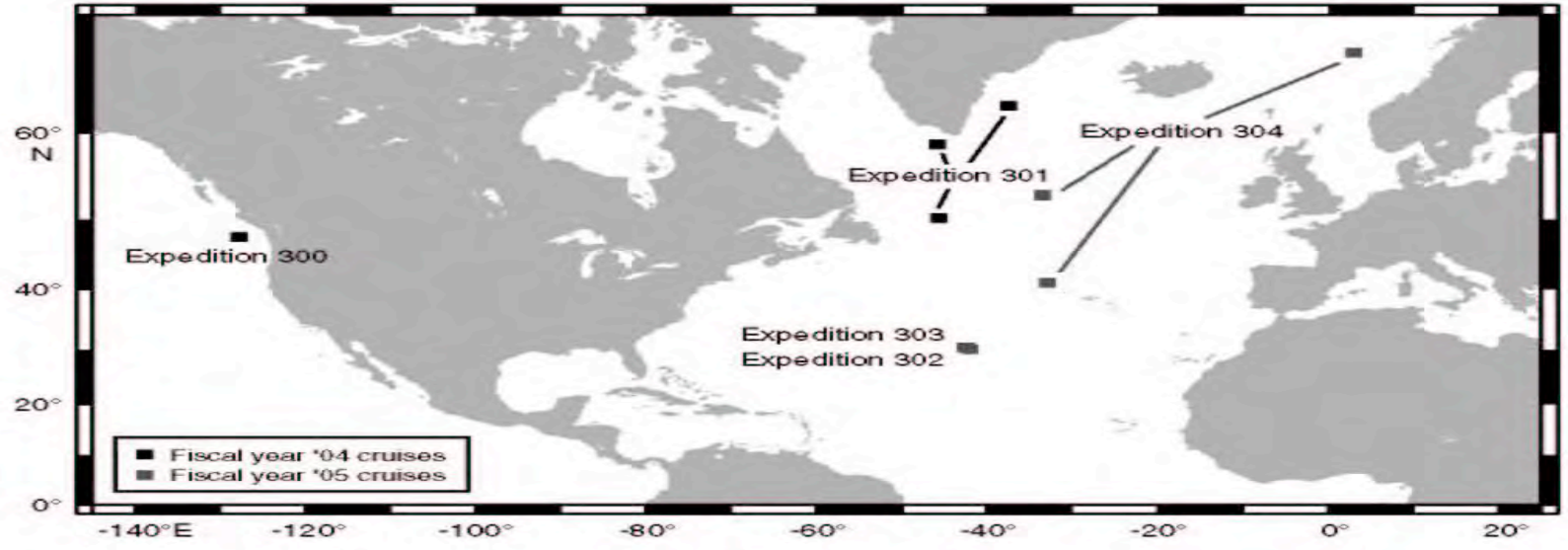
JOIDES Resolution Schedule - Phase 1

Cruise	Port (Origin)	Dates [1,2]	Total Days (Port [†]/Sea)	Days at Sea (Transit/Ops [3])	Co-Chief Scientists	Alliance Contact(s)
Transit	Pusan	1 [4]- 21 June '04	20 (2/18)	18/0	N/A	TBN
Juan de Fuca	Astoria	21 June - 29 August	69 (6/63)	11/52	TBN	TBN
Transit	Acapulco/Balboa [5]	29 August - 14 September	16 (2/14)	14/0	N/A	TBN
North Atlantic 1	Bermuda	14 September - 30 October	46 (1/45)	14/31	TBN	TBN
Core 1	Ponta Delgada	30 October - 18 December	49 (4/45)	8/37	TBN	TBN
Core 2	Ponta Delgada	18 December - 10 Feb ruary '05	54 (5/49)	8/41	TBN	TBN
North Atlantic 2	Ponta Delgada	10 February - 5 April	54 (5/49)	15/34	TBN	TBN
Transit	Reykjavik	5 April - 23 April	18 (3/15)	15/0	N/A	TBN
Demobilization	Galveston [6]	23 April - 15 May	22 (22/0)	0/0	N/A	TBN

Notes:
[1] Sh ip is scheduled to arrive 0600 hr on first day of port call.
[2] Initial cruise date reflects first day of port call; ship sails when ready.
[3] Ops = Operations (includes both on -site and between -site time).
[4] Actual start date needs to be finalized.
[5] One da y port call will take place in Balboa for refueling of the vessel.
[6] Demobilization port is to be finalized.

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

IODP Expeditions in FY04-05 on *JOIDES Resolution*



Mike Coffin (SPC Chair) presented a brief summary of the scientific objectives of IODP scheduled expeditions at the AGU IODP Town Meeting.

Expedition 1 - Juan de Fuca

- **Contingency Program**

  Cascadia Margin

- **Jurisdiction**

  Canada

- **Marine Mammals (VSP)**

- **Completed Preliminary Precruise Meeting**

- **Microbiology Program TBD**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

Expeditions 2/5 - North Atlantic

- **Weather Window**

  14 Sept. thru 30 Oct., 2004 for Expedition 2

  10 Feb. thru 5 April, 2005 for Expedition 5

- **Jurisdiction**

  Norway, Denmark, Canada, International

- **Time estimates**

  Adjusted for quadruple coring

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

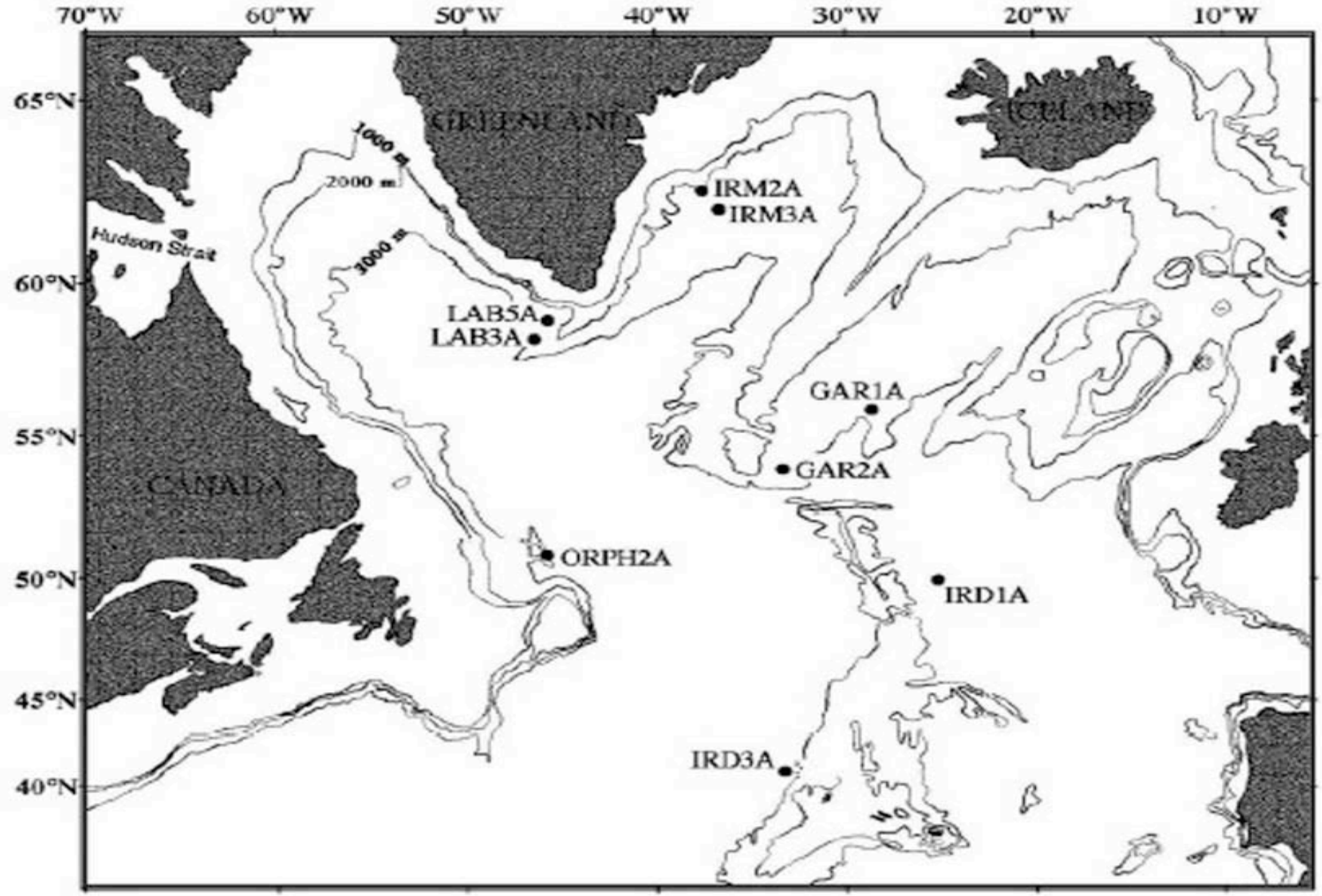


Fig. 1. Location of proposed primary drillsites

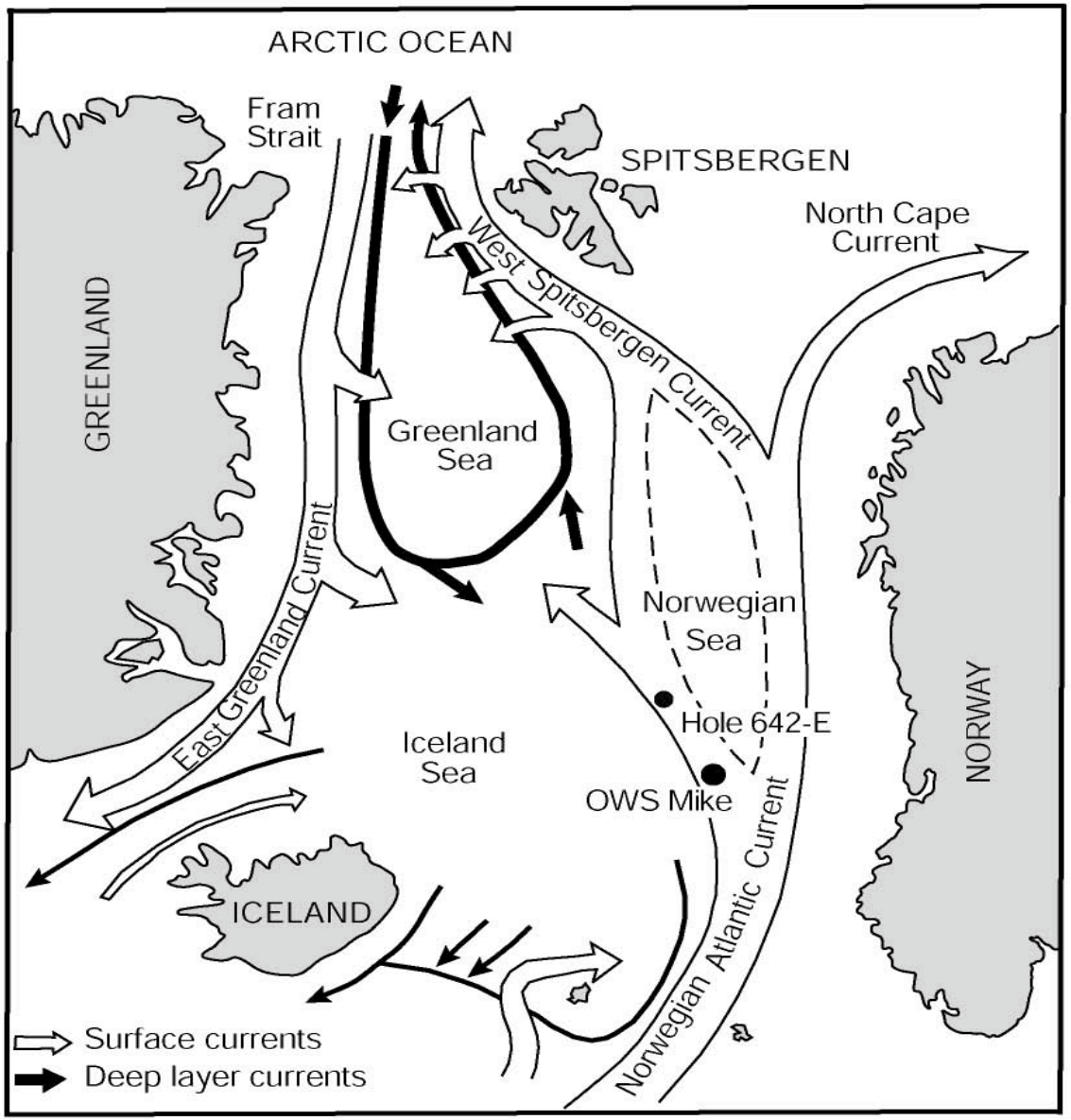


Figure 1. Location map of the Norwegian Sea and Voring Plateau showing ODP Hole 642-E and location of ocean weather ship station Mike (modified from Gammelsrod et al., 1992).

Expeditions 3/4 - CORE Complex

- **Implementation strategy to be developed at precruise meeting (TBD)**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

Other Information

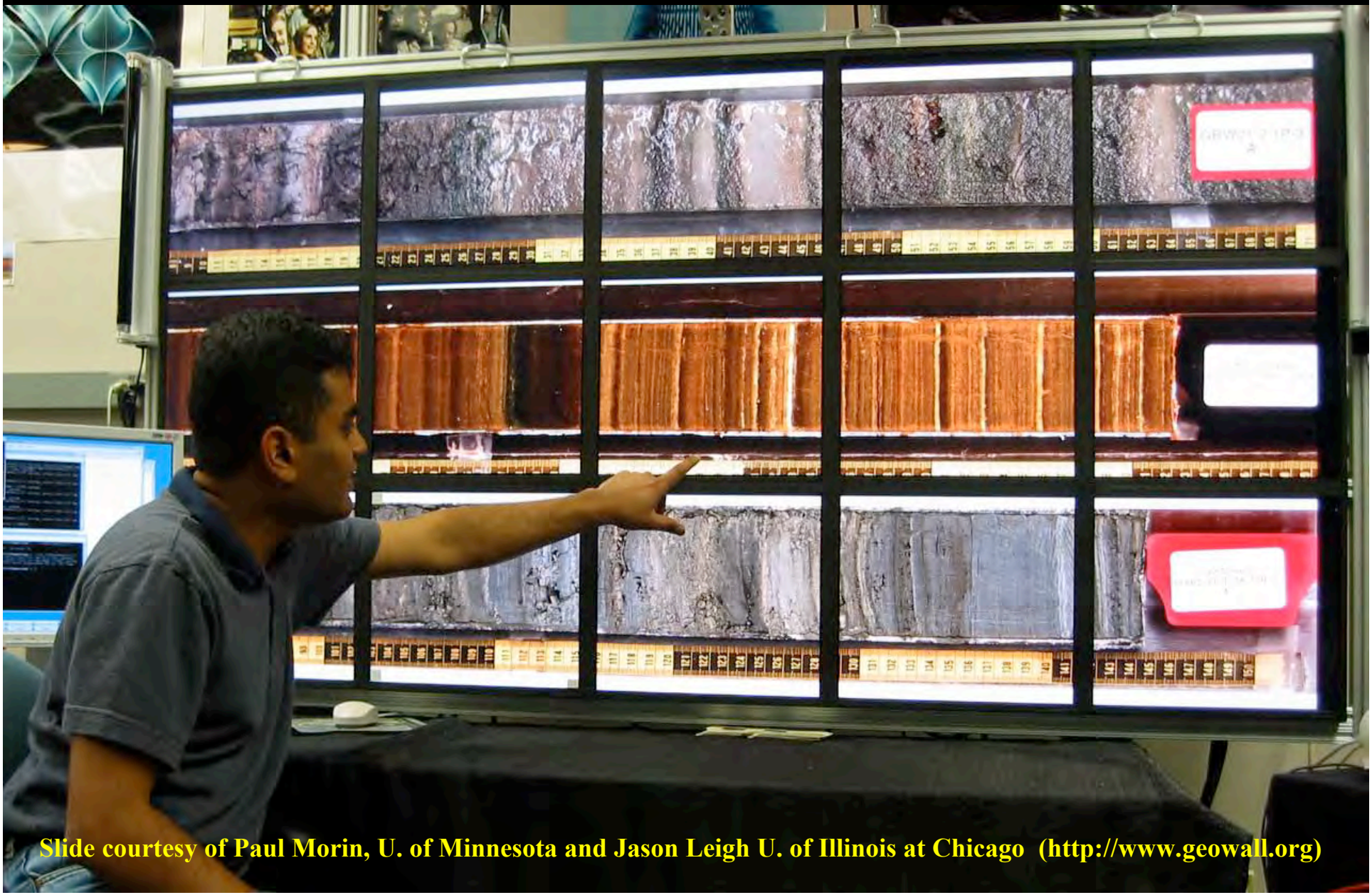
- ODP/IODP booth at 2003 Fall AGU Meeting.
- GEOWALL-2 booth at 2003 Fall AGU Meeting.
- USIO Staffing of IODP expeditions will occur soon.
- JOI Office will move to a new location next week.
- JOI Alliance staffing will continue to evolve.
- ODP Legacy activities are continuing.
- Performance Evaluation Committee (PEC) report to JOI is pending; JOI will submit response after review.

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

Geowall 2 : Extremely High Resolution Visualization

Slide courtesy of Paul Morin, U. of Minnesota and Jason Leigh U. of Illinois at Chicago (http://www.geowall.org)

Geowall 2 : Extremely High Resolution Visualization



Slide courtesy of Paul Morin, U. of Minnesota and Jason Leigh U. of Illinois at Chicago (http://www.geowall.org)


Slide courtesy of Paul Morin, U. of Minnesota and Jason Leigh U. of Illinois at Chicago (http://www.geowall.org)

Other Information

- **IMI meeting with IO's is planned for late Feb. 2004. IO's are communicating about tasks assigned after IMI Bozeman meeting and other issues for discussion.**

- **IO's will be identifying liasons and observers/guests for all SAS panels in response to SPPOC request.**

- **IO's are discussing: (1) HSE policies (Health, Safety and Environment), (2) Sharing and exchange of technical staff, (3) Sample curation and management policies, and (4) A "minimum acceptable" set of IODP data to be derived from all platforms.**

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

USIO Recommendations to SCIMP

- Request that presentations made at all prior iSCIMP and future SCIMP meetings be archived and made available to the IO's online.

- Request that IO's be allowed to provide comments and other relevant input to SCIMP (and other SAS panels) regarding working group reports and recommendations made during the interim phase between ODP and IODP. We may need a small amount of time to accomplish this task due to the large number of issues that have been discussed.

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

USIO Recommendations to SCIMP

- Request that the SAS encourage a long-range approach to expedition planning within IODP. This is critical for allowing the IO's to address a wide variety of planning issues for scheduled operations.

- Request that breakout sessions at SAS meetings be organized in a manner that allows the involvement of IO representatives. These sessions are where much of the detailed discussions take place, which are sometimes not captured in the meeting minutes.

INTEGRATED OCEAN DRILLING PROGRAM
JOI ALLIANCE

SciMP Meeting

15th-18th December 2003, Nagasaki

ECORD Science Operator (ESO) Arctic Expedition

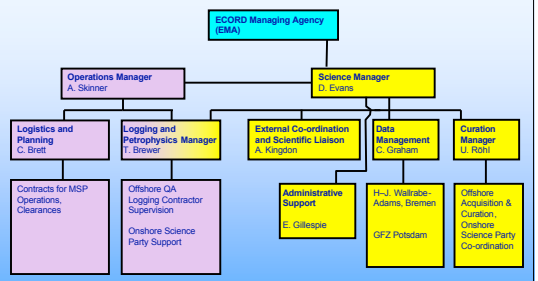
Composition of ESO

1. **British Geological Survey**
   - ESO Co-ordination
   - Operational management
   - Scientific management
   - Data management

2. **University of Bremen**
   - Management of curation and laboratory facilities
   - Onshore science
   - Provision of core repository
   - Data management services

3. **European Petrophysics Consortium**
   - Management and provision of logging and petrophysical services
   - EPC comprises:
     - University of Leicester – Co-ordinator
     - Université de Montpellier
     - RWTH Aachen University
     - Vreije University of Amsterdam

ESO Management Structure

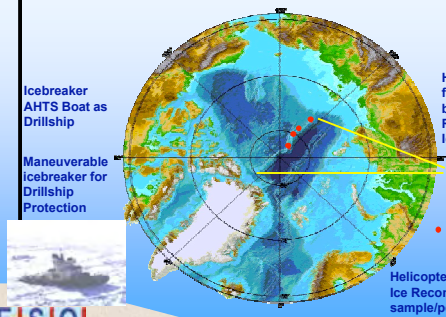


- **ESO will contract the most suitable platform for each project**

Lomonosov Ridge Expedition Objectives:

- Cenozoic paleoceanography, climate extremes and the role of the Arctic Ocean
- rapid climate change, ultra-high resolution studies are possible on Neogene sediments located at the southern limit of the proposed transect
- tectonic and structural evolution of the Lomonosov Ridge

Arctic Ocean: Mare incognito



Icebreaker AHTS Boat as Drillship

Maneuverable icebreaker for Drillship Protection

Heavy Icebreaker for Advance Ice breaking Reconnaissance & Ice Assessment

Lomonosov Ridge

- Proposed drill sites

Helicopter Support for Ice Reconnaissance, sample/personnel movements and Emergency Situations

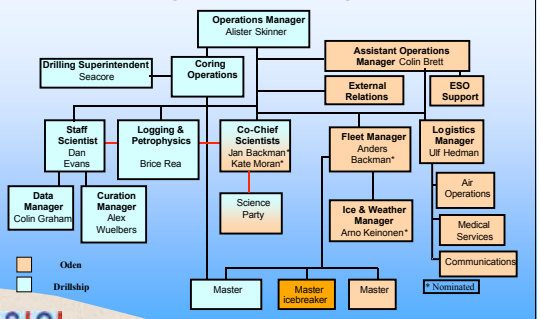
Figures courtesy of , SPRS, contractors & the proponents

Drillship

Will be equipped with:

- Moonpool 2m diameter
- Derrick with topdrive, heave compensation and all pipe handling and running equipment
- 51/2" FH API Drillstring
- 7" Drillcollars
- BGS Corebarrel System
- Core Curation and inspection facilities
- Petrophysics and Logging facilities
- Safety Monitoring

Arctic Drilling Operations Management Structure



Clearances

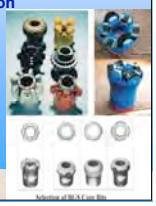
- The entire coring programme is in international waters so no official clearances or permits are required for drilling
- SPRS have joined the Northern Sea Route Alliance which will facilitate use of Russian waters and emergency contingencies
- Many Arctic organisations and interest groups need to be informed about the project and this will be done under SPRS auspices

Health, Safety and Environment

- All operations in the remote High Arctic must be carried out to the highest standards
- The proposed IODP statement on the conduct of operations with due regard to the environment shall form the baseline for any requirements in any area of work.
- The ESO will operate to its own set of guidelines that will follow established NERC/BGS Health and Safety Policy.
  - These will be integrated with the IODP Health and Safety Policy and the specific vessel ISM requirements.
  - In the event of all encompassing policies having different standards, the highest practicable will always be used.
- All personnel shall have, as a minimum, successfully completed a recognised offshore survival course and a medical.
- Ship-specific guidance notes will be developed by ESO and provided to all participants.
- Comprehensive medical facilities, including a doctor, will be available on Oden.
- A MEDIVAC plan will be developed to include emergency long-range helicopter evacuation.

Coring Equipment

- outer core barrel - 178 mm (7") OD and 5m long, accepts bit diameters from 191mm (7.5") upwards and all inner barrel systems
- outer barrel core bits - range of outer barrel bits with 98mm (3.86") ID and 242mm (9.5") OD. All made to suit specific lithologies; insert bits can make them drill bits; new bits being manufactured will have a smooth ID to avoid abrasion on protruding inner barrel systems
- core length is 4.5m, push samples ≤4.5m.
- all inner barrels can be run with an inbuilt non-return valve to assist with gas escape prevention
- a 'latch-in' indicator is under review
- piston corer is in the design/build phase:
- ODP design but no orientation and 4.5m long
  - testing – February 2004
  - Trials onshore/?offshore March-May
  - Available for operations June 2004



Drilling Operation

- Non-riser and non-seabed template operation
- ODP 'JR' style operation but with much less robust derrick capability in terms of draw-works, hook loading and dynamic capability
- Therefore:
  - Drill with biodegradable polymer mud to keep hole in good condition by removing cuttings in suspension
  - Minimise pump and flushing rates to reduce hole enlargement
  - Avoid extended reaming sequences to 'condition hole for logging'

Gas Monitoring

- Required for safety of Vessel while coring
- Evaluate each core run for gas content
- Evaluate composition of gas, if any detected
- Ascertain whether CO_2, H_2S, CH_4, etc.
- Ascertain C1/C2 ratios of hydrocarbons
- Procedures and requirements being checked by Operator and discussion with PPSP on what is 'safety' and what is 'science data'. Safety can be monitored with a variety of equipment. Science data can be captured using standard oilfield techniques and analyses carried out onshore

Ice Management

Real time GPS stations on ice

Real time monitoring on the bridge

Swedish Polar Research Secretariat
Box 5003, 10405 Stockholm, Sweden
www.polar.se

On site operation

5-50 deg up ice sector

Ice drift 0,3kts = min distance 1-3 Nm. if T- time is 2.5 hrs

Swedish Polar Research Secretariat
Box 5003, 10405 Stockholm, Sweden
www.polar.se

Fleet and Ice management

Fleet manager
- Tactical management of the fleet:
- Clearance to drill
- Coordination of IB support

Ice manager
- Ice prognoses
- Alert for ice situations
- Coordination of IB support
- Risk assessment
  - Unacceptable ice
  - Time for this
  - Risk for shutdown
  - = T-time alert

Guidance
- Green alert: T-time + >4 hrs
- Yellow alert: T-time + <4 hrs
- Orange alert: T-time + <1 hrs
- Red alert: T-time 2.5 hrs

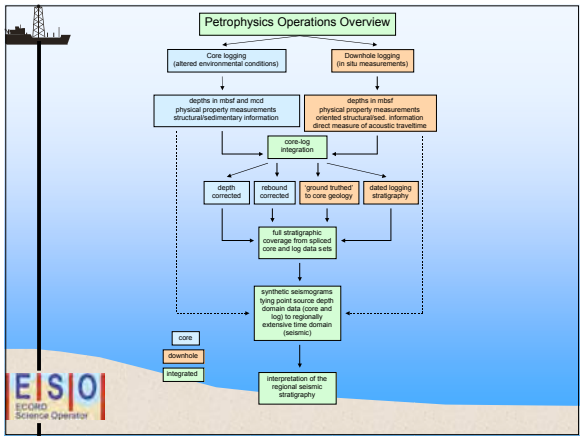
Swedish Polar Research Secretariat
Box 5003, 10405 Stockholm, Sweden
www.polar.se

Communications

- Information - maps & information via Iridium and exclusive VHF channels (for ship-to-ship)
- Information transfer : real time & continuous
  - DP data
  - Machine data
  - Radar data
  - Maps, Ice info

Land Support

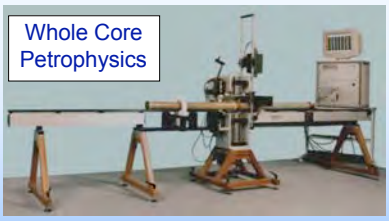
- Russian agent (INTAARI): helicopter backup & emergency; VIP visitors?
- Ice & weather evaluation group at home to assist with ice images
  - Site images Radarsat every 3 days
  - Other pictures
  - Picture editor, preparation of pictures
  - Cutting and downsizing
- Medical support from Russia (Medivac)



Petrophysics: Core & Downhole Logging

Core logging

- At sea
  - part or all of the standard MST whole-core suite
  - time and signal issues
- In Bremen
  - additional/repeat whole-core
  - thermal conductivity
  - split-core
    - colour scanning
    - p-wave
- discrete sample - index properties



	PC	XCB	RCB
p-wave velocity	II	∠	∠
gamma density	II	~	~
magnetic susceptibility	II	II	II
electrical resistivity	II	∠	∠
gamma spectroscopy	II	II	II

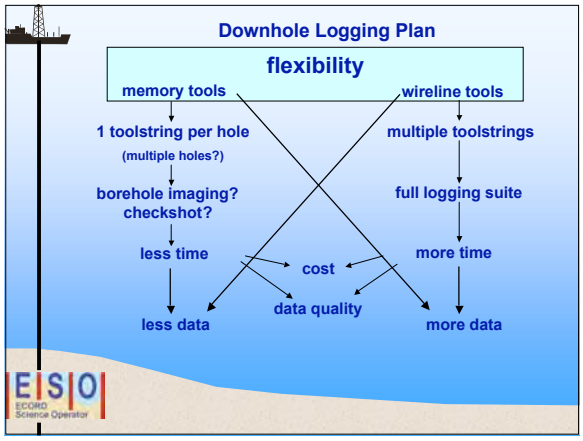
Downhole Logging

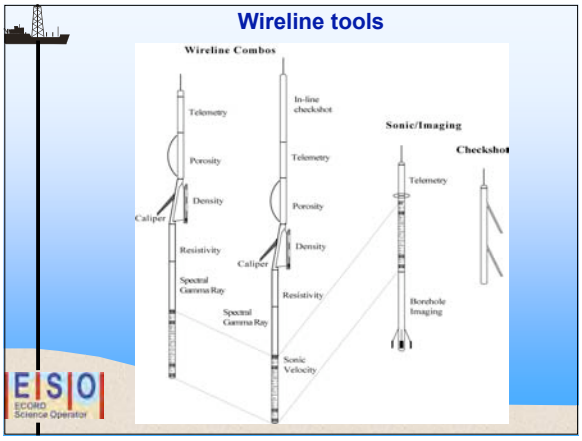
Minimum downhole logging suite

- borehole diameter
- density
- porosity
- velocity
- resistivity
- spectral gamma ray
- temperature

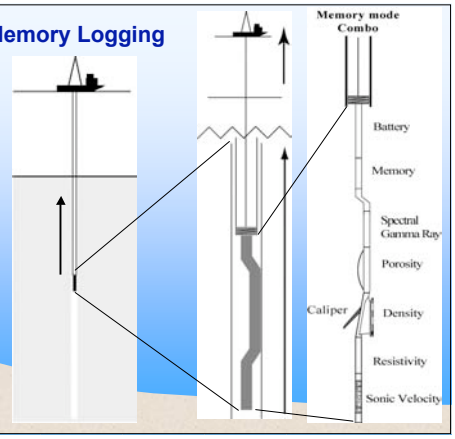
Additional downhole measurements

- Checkshot (including in-line options)?
- high-resolution, oriented, borehole wall imagery





Memory Logging



Logging times and other options

Site	Latitude (N)	Longitude (E)	Water depth (mbsl)	Penetration depth (mbsf)	Total depth (mbsl)	Logging times (h)*	Hole Prep. (h)	Total (h)
LORI-13A	87°39.45'	144°37.80'	1070	500	1550	27.5		
LORI-06A	81°28.54'	140°50.71'	802	650	1202	30.8		
LORI-04A	85°23.28'	150°20.62'	794	200	994			
LORI-05A	83°58.90'	147°25.02'	989	400	1389	25.6		
LORI-10A	86°24.89'	147°15.56'	1132	400	1532	26.0		

* Logging times are based on ODP time estimates. The estimates are for three toolstrings, measuring borehole diameter, density, porosity, resistivity, spectral gamma ray, temperature, (TC); velocity and borehole imagery, (FMS-sonic); and a checkshot survey (WST) (7hrs)

- BGS corebarrel runs APC/XCB/RCB in the same BHA

Drillship Operations and constraints

- Deck space for only 4 x ESO 20-foot containers
  - Drilling workshop
  - Curation
  - Petrophysics, including MST
  - Core storage
- Only 18 'Contractor, ESO and scientific' berths on drillship
  - This is after arranging temporary accommodation in hospital and gym
  - No space for additional temporary accommodation on deck
  - 9 are required for drillers, 9 for ESO and Science Party

Close Support Ship Options

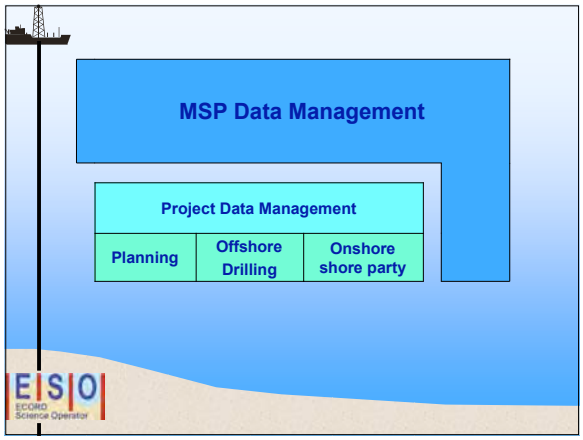
- Many berths, with abundant lab and container space available on Oden
- It will generally be possible for Oden staff to cross to the drillship by helicopter for short visits
  - Can't be guaranteed for operational or weather reasons
  - Therefore drill ship staff must be able to cope with basic priorities

Drillship Science Work Plan

- Core recovery and gas monitoring
- Basic curation, labelling and description of core
  - Shoe-sample for micropalaeontology and lithological analysis - transferred to Oden on regular basis
- Downhole logging
- MST logging
- Core storage
- Stratigraphic correlation
- Shoe-samples provide:
  - pore waters or other analyses that require immediate sub-sampling
  - Freezing of microbiology samples ?
  - Further discussion required
- Associated data management of all activities

Oden Science Work Plan

- micropaleontology preparation and analysis
- sedimentology
- ? microbiology
- stratigraphic correlation
- data management centre
- cruise report preparation and compilation centre
- others ?



Offshore Drilling Phase

- Data capture = Drilling Information System (DIS)
- Captures operational and scientific data - data being captured on both the drill ship and the support ship
- Single stand-alone laptop to a multi-client/server network with automatic data inputs from sensors and laboratory equipment
- DIS is configured for each individual project – operational, drilling, scientific (including downhole logging)
- Data transfer and access to data on both ships
- Data centre on the support ship with client systems on the drill ship
- Advice from GFZ on options and configurations
- Acquire hardware/software and configure the DIS and other onboard systems
- Test systems and train users

Onshore Phase

- Continue DIS population
- Integrate measurements and interpretations
- Transfer data to Bremen Core Store and Pangaea
- Transfer downhole measurements data to IODP repository
- Transfer site-investigation data to IODP repository

Science Party

- Offshore Science Party
  - Only a portion of the Science Party
  - August-September 2004
- Onshore Science Party
  - Is the true 'Science Party' with associated privileges and obligations under IODP Principles
  - Offshore Party will also participate
  - November 2004 in Bremen
  - This is the main locus of scientific work; end is the start of the moratorium period

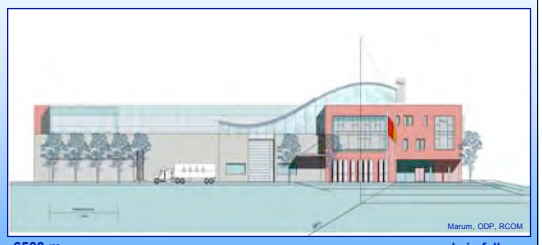
Onshore Science Party

- Will be held in Bremen about 5 weeks after the end of the cruise
- Total Party estimated to number 24 (?)
  - Includes those on Offshore Party
  - 33% each from ECORD, US and Japan
- Accommodation, subsistence and local travel paid by ESO
- Duration of Party uncertain until after offshore work

Onshore Science Party

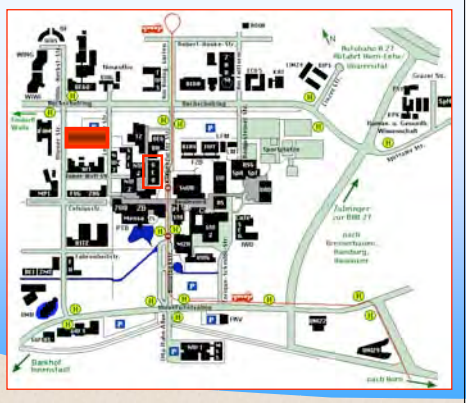
- Ground rules will be put in place to ensure '*ODP offshore discipline* ' in onshore situation
- Scientific requirements not yet fully discussed with proponents, but will aim to provide IODP 'Minimum measurements' (under construction)

Bremen Core Repository: New building on University Campus

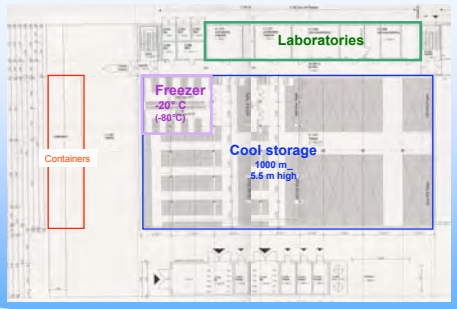


6500 m_
2004

ready in fall



New core repository



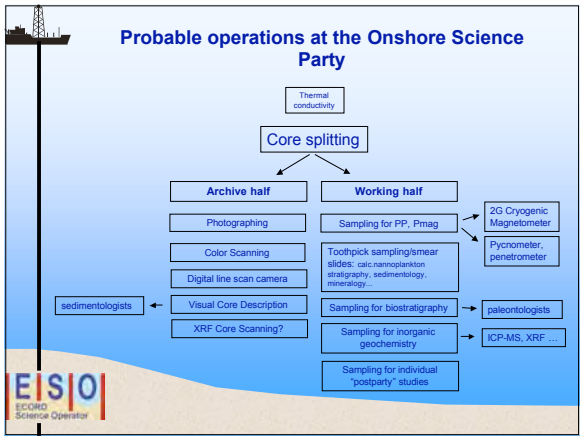
December 10, 2003

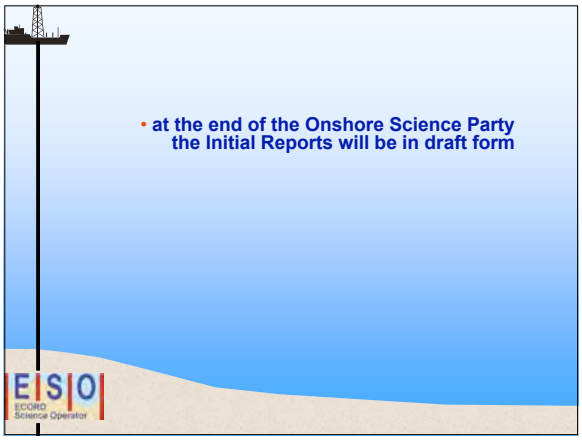
Bremen Core Repository (BCR)
- 9 years of service and science -

- Reefer space 750 qm
- Office/lab space 162 qm
- Legs stored 28
  Atlantic Ocean, Caribbean & Mediterranean Seas, south of 60° S
  - with total core length 74,604 m
  - with total sections (A/W) 106,317 pc.
  - Related residues stored >55,000
- All thin sections, smear slides & chemistry samples for all 28 Legs stored
- Requests completed 1,164
- Samples distributed 305,322
- Visitors welcomed 1,459

- Geosciences Department
- Research Center for Ocean Margins (RCOM)
- Centre for Marine Environmental Sciences (MARUM)

- Onshore Laboratories
  -- e.g., Core handling, description, micropaleontology, geochemistry, paleomagnetics, physical properties, stable isotopes
- Core-logging facilities (XRF scanners, MSCL, GEOSCAN)
- Offshore Laboratories (Core curation, splitting, storage)
- GeoB repository
- Micropaleontological Reference Center (MCR)
- World Data Center for Marine Environmental Sciences (WDC-MARE) PANGAEA Network
- ODP Mirror Site


Probable operations at the Onshore Science Party
Thermal conductivity
Core splitting
Archive half
Working half
Photographing
Color Scanning
Digital line scan camera
Visual Core Description
XRF Core Scanning?
sedimentologists
Sampling for PP, Pmag
Toothpick sampling/smear slides: calc.nannoplankton stratigraphy, sedimentology, mineralogy...
Sampling for biostratigraphy
Sampling for inorganic geochemistry
Sampling for individual "postparty" studies
2G Cryogenic Magnetometer
Pycnometer, penetrometer
paleontologists
ICP-MS, XRF ...
ECORD Science Operator


• at the end of the Onshore Science Party the Initial Reports will be in draft form
ECORD Science Operator

Cuttings issues

- Recognizing availability and limitation
  - Depth error, chip size, etc
- Sampling interval and volume
  - 5 m, 200 cc (routinely and flexibly)
- Distribution to labs on Chikyu (as requested?)
- Description and measurements
  - Paleontology, Sedimentology, Petrology
  - Petrophysics? Microbiology?
- Sample archiving
  - washed and dried conditions
- Data archiving
  - All cuttings data should be stored with cuttings sample ID

Physical Properties of Cuttings
and their use for IODP

The suitability of drill cuttings for physical properties measurements depends mainly on the kind of drill bit used:

- roller cone bit: large cuttings, well suited
- diamond bit: small cuttings, limited suited
  (in extreme case only drill mud available)



Physical Properties of Cuttings
and their use for IODP

Physical properties measurable on cuttings,
sampling interval, and amount of cuttings material needed:

	density	gamma ray	suscep-tibility	thermal conductivity	p-wave velocity
sample interval (m)	2	5	2	10	10
amount of cuttings (g)	30-130	300	5 samples of each 15g	250	large pieces

In general, cuttings have to be washed, sieved and dried.
Fine fraction is used for gamma ray measurements, coarse fraction for all other measuements

Physical Properties of Cuttings
and their use for IODP

Density

- rock typing, base for other measurements
- **Archimedian method**: weight dry and in water, cuttings greater than 2 mm.
  Air absorbed by large surface of cuttings causes errors in the calculated volume. Therefore the specific surface of the cuttings has to be minimized by using only cuttings greater than 2 mm (sieving!).

Physical Properties of Cuttings
and their use for IODP

Natural Gamma Ray Activity

- quick production of a first gamma ray log: lithology
- quantitative determination of K, U, and Th
- calculation of heat production
- correlation to log and core measurements

HP-Ge semiconductor Germanium detector (3" x 3" size):
higher resolution than NaI detector, shorter measuring time.
The following peaks may be used for full spectrum evaluation:
Pb-214 (351.2 keV), Bi-214 (609.31 keV), Tl-208 (860.56 keV), Bi-214 (1120.29 keV), K-40 (1460.83 keV).
Calibration against standards.
Background radiation has to be taken into account (measurement in lead chamber).

Physical Properties of Cuttings
and their use for IODP

Magnetic Susceptibility

- correlation to log and core measurements, lithology, facies
- measured by an **inductive device** (i.e. Bartington):
  very quick and reliable, high resolution
- high readings have to be controlled, abraded metallic material from drill bit or collars has to be removed (i.e. hand magnet)
- for better statistics: 5 samples average

Physical Properties of Cuttings
and their use for IODP

Thermal Conductivity

- rock typing, heat flow
- transient heat flow method: measured by a **half space line source**. Cuttings are mixed with water and then pressed together by the plexiglass block containing the needle probe (half space line source). This measurement yields the geometric mean of the thermal conductivities k in a two-phase mixture model.
- Density of the sample has to be known.

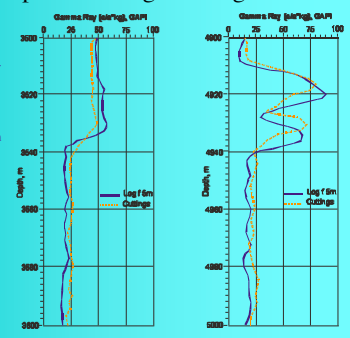
Physical Properties of Cuttings
and their use for IODP

P-wave velocity

- rock typing, seismic velocities
- only large cuttings can be used for measurements with a high frequency **ultrasonic device**. I.e. for cuttings pieces of 3 mm in size, a frequency 3MHz has to be used.

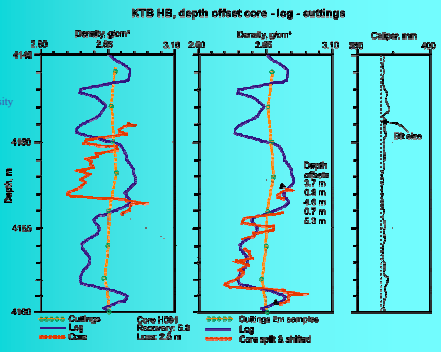
depth offset log - cuttings

Example for GR cuttings measurements from KTB. For the GR measurements the small grain size fraction of the cuttings was used. Besides the smoothing effect of the cuttings samples and the depth shift, a good correlation between GR log and cuttings can be seen.



Cuttings: 2m samples, GR log 6“ samples, 5m filter

Example of log-core-cuttings comparison for density measurements



Cuttings: 2m samples, GR log 6“ samples, 5m filter

Physical Properties of Cuttings
and their use for IODP

Conclusion

- cuttings can be used for physical properties measurements of density, gamma ray, magnetic susceptibility, thermal conductivity, and p-wave velocity.
- results depend on size of cuttings (kind of drill bit).
- good correlation to downhole logging.

Paleontology Working Group Report

SciMP Meeting in Nagasaki,
15-18 December 2003

Yoshiaki Aita

Recommendation approved by SPC

- Recommendation 03-01-5: iSciMP recommends to iPC acceptance of the **Paleontology Working Group** report, and requests iPC distribute it to the IO's and IMI as soon as possible. The full report of the WG is found in Appendix 7 and includes descriptions of measurements to be made on platforms and shorebased laboratories, curatorial issues, and other topics.
- Specific recommendations of the Paleontology WG are oriented towards how to best incorporate the skills and expertise provided by the **Micropaleontological Reference Centers (MRCs)** as well as potential development of a new sample processing scheme for routine use. This resulted in the following recommendation:
- **A.** That the iSciMP populate an ***ad hoc* Working Group** that would meet once to discuss these multiple issues. Analogous to the former Microbiology WG and Database WG, the *ad hoc* group would be composed of 8-10 US, Japanese, and European experts and would provide a final set of recommendations to iSciMP for consideration at their Nagasaki meeting. Proposed co-chairs are Yoshiaki Aita and Ellen Thomas, with potential members tentatively including M. Knappertsbusch, B. Huber, N. Suzuki, M. Iwai, plus others.

Micropaleontology

IODP, SciMP

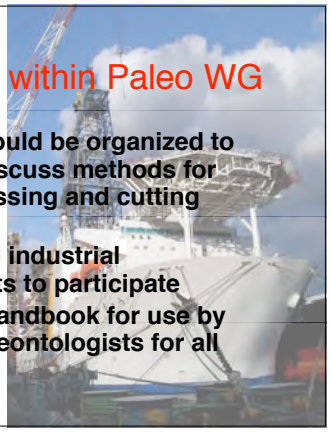
TASK

- Shipboard routine measurement
- MRCs activity in IODP
- Workshop for a new sample treatment in a riser ship
- Use/curation/storage/labeling of core cuttings samples
- Shipboard paleontology database system

ad hoc **Paleo Working Group**

- Ellen Thomas
- Yoshiaki Aita
- Brian Huber
- Mark Leckie
- Michael Knappertsbusch
- David Lazarus
- Masao Iwai
- Noritoshi Suzuki
- Felix Gradstein

Consensus within Paleo WG



- **Workshop should be organized to outline and discuss methods for sample processing and cutting handling**
- **Academic and industrial paleontologists to participate**
- **Deliverable: handbook for use by shipboard paleontologists for all platforms**

Proposed Paleo WG Meeting

- **Paleontology Working Group Meeting** under IODP-SciMP
- When: **March 15-16, 2004**
- Host: **Brian Huber**
- Where: **Smithsonian National Museum of Natural History**, Washington, DC, US

Paleo WG member list

- **Paleo WG members**
- **Ellen Thomas** US, Wesleyan University
- **Brian Huber** US, Smithsonian National Museum of Natural History
- **Mark Leckie** US, Univ. of Massachusetts, Amherst
- **Michael Knappertsbusch** Switzerland, Natural History Museum Basel
- **David Lazarus** Germany, Natural History Museum Berlin
- **Yoshiaki Aita** Japan, Utsunomiya University
- **Masao Iwai** Japan, Kochi University
- **Noritoshi Suzuki** Japan, Tohoku University
- **Felix Gradstein** Norway,Museum for Geology and Paleontology University of Oslo
- **Guest**
- **Eduardo Koutsoukos** Brazil, PETROBRAS-CENPES

Draft Agenda for Paleo WG Meeting

- Overview of standardization of shipboard measurements -Paleontology
- Outline the new sample treatment on a riser ship
- Overview of standard treatment of samples in oil industry
- Overview of core cuttings in oil industry
- Use /curation/storage/labeling of core cuttings samples in IODP
- Discussion on the treatment and handling of core cuttings on a riser ship
- Summaries of core cuttings

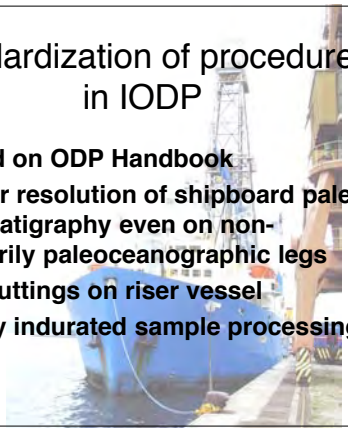
Draft Agenda for Paleo WG Meeting

- MRCs incorporation into IODP
- Offers from MRCs to IODP
- Digital image atlases and stratigraphic database for IODP platforms
- Overview of CHRONOS project
- Overview of shipboard paleontology databases on "Chikyu" vessel
- Review of IODP database system trial
- A new handbook of Paleontolgy for IODP

Paleo WG Recommendations to SCIMP

- **Request that Paleo WG Meeting in March be endorsed by SciMP**
- **Request that *ad hoc* Paleo WG be allowed to work on further several months for completion of the final report to SciMP**
- **Request that the proposal by MRCs with *ad hoc* Paleo WG's agreement be approved by SciMP**

Standardization of procedures in IODP



- **Based on ODP Handbook**
- **Higher resolution of shipboard paleo-biostratigraphy even on non-primarily paleoceanographic legs**
- **Use cuttings on riser vessel**
- **Highly indurated sample processing**

Future procedures

- **On all legs (even if only 1 specialist onboard) 2 samples/core (at least)**
- **Paleo technician needed to help in sample preparation; knowledgeable in sample processing methods**
- **Integrated processing of indurated samples (flow chart)**
- **Sample preparation equipment: need orbital shaker**

Use of cuttings:

- **Use of cuttings to be decided by chief scientists before leg**
- **Cutting containers/cleaning materials**
- **Database system must have entry possibility for cuttings**
- **Training cruise: test procedure for use/study of cuttings**

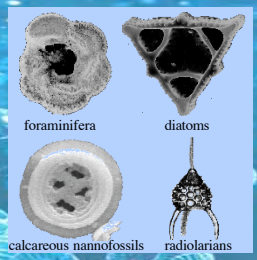
ODP procedures

- **'Paleoceanographic legs': little indurated sediments**
- **2 specialists for each common microfossil group - 24 hour coverage**
- **CC plus 1-6 additional samples/core for forams, diatoms, rads, critical intervals**
- **CC plus 6 additional samples/core nannos**

MICROPALEONTOLOGICAL REFERENCE CENTERS

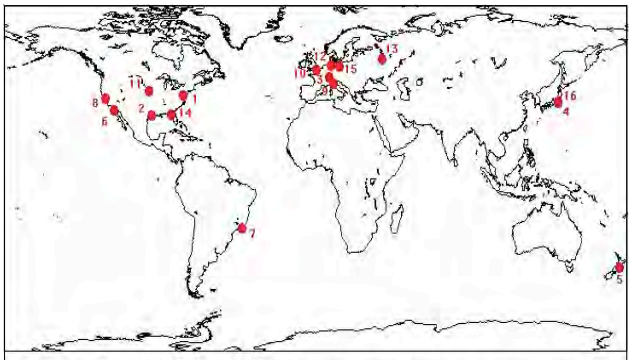
MRC

http://www-odp.tamu.edu/mrc/mrcpage.HTML



- Select
- Prepare
- Curate

MRC sample preparation



Complete MRCs - 1: U.S. National Museum, 2: U.S. Gulf Coast, 3: Western Europe (Basel), 4: Japan (Tokyo), 5: New Zealand. Satellite MRCs - 6: U.S. West Coast, 7: Brazil, 8: California, 9: Italy, 10: England, 11: U.S. Midwest, 12: Germany (Bremen), 13: Russia, 14: U.S. East Coast, 15: Germany (Berlin), 16: Japan (Utsunomiya).

MRCs

Natural History Museums and research institutions for long term curation and public science education

COMPLETE MRCs:

- US National Museum
- US Gulf Coast(TAMU)
- Western Europe (NHM,Basel)
- Japan (NSM,Tokyo)
- New Zealand(GNS)

SATELLITE MRCs:

(1-2 fossil groupsn)

- US West Coast
- Brazil
- California
- Italy
- England
- US Midwest
- Germany (Bremen)
- Russia
- US East Coast
- Germany (Berlin)
- Japan (Utsunomiya)

Formal integration of MRC's into IODP

- MRC's propose to become incorporated in the structure of the "IODP Information Services Center" (ISC),
- either as a separate subgroup "MRC's"
- or possibly under the subgroup "Curation".

FUTURE: Offers from MRC

- MRCs functions include IODP legacy sites as well as biogeographic and type sampling
- MRCs are a repository for orphaned, unused or retired microfossil collections from ODP
- MRCs are ready to receive drilling mud samples in IODP representing any intervals not previously cored

FUTURE: Offers from MRC

- MRCs serve as coordination platform for micropaleo database projects (Neptune, Chronos), fossil dictionaries,and paleoceanographic reconstruction tools for IODP development
- MRCs provide expertise and undertake to construct digital image atlases and stratigraphic databases for all IODP platforms

Basic Needs to support MRCs:

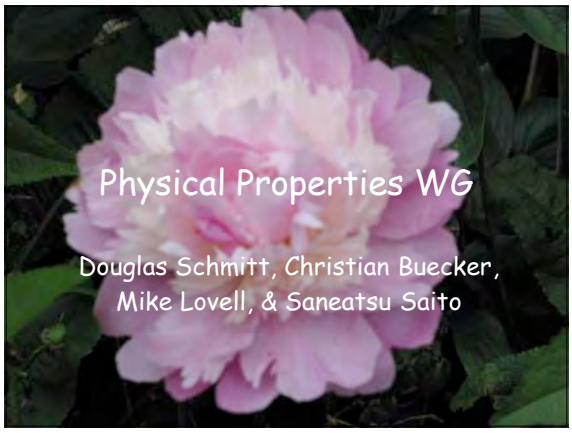
- **Funding support for MRCs to coordinate/organize/attend sampling/strategy meetings(1/year);**

~ US$10,000.-

- **Access to IODP core material and data for selection of reference samples**
- **Sets of IR/SR publications**
- **Liaison paleontologist to 'SciMP'**

MRC sample overview

Map of Radiolarian MRC Hole locations



Introduction

- Physical Properties WG June 2002 iSciMP College Station, Texas
- to address physical property measurements in the context of IODP

Introduction

- Report based on work during 2002-03
- But still evolving…

- focus 1…
  - re-evaluate the current physical property measurements, both shipboard and onshore
- focus 2…
  - to explore new directions for pp measurements

Overview - 1

- Porosity ϕ
- Permeability k
- Mineral & Fluid Composition, & Texture
- Fluid Saturation S
- Density ρ
- Moisture content
- Magnetic Susceptibility
- Dielectric Constant

Overview - 2

- Elastic Wave Speeds -V_P and -V_S
- Deformation Properties
- Natural Radioactivity
- Electrical Resistivity/Conductivity
- Thermal Conductivity
- Magnetic Resonance
- Reflectance spectrophotometry and colorimetry

Why phys props?

Good question?

Any answers?

Overview - 1

- Porosity ϕ □ fundamental property*, core/log
- Permeability k - fluid processes
- Mineral & Fluid Composition, & Texture
- Fluid Saturation S – gas/liquid phases
- Density* ρ □ seismic integration
- Moisture content
- Magnetic Susceptibility- palaeo-oceanography
- Dielectric Constant

Overview - 2

- Elastic Wave Speeds: V_P and V_S - seismics
- Deformation Properties
- Natural Radioactivity - core/log integration
- Electrical Resistivity – pore waters (inc. Chemistry)
- Thermal Conductivity - heat flow
- Magnetic Resonance
- Reflectance spectrophotometry and colorimetry - high resolution stratigraphy

Current status - 1

Current physical property measurements include:

- Core Logging
- Whole Core Multi-sensor track
- Split Core Logger
- Discrete Measurements on whole or split core
- Measurements on extracted core samples
- Measurements on rock cubes or cylinders

Current status - 2

- Whole Core Multi-sensor track (WC-MST)
- Density via Gamma Ray Attenuation Densitometry (WC-GRA)
- Magnetic Susceptibility (WC-MS)
- Natural Gamma Radiation (WC-NGR)
- P-wave velocity logger (WC-PWL)

Current status - 3

- Split Core Logger A
- Diffuse Color Reflectance and Colorimetry
- Magnetic Susceptibility
- Line-scan color imaging

Current status - 4

- Split Core Logger B
- Density via Gamma Ray Attenuation
- P-wave velocity logger
- Resistivity – not fully implemented

Current status - 5

Discrete Measurements - whole or split core

- Thermal Conductivity
- P-wave velocity on split core
- Shear strength on split core
- Measurements on extracted core samples (e.g. permeability)
- Moisture and Density
- P-wave velocity on rock cubes or cylinders

Plan for PP Measurements

- **Suggested Minimum Measurements Mandatory – ALL PLATFORMS** ???
- density
- magnetic susceptibility
- P-wave logging (on soft sediments)
- natural gamma radiation
- resistivity - noncontact induction technique

Supplemental PP Measurements Riser (and Non-riser)

- Whole core MSCL with:
- Gamma Ray Densitometry (GRA)
- Magnetic Susceptibility
- P-wave logger
- Electrical Resistivity

Supplemental PP Measurements Riser (and Non-riser)

•Porosity evaluator

(GRAPE, this refers to the estimation of porosity from density measurements using an assumed grain density)

Supplemental PP Measurements

- Natural Gamma Ray Spectrometer
- Digital Image MSCL – color line scanner
- Split Core MSCL
- P-wave logger
- Magnetic Susceptibility
- Electrical Resistivity

Supplemental PP Measurements

- Cuttings measurements
- Density
- Susceptibility
- Gamma ray
- Thermal conductivity

Supplemental PP Measurements

- Color Spectrometer
- XRF Core Logger
- Laser Particle Analyzer
- X-ray system, soft x-ray camera
- Thermal conductivity system (contactless, new infrared system)
- Pycnometer (density and porosity)
- XRD – mineralogic composition

Supplemental PP Measurements

- Discrete P-wave, resistivity,
- and perhaps S-wave measurements too
- for lithified core sampled in small pieces and for calibration check measurements against MST and other labs

Supplemental PP Measurements MSPs

- Space…?

1. Safety
2. Drilling decisions
3. Ephemeral properties

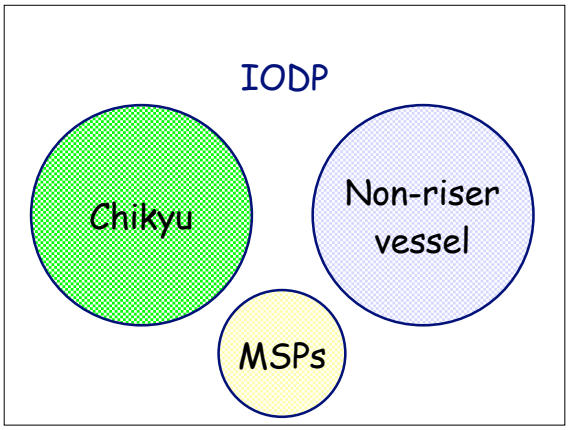
- Priority order

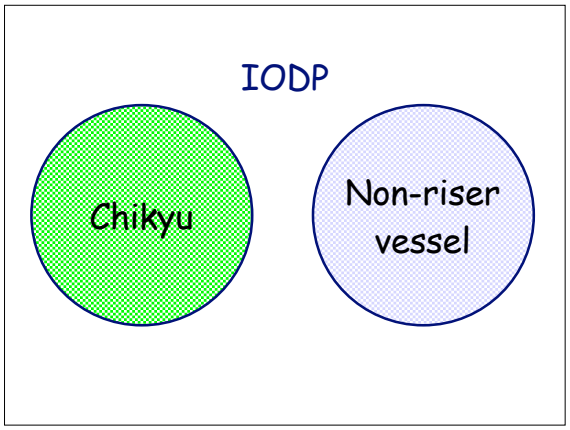
Supplemental or Advanced PP Measurements – Land Based

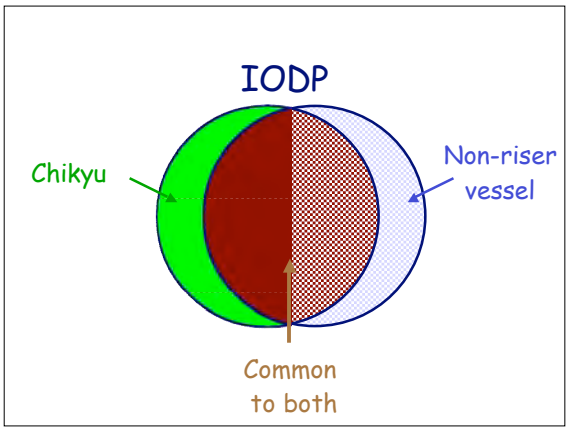
- Geotechnical properties
- Permeability
- Imaging…
- NMR T2 pore size etc.

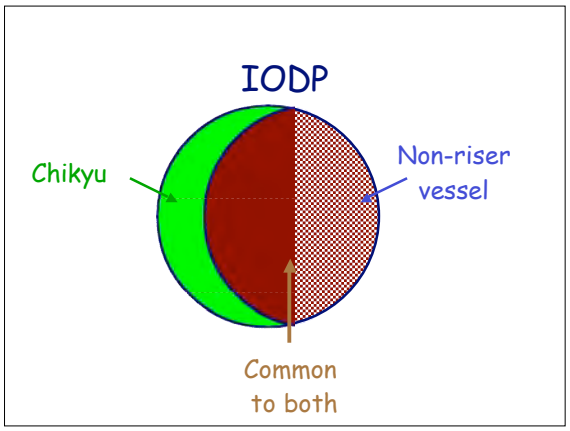
So… where to next?

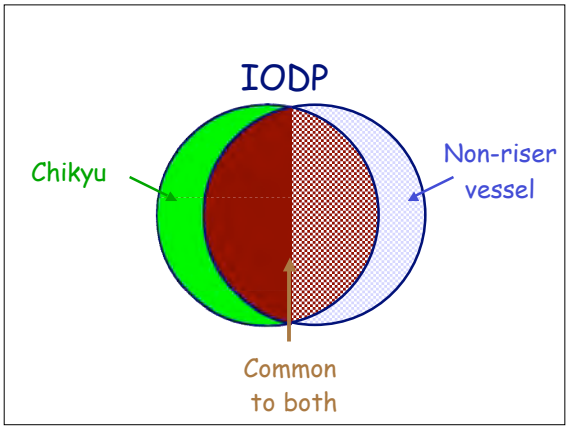
- essential versus desirable strategies ?
- matrix of scenarios constructed based on platform versus science ?
- Chikyu – cuttings… extra data

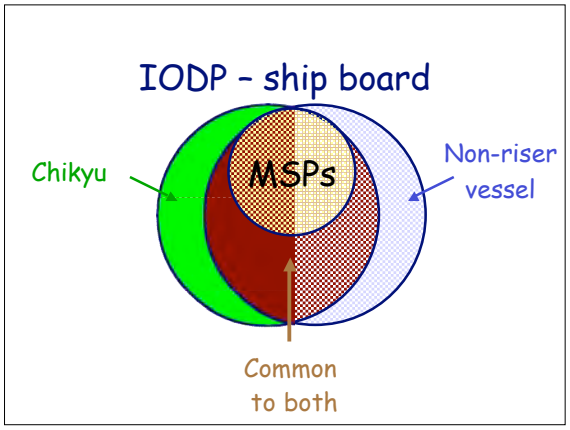

IODP
Chikyu
Non-riser vessel
MSPs

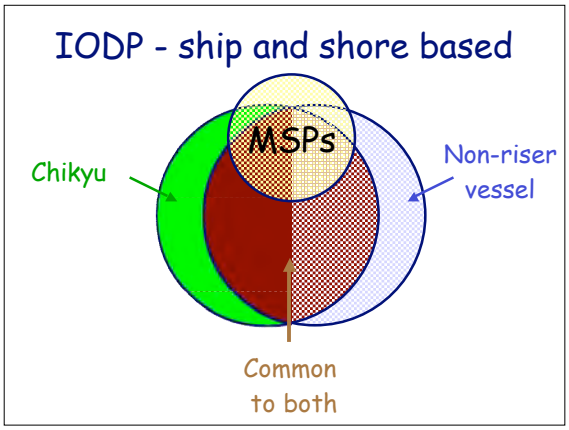

IODP
Chikyu
Non-riser vessel

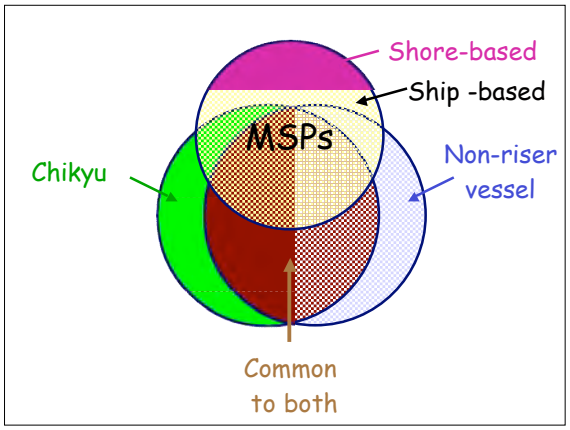

IODP
Chikyu
Non-riser vessel
Common to both

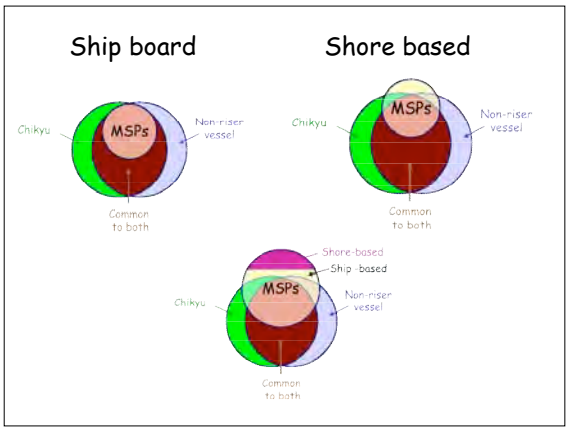

IODP
Chikyu
Non-riser vessel
Common to both


IODP
Chikyu
Non-riser vessel
Common to both


IODP – ship board
Chikyu
MSPs
Non-riser vessel
Common to both







Recommendation ?

- Develop matrix of essential v desirable aligned with specific science objectives.
- this would require discussion with scientists in different disciplines, but could be done electronically.

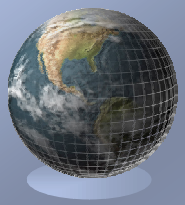
Reference….

- Blum, P., Physical Properties Handbook: A guide to the shipboard measurement of physical properties of deep-sea cores,

available at

- http://www-odp.tamu.edu/publications/tnotes/tn26/INDEX.HTM, November, 1997.

Report of the Chemistry Working Group

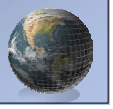


SciMP:
December 15-18, 2003
Nagasaki, Japan

SciMP URI, July 14-16, 2003

- Questionnaire developed and sent via e-mail to all participating ODP petrologists/geochemists + co-chiefs.
- Also sent to participants of "Future Opportunities in Geochemistry for IODP" workshop.
- Will appear in "Geochemical News", January issue.

v 11 questions posed.
v 148 e-mails sent, 70+ e-mails undeliverable.
v 32 responses received from around the world.

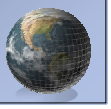


For ocean drilling, what material(s) and analyses do you feel are important? (check all that apply)

Materials: Hard rock, Soft Rock, Metamorphic, Water, Gas, Extracts

Analyses: Organic, Inorganic, Major, Trace, Isotopic, Petrographic.

- All are important!
- Mineralogic analyses (XRD).
- SEM/Electron Microprobe?
- On-site stable isotope analyses?



Please specify the types of analyses not included above that you would like to see performed on-site in order to fully characterize materials that are important to your research.

What types of analyses do you consider are necessary to influence drilling strategy?

How can "on-site" geochemical analyses improve upon what was carried out during ODP?

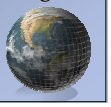
Would you consider using data gathered "on-site" in scientific publications?

Recommendations (draft)

It is the recommendation of SciMP that on-site analytical facilities should be staffed with technicians with at least a Masters degree (or equivalent experience) that understand analytical procedures and specific instrumentation, and have an appreciation for the types data produced by the instruments they are responsible for.

The technicians should be fully trained on-shore on the equivalent instrumentation they will be responsible for while on-site.

SciMP recognizes that there is no sense in placing state-of-the-art facilities on the ship unless there is a dedicated person who can make the instruments produce high quality data that are suitable for publications.



Recommendations (draft)

SciMP reommends that procedures for on-site analyses need to be fully developed on-shore and need to include a rigorous quality control (error analysis) protocol for each type of data produced.

These procedures should include a specific suite of reference materials that are standard across the different platforms (where possible).

SciMP should regularly review the analytical procedures (including sample preparation and sample throughput) to see if modifications are required, based upon the data produced & input from the technicians and scientists.

Recommendations (draft)

SciMP recommends that with each approved IODP expedition, there be a detailed on-site analytical plan submitted to SciMP by the proponents/co-chiefs in order to maximize the impact of on-site analytical capabilities for the particular project science objectives and to ensure the requisite standards/ reference materials are available.

This will be especially important for expeditions that will recover samples difficult to store and maintain in their pristine condition.

Recommendations (draft)

SciMP recommends that a portable, modular analytical facility be constructed for MSPs that contain analytical equipment necessary to characterize the materials being recovered, conduct analyses necessary to ensure safe drilling, and to adequately analyze materials that will degrade.

Action Items

SciMP and the relevant implementing organizations for the riser and non-riser vessels, as well as the MSPs, need to detail analytical procedures and quality control protocols for specific on-site analyses.

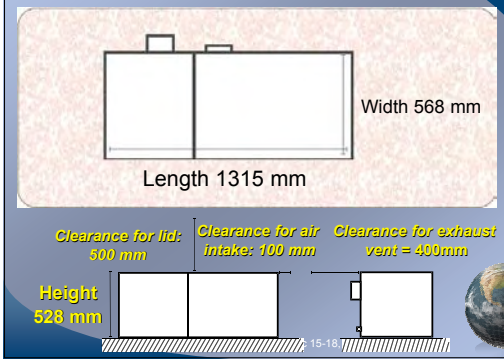
Action Items

SciMP and the relevant implementing organizations for the riser and non-riser vessels should continue investigations into the housing of an Inductively Coupled Plasma Mass Spectrometer with laser ablation capability on board the relevant drill ships.

Investigations should begin into the feasibility of also including the capability of an environmental scanning electron microscope.

There is a possibility of adding quadrupole ICP-MS, with or without a laser-ablation capability to the riser and non-riser drill ships. Do you have any strong feelings on this?

ICP-MS System: GV Instruments

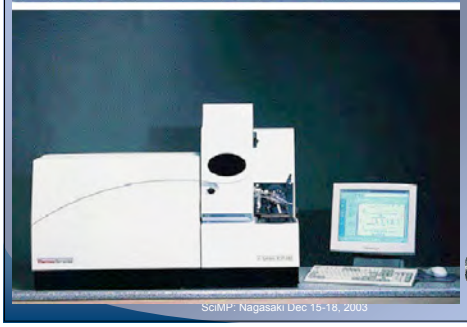


ICP-MS System: GV Instruments

- Weighs 330 kg.
- Sits on 6 feet each 12.5 cm^2 - bench loading = 4.4 kg/cm^2.
- Rotary pumps weigh 40 kg and 24 kg - sit beneath bench.
- Humidity should be <60%.
- Power:
  - 230 Vac Phase to Neutral 24A 50Hz or 60Hz
  - 208 Vac Phase to Phase 30A 60Hz
- Heat dissipation = 1 kW + 0.75 kW from mini-chiller.

ICP-MS System: ThermoFinnegan

The X Series Bench-top ICP-MS

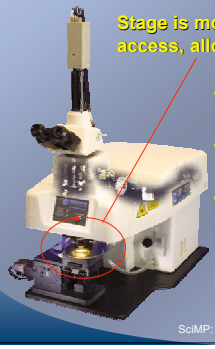


ICP-MS System: ThermoFinnegan

X Series ICP-MS

- Worlds smallest bench-top ICP-MS
  - 110x54cm "footprint"
- Maintenance free mass spectrometer
- Proven PlasmaLab™ Windows® software
- Responsive CarePlan™ Support Package
- Plug-and-Play Upgradability

New Wave Laser: UP213AI



Stage is mounted in open space for easy access, allowing for a variety of accessories.

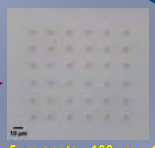
- Open Architecture offers an easy upgrade path.
- Small footprint fits easily on laboratory bench.
- Sample can be viewed through Class 1 shield.

UP213AI

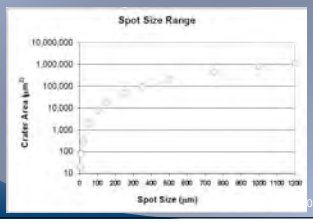
- System of choice for applications requiring high spatial (< 4 µm spots) and/or depth resolution.
- >25 J/cm^2 maximum energy density.
- Particles generated at 213nm are finer than 266 & therefore provide better accuracy & precision.
- The shorter wavelength of the UP213 is preferred for highly transparent and otherwise challenging materials such as quartz and calcites.

Spot Size Range

1000mm spot in NIST 610 Glass

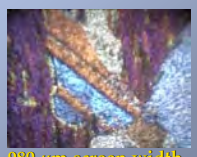


5µm spots - 100µm x 100µm raster

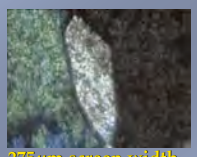


Universal Platform product line spot size range: < 4µm to > 1200µm

Visual Resolution



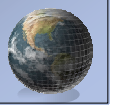
980 μm screen width



275μm screen width

460 μm screen width

180 μm screen width



SciMP: Nagasaki Dec 15-18, 2003

Pipe and Core Diameter for IODP

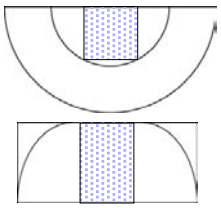
Makoto Okada
SciMP
Ibaraki University, JAPAN

Why is it needed to be discussed here ?

- Everyone, who actually take samples, will be happy to have lager volume core.
- From scientific point of view, there is no reason to keep using same size diameter with the current ODP system (= 6.8 cm).
- It is good (and may be only) opportunity to reconsider about core diameter for ocean drilling.

Dimension of Core

- Current dimension (ODP)
  - Diameter = 6.8cm
  - Section lengh = 150cm
  - Volume = 5447cc
- Large diameter
  - Diameter = 8.0cm
  - Section lengh = 150cm
  - Volume = 7540cc



Physical Effects of the large diameter

- It's heavy ! ….but might be acceptable…
  - 1.4 times heaver than the current one
    - Normal sediments (density=1.5): 14 kg
    - Hard rocks (density=2.6): 25kg
- Taking more time for heat equilibrium
  - 1.2 times longer than the conventional one
    - Current system: 3 hours
    - Larger diameter: 3.5 hours

Effects of the large diameter for on-board measurements

- Physical property measurements
  - MST: the current system could allow it
  - Measurements for shear strength, thermal conductivity and electric resistivity, ..etc: those may not be affected
- Paleomagnetism
  - Magnetometer is needed to be modified
    - Changing the sensor diameter, AF, ARM and IRM coils etc… will costs $130,000 including setting.
    - Resolution is going to be less.

Predicted problems from other aspects for drilling

- You need more space for core storage.
- You need new logging tools being appropriate for the lager hole diameter.

Publications

Publications Issues

- IODP "*Initial Reports*" volumes
- IODP postcruise research results
- Lessons learned: ODP successes and challenges
- IODP obligations

IODP "*Initial Reports*" Volumes

- SPC Publications Subcommittee
  - Tasked to review options
  - Recommendations released in early 2004
- Issues:
  - Format
  - Production
  - Series title
  - Distribution
- ODP/TAMU Publications asked to provide cost estimate for printing

Cost Comparison

Cost elements:

Current ODP IR layout
Average page count
Index, print, distribution costs
1700 copies

- Full printed book (1664 pages)
  - $125,000 U.S. per volume
- ODP hard cover printed booklet (98 pages)
  - $32,000 U.S. per volume
- Soft cover printed booklet (98 pages)
  - $20,000 U.S. per volume

Notes :

- USIO/NSF contract based on 800-pg book, 500 copies ($30,000 U.S.)
- Timeline for decisions vs. Phase 1 first expedition is critical

IODP Postcruise Results

- SPC Publications Subcommittee
  - Tasked to review options
  - Recommendations released in early 2004
- IMI and IO discussions to be continued
  - Meeting in early 2004
- Options include:
  - Tri-platform IODP journal
  - Single-platform IODP publication series
  - No IODP publications
  - Submissions to other journals
  - Venue for capturing data reports
- SciMP review Policy obligation and enforcement issues

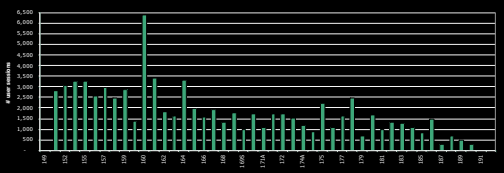
ODP Successes

- Reduced annual budget by >$500,000
- Created "hybrid" publication
  - Functionally electronic
    and
  - Printable
- Reduced acceptance-to-publication time
- Increased distribution through online volume usage
- Developing electronic legacy products
  - Digitization of print volumes
  - Development of cumulative index

Proceedings online visitor sessions

Initial Reports

Scientific Results



Author feedback on electronic format

- Utilize features unavailable in printed books
- Increase volume search and navigation
- Support on-screen viewing and printing
- Increase access to publications around the world
- Support links to other resources and data
- Provide vehicle for accessing publication-quality electronic images for other scientific uses

- Must print to read on paper

E-pub features hard to squeeze into a print pub

- # pages (figures, plates, and tables)
- Color figures
- Zoom into images
- Oversized figures and tables
- Movies, 3-D animation, and sound
- Links
- Data sets

- Search and *Proceedings* indexes

- Worldwide access to publications
- Access to digital versions of text, tables, and figures

ODP Challenges

- Successfully administering ODP policy
- Capturing all ODP postcruise research results in publications

Administering ODP Policy

- The ODP "obligation fulfillment" process is weak:
  - Obligation criteria contain many elements, and few authors remember to follow through all steps
  - Not all elements are used to judge nonperformance
  - Time lag exists in determining nonperformers
  - Procedures to govern individuals who do not fulfill their obligations are often difficult to enforce

Suggestions for IODP:

- Develop policy obligations that are enforceable and realistic (i.e., tie obligation fulfillment to receipt of funding)
- Establish who is responsible for:
  - Administering policy
  - Oversee policy enforcement by all member countries

Administering ODP Policy (cont.)

- Not all Editorial Review Boards operate under the same level of efficiency, quality control, or interest.

Suggestions for IODP:

- Develop tighter standards; carryout uniformly
- Establish editorial boards that cover thematic areas rather than legs and hold terms of 2–3 yr.

- Current publication formats do not fulfill ICZN and ICBN requirements for establishing new species.

Suggestion for IODP:

- Research qualifications for publication products to meet the standards for naming new species. Communicate issue to participants.

(ICZN = International Code of Zoological Nomenclature
ICBN = International Code of Botanical Nomenclature)

Administering ODP Policy (cont.)

- Production of synthesis paper for *Scientific Results* volume by Co-Chiefs has not been successful:
  - Inability to synthesize results from all contributors by submission deadline (especially if contributors publish late or do not publish as promised)
  - No commitment to produce the paper by the deadline
- Status of papers:

	Submission (35 mo PC)		Publication (48 mo PC)	
	# volumes	% of volumes	# volumes	% of volumes
On time	3	13%	2	11%
1-5 mo late	5	21%	7	37%
6-20 mo late	9	38%	4	21%
Not received	6	25%	6	32%
Legs	179, 184, 185, 189, 191, 192		179, 181, 182, 184, 185, 187	

Submission: Legs 171A–192; Publication: Legs 171A–187

Suggestion for IODP: Tie task to funding.

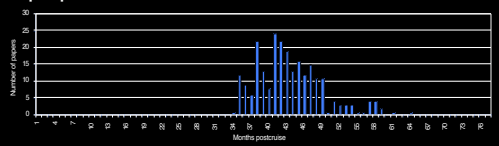
Capturing postcruise research

- Enforcing submission/publication period
  - ODP obligation isn't a critical or motivating factor to some authors
- Tracking publications in journals/books
  - Authors do not always submit publication information or copies of articles after publication
  - Legs, sites, and program name not always included in key words and acknowledgments
  - Staff review journals to identify publications
  - AGI produced DSDP/ODP Citation Database (subset of GeoRef; used by ODP to generate citation statistics)

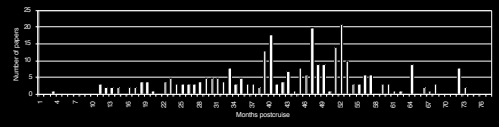
Suggestions for IODP:
- Evaluate what is appropriate strategy for capturing postcruise research
- Review ODP publication statistics

Postcruise publication period

Papers published in SR volumes:



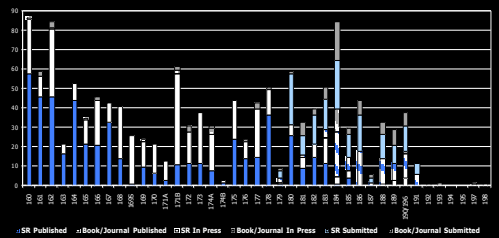
Papers published in journals/books:



Venues for obligation-fulfillment publications

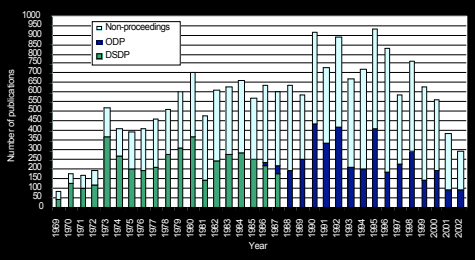
Average # SR papers published/leg:
101–159 = 39

Average # papers published for legs past 4-years postcruise:
160–182: SR = 21; Book/Journal = 17; All = 39



June 2003

Number of records ODP/DSDP Citation Database



IODP Obligations & Policy

- Comparison of ODP vs. IODP publication deadlines
- IODP Sample and Data Policy
- iSciMP recommendation 03-01-10

ODP and IODP submission deadlines

- ODP submission deadlines:
  - Regular papers = 28 months postcruise (16 mo PM)
  - Revisions = 34 months postcruise (22 mo PM)
  - Synthesis submission = 35 months postcruise (23 mo PM)
- IODP submission deadlines:
  - Regular papers = 20 months PM*
  - Expedition Science Summary = 32 months PM**

PM = post-moratorium
* IODP Sample & Data Policy
** iSciMP recommendation 03-01-10

IODP Sample and Data Policy

5. IODP Review and Approval of Sample Requests

The CAB is a standing body that consists of two IODP senior managers and three members of the scientific community (selected by the IODP Scientific Measurements Panel) who will serve overlapping four-year terms. Every effort will be made to ensure that CAB membership represents a variety of scientific disciplines.

Note to SciMP:

- IOs request time to review issue of CAB composition in relation to the IODP Curator model established between IMI and the IOs.

IODP Sample and Data Policy

6. Scientific Results Dissemination (Publications)

- An ERB is established for every drilling project and remains active for 30 months post-moratorium.

Note to SciMP:

- iSciMP recommendation 03-01-10 states Expedition Science Report is due 32 months post-moratorium.

- The primary purpose of the ERB is to maintain an independent and effective peer-review system for the publication of drilling project results.

Note to SciMP:

- The ERB can only hold authority to maintain a peer-review system over IODP publications (not outside journals).

IODP Sample and Data Policy

7. Sample- and Data-Recipient Responsibilities

- All scientific party members incur obligations to IODP that they must fulfill by using samples or data from the drilling project to conduct post-project research and by publishing associated results in agreement with the other terms of this policy. Manuscripts for publication must be submitted within 20 months post-moratorium.

Note to SciMP:

- Because the requirement to publish is directly related to IODP's upcoming decisions on publication venue requirements for postcruise research, this item may need to be reevaluated. (Will there be venues that *all* scientists can publish results in?)

IODP Sample and Data Policy

7. Sample- and Data-Recipient Responsibilities

- All scientists who receive samples or conduct nondestructive analyses from cores after the moratorium are obligated to publish a paper in a peer-reviewed scientific journal or book that publishes in English, or submit a progress report to the IODP Curator outlining the status of the samples and/or the data no later than 36 months after receiving them.

Notes to SciMP:

- Is statement clear enough? What if you receive samples before but conduct analyses after moratorium?
- Obligating post-moratorium recipients to publish is a new policy element for IODP.
- What is definition of "progress report"? (An e-mail explanation of status or a "data report"?)

IODP Sample and Data Policy

7. Sample- and Data-Recipient Responsibilities

- All publications incorporating IODP data or samples must explicitly acknowledge IODP and be submitted to the IODP Curator along with any applicable data.

Notes to SciMP:

- Receipt of publications in ODP not successful.
- Those responsible for tabulating obligation fulfillment should receive notification of publications.

IODP Sample and Data Policy

7. Sample- and Data-Recipient Responsibilities

- Those not meeting the above obligations will be restricted from obtaining future samples and data and may not be allowed to participate in future drilling projects. Obligations incurred during the Ocean Drilling Program (ODP) will be carried forward into the IODP.

Notes to SciMP:

- Documented evidence in ODP shows tying obligation to future receipt of samples or participation has not been a successful strategy (time lag, enforcement issues).
  Example: If publications submitted 20 months PM, could sail 2 more times before its time to evaluate fulfillment related to first expedition.
- There will be a need to share fulfillment data between the parties staffing expeditions on all platforms and approving samples.
- How will obtaining data be restricted if data available on Web?

IODP Sample and Data Policy

Notes to SciMP:

- Thoughts on functional nature of Policy:
  - Consider numbering paragraphs within each Policy item to ease scientist/administrator's reference to specific issues.
  - Consider appending implementation checklist to Policy so users can easily find out what they have to produce and when.
- Is further definition of post-moratorium date needed related to multiple-expedition projects?
- From an administration perspective, clear delineation of Policy elements for moratorium vs. post-moratorium guidelines is important.
- Finalizing Policy and Implementation Guidelines before first expedition is important.

iSciMP Recommendation 03-01-10

The IODP publications program include

- A complete print and electronic Expedition Report volume.
- A continually updated on-line bibliography of each drilling project.
- An Expedition Science Summary written by the chief scientists of the expedition will serve as a lead-in to the on-line bibliography. The Expedition Science Summary will be submitted 32 months post-moratorium.

Assessment of iSciMP Recommendation

- A complete print and electronic Expedition Report volume.

Notes to SciMP:

- Cost is related to both size and print run
  - *Proceedings* print run is 1700 copies; ~1400 copies distributed per leg.
  - Full-print *Initial Reports* volumes: 715 pages (average).
  - Booklet/CD format *Initial Reports* volumes: 1,644 pages (average)
- Electronic publication distribution is faster than print
- Many electric publication elements do not fit in print format

Assessment of iSciMP Recommendation

- A continually updated on-line bibliography of each drilling project.
- An Expedition Science Summary written by the chief scientists of the expedition will serve as a lead-in to the on-line bibliography. The Expedition Science Summary will be submitted 32 months post-moratorium.

Notes to SciMP:

- The USIO has budgeted for the American Geological Institute (AGI) to continue production of the DSDP & ODP Citation Database and to expand it to include IODP citations as they are published.
- Resides on AGI server.
- Database is most effective way to capture all IODP publications.

IODP Sample, Data, and Obligations Policy

1. Overview of the Policy

This document outlines the policy for distributing IODP samples and data to research scientists, curators, and educators. This document also defines the obligations that sample and data recipients incur.

The specific objectives of the IODP policy are to:

- ensure availability of samples and data to scientific party members so they can fulfill the objectives of the drilling project and their responsibilities to IODP;
- encourage scientific analyses over a wide range of research disciplines by providing samples to the scientific community;
- preserve core material as an archive for future description and observations, for nondestructive analyses, and for sampling; and
- disseminate scientific results from post-drilling project research.

2. Sample and Data Distribution

During the moratorium period, samples are available exclusively to the drilling project's "scientific party" that has been formally approved by IODP, and whose requests have been approved by the Sample Allocation Committee (SAC, sec. 4).

The science party is defined as all scientists selected by IODP to produce initial, openly shared data associated with a particular drilling project within the moratorium period.

After a moratorium period, samples are given or loaned to persons in the following three categories whose requests have been approved by the IODP Curator:

- scientists who wish to conduct research on IODP materials and to publish the results, but who are not necessarily associated with a specific drilling project and;
- curators of museums and collections; and
- educators.

Archived data produced from samples taken for analyses, data acquired from boreholes by downhole measurements, and site survey data collected by IODP are available during the moratorium to the entire scientific party. After the moratorium expires, all project data are made available to everyone.

3. Moratorium Period

The purpose of the moratorium is to ensure adequate time is allotted for scientific party members to conduct drilling project-related research before the cores and data are made available to the general scientific community. To accommodate the variability in duration of specific drilling projects, the period one year after the release of samples or data to the scientific party is designated as the "moratorium period". The release date, relative to the drilling project, may be delayed post-drilling or staggered during drilling as appropriate to the scientific objectives as defined by IODP. Only members of the scientific party are permitted to receive core samples and associated data during the moratorium period. Other requests for samples will be considered after the moratorium has expired.

4. Drilling Project Sampling Strategy

For each drilling project, a SAC is constituted, comprised of the Co-Chief Scientists, the IODP Staff Scientist, and the project Curator. During the drilling project, the Curator's authority and responsibilities to the SAC may be ceded to the drilling project Curatorial Representative.

The SAC establishes a project-specific sampling strategy and makes decisions on project-specific sample requests received before the drilling project, during the drilling project, and within (but not after) the moratorium. Approval of such sample requests requires endorsement by a majority of the SAC. In the event of an evenly divided vote, a decision will be made by the IODP Curator. Appeals to this decision can be made to the Curatorial Advisory Board (CAB).

5. IODP Review and Approval of Sample Requests

The CAB is a standing body that consists of two IODP senior managers and three members of the scientific community (selected by the IODP Scientific Measurements Panel) who will serve overlapping four-year terms. Every effort will be made to ensure that CAB membership represents a variety of scientific disciplines.

The CAB has two main functions:

It acts as an appeals board vested with the authority to make final decisions regarding sample distribution, if and when conflicts or differences of opinion arise among any combination of the sample requester, IODP Curator, and the SAC.

It reviews and approves requests to sample the permanent archive and requests for loans of core material for outreach and education.

6. Scientific Results Dissemination (Publications)

The responsibility and authority for making decisions regarding the publication of post-drilling project research to fulfill the IODP obligations, lies with an Editorial Review Board (ERB) and the IODP manager responsible for publications.

An ERB is established for every drilling project and remains active for 30 months post-moratorium. The primary purpose of the ERB is to maintain an independent and effective peer-review system for the publication of drilling project results. The ERB is comprised of the Co-Chief Scientist(s) for the drilling project and the IODP Staff Scientist. These individuals may select external scientists/specialists to serve with them on the board. The need for external ERB members will be determined based on the Co-Chiefs' and Staff Scientist's workloads and expertise.

7. Sample- and Data-Recipient Responsibilities

All scientific party members incur obligations to IODP that they must fulfill by publishing associated results in agreement with the other terms of this policy, or submitting a progress report to IODP central management prior to the deadline for publication of results. In the event that research is discontinued, samples may have to be returned as per instructions from IODP central management. Manuscripts for publication must be submitted within 20 months post moratorium.

All scientists who receive samples or conduct nondestructive analyses after the moratorium are obligated to publish a paper in a peer-reviewed scientific journal or book that publishes in English, or submit a progress report to IODP central management outlining the status of the samples and/or the data no later than 36 months after receiving them. In the event that research is discontinued, samples may have to be returned as per instructions from IODP central management.

All publications incorporating IODP data or samples must include "IODP" in the title, abstract, or as a formal keyword. The publication shall explicitly acknowledge IODP and be submitted to IODP central management along with any applicable data.

Those not meeting the above obligations will be restricted from obtaining future samples and data and may not be allowed to participate in future drilling projects. Obligations incurred during the Ocean Drilling Program (ODP) will be carried forward into the IODP.