

ESSEP Minutes

Joint Meeting: Interior and Environment SSEPs

Gainesville, Florida, November 2-4, 1998

Monday, November 4:

The joint meeting of the JOIDES Scientific Steering and Evaluation Panels for the Dynamics of Earth's Environment and Earth's Interior was called to order by John Tarduno (Chair of ISSEP) and Ted Moore of ESSEP. After brief introductions of panel members and other attendees, Dr. Jack Ohanian, acting Vice President for Research of the University of Florida welcomed the panels to the University of Florida and wished us well in our work.

JOIDES OFFICE REPORT

ODP Membership

Dr. Ohanian's comments were followed by the JOIDES office report presented by Christina Chondrogianni. The report included a discussion of the new Associate Membership policy which detailed the rights and privileges of three separate levels of Associate Membership. These membership levels involve different participation privileges as outlined below:

ODP Committee Groups

Group I (Highest level of advice on ODP science and policy)

EXCOM

SCICOM

Group II (Scientific advice)

ESSEP

ISSEP

Group III (Technical and operational advice)

SCIMP

SSP

TEDCOM

PPSP

Privileges of Different Membership Levels:

1 . SHIPBOARD PARTICIPATION

Shipboard participation will be directly proportional to the contribution to the Ocean Drilling Program.

2 . PARTICIPATION IN THE JOIDES ADVISORY STRUCTURE

Associate Membership Level Contribution Privileges:

Associate 3 (2/3 of full participation): One member on all Panels of Groups II & III above;

Associate 2 (1/2 of full participation): One member on one Panel from

Group II;
One member on two Panels from Group III above;
Associate 1 (1/6 of full participation): One member on one Panel from Group II;
One member on one Panel from Group III above.

Christina also discussed the EXCOM motion concerning members who reduce their contributions. These members will reduce their shipboard membership, but retain panel membership if they have at least a 5/6 contribution and are working to increase in the contribution.

SCICOM REPORT

Steve Scott reported some of the key considerations resulting from the recent SCICOM meeting held in Durham, England, with most of the discussion centered on the program prioritization that grew out of a EXCOM request:

Program Priorities

EXCOM made a request to SCICOM to prioritize program activities as we approach the 2003 end of this phase of the Program:

EXCOM Motion 98-1-8:

Presently determined budgetary constraints through 2003 will negatively impact the delivery of the Long Range Plan. EXCOM asks SCICOM to prioritize future science objectives to maximize the objectives of the Long Range Plan, clearly indicating those which cannot be achieved under existing budget projections. SCICOM should also identify and prioritize changes in program activities, services, equipment needs and technological development. SCICOM is asked to forward its report to EXCOM by September 1998.

In response to the EXCOM request and with input from the SSEPs, SCICOM reported on their evaluation of the scientific objectives of the two SSEPs and then merged these objectives into a single set of priority groupings:

Initially they were ranked under two headings: Projects that Will Achieve the LRP Goals by 2003, and Projects that Lead into Post-2003 Drilling. Those in the first heading were divided into two groups. Arctic drilling, Deep Biosphere, Intact Crustal Section and Seismogenic Zone were grouped together under the second heading because they are unlikely to be accomplished before 2003—they represent themes leading into the next program (IODP).

Projects that Will Achieve the LRP Goals by 2003

Environment ██████████ Interior
I Milankovitch ██████████ Hydrogeology
Very high resolution ██████████ ON
Gas hydrates ██████████ LP
Past warm climates

II Climate-Tectonics ██████████ Mass Balances
Sea level ██████████ Extensional margins

Proposal Key Word(s)
 484 East Asian Monsoon
 426 AAD
 445 Nankai
 472 Marianas/Izu
 455 Laurentide outlet
 490 Prydz Bay
 448 Ontong Java
 465 SE Pac. Paleoc.
 486 Paleogene Pac.
 431 A Japan Trench Sites
 431 B Seismic Network sites

 355 Peru Margin
 451 Tonga Forearc
 463 Shatsky LIP
 450 Taiwan orogenic
 499 Eq. Pac. ION

Based on this ranking and on their discussions, SCICOM decided to draw a line; proposals above the line will stay on the list and do not need revision, while those below the line (355, 451, 463, 450, 499) need revision. Those proposals above the line but not chosen for drilling will be re-ranked by SCICOM in August 1999.

Seismogenic Zone DPG

In other news from SCICOM a Detailed Planning Group (DPG) for seismogenic zone drilling has been formed with Roy Hyndman as Chair and their work is underway with a call for letters of interest.

COMPLEX Conference (26-29 May 1999, Vancouver, B.C.)

A conference has been scheduled to discuss and begin planning for a non-riser drilling program in a post-2003 drilling program. Over 300 white papers outlining individual scientific objectives and themes have been received to date.

Technical and Operations Workshop

A workshop, lead by S. Humphris and K. Tamaki, will be held 17-18 Nov. 1998 to examine issues concerning an integrated future drilling program.]

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Ship Schedule:

SCICOM has approved the following ship's schedule:

| Rank | Site | Time | Estimated Transit |
|------|---------------|-------------|-------------------|
| 188 | Prydz Bay | Dec - Feb | 22 |
| 189 | 2 S. Gateways | Feb - Apr | 4 |
| | Transit | | 14 |
| 190 | 1 Nankai | Apr - June | 7 |
| 191 | 3 WP-2 Site | July | 9 |
| 192 | 6 Manus Basin | July - Sept | 13 |
| 193 | 4 Ontong-Java | Sept - Nov | 14 |

The SCICOM Liaisons also discussed a motion (98-2-8) by SCICOM that asks proponents of expensive programs to find additional funds to help support their programs. In addition, the question of student participation on legs was presented.

Discussion:

John Tarduno noted that the second Nankai leg will be reviewed by the SSEPs and other panels of the JOIDES advisory structure.

Steve D'Hondt inquired about student participation on legs-- how will this affect staffing? Kate Moran replied that this is an opportunity only if space is available (maybe 3 berths per year may become available).

Jamie Austin commented on potential problems with the SCICOM motion asking proponents to locate additional funds; he felt that this could drive lower priority science to have a preference in the drilling schedule.

Julie Morris asked how the prioritization would be used in the future. John Tarduno responded that it was his understanding that this was purely a response to the EXCOM motion. The SSEP's should review proposals as before, encouraging the best science to be developed. Bill Hay agreed that the SSEPs should concentrate on the science.

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JOI REPORT

Kate Moran briefly commented on the advisory structure, and emphasized that the SSEPs can suggest new PPGs. She also discussed the length of legs and suggested that the SSEPs take a more active role in providing advice on the length of legs. There is a need to decide who works with proponents when a leg is too long.

Kate also suggested that some of the PPG mandates might need to be modified to have a greater emphasis on post-2003 activities.

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NATIONAL SCIENCE FOUNDATION REPORT

Jamie Allan reported briefly on the continued planning for the post-2003 drilling program. He indicated that at present the US and international community are envisioning a program in which the US, Japan, and a consortium of other nations will contribute about \$120 million dollars toward a two-platform drilling program. All services for the operation of this program will be open for bidding. For the US, the US Science Advisory Committee will play a key role in the planning efforts over the coming year. In January the Japanese will make a critical budgetary decision regarding the future planning of this program.

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ODP REPORT

Paul Wallace presented key results from the ODP Leg 179 and 180 drilling. Of special interest was the testing of the hammer drill on Leg 179. Although not entirely successful, much was learned from these efforts that will lead to design modifications that should improve performance. An engineering leg is tentatively planned following the drydock, during which a modified hammer drill will be tested again. Also scheduled for installation in drydock is the new active heave compensation system.

Peter Blum reported further on drydock plans and efforts to aid and promote shipboard studies of the deep biosphere.

LOGGING REPORT

Tim Brewer presented a logging report in which results of some of the recent Legs, and uses of some of the more advanced tools (e.g. dipole sonic tool) were presented. Tim also announced a web page aimed at helping proponents design their logging plan.

LONG TERM OBSERVATORY PPG REPORT

Keir Becker reviewed a draft version of the LTO PPG report (available on the JOIDES Office web site). Although it is recognized that science will drive the need for site survey and down-hole measurements, much of the PPG report deals with the need for new technology to help meet the scientific needs of such observatories. ODP has been near the cutting edge of technology in many ways; and there is both a good opportunity and a pressing scientific need to continue in this mode. The Report suggests the need for a more global plan for LTO in which specific scientific objectives are defined. Out of such a planning effort, more focused PPGs are likely to arise (such as the recommended Hydrology PPG). These new focused efforts will, in turn, necessitate a good deal of groundwork in identifying and characterizing observatory sites.

Another concern expressed in the report is the importance of, and need for oversight of legacy holes that be used for observatories. With the future development of wireline re-entry systems, the actual drilling of the hole is but a first step in the overall implementation of a long-term observatory plan.

GAS HYDRATES PPG

Carolyn Ruppel reported on the Gas Hydrates PPG meeting held in June of this year. The PPG expressed its concern with studying hydrate deposits at all spatial and temporal scales. The hydrate research envisioned covers a wide range of themes including, the hydrate plumbing system (low flux and high flux regimes), interaction with sediments and sediment physical properties, temporal evolution of hydrates, remote detection and characterization of hydrate deposits, and geologic settings in which hydrates typically develop. Addressing such themes will probably require a series of legs planned as a package to address a broad suite of the themes listed above. The PPG also identified some key technical issues they are critical to addressing the identified

scientific themes: 1) 3D surveys of the study areas will become a key element in both siting holes and evaluating results, 2) Good core recovery, the availability of at least three Pressure Core Sampling devices, and an insitu pore water sampling device will be critical to successful hydrate studies, 3) downhole measurements, such as VSP and hole tomography will be important to evaluating hydrate deposits. □LWD technology may also be required. 4) Plans will almost certainly include the development and emplacement of long-term monitors (multi-level CORKS) in □at least some holes. Proposals are likely to focus initially on end-member examples of gas hydrate deposits, which as we now understand them, are likely to include deposits in accretionary prisms, deposits on passive margins, and deposits in petroleum production regions that include thermogenic gas hydrates.

PROPOSAL REVIEWS

Reports from other PPGs were delayed in order for the panels to proceed directly to the evaluation of a rather long list of proposals. Several of these proposals are of interest to both SSEPs; therefore two working groups were appointed to conduct joint discussion and review of two sets of proposals: Group 1 proposals (Gas Hydrate proposals 355-Full7, 546-Full, 553-Full, and 554-Pre) and Group 2 proposals (Seismogenic zone proposals 537-Full, 488-Full4, 517-Full, and 544-Pre). Working groups met Monday evening and Tuesday morning.

ESSEP Reviews

Over the course of Tuesday afternoon and Wednesday morning the following Full and Pre proposals were discussed and the recommendations □oted below were made. Late Wednesday morning and Wednesday afternoon the two SSEP panels met in joint session and discussed the Gas Hydrate and Seismogenic zone groups of proposals, as well as other proposals in which there was some overlap of interest. The panels were sensitive to the issue that the present phase of the Program is drawing to a close and that proponents were eager to have their proposals considered for drilling prior to 2003. We made every effort to send proposals out for review that we thought were fully mature, addressed primary themes of the Long Range Plan, and addressed all the questions that might logically be brought forward by a mail reviewer. Two proposals 505-Full2 and 521-Full3 came very close to meeting all these requirements , and the panel felt that a few, relatively minor alterations and additions to these proposals would make them ready for mail review. We made a tentative recommendation, subject to JOIDES Office approval (later granted), that the proponents be allowed to submit a slightly revised proposal for mail review if they were able to make these revisions and submit the revised proposal by 15 December. The panels provided a specific list of changes and additions that we thought were required and could be made in this very limited time frame.

PROPOSALS DISCUSSED

Proposal Number □Key Words □ACTION (J=joint SSEP reviews)
355-Full7 □Gas Hydrates Peru Margins □SEND OUT (J)
477-Full2 □Okhotsk Bering Seas □SEND OUT

478 Full3 E. Nankai Subd. SEND OUT (J)
505-Full2 Geochem. Mass Bal SEND OUT w/ quick rewrite (J)
514-Full3 Sea Level Maldives REWRITE
516 Add2 CORKS in 504B 896A Status report Acknowledge
517 Full CORKS in Nankai SEND OUT (J)
519-Full S L Rise S. Pac Reefs REWRITE
*521 Full3 Himalayan Uplift SEND OUT w/quick rewrite
523-Full Hawaiian Hotspot SEND OUT
*537 Full Costa Rica Conv Mar REWRITE (J)
541-Pre Chilean Fjord FULL
542-Pre Hikurangi LIP REVISIED
543-Pre CORK in 642E FULL
544-Pre Costa R. /Nicar. Subduc Zone FULL (J)
545-Pre Hydrol, Crustal Prop. FULL (J)
546-Full Hydrate Ridge SEND OUT (J)
547-Pre Subsurf Biosphere FULL.
548-Pre Chixulub Struct FULL
549-Full OMZ in N. Arabian Sea SEND OUT
550-Pre Clinofoms NW Aust FULL
552-Pre Bengal Fan FULL (J)
553-Full Cascadia Marg Gas Hydr SEND OUT (J)
554-Pre G of Mex Gas Hydr FULL (J)

*Proposals answering RFP for
deep hole drilling published in EOS (July 29)=09
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ESSEP also received external reviews of three proposals (listed below).
These reviews were, in general, very favorable. We will consider all
these proposals again at our May meeting when we group proposals for
consideration by SCICOM in August.

PROPOSALS REVIEWED EXTERNALLY

503 Full2 Cenoz. Galc. Hist, E. Antr IS, Mesoz Weddell B. Jokat, W. et al.
510-Full3 Coral Sea: Sea Level Magn. & Var. Marion Plt Isern, A.R. et al.
534-Full Warm Cret & Paleog, Shatsky Depth Trans Bralower & Zachos

Updates on two proposals were received by the ESSEP. Both Wilkes Land=20
(12) and Ross Sea (15) were ranked below the cutoff for scheduling
consideration by SCICOM. Both SCICOM and ESSEP felt that the further
consideration of these proposals depended heavily on the successful
completion of Prydz Bay drilling and on obtaining additional funding for
an accompanying iceboat. The proponents have answered substantive
comments on scientific questions brought up by the panels and by
reviewers. Wilkes Land has a site survey cruise planned for early 1999
which may alter specific site locations (but not drilling strategy). We
will discuss these proposals again in May.

PROPOSALS ALREADY RANKED

489-Rev Ross Sea Shelf: Glacial History & S.L. Davey, F.J.
482- Add2 Wilkes Land Glacial History & Sea-Level Escuta
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At the close of the official meeting we revisited the reports from the PPGs. We were lacking reports from the Climate and Tectonics, Architecture of the Ocean Lithosphere, and Shallow Water Systems PPGs (a brief report from the shallow water systems PPG is now on the JOIDES web page). Ellen Thomas reported that the Extreme Climate PPG met in Edinburgh in September and was drafting a report.

EXTREME CLIMATE PPG:

The PPG report is expected to focus on several specific themes within the context of the unusual oceanographic and climatic conditions that exist during the extremely warm intervals of the Earth's past. These include the thermal maximum of the late Paleocene, the oceanic anoxic events of the Cretaceous, and biotic responses during extreme climates. They also discussed the need for recovered sections in which the character of Milankovitch-scale oscillations in climate can be investigated. New proposals as well as proposals already in the system were discussed.

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The meeting was closed with an expression of thanks to our host, Jon Martin, for a most enjoyable stay on the very beautiful campus of the University of Florida.

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ISSEP:

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Neil Lundberg
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Ted Moore
Wonn Soh
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Rainer Zahn

Guests and Liaisons:

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John Farrell
Jamie Allan
Paul Wallace
Bob Whitmarsh
Tim Brewer
Steve Scott
Maureen Raymo
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