

88-119
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DRAFT MINUTES

SEDIMENTS AND OCEAN HISTORY PANEL

Rice University
March 7-9, 1988

Members Present:

A. Droxler (Rice Univ)	W. Normark (USGS)
P. Froelich (LDGO)	I. Premoli-Silva (Milan, Italy)
R. Gamson (USSC)	T. Saito (Yamagata, Japan)
M. Goldhaber (USGS)	R. Sarg (Exxon)
D. Kent (LDGO)	A. Schaaf (GIS, France)
L. Mayer (Dalhousie - Chairman)	R. Stein (Giessen, FRG)
P. Meyers (U. of Mich)	N. Shackleton (Cambridge, U.K.)

In Attendance:

J. Austin (ARP)
G. Brass (PCOM)
S. O'Connell (TAMU)
W. Sliter (CEPAC)

Absent

W. Berger (SIO)

1. Opening Remarks and Approval of Previous Minutes:

- 1.1 The meeting began at 8:45 a.m. with introductions and welcome from André Droxler on behalf of Rice University.
- 1.2 The minutes of the 31 August - 2 September meeting in Tokyo were accepted.

2. Panchmn Meeting Report (Mayer):

The Chairman reviewed the results of the annual Panel Chairman's meeting held in conjunction with the PCOM meeting in Sun River, Oregon. The majority of time at this meeting was spent discussing models for the JOIDES Advisory Panel structure. The wide range of views expressed by the PANCHM emphasizes the difficulty in establishing a broadly accepted planning structure. The final PANCHMN recommendations were presented as were the recommendations concerning Engineering Developments and ODP publications.

3. PCOM Report (Brass):

G. Brass reviewed the results of the Sun River PCOM meeting.

- 3.1 The approved WPAC program was presented: (Appendix A)
- 3.2 Brass commented that PCOM was evolving and taking a more active role in reviewing programs and making scientific decisions.

SOHP is pleased to see PCOM taking a more active role in reviewing the science but is concerned that PCOM may not have the regional or disciplinary representation that the thematic and regional panels possess. If PCOM is to take this more active role we would hope that care is taken to see balanced representation on PCOM.

- 3.3 PCOM has formed a committee to evaluate Advisory Panel structure. This committee will make submission to PCOM in April. Initial feedback suggests that planning will be thematically driven, that 'working groups' may play a more active role and that the mandate of SOHP will be covered by more than one panel.

SOHP strongly supports these preliminary recommendations and encourages their implementation.

- 3.4 The initial PCOM decisions on CEPAC were presented. These will be discussed in the CEPAC section of the minutes.
- 3.5 The lengthy PCOM discussion of engineering problems was discussed.

The SOHP has long recognized the poor communications between the scientific community and the TAMU engineers. We applaud both PCOM's and TAMU's efforts to resolve these problems and in particular support the establishment of dedicated engineering legs and of a PCOM watchdog panel charged with monitoring engineering activities.

The SOHP is happy to see engineering legs that are free from scientific interference, but remind PCOM and TAMU that it is critical that scientists be the judge of the relative success of many new systems (e.g. the engineering definition of a successful core orientation device often greatly differs from the scientists).

4. TAMU Report (O'Connell):

- 4.1 Summaries of the drilling results of Legs 118, 119, and 120 were presented.

5.4 Paleomagnetism:

The paleomagnetic record is of fundamental importance in establishing the temporal framework for almost all ocean history studies. Despite this, and despite repeated requests on the part of the SOHP, problems of core orientation and barrel magnetization continue to plague the program.

Dennis Kent will document these problems and submit a report to the SOHP. Upon receipt of this report, the SOHP recommends that TAMU call a meeting of, or solicit opinions from a number of active paleomagnetism specialists to discuss core orientation and core magnetization problems. The SOHP further recommends that TAMU explore the feasibility of using non-magnetic drill string and that time be allotted on a future engineering leg to explore means of resolving paleomagnetic problems.

5.5 Heat Flow Probe:

The SOHP has received several reports of inconsistent and unreliable measurement from the ODP heat flow probe. The problems seem to be related to motion of the drill bit. We recommend that TAMU investigate the reliability of the heat flow measurements being made.

5.6 Double HPC's:

Both the SOHP and PCOM recommended double HPC of Site 677 to ensure continuous recovery. Unfortunately, the double HPC samples received from this site overlapped by 1 m or less, not enough to ensure a continuous section. The SOHP urges that TAMU establish guidelines for the proper drilling of overlapping sections and that these be available to the Co-chiefs and the drilling crew.

5.7 Sub-bottom Depths:

The ability to draw stratigraphic correlations is strongly related to our ability to accurately determine sub-bottom depths. The SOHP has been disturbed by several reports of large hole-to-hole inconsistencies in the sub-bottom depths of clearly identifiable horizons. These inconsistencies call to question the accuracy of shipboard sub-bottom depth calculations and can severely compromise our achievable stratigraphic resolution. The SOHP requests that TAMU assess their ability to accurately measure sub-bottom depths and explore means of improving these measurements.

4.2 Progress made on NAVIDRILL reported:

- experiments have been carried out with several new bits
- it is now free-fall deployable and compatible with XCB and ACB
- it is presently being tested on various rock types in Germany
- it will be deployed on Leg 121

4.3 Leg 124E (Engineering Leg) Priorities:

- 30-day leg
- Test diamond coring system for EPR & possibly cherts
- DMP has requested 5 days for testing of wireline packer, heave compensator, formation microscanner, Geoprops probe

5. Sampling and Technology Issues:

5.1 Whole-round sampling:

The SOHP has long been concerned with inflexible sampling policies that have included routine whole-round sampling for physical properties and geochemistry. We applaud the IHP recommendation to end routine whole-round sampling for physical properties (they have recommended that a review board approve requests for whole-round physical property samples) and urge IHP to establish similar guidelines for geochemical whole-round sampling.

5.2 Pore water analysis:

It has been pointed out to the SOHP that routine pore water analyses program on board the Resolution is in desperate need of modernization. P. Froelich will review the situation and submit a report to the SOHP. The SOHP will pass its recommendations on to PCOM and TAMU.

5.3 Microscopes:

Numerous shipboard participants have documented the poor state of maintenance of shipboard microscopes. The SOHP urges TAMU to assign to one of the shipboard technicians the responsibility of routinely maintaining shipboard microscopes.

6. Information Handling Panel Report (Mayer):

- 6.1 The results of the Information Handling Panel's meeting were summarized. Our Japanese representative was informed that the Japanese paleontological reference collection has not been updated because no samples have been taken recently. Efforts are underway to begin paleontological reference collection sampling again.
- 6.2 The SOHP applauds IHP's effort to update and maintain the databases.
- 6.3 The SOHP understands the IHP's concern for demonstration of the responsibility of those requesting samples but requests that such documentation be kept on file for those making multiple sample requests, thus reducing unnecessary paperwork.
- 6.4 The SOHP was concerned to learn of a situation where the TAMU core curator denied the post-cruise sample request of a German investigator claiming overlap in interest with another (TAMU) post-cruise investigator. We request that the IHP establish a policy on such requests that might avoid the appearance of conflict of interest.

7. Indian Ocean (I. Premoli-Silva):

- 7.1 Isabella Premoli-Silva reviewed the status of upcoming Indian Legs.
- 7.2 The sedimentary sequences that will be cored on Leg 121 are potentially of great interest to SOHP. We urge that all efforts be made to ensure their proper recovery and sampling.

8. Atlantic Ocean (J. Austin):

- 8.1 The Atlantic Regional Panel members have been involved in organizing a series of workshops and will continue doing so.

9. Southern Ocean (P. Meyers):

Since our last meeting, the SOHP has received two proposals for drilling in the Southern Ocean. In light of our new mandate to review every proposal, we discussed each in detail.

9.1 Proposal 297/C (Barker et al.):

Objectives: a) history of uplift and subsidence of the fore-arc resulting from subduction of a spreading center

- b) fore-arc structure; thermal metamorphism
- c) history of Antarctic Peninsula glaciation
- d) changes in terrigenous sediment supply relative to tectonic and climatic history.

This proposal contains two objectives (C and D) that are clearly of interest to the SOHP. However, several concerns were raised:

- (a) the problems associated with recovery in tillites
- (b) the problem of dating the section (low carbonate, high terrigenous input, numerous turbidites and hiatuses (e.g. Site 325))
- (c) proposal is immature--new seismic data is needed
- (d) we would like to see Bransfield Strait objectives included
- (e) question merits of site relative to Legs 113 and 119 sites.

In summary, we see several objectives that are of strong SOHP interest in this proposal, however, the paleoceanographic objectives must be better developed, and we should await the workup of Leg 113 before it is considered further.

9.2 Proposal 296/C (Cooper et al.):

- Objectives:
- a) Antarctic rifting history; uplift of transantarctic mountains
 - b) timing of rifting and rift grabens
 - c) Mesozoic and Cenozoic glacial history

This proposal suggests a series of sites that should result in a relatively high-resolution Neogene glacial record in a rare locality where erosion has not removed the record. This is extremely important to the SOHP and quite complimentary to Leg 113. The tectonic objectives are plausible and critical to understanding the glacial history of Antarctica. There is a brief discussion of paleo-seaways that could be better developed, but all-in-all the SOHP is very enthusiastic about this proposal.

10. Western Pacific (R. Sarg):

10.1 Geochemical Reference Holes:

PCOM has asked SOHP to evaluate the concept of Geochemical Reference holes particularly with regard to the Bonin/Marianas area and Old Pacific Crust.

The objectives of the geochemical reference sites were reviewed. Geochemical mass balances are clearly within the mandates of the SOHP but never among our highest priorities.

Several questions about the geochemical reference hole program were raised:

- a) Major concern was heterogeneity of both sedimentary section and oceanic crust. Inasmuch as we do not full understand this heterogeneity, we do not see how a few number of holes can address this problem and why one spot is better than another.
- b) Single holes may be very incomplete - we do not know how much of section is actually being subducted. It may be more appropriate to take averaged of all samples recovered in given ocean.
- c) We do not yet understand the role of fluid interaction in terms of chemical mass balances. How is this taken into account?
- d) If 'geochemical reference site' hypothesis is valid--we should see significant differences in areas behind regions subducting different types of oceanic sediments. Do we? Be^{10} data suggests that the situation is much more complicated than that proposed.

In summary, the SOHP supports the concept of geochemical reference sites but believes that there are a number of problems associated with the hypothesis. In particular, problems with poorly understood heterogeneity weaken the argument for the specific siting of reference holes. We, therefore, recommend that reference sites be optimized for other objectives, that a strictly geochemical reference site not be drilled in WEPAC and that for the Pacific, an Old Pacific crust site would be most useful for this study.

10.2 South China Sea Margin Transect - 46/D (Hays et al.):

The WEPAC Panel has been impressed by the new site survey data from the SCS transect region. The SOHP reviewed this proposal in the light of paleoceanographic and particularly sea level objectives and came to the following conclusions:

The SOHP strongly supports the concept of a S.C.S. Margin transect, particularly if industry well data on the margin is available. Such a transect is particularly relevant to our (and COSOD II's) high

priority objective of establishing the history of sea-level fluctuations inasmuch as it provides an important compliment to data to be recovered from the N.E. Australian Margin and atoll drilling. In addition, this young oxic basin provides a good comparison to the anoxic Sulu Sea.

However, as presently written the proposal does a very poor job of documenting how the selected sites could be used to address the question of sea-level history. In particular, there is no discussion of how the siliciclastic sequences will be dated. In addition, the SOHP feels that the proposal does not demonstrate the adequacy of the site surveys for selecting the sites chosen. Are crossing MCS lines available for selected sites?

Given the sites proposed, the SOHP believes that this program will probably take more than one leg. We prioritize the proposed sites as follows:

- SCS 1 - basinal oceanic crust
- SCS 4 - slope, on hinge line (must avoid faults!)
- SCS 3 - slope, synrift and rift sediments
- SCS 2 - rise, synrift and rift sediments

In summary, the SOHP sees the potential of deriving important sea level and paleoceanographic information from the SCS margin transect. The proposal does not fully develop the approach to be taken for these studies. More critically, the proposal does not adequately justify the selection of sites based on site survey data. Until such justification is provided, the SOHP cannot evaluate this program and recommends that this time be shifted to higher priority objectives in the CEPAC region.

10.3 N.E. Australia margin

The Chairman reported to the Panel the progress made in producing a N.E. Margin drilling prospectus. This prospectus was accepted by PCOM. It is possible that the program described in the prospectus would take more than one leg. If so, the SOHP recommends dropping 9A or 10 and Site 13.

The SOHP continues to support, in principle, the MVT proposal designed to look at the pre-mineralization host environment at the existing NEA sites. The Chairman has written to the MVT proponents and asked them to provide accurate estimates of the time needed to conduct their experiments and to carefully look at the availability of needed tools.

10.4 Nankai Geohydrology - 295/D (Geiskes et al.):

At our last meeting, we were asked to comment on a geohydrology program at Nankai. While we confirmed our interest in geohydrology studies, we could not respond to specific questions without a proposal. A proposal has now been submitted and the SOHP is quite disappointed. Specifically, the proposal is very poorly documented.

- there is little information on the exact studies proposed;
- there is little discussion of what measurements should be made;
- there is little discussion of how measurements will be made;
- there is no discussion of how much drilling time is involved.

Is extra shiptime necessary?

More critically, this proposal is not at all tied to either of the other two existing Nankai proposals and the details of how the proposed measurements will be related to hydrogeological processes is not addressed. We would also like to see justification of why Nankai is more appropriate than the Oregon Accretionary Prism for a hydrogeology program.

Given these deficiencies, the SOHP cannot support a leg devoted to these studies. Based on the information provided, we recommend that a geohydrology program be added to the objectives of Nankai I (Leg 127) to be fit within the existing time frame.

10.5 Proposal 287/D - ^{10}Be (Sacks et al.):

^{10}Be , a cosmogenic radionuclide with a relatively short half-life and an affinity for sediment has been identified as a possible tracer of subduction processes. This proposal is very relevant to geochemical reference sites and should be incorporated into any reference hole study. However, because of the short half-life and generally low oceanic sedimentation rates, the SOHP believes that such a study may be more appropriately done with a large number of standard piston cores rather than the drill ship.

10.6 WPAC Co-chief Recommendations:

TAMU informed us that all Co-chiefs have been selected except for one each on Legs 128 and 129. For either of these legs, we suggest:

Jim Ingle
 Carolyn Isaacks
 Hugh Jenkyns
 Joe Morely

11. CEPAC:

The relevancy of discussion of the CEPAC panel's last meeting was questioned in light of the results of the most recent PCOM meeting and PCOM's directives regarding CEPAC drilling. Similar questions have been raised by CEPAC proposal proponents (e.g. Sancetta letter - Appendix B) regarding the status of their efforts in light of the PCOM directives. These are important questions that must be addressed by PCOM.

In the absence of additional guidance, the SOHP will proceed with CEPAC planning as it has in the past. We cannot (nor do we want to) ignore the substantial efforts of our colleagues on CEPAC as we cannot dismiss the efforts of the numerous CEPAC proponents who continue to submit proposals. We will, therefore, discuss the results of the CEPAC and proceed to review, in detail, all new CEPAC proposals submitted to the Panel. When we have finished these discussions, we will evaluate the new proposals in light of our previously established CEPAC themes and rank them in this thematic framework relative to all other CEPAC proposals. Upon completion of this procedure, we will discuss and respond to the PCOM's CEPAC directives.

11.1 CEPAC Panel: (W. Sliter)

CEPAC has reviewed the top priorities of the three thematic panels and produced a second prospectus that consists of 22 legs. The prospectus does a good job at incorporating the highest priority objectives of the SOHP and while we believe that there is room in this prospectus for combining programs, it is a reasonable starting point for CEPAC planning.

11.2 New Proposals: 247/E (revised) (Bornhold et al.)

This proposal contains a number of objectives that are within the SOHP's top ranked CEPAC theme of Neogene Paleooceanography. More importantly, it addresses these objectives in the North Pacific, potentially providing some of the highest latitude sites available to us. The

drilling strategy outlined by both SOHP and COSOD II for addressing these problems is one of transects and the sites proposed here could become key high-latitude components of a latitudinal transect.

Several concerns were raised, however. In particular was concern over the ability to recover sequences with well-preserved carbonate. As presented, the proposal is still a bit vague about the precise locations of sites; further survey work is necessary before the mid-transect sites can be selected (some survey work is scheduled for 1989-90). Of the sites proposed, the SOHP ranks the Patton Murray Seamount site as highest priority. This area has been surveyed but the proposal reports only a cursory shipboard examination of the cores. We would encourage the proponents to follow up on these cores so as to better establish the appropriateness of this site. Based on existing documentation, we would select the Bettis Area site as an additional site for the transect but believe that even more appropriate sites may be found as a result of future survey work.

In summary, this proposal addresses many of the SOHP's highest priorities. We encourage the proponents to follow up on existing and future site survey data in order to more clearly demonstrate the appropriateness of the sites selected. Well-documented sites will be ranked very highly and incorporated into our first priority North Pacific transect.

11.3 287/E (Handschumacher and Vogt)

- A proposal to drill M-series anomalies. These sites are not located on oldest Pacific crust (no Jurassic where proposed) and therefore are of limited interest to the SOPH.

11.4 283/E (Jacobi et al.)

- A proposal to examine the influence of the Kuroshio Extension on sedimentation on the Abyssal Plain. The SOHP has a number of problems with this proposal:
 1. The sites are very deep (5800 - 6000 m). How will the brown clays be dated and sedimentation rates established?
 2. The program, as proposed, seems regional in nature and difficult to justify under our guiding themes. Questions of paleocirculation are critical in a global sense but more appropriately studied at passive margins.

11.5 Response to PCOM's CEPAC Directive:

The chairman and the PCOM liaison related the events leading to PCOM's CEPAC directives to the Panel. While the Panel realizes that planning must be done within some sort of time frame, we are quite disappointed to see that POLITICS and not SCIENCE appears to be determining these time constraints. The Panel could find no scientific justification presented by PCOM for limiting CEPAC drilling to 18 months. In fact, the 18-month limit was imposed before any science was presented. It was our understanding that PCOM was responsible for SCIENTIFIC planning and not POLITICAL decisions (these should be made at EXCOM). These arbitrary time limits only serve to propagate the circumnavigation philosophy that has so frustrated us in the past. We implore the PCOM members to place national interests behind scientific merit in making their decisions and thus allow the planning process to function as it should.

Despite the Panels abhorrence of PCOM's CEPAC actions, we are faced with a directive to which we must respond. Our approach to this response was to evaluate our CEPAC themes, see how the newly discussed proposals fit into our ranking of all CEPAC themes and proposals and then determined what a minimally acceptable SOHP CEPAC program would consist of.

Evaluation of CEPAC themes and new proposals:

After evaluating the three new CEPAC proposals brought before the Panel, our highest priority CEPAC themes remain unchanged (see minutes of Tokyo meeting - Appendix B). We reiterate that each of these themes focuses on critical sediment and ocean history problems and that we would like to see CEPAC drilling address all of them. Proposals 283/E and 287/E did not generate enough enthusiasm to change SOHP rankings. Revised proposals 247/E contains two sites, that if better documented, will be amongst SOHP's highest ranked sites.

Having reviewed all CEPAC proposals submitted to the SOHP to date and having reaffirmed our CEPAC themes, we set out to determine what a MINIMUM SOHP CEPAC Program would involve. The SOHP concurs with PCOM in their selection of our top four themes for a MINIMUM program and agrees that with the careful selection of sites some of these thematic objectives can be combined.

Theme 1: Neogene Paleoceanography: High-resolution surface and bottom water Neogene history of the Pacific and its relationship to paleoclimate, sea level and tectonic events.

This continues to be our highest priority theme for the Pacific. It is important to note that this theme is also well represented in the priority one recommendations of the COSOD II Working Group I. Both the SOHP and COSOD II Working Group I recommend a strategy of drilling transects (or arrays in the COSOD II document) to meet the objectives of this theme. We separate Neogene from longer time period problems because of the differences in the data available, resolution achievable and the overall drilling strategy for addressing higher frequency fluctuations. The COSOD II report presents well-documented arguments for the need for broad areal and depth coverage in order to understand the ocean system. To achieve this coverage, they recommend a total of 20 Neogene transects with 8 in the Pacific. We support this recommendation, but as a MINIMUM requirement for the Resolution's first visit to the Pacific we propose three transects and contend that Neogene Paleooceanography in the Pacific cannot be studied with less than these three transects. In order to look at surface water, deep water, and latitudinal (frontal) variations, we propose a MINIMUM requirement of: 1) a Western Pacific depth transect; 2) an eastern equatorial transect; and 3) a North Pacific transect.

The selection of sites for the western and eastern Pacific transects was quite straightforward. Two highly-ranked (by both SOHP and CEPAC) proposals (142/E - Ontong Java Plateau and 221/E - Equatorial Pacific paleoenvironments) directly address our highest priority themes and show very high potential for success. The Panel has had four proposals (195/E, 199/E, 247/E and 259/E) that are relevant to the Northern Pacific transect, and we reviewed three proposals in detail to see how (or if) sites could be combined to meet our primary objectives.

Our primary objectives for a North Pacific transect include:

1. Understanding global ocean circulation; the history of the oldest, O₂ depleted deep water.
2. Has deep water formed in the North Pacific?
3. Establish a detailed calcareous high-latitude stratigraphy.
4. The history of North Pacific surface waters and the Arctic Front.
5. Understand the onset of biogenous silica blooms and biotic species radiations.

6. The history of acolian and ice-rafted sedimentation in the North Pacific.

We believe that the objectives can be addressed with a transect consisting of the following sites:

Meiji 1 and 2 from 259/E
 NW 1,3, and 4 from 199/E
 PM1a from 247/E

Theme 2: Mesozoic-Paleogene Paleoenvironments

Ideally an SOHP program for Pacific Mesozoic-Paleogene paleoenvironmental studies would contain three components: 1) sites in the Bering Sea; 2) sites on the Shatsky Rise; and 3) sites on selected atolls and guyots.

Bering Sea: Of the proposed Bering Sea sites, Site BR1 on Sounder Ridge (proposal 182/E) with a paleolatitude of approximately 20°N presents the best opportunity of recovering a well-preserved pre-Neogene section. Unfortunately, we have several concerns with the proposed site:

1. There is very thick turbidite sequence--drilling may not get beyond the Neogene.
2. The paleoposition of this site is uncertain.
3. It is not clear that 20°N is a high enough paleolatitude for paleoenvironmental studies.
4. What is the effect of at least 1000 m of burial on the section.

Because of these uncertainties, we view this site as a high-risk site and in this light will not include it in our MINIMUM CEPAC program. We do, however, hope that the potential for Bering Sea sites to shed light on pre-Neogene paleoenvironmental problem can be better documented and, if so, will push strongly for their inclusion in a core CEPAC program.

Atolls and Guyots: Three proposals (202/E, 203/E, and 260/E) aimed at a variety of objectives have called for the drilling of atolls and guyots. In terms of a MINIMUM CEPAC program aimed at looking at pre-Neogene paleoenvironments, the SOHP proposes an E-W transect consisting of the following sites:

OS-3 (proposal 260/D) on Ogosawara Plateau at the western end of the transect to address problems of Cretaceous paleoenvironment where there is ample evidence of good carbonate preservation.

A 3-guyot transect consisting of Allison, Menard and Wilde guyots is proposed (from proposal 203/E). Along with problems of pre-Neogene paleoenvironment drilling, these guyots will address questions of sea-level fluctuations, the timing and causes of platform drowning, and the history of advance and retreat of platform margins.

Sylvania and Harrie Guyots (from proposal 202/E) drilling into the pelagic cap of each.

Shatsky Rise: provides low paleolatitude record of Mesozoic-Paleogene record with good bio- and magnetostratigraphy and the possibility of looking at paleowater mass data. Two sites are proposed (from proposal 253). These will be discussed further under Theme 4.

Theme 3: Sea Level - Atolls and Guyots

The use of atolls and guyots as "dipsticks" for studying sea level fluctuations has long been supported by the SOHP and has recently been endorsed by the COSOD II Working Group I. While the guyot drilling suggested above will address the questions of pre-Neogene sea level fluctuations, none of the proposed sites will address Neogene sea-level history. We encourage the atoll and the guyot proponents to compare paired atolls and guyots and to drill the margin of a living atoll to get at the Neogene sea-level history. We suggest Enewetak as a possible site for this work.

Theme 4: Anoxic Events

Shatsky Rise (proposal 253) is the preferred site for exploring anoxic events in the Pacific. A three-hole transect is proposed, but the SOHP believes that in a MINIMUM program the question of anoxic events can be addressed with two sites (SHAT 1 and SHAT 3). It is important to note that the ability to drill through interbedded cherts and chalks must be established before this can be a viable drilling program.

11.6 The SOHP MINIMUM CEPAC Drilling Program:

The SOHP has identified four high-priority themes (Neogene paleoceanography, Mesozoic-Paleogene paleoenvironment,

Atolls and Guyots: Sea-level fluctuations, and Anoxic events) to be included in a MINIMUM CEPAC program. Many of these themes can be addressed simultaneously and to do so, we propose the following drilling programs:

1. Western equatorial depth transect - Ontong Java Plateau - as in proposal 142/E - Neogene paleoceanography
2. Eastern equatorial transect - as in proposal 221/E-Neogene paleoceanography
3. North Pacific transect - Meiji 1 and 2 (259/E); NW 1, 3, and 4 (199/E), PM 1A (247/E) - Neogene paleoceanography
4. Atolls and Guyots - OS-3 (260/D); Allison, Menard and Wilde Guyots (203/E); Sylvania and Harrie Guyots (202/E); Enewetak (202/E) - Mesozoic-Paleogene paleoenvironment, sea level
5. Shatsky Rise - SHAT 1 and SHAT 3 (253/E) - Mesozic-Paleogene paleoenvironments, anoxic events

These five drilling programs make up the core of the MINIMUM SOHP CEPAC program. We emphasize that many of the proposed sites are HPC sites and that several of the proposed programs (e.g. Shatsky Rise) involve less than one leg's worth of drilling.

12. Next Meeting:

October 4, 5, 6 - Milan, Italy

13. Rotations and Liaisons:

Bob Embley, Phil Meyers, and Rick Sarg are scheduled to rotate off the Panel. We sincerely thank each of them for their services and suggest the following replacements.

To replace Embley - Roger Flood, LDGO; Bob Halley, USGS;
P. Scholle, SMU

To replace Sarg - Tom Loutit, EPR

To replace Meyers - the Panel would like to add a paleoclimate modeller:
Eric Barron, Princeton
Judy Parrish, University of Arizona

Liaisons - IOP - Isabella Premoli-Silva
 WPAC - Bob Garrison
 CEPAC - André Droxler
 (Meyers will attend next CEPAC meeting)

14. Other Issues:

14.1 G. Brass suggested that the SOHP should review cruise prospectus to ensure that final cruise plans reflect original intentions. The SOHP agreed with this and will do so in the future.

14.2 Logging: The SOHP reiterates its strong support for the logging program. We would like to see a better integration of the logging scientist with other members of the scientific party. We would also like to see an increased effort to improve the mode of presentation of the log data.

15. Arctic Drilling:

L. Mayer and G. Brass briefed the SOHP on the efforts underway to organize an international program for high Arctic scientific drilling. Options for various platforms and the proposal for a Centennial of the Nansen Drift (C.O.N.D.) being developed by J. Thiede (Germany), Y. Y. Kristoffersen (Norway), and L. Johnson (ONR) were described. Brass expressed concern over the perception by some in U.S. that Arctic drilling is of interest only to a small number of regional experts.

The SOHP was greatly disturbed by this perception. High Arctic drilling has long been a prime (though unattainable) goal of this Panel. It was cited in COSOD I as a primary objective and reiterated in COSOD II as a priority one goal. Even a small number of deep cores from the Arctic basins will revolutionize our understanding of, and ability to model global oceanographic and climatic problems. Arctic drilling is anything but a regional problem. Rather it may provide the critical inputs necessary to develop an understanding of the global ocean system.

The SOHP strongly supports the international effort for a high Arctic drilling program. We do not view this program as a competitor to ODP, but rather a necessary complement, that will only be accomplished with a dedicated and concentrated effort. We encourage the proponents of the high Arctic drilling program to work closely with ODP and its advisory structure and look forward to a successful project.

16. COSOD II:

The Panel had a long discussion of the COSOD II meeting and document. This discussion can be summarized as follows:

There was general disappointment and frustration over the structure of the meeting. There was a consensus that much of what would be produced was predetermined. We acknowledge the desire of the organizers to focus the program on exciting aspects of the science but this led to the exclusion of several high priority SOHP themes (sedimentology, metallogenesis and diagenesis).

In contrast to the meeting itself, the document produced was excellent. Of particular concern to the SOHP were the working groups whose mandates involved SOHP themes (Working Group I, Working Group III, Working Group V). We are particularly pleased with the report of Working Group I, which produced a very well focussed plan for addressing objectives that are totally consistent with the SOHP's highest priority themes. Our only concerns with the Working Group I report are the absence of any discussion of sedimentological problems (e.g. depositional manifestation of continental erosion and uplift history) and an apparent over emphasis of Neogene problems. We feel that it is quite relevant to point out that Working Group I attracted, by far, the largest portion of the community, clearly indicative of the global significance of these themes.

Working Group III more than adequately covered our concerns with hydrogeology but only implicitly dealt with problems of orogenesis, metallogenesis and sea-floor mineralization. Sediment diagenesis and global ocean chemistry seemed to have slipped through the cracks.

In contrast with Working Group I and Working Group III, there was general outrage with the results of Working Group V. We applaud the effort to bring paleobiologists into the program but the separation of the paleontologists from the paleoceanographers was unwarranted. The recommendations of this working group (aside from improved database statements) were unrealistic and unproductive. The working group report serves only to reinforce the notion that paleobiology problems cannot drive the drillship. Rather, the appropriate material for these studies can be readily collected in the course of addressing the global problems described in Working Group I.

There was also concern expressed over the push for a

the second platform. The SOHP would rather see effort put toward developing cheaper long coring capabilities (e.g. GPC and wireline coring systems).

Contrasting COSOD II to COSOD I, we found that the COSOD I report was much more descriptive--a retrospective of what had been done and a shopping list of what we should do. COSOD II, with the benefit of a number of years of additional data, was much more focused and oriented towards the testing of specific models. This is a natural evolution in the development of a global drilling program and one that we applaud.

17. Long-term Planning:

With its final throws of exhaustion, the SOHP began the important task of long-term planning. As a guideline for this planning, we assumed a reasonable length of time available for drilling (i.e. several years) and no regional constraints. We then asked ourselves what major global themes would we address and how would we formulate a global program to attack these themes. We developed six themes:

1. Neogene Paleoceanography - Short period changes. (à la COSOD II) including Arctic and Southern Oceans
2. The history of sea level (à la COSOD II)
3. Longer period changes - the pre-Neogene paleoenvironment
4. Paleoupwelling and productivity
5. Diagenesis and paleochemistry
6. Depositional manifestations of continental uplift and erosion:

Working groups were formed and over the next few months these themes will be further developed. The fully developed themes will be presented in the form of a White Paper and submitted to the JOIDES Office for publication in the August JOIDES Journal.