

WESTERN PACIFIC REGIONAL PANEL
13-15 December 1986
Stanford University, California

EXECUTIVE SUMMARY OF MEETING MINUTES

Attendance

B.Taylor, M.Audley-Charles, J.Gill, R.Hyndman, J.Ingle, D.Jongsma, J.Natland, C.Rangin, J.Recy, H.Schluter, S.Scott, E.Silver, K.Tamaki, D.Hayes (PCOM), N.Pisias (PCOM), J.Hawkins (LITHP), R.Sarg (SOHP), D.Howell (TECP), A.Mauffret (SSP), A.Meyer (TAMU), R.Jarrard (LDGO), C.Moss (JOIDES Office)

PCOM Report

PCOM is generally pleased with the WPAC program. N.Pisias emphasized the importance of thematic justification for programs considered by the panel and encouraged the consideration of programs which can be coordinated with CEPAC programs. A nine leg drilling program can be viewed as a guideline and PCOM needs to know what programs are considered important, what these programs represent in time, and what scientific objectives will be lost when cuts are made. It is also important to define any special technology problems or requirements which will impact the FY88 budget and planning process. Such requirements should be presented to the PCOM for their consideration at their January 1987 meeting.

TECP Report

D.Howell reported that at its last meeting TECP prioritized western pacific programs in the following order:

1. Bonin transect
2. Nankai Trough
3. Japan Sea
4. Bonin-Marianas
5. Banda-Sulu-South China Basins
6. Vanuatu
7. Nankai physical properties (1/2 leg)
7. Lau Basin
8. Sunda backthrusting

Other programs of interest included a South China Sea margin, Zenisu Ridge, a second Vanuatu program, and a Bonin reference site.

The three primary thematic objectives TECP would like to address are:

1. Arc processes
2. Back-arc rifting
3. Collisional processes

LITHP Report

J.Hawkins reported that LITHP focused primarily on the problems of crustal generation, aging and recycling and then prioritized the programs which best addressed those issues. LITHP top priority programs are:

1. Bonins
2. Lau Basin system
3. Sea of Japan

Also considered to be of importance is the issue of reference sites and a large latitudinal/longitudinal coverage.

SOHP Report

R.Sarg reported that the top priority programs of the SOHP are:

1. Great Barrier Reef
2. Japan Sea
3. South China Sea Basin
4. Sulu Sea
5. Bonin site 6

DMP Report

R.Hyndman, who attended the last DMP meeting as a special WPAC liaison, reported that the DMP was enthusiastic about the Nankai physical properties "mini leg" and the long-term recording (re-entry) holes near Japan. Individual programs were not ranked by the DMP.

SSP Report

A.Mauffret reported that the SSP has now assigned watchdogs for each of the WPAC programs currently under consideration. Standards for site survey summaries have been revised and will appear in the next JOIDES Journal.

ODP/TAMU Report

A.Meyer reported on the results from Legs 110-112, and reviewed planning progress for Legs 113 and 114.

Program Revisions/New Proposals

J.Gill reported on progress of the Lau Basin ad hoc working group. The group has identified the primary thematic objectives in this region as:

1. petrologic evolution of the basin
2. dynamics of arc rifting and backarc basin formation
3. ValuFa: evolution of a differentiated axial volcano
4. relationship between magmatism, regional tectonics and hydrothermal processes
5. forearc tectonic history
6. transect study of heat and fluid flow

The ad hoc group has reached a consensus that sites 1-6 are the most important in addressing these objectives. New information received since the groups last meeting now indicates that site 7 should be substituted for site 5.

R.Sarg reviewed revisions made to the Great Barrier Reef (GBR) program. SOHP considered this program in great detail and has recommended that sites 1-6, 9 and 10 represent the minimum program to adequately address the thematic problems of the area. They also recommend that site 2 be extended to a depth of 1000 m.

S.Scott reviewed a new proposal for drilling in the Woodlark Basin. The panel agreed that the proposal needs a good deal of additional background information, as well as site survey data, before it can be considered in detail.

H.Schluter and C.Rangin reviewed sites and objectives for the Sulu Sea transect. In response to SOHP recommendations a new objective of obtaining a complete sedimentary sequence has been included in the program. Other program objectives include: history of deformation, sedimentary sequence in an anoxic basin and back arc processes. Highest priority sites are S5, S4, and S2.

K.Tamaki reviewed a new proposal for drilling the Ogasawara Plateau. Main program objectives include: paleo-oceanographic questions, origin of the seamount chain, and plateau collision processes. The panel agreed that before this proposal can be considered in detail it should be reviewed by the CEPAC, TECP and SOHP panels. In addition it was recommended that the proponents be asked to submit additional data which would allow the identification of specific sites.

K.Tamaki reviewed two proposals for the Japan Sea program. The first proposal includes new site survey data relevant to sites on the Korean rise and in the Tsushima Basin. KP-1 is a viable alternative to JS2 but VB-1 is on rise-basin transition, not in the basin proper. It was felt that objectives of the second proposal could be met by the existing prospectus sites.

K.Tamaki reviewed a new proposal for drilling in the Kuril forearc. Primary objectives of this program are arc-arc collision/junction processes and shifting of plate boundaries. The panel recommended that a response to the proponents should include a request for more detailed seismic and site survey data and the inclusion of some sort of reference site.

J.Natland reviewed a proposal for old Pacific reference site drilling which would encompass both WPAC and CEPAC regions. D.Howell and J.Hawkins responded that both TECP and LITHP would be interested in reviewing this program in detail. The WPAC panel agreed that this proposal should be included in future scheduling and priority discussions and that it appears to be a good cross-over package between WPAC and CEPAC regions.

R.Hyndman reviewed two proposals for evaluation of physical

properties in the Japan Trench area. The first proposed the establishment of a long-term downhole recording "observatory" to monitor earthquake cycles and the nature of deformation processes. This is currently an immature proposal which would be most appropriately reviewed by the DMP before further WPAC consideration. The second proposal addresses geotechnical evaluation of convergent zone processes including decollement penetration, deformation processes, and constraints on physical properties and fluid models. The panel agreed that a "mini leg" to address this program should be included in the ranking process and that technology developments would also have to be considered.

J.Recy and C.Rangin reviewed revisions to the Vanuatu program. The primary objective is to investigate arc-ridge collision, specifically:

1. reference sites on the colliding ridge and guyot.
2. the composition and vertical tectonics of the narrow forearc.
3. the tilting and folding of the adjacent intra-arc basin
4. the rifting of the arc along strike.

Sites of highest priority are two forearc pairs (DEZ 2-3 and DEZ 4-5) and two intra-arc basin sites (1AB1 & 2) and one back-arc site (BAT-2). Additional site surveys will be conducted next year and relocation of some sites may be appropriate at that time.

D.Hayes presented revisions to the South China Margin proposal in response to a previous WPAC request. Specific sites and objectives were reviewed and a general discussion of the proposed model followed. The panel agreed that this proposal includes a well stated problem, a good data set and the support of at least one thematic panel (SOHP), and should be included in the ranking process.

Program Evaluation

After discussing specific time requirements of each program panel members voted on the relative priorities of each program (several programs will require more than 1 leg to drill). Program proponents were not allowed to vote for their programs and the resulting priority list is as follows:

1. Banda-Sulu-South China Sea Basins
2. Bonin I
3. Lau Basin
4. Vanuatu
5. Japan Sea
6. Nankai
7. Great Barrier Reef
8. Sunda
9. Bonin II
10. Nankai Geotechnical "mini leg"
11. South China Sea Margin
12. Zenisu Ridge

A table which indicates specific drill sites and time estimates is attached. The panel will update its prospectus to reflect the above

priorities prior to its next meeting. A revised prospectus will be made available for PCOM consideration at their spring 1987 meeting.

Engineering Developments

The panel agreed that the following engineering developments should be presented to PCOM for their consideration in the FY88 budget planning process (not in order of priority):

1. Navi-drill adaption to APC/XCB
2. Tools for Nankai Geotechnical program
3. Side entry sub
4. drill stem packer operation
5. capability of drilling coarse unconsolidated turbidites
6. recovery of fractured volcanic rocks

1987 Meeting Schedule

The 1987 WPAC meeting schedule will be as follows:

- 2-4 March 1987, Tokyo, Japan or Noumea, New Caledonia
- 1-3 June 1987, Sidney, British Columbia or Corvallis, Oregon
- 2-4 November 1987, London or Bali

Membership Rotation

E.Silver will be rotating off the panel after this meeting. The panel thanked him for his service and wished him luck in his future endeavors. Nominations for his replacement are G.Moore and N.Lundberg. After the March 1987 meeting J.Ingle will rotate off the panel. Nominations for his replacement are B.Thunell and J.Barron. After June 1987 J.Recy will rotate off as the western pacific at-large representative. Nominations for his replacement are D.Tiffan and J.Danielle.

There being no further business the meeting was adjourned.

WPAC Program Priorities and Estimated Time Schedule

<u>Priority / Program</u>	<u>Days Drilling</u>	<u>Days Logging</u>	<u>Special Experiments</u>	<u>Min. Transit</u>	<u>Total Days</u>
1. Banda-Sulu-SCS Margin	62	11	--	10	83
2. Bonin I (1,2,5ab,6)	66	9	--	4	79
3. Lau Basin	48-50	6	1	3	58-60
4. Vanuatu	62	10	--	4	76
5. Japan Sea	53	11	3-5	5	72-74
6. Nankai	34-42	5	--	5	44-52
7. Great Barrier Reef	42-50	8-10	--	4	54-64
8. Sunda	39	11	--	5	55
9. Bonin II	29	5	--	6	40
10. Nankai Geotechnical	(23-25)		5	2	30-32
11. SCS Margin	43-58	7	--	4	54-69
12. Zenisu Ridge	19-20	6	1	2	28-29

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MEETING MINUTES

Attendance

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Introductions/Welcome

Panel members and guests introduced themselves and J.Ingle welcomed everyone to Stanford University. B.Taylor reviewed the agenda and the minutes of the past meeting and asked if there were any corrections or additions. There being none, the agenda and minutes were approved.

PCOM Report

N.Pisias reported that PCOM is generally pleased with the WPAC program. He emphasized the importance of thematic justification for programs considered by the panel and encouraged the consideration of programs which can be coordinated with CEPAC programs. A nine leg drilling program can be viewed as a guideline and PCOM needs to know which programs are considered important, what these programs represent in time, and what scientific objectives will be lost when cuts are made. It is also important to define any special technology problems or requirements which will impact the FY88 budget and planning process. Such requirements should be presented to the PCOM for their consideration at their January 1987 meeting.

N.Pisias also reported that the Indian Ocean program is up in the air. The SW Indian Ridge program may be postponed due to the need for guide base development. Makran site survey information is still unavailable due to the Darwin being unable to complete the survey cruise as scheduled. The planning structure must be careful in the future that immature proposals don't get so far in the planning process. Insufficient site survey data has resulted in legs dropping out with insufficient time to fully consider replacement programs.

TECP Report

D.Howell reported that the role of TECP has evolved from proposal reading/ranking to consideration of global problems/objectives and then deciding on best geographic location for addressing identified problems/objectives.

The three primary thematic objectives TECP would like to address in the western Pacific are:

1. Arc processes
2. Back-arc rifting
3. Collisional processes

With a limited amount of time in the western Pacific, TECP would like to deal with collision processes and leave passive margins for another area. TECP has been trying to get away from proposal evaluation and stay with identification of major thematic problems/questions. This has presented a problem: how can a more extensive collision drilling program be developed without good supporting proposals?

D.Howell reported that at its last meeting TECP prioritized western pacific programs in the following order:

1. Bonin transect
2. Nankai Trough
3. Japan Sea
4. Bonin-Marianas
5. Banda-Sulu-South China Basins
6. Vanuatu
7. Nankai physical properties (1/2 leg)
7. Lau Basin
8. Sunda backthrusting

Other programs of interest included a South China Sea margin, Zenisu Ridge, a second Vanuatu program, and a Bonin reference site.

In addressing accretionary margin objectives, Nankai is the preferred location. Other margins are too thick, and TECP is strongly supportive of the Nankai program. With respect to the South China Sea program TECP is concerned that deep structures are not well know, and that commercial and Chinese data are not yet available for this area.

With respect to the question of regional/thematic panel interaction, N.Pisias explained that ideally, thematic panels should consider global questions and identify the best locations to address them. Regional panels must then consider whether it is possible to address/achieve thematic objectives in their ocean.

LITHP Report

J.Hawkins reported that LITHP has focused primarily on the problems of crustal generation, aging and recycling, and has prioritized the programs which best address those issues. Based on these issues, LITHP has ranked the following programs as their top priorities for the western Pacific:

1. Bonins
2. Lau Basin system
3. Sea of Japan

LITHP feels that achieving a large latitudinal/longitudinal coverage is very important. The Bonin program fits well but planning efforts shouldn't focus entirely on this area.

Reference sites which address global recycling balances are also of great importance to LITHP. The Lau Basin system looks like a good program, however, LITHP recognizes that regional panels won't be very supportive of

spending a lot of time on reference sites.

SOHP Report

R.Sarg reported that the WPAC programs were discussed with respect to SOHP thematic priorities with the following results:

The Great Barrier Reef seems to be an area which best addresses many of SOHP's global themes including: unconformities, sedimentary responses to changing sea level, shelf processes, changes in paleoclimate, tectonic and sedimentary history and diagenesis questions. The Sea of Japan program addresses SOHP priorities with respect the late Miocene/Holocene record, anoxic sedimentation and mixing processes. The South China Sea basin was ranked as a high priority program but SOHP feels the availability of commercial data is crucial to proceeding with this program. The Sulu Sea program addresses paleoceanographic and anoxic sedimentation objectives. SOHP also discussed the Bonin program which is generally supported, particularly Bonin I site 6.

With these thematic priorities in mind, SOHP has developed the following priority list with respect to WPAC programs:

1. Great Barrier Reef
2. Japan Sea
3. South China Sea Basin
4. Sulu Sea
5. Bonin site 6

DMP Report

R.Hyndman, who attended the last DMP meeting as a special WPAC liaison, reported that the DMP was enthusiastic about the Nankai physical properties "mini leg" and the long-term recording (re-entry) holes near Japan. Individual programs were not ranked by the DMP.

R.Jarrard reported that Lamont is conducting logging school meetings in ODP member countries. The schools have been well received and Lamont is hoping to conduct similar programs in the U.S.

SSP Report

A.Mauffret reported that the SSP has now assigned watchdogs for each of the WPAC programs currently under consideration. Standards for site survey summaries have been revised and will appear in the next JOIDES Journal.

Specific comments will be presented during leg discussions.

ODP/TAMU Report

A.Meyer reported on the results from Legs 110-112, and reviewed planning progress for Legs 113 and 114.

Leg 110:

Six sites (671-676) were completed on Leg 110. Sites 671 and 675 completely

penetrated decollement surface between two oceanic plates. Limited logging success; packer was unsuccessful due to poor hole conditions.

Site 672 was a reference section 6 km east of decollement. Sites 673 and 674 (13 and 17 km west of decollement, respectively) show increased structural deformation, with major thrust zones dipping 15° to west. Site 676, about 250 m west of deformation front, shows incipient stages of accretion.

Leg 111:

Hole 540B was deepened by 212.3 m to a total of 1562.3 mbsf in sheeted dike complex. Average recovery was 12.6%. The hole claimed parts of three coring assemblies with lots of fishing. Logging and downhole experiments were very successful. A diamond core bit, float valve, and part of a lower support bearing were left in the hole. Sites 677 and 678 were also completed.

Leg 112:

Leg 112 is still out. Ten sites (679-688) have been drilled, six of which were paleoceanographic sites (shallow water). On one hole 10 cores were recovered in 2 hours! Some cores are showing ages significantly younger than previously thought. A preliminary leg report should be out in a few weeks.

Future Legs:

Crew changes will take place at the Falkland Islands. A picket boat is on its way for Leg 113, and the leg prospectus is out. After Leg 114 co-chiefs have been identified for four legs:

SWIR	von Herzen, Robinson
Red Sea	Cochran, Ganoch
Neogene I	Prell, Nitsuma
Makran	Leggett, Haq

Sudanese clearance has been received for the Red Sea leg, however there is still nothing from the Egyptians or Saudis. PCOM will make a final go/no go decision in January.

The issue of non-member country participation on WPAC legs was discussed. Panel members agreed it is important to keep planning information available to WPAC countries. The best way to do this is probably to communicate through regional secretariats and encourage proponents to include interested local scientists in their proposals to the greatest extent possible.

Program Revisions/New Proposals

Lau Basin

J.Gill reported on the progress of the Lau Basin ad hoc working group. The group met five weeks ago for a discussion of all available data. A six hole, single leg program was discussed, with each of the six holes having

multiple objectives. An addition four holes were also considered. WPAC has previously reviewed eight of the ten holes discussed by the working group, however some of those eight holes have been slightly modified.

J.Gill outlined the primary thematic objectives of the Lau Basin program:

1. petrologic evolution of the basin
2. dynamics of arc rifting and backarc basin formation
3. evolution of a differentiated axial volcano (Valu Fa)
4. relationship between magmatism, regional tectonics and hydrothermal processes
5. forearc tectonic history
6. transect study of heat and fluid flow

The ad hoc group has reached a consensus that sites LG 1-6 are the most important in addressing these objectives. New information received since the groups last meeting now indicates that site 7 should be substituted for site 5. Sites 1 and 4 are re-entry holes and all holes except site 3 need significant basement penetration.

Gill recommended that the panel may want to consider a bare rock site at LG1 or LG4 as a separate objective. The working group worked on the basis of a one leg Lau Basin program and a bare rock hole could consume most of a one leg program on its own.

There are some site survey problems which will require dedicated site survey work. Seismic data in particular is inadequate. As the U.S. is not currently planning any work in the Lau Basin the program will have to depend on others for site survey data. The Sonne and the Charcot will both be in the area in 1987. The need to involve local scientists was reiterated.

Great Barrier Reef

R.Sarg reviewed revisions made to the Great Barrier Reef (GBR) program and conveyed SOHP's comments and recommendations.

SOHP considered this program in great detail and has recommended that sites 1-6, 9 and 10 represent the minimum program to adequately address the thematic problems of the area. SOHP feels the revised proposal addresses concerns expressed at last WPAC meeting, including time allocations, and reconsideration of sites which will more fully address tectonic problems.

The SOHP panel is very concerned that first 4 holes are too short and strongly recommend that site 2 be drilled to original depth of 1000 m. If site 2 is deepened 5-10 days drilling time should be added to the program.

SOHP priorities for this program are:

1. sites 1-6 as listed (w/site 2 extended to 1000 m)
2. sites 9 & 10 (Queensland Plateau)
3. sites 7, 8, 11

Priorities 1 & 2 are felt to be minimum package which can adequately address the program objectives.

SOHP recognizes that some holes may encounter resistance from PPSP but feel viable alternative sites can be found. S.Scott stated that a proposal from Canadian Geological Survey (just submitted to JOIDES Office) addresses hydrothermal processes in carbonate reefs.

A.Mauffret reported that the proposal has been revised since its last SSP review. Site survey information is far from satisfactory at the moment but the revised proposal should answer many questions.

The general question was raised as to guidelines for changing site/hole numbers. It was agreed that new holes should be newly numbered; old holes should maintain consistent numbering. It is the responsibility of proponents to submit proposals with properly numbered sites.

Woodlark Basin

S.Scott reviewed a new proposal for drilling in the Woodlark Basin. This new proposal addresses many of the same questions as the Red Sea and may be a good substitute.

The proponents feel site WWB1 is most important in achieving program objectives. The major problem with this site is that it is a bare rock hole, but it may be possible to get it done in half a leg. There is a need for seismic data. The PACLARK ship may be available in April 88. Seabeam is being sought through the Australian Navy and Papua New Guinea.

The panel felt the proposal is very immature in that large amounts of background and site survey data are needed before a drilling program can be considered in detail. The panel expressed concern about complexity of the area and preliminary nature of proposal.

A general discussion followed as to when the submission of new proposals should be cut off. It was agreed that the panel should maintain the largest amount of flexibility possible so PCOM can consider factors such as ship scheduling, weather, etc. Perhaps PCOM scheduling deadlines should be more strictly enforced.

Banda-Sulu-South China Sea Transect

H.Schluter and C.Rangin reviewed sites and objectives for the Sulu Sea transect.

In response to SOHP recommendations a new objective of obtaining a complete sedimentary sequence has been included in the program. This will require that about 1-3 days be added to the original time estimates. Other program objectives include: history of deformation, sedimentary sequence in an anoxic basin and back arc processes.

This area deals with complex collision of different terrains with subsided oceanic crust in the back-arc. Work on this environment (particularly at site S5) will apply to all surrounding seas/areas. Good onshore data is available.

The proponents feel a first priority package would include sites S5, S4 and S2. This package would address timing of the collision belt and the role of oceanic crust. A second priority is site P1 which would address local processes acting during collision. Based on timing constraints and the availability of data at the present time, site P1 can't be defended very aggressively.

The panel agreed that the S5, S4, S2 package includes very important sites and agrees that site P1 would be of lower priority.

A. Mauffret reported on site survey issues. Sites S2 and S5 look good, but site S4 has only 1 seismic line. H. Schluter reported that magnetic and gravity surveys are being arranged for site S4.

Ogasawara Plateau

K. Tamaki reviewed a new proposal for drilling the Ogasawara Plateau. Main program objectives include: paleo-oceanographic questions, origin of the seamount chain, and plateau collision processes. Some single channel seismics are available. More seismics were conducted this year but the data is not yet available.

The program does have three good objectives, although it appears proposal is not getting widespread support in its present form. It needs to be reviewed by SOHP; they should identify which sites are important to overall drilling program objectives. There is also some question as to whether this is most appropriate for review by CEPAC or WPAC panel.

The panel felt uncomfortable in ranking specific sites without CEPAC and SOHP input. The general consensus was that the proposal should be sent back to its proponents for additional data which would allow the identification of specific sites.

Specific actions:

1. Refer proposal to TECP, SOHP and CEPAC for their review and consideration, asking that their comments be conveyed back to WPAC.
2. Ask proponents to submit data which would allow identification of site(s) which could address items of particular interest, including:
 - internal structural fabric
 - young forearc volcanism
 - uplift/subsidence history

Japan Sea

1851D
K. Tamaki reviewed two proposals for the Japan Sea program. The first proposal includes new information relevant to sites on the Korean rise and in the Tsushima Basin. Additional site survey data is now available for sites KP1 and VB-1, both of which were previously dropped from consideration.

The main objective of this program is determination of the age of spreading in the Japan Sea. Tamaki feels the best site for achieving this objective is site J2a. Site KP1 would be a good site for paleoceanographic objectives,

and it is strongly endorsed by SOHP. Tamaki has discussed site KP1 with the proponents and conveyed the idea that its prime objective might be changed.

As there is only time for one hole to address rifting problems, site J2a seems to be the best one. Site JS2 appears to be a good site for paleoceanographic objectives as it has a good thick sediment sequence. Sites JS2 and KP1 can both address the same objectives. Site JS2 is more attractive because it does have multi-channel seismic data available.

The panel agreed that SOHP should be asked to compare the two sites for paleoceanographic objectives and that TECP should review the tectonic/rifting objectives.

The second proposal reviewed by Tamaki included some revisions but the panel agreed that the objectives of this proposal can be met by sites which have already been considered in greater detail. Sites previously considered also have much better data available.

Kuril Forearc

K. Tamaki reviewed a new proposal for drilling in the Kuril forearc. The primary objectives of this program are arc-arc collision/junction processes and shifting of plate boundaries. WPAC previously discussed this proposal in detail. Previous discussions concluded that the area appeared too complex to address effectively with the data and time available. The same problem and sites are proposed: objectives have been clarified and supported with additional data.

Response to proponents: It is not clear what drilling will accomplish. There is a need for more interpretational work, better and deeper seismics, better images of structural problems. There is also a need for some sort of reference section for comparison.

Reference Sites

J. Natland reviewed a proposal for old Pacific reference site drilling which would encompass both WPAC and CEPAC regions. The program proposes reference geochemical sections which would address the following objectives:

1. obtain reference holes to extract as many end components as possible for isotope/geochemical study
2. holes of both arc systems (Bonin and Mariana)
3. picking up hole to determine summit type sediments

J. Gill stated that this proposal addresses a first order problem which can answer a lot of major questions. A general discussion followed as to specific sites, geochemical problems and animal husbandry. The panel agreed that the program objectives are primarily lithospheric, but that they do address a very global problem. It also seemed pretty clear that two holes are needed to achieve these objectives. The proposal includes one deep hole, and a pair of holes near the Marianas.

It was agreed that the proposal should be included in future scheduling decisions as well as in the rating/ranking process. The program appears to be a good cross-over package between WPAC and CEPAC areas.

Physical Properties

R.Hyndman reviewed two proposals for evaluation of physical properties in the Japan Trench area.

The first proposed the establishment of a long-term downhole recording "observatory" to monitor earthquake cycles and the nature of deformation processes. This is currently an immature proposal which would be most appropriately reviewed by the DMP before further WPAC consideration.

The second proposal addresses geotechnical evaluation of convergent zone processes including decollement penetration, deformation processes, and constraints on physical properties and fluid models.

Several critical questions were considered:

1. Need for dedicated hole
2. Need for separate mini-leg

Both aspects are included in the proposal; it appears sensible but not necessarily crucial for achievement of program objectives. Due to the need for a specific scientific team and the proximity to port, separate mini-leg would be useful if possible within time/expense constraints.

Six holes have been proposed on Nankai Trough and some of these have had to be cut. How do holes/objectives fit in with the others? How do they fit in with the timetable?

This proposal needs to be translated into reasonable/realistic drilling times. Is the technology available to successfully achieve this program? The panel agreed that later rating/ranking will determine how aggressively technological development should be pursued.

Vanuatu

J.Recy and C.Rangin reviewed revisions to the Vanuatu program. The primary objective is to investigate arc-ridge collision, specifically:

1. reference sites on the colliding ridge and guyot.
2. the composition and vertical tectonics of the narrow forearc
3. the tilting and folding of the adjacent intra-arc basin
4. the rifting of the arc along strike.
5. arc reversal

Sites of highest priority are two forearc pairs (DEZ 2-3 and DEZ 4-5) and two intra-arc basin sites (1AB1 & 2) and one back-arc site (BAT-2). Additional site surveys will be conducted next year and relocation of some sites may be appropriate at that time.

The program was previously cut to fit into a one leg schedule, based on the absence of good imaging data. Better data is now available and the panel now has the option of reconsidering the program.

Site DEZ6 objective is to date collision by drilling through wedge. The group reached a consensus on site DEZ6: Panel doesn't believe it is necessarily a fan, it could be accretionary. The panel will not continue to

consider as proposed; rationale for this site is not accepted or supported by panel (new data makes model highly suspect).

Site DEZ5: possibly move eastward. DEZ1 was proposed as reference site for DEZ2 and was not intended to show deformation.

Discussion of differences/merits of DEZ2/3 and DEZ4/5 pairs. Additional site survey information will be available very soon. DEZ2 velocity calculation shows thickness of about 1.2 km. Will want some very good velocity information in order to thoroughly evaluate this area.

From current velocity information it is clear that site DEZ2 must be moved trenchward for continued consideration. Would like to see some dredging downslope from DEZ2.

South China Margin

D.Hayes presented revisions to the South China Margin proposal in response to a previous WPAC request. Specific sites and objectives were reviewed and a general discussion of the proposed model followed.

SOHP is interested in the South China Sea and feels a basin hole should be a minimum. If shelf holes are combined with industry data you could still provide a good deal of information. SOHP would like to see a more extensive South China Sea program.

With respect to this program, the panel feels the problem is well posed, a good data set is available, and the program has the support of at least one thematic panel. It appears to be as mature a proposal as others currently under serious consideration and the proponents have responded to WPAC's request for additional information. Panel agrees that this program should be put back on the list for formal voting rather than eliminating it from consideration.

Existing Programs

Sulu Negros

This program was not previously discussed in as much detail as other programs, sites are not as well defined. Panel doesn't feel as comfortable with sites as with other programs. Site P1: general review of proposal, sites and objectives. The program has two main objectives: tectonic collage processes and arc reversal.

WPAC/TECP both thematically interested in problems of arc reversal. Sulu 8 looks very interesting thematically, but would like to see more supporting data. Premature to consider site Sulu 8 at this time. Sites P1 and S8 shouldn't be included in the prospectus because they cannot be solidly supported at this time.

Is it appropriate to separate this program from Banda-Sulu-SCS program? Objectives seem compatible and supportive. A discussion followed as to possible combinations of Banda-Sulu-SCS and Sulu Negros programs. How can they be structured for evaluation? The panel voted on the question: Should

site Sulu 2 be added to the Banda-Sulu-SCS package? (Yes 4, No 6)

Pending further site survey data, the Banda-Sulu-SCS package will stand as previously defined. Sulu Negros will be dropped from the prospectus until further supporting data is supplied by the proponents.

Bonins

B.Taylor reviewed the Bonin program and outlined time estimates for specific sites.

<u>Site</u>	<u>Drilling</u>	<u>Logging</u>	<u>Total Days</u>
Bonin-1	8.5	1.6	10.1
-2	16.2	1.3	17.5
-3	5.2	1.2	6.4
-4a,b	14.5	3.1	17.6
-5a,b	19.6	3.4	23
-6	21.5	2.5	24
-7	6.1	1.5	7.6
-8 (Ref. Site)	10-19.2	1.7	11.7-20.9
Mariana-2	8.9	1.6	10.5
-3	9.6	1.6	11.2
Reference (2 sites, no re-entry)	13 (each)	2 (each)	30

E.Silver chaired the discussion as to packaging the Bonin programs with B.Taylor and J.Natland abstaining from the discussion. Times given (including reference sites) add up to a three leg package. The alternative of separating the reference sites into a separate package/leg was discussed but did not receive great support from the panel. Panel members preferred to address arc problems and do two reference sites if possible. All agreed that the Bonin program should definitely keep to a two leg program.

In order to allow PCOM consideration, and evaluation of equivalent programs by the thematic panels, the program was broken into two packages. The Bonin I package now includes sites Bonin-1, -2, -5a, -5b, and -6. The Bonin II package now includes sites Bonin-7, -8, and the Mariana reference site. Final time estimates for the two programs are as follows:

	<u>Bonin I</u>	<u>Bonin II</u>
Days Drilling	66	29
Days Logging	8.5	5
Days in Transit	4	6
Total	78.5	40
Re-entry Sites	B-2, B-6	none

B.Taylor and J.Natland rejoined the meeting.

Site Survey Update

A. Mauffret reported that additional site survey data will be forthcoming in the coming year for the following programs:

Lau Basin: geological survey to be conducted by BGR
Great Barrier Reef: regional and site specific MCS
Japan Sea: regional and site specific MCS
Sunda: regional MCS
Vanuatu: regional and site specific MCS
Banda-Sulu-SCS: regional and site specific MCS and SCS
So. China Sea Margin: MCS data being processed
Bonin: regional MCS
Nankai: regional and site specific MCS
Zenisu: regional MCS

The DARWIN will be working throughout the southwest Pacific near southeast Asia. Work might include the Lau Basin and/or Woodlark Basin.

Program Evaluation

After discussing specific time requirements of each program panel members voted on the relative priorities of each program (several programs will require more than 1 leg to drill). Program proponents were not allowed to vote for their programs and the resulting priority list is as follows:

1. Banda-Sulu-South China Sea Basins
2. Bonin I
3. Lau Basin
4. Vanuatu
5. Japan Sea
6. Nankai
7. Great Barrier Reef
8. Sunda
9. Bonin II
10. Nankai Geotechnical "mini leg"
11. South China Sea Margin
12. Zenisu Ridge

A table which indicates specific drill sites and time estimates is attached. The panel will update its prospectus to reflect the above priorities prior to its next meeting. A revised prospectus will be made available for PCOM consideration at their spring 1987 meeting.

Engineering Developments

The panel agreed that the following engineering developments should be presented to PCOM for their consideration in the FY88 budget planning process (not in order of priority):

1. Navi-drill adaption to APC/XCB
2. Tools for Nankai Geotechnical program
3. Side entry sub
4. drill stem packer operation
5. capability of drilling coarse unconsolidated turbidites
6. recovery of fractured volcanic rocks

Other Business

1987 Meeting Schedule

The 1987 WPAC meeting schedule will be as follows:

- 2-4 March 1987, Tokyo, Japan or Noumea, New Caledonia
- 1-3 June 1987, Sidney, British Columbia or Corvallis, Oregon
- 2-4 November 1987, London or Bali

Membership Rotation

E.Silver will be rotating off the panel after this meeting. The panel thanked him for his service and wished him luck in his future endeavors. Nominations for his replacement are G.Moore and N.Lundberg. After the March 1987 meeting J.Ingle will rotate off the panel. Nominations for his replacement are B.Thunell and J.Barron. After June 1987 J.Recy will rotate off as the western pacific at-large representative. Nominations for his replacement are D.Tiffan and J.Danielle.

Proposal Evaluation

The panel concensus is to refuse consideration of proposals and revisions not submitted through the JOIDES Office. Proposals and revisions should be sent to Michael Wiedicke, c/o JOIDES Office, Oregon State University, College of Oceanography, Corvallis, OR 97331.

There being no further business the meeting was adjourned.

WPAC Program Priorities and Estimated Time Schedule

<u>Priority / Program</u>	<u>Days Drilling</u>	<u>Days Logging</u>	<u>Special Experiments</u>	<u>Min. Transit</u>	<u>Total Days</u>
1. Banda-Sulu-SCS Margin	62	11	—	10	83
2. Bonin I (1,2,5ab,6)	66	9	—	4	79
3. Lau Basin	48-50	6	1	3	58-60
4. Vanuatu	62	10	—	4	76
5. Japan Sea	53	11	3-5	5	72-74
6. Nankai	34-42	5	—	5	44-52
7. Great Barrier Reef	42-50	8-10	—	4	54-64
8. Sunda	39	11	—	5	55
9. Bonin II	29	5	—	6	40
10. Nankai Geotechnical	(23-25)		5	2	30-32
11. SCS Margin	43-58	7	—	4	54-69
12. Zenisu Ridge	19-20	6	1	2	28-29