

Intergovernmental Oceanographic Commission
Reports of Meetings of Experts and Equivalent Bodies

Joint CCOP-IOC Working Group on Post-IDOE Studies of South-East Asian Tectonics and Resources

Twelfth Session

Singapore, 22-23 August 1986



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on Post-IDOE Studies
of South-East Asian Tectonics
and Resources**

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In this Series

Reports of Meetings of Experts and Equivalent Bodies, which was initiated in 1984, the reports of the following meetings have already been issued:

- Third Meeting of the Central Editorial Board for the Geological/Geophysical Atlases of the Atlantic and Pacific Oceans
- Fourth Meeting of the Central Editorial Board for the Geological/Geophysical Atlases of the Atlantic and Pacific Oceans
- Fourth Session of the Joint IOC-WMO-CPPS Working Group on the Investigations of «El Niño»
- First Session of the IOC-FAO Guiding Group of Experts on the Programme of Ocean Science in relation to Living Resources
- First Session of the IOC-UN(OETB) Guiding Group of Experts on the Programme of Ocean Science in relation to Non-Living Resources
- First Session of the Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
- First Session of the Joint CCOP (SOPAC)-IOC Working Group on South Pacific Tectonics and Resources
- First Session of the IODE Group of Experts on Marine Information Management
- Tenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies in East Asian Tectonics and Resources
- Sixth Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
- First Session of the IOC Consultative Group on Ocean Mapping
- Joint IOC-WMO Meeting for Implementation of IGOS XBT Ships-of-Opportunity Programmes
- Second Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources
- Third Session of the Group of Experts on Format Development of the Working Committee on International Oceanographic Data Exchange
- Eleventh Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of South-East Asian Tectonics and Resources
- Second Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
- Seventh Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
- Second Session of the IOC Group of Experts on Effects of Pollutants
- Primera Reunión del Comité Editorial de la COI para la Carta Batimétrica Internacional del Mar Caribe y Parte del Océano Pacífico frente a Centroamérica
- Third Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources

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1. OPENING

The Twelfth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies in East Asian Tectonics and Resources (SEATAR) was held in Singapore, 22-23 August 1986, under the chairmanship of Dr. G. Balce of the Philippines, Co-ordinator of Transect V. The Rapporteur for the session was Professor J.R. Curray.

The Session was attended by Representatives from the following countries: Germany (Federal Republic), Indonesia, Japan, Malaysia, Papua New Guinea, Philippines, Singapore, Thailand, United Kingdom, United States of America and Viet Nam.

Mr. Kazuhiro Kitazawa, Assistant Secretary of the Intergovernmental Oceanographic Commission (IOC), participated in the Session as IOC Technical Secretary for the Session.

A Representative of ESCAP, Mr. Pieter J. Bakkar, also attended the meeting as well as members of the UNDP/ESCAP Technical Support Team to CCOP. A List of Participants is given in Annex II.

Mr. Sermsakdi Kulvanich, Director of the CCOP Technical Secretariat, welcomed participants to the Session. He noted that Mr. Kitazawa, Mr. Le Van Cu, Dr. A. Pulunggono and Mr. Michael Lee were attending a SEATAR Working Group meeting for the first time and expressed the hope that they would be able to participate in future meetings of the Group.

The IOC Technical Secretary informed the Group that the IOC has been pleased to co-operate with CCOP to implement the SEATAR programme to date and was prepared to continue that co-operation in the future, to complete the transect studies and to participate in any subsequent programme of activities.

2. ADOPTION OF THE AGENDA

The Joint Working Group considered the Agenda for the Session, and adopted it (Annex I).

3. REVIEW OF CCOP AND IOC INTERSESSIONAL ACTIVITIES

The main actions taken by the CCOP Technical Secretariat had been:

- (i) Completion and distribution of the Summary Report of Eleventh Session of the Joint Working Group (Guangzhou, 13 November 1985).
- (ii) Making arrangements for holding the Twelfth Session of the Joint Working Group in Singapore in conjunction with the Circum-Pacific Energy and Mineral Resources Conference and for display of the SEATAR transect compilations at a poster session during the Conference.
- (iii) In conjunction with IOC, making arrangements (including funding) for Professor Curray to visit several Transect Co-ordinators to assist in the compilation of their transect data and to attend and report to the Eleventh Session of the Joint Working Group.
- (iv) Making arrangements (including funding) for four Transect Co-ordinators and one participant from Viet Nam to attend the SEATAR meeting.

The Intergovernmental Oceanographic Commission had been able to provide some assistance for Professor Curray's trip and to finance the attendance of two Transect Co-ordinators to the meeting (held in Bangkok, Thailand, on 7-8 November 1985).

The results of the Eleventh Session of the Joint Working Group had been reported to the IOC Executive Council at its Nineteenth Session, held in March 1986, and a similar report on the results of the Twelfth Session of the Joint Working Group will be submitted to the Fourteenth Session of the IOC Assembly to be held in March 1987.

The IOC Technical Secretary explained to the Group that IOC's present bi-annual budget had been adopted by the General Conference of Unesco at its 23rd Session in October/November 1985, but had since suffered some cuts. The 1988/89 budget was now being prepared and would include some allocation to support SEATAR activities. However, the IOC Technical Secretary was not able to give an indication of the total amount to be allocated for those activities since it depends on approval by the Fourteenth Session of the IOC Assembly 17 March - 1 April 1987, and later by the 24th General Conference of Unesco in November 1987.

The Joint Working Group requested IOC to consider providing 50% of the funding needed for SEATAR activities in 1988/89. The IOC Technical Secretary advised the Joint Working Group that he was not in a position to make such a commitment, but would transmit this request to the Secretary IOC for consideration.

4. REVIEW OF PROGRESS ON SEATAR TRANSECT COMPILATIONS

Professor Joseph Curray reviewed the state of the SEATAR Transect Project with respect to the publication plan and schedule which was accepted at the Eleventh Session of the Joint Working Group at Guangzhou, in November 1985, as follows:

- (i) August 1986: Final completion of maps and sections.
- (ii) December 1986: Submission of contributing manuscripts.
- (iii) April 1987: Submission of summary manuscripts.

It was concluded that this schedule could not be met, since work on the syntheses was at least six months behind it at present.

Professor Curray then reviewed the degree of completion of each transect in terms of four criteria:

- (i) Degree of completion of research anticipated in the transect areas before publication.
- (ii) Completion of compilation of available data.
- (iii) Completion of interpretation of data.
- (iv) Completion of summary manuscripts.

He preceded his review with the comment that not one of the summary manuscripts was yet in progress, and that he was deliberately conservative in all other estimates, especially on the state of interpretation.

4.1 STATE OF THE SEATAR TRANSECT PROJECT

The SEATAR Transect Project was formally organized through CCOP and IOC in 1973 with definition of an original six transects, and work within those transects was started soon thereafter. Four more transects were added in 1978. Many publications and presentations have resulted, but until the poster sessions in the Singapore Circum-Pacific Conference in August 1986, no integrated presentation of all the transects had been attempted. The results of this poster session encouraged the belief that it is reasonable to schedule a final completion data for the project within the next year or so.

The poster displays were generally well planned and presented. Some material was shown from all ten transects, although the two transects from Papua New Guinea were shown one day late. Only one half of one transect was totally missing. The presentations were as follows:

Transect I: Bay of Bengal, Burma, Thailand, Laos, and Viet Nam. Co-ordinator Chongphan Chonglakmani. Unfortunately, Dr. Chongphan was in Canada, so Dr. Chamrat Mahawat had assembled as much material as possible and presented the display. Some information was displayed from the Bay of Bengal and Thailand sectors, but much remained to be done and encouragement and assistance were needed. It is essential that Dr. Andrew Mitchell or, if possible, geologists from M.O.C. Rangoon, be asked to assist in the Burmese sector. It was noted that Dr. Le Van Cu from Viet Nam would help with the Laos and Viet Nam portions, with the participation of Laotian geologists. Completion: (i) 90%; (ii) 30%; (iii) 30%; (iv) 0%. +

Transect II: Bay of Bengal, Andaman-Nicobar Ridge, Andaman Sea, Thailand, and Gulf of Thailand. Co-ordinator Chamrat Mahawat. This is one of the more difficult transects to compile because of its many component sectors. A partial presentation was made, but lacking in some important detail and data types, and no overall tectonic interpretation has been made yet. Assistance and encouragement were required in data acquisition and integrated interpretation. Completion: (i) 90%; (ii) 70%; (iii) 50%; (iv) 0%. +

Transect III: Indian Ocean, Sumatra, peninsular Malaysia, and South China Sea. Overall Co-ordinator Fred Hehuwat and Malaysian Co-ordinator Foo Khong Yee. This is also a difficult transect because of the many component sectors. This was the first attempt at combining those components and presenting an integrated interpretation. Not all of the data have yet been obtained by the Co-ordinator, so time and further work are required. Completion: (i) 90%; (ii) 75%; (iii) 75%; (iv) 0%. +

Transect IV: Banda Sea. Co-ordinator H.M.S. Hartono. This transect differs from all of the others in that it is an areal study rather than a single strip transect. An excellent, rather complete compilation was presented, including a few sections across part of the region. It is suggested that up to three sections be drawn across the entire region reflecting the east to west variation in trench underthrusting or subduction beneath the southern plate edge of continental, transitional, and oceanic crust. Completion: (i) 100%; (ii) 90%; (iii) 75%; (iv) 0%. +

Transect V: South China Sea, Luzon, Philippine Sea, Marianas. Co-ordinator Guillermo Balce. This long transect is mainly marine, and presents special problems of assembly because of the detailed knowledge of the geology on Luzon as compared with the lower data density in the marine areas. This was the first presentation of the whole transect, prepared at different scales. It was very well done, but needs further time to put the land data on the smaller scale long sections. Completion: (i) 100%; (ii) 90%; (iii) 75%; (iv) 0%. +

+ The percentages correspond to the four criteria given in the penultimate paragraph of Section 4 of the present Report.

Transect VI: Japan, Sea of Japan, and Korea. Co-ordinators Eiji Inoue and Lee Won Young. The Japanese and Sea of Japan parts of the section were presented in very complete form, but unfortunately Dr. Lee, the Korean Co-ordinator, was unable to attend and was unable to submit his compilations. Time and encouragement are required for completion of the Korean half and integration with the Japanese half. Several meetings should be scheduled between the two Co-ordinators, with perhaps one meeting with the Project Co-ordinator next year. Completion: (i) 75%; (ii) 45%; (iii) 40%; (iv) 0%.

Transect VII: Indian Ocean, Java, Java Sea, Kalimantan, Sarawak, and South China Sea. Overall Co-ordinator Mohamad Untung, Malaysian Co-ordinator Foo Khong Yee. This is one of the new transects, but an excellent, reasonably complete display was presented. Integration between the Indonesian and Malaysian halves is not complete, and neither marine end is complete. Completion: (i) 80%; (ii) 80%; (iii) 75%; (iv) 0%.

Transect VIII: South China, Sulu, Celebes, and Molucca Seas. Co-ordinator Apollo Madrid. This is of the new transects, and the Co-ordinator was designated only one year ago. Nevertheless, and in spite of the fact that Madrid could not attend this meeting, he submitted an excellent and very complete poster display. It is recommended that an Indonesian counterpart Co-ordinator be designated, and that the two be given an opportunity to meet at least once during the next year to integrate new data and interpretations into their transect. Completion: (i) 90%; (ii) 90%; (iii) 75%; (iv) 0%.

Transect IX and X: Papua New Guinea. Co-ordinators Richard J. Rogerson and Geoffrey Francis. These two new transect presentations were well prepared, well presented, and are quite complete. There should be no difficulty in bringing these transects to completion by any reasonable schedule. Completion: (i) 100%; (ii) 90%; (iii) 75%; (iv) 0%.

4.2 PLANS FOR COMPLETION AND PUBLICATION OF THE TRANSECT SYNTHESSES

Professor Curray reviewed his recommendations for the future of the Transect Project:

- (i) Hold an informal meeting of the Transect Co-ordinators and others closely involved, with a view to discussing critically:
 - a) each transect, with recommendations for the final product;
 - b) standarization: how much is required? how much variation can be accepted?
 - c) details of the legends of maps and sections; all Co-ordinators were asked to give Professor Curray a copy of the legend or legends for their maps and sections so that he could summarize them and recommend a standard format for the next round of preparatory work.

- (ii) Schedule a meeting of Transect Co-ordinators between January and March 1987, to review progress and discuss standardization.
- (iii) Schedule a "final" presentation of maps and sections and a presentation of one or more summary or synthesis talks on each transect at the GEOSEA VI meeting in July 1987 in Jakarta. Request that speakers be permitted to submit extended abstracts with one illustration for publication in the Proceedings of GEOSEA VI in lieu of their complete presentations.
- (iv) Schedule final deadline for submission of all manuscripts for the Transect Project final publications, in November 1987 at the annual CCOP meeting in Bangkok.
- (v) Review the need for, and duties of, a Permanent Transect Co-ordinator, as someone who is available as a point of contact at all times, whether employed full or part-time; The suggested duties include:
 - a) Assist in locating funding for project expenses, including office expenses, travel, editing, drafting, and possibly his own salary.
 - b) Find a publisher and establish a completion schedule.
 - c) Assist Transect Co-ordinators and other contributors in compilation, interpretation, and preparation of manuscripts.
 - d) Act as scientific editor.
 - e) Supervise a technical editor and illustrator.
 - f) Act as a point of contact for the project, as a spokesman, and as an interface with other related projects, such as Global Transects, Basin Evaluation, etc.
- (vi) The search for funding for salary and expenses and for suitable candidates for Permanent Transect Co-ordinator should be continued.
- (vii) The search for a publisher should also be continued.

In the discussion following Professor Curray's presentation and recommendations, Dr. Dennis Hayes raised the issue of keeping the present project momentum going by bringing the Transect Co-ordinators together again as soon as possible, for example at the November 1986 CCOP meeting in Papua New Guinea. It was indicated that, because of funding limitations, this may be difficult to do, and that only three or four of the Co-ordinators might be present. There was, however, general agreement to hold another meeting of Transect Co-ordinators as soon as possible, and that the meeting planned in early 1987 may be the first possible time to do so. Nevertheless, a review of the SEATAR programme will take place at the 23rd Session of CCOP in Papua New Guinea in November 1986.

Dr. Terman suggested that standardization of legends of the maps and sections should be accomplished as soon as possible. It was agreed that Professor Curray should collect and consider the legends now being used by each Co-ordinator, and combine the best features in a recommendation to the Co-ordinators to use before the planned meeting for standardization. Further modifications would be possible at that time but not later.

There was considerable discussion of the need for a "permanent" Transect Co-ordinator, and when he would be needed full-time, rather than intermittently and ad hoc part-time as at present. There was general agreement that it would be desirable for one person to continue in this job through to completion of publication of the Transects. Funding does not presently exist for a full-time position, but the job does not require full-time attention yet. A full-time Co-ordinator is required after the meeting planned for early 1987 to prepare for the GEOSEA Conference, and the supervision of drafting of maps and sections is very important. The planned meeting in early 1987 is also very important, because it would be the last opportunity to discuss and agree on standard formats and legends before preparation of the final maps and sections.

Regarding publication plans and possibilities, it was reported that Professor Curray had been approached by the Chairman of the Circum-Pacific Council Publications Committee.

The Joint Working Group authorized him to continue discussions with this Committee to publish the transect study results as an AAPG publication through the Committee in the belief that there would be several advantages to publishing in this way. They were: that CCOP and IOC would not have to raise publication costs, that AAPG produces a high-quality product, and that its distribution and advertising network is very good. Whoever publishes the syntheses must be asked to provide sufficient copies to the CCOP office and the IOC Secretariat to distribute to member countries.

The question was asked whether GEOSEA had been approached about the possibility of hosting the SEATAR presentations in July 1987 and the Group was informed that the CCOP Secretariat had already done so and would follow up with a further request to the organizers of the conference to publish extended abstracts with one figure in the GEOSEA VI Proceedings, in lieu of the full papers.

5. SEATAR DRILLING TARGETS

Dr. Brian Taylor, of the Hawaii Institute of Geophysics, and Chairman of the Western Pacific Advisory Panel for the Ocean Drilling Project, was invited to present current Panel drilling priorities in the SEATAR area. The Executive Summary, with a general map of drilling targets and priority targets was distributed. He explained that the current tentative plan of the Drilling Ship JOIDES RESOLUTION was to enter the western Pacific in about October 1988 and to spend up to 18 months drilling in the CCOP and CCOP(SOPAC) areas. Several of those targets are on or near the SEATAR transects. Dr. Taylor suggested that endorsement of the concept of this programme, even without the details of precise locations could help to increase the chances of doing this valuable scientific work. He also reviewed the mechanism through which any scientist can propose drilling targets to ODP, whether or not he is from a member nation in the programme.

There was considerable discussion of the drilling programme. Mr. Hartono suggested that SEATAR and/or CCOP endorsement could assist ODP, through the science operator and the U.S. State Department, to get clearance in territorial and EEZ waters. All requests pertaining to the matter should be directed through official channels. It was pointed out that several of the target areas shown on the small-scale map were close to areas of probable interest for hydrocarbons. Dr. Taylor explained that all are in deep water and that the project has a well established procedure for safety review of all drilling sites. After further discussion, there was a general consensus on the concept of ODP drilling in the area.

The Joint Working Group agreed to discuss the matter again in November 1986 at the time of the annual CCOP meeting.

6. FUTURE WORK PROGRAMME

Mr. Sermsakdi Kulvanich pointed out that CCOP member countries want a continuation of SEATAR activities after completion of the present Transect Project. They do not yet have any specific ideas, and look to SEATAR for suggestions and recommendations. The IOC Technical Secretary informed the Group that the IOC Executive Council, at its Nineteenth Session in March 1986, instructed its Secretary to maintain and develop co-operative programmes with CCOP related to scientific and technical matters, particularly studies of non-living resources, and that several delegates at the Session had expressed a wish to continue SEATAR activities.

There was considerable discussion of various possible projects and mechanisms for devising and planning successor projects, with a consensus that the SEATAR Programme should continue after completion of the transects, and that the SEATAR type of work should not terminate at that time. There was also a consensus that another workshop patterned after the 1973 Bangkok Workshop and the 1978 Bandung Workshop should be organized to discuss and plan a successor project.

The Joint Working Group asked CCOP and IOC to consider two possible schedules and venues for this workshop:

- (i) before or after GEOSEA, in July 1987 in Jakarta, when all Transect Co-ordinators would be present ; or
- (ii) before the CCOP meeting in Bangkok in November 1987,

and to inform the Joint Working Group of their recommendations. Various members of the Group cautioned against putting too many meetings together at one time and place, even though it does assist the economy of combining travel funds and plans.

7. DATES AND PLACE OF THE THIRTEENTH SESSION

The Joint Working Group agreed that its Thirteenth Session should be held in Bangkok in November 1987 in conjunction with the annual CCOP session.

8. ADOPTION OF THE SUMMARY REPORT

The Joint Working Group adopted the Summary Report of the present Session.

9. CLOSURE

The Chairman closed the Session at 1200 hours on 23 August 1986.

ANNEX I

AGENDA

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2. ADOPTION OF THE AGENDA
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4. REVIEW OF PROGRESS ON SEATAR TRANSECT COMPILATIONS
 - 4.1 STATE OF THE SEATAR TRANSECT PROJECT
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7. DATE AND PLACE OF NEXT SESSION
8. ADOPTION OF SUMMARY REPORT
9. CLOSURE

ANNEX II

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ANNEX III

LIST OF ACRONYMS

AAPG	American Association of Petroleum Geologists
CCOP	Committee for Co-ordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas
EEZ	Excusive Economic Zone
ESCAP	Economic and Social Commission for Asia and Pacific
GEOSEA	Geology in Southeast Asia (symposium)
IDOE	International Decade of Ocean Exploration
IOC	Intergovernmental Oceanographic Commission
ODP	Ocean Drilling Programme
SEATAR	Joint CCOP-IOC Working Group on post IODE Studies on East Asia Tectonics and Resources