

Intergovernmental Oceanographic Commission
Reports of Meetings of Experts and Equivalent Bodies



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

Fifteenth Session

Bangkok, Thailand, 30-31 October 1989

Unesco

In this Series, entitled

Reports of Meetings of Experts and Equivalent Bodies, which was initiated in 1984 and which is published in English only, unless otherwise specified, the reports of the following meetings have already been issued:

1. Third Meeting of the Central Editorial Board for the Geological/Geophysical Atlases of the Atlantic and Pacific Oceans
2. Fourth Meeting of the Central Editorial Board for the Geological/Geophysical Atlases of the Atlantic and Pacific Oceans
3. Fourth Session of the Joint IOC-WMO-CPPS Working Group on the Investigations of «El Niño» (*Also printed in Spanish*)
4. First Session of the IOC-FAO Guiding Group of Experts on the Programme of Ocean Science in relation to Living Resources
5. First Session of the IOC-UN(OETB) Guiding Group of Experts on the Programme of Ocean Science in relation to Non-Living Resources
6. First Session of the Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
7. First Session of the Joint CCOP(SOPAC)-IOC Working Group on South Pacific Tectonics and Resources
8. First Session of the IODE Group of Experts on Marine Information Management
9. Tenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies in East Asian Tectonics and Resources
10. Sixth Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
11. First Session of the IOC Consultative Group on Ocean Mapping (*Also printed in French and Spanish*)
12. Joint IOC-WMO Meeting for Implementation of IGOSS XBT Ships-of-Opportunity Programmes
13. Second Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources
14. Third Session of the Group of Experts on Format Development
15. Eleventh Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of South-East Asian Tectonics and Resources
16. Second Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
17. Seventh Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
18. Second Session of the IOC Group of Experts on Effects of Pollutants
19. Primera Reunión del Comité Editorial de la COI para la Carta Batimétrica Internacional del Mar Caribe y Parte del Océano Pacífico frente a Centroamérica (*Spanish only*)
20. Third Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources
21. Twelfth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of South-East Asian Tectonics and Resources
22. Second Session of the IODE Group of Experts on Marine Information Management
23. First Session of the IOC Group of Experts on Marine Geology and Geophysics in the Western Pacific
24. Second Session of the IOC-UN(OETB) Guiding Group of Experts on the Programme of Ocean Science in relation to Non-Living Resources (*Also printed in French and Spanish*)
25. Third Session of the IOC Group of Experts on Effects of Pollutants
26. Eighth Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
27. Eleventh Session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (*Also printed in French*)
28. Second Session of the IOC-FAO Guiding Group of Experts on the Programme of Ocean Science in Relation to Living Resources
29. First Session of the IOC-IAEA-UNEP Group of Experts on Standards and Reference Materials
30. First Session of the IOCARIBE Group of Experts on Recruitment in Tropical Coastal Demersal Communities (*Also printed in Spanish*)
31. Second IOC-WMO Meeting for Implementation of IGOSS XBT Ship-of-Opportunity Programmes
32. Thirteenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of East Asia Tectonics and Resources
33. Second Session of the IOC Task Team on the Global Sea-Level Observing System
34. Third Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
35. Fourth Session of the IOC-UNEP-IMO Group of Experts on Effects of Pollutants
36. First Consultative Meeting on RNODCs and Climate Data Services
37. Second Joint IOC-WMO Meeting of Experts on IGOSS-IODE Data Flow
38. Fourth Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources
39. Fourth Session of the IODE Group of Experts on Technical Aspects of Data Exchange
40. Fourteenth Session of the Joint CCOP-IOC Working Group on Post IDOE Studies of East Asian Tectonics and Resources
41. Third Session of the IOC Consultative Group on Ocean Mapping
42. Sixth Session of the Joint IOC-WMO-CPPS Working Group on the Investigations of «El Niño» (*Also printed in Spanish*)
43. First Session of the IOC Editorial Board for the International Bathymetric Chart of the Western Indian Ocean
44. Third Session of the IOC-UN (OALOS) Guiding Group of Experts on the Programme of Ocean Science in Relation to Non-Living Resources
45. Ninth Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
46. Second Session of the IOC Editorial Board for the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico
47. First Session of the IOC Editorial Board for the International Bathymetric Chart of the Western Indian Ocean
48. Twelfth Session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans
49. Fifteenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of East Asian Tectonics and Resources

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1. OPENING OF THE SESSION

The Fifteenth Session of the Joint CCOP-IOC Working Group on Post-IODE Studies in East Asian Tectonics and Resources (SEATAR)* was opened at the Royal River Hotel in Bangkok, Thailand, on 30 October 1989, by the Chairman and the Principal Co-ordinator for SEATAR, Professor Dr. John Katili. The Chairman welcomed the participants and stressed the need to publish the results of the SEATAR studies as soon as possible.

The Session was attended by representatives from the following countries: Canada, China, Federal Republic of Germany, Indonesia, Japan, Malaysia, Netherlands, Norway, Papua New Guinea, Philippines, Republic of Korea, United Kingdom, USSR, United States of America and Viet Nam. Representatives of ESCAP, IOC, IUGS, CPC, CCOP Technical Secretariat and the UNDP/ESCAP Technical Support Team to CCOP also attended the Session. The list of participants is given in Annex II.

2. ELECTION OF CHAIRMAN AND RAPPORTEUR

Mr. Weng Shijie was designated as the Rapporteur, Dr. C. Hutchison was requested to serve as Associate Rapporteur for the Session.

3. ADOPTION OF THE AGENDA

The Joint Working Group adopted, after some modification, the Agenda for the Session as it appears in Annex I.

4. REVIEW OF PROGRESS MADE SINCE THE LAST SESSION

The CCOP Secretariat reported the progress made in the past year including the appointment of the Overall Co-ordinator, Dr. Charles Hutchison, of the University of Malaya, was made possible by support from UNDP/ESCAP on a contract basis for one year; the poster presentation of selected SEATAR transects, namely IV, V, VI, VII and VIII, at the Global Geoscience Transect poster session at the Twenty-Eighth International Geological Congress (IGC) on the 11 July, 1989, in Washington D.C., USA; and the appointment of some replacement transect co-ordinators. Dr. C. Hutchison completed the initial editing and is supervising the drafting of Transect VII in Kuala Lumpur.

The Chairman requested the Transect Co-ordinators to report their progress. Location of each transect is shown in Annex IV.

Transects I and II: Due to the absence of the national co-ordinators, no progress report was received. The CCOP Secretariat informed the Working Group that the Co-ordinator for Transect II is seriously ill. The Permanent Representative of Thailand was urged to facilitate the integration of the Thai and Viet Nam data into one final compilation. The Viet Nam representative informed the Working Group that the Viet Nam

* List of acronyms is given in Annex V.

contribution to Transect I has already been transmitted to the Co-ordinator through the CCOP Secretariat. The USSR representative reiterated the willingness of USSR scientists to assist in the compilation.

Transect III: The Malaysian Co-ordinator has compiled the maps and text and has submitted them to the Overall Co-ordinator. The situation of the Indonesian part is still not clear, some clarification was requested from the Indonesian Representative but was not received.

Transect IV: The preliminary draft has been finished and circulated for comments on the final format of the maps. The text will be ready in the first quarter of 1990.

Transect V: The Philippines Co-ordinator has compiled the maps but on a different scale to other transects. The draft transect map was sent to the Overall Co-ordinator for review and the revision was already in the hands of the national co-ordinator. The Director of CCOP informed the Working Group that the Permanent Representative of the Philippines has already designated Mr. Fernando G. Sajona, Bureau of Mines and Geosciences (Philippines), as the national co-ordinator for Transect V.

Dr. F. Wang made a suggestion to add some geophysical data to the transect. However, the Working Group recommended that such additional data should be limited to essential data and the scheduled date for completion should not be prolonged.

Transect VI: Both Coordinators of Japan and the Republic of Korea have finished their maps and the final drafting will be completed by the Korean Institute of Energy and Resources (KIER). The re-drafted maps were submitted to CCOP in September 1989 and delivered to the Overall Co-ordinator. The Overall Co-ordinator felt that this was the only transect drawing, in its present form, which could be submitted to the Geological Society of America (GSA) for review, and submitted it to GSA in mid-October. Both Co-ordinators confirmed that the final drafting (line-drawings) will be carried out by KIER when it has been reviewed favourably by GSA and that Dr. Y. Teraoka, Geological Survey of Japan, will finalize the text before May 1990.

Transect VII: The Overall Co-ordinator finished the initial editing of the text and sent it to Dr. J. Katili and the co-ordinators of Malaysia and Indonesia for their comments. The maps, integrating the data from Indonesia and Malaysia, are being drawn in the Geological Survey of Malaysia under the supervision of the Overall Co-ordinator. It was stated that the maps and the text will be completed by January 1990.

Transect VIII: Dr. Rillera has been newly designated as Co-ordinator of the Philippines and Dr. R. Sukanto was requested to take responsibility for finalizing the transect. Discussions between the two co-ordinators should be set in motion by correspondence. Later a meeting of both national co-ordinators, together with the Overall Co-ordinator, to finalize the transect map should be arranged after the exchange of information.

Transect IX: The Papua New Guinea representative, Mr. Stive Nion, reported that Dr. Rogerson informed him that Transect IX is progressing.

Transect X: No information was available concerning this transect.

The Chairman reviewed the state of development of the project and emphasized that this project of transect studies has been running for sixteen years. At its inception the purpose of SEATAR was quite simple as demonstrated in the IDOE Workshop Report entitled "Metallogenesi, Hydrocarbons and Tectonic Patterns in Southeast Asia: A Programme of Research" (1974). This simple approach was required at that time to kindle the interest of developing countries in this project and to stress a resources-oriented project with a very strong component of transfer of science and technology. However, with the rapid advancement of geoscience research, especially concepts of plate tectonics and the fast progress in geophysical survey techniques, i.e., remote sensing and ocean drilling, the transect studies proved to become more complicated when marine geologists and geophysicists worked together and modern marine geophysical data were provided. Besides marine scientific data obtained by cruises, marine seismic data from the oil industry were also required to complete the transects. These constraints, plus the lack of experienced marine geophysicists in the region to assist continuously in the preparation of the transects, were the main reason why the SEATAR transect studies could not be concluded in the scheduled time. Moreover, as time passed, the requirements of the quality of the transect studies have changed and had to be adjusted to the needs of the modern petroleum industry. As an example, geophysical results, specifically seismic data down to the Moho, became very important.

In areas where scientifically advanced countries have sent their cruises to work together with local scientists to carry out work on land, such as in the Banda Sea, a desirable modern transect could be produced. However not all the transects are covered by modern geophysical investigations. Consequently it is likely that not all the transects planned by SEATAR can be published in reputable international journals.

The Chairman stressed that the success of SEATAR transect studies should not only be evaluated by the publication of the transect maps. He pointed out that many volumes and hundreds of scientific papers were already published using data obtained from these studies.

The Overall Co-ordinator stated that he is becoming anxious about the timetable of the SEATAR work plan. The future is closely dependent upon the co-operation of the national co-ordinators. He will do his best to carry out the editing work. Efforts will be made to add other data which are available to him and which, he thinks, are important to enhance the scientific level of the transects.

Reflecting the results of the discussion, the Chairman proposed that:

- (1) CCOP, in close collaboration with IOC, should concentrate its efforts to publish three or four selected transects, i.e., Transect IV, Transect VI, Transect VII and Transect VIII. The national co-ordinators of these four transects are requested to

submit their maps and text to the Overall Co-ordinator by the middle of 1990.

- (ii) The other co-ordinators should continue their efforts to finalize the remaining transects which will be published in the GSA (if the journal's requirements can be met) or in the CCOP Technical Bulletin or other appropriate journal.

The Working Group felt that the publication of several transect maps in the immediate future is critical to conclude the SEATAR transect studies and decided that three or four transect maps, which have higher quality and are at a suitably advanced stage, should be selected and appropriate action for publication should be taken without delay. The Working Group recommended that all selected transects be submitted to reviewers for publication by the end of 1990.

5. STANDARDIZATION AND EDITING OF TRANSECT OUTPUTS

At its Tenth Session (Bandung, 1984) the Working Group recommended to standardize the format of maps and text. It had been worked out and reconfirmed by successive meetings. However, the maps currently received by the Overall Co-ordinator show many varieties in form, legend and even scale. It seems difficult and inappropriate to make any standardization at the present stage which will cause further delays in the preparation of the final draft of transect maps. The Overall Co-ordinator proposed that Transect VI and VII maps could be taken as examples for the other maps and co-ordinators to generally follow as far as possible.

The Overall Co-ordinatore circulated a list of contents for the text to all national co-ordinators. Their comments are urgently requested, otherwise they are required to follow the proposed contents.

The Working Group recognized that some transect maps were already prepared in different formats, but it agreed to apply new standards proposed by the Overall Co-ordinator for future preparations. The Working Group also agreed to the list of contents proposed by him for the texts.

6. PUBLICATION OF A TRANSECT OUTPUT

The Overall Co-ordinator is in contact with the Geological Society of America and received a positive reply. GSA recommended that the SEATAR transect maps would most appropriately be included in its Map and Charts Series, which has a high international reputation. The Series does not have any definite specific format, so that the product of SEATAR transect studies could be accepted if the scientific review is favourable. One or two reviewers are required. The Overall Co-ordinator proposed Dr. D. Hayes, Lamont-Doherty Geological Observatory (USA) and Dr. K. Hinz, Bundesanstalt fur Geowissenschaften und Rohstoffe (Federal Republic of Germany), but the final selection will be made by GSA. GSA requires the copyright, which is

immediately transferred back to CCOP and IOC after publication, to prevent other publishers copying the material without written permission from the GSA. GSA asked the Overall Co-ordinator to supply the final drafting and color separations following the reviewers' comments and suggestions.

At the previous Session in Baguio (Philippines) in 1988, the Working Group agreed that the final drafting and colour separation will be carried out by the member countries for each transect. During the current Session, this agreement was, in principle, reconfirmed, however some transect co-ordinators expressed the need for financial assistance to carry out the work. This possibility is being investigated by the CCOP and IOC Secretariats, depending on the availability of funds. Dr. K. Kitazawa, Assistant Secretary of IOC, informed the Working Group that some financial support from IOC could be made available for the final drafting upon clear identification of work plans.

The Working Group urged the CCOP Technical Secretariat and IOC to consider their financial support for the preparation of the final draft of transect maps.

Dr. Reinemund, the Representative of the Circum Pacific Council, volunteered to clarify with the American Geophysical Union (AGU) concerning their conditions for possible publication of the transect maps. He would ascertain AGU's publication procedures on final drafting of the graphics, copyrights and credit acknowledgements.

Although other possible publishers were discussed, the Working Group decided that the contact with GSA should be continued, because of the prestige involved in achieving publication of some transects in its map and chart series, and requested the Overall Co-ordinator to continue negotiation with GSA and to report the results at the next session. The Working Group recommended that if major problems arise, the CCOP Technical Secretariat, together with the Overall Co-ordinator and IOC, should seek, their utmost, appropriate ways and means to solve them.

7. PREPARATION OF A SEATAR COMPENDIUM

A SEATAR compendium volume, proposed by Dr. D. Jogsma (see Annex III), will summarize the progress in geoscientific knowledge and understanding of the resource potential in southeast Asia through the SEATAR Transect Studies. When published, it will be a comprehensive reference book for geoscientific features in the region, after a well-referred previous publication entitled "Studies in East Asian Tectonics and Resources" (CCOP/TP 7: 1980). It could also be used as a basic reference by the geoscientists into the next decade. However, Dr. Jogsma requested considerable financial assistance to prepare such a manuscript.

Recalling the recommendation made at the Thirteenth Session in Bangkok (1987), the Working Group recognized that publication of a compendium of SEATAR studies is timely and felt that such a volume would be

very helpful for scientists who are interested in this region. The Working Group recommended that the SEATAR transect study project should be completed by publication of transect maps described in the previous section and this volume.

The Working Group stressed that if any funds be available, they should be used first for the final drafting and editing of the transect maps. It urged the Director of CCOP, in close collaboration with IOC, to seek possible authors for such a volume, as well as financial arrangements for publication.

8. CONSIDERATION OF CO-OPERATION WITH RELATED INTERNATIONAL PROJECTS

8.1 GLOBAL GEOSCIENCE TRANSECT (GGT)

Mr. Weng, CCOP Technical Secretariat, informed that the Global Geoscience Transect is one of the major internationally operated projects and there are some similarities between SEATAR and GGT. Format and philosophy could be used as a reference for SEATAR. The CCOP Secretariat contacted Dr. Jim Monger, Chairman of GGT, and felt that his advice and assistance for the compilation and finalizing of the SEATAR transect studies might be useful.

The Chairman commented on the difference between SEATAR and the Global Geoscience Transect Project. While the latter is a compilation work which puts more emphasis on the study of geophysics and the structure of the whole crust, SEATAR transect studies are based on first hand information collected during the cruises and field work on land and are mainly handled by geologists. The SEATAR transects results should not therefore be compared with GGT products of North America and Europe. The Working Group supported the opinion of the Chairman.

8.2 EAST ASIA GEOTECTONIC MAP PROJECT

The present status of the East Asian Geotectonic Map Project was introduced by Dr. T. Moritani. The products of the SEATAR project will be very useful for the compilation of the geotectonic map and co-operation between the two are to be encouraged.

8.3 SEATAR SYMPOSIUM

Dr. M. J. Terman proposed to the Working Group that a SEATAR Symposium could be organized in conjunction with the Fifth Circum-Pacific Energy and Mineral Resources Conference (CPEMRC), Honolulu (USA), 30 July to 3 August 1990, to review the progress of SEATAR transect studies with display of transect maps and to identify a new research project after transect studies. He stressed that this would be a good opportunity for geoscientists from North America and Europe to discuss the tectonics and resources of East Asia with SEATAR Co-ordinators.

The Director of CCOP Technical Secretariat informed the Working Group that the proposed SEATAR symposium in Honolulu will be closely followed by the CCOP annual session planned to be held in the Republic of Korea and that financial assistance to participants at the symposium might be difficult. The Chairman and some delegates shared the Director's view.

However, the Chairman observed that there might be a moral obligation for CCOP to participate in this form of scientific presentation, and requested that some from CCOP member countries should consider to participate in the Honolulu meeting if funds could be identified.

The potential transect papers need to be carefully evaluated, but several finalized SEATAR transect maps probably could be presented in Honolulu if abstracts were submitted to CPEMRC by December 1, 1989 and the final map drafting was well advanced. As for the symposium, the potential speakers and possible papers to be presented should be evaluated. Presentations at the forthcoming Annual Session of CCOP in the Republic of Korea, would be more appropriate. However one or two finalized SEATAR transect maps, which have been submitted to GSA, could be presented in Honolulu.

Some delegates were of the opinion that since some of the transects had been displayed at the Twenty Eighth IGC held in Washington DC in July 1989, it would be a duplication for participation at the poster session of CPEMRC, Honolulu, in 1990, since not much progress is expected. One delegate proposed that if funds for assisting travel of participants to the Honolulu meeting were available, such funds could be more appropriately utilized for drafting the transect maps.

The Working Group urged the Director of CCOP to study, in consultation with IOC and the Overall Co-ordinator, the situation and to pursue the matter.

9. WORK PROGRAMME, BUDGET AND FINANCIAL RESOURCES

A general lack of communication among the national coordinators, the Secretariat and Overall Co-ordinator has made it difficult to work out any plan or timetable for 1990. The following tentative timetable was presented by the co-ordinator of each transect.

Transect I: No clarification has been obtained.

Transect II: No clarification has been obtained.

Transect III: Malaysia has finished the compilation of the maps and sent them to the Overall Co-ordinator. The text is well advanced. The status of the Indonesian part needs to be clarified by the Permanent Representative of Indonesia to CCOP.

Transect IV: The Indonesian co-ordinator has completed the maps, but awaits details of a format for the final drafting. The text is incomplete but will be pursued vigorously. The whole work will be completed by the first quarter of 1990.

- Transect V:** The Philippine Co-ordinator has completed the draft maps and sent them to the Overall Co-ordinator. The Overall Co-ordinator gave his comments to the compiler and some new data will be added. Dr Frank Wang of the USGS promised to give assistance to this transect. The whole work, including text, is scheduled to be completed before the end of 1990.
- Transect VI:** The Co-ordinator of Japan will send completed maps to KIER for final drafting. He will take overall responsibility for the preparation of this transect, which will be completed by May 1990.
- Transect VII:** The Overall Co-ordinator has edited the text and sent it to Dr. Katili and the two national co-ordinators for comments. The maps are being drafted at the Geological Survey of Malaysia. All of the work will be finished in the very near future and sent to the GSA for review before final drafting begins.
- Transect VIII:** Indonesia has completed their work and waits for consultations with the Philippine Co-ordinator as to how to integrate the work from both countries. Dr. Rab Sukanto will try to do this immediately by correspondence.
- Transect IX:** Papua New Guinea will send their first draft of the map by the middle of next year. However it will be uncertain when a finalized map and text will be ready for submission.
- Transect X:** Clarification is needed on this transect.

At the present time, the CCOP Secretariat has received donations from private donors through IUGS and CPCMR for US\$ 5,000 each, and additional funds from SEAPEX of US\$ 2,500 was received. IOC provided US\$3,500 for assisting travel of participants to this Session. Dr. F. Wang informed the Working Group that another US\$ 5,000 will soon be received and possibly more funds would be donated upon presentation of high-quality transect maps. UNDP/ESCAP has offered support to the Overall Co-ordinator for a contract of one year which started in July 1989.

Recognizing the delay of schedule, the Working Group recommended the Director of CCOP to seek possibilities to prolong his service for an appropriate duration beyond June 1990, since the second half of the year 1990 will be the most critical period for the successful completion of the SEATAR studies. It also recommended CCOP Technical Secretariat and IOC to consider providing financial assistance to national co-ordinators enabling them to complete drafting of the transect maps and text as scheduled.

10. ADOPTION OF THE REPORT

The Working Group adopted the Summary Report and the session was closed on the 31 October at 1600 hours.

ANNEX I

AGENDA

1. **OPENING OF THE SESSION**
2. **ELECTION OF CHAIRMAN AND RAPPORTEUR**
3. **ADOPTION OF AGENDA**
4. **REVIEW OF PROGRESS MADE SINCE THE LAST SESSION**
5. **STANDARDIZATION AND EDITING OF TRANSECT OUTPUTS**
6. **PUBLICATION OF A TRANSECT OUTPUT**
7. **PREPARATION OF A SEATAR COMPENDIUM**
8. **CONSIDERATION OF CO-OPERATION WITH RELATED INTERNATIONAL PROJECTS**
 - 8.1 **GLOBAL GEOSCIENCE TRANSECT**
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 - 8.3 **SEATAR SYMPOSIUM**
9. **WORK PROGRAMME AND BUDGET AND FINANCIAL RESOURCES**
10. **ADOPTION OF THE REPORT**

ANNEX II

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ANNEX III

SEATAR COMPENDIUM VOLUME (Proposal)

The SEATAR programme started in 1973 and among many other achievements resulted in coordination of overviews of the results of geoscientific research in SE Asia. The two CCOP-IOC publications in 1974 and 1981 provided a convenient and accessible source of information for anyone concerned with exploration and study in this tectonically active and complicated region. The concept of Transects along which the data were compiled proved useful because it enables comparison of the salient tectonic, geological and geophysical features across the various plate boundaries as well as illustrating the level and quality of information on which to base future research needs. Over the past few years the national transect coordinators have been preparing reviews, maps and cross-sections on a scale of 1:2,000,000 depicting the geology, geophysics and mineral /hydrocarbon resources of the 10 transects. The legends, scales, formats of data presentation and nature of the data are standardized and the same for each transect. These compilations are planned to be published at the end of this decade as an Atlas series in a number of volumes. To provide the user of this Atlas with an overview of the relation of the resources to the Plate boundaries and an up to date summary of the relevant studies on which the Atlas is based a separate volume needs to be prepared.

The proposed review volume would be an independent assessment of the progress made during the SEATAR programme over the 20 years since its inception. It will be written in a consistent style similar to the 1981 review and point out the advances in the level of understanding since 1973. Where there are major gaps in the data this will be discussed and the nature and need for future work will be pointed out. Hydrocarbon and mineral resources discovered since the publication of the last review in 1981 (CCOP/TP 7&7a) will be dealt with in detail.

PROPOSED OUTLINE OF SEATAR REVIEW VOLUME

PREFACE

Chapter 1 INTRODUCTION

Inception, history, objectives of SEATAR
Organization of the SEATAR Atlas and the Review Volume

Chapter 2 PLATE TECTONICS AND RESOURCES OF S.E. ASIA

Concepts, tectonic elements
Resources and relation to plate boundaries
Major advances since inception of SEATAR

**Chapter 3 TRANSECT DESCRIPTION AND REVIEW OF RESEARCH
SINCE 1980**

TRANSECT I BURMA-NORTH THAILAND

Location, geology and geophysics
Resources
Review of Research
Major gaps and future research needs
Bibliography

TRANSECT II ANDAMAN SEA-GULF OF THAILAND
(as for Transect I)
TRANSECT III SUMATRA-MALAY PENINSULA-SUNDA SHELF
(as for Transect I)
TRANSECT VII JAVA-BORNEO
(as for Transect I)
TRANSECT IV BANDA SEA
(as for Transect I)
TRANSECT VIII SULU-CELEBES-MOLLUCCA SEAS
(as for Transect I)
TRANSECT IX NEW GUINEA
(as for Transect I)
TRANSECT X BISMARCK SEA-SOLOMON SEA
(as for Transect I)
TRANSECT V PHILLIPINES-MARIANAS
(as for Transect I)
TRANSECT VI SOUTHWEST JAPAN-KOREAN PENINSULA
(as for Transect I)

Chapter 4 REGIONAL RESEARCH PROJECTS

PALEOGEOGRAPHY
SEISMIC STRATIGRAPHY
HYDROCARBONS
TIN GRANITES
PORPHYRY COPPER
OPHIOLITES
SEISMICITY
CRUSTAL STRUCTURE
GRAVITY
OCEAN DRILLING PROJECT
PALEOMAGNETICS
GEOCHRONOLOGY
HEAT FLOW
SATELLITE IMAGERY
QUATERNARY STUDIES
ORGANIC GEOCHEMISTRY
References

Chapter 5 SYNTHESIS

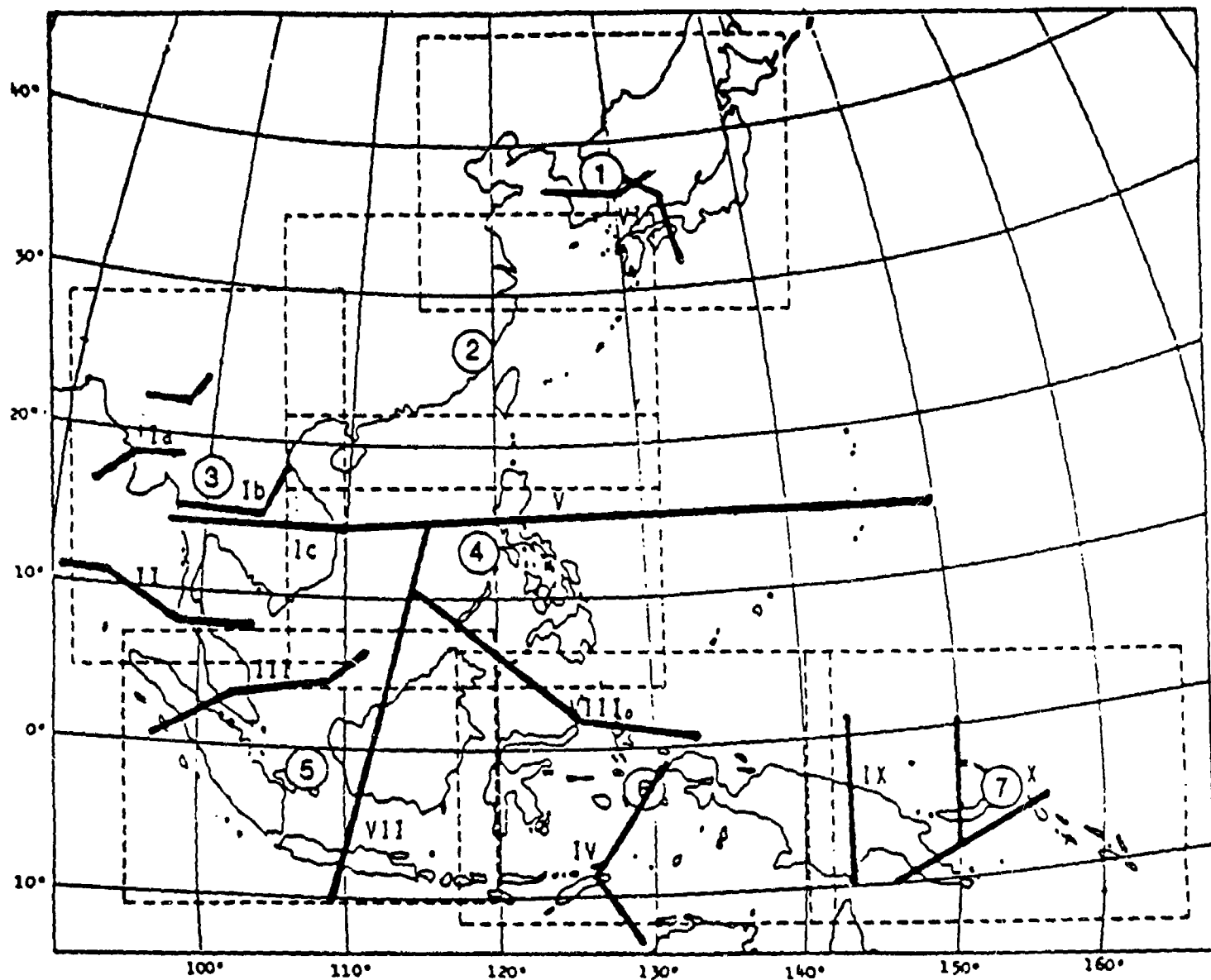
REVIEW OF PROGRESS
COMPARISON WITH OTHER REGIONS
PRIORITIES
FUTURE DIRECTIONS

ANNEXES

1. LIST OF INDIVIDUALS AND ORGANIZATIONS INVOLVED IN SEATAR
2. BIBLIOGRAPHY 1980-1990

ANNEX IV

SEATAR TRANSECTS



SEATAR Transects(I to X) for strip maps and sections,
and maps(1 to 7) of CCOP Programme on East Asia Basin
Evaluation/Resources Assessment

ANNEX V
LIST OF ACRONYMS

AGU	American Geophysical Union
CCOP	Committee for Co-ordination of Joint Prospecting for Mineral Resources in South Pacific Offshore Areas
CPC	Circum Pacific Council
CPEMRC	Circum-Pacific Council Energy and Mineral Resources Conference
ESCAP	UN Economic and Social Commission for Asia and the Pacific
GGT	Global Geoscience Transect
GSA	Geological Society of America
IOC	Intergovernmental Oceanographic Commission
IDOE	International Decade for Ocean Exploration
IGC	International Geological Congress
IUGS	International Union for Geological Science
KIER	Korean Institute of Energy and Resources
SEAPEX	Southeast Asian Petroleum Exploitation
SEATAR	CCOP-IOC Joint Working Group on Post-IDOE Studies of East Asian Tectonics and Resources
USGS	Geological Survey of the United States of America