WESTPAC NEWSLETTER

No.5 June 1985

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and the Department of Science and Technology

EDITORIAL

The most significant recent event for WESTPAC was the meeting of the IOC General Assembly in Paris over the period March 12-28, 1985. In that regard, it is most encouraging to report here that confidence and interest in the WESTPAC Programme Group remains high. The progress being made over the intersessional period has been well acknowledged. Nonetheless, it is critical that the momentum be sustained and, to that end, it is especially pleasing to learn that the concept of a WESTPAC Symposium announced in Newsletter No. 4 was well received at the Assembly. Making that Symposium a reality is now a major challenge for the months ahead and effort is already in hand to develop a prospectus that will warrant general and full support both from the Member States and from the marine science community concerned with the WESTPAC region.

THE STATE OF THE TASK TEAMS

Once again, we present here a full listing of current Task Team memberships, in particular drawing attention to the fact that this listing includes several corrections to which attention has been drawn, most recently from the U.S.S.R. Apologies are again offered for earlier inaccuracies, some of which we expect may have arisen from telexed information which not infrequently accumulates errors in course of transmission. Please let us know if further errors persist.

THE STATE OF THE TASK TEAMS

WESTPAC TASK TEAM ON MARINE POLLUTION RESEARCH AND MONITORING

Technical Coordinator

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National Institute of Oceanology
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JAKARTA INDONESIA

Task Team Chairman

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School of Biological Sciences
Post Office
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AUSTRALIA

Task Team Members

Australia
Dr Allan J Bremner

China: People's Republic
Dr Qin Derun

Fiji
Dr John Brodie

France
Monsieur Jacques Arrignon

Japan
Mr Daisaku Sugito
Mr Masaru Shiozaki

Korea: Democratic People's Republic
Mr Go Jun Bong

Korea; Republic of,
Dr Kwang Woo Lee

Malaysia
Associate Professor Dr Law Ah Theem
Dr Abu Bakar Bin Jaafar
Dr Noor Azhar Mohamed Shazili

New Caledonia
Dr Yves Dandonneau
Dr N L Lemasson

New Zealand
Dr P Dinamani

Thailand
Dr Manuwadi Hungspreugs
Captain T Charoenlaph

USA
Dr Ford A Cross

USSR
Dr E N Shumilin
Dr N K Khristoforova
Dr A A Kalmakov

WESTPAC PROGRAM GROUP IN THE STUDY OF OCEAN DYNAMICS AND CLIMATE

Technical Coordinator

Dr Ron Heath
NZ Oceanographic Institute
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NEW ZEALAND

Project Coordinating Group (Task Team) on Ocean Dynamics in the Tropical Pacific

Chairman
Dr J Stuart Godfrey
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GPO Box 1538
HOBART Tas 7001
AUSTRALIA

Task Team Members

Japan
Mr Koichi Nagasaka

USSR
Dr A D Nelezin

(further nominations proceeding)

Project Coordinating Group (Task Team) on Ocean Dynamics in the North-west Pacific

Chairman
Dr Warren White
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Scripps Institution of Oceanography
La Jolla CA 92037
USA

Task Team Members

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Korea: Republic of
Dr Sun-duck Chang

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Dr Roger Lukas

USSR
Dr V P Pavlychev
Dr S N Protosov

(further nominations proceeding)

Task Team on Coastal and Continental Shelf Oceanography

1. Exchange processes and circulation of coral reefs

Chairman
Dr Jason Middleton
Dept of Mathematics
University of New South Wales
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Kensington NSW 2033
SYDNEY AUSTRALIA

Task Team Members

China: People's Republic
Dr G E Youxin

Indonesia
Mr D Arief

Japan
Dr T Sugimoto

USSR
Dr V B V Preobrazhensky
Dr G I Yurasov

2. Nearshore currents and tides

Chairman
Dr Ron Heath
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DSIR
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NEW ZEALAND

Task Team Members

Australia
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China: People's Republic
Dr G E Youxin

Indonesia
Mr R Kastoro

Japan
Dr Toshiyuki Hirano

Korea: Democratic People's Republic
Mr K Y Chol

Korea; Republic of
Dr S Chang
Dr H Lee

Philippines
Mr C Santos

USSR
Dr V B V Preobrazhensky
Dr G I Yurasov

WESTPAC TASK TEAM ON OCEAN SCIENCE IN RELATION TO LIVING RESOURCES (OSLR)

Chairman and Technical Coordinator
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OSLR STUDY GROUP 1 : OCEAN PRODUCTIVITY

Chairman
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TOKYO 164 JAPAN

Members

Australia
Dr G Harris

China: People's Republic
Dr Dai Ruguang

Indonesia
Dr Anugerah Nontji

Korea; Republic of,
Dr Jong Soo Hue

New Caledonia
Dr R Le Borgne

New Zealand
Dr J Bradford

Philippines
Dr Jose A Ordonez

USA
Dr Richard Epply

USSR
Dr V P Pavlychev
Dr J A S Ovadov

OSLR STUDY GROUP 2 : CONTINENTAL SHELF PRODUCTIVITY

Chairman
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Dr Dai Ruguang
Dr Nina Xiuren

Indonesia
Dr Anugerah Nontji

Japan
Dr Y Kitano

Korea: Democratic People's Republic
Dr D G Kim

Korea; Republic of,
Dr Hyung Tack Huh

New Zealand
Dr J Bradford

Philippines
Dr Miguel Fortes

USSR
Dr S L Kondrashov
Dr V E Rodin
Prof A Zhirmunsky

OSLR STUDY GROUP 3 : LAND/SEA INTERFACE

Members

Australia
Dr D W Kinsey

China: People's Republic
Dr Dai Ruguang

Indonesia
Dr Anugerah Nontji

Japan
Dr Masuoki Horikoshi

Korea: Democratic People's Republic
Dr B D Jon

Korea; Republic of,
Dr Jae Sang Hong

USSR
Dr G M Gavrilov
Dr V L Kasyonov

OSLR STUDY GROUP 4 : TOXIC AND ANOXIC PHENOMENA ASSOCIATED WITH ALGAL BLOOMS

Chairman
Dr T Okaichi
Dean
Faculty of Agriculture
Kagawa University
Miki-machi
KAGAWA-KEN
JAPAN

Members

Australia
Dr J Baker

China: People's Republic
Dr Dai Ruguang
Dr Jiang Jialun

Indonesia
Dr Anugerah Nontji

Korea: Democratic People's Republic
Dr J D Liyu

Korea; Republic of,
Dr Joo Suck Park

New Zealand
Dr F Hoe Chang

Philippines
Dr Ruben A Estudillo

Thailand
Dr Surophol Sudara

USA
Dr Donald Anderson

USSR
Dr Galina V Konovalova

WESTPAC TASK TEAM ON OCEAN SCIENCE IN RELATION TO NON-LIVING RESOURCES (OSNLR)

Technical Coordinator for Marine Geology and Geophysics
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c/- Ocean Research Institute
University of Tokyo
1-15-1 Minamidai
Nakano-ku
TOKYO 164 JAPAN

Group of Experts

Australia
Dr D A Falvey

Indonesia
Mr Sugiarto Wirasantosa

Korea; Republic of,
Dr Chong Su Kim

New Zealand
Nominations submitted

USSR
Dr B I Vasilijev

Other nominations

China: People's Republic
Mr Chen Bingxin

New Caledonia
Dr Jacques Daniel

USA
Dr Brian Taylor

WESTPAC IGOSS TASK TEAM ON OCEAN SERVICES (IGOSS)

Task Team Convenor
Commander Ian Bofinger
Director
Oceanography and Meteorology
Department of Defence (Navy)
Russell Offices
CANBERRA ACT 2600
AUSTRALIA

Task Team Members

Fiji
Director
Mineral Resources Department

Korea: Democratic People's Republic
Mr Ri Zu O

Japan
Dr Yoshiro Sekiguchi

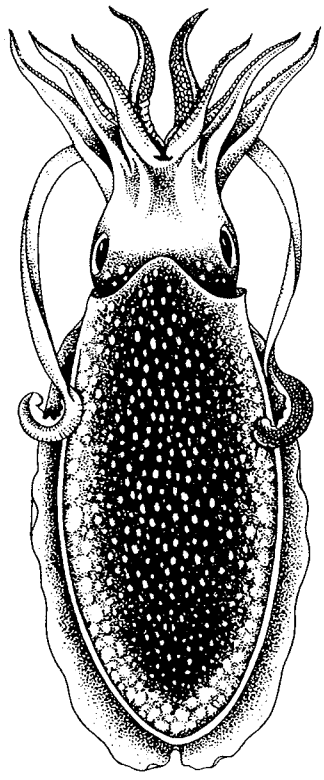
New Caledonia
Dr Jean Rene Donguy

New Zealand
Mr J S Hickman

Philippines
Dr Conrado M Santos

Thailand
Dr Manuwadi Hungspreugs

USSR
Dr V C H Berdin



THE THIRTEENTH ASSEMBLY OF THE I.O.C.

To provide even a brief report on the details of the Assembly would not be feasible and must await release of formal reports from IOC. With regard to WESTPAC affairs, however, it is worth noting that the Chairman was able to hold several meetings with representatives of the Member States to discuss matters of particular interest or concern regarding the work of the Programme Group. A number of most useful suggestions were made especially regarding means to facilitate communication and some of those points are being taken up already with Task Team Chairmen and Coordinators. The topic of communication also arose in consultations with the IOC Secretariat itself and in one most useful meeting between the Chairmen of the IOC regional bodies with IOC Technical Secretaries. Contacts of this kind prove highly valuable and it is trusted the effects of such interations will directly or indirectly aid the Task Teams in achieving their objectives. Within that general context WESTPAC Task Team Chairmen have been requested to pay particular attention to TEMA needs and to specify these to the Chairman so that the IOC Secretariat may be fully informed. The many informal discussions which the Chairman was able to hold culminated in his report on the work of the WESTPAC Programme Group to the Assembly. For the information of all Newsletter readers, the text of that report follows:-

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)

Paris, March 1985

THE STATUS AND FUTURE OF WESTPAC III

Introduction

A significant step forward in the development of IOC Activities in the Western Pacific/South East Asian Region has been taken since the meeting of the IOC Programme Group for the Western Pacific at Townsville, Australia in September 1983. The Tasks set at that meeting were wide-ranging but no less than appropriate to a region of such diversity, scale and general significance. Considerable importance is attached to the work of the Group as became evident, in particular, at the 17th Session of the IOC Executive Council. It is my privilege now, to comment on achievements to date over the intersessional period, to indicate what further progress may be expected by the time of WESTPAC IV and to argue effective levels of support to assure fulfillment of objectives.

The Status of the Programme Group

WESTPAC has taken up, in the context of the Western Pacific/South East Asian Region, Five Major Components of the Commission's Activities.

1. Marine Pollution Research and Monitoring
2. Ocean Dynamics and Climate
3. Ocean Science in Relation to Living Resources (OSLR)
4. Ocean Science in Relation to Non-Living Resources (OSNLR)
5. Ocean Services

Areas (2) and (3) each include a number of particular topics requiring the individual attention of project coordinating groups, task teams or study groups as appropriate to needs. The work of OSNLR in Geology and Geophysics is intended to be aided by a group of experts. At the same time, each of the major areas relate to IOC parent bodies and, often, to groups with whom IOC has established affiliations. It is encouraging to report that no less than 14 member states have made nominations to one or more of the teams needed to sustain WESTPAC interests and that representation in virtually all of those teams is strong. There remains a need to expand and complete the group of experts in Geology and Geophysics but actions to that end are in hand.

It is not possible here to report in detail on activities within the group or towards WESTPAC as a whole. The following, however, may be identified.

1. A Red-Tide Workshop held at the CSIRO Marine Laboratories at Cronulla, Australia in June 1984 under the joint auspices of the Association for Science Cooperation in Asia and WESTPAC. OSLR GRP 4.

2. A joint Commonwealth Science Council/IOC Training Workshop on Tropical Marine Algal Natural Product Resources held at James Cook University, Australia in May 1984. OSLR GRP 3.

3. An ad hoc meeting of the OSLR Group in Shimizu, Japan during July 1984. OSLR GRP 1.

4. A number of WESTPAC designated cruises sponsored by Japan and France. Most OSLR 1.

5. A meeting of WESTPAC Technical Coordinators with the Chairman at the Australian Institute of Marine Science during January 1985 sponsored by the Government of Australia.

6. The series of valuable RNODC Newsletters prepared by Japan continues and an informal WESTPAC Newsletter has been introduced with support from Australia which covers all aspects of the Programme Group's work.

Turning to the immediate future, a meeting of the pollution group has been convened in Townsville, Australia in April 1985 at which representation is expected from 10 member states. A second workshop on warm core rings has been scheduled in Japan tentatively during May 1985, and a Red-Tide Training workshop is being held in Thailand at this very moment. Other interactions are under consideration largely through an active exchange of views throughout the programme by correspondence.

A Comment on the Future

In reviewing ongoing activity and progress, those present at the recent meeting of WESTPAC Technical Coordinators and Task Team Chairmen indicated to the Chairman considerable satisfaction with the present status of the group. They were pleased to learn that another country in the region had indicated its wish to join the programme. At the same time it was agreed that, with strength now established in the various task teams, it is important to continue momentum and to implement concrete programs of work as planned in as many areas as possible. There was recognition that, in the longer term, the option remained of developing the programme group into a sub-commission of IOC. For the present, however, the view of the coordinators is that priority must be attached to securing a base of achievement and to assuring effective continuity for the programme group. To do so, I believe the closest ties must be sustained with IOC and its secretariat while taking advantage of intra-group autonomy which I believe is demonstrating effect and value. The outstanding present need is to place the members of all WESTPAC Task Teams in direct contact with one another and with other leading scientists interested in the region so that within and across disciplines there can be developed the fullest understanding and agreement on themes in regional research and their inter-dependency.

To those ends, and toward a full integration of effort, consideration is presently being given to the feasibility of convening a WESTPAC Symposium. Support from IOC in that endeavour is seen to be critical.

Budgets

Advice on WESTPAC Budgetary requirements has already been forwarded to the Secretariat. It should be noted here, however, that support presently being received from IOC is most appreciated. At the same time, I believe it important to recognize that very considerable support is also being devoted directly to WESTPAC by member states in the form of cruises, a substantial expenditure, in data centres notably Japan's RNODC, in travel support, administrative assistance and in many other ways including direct contributions to IOC e.g. from Japan for the work of the Programme Group. Assistance from the member states is deeply valued and hopefully will continue, expand and become more general. In keeping with those demonstrations of confidence, the fullest possible matching of support is urged from IOC itself, notably since the work of the Task teams, only just begun, must be expected to intensify rapidly throughout the remainder of the present intersessional period and beyond it. In this regard, the scope for WESTPAC to become involved in cooperative projects with other agencies active in the region is considerable and should be encouraged wherever possible.

Concluding Remarks

For such progress as is evident up to the present, I owe my gratitude to a great many people, and, indeed, to entire organizations and Governments. There are too many to list individually. I must, however, express my appreciation to IOC, to its Chairman, Professor Ronquillo, and to Dr Mario Ruivo and his secretariat for their considerable assistance and confidence knowing their interest and support will continue and even become more refined as we go ahead, notably seeking to improve channels of information exchange. I should also like to record my particular appreciation to the government of Australia for its support of WESTPAC and to the Technical Coordinators and Task Team Chairmen within the group for unflagging enthusiasm and dedication to programme activities.

- REPORT ENDS -

IOC EXECUTIVE COUNCIL - ELECTIONS

During the course of the recently concluded 13th IOC Assembly, elections to the Bureau and Executive Council were held. Results of those elections, which were held without the necessity of a ballot, were as follows:

Chairman:	Professor Inocencio Ronquillo (Philippines)
1st Vice-Chairman:	Mlle. Marie-Annie Martin-Sane (France)
2nd Vice-Chairman:	Dr Jose Antonio Galavis-Seidel (Venezuela)
3rd Vice-Chairman:	Prof. Dr. Sc. Klaus Voigh (GDR)
4th Vice-Chairman:	Mr S.O. Allela (Kenya)

Executive Council Members:

Algeria, Angola, Argentina, Australia, Brazil, Bulgaria, Canada, China, Costa Rica, Denmark, Egypt, FRG, Greece, India, Indonesia, Iraq, Italy, Ivory Coast, Japan, Mexico, Nigeria, Peru, Senegal, Thailand, Turkey, United Kingdom, USA, USSR.

It is pleasing to see that WESTPAC member states are well represented on Council and it is hoped that the representatives of those states will interact closely to ensure that a coordinated approach is adopted to questions which may impact on the future development of the Group.

Particular congratulations are extended to Professor Ronquillo who will be serving a second term as Chairman.

WESTPAC SYMPOSIUM

The suggestion for such a meeting arose at a discussion among WESTPAC Technical Coordinators and Task

Team Chairmen held at the Australian Institute of Marine Science last January (WESTPAC Newsletter No. 4).

A statement which emerged at the time and which was expanded by subsequent consultation, sets out the essential reasoning as follows:

"The Pacific and Indian Oceans are connected in low latitudes by a set of archipelagos, continental shelves, and inter-island passages that have resulted from the collision of the Australasian tectonic plate with the Asian mainland, thenceforth limiting free interchange between the waters of the Pacific and Indian Ocean basins. In geological terms, the region is one of the key parts of the world where it is possible to study a variety of application processes and crustal responses involved in island-arc evolution, back-arc sea floor spreading and arc-continent collision leading to mountain building. A wide variety of sedimentary basins evolved during the tectonic cycles represented in the region, many with proven hydro-carbon potential. Still others may hold hydocarbon resources. As well, important ore body types evolve in island-arcs and at oceanic ridges of this area. Understanding the geological evolution of the region is important both scientifically and economically. Further, this archipelagic region may be regarded as the biological hub of the Indo-Pacific. It is the centre of radiation of the world's tropical marine fauna and the corridor for the exchange of land animals between Asia and Australia. Between the islands of Bali and Lombok there is major faunal barrier which more than 100 years ago, Wallace recognized as the consequence of continental drift.

This area contains some of the broadest expanses of continental shelf in the world where much of the world's tidal energy is dissipated. Though the fisheries of the area are not large, their multi-species character poses new and challenging problems in fisheries biology and management of the petroleum reserves of these shallow shelves are under active exploration.

Accumulating in this region are the warm ocean waters in the world. These directly influence the wind and rainfall pattern of the trades and monsoons. When this occasionally shifts to the central equatorial Pacific, Indonesia and Australia suffer severe drought (the El Nino Southern Oscillation) and climate anomalies are noticeable as far away as North America. Because of this, worldwide interest in the region is developing rapidly among physical oceanographers and meteorologists

For these, and other reasons, the Indo-Pacific hub is currently the focus of attention of many countries now participating in the WESTPAC Programme, a regional initiative of the Inter-Governmental Oceanographic Commission. It has therefore been proposed by the WESTPAC Coordinator Group that a major multi-disciplinary symposium be held in the region in 1986, addressed to the various themes outlined above. Such a meeting could provide a much needed focus for physical oceanographers and scientists in other relevant disciplines from WESTPAC member countries that could help to make their activities truly international. A large amount of work has now begun and a meeting in the latter half of 1986 would be well timed to bring together both active workers and also other potentially interested parties.

An exchange of ideas at this time would benefit the various countries of the region. This could be a particularly successful IOC initiative."

With encouragement from the IOC Assembly and, from the member states of WESTPAC, consideration is now being given to arrangements for the Symposium and its timing. It is hoped those matters will receive early attention and agreement and that it will be possible to issue a first formal announcement in a subsequent newsletter and through other channels.

WORLD CLIMATE RESEARCH PROGRAMME

The IOC Programme Group on Ocean Processes and Climate held its first meeting in Paris from 6-8 March, 1985. Twenty three member states were represented. The Programme Group was informed of the development and implementation of the World Climate Research Programme (WCRP), as the research component of the World Climate Programme. The Scientific Plan for the World Climate Research Programme includes TOGA and WOCE experiments. It was noted that the WCRP is a vast and ambitious multidisciplinary programme. The success of the programme rests, to a large extent, on the ability of oceanographers and atmospheric physicists to co-operate effectively and on support of governments. In this regard, the Programme Group noted the successful collaboration of the Joint SCOR-IOC Committee on Climatic Changes and the Ocean (CCCO) and the Joint WMO-ICSU Scientific Committee (JSC) for the WCRP in planning large-scale scientific programmes and experiments, and in defining requirements for ocean-observing systems and monitoring. Enquiries regarding the activities of the Group may be made to Prof Dr K. Voigt, Chairman, Akademie Wissenschasten, DDR Institut fur Meereskunde, Seestrasse 15, Schliessach 38, 253 Rostock Warnemunde, GDR.

POLLUTION MEETING

Task Team on Marine Pollution Research and Monitoring (MPRM)

Under the Chairmanship of Professor Cyril Burdon-Jones of Australia, representatives of nine WESTPAC countries and the IOC attended the first meeting of the MPRM Task Team held in Townsville, Australia, from 17-19 April, 1985. The meeting was jointly sponsored by the Australian Government and the IOC.

In addition to consideration of the agenda (published in WESTPAC Newsletter No. 4) participants each presented reports detailing the current status of pollution research and monitoring activities in their respective countries. Abstracts of those reports will

be included in the report of the meeting which is expected to be available by September 1985.

The Task Team considered actions undertaken by the group since WESTPAC III, September 1983, reviewed the recent reports of groups such as GIMPE, GEMSI, GEEP and GESAMP and defined its own responsibilities vis-a-vis those other bodies.

The Task Team has identified priorities and recommended actions for the remainder of the intersessional period.

Those priority actions include:-

- preparation of a WESTPAC capability directory;
- preparation of WESTPAC input to the 1986 GEMSI analysis of Musselwatch;
- identification of national coordinators for Marpolmon/GEMSI reference material; and
- identificaton of opportunities for interaction with other bodies.

COOPERATIVE OCEANOGRAPHIC PROJECT ON ERGOCLINES (COPE)

In August 1982, the General Meeting of SCOR (Scientific Committee on Oceanic Research, International Council of Scientific Unions) established Working Group 73, entitled "Ecological Theory in Relation to Biological Oceanography". Among its terms of reference, WG 73 must "recommend international collaborative experiments that could advance our understanding of ecosystem function in the marine environment". Accordingly, WG 73 has proposed to conduct a series of comparative studies on some well-defined marine energetic interfaces (ergoclines), where inputs of auxiliary energy lead to increased biological production. This proposal has been approved by the General Meeting of SCOR, in October 1984. The project is tentatively designated by the acronym COPE (Cooperative Oceanographic Project on Ergoclines).

A meeting was held recently in Liege to formulate specific program objectives. Details may be obtained from:

Dr L. Legendre.
Pavillon Vachon
Universite Laval
Quebec
Canada G1K 7P4

CSIRO MARINE LABORATORIES OPENED

The Australian Minister for Science, Mr Barry O. Jones, officially opened the new $13 million CSIRO Marine Laboratories in Hobart on Wednesday 1 May, marking the completion of 2 years of construction of the facility.

About 200 scientific and support staff from the CSIRO Divisions of Fisheries Research and Oceanography work in the five-building complex, which covers a three-hectare site on Castray Esplanade, Hobart. Previously the Divisions had been housed in quarters at Cronulla in Sydney.

The complex has three two-storey laboratory blocks and an additonal two-storey administration block linked by aerial walkways at the second storey, as well as a Support Facilities Building.

The new site at Sullivan's Cove in Hobart also provides a permanent home adjacent to a deep-water wharf, which is ideal for research vessels.

The Division of Fisheries Research concentrates its efforts on the development, improvement and maintenance of Australia's fisheries, while the Division of Oceanography focuses on the composition and movement of Australia's oceans. Both these arms of marine science research are of particular importance since the 200 nautical mile Australian Fishing Zone was declared in 1979.

AUSTRALIA AND MARINE GEOSCIENCE

RIG SEISMIC - BMR'S GEOSCIENCE RESEARCH SHIP

The Bureau of Mineral Resources, Geology and Geophysics (BMR) has chartered a specially designed Norwegian geoscience research ship for the current marine research program of its Divison of Marine Geoscience. The ship, Rig Seismic, is 1543 gross registered tonnes, 72.5 m overall length, 13.8 m breadth and 6.0 m draft. She has a cruising speed of 12.5 knots and cruising range of 75 days approximately. The hull is ice strengthened, giving the capability to work near the Antarctic continental margin.

The main operations deck is 28 m long and the stern is covered by a 20 m diameter helicopter deck, giving a generous working area with overhead clearance of about 4 metres. BMR has no current plans involving helicopters in its marine operations. Internal scientific accommodation includes a main recording laboratory about 12 m by 12 m, smaller geochemical wet and dry laboratories, a geological dry laboratory, and a palaeontological laboratory and various stores, office and workshop areas. This accommodation will be supplemented by a containerised geological wet laboratory, a gun shack for airgun control and maintenance and a portable, refrigerated core store, all deck-mounted. There is living accommodation on the ship for 36 to 38 people all in single cabins; the complement will not normally exceed 14 crew and 18 scientists. The ship is fully air-conditioned and well-equipped with modern machinery and instruments. There are side-thrusters fore and aft for dynamic positioning and a moon pool although BMR has no current plans to deploy underwater vessels.

The BMR equipment being installed during October/November in Newcastle dockyard includes, as the major seismic system, separately deployable 2400

and 1200 m streamer cables, both having 96 channel capability, 3 airguns each of 7.6 l capacity, 4 compressors with a combined capacity of 1100 scfm at 2000 psi, a BMR-designed seismic amplifier, acquisition and display system based on Hewlett-Packard HP 1000 computers, and a set of addressable cable levellers. This is supplemented by a single-channel seismic system, sonobuoy capability, a pair of proton precession magnetometers, two deep sea echo sounders (3.5 kHz and 12 kHz), and two geological winches for heavy and light duty, each with a maximum capacity of 10 km of wire rope. The prime navigation system uses a dual channel satellite navigator, dual-axis sonar Doppler speed log and separate gyro compass and a back-up navigation system uses a single-channel satellite navigator, a second dual-axis sonar Doppler and the ship's gyro compass. All non-seismic data are acquired by a BMR-designed data logging and display system also based on Hewlett-Packard computers and peripherals. This system provides on-line navigation and data quality control and navigation data to the interactive bridge monitor for direct navigation control.

BMR intends to use the vessel for surveys in Australian waters for 6 months intermittently each year. Scientists from other organisations will participate in some of these cruises. The vessel is potentially available for additional work, but funds would have to be found for the necessary staffing, operational, laboratory and data processing costs.

EXCHANGE PROCESSES AND CIRCULATION IN CORAL REEFS

Within the WESTPAC Program on Ocean Dynamics and Climate, Dr Jason Middleton has compiled a Listing of Australian Physical Oceanographers interested in the above topic heading. This information will be circulated to all concerned within WESTPAC.

FIRST WESTPAC TRAINING WORKSHOP ON RED TIDES - "TAXONOMY AND TECHNIQUES FOR RED TIDES RESEARCH"

Time:

The Training Workshop was held on March 14-23, 1985 at Chulalongkorn University, Bangkok, Thailand, organized by Study Group on Toxic and Anoxic Phenomena associated with Algal Blooms, Faculty of Science and Sichang Marine Research and Training Station of Chulalongkorn University.

Object:

The promotion of red tides research has arisen from evidence of the incidence of human poisoning associated with paralytic and diarrheic shellfish poisoning (PSP and DSP) in the WESTPAC region. From the meeting at the WESTPAC Task Team on Ocean Sciences in Relation to Living Resources (OSLR), Study Group on "Toxic and Anoxic Phenomena associated with Algal Bloom" held at CSIRO Marine Laboratory in Cronulla, Australia, June 20, 1984, it was decided that an initial workshop would be conducted to have the general procedures for reliable taxonomic identification in the WESTPAC region within one year.

Funds:

The Australian Government provided 8000 Aus. Dollars. NSF (USA) and IDRC (Canada) supported the travel funds for Dr Anderson and Dr M.J.R. Taylor, respectively. Members of Japanese Fishermen's Association also provided some cooperation for travel funds and supplies.

Organizers:

Dr T. Okaichi
Japan
Dr S. Sudara
Thailand
Dr D. Menasveta
Thailand
Ms S. Suvapepum
Thailand

Lecturers:

Dr F.J.R. Taylor
Canada
Dr T. Okaichi
Japan
Dr F. Fukuyo
Japan
Dr D. Anderson
USA

Staff:

Dr S. Sudara, Dr. P. Menesveta and 12 members of Chulalongkorn University.

Participants:

Hong Kong:	Dr C.W.Y. Lam
Indonesia:	Mrs O. Adnen
Malaysia:	Mr A.R. Latun, Mr T.T. Ming
New Zealand:	Dr B. Hayden, Ms R. Baldwin
Philippines:	Ms A. Maala
Republic of Korea:	Mr S.G. Lee
Thailand:	Ms A. Udomkit, Dr A. Rasmitas, Mrs L. Pakarnsaere, Ms M. Piromnim, Ms N. Eamsuro, Mr P. Pholpunthin, Mrs P. Sribyatta, Mr R. Moordee, Ms S. Sawatpeera, Mr S. Rungsupa, Ms S. Dechaprompun, Ms S. Boonyapiwat, Ms S. Wisessang, Mr T. Lirdvitayaprasit, Mr T. Yeemin, Mr Y. Manthachitra, Mrs W. Yoosuk, Mrs W. Panichkarn, Ms Y. Phadung

Activities:

Laboratory training using microscopes and video TV system provided the fundamental techniques for taxonomy of dinoflagellates and cyst studies.

March 14-16
Dr Fukuyo: Introduction to dinoflagellates cyst study. Isolation technique for cyst culture and observation. Observation technique for thecal plate arrangement.

March 18
Opening Ceremony: Dr K. Suwanagul (Rector of Chulalongkorn University), Dr T. Okaichi (Leader of Group 4 of OSLR), Dr P. Menasveta (Vice Chairman of WESTPAC Chulalongkorn University).
Dr Taylor: Taxonomy and general biological remarks.
Laboratory work.

March 19
Dr Taylor: Taxonomy of toxic dinoflagellates.
Dr Fukuyo: Identification of Protogonyaulax.
Dr Okaichi: Chattonella red tide associated with Environmental Control. Mass culture of phytoflagellates.
Dr D. Anderson: Dinoflagellate life cycle.

March 20
Dr Anderson: Cyst Mapping.
Moved to Sichang Marine Research and Training Station in the afternoon.

March 21
Survey cruise for sampling and oceanographic observation from Sichang Marine Science Research and Training Station to Bangkok. At 3 stations, bottom sediments were sampled by core sampler and glove sampler. Plankton was also collected with 20 μ mesh net. Green Noctiluca scintillans were found in rather high cell density.

March 22
Dr Taylor, Dr Anderson, Dr Fukuyo: Laboratory work on the identification of dinoflagellates and cysts in plankton and sediments samples brought by participants. The samples obtained at the survey cruise were also examined.

March 23
Dr Taylor, Dr Anderson, Dr Fukuyo: Laboratory work was continued in the morning.
Closing Ceremony: Certificates were given to all of the participants by Dr K. Mongkolkul (Dean of the Faculty of Science Chulalongkorn University)
Color slides collections of 18 species were also given to them to illustrate the fruits of the workshop.

Recommendation for further work:

During the business meeting after closing ceremony, future work on "Toxic and Anoxic Phenomena associated with Algal Blooms" was discussed.

It was proposed to hold the second training workshop on Environmental Monitoring and Chemical Techniques in the course of 1986. The location is not decided but the possibility of meeting again at Chulalongkorn University was talked about. The workshop will include the ecology of toxic phytoplankton, analytical methods for nutrients and other organic growth promoting factors. Training on chemical analysis of the toxins is also expected.

In 1987, the Symposium on Toxic Red Tides in WESTPAC Region, based on the two years activities after the first training workshop, will be supported by with Expert Consultation on various aspects of Red Tides.

It may be convenient that the Symposium be held jointly with the activites of other group of OSLR. The places are not decided but Japan is one of the places nominated.

TENTATIVE PROGRAM OF THE SECOND TRAINING WORKSHOP ON RED TIDES

Date: October or November in 1986.

Place: Not decided

Program:

I. Environmental Monitoring
   1) Field survey on ecological aspects
   2) Survey of biomass of red tide organisms including counting and size estimation with microscope and particle counter
   3) Nutrients analysis
   4) Basic method on the analysis of organic growth promoting factor
   5) Discussion on the formation of Monitoring network

II. Toxin analysis
   1) Biological method
   2) Chemical method.

TENTATIVE PROGRAM OF RED TIDES SYMPOSIUM AND EXPERT CONSULTATION ON VARIOUS ASPECTS

Date: Summer in 1987.

Place: Not decided (Japan is one of the places proposed).

Program:

Symposium
1. Red Tides in Region
2. Toxicology and chemistry of algal toxin
3. Anoxic water formation in Aquaculture fields

Consultation
1. Taxonomy and other Biology of the red tide organisms
2. Chemical and Toxicological method of Algal toxins.

UNESCO ECOPHYSIOLOGY WORKSHOP

This workshop was held during May at the Australian Institute of Marine Science and a report is in preparation. For information, contact Dr M. Vannucci, UNESCO House, Jor Bagh 17 (Lodi Rd), New Dehli 110 003, India

ADAB SEMINAR

With funds from the Australian Development Assistance Bureau a Regional Seminar on Mangrove Research Towards Management followed the UNESCO Workshop and it is intended to publish the proceedings. Information may be obtained form Dr K. Boto, Australian Institute of Marine Science, P.M.B. No. 3, Townsville M.C., Queensland, 4810, Australia.

ADAB/ASEAN

Australian aid funds were made available through the ASEAN Group early this year to initiate collaborative studies of Mangroves and Coral Reefs. Details may be obtained from Dr A. Soegiarto, National Institute of Oceanology, P.O. Box 580/DAK, Jakarta, Indonesia.

DIRECTORY OF MANGROVE EXPERTS

Out of the UNDP/UNESCO Research and Training Pilot Program on Mangroves Ecosystems of Asia and the Pacific, a Directory of Mangrove Experts has been prepared. For information in the first instance, contact:

Dr M. Vannucci
UNESCO House
Jor Bagh 17 (Lodi Rd)
New Dehli 110 003
India

This Directory has now been complemented with a Directory from Japan. For that information, contact

Professor Ryuzo Marumo
Tokyo University of Agriculture
1-1-1 Sakuragaoka
Setagaya-ku
Tokyo 156
Japan

ASIAN SYMPOSIUM ON MANGROVE ENVIRONMENT RESEARCH AND MANAGEMENT

This meeting was held in Kuala Lumpur in 1980. The proceedings were released in June 1984 in a document of some 828 pp. For information contact:

Professor E. Soepadmo
Department of Botany
University of Malaya
Kuala Lumpur
Malaysia

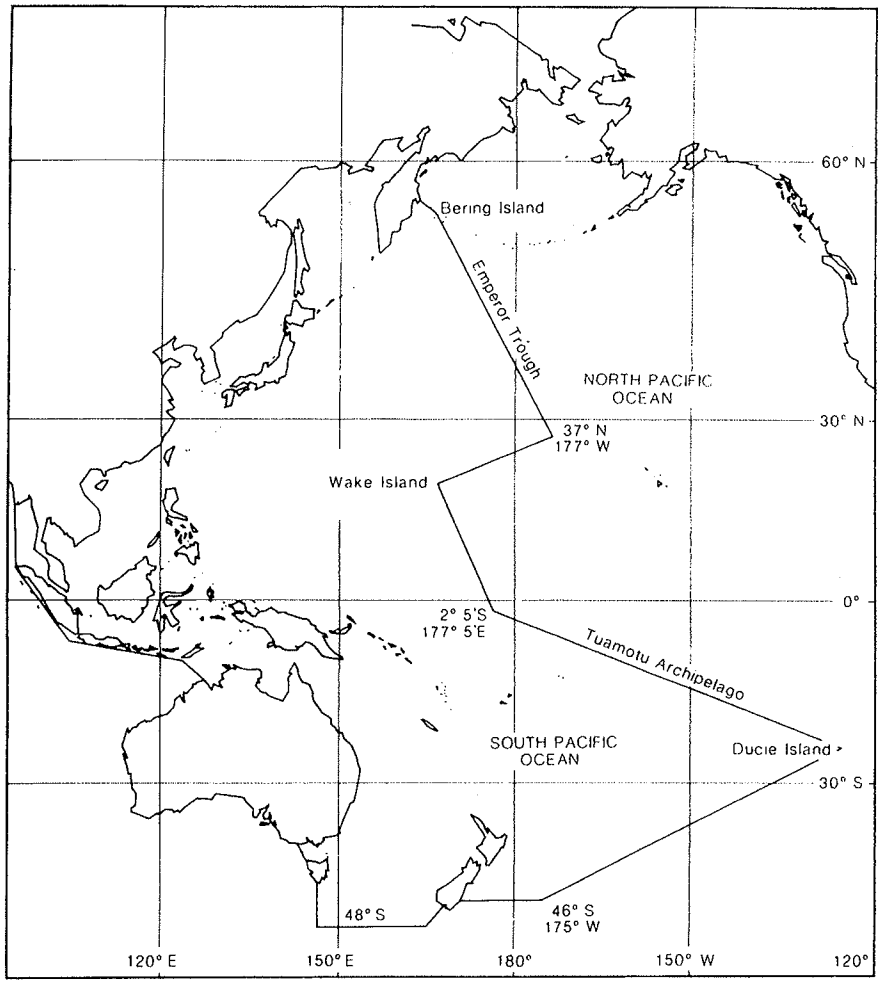
NOTE:

We are unable to list all of the marine science activities now going on within the WESTPAC region but will do our best to acknowledge those which are brought to our notice. In that regard, our most recent advice concerns the following:-

1. Lin Peng 1984. Mangrove Vegetation (In Chinese) Department of Biology. Xiamen University, Xiamen, China.

2. China Ocean Press 1984. A brief introduction to the Chinese Institutions of Ocean Science and Technology. Zhang Haifung (Ed). Printing House of the Institute of Marine Scientific and Technological Information, Beijing, China.

3. Park Y.A. Pilkey, O.H. and Kim, S.W. (eds) 1984. Marine Geology and Physical Processes of the Yellow Sea. Proc. Korea-U.S. Seminar and Workshop, Seoul, Korea. Contact Seminar Editor, Seoul National University, Seoul, Korea.



The WESTPAC region