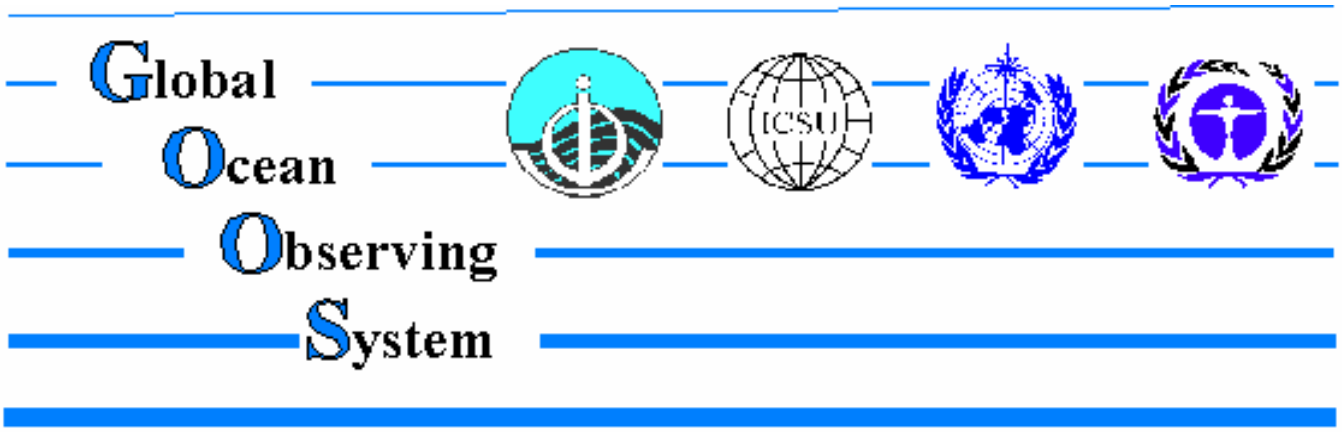

Intergovernmental Oceanographic Commission
Reports of Meetings of Experts and Equivalent Bodies

IOC/WESTPAC Co-ordinating Committee for the North-East Asian Regional - Global Ocean Observing System (NEAR-GOOS)

Tenth Session
Busan, Republic of Korea
16-18 January 2006

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GOOS Report No.158

UNESCO

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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Tenth Session of IOC/WESTPAC Coordinating Committee for the North-East Asian Regional-Global Ocean Observing System (NEAR-GOOS-CC-X)

Busan, Republic of Korea, 16-18 January 2006

SUMMARY REPORT

1. OPENING

On behalf of the Korean Delegation, Dr. Hee-dong Jeong, CC Member, Korea, and Head of Organizing Committee of the session, welcomed the other delegates to the National Fisheries Research and Development Institute (NFRDI). He thanked the IOC Secretariat for its support, and expected the meeting to produce outcomes that would be remembered.

2. ADMINISTRATIVE ARRANGEMENTS

2.1 ADOPTION OF AGENDA

Upon the suggestion of Dr. Kwang-Soon Park, CC Member, Korea, the session agreed to delete Item 4.3 (Discussion on Monitoring Using Drifters and Buoys) of the original agenda from the discussion. Dr. Hee-dong Jeong, however, was still willing to organize the working group on surface drifters and buoys and report the progress at the next session.

In addition, Dr. Alexander Tkalin, NOWPAP RCU Coordinator, Toyama Office, requested, and the members agreed, to give some information on NOWPAP in Agenda Item 5 (Relevant Developments in Related Programmes).

With these two amendments, the members agreed to adopt the agenda (Annex I).

2.2 DESIGNATION OF A RAPPORTEUR

Ms. Shaohua LIN, CC Member, China, nominated Dr. Vyacheslav Lobanov, CC Member, Russia, to act as the Rapporteur. The latter accepted the nomination.

2.3 WORKING ARRANGEMENTS

Dr. Miguel D. Fortes, Head of the IOC/WESTPAC Secretariat, informed the body that the schedule and activities would be made flexible to accommodate the practical needs of the session. As always, the working language of the session was English.

The working documents, earlier sent to the members via emails and in the Internet, would be guiding the sequence of discussions. These documents were: (1) The Provisional Agenda, (2) The Provisional Timetable, (3) Japan National Report of RDMDB, (4) Japan National Report on RRTDB, (5) Japan National Report on Training Course, (6) Report on ODIN and ODINWESTPAC, and (7) GODAR WESTPAC. The Draft List of Participants was circulated for corrections. In addition, the Secretariat distributed copies of the main points in the NEAR-GOOS CC9 Report, plus a separate page on the Action Points from that report. These were useful guides in the discussion.

The meeting had 2 days (3 mornings, 1 afternoon), plus 1 afternoon for the Secretariat to finish a draft report.

Dr. Yoshida, CC Member, Japan, and NEAR-GOOS Chair, suggested, and the body approved, that only the highlights in the summaries of the National Reports would be included in the CC 10 Summary Report.

3. STATUS OF NEAR-GOOS: REPORT ON THE OPERATION

3.1 REPORT BY THE CHAIRMAN

At the 6th Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-VI, Nha Trang Vietnam, 23-27 May 2005), the Chairman reported the progress made by NEAR-GOOS in the last 3 years (1st Phase). WESTPAC-VI endorsed the implementation of NEAR-GOOS. The report included: the progress of NEAR-GOOS real time and delayed mode databases (which are now fully operational, an indispensable source of oceanographic data and information for various research and operational activities in the region, but requiring the commitment from the Member States for their maintenance); successful conduct of the IOC/WESTPAC Data Management Training Courses; the new terms of reference of the committee; the Strategic Plan for NEAR-GOOS in its 2nd Phase (2004-2008); and the establishment of working groups to implement its projects.

To follow up the Strategic Plan, the work of NEAR-GOOS was organized into 2 functionally separate projects, which were approved at the CC-9 (Sendai, Japan, 3-5 November 2004). Each directed by a working group of experts, these 2 projects were: New Generation Sea Surface Temperature and Data Management. Representatives of their respective working groups reported details on the progress of each project. A major task of the committee was the coordination of the new projects. Feasibility from the viewpoint of available resources should be taken into consideration in the discussion of these projects.

The Chairman raised some concerns, which included the following: delay in publication of materials e.g. the Strategic Plan; lack of information concerning the NEAR-GOOS second phase; and insufficient funds allocated to IOC/WESTPAC for the programme.

These concerns elicited some responses from the participants. China recommended serious discussion on the matter, this recommendation was supported by Russia and suggested that information on NEAR-GOOS, its activities, products, and the Strategic Plan, be at least made available in the web.

Action: As soon as possible, WESTPAC should make available in the web, information on NEAR-GOOS, its activities, products, and the Strategic Plan.

3.2 REPORT BY THE WESTPAC SECRETARIAT

Dr. M.D. Fortes' report summarized the actions assigned to the Secretariat to address the Action Points given in the NEAR-GOOS CC9 Report and highlights of other WESTPAC activities relevant to NEAR-GOOS. Those action points which were accomplished –wholly or partially- include: timely submission of members' contributions to the Strategic Plan and its preparation for printing; check on the restrictions of surface drifters and buoys drifting into the EEZ of other countries; and strengthening and pursuing partnership with PEMSEA.

On the other hand, actions which were not accomplished by the Secretariat include: drafting of an MOU with Member States in order to secure commitments of support for NEAR-GOOS; upgrading the NEAR-GOOS webpage; printing the Strategic Plan; and investigating the intention of DPRK to participate in NEAR-GOOS.

The problems largely resulted from the impact of the substantial budget cut in UNESCO. This was aggravated by the refocusing efforts and resources of WESTPAC to new emergent priorities (disaster-related). In terms of fund support, however, the latter might be a bright prospect wherein NEAR-GOOS could secure additional support for its projects.

Highlights of 2 other activities relevant to NEAR-GOOS included: the adoption by the WESTPAC Member States of Resolution SC-WESTPAC-VI.2 (WESTPAC-VI, Nha Trang, Vietnam, 23-27 May 2005) which

create an intersessional working group to establish an Ocean Data and Information Network for WESTPAC (ODINWESTPAC); and the 38th IOC Executive Council Meeting and 23rd General Assembly (Paris, France, June-July 2005), which likewise adopted Resolution XXIII-7 supporting the WESTPAC strategy and implementation plan for capacity building. In this plan NEAR-GOOS will play major roles in training courses and programmes to build the region's capacity in ocean science and services.

3.3 REPORT ON NATIONAL ACTIVITIES

3.3.1 China

Ms. Shaohua Lin, CC Member, China, presented the Running Status of China NEAR-GOOS Delayed Mode Database. She pointed out that since 1996, the database has served the NEAR-GOOS and GOOS. The marine data in the database include: delayed observational data from Chinese marine stations; tide prediction data from Chinese major ports and the ports of the countries in Southeast Asia; real-time observational data released by China, Korea, and Russia. Data in the China DMDB are collected from buoys, ships, GTS, and include meteorological (wind velocity and direction, air pressure, humidity), SST, sea surface salinity, wave, sea surface and air temperature, tidal prediction, among others.

China is automatically downloading real-time data, now reaching 800 MB, at increased transmission speed to 10 MB/s. With increasing number, the users were mainly from universities, research institutions at home and abroad, international organizations, enterprises, and individual scientists, using the data in scientific study, marine pollution research, analysis on air-sea interactions, education and popularization, and prediction. Good example is the use of coastal station data for the BODC in preparation for water-related games for the 2008 Olympic Games.

In relation to the China Real Time database, it mainly includes physical data coming from 14 coastal observation stations and one buoy, some GTS oceanographic data and forecasting products. The users are mainly marine environment forecasters. Due to the insufficiency of the data in the database, the number of users is small.

China is going to further develop the NEAR-GOOS data processing for the NEAR-GOOS databases, study on the methodology of data processing, metadata release and product development. The WebGIS software is going to be developed for the release of the graphic products on the website.

For the efficient use of NEAR-GOOS, China suggested that all the NEAR-GOOS Real-time and Delayed Mode Databases be updated in time and all the participating countries strengthen their website maintenance to ensure that the network route is accessible.

Action: Each database manager to ensure updating of the database in time and ensure that network route is accessible.

3.3.2 Japan

In relation to the Regional Real Time Database, Dr. Yoshida reported on its general status, user registration, contributors, data retrieval and new products. Temporary unavailability of the data arose when the computer system for the database was replaced. There was a slight increase in the number of users (104 as of December 2005), mainly from Japan, China, Russia, Korea. Users from USA, Canada, India, Thailand, and Indonesia were also registered.

Contributors to the RRTDB include: the GTS, JMA and its marine observatories, the Japan Fisheries Information Center and the Marine Environmental Data Service of Canada.

Frequency of access to the database web pages for the general public was slightly reduced (6,000 hits/mo, Dec 2004 – Nov 2005). Access by registered users, on the other hand, peaked over 30,000 in Oct 2005, averaging slightly less than 5,000 hits/month for the period.

Since September 2005, data retrieved by FTP decreased (4,000 – 1,000 files/month). Data requested most frequently were daily SST adjacent to Japan, and in the global ocean and sea surface height analyses.

Available since November 2005, the new products contributed to NEAR-GOOS include daily subsurface temperature fields in the seas around Japan (120E – 180E and 23N – 45N).

Dr. Kanazawa, Director, JODC, showed that it takes 30 days for data from RRTDB to be processed at the RDMDB. A new type of data "ASMDAY" was added to RDMDB in January 2006, which was daily subsurface temperature around Japan (100m, 200m, 400m). Database capacity by 2005 was 25 G bytes, with data volume increased to 10 GB or more in 15 months.

Frequency of data access generally increased from 1998 – 2005. The same trend was observed in the case of number of data files and volume of data downloaded from RDMDB in the same period.

In conjunction with the IOC/WESTPAC Training Course on NEAR-GOOS Data Management, it has been organized yearly at the JODC since 1982, in support of WESTPAC activities. Many activities of NEAR-GOOS have been incorporated in the training course since 1997. There have been 22 training courses from 1982 to 2003. The number of participants varying from 2 to 7, many coming from NEAR-GOOS region, the rest from other WESTPAC countries. The 23rd (8th since 1997) will be held in Tokyo on 20 February – 3 March 2006 with 8 participants.

Dr. A. Tkalin, NOWPAP, raised the question on the non-inclusion of chemical and biological data in the RDMDB, emphasizing their importance in addressing environmental issues. While there is a plan in the future and these latter data are included and accessible from other databases in the region e.g. IODE, PICES, the session recognized the importance of the data and agreed to discuss the matter further, especially in the light of the new activities of the 2 new NEAR-GOOS pilot projects.

This section is further discussed in Item 4.2.

3.3.3 Republic of Korea

Dr. Kwang-soon Park, KORDI, and CC Member, Korea, presented The National Activities for NEAR-GOOS in Korea. He emphasized the close coordination among the Korean agencies in the management and data. In connection with the Real Time Database of Korea, MOMAF designated KORDI as the Real Time Data Center. KORDI designed the implementation plan for the establishment of a real-time coastal and ocean monitoring network for the surrounding waters of the Korean peninsula in 2001. The primary purpose of this system is to get efficiently temporal and spatial variability in ocean environmental parameters. Currently, 57 real-time observing stations are operating in Korea. 6 more stations will be constructed in 2006. The Korean Meteorological Administration (KMA) contributes data on wind, wave, air and water temperature, air pressure, and humidity from buoys deployed at 5 stations. Light towers at 7 stations collect data on wind, wave, air and water temperature, and air pressure. In addition, KMA maintains a Meteorological Information Web Service System for disaster prevention.

National Oceanographic Research Institute (NORI), on the other hand, maintains the Real-time Coastal Data Service, providing data on tide, wind, air and water temperature, air pressure, and salinity coming from 30 stations. The National Fisheries Research and Development Institute (NFRDI) provides data on water temperature and salinity obtained from light buoys deployed at breeding and fishing grounds. In addition, it maintains a Real-time Coastal Data (Water Temperature and Salinity) Service.

Korea is undertaking a major effort to establish an integrated real-time data service system. MOMAF designated KORDI as an integration operation agency for the service of real-time coastal and ocean data in Korea in 2004. An integrated real-time data service system which providing all real-time data observed by KORDI, NORI and NFRDI was established. Real-time data are extracted from DB of each agency automatically every thirty minutes and then transmitted to KORDI by FTP. Transmitted data are fed into

integrated D/B of KORDI automatically. Directly related to NEAR-GOOS, the Korean and English versions (the Korean NEAR-GOOS real-time data service system) of real-time data service system were renewed with new menu structure and design. KORDI is operating the NEAR-GOOS data service in Korea temporarily.

KOREA is planning to improve the Integrated Real-time Data Service and the real-time database for NEAR-GOOS. An ocean buoy will be manufactured and deployed in mid-Yellow Sea jointly by Korea and China in 2006.

In relation to the Korean Delayed Mode database (DMDB), Dr. Hee-dong Jeong, KODC/NFRDI and CC Member, Korea, presented the Report of the National Activities for NEAR-GOOS DMDB in Korea. MOMAF has designated NFRDI as "Delayed Mode Data Centre" and decided to adopt NEAR-GOOS data exchange flow for integrating and serving oceanographic data and information effectively.

KODC has a 7 years (1999-2005) project to develop and integrate oceanographic data and information network at the national level in order to increase the common use and easier access to the information. The homepage (http://kodc2.nfrdi.re.kr:8001/home/eng/nops/nop.php) of this network has been offering oceanographic information such as cruise summary reports, research organizations, oceanographer, research vessel, and so on since 2000. This network will accelerate the mutual exchange of oceanographic information and data among the oceanographic research organizations, and will serve as a guide to the users of oceanographic science and services.

Korea DMDB for NEAR-GOOS has been constructed successfully and now being serviced (http://kodc2.nfrdi.re.kr:8001/home/eng/projects/near_intro.php). Available data and information are as follows:

- Bimonthly Serial Oceanographic Data (1961-2004): the parameters include water temperature, salinity, dissolved oxygen, meteorological factors, nutrients, and zooplankton biomass;
- Daily Coastal Oceanographic Data (1923-2004): the parameters include water and air temperatures, meteorological factors

Users of the data are mainly fisheries authorities and local NGOs concerned especially with HABs.

3.3.4 Russian Federation

Dr. Vyacheslav Lobanov presented the Report on National Activities on NEAR-GOOS Project in the Russian Federation. The Russian National Working Group on GOOS confirmed that participation of Russia in NEAR-GOOS is of high priority. GOOS related activities have been developing under the national program "Integrated System of Information on the World Ocean" (ESIMO), (http://rus.ferhri.ru/~esimo/). The Far Eastern segment of ESIMO has been currently developed by FERHRI.

FERHRI maintains the Russian Real Time Database. This consists of data from some coastal stations since 1998, and data from research vessels and ships of opportunity (http://rus.ferhri.ru/~esimo/Projects/Neargoos/). On the other hand, the Russian Delayed Mode Database is maintained by POI FEB RAS (http://www.pacificinfo.ru). More data are provided by POI, TINRO and SakhNIRO (as a metadata, so far).

Monitoring activity comprises: repeated hydrographic sections (TINRO-Center, SakhNIRO, POI), coastal moorings (POI and TINRO), and satellite monitoring (Far Eastern Regional Receiving Center, in Khabarovsk, Inter-institute Satellite Monitoring Center in Vladivostok, and SakhNIRO in Yuzhno-Sakhalinsk.

Effort is being made to developing information resources and technologies. This is through new electronic atlases (http://pacificinfo.ru/eisp), GIS for oceanographic data (www.gis.poi.dvo.ru), and virtual data base technology for NEAR-GOOS data (http://vdb-eastsea.poi.dvo.ru).

Future development of NEAR-GOOS activity in Russia is related to the progress of national ESIMO program benefits to NEAR-GOOS; more support on national level and through international activity; developing an observing system (which would require large investment); and continuing existing observations

4. NEAR-GOOS DEVELOPMENT

4.1 REPORT ON THE WORKING GROUP ON NEW GENERATION SST

Dr. Hiroshi Kawamura, Resource Persons from Tohoku University, presented the activities of the working group on the New Generation Sea Surface Temperature Project (NGSST). The report consists of 4 major parts: Progress summary of the ORSP/NGSST project; Lessons learned; Strategic plan of NGSST-C development for NEARGOOS; and Actions. Ocean Remote Sensing Programme (ORSP) was established as one of the science programmes in the WESTPAC-V in 2002. Its pilot project is New Generation Sea Surface Temperature Project (NGSST-P: Project leader H. Kawamura). During 2003-2005, the project had five meetings and trusted its working group with research and development (R&D) of NGSST-C, which is a satellite-based new sea surface temperature product for the coastal seas. The new product needs to have high temporal/spatial resolutions for many coastal applications. The members have experiences in NGSST-O development and its demonstrated operation, which is a basis of the new NGSST-C R&D. The Working Group 1 had two meetings in 2005.

Lessons learned

In the last meeting of NGSST-V held at the Tohoku University in November 2005, a plan of NGSST-C development was discussed concerning R & D results of the working group. Lessons learned through the R&D activities are summarized as follows:

- AVHRR-SST has high quality in the coastal sea equivalent to that in the open ocean (0.6-0.7K);
- Accurate navigation and advanced cloud masking are necessary;
- Sophisticated signal processing methodologies have a high potential in high-resolution SST merging, keeping frontal features;
- Front detection from snapshot images is mature technology. The detected front information can be used together with the background SST maps (e.g., high-resolution merged SST)

Strategic plan of NGSST-C development for NEARGOOS

The working group recognized that 50-km sea zones along the coastlines have less-observational density problems because of unavailability of the microwave SSTs. Therefore, for these zones, use of AVHRR/MODES infrared SSTs will be most reliable remote sensing measurement sources. We need more advanced navigation/cloud-detection methodology. The geostationary meteorological satellite MTSAT started its operation in June 2005. It has quite high potentials in developments of the NGSST-C, which should be investigated in near future.

Use of sophisticated signal processing techniques is essentially important for the high-resolution SST merging, for which special attentions on the frontal features should be paid. One idea is to add the extracted high-resolution front information on the NGSST-C maps. SST measurement density may be added on the product as well.

Actions:

1. *Formation of the NGSST working group through consultation with the CC members (by the end of February 2006);*
2. *Distribution of the strategic plan of the NGSST-C development with technical/research information; and*
3. *Organization of the kick-off meeting (Spring-summer of 2006, Sendai).*

4.2 REPORT OF THE WORKING GROUP ON DATA MANAGEMENT

Dr. Takashi Yoshida, as Chair of the Working Group on the NEAR-GOOS Data Management, presented the report on behalf of the group. CC9 (Sendai, Japan, November 2004) decided to establish the working group, with its members nominated by the CC members by the end of November 2005.

The working plan for the group is being prepared by Dr. Yoshida, with the review of existing oceanographic data flows as the first step. After consultation with CC members in this session, he will finalize the working plan. The group will have its first meeting in May or June 2006 in Tokyo hosted by the JMA, with financial support from the Japanese Funds-In-Trust.

As a response from the participants including representatives of NOWPAP and Yellow Sea Large Marine Ecosystem Project, there was a strong feeling for the need to include chemical and biological data in the database. It was noted that KODC is already distributing such data. But before this is considered, some questions need to be answered: What kind of data does NEAR-GOOS require –either in delayed or real time mode? Who are the users, and what do they need?

Action: the Data Management WG to review the data flow, existing data exchange policy and find the best ways to include chemical and biological data in NEAR-GOOS databases.

On the question on how to raise funds to support NEAR-GOOS activities, China suggested soliciting commitment from national governments, partnership and cooperation with other programmes (maybe with the incorporation of chemical and biological data in the databases as these may really support). Russia, on the other hand, suggested raising the status and visibility of the programme, coupled with clear implementation of its projects. Korea and Japan will try to get funds from all possible sources –with good, feasible proposals useful for people.

For its part, the Secretariat, suggested NEAR-GOOS (and WESTPAC itself) to further pursue the existing partnership with PEMSEA. In as much as PEMSEA has already developed the Sustainable Development Strategy for the Seas of East Asia, the intergovernmental agreement is already in place, the concern of raising visibility is partly addressed as well as the issue of partnership.

Action: WESTPAC to circulate a letter to remind member states of the status of NEAR-GOOS and ask for their support for the implementation of its second phase. The letter should mention the past international agreement for the establishment of NEAR-GOOS.

An ad hoc committee was established (with Dr. Takashi Yoshida, Professor Zhouwen Yu, Dr. Vyacheslav Lobanov, Dr. Hee-dong Jeong, and Dr. Miguel D. Fortes as members) to review existing intergovernmental agreements, circulate these agreements to NEAR-GOOS member states, draft the above letter and consider the possibility of preparing an MOU, attaching the Strategic Plan for NEAR-GOOS in the second phase.

5. RELEVANT DEVELOPMENTS IN RELATED PROGRAMMES

5.1 ODIN-WESTPAC

Dr. Teruo Kanazawa presented the report, Establishment of Ocean Data and Information Network for WESTPAC region (ODINWESTPAC), with a brief background of the International Oceanographic Data and Information Exchange (IODE), its history and present status. He emphasized major decisions made at IODE-XVIII (Ostend, Belgium, April, 2005), which decided to abolish RNODC: Responsible National Oceanographic Data Centres (RNODCs) and IODE Regional Coordinators. This abolition is the main justification for the establishment of ODINWESTPAC. In addition, IOC/WESTPAC-VI (Nha Tran, Vietnam, May 2005) decided to establish an intersessional Working Group to lay the foundation for the establishment of the network. Ocean Data and Information Networks constitute a capacity building strategy, linking training, equipment and operational support in a regional context, products and service oriented and using a multi-stakeholder approach. ODINWESTPAC is envisioned to replace the RNODCs and IODE Regional Coordinators in WESTPAC. Discussions among members of the Working Group are still going on,

and comments or suggestions may be submitted to Dr. Yoshida.

5.2 GODAR-WESTPAC

Dr. Teruo Kanazawa, as the Director of JODC, also reported on the status and progress of the Global Oceanographic Data Archaeology and Rescue Project in the Western Pacific (GODAR-WESTPAC). Its goal, consistent with that of GODAR, is to increase the volume of historical data available to climate change and other researchers in the region, and to save oceanographic data from a risk of losing by degradation of recording media.

In terms of data rescue JODC has already digitized about 12,000 points of hydrographic station data (1939-1944), and these are now available on J-DOSS (JODC Data Online Service System). However, some problems were raised, especially at the 2nd International Workshop on GODAR-WESTPAC. These problems include the points raised by the participants which might slow the progress of the project, which are: lot of work for digitizing historical data; insufficient resources for digitizing historical data; constraint on international data exchange by national policy; and some scientists treat data as their own.

The following actions were suggested to promote the project: prepare the detailed report on national rescued data; identify available data sets in the WESTPAC region in the World Ocean Database; cooperate with non-WESTPAC countries; prepare material on GODAR-WESTPAC explaining the benefits of the project for scientists and society; IOC issues the Circular Letter to WESTPAC Member States to reinforce their support for the project.

5.3 PROGRESS IN OTHER GOOS REGIONAL ALLIANCES AND GRAND PROJECT

Dr. Vyacheslav Lobanov reported on the Progress in other GOOS Regional Alliances (GRA) and the GRAND Project. At present there are 13 regional alliances many are at different levels of development, with different problems and solutions, and each region can exploit differently the potentials of GOOS. There is a need for closer interaction to learn from each other.

GOOS Regional Alliances Network Development (GRAND) is a two-year project started 2004 funded under the EU - FP6, Sub- Priority VI Operational forecasting and modelling including global climatic change observation systems. Coordinated in Malta (Mediterranean GOOS), its mission is to make a network of all the GRAs to disseminate best practice, share knowledge, transfer technology, build capacity, and experiences to implement effective and efficient observing and forecasting systems (www.grandproject.org).

The main mission of GRAND is to design a regional strategy in order to provide benefits to local users from the products of GOOS. Its activities are articulated in 3 work packages (WP): WP 1 – Information; WP 2 – Empowerment; and WP 3 – Strategy.

Close interaction among GRAs is essential for their progress and the global implementation of GOOS. It is recommended for NEAR-GOOS to continue collaboration with other GRAs in the GRAND project and its follow-up project, GRACE.

From the ensuing discussion, Professor Yu suggested that in the light of the importance of GRA alliances to the progress of NEAR-GOOS, the Chair should make effort to present NEAR-GOOS at the next GOOS Regional Forum in South Africa. The result of his participation should be reported at the 11th NEAR-GOOS Session. Ms. Lin, as the Vice-Chair of I-GOOS, mentioned that I-GOOS would be willing to support GRAs in regions where IOC regional subsidiary bodies exist.

Action: NEAR-GOOS to continue cooperation with other GRAs in GRAND and participate in their activities and in the GOOS Regional Forum.

5.4 CREAMS-PICES: EAST-1

Prof. Kyung-Ryul KIM, Resource Person, Director of the Research Institute of Oceanography, Seoul National University presented a proposal he is preparing for the Korean Government on Cooperative Research in East Asian Marginal Seas (CREAMS- EAST-1). It is to be finalized this month, submitted to the Minister of Marine Affairs and Fisheries, and expects to implement the first phase of the project this March. Data generated by the project will be available to NEAR-GOOS databases.

5.5 INTERNATIONAL WORKSHOP ON THE MARINE ENVIRONMENT IN THE EAST ASIAN MARGINAL SEAS

Dr. Takeshi MATSUNO, Resource Person and Professor, Research Institute for Applied Mechanics, Kyushu University, briefed the session on the highlights of the International Workshop on the Marine Environment in the East Asian Marginal Seas (Fukuoka, Japan, November 2005). From the outcome of the workshop, there is a need for more information to understand the environment in the ocean of the East Asia, since we do not yet know even the major source of the nutrients, which maintain the biological production in the area. There is also the need for international collaboration, since there is no border in the ocean and for the materials. We cannot understand the environment of the East China Sea if we see only a part of the sea or a part of the natural system. We need to combine all information on the physical, chemical, biological and geological processes over the whole area. Hence, continuous collaboration is necessary to understand the real ocean. The international workshop will be pursued in several topics, as PEACE or the project of RIAM. This must be related to the NEAR-GOOS activity as a scientific phase.

5.6 NEAR-GOOS-NOWPAP COOPERATION

Dr. Tkalin mentioned that NOWPAP looks at NEAR-GOOS as a very good mechanism for data exchange in the region. With practically similar history, cooperation between NEAR-GOOS and NOWPAP is necessary in order to achieve success in their endeavours. In this respect, Dr. Hee-dong Jeong suggested that NOWPAP invites the National Marine Data and Information Service (NMDIS) of China to participate in the Data Information Network Regional Action Center (DINRAC) activities to enhance collaboration.

6. OTHER ISSUES

No other issues were discussed.

7. NEXT SESSION

As to the place and date of the 11th NEAR-GOOS Session, the meeting agreed to leave the matter to a small group composed of Dr. Lobanov, Mr. Yoshida, and Dr. Fortes.

8. ADOPTION OF THE SUMMARY REPORT

As amended, the Draft Summary Report of the 10th Session of NEAR-GOOS was adopted.

9. CLOSURE

After a brief expression of gratitude to the organizers and the participants, the chair closed the 10th Session of NEAR-GOOS at 12:15 PM, 18 January 2006.

Annex I

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Tenth Session of IOC/WESTPAC Coordinating Committee for the North-East Asian Regional-Global Ocean Observing System (NEAR-GOOS-CC-X)

Busan, Republic of Korea, 16-18 January 2006

AGENDA

1. Opening

2. Administrative arrangement

    2.1 Adoption of agenda
    2.2 Designation of rapporteur
    2.3 Working arrangements

3. Status of NEAR-GOOS: Report on the operation

    3.1 Report by the chairman
    3.2 Report by the WESTPAC secretariat
    3.3 Report on national activities

        3.3.1 China
        3.3.2 Japan, including RRTDB, RDMDB and the training course
        3.3.3 Republic of Korea
        3.3.4 Russian Federation

4. NEAR-GOOS development

    4.1 Report on the Working Group on New Generation SST
    4.2 Report on the Working Group on Data Management

5. Relevant developments in related programmes

    5.1 ODIN-WESTPAC
    5.2 GODAR-WESTPAC
    5.3 Progress in other GOOS Regional Alliances and GRAND project
    5.4 CREAMS-PICES: EAST-1
    5.5 International Workshop on the Marine Environment in the East Asian Marginal Seas

6. Other issues

7. Next session

8. Adoption of the report

9. Closure

Annex II

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Tenth Session of IOC/WESTPAC Coordinating Committee for the North-East Asian Regional-Global Ocean Observing System (NEAR-GOOS-CC-X)

Busan, Republic of Korea, 16-18 January 2006

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