



**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)**

**Seventh Session**  
Vladivostok, Russian Federation  
2-4 October 2002

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

**Seventh Session**  
Vladivostok, Russian Federation  
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### **ABSTRACT**

This report presents a summary of the Seventh Session of the NEAR-GOOS Coordinating Committee, which was held in Vladivostok, Russian Federation, 2-4 October 2002. The main objective of the session was to discuss the Second Phase (2002-2007) NEAR-GOOS Strategy Plan. Drawing up the Strategy Plan had been discussed since the previous CC-meeting, and the Chairman and the Technical Secretary brought a tentative outline to this meeting. The Committee members discussed the vision, goal and specific objectives of NEAR-GOOS for this second phase and approved the vision and goal. They considered that the concrete actions for this next phase, e.g. its specific objectives, should be discussed further at the next session. The Session approved the revision of the Terms of Reference of the NEAR-GOOS Coordinating Committee as Resolution SC-WESTPAC-NEAR-GOOS-VII.1, which proclaims the commencement of phase II of the NEAR-GOOS. The Session also discussed the general progress achieved under NEAR-GOOS in each of the countries over the past intersessional period.



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## **1. OPENING**

1. The Seventh Session of the IOC/WESTPAC Co-ordinating Committee for the North-East Asian Regional - Global Ocean Observing System (NEAR-GOOS) was called to order by its Chairman, Dr. Dong-young Lee, at 09:30 hours on Wednesday, 2 October 2002, at the Pacific Oceanological Institute, Vladivostok, Russian Federation.
2. The Chairman welcomed all the participants and expressed his appreciation to the Russian Government and the Pacific Oceanological Institute in particular for hosting the meeting. He thanked the Secretariat, and Mr. Maarten Kuijper, IOC Regional Secretariat for WESTPAC for their hard work in preparing for the meeting. He informed the meeting that apologies were received from Dr. Hong Wang and Prof. Yu Zhouwen who were unable to attend. Prof. Yu could be consulted by E-mail in case any matters required the attention from the Chinese members of the Co-ordinating Committee. Finally, he welcomed the delegation from the Democratic People's Republic of Korea, and the representatives of PICES, NOWPAP and the UNDP/GEF TumenNET Project as official observers to the meeting. The Chairman then highlighted the importance of the meeting in terms of laying out a strategy for the second phase of NEAR-GOOS.
3. At the invitation of Dr. Lee, Prof. Victor Akulichiev delivered his welcoming address. He highlighted the various research areas of the Pacific Oceanological Institute, and remarked on the fact that the institute would celebrate its 30 years anniversary in the following year. During that time, the Pacific Oceanological Institute had grown to become the largest of all the 35 different institutes of the regional branch of the Russian Academy of Sciences with over 600 staff and more than 140 PhDs. He concluded his address by wishing the participants (listed in Annex II) a productive meeting and a pleasant stay in Vladivostok.

## **2. ADMINISTRATIVE ARRANGEMENTS**

### **2.1 ADOPTION OF AGENDA**

4. The Provisional Agenda (Annex I) was adopted by the Committee.

### **2.2 DESIGNATION OF RAPPORTEUR**

5. Mr. Yoshida was designated as the Rapporteur.

### **2.3 WORKING ARRANGEMENTS**

6. The Technical Secretary of the Session, Mr. Maarten Kuijper informed the meeting about the working arrangements and it was agreed that the Committee would, as far as possible, work in plenary, with drafting groups for special issues to be formed as required. The Representative of the Russian Federation informed the Session on local arrangements.

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

### **3.1 REPORT BY THE CHAIRMAN**

7. The Chairman reviewed the progress made in NEAR-GOOS since the Sixth Session of the Committee. He noted the continued progress in the databases and the increase in number of stations that are reporting in near-real time. With respect to the latter, he particularly remarked the deployment of Argo floats and the fact that now many coastal stations in China and the Republic of Korea had improved and were now contributing in near real time. The construction of a large observatory tower is currently underway in the East China Sea, which should near its completion close to year-end.
8. He elaborated on the increased awareness of the NEAR-GOOS system, partly through the organization of the NEAR-GOOS Ocean Environment Forecasting Workshop the previous year, but also in light of recent developments in the field of operational science and technology programmes. He acknowledged the efforts

of the IOC Secretariat to invite an observer delegation of the Democratic People's Republic of Korea and welcomed their presence at the meeting.

9. He then highlighted some of the on-going activities in the Yellow Sea that could be seen as a subregional development of NEAR-GOOS. Three meetings will be held this year organized by the CKJORC that aim at establishing an operational oceanographic capacity in the Yellow Sea. This initiative will undoubtedly benefit from the discussion of the NEAR-GOOS Strategic Plan and its subsequent implementation.

### 3.2 REPORT BY THE TECHNICAL SECRETARY

10. The Technical Secretary provided a report on activities carried out by the Secretariat, but first expressed his appreciation to all the participants of the Sixth Session for their assistance in completing last year's summary report. The Action List from that report is attached as Annex III.
11. He noted the considerable progress made in the establishment and upgrading of the various databases in each of the countries, and the continued support from the respective governments. He referred to the work of the two ad hoc working groups that were established during the last session of the Coordinating Committee, the reports of which would be covered in a subsequent agenda item. He emphasized the role of the Coordinating Committee in advancing NEAR-GOOS, and called on the members to provide their input to the Strategic Plan in order to ensure that the strategy for the next phase is a reflection of what realistically can be achieved within the timeframes set, and with a clear vision and mechanism of how this will contribute in meeting the overall goals of NEAR-GOOS as presented in the original implementation plan.
12. The Technical Secretary elaborated on the various activities undertaken by the IOC Secretariat in support of NEAR-GOOS. These included discussions on the Workshop on Data Products to be held in conjunction with next year's Session of the Coordinating Committee, a presentation on NEAR-GOOS at the Third GOOS User Forum in Hanoi, 15 January 2002, writing an article that provides a perspective on the future of GOOS in the East for publication in a special edition of Marine Policy, collaboration with NOWPAP and PICES, a discussion on the feasibility of a ferry box programme between Vladivostok, Toyama and Pusan, and preparatory work for the current strategy plan, and NEAR-GOOS Data Management Training Course.
13. Noting that the selection of participants was completed, some questions followed on the nature of the selection procedure for the NEAR-GOOS Data Management Training Course. The Technical Secretary informed the meeting about some of the selection criteria. To the question whether it was possible to accept the candidates from the Democratic People's Republic of Korea to the training course, Mr. Sato from the Japan Oceanographic Data Centre replied that this was considered a particularly difficult issue given that the host country and the Democratic People's Republic of Korea have no diplomatic relationship.
14. The Secretariat was requested to clarify Mr. Wang Hong's current status as member of the NEAR-GOOS Coordinating Committee, given his recent transfer to another department within SOA that is of less relevance to NEAR-GOOS. The Chairman and the Technical Secretary explained that Mr. Wang Hong was still a member, and, with respect to future meetings, agreed to consult with SOA on his membership.

***Action: Secretariat to consult with SOA on status of Mr. Wang Hong's membership***

#### *Review of Action List of CC-6*

15. The Technical Secretary introduced this item by referring to the information document provided to the meeting, and with respect to the first action on GODAR he referred to the report of Mr. Satoshi Sato under Agenda item 3.3.2.
16. With respect to the second action in the list, concerning the data exchange among different line agencies in China, he informed the meeting that Prof. Yu had sent an Email that suggested that no progress had been made on this apparently thorny issue.



17. Further to the proposed inclusion of ONR-funded research data, the Technical Secretary informed the meeting that he had discussions with Prof. Lynne Talley and that he would pursue the matter further.

***Action: Technical Secretary will make further efforts to request release of ONR data sets for incorporation in RDMDB.***

18. With respect to the distribution of the strategic design plans for the various GOOS modules, the Technical Secretary informed the meeting about the near completion of the COOP strategic plan. He would ensure the distribution of this and the earlier published documents to the CC-members.

***Action: Technical Secretary to ensure distribution of strategic design plans to individual CC-members.***

19. On the subject of rapid data dissemination and exchange in near real time, Mr. Yoshida of the JMA raised the point that data from the 'Argo' floats currently become available within 5 to 10 hrs. Dr. Lee informed the meeting of the significant efforts of the Chinese and Korean Governments to reduce the time between data collection and their transmission to the respective national databases.

20. In this regard it was noted that the near real time data of the Republic of Korea are no longer reported to the Regional Real Time Database. Dr. Lee explained that these data currently appear on a website operated by KORDI in Korean language and that he would make an effort to ensure that the regional database can obtain these datasets.

***Action: Dr. Lee to ensure Korean Data are made available.***

21. The Technical Secretary referred to the remaining actions on the Action List of the last Session of the Coordinating Committee. He then recommended dealing with the discussion on these issues under the corresponding agenda items dealing with the Strategic Plan.

### 3.3 REPORT ON REGIONAL DATA BASE MANAGEMENT

#### 3.3.1 Regional Real Time Data Base

22. Mr. Takashi Yoshida, the RRTDB Manager, presented his report (in Annex IV) on the operation and activities related to RRTDB during the last intersessional period. On 1 August 2002, the number of the registered users was 253, an increase of 116 in comparison with the number reported to the previous CC-meeting.

23. The frequency of access to the RRTDB web page has been around 5,000 hits/month since the second half of 2001 with an unusual peak of 18,000 hits/month in July 2002, while the number of FTP access is up to 6,000-9,000 files/month from a previously reported 4,000-5,000 files per month. A recent addition to the website consists of the maps and graphs of oceanographic observations made by R/V Kofu-maru of the Hakodate Marine Observatory. The raw data of these cruises were not available on the RRTDB but would in due time be transmitted to the JODC for further archiving following QC/QA.

24. The RRTDB manager proposed to inactivate the accounts of those registered users who have not accessed the RRTDB for more than six months. Such users can always newly register.

***Action: (RRTDB Manager) The accounts of users who have not accessed the database for longer than 6 months will be inactivated.***

25. Dr. Igor Rostov of the Pacific Oceanological Institute requested a copy of the CD-ROM of the datasets.

***Action: (RRTDB Manager) To send a CD-ROM to Dr. Rostov.***

26. The delegate of the Democratic People's Republic of Korea requested the RRTDB to consider the release of the data via the GTS since the issue of Internet access was still complicated in DPRK. The Chairman and the

Technical Secretary pointed out that the use of the GTS is bound by WMO regulations and that data cannot be transmitted over the GTS in delayed mode.

27. The Chairman thanked Mr. Yoshida for his comprehensive report and for the efforts of JMA in ensuring the proper operation of the real-time database.

### **3.3.2 Regional Delayed Mode Data Base**

28. Mr. Sato, the RDMDDB Manager, reported on the operation of the RDMDDB during the last intersessional period. The report is attached as Annex V. The database contained some 6 GB of data at the end of July 2002. Some 30 different types of data are being handled by the RDMDDB. The total number of registered users amounts up to 246 organizations. Since the end of 2001, the RDMDDB has a new URL: <http://near-goos1.jodc.go.jp/>. To prevent double or incorrect registration of one and the same user, Mr. Sato proposed to abolish the need for registration for downloading data files.

***Action: JODC to abolish the need for registration for downloading files from the RDMDDB***

29. Mr. Sato further informed the meeting about the J-DOSS (<http://www.jodc.go.jp>) database, which has recently been opened to users from outside Japan. He then elaborated on the GODAR-WESTPAC project. The first international workshop for this project was held in March 2002 in Japan with support from the Japanese Ministry of Land, Infrastructure and Transport (MLIT). All NEAR-GOOS countries are collaborating in the project. The workshop adopted the revised workplan for GODAR-WESTPAC. This plan has been distributed together with a brochure to members of the NEAR-GOOS Coordinating Committee. On these two issues, GODAR-WESTPAC and the J-DOSS, Mr. Sato prepared the documents for this meeting, which are attached as Annex VI.
30. The Chairman expressed his appreciation to the JODC for hosting and maintaining the RDMDDB.

### **3.4 REPORT ON NEAR-GOOS DATA MANAGEMENT TRAINING COURSE**

31. Mr. Sato, as Deputy-Director of JODC, reported on the Fifth and Sixth NEAR-GOOS Data Management Training Course. The fifth course was held from 5-16 November 2001 and the sixth course is scheduled for 21 October – 1 November 2002. He elaborated on the course programmes of both courses. The Committee expressed its appreciation for the capacity building measures undertaken by the JODC, particularly in view of its continued commitment to train selected candidates from the NEAR-GOOS member states.
32. To the question of how many more years the course would continue to exist, Mr. Sato replied that the Training Course is currently under review. For this reason, he could not give an answer, but he could confirm that the course had been secured for the next year.
33. The representative of the Democratic People's Republic of Korea requested Mr. Sato to make efforts to encourage DPR Korea participation. He argued that the possible participation of the DPR Korea in NEAR-GOOS would obviously benefit from any training received. It would also allow them to better understand NEAR-GOOS.

***Action: Mr. Sato requested to explore the possibility for DPR Korea to participate.***

34. The Chairman subsequently called on the meeting to consider the capacity building needs in the regions. He noted that various initiatives exist in the region. In the following discussion the CC-meeting agreed that an effort should be undertaken to explore other capacity building initiatives and conduct a needs assessment. The example was given of the CKJORC where a training in ecosystem modelling would be held later this year.

***Action: Committee Members are requested to assist the Chairman in identifying particular capacity building needs for consideration of the Strategic Plan.***

### 3.5 REPORT ON NATIONAL ACTIVITIES

#### 3.5.1 China

35. Owing to the absence of the Chinese delegation, no briefing would be provided. The participants were instead referred to the two briefing documents as annexed in Annex VII that were prepared by the respective CC-members from China.
36. Dr. Alexander Tkalin of the UNDP/GEF Tumen River Project requested a clarification regarding the lack of Japanese and Korean data sources, and further drew the attention of the meeting to the wish expressed by Dr. Wang Hong in his report that a proposed agreement on Metadata within the NEAR-GOOS region would be endorsed. A clarification will be sought from Dr. Wang Hong.

***Action: Dr. Wang Hong requested to elaborate on the proposed agreement on metadata in the NEAR-GOOS region.***

#### 3.5.2 Japan

37. The Japanese representative informed the meeting that the information on the status of the national NEAR-GOOS programme in Japan is included in the respective reports on the RRTDB and RDMDB and NEAR-GOOS data management training course.
38. The Technical Secretary requested information on the project entitled 'Physical, Chemical and Biological Studies on Monitoring of Marginal Seas for Ocean Forecasting – A fundamental research project for NEAR-GOOS' that was introduced by Dr. Keisuke Taira in previous Sessions.

***Action: Japanese members to enquire about the status of the ORI research project in support of NEAR-GOOS.***

#### 3.5.3 Republic of Korea

39. Dr. Hee-dong Jeong introduced the activities of the KODC that falls under the responsibility of the NFRDI, which in its turn belongs to the Ministry of Maritime Affairs and Fisheries. The report is contained in Annex VII. One of the projects that spans the period of 1999-2002 concerns the development of an integrated oceanographic data and information network at the national level in order to increase the common use of and easier access to the information. The homepage (<http://kosi.nfrdi.re.kr>) of this network has already been operating since 2000 to provide oceanographic information such as cruise summary reports, and a directory of research organizations, oceanographers, research vessels and so on. Of particular interest is the recent addition of an on-line metadata search.
40. Dr. Dong-young Lee reported that progress on the database establishment had been steady. The report is included in Annex VII. The Korean RTDB operates under MOMAF with technical support provided by KORDI. The operating programme of the web site of real-time marine data operated by KORDI (<http://realtime.kordi.re.kr>) has undergone changes with the addition of real-time data. More real-time data are currently reported to the system owing to the recent addition of a number of additional underwater stations, and this is likely to increase with the planned construction of an offshore observatory tower in the East China Sea as well as with new developments planned for the Yellow Sea. In the Yellow Sea, an effort is made to establish a jointly operated platform.
41. With reference to the earlier discussion on this topic, the concern was reiterated that the data from the Korean NEAR-GOOS Real Time Data Base are no longer reported to the RRTDB.

***Action: Responsible parties to investigate the re-establishment of a connection between the Korean National RTDB and the RRTDB.***

### 3.5.4 Russian Federation

42. Prof. Akulichhev introduced Dr. Igor Rostov of the Pacific Oceanological Institute who delivered a report on the DMDB maintained since 1999 by POI. A summary is included in Annex VII. The database includes the data of historical domestic and foreign observations of temperature and salinity in the Northwest Pacific including NEAR-GOOS seas and the data sets of POI, FERHRI and TINRO Center marine expeditions (hydrology, chemistry, and biology). The information of all oceanographic resources is located on the POI WEB site: <http://www.pacificinfo.ru>. This site is in a state of permanent addition.
43. Dr. Rostov further introduced a series of information resources that were published on CD-ROM. Among these are different volumes of an Ocean Reference System and Atlas covering different topics. He also mentioned the efforts of his department to establish an Oceanographic Geographic Information System.
44. On behalf of Dr. Karasev, Dr. Rykov of FERHRI presented the progress report on the RTDB for NEAR-GOOS. A summarised version is included in Annex VII. This database was created in 1998 by FERHRI. This base includes data of regular observations of ships and coastal stations of neighbouring marine areas. The measured parameters include the water and air temperature, water salinity, waves, meteorological elements and others. Many of coastal stations and posts usually have no specialized databases, and all information is stored on outdated carriers. The information on RTDB for NEAR-GOOS is located on the FERHRI WEB site: <http://www.hydromet.com>. Some data exchange is currently via GTS. FERHRI has also introduced new query software on its website. Problems of data quality control will soon be discussed under the auspices of Russian Federal Programme "Integrated System of Information about the World Ocean"(1999-2007).

## 4. NEAR-GOOS STRATEGIC PLANNING EXERCISE

### 4.1 REPORT ON THE ELABORATION OF THE STRATEGY

45. The Chairman introduced this agenda item by recalling the Sixth Session of the NEAR-GOOS Coordinating Committee in which it was agreed to prepare a NEAR-GOOS Strategy Plan. Subsequent efforts by the Chairman and the Secretariat have led to a tentative outline, which was further discussed among a select group of CC-members at the time of the Fifth Session of the IOC/WESTPAC Sub-Commission in Fremantle, Australia, 9-13 September 2002.
46. Dr. Lee subsequently gave a presentation on the tentative outline covering in detail the critical issues to be considered under each of the headings. Four critical elements of the strategy were introduced, those being: (i) introduction of new parameters; (ii) increase in spatial and temporal coverage; (iii) data products; and (iv) data QA/QC.
47. A discussion ensued on the specific contents and scope under each of the individual chapters as well as the general outline of the strategy document. A small discussion paper prepared by the Secretariat and the Chairman aided the discussion by offering guidance on the proposed overall vision; the general purpose and the specific objectives of phase two.
48. In the discussion of the actions for the next phase, two strategic approaches stood out, namely, the enhancement of the overall coordinating mechanism and the sub-regional establishment of initial observing systems, each with their own specific implementation plans. It was generally noted that NEAR-GOOS should be more apt at building on existing meeting opportunities to further the development of and discussion on NEAR-GOOS among relevant parties. With respect to the latter, the meeting did recognize the need to deal with certain aspects, i.e. remote sensing and data management under the overall NEAR-GOOS umbrella.
49. Following a recapitulation of the most salient points of the discussion by the Chairman, the Coordinating Committee discussed the vision, goal and specific objectives of NEAR-GOOS for this second phase, which

were **approved** and annexed in Annex VIII. The context of the Annex VIII provides the basis for the Terms of Reference for NEAR-GOOS in phase II and the Coordinating committee **recommended** that these be incorporated in the strategy plan. The concrete actions for this next phase needs to be discussed further at the next session.

50. Also, the Coordinating Committee **agreed** to a tentative outline of the strategic paper as annexed in Annexed IX and endorsed this tentative outline as a framework of the Strategy Plan of the NEAR-GOOS second phase (2002-2007).

## 4.2 REPORT BY AD HOC WORKING GROUPS

### 4.2.1 Observation and Data Management

51. Dr. Dong-young Lee was assigned coordinator of the ad hoc working group on observation and data management during the last session. Following the session, Dr. Lee focused his efforts on preparing an action plan for the Yellow Sea. By the end of November, it is expected that a detailed report is ready that covers the integrated monitoring and observation of the Yellow Sea.
52. Dr. Lee suggested that this sub-regional approach could be effective in establishing a specific and realistic implementation plan. He proposed that parallel to the efforts underway in the Yellow Sea, NEAR-GOOS pursue a similar effort in other sea areas of the NEAR-GOOS region. The RIAM group of Kyushu University or CREAMS or some other programme that works in these sea areas could possibly lead such an effort.

### 4.2.2 Data Assimilation, Modelling and Forecasting

53. Mr. Yoshida was assigned coordinator of the ad hoc working group on modelling, data assimilation and forecasting during the last session. Subsequent to this session, a small group of participants had agreed to elaborate a working document for consideration of the current session. The working group proposed the establishment of so-called Operational Oceanographic Services Centres (OOSCs) that will generate specific operational applications for use in NEAR-GOOS. The group felt however that comments were needed from the two member countries that did not participate in the working group.
54. Noting the considerable overlap between the discussions on the Strategy Plan and the discussions that were originally foreseen under the ad hoc working groups, Mr. Yoshida requested the meeting to consider whether to continue with the ad hoc working group. Having considered the outcome of the two working groups, the Session agreed that it would be more productive to continue the discussions as part of the larger Strategy Plan. As such, the committee **agreed** to disband the ad hoc working groups and thanked all the respective members that had participated in the discussions for their efforts.

## 4.3 ENABLING RESEARCH

55. The Technical Secretary introduced this agenda item and proposed to incorporate the discussions on enabling research in the elaboration of the Strategy Plan.

## 4.4 FUNCTIONING OF THE COORDINATING COMMITTEE

56. The Technical Secretary introduced this agenda item and drew the meeting's attention to the draft terms of references prepared by the Secretariat for consideration of the Committee. The Committee Members having considered the outcome of the discussions under agenda item 4.1 on the tentative outline of the Strategy Plan, **endorsed** the revised Terms of Reference which are attached as Annex X to this report, thereby in effect **approving** the official commencement of Phase II of NEAR-GOOS.

## 5. RELEVANT DEVELOPMENTS IN RELATED PROGRAMMES

## 5.1 RECENT DEVELOPMENTS IN THE GLOBAL GOOS PROGRAMME

57. On behalf of the Director of the GOOS Project Office, the Technical Secretary informed the meeting about recent significant developments within GOOS that are relevant to NEAR-GOOS. First of all, he referred to the various actions recommended by the GOOS Steering Committee in so far as these are related to NEAR-GOOS development. He then highlighted the progress in other GOOS regional alliances as well as in the globally coordinated programmes under GOOS such as GODAE and the finalization of the Integrated Coastal GOOS Design Plan.

***Action: Technical Secretary to ensure that CC-members receive a copy of Coastal GOOS Design Plan and other documents considered relevant as input to the strategy planning exercise***

## 5.2. OTHER ORGANIZATIONS OR PROJECTS

### 5.2.1 UNDP/GEF TumenNET Project

58. The representative of the UNDP/GEF TumenNET Project, Dr. Alexander Tkalin provided information to the Committee on this programme, which has been running from June 2000 to June 2002 and currently has been extended up to December 2002. The TumenNET Project is a potential user of NEAR-GOOS. The programme revolves around the so-called TumenNet that wishes to tackle problems of pollution and loss of biodiversity in the region. The four NEAR-GOOS member states and Mongolia are involved in the programme and it is hoped that the Democratic People's Republic of Korea will join in the future. In the latter country plans are underway to study the downstream pollution of the Wusan iron mine, and how it may affect the coastal waters. It is expected that some pollution data of coastal waters collected under the programme will become available to NEAR-GOOS.
59. Dr. Tkalin also introduced the UNDP/GEF Yellow Sea Large Marine Ecosystem Project that following the establishment of the project office and hiring of the Programme Director will start drawing up a Strategic Action Programme. This programme will facilitate the participating countries China and the Republic of Korea to better understand how to sustain the ecosystem. Under the programme, the DPR Korea will have a national component.
60. The Committee thanked Dr. Tkalin for his continued interest in working with NEAR-GOOS.

### 5.2.2 NOWPAP

61. On behalf of the UNEP Regional Seas Programme Coordinator, Dr. Anatoly Kachur provided a short report on the progress achieved under NOWPAP. The programme currently awaits the establishment of the Regional Coordinating Unit and recruitment of staff. Meanwhile, the Regional Activity Centres established in the region are planning workshops and other activities in support of the Action Plan. It is expected that in November two expert workshops will be held, one on the monitoring of Atmospheric Inputs and River Inputs in Vladivostok, and one on Remote Sensing for Monitoring that will take place in Toyama.
62. He further elaborated on the development of GEF PDF Block-B proposal on the development of a Strategic Action Plan focusing on part of the NOWPAP area as well as plans for a PDF Block A proposal on the Amur Basin. Dr. Kachur explained that NOWPAP hopes to collaborate with NEAR-GOOS in efforts of environmental conservation and nature protection and data exchange and monitoring.
63. Emphasising the need for continued information sharing between NEAR-GOOS and NOWPAP, the Chairman thanked Dr. Kachur for his presentation.

### 5.2.3 PICES

64. The representative of PICES, Dr. Vyacheslav Lobanov, informed the meeting of various developments underway in that organization, with particular emphasis on those committees of relevance to NEAR-GOOS;

among them Technical Committee on Data Exchange, Committee on Physical Oceanography and Climate, and the Monitor Task Team. He alluded to the Eleventh Annual Meeting that will be held from 18-24 October in Qingdao, China. Of particular interest to NEAR-GOOS are the plans of PICES to undertake a pilot project to produce the first North Pacific Ecosystem Status Report, which will include some of the sea areas in NEAR-GOOS, as well as the Continuous Plankton Recorder Programme.

65. The Chairman referred to the joint sponsorship of PICES in the organization of the NEAR-GOOS Ocean Environment Forecasting Workshop held the previous year as well as the collaboration with CKJORC in a workshop to be held in conjunction with the PICES Annual Meeting that addresses the Yellow Sea. In this regard, he hoped that NEAR-GOOS and PICES could continue this level of collaboration.

***Action: NEAR-GOOS to maintain or increase collaboration with other organizations and programmes in areas of mutual interest***

## **6. OTHER ISSUES**

### **6.1. WORKSHOP ON DATA PRODUCTS OF OPERATIONAL OCEANOGRAPHY**

66. The Technical Secretary referred to the consultations on the workplan for the Japanese Funds in Trust allocation for IOC/WESTPAC activities, in particular the suggestion of Dr. Taira to allocate some of these funds to a workshop on data products of operational oceanography in the context of NEAR-GOOS. This workshop could possibly be held in conjunction with the Eighth Session of the NEAR-GOOS Coordinating Committee.
67. The meeting appreciated the offer made by the Japanese Government and requested the Technical Secretary and Chairman to further explore the scope and objectives of this workshop, including identification of key speakers, and discussion topics. It was further suggested to explore the possibility to organize the workshop and the Coordinating Committee meeting in conjunction with other already planned meetings so as to ensure the widest audience possible.

***Action: Technical Secretary and Chairman to further elaborate on the scope of the Workshop on Data Products of Operational Oceanography***

### **6.2. PROMOTION OF NEAR-GOOS**

68. The Chairman introduced this item, inviting suggestions from the floor on the promotion of NEAR-GOOS. He noted that although many people have heard about NEAR-GOOS, still few people are really aware about its potential, the objectives and achievements so far. If NEAR-GOOS wishes to expand and involve more institutions and agencies, it will need to advertise itself. This is particularly true for the operational agencies in each of the countries involved.
69. The Technical Secretary suggested publishing the Strategy Plan in an attractive format, together with a short brochure on NEAR-GOOS so as to appeal to a wider audience. Although the IOC could in principle publish the strategy plan, it would save considerable time and be more appealing to the public to prepare a separate publication with a private company. A run-off of 1,500 copies was suggested for the initial document that would have to be published in English.

***Action: Technical Secretary to arrange for an attractive layout and subsequent printing of the strategy plan plus accompanying brochure***

70. The Chairman furthermore proposed to translate the strategy plan once finished into each of the languages of the member states, be it at the cost of the member states.

***Action: Member States to consider translation and publishing of the strategy plan in the national languages.***

### 6.3. OTHER ISSUES

71. There were no other issues to be discussed under this agenda item.

## 7. ELECTIONS

72. The Technical Secretary reviewed the rules and practical arrangements for the election of the Chairman of the Coordinating Committee as they are presented in the Annex to Recommendation SC-WESTPAC-III.4 Document.
73. The Committee thanked Dr. Dong-young Lee for his valuable contributions as Chairman of the NEAR-GOOS Coordinating Committee.
74. The delegate of Japan nominated Prof. Victor Akulichev for the position of Chairman of the Coordinating Committee. The delegate of the Republic of Korea seconded the nomination. Prof. Akulichev was elected as the new Chairman of the Coordinating Committee by acclamation.
75. Prof. Akulichev appreciated the support from the Coordinating Committee and promised to do his best to advance NEAR-GOOS, where possible by enlisting the support from the staff of the Pacific Oceanological Institute, in particular Dr. Vyacheslav Lobanov.

## 8. DATE AND PLACE OF NEXT SESSION

76. The Committee was presented with the proposal from the Technical Secretary to hold the Eighth Session of the NEAR-GOOS Coordinating Committee in China on the condition that the Chinese Government would be willing to host that session. In this regard he referred to the correspondence with Prof. Yu Zhouwen who had expressed his support for hosting the session. The possibility of having the Workshop on Data Products in Operational Oceanography organized in conjunction with the Session will be investigated further in collaboration with the Chinese government.

***Action: Technical Secretary to coordinate with the Chinese Government on the date and venue of the next CC-meeting and investigate the possibility of having the Workshop on Data Products in Operational Oceanography held in conjunction with the CC-meeting.***

## 9. ADOPTION OF THE SUMMARY REPORT

77. The Committee adopted the draft Summary Report with minor modifications. The Committee endorsed the NEAR-GOOS Chair and Technical Secretary to submit the report on NEAR-GOOS activities to the Sixth Session of the IOC-WMO-UNEP Committee for the GOOS (I-GOOS VI, 10-14 March 2003) and Twenty-second Session of the IOC Assembly planned for July 2003.

## 10. CLOSURE

78. The Chairman closed the Session by 17:00 on Friday 4th October 2002.



## **ANNEX I**

### **AGENDA**

- 1. OPENING**
- 2. ADMINISTRATIVE ARRANGEMENTS**
  - 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 TECHNICAL SECRETARY
  - 3.3 REPORT ON REGIONAL DATA BASE MANAGEMENT
    - 3.3.1 Regional Real Time Data Base**
    - 3.3.2 Regional Delayed Mode Data Base**
  - 3.4 REPORT ON DATA MANAGEMENT TRAINING COURSE
  - 3.5 REPORT ON NATIONAL ACTIVITIES
    - 3.5.1 China**
    - 3.5.2 Japan**
    - 3.5.3 Republic of Korea**
    - 3.5.4 Russian Federation**
- 4. NEAR-GOOS STRATEGIC PLANNING EXERCISE**
  - 4.1 REPORT ON THE ELABORATION OF THE STRATEGY
  - 4.2 REPORT BY AD HOC WORKING GROUPS
    - 4.2.1 Observation and Data Management**
    - 4.2.2 Data assimilation, Modelling and Forecasting**
  - 4.3 ENABLING RESEARCH
  - 4.4 FUNCTIONING OF THE COORDINATING COMMITTEE
- 5. RELEVANT DEVELOPMENTS IN RELATED PROGRAMMES**
  - 5.1 RECENT DEVELOPMENTS IN THE GLOBAL GOOS PROGRAMME
  - 5.2 OTHER ORGANIZATIONS AND PROGRAMMES
- 6. OTHER ISSUES**
  - 6.1 WORKSHOP ON DATA PRODUCTS OF OPERATIONAL OCEANOGRAPHY
  - 6.2 PROMOTION OF NEAR-GOOS
  - 6.3 OTHER ISSUES
- 7. ELECTIONS**
- 8. NEXT SESSION**
- 9. ADOPTION OF THE REPORT**
- 10. CLOSURE**



## ANNEX II

### LIST OF PARTICIPANTS

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### ANNEX III

#### SUMMARY REPORT OF SIXTH SESSION OF THE NEAR-GOOS COORDINATING COMMITTEE

#### ACTION LIST

No.	Subject	Ref	Action proposed	Responsible	Target date	Comments
1	GODAR	11	- <i>CC-members to consider participation in a GODAR project for the WESTPAC region.</i>	All members	When feasible	Done
2	China National Databases	12	- <i>Prof. Yu to continue raising the issue of data exchange and collaboration with agencies from other line ministries with relevant authorities</i>	Prof. Yu	ASAP	Ongoing
3	Availability of Palace Floats and ONR research data	13	- <i>Technical Secretary to contact Dr. Steve Riser and Dr. Lynne Talley on the possible release of pertinent datasets of ONR-funded research in the NEAR-GOOS region.</i>	Technical Secretary	ASAP	To do
4	GOOS Modules Strategic Design Plans	15	- <i>Distribution of GOOS design plans as soon as they are published.</i>	Technical Secretary	When feasible	Ongoing
5	Data dissemination and exchange	18	- <i>CC-members to request relevant agencies to reduce data processing times with a view to making the data more readily available in near real-time.</i>	All members	ASAP	Ongoing
7	GODAE	34	- <i>CC-members to consider linking NEAR-GOOS to GODAE</i>	All members	ASAP	Ongoing
8	Medium-term strategy plan – enabling research	43	- <i>Chairperson to discuss with relevant scientists on the elaboration of fundable proposals for specific elements of a functional NEAR-GOOS initial observing system, and relate these efforts to the proposed working groups and the overall strategic planning exercise.</i>	Dr. D.Y. Lee	ASAP	Ongoing

No.	Subject	Ref	Action proposed	Responsible	Target date	Comments
9	Working Groups	48	<ul style="list-style-type: none"> <li>- <i>Technical Secretary to formulate Terms of Reference for subsequent approval by Coordinating Committee members by Email correspondence.</i></li> <li>- <i>Takashi Yoshida to prepare initial plan of action for the Ad Hoc Working Group on “Data Assimilation, Modelling and Forecasting”</i></li> <li>- <i>Dong-young Lee to prepare an initial plan of action for the Ad Hoc Working Group on “Observations and Data Management”</i></li> <li>- <i>Members of the working groups to work with the respective chairpersons toward the implementation and coordination of activities as agreed by the working groups.</i></li> </ul>	<p>Technical Secretary</p> <p>Takashi Yoshida</p> <p>Dong-young Lee</p> <p>Members of respective working groups</p>	<p>ASAP</p> <p>ASAP</p> <p>ASAP</p> <p>Continuous</p>	<p>Done</p> <p>Done</p> <p>Done</p> <p>Done</p>
10	Medium-term strategy plan	49	<ul style="list-style-type: none"> <li>- <i>CC-members to contribute in the formulation of the Strategic Plan.</i></li> <li>- <i>Technical Secretary and Chairperson to coordinate the strategic planning exercise, prepare an initial outline for discussion and feedback, and oversee the subsequent completion of the strategic plan with inputs from all members and other relevant parties.</i></li> </ul>	<p>All members</p> <p>Technical Secretary</p>	<p>ASAP</p> <p>ASAP</p>	<p>Done</p> <p>Ongoing</p>
11	Next Session	52	- <i>The Technical Secretary will consult with Russian CC-members on possible hosting of next session in Vladivostok</i>	Technical Secretary	ASAP	Done

## ANNEX IV

### REPORT ON THE REGIONAL REAL TIME DATA BASE

*Takashi YOSHIDA, Japan Meteorological Agency*

#### **General state of operation**

The Regional Real Time Data Base (RRTDB) has been operated successfully with only a few cases of planned short time suspension of the operation for the maintenance.

#### **User registration**

The number of the registered users of the RRTDB is 253 as of 1 August 2002 (Fig. 1). This is 116 more than the number at the time of the last meeting of the NEAR-GOOS Coordinating Committee, in August 2001. The users are from Japan (127), China (30), Republic of Korea (21), Russian Federation (29), USA (16) and the others (30).

#### **Provision of the data to RRTDB**

In addition to the data available from the Global Telecommunication System (GTS), data are contributed to RRTDB by the Japan Meteorological Agency (Japan) and its four Marine Observatories, the Far East Regional Hydrometeorological Research Institute (Russian Federation), the Japan Fisheries Information Center (Japan) and the Marine Environment Data Service (Canada).

#### **Data retrieval from RRTDB**

The data and products now available at the RRTDB are listed in the Table.

The frequency of the access to the RRTDB web page has been increasing since 1997 (Fig. 2), and has been around 5,000 hits/month since the second half of 2001. It was strikingly many, more than 18,000 hits/month, in July 2002.

The ftp data retrieval requests were from 6,000 to 9,000 files/month in the recent four months (Fig.3). Global TESAC, SHIP, BATHY, TRACKOB and BOUY reports and JMA SST Products were frequently retrieved.

#### **A new product**

Hakodate Marine Observatory started providing the report of oceanographic observation by R/V Kofu-maru in December 2001.

#### **Removal of abandoned user account**

The number of users who abandoned their user accounts looks considerable. It is proposed that those accounts, which have not been used for six months, are assumed to be abandoned and be removed in order to secure the system against illegal access.

**Table. List of data/products available at RRTDB**

- Oceanographic data collected via GTS
- Ship and coastal station observation data provided by Far East Regional Hydrometeorological Research Institute (Russian Federation)
- Sea water temperature provided by Japan Fisheries Information Service Center
- Data converted into the common formats (water temperature and wind)
- GTSP quality controlled temperature and salinity data
- JMA products
  - Daily Sea Surface Temperature in seas around Japan (charts and grid point values)
  - Western North Pacific Sea Surface Temperature (charts and grid point values)
  - Global Sea Surface Temperature (charts and grid point values)
  - Subsurface Temperature in seas around Japan (charts and grid point values)
  - Pacific Subsurface Temperature (charts and grid point values)
  - Observations by JMA Research Vessels (charts)

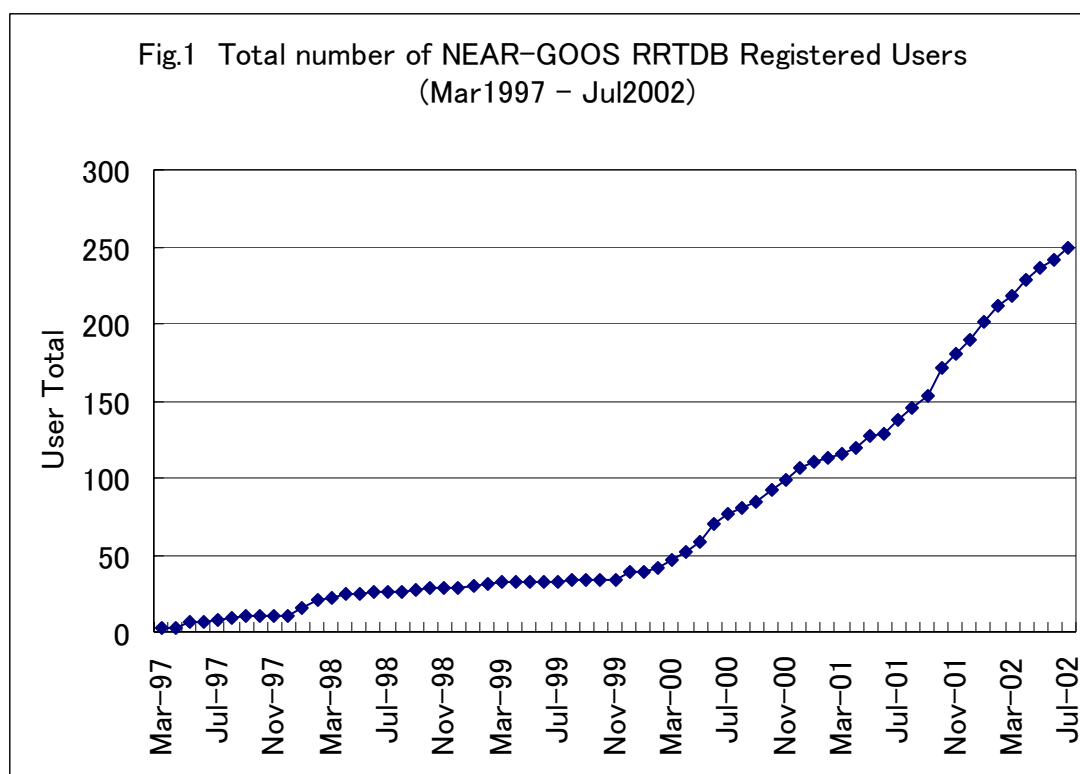




Fig. 2 NEAR-GOOS RRTDB WWW ACCE\$  
(Mar 1997 - Jul 2002 )

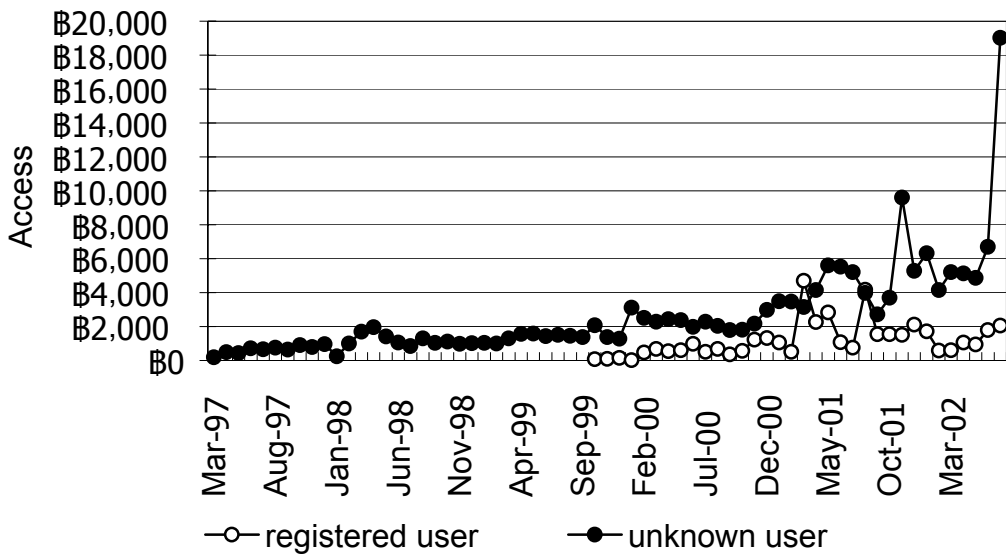
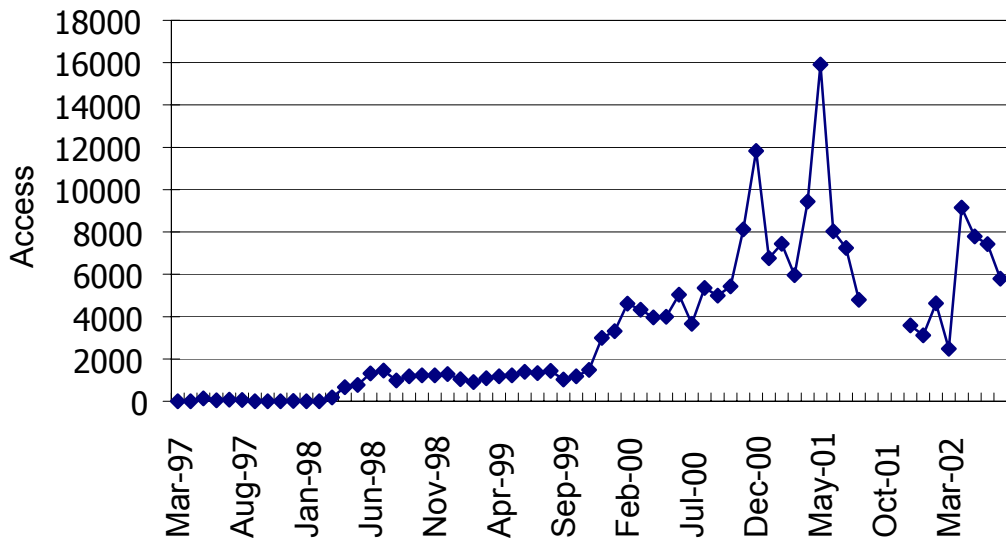


Fig. 3 NEAR-GOOS RRTDB FTP ACCE\$  
(Mar 1997 - Jul 2002 )





## ANNEX V

### REPORT ON REGIONAL DELAYED MODE DATA BASE (RDMDB)

#### RDMDB Manager

Japan Oceanographic Data Center (JODC) has been operating RDMDB since October 1996, based on the recommendation of the first session of the NEAR-GOOS Coordinating Committee held in Bangkok in September, 1996.

30 different types of data files are handled by RDMDB (Table 1). As of the end of July 2002, the total volume of data is about 6GB.

**Table 1 Data type and volume of NEAR-GOOS RDMDB**

Type of Data	Description of Data	Data Volume
BATHY	Regional Data Sets of BATHY Report	8.9 MB
BATHY_G	Global	9.5 MB
BUOY	Regional Data Sets of BUOY Report	82.9 MB
BUOY_G	Global	867.6 MB
SHIP	Regional Data Sets of SHIP Report	110.2 MB
SHIP_G	Global	572.1 MB
TESAC	Regional Data Sets of TESAC Report	3.7 MB
TESAC_G	Global	34.0 MB
TRACKOB	Regional Data Sets of TRACKOB Report	0.5 MB
TRACKOB_G	Global	2.1 MB
SSTANL(JMA)	Gridded Daily Sea Surface Temperature data in the Western North Pacific	99.1 MB
DAILY SST	Daily sea surface temperature data analysis	43.3 MB
GLBSST	Monthly mean sea surface temperatures, Normal and Standard deviations	1.0 MB
WNPSST	10-day mean sea surface temperature, Normal and Standard deviation	1.1 MB
ADJSUBS(JMA)	Monthly mean subsurface temperatures in seas around Japan(100m,200m,400)	2.6 MB
PACSUBS(JMA)	Monthly mean subsurface temperatures in Pacific(100m,200m,400)	4.6 MB
SUBST	Sub surface temperature decode result	234.8 MB
SUBST_ERROR	Sub surface temperature decode error report	2.6 MB
TS	Sea and sub surface temperature and salinity decode	67.1 MB
GLBTS	Global	866.3 MB
WIND	Wind decoded Data at RRTDB	61.6 MB
WIND_ERROR	Wind decoded ERROR Report	0.5 MB
WIND2	Wind decoded Data (format ver.2.0)	15.1 MB
GLBWIND	Global	238.0 MB
FERHRI ship	Marine Meteorological observation data on board by FERHRI, Russia	2.9 MB
FERHRI station	Marine Meteorological observation data at the station by FERHRI, Russia	0.1 MB
JAFIC	Sea surface / sub surface temp. data from Japan Fisheries Information Service Center (JAFIC), Japan	24.1 MB
PALACE	Sub surface temp. profile data observed by PALACE float from Ocean Research Institute (ORI), Univ. of Tokyo, Japan	0.1 MB
TOHOKU_ Univ.	XBT data observed by Tohoku University	0.1 MB
30s*	30sec. interval sea level data at the tidal station, Japan Coast Guard	2525.8 MB
<b>Total</b>		<b>5882.3 MB</b>

The number of registration users of each country is shown in Table 2. "Others" in the column "country" consists of Germany, Indonesia, Malaysia, Pakistan, Thailand, USA, and United Kingdom.

**Table 2. Number of Registrations**

Institution Country	Government	Education	Nonprofit Organization	Others	Total
Japan	55	63	13	25	156
China	6	5		2	13
Korea	2	10		4	16
Russia	15			3	18
Others	7	10	1	25	43
Total	85	88	14	59	246

At the last session of the NEAR-GOOS CC, we reported that the total number of the downloaded data files since the establishment of RDMDB reached 3154 as of July 2001. After the last report, 3105 data files were downloaded from August 2001 to August 2002. As a result, the total number of downloaded files reaches 6259 as of the end of August 2002. This shows that the increase in use of RDMDB is sharp recently. The monthly download number from each country is shown in Table 3.

**Table 3 The number of data files downloaded every month from each country**

	Aug 2001	Sep. 2001	Oct. 2001	Nov. 2001	Dec. 2001	Jan. 2002	Feb. 2002	Mar. 2002	Apr. 2002	May 2002	June 2002	July 2002	Aug. 2002
Japan	34	72	105	46	94	93	52	30	13	9	83	228	167
China	0	0	14	1	9	0	0	47	909	0	0	0	0
Korea	0	1	0	0	1	0	55	0	0	0	0	1	0
Russia	0	16	5	10	45	23	0	29	0	173	256	5	284
USA	0	27	64	0	0	1	5	2	0	0	0	0	0
Unknown	1	0	7	5	27	0	0	0	0	10	13	28	0
others	0	0	0	0	0	1	0	0	0	3	0	0	1
Total	35	116	195	62	176	118	112	108	922	195	352	262	452

The URL of RDMDB has changed in accordance with the change of the JODC's URL at the end of the year 2001.

The present URL of RDMDB is <http://near-goos1.jodc.go.jp/>.

## **ANNEX VI**

### **GODAR-WESTPAC (Global Oceanographic Data Archaeology and Rescue project for WESTPAC)**

IOC established the GODAR project in 1993. GODAR seeks to increase the volume of historical oceanographic data available to climate change and other researchers by locating ocean profile and plankton data sets not yet in digital form, digitising these data, and ensuring their submission to national data centres, and the world Data Centre System.

The importance of promoting the GODAR program in the region was recognized at the International Conference for the International Data & Information Exchange in the WESTPAC region 1999 (ICIWP'99) held in Langkawi, Malaysia, Nov. 1999.

It was adopted to promote the GODAR project in the WESTPAC region (GODAR-WESTPAC) at the 16th Session of the IOC committee on International Oceanographic Data & Information Exchange (IODE-XVI) in Lisbon, Portugal, Nov. 2000.

The GODAR-WESTPAC aims to locate, rescue and make available marine data from the WESTPAC region that is in danger of being lost. Data that is stored on paper or on old media and is not presently available to the WESTPAC scientists will be used for this project. Work will be undertaken to digitise the data or re-write the data onto modern media in an effort to safeguard it for future use. The data will also be quality controlled and then made available through the IODE system. It is also expected that the project will enhance the IODE activities in the region.

JODC organized the International Workshop for GODAR-WESTPAC during 5-7 March 2002, with support from the Japanese Ministry of Land, Infrastructure and Transport (MLIT). The delegates attended the workshop from 12 WESTPAC member countries, China, Fiji, France, Indonesia, Japan, the Republic of Korea, Malaysia, Philippines, the Russian Federation, Thailand, USA, and Vietnam. It was co-chaired by Mr. Sydney Levitus, the Director of WDC-A and the Project Leader of GODAR, and Dr. Tadahiko Katsura, the Director of JODC.

The Workshop adopted the revised Work Plan for GODAR-WESTPAC. JODC, the Project Office of the GODAR-WESTPAC, is now developing a project web site (<http://www.jodc.go.jp/project/GODAR/index.htm>). It provides information on the project activities and results. And JODC has just published a brochure describing the GODAR activities in the region as a mechanism to promote the project within ocean research institutes in the region.

### **J-DOSS (JODC DATA ONLINE SERVICE SYSTEM)**

The NEAR-GOOS Regional Delayed Mode Data Base (RDMDB) is operated on the same server as J-DOSS. The URL of J-DOSS is <http://www.jodc.go.jp/>. J-DOSS has been operated by JODC, since the year 1995.

J-DOSS aims at providing users with the data and related information, JODC has collected from various oceanographic research institutes in and outside Japan. Those who have the facility to connect with the internet, are able to search the data using many keywords and download them from J-DOSS. At the present time, the following 12 kinds of data and information are provided from J-DOSS.

1. Serial Station Data (Water samplers, STD,CTD,BT)
2. Ocean Current Data (Ship Drift, GEK, Shipboard ADCP)
3. Tide Data (Tidal Station around Japanese Islands)
4. Marine Biological Data (Plankton)
5. 500m Mesh Bathymetric Data around Japan

6. Statistical Analysed Result : Water Temperature
7. Statistical Analysed Result : Salinity
8. Statistical Analysed Result : Ocean Current
9. National Oceanographic Programs of Japan
10. Cruise Summary Report
11. List of IOC Publications
12. Oceanographic Abbreviation/Acronym Dictionary

In addition to the above data, JODC has a plan to improve the service and to increase the data item of J-DOSS.

Since July 1st of this year, JODC has admitted that those who access from overseas download the oceanographic data contained in J-DOSS.

## ANNEX VII

### COUNTRY REPORTS

#### REPORT OF THE NATIONAL ACTIVITIES FOR NEAR-GOOS IN KOREA

*Hee-Dong Jeong, Korea Oceanographic Data Center*

##### General Description

National Fisheries Research and Development Institute (NFRDI) is a branch of the Ministry of Maritime Affairs Fisheries (MOMAF) and conducting observations and researches on the integrated water quality environment through oceanographic observations, marine pollution observations, fresh water pollution observations, and marine remote sensing in order to assure efficient use and the conservation of fisheries resources. Now NFRDI is responsible for the function of the Korea Oceanographic Data Center (KODC) and the missions of the Designated National Oceanographic Data Management Agency (DNODMA) of MOMAF.

##### Roles and Responsibilities

KODC has been fulfilling the role of oceanographic data bank of Korea in collecting important and useful data and providing users with those data. In Korea, oceanographic observations including environmental monitoring have been carried out by several organizations such as NFRDI, Oceanographic Research Institute (NORI), Korea Ocean Research and Development Institute (KORDI), National Maritime Police Administration (NMPA) and Korea Institute of Geology, Mining and Materials(KIGAM).

KODC has been carrying out its services internationally as the National Oceanographic Information Exchange promoted by IOC and IGOSS. In addition to the above role, KODC is in charge of the NEAR-GOOS National Delayed Mode Data Base management and services.

##### National Activities of NEAR-GOOS

###### **-National support for NEAR-GOOS and WESTPAC**

MOMAF re-established the Korea Oceanographic Commission (KOC) which was consisted of 20 experts of related organizations and universities to support IOC, WESTPAC and NEAR-GOOS activities in Korea. MOMAF also established the Korean Argo Subcommission under KOC to take part in the Argo Project systematically and already hosted the IOC/WESTPAC Symposium and NEAR-GOOS Marine Environment Forecasting Workshop in Seoul 27-30 Aug. 2001.

###### **-Korea DMDB for NEAR-GOOS**

Considering the multidisciplinary nature of the ocean development and its long term prospect, KODC has a 4 years (1999-2002) project to develop an integrated 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://kosi.nfrdi.re.kr>) of this network has been serving the already set up oceanographic information such as cruise summary, research organizations, oceanographer, research vessel and so on from 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 information.

Within this system, the Korea DMDB for NEAR-GOOS has been constructed successfully and is now being serviced. ([http://kosi.nfrdi.re.kr/HTML/near\\_goos/html/index.htm](http://kosi.nfrdi.re.kr/HTML/near_goos/html/index.htm))

Available data and information are as follows;

- Serial Oceanographic Data (1961-2000)
  - Water temperature, Salinity
  - Nutrients
  - Zooplankton biomass
- Coastal Oceanographic Data (1923-2000)
  - Water temperature, Air temperature at 10:00am daily
  - Daily coastal water temperature graph
  - Mean coastal water temperature data

### **KODC Services and Publications**

- Services
  - Daily SST chart
  - Vertical profiles of temperature in Korean Waters (bi-monthly)
  - Weekly and Monthly marine information
  - HABs News (for the information of HABs, daily in summer)
  - Near-shore cold water warning service during summer seasons
- Publications
  - KODC Newsletter (semi-annual) since 1983
  - Annual Report of oceanographic observations since 1952
  - SST Charts on Korean Waters since 1991
  - Oceanographic Tables (mean values for temperature, salinity and dissolved oxygen) in Korean Waters (published in 1979)

### **NEAR-GOOS Real-time Monitoring and Data Management**

The master plan of MOMAF for the real-time ocean observation system in Korea is being implemented. KORDI successfully established a few real-time coastal observing stations using navigation towers built on the offshore underwater rocks in the seas south and east of Korea. MOMAF together with KMA, Korea Meteorological Administration, initiated an ARGO programme for the NEAR-GOOS area. With implementation of the ARGO programme and the accumulation of long-term hydrographic survey data over more than 60 years, the basis for the operational ocean prediction system has been established. The offshore observatory is being constructed in the northern part of the East China Sea near the Sokotra Rock, which will be completed in the end of this year and operational from early next year. The operating programme of the web site of real-time marine data operated by KORDI has been changed with additional real-time data, which need to be linked with the NEAR-GOOS Real Time Data Base.

Initial effort for the initiation of a sub-regional Operational Oceanographic System for the Yellow Sea is being made through China-Korea Joint Ocean Research Center, by making the most of the existing coordinating mechanism of cooperation in ocean science between Republic of Korea and China. Yellow Sea Sub-regional ocean observing system is specifically planned between Chinese and ROK scientists. Three workshops are planned this year to bring marine scientists and operation experts from China and Korea together to design the operational oceanographic system for the Yellow Sea.

### **Korea Oceanographic Data and Information Service (KODIS)**



## **Introduction**

KODC/NFRDI (Korea Oceanographic Data Center at National Fisheries Research and Development Institute) has carried out "Korea Oceanographic Data and Information Service" project from 2000 for promoting oceanographic data and information exchange on a national and international basis. This project was initiated in 1999 by the Ministry of Marine Affairs and Fisheries (MOMAF) and transferred to KODC/NFRDI in 2000. For a successful work of the project, a preliminary study had been carried out from November 1997 to July 1998 for defining the target and the scope of the work, designing the format of the databases and estimating the total and yearly budget.

Major purposes of this project are developing information systems on marine affairs and metadata of the oceanographic datasets collected by marine related organizations in Korea, and also developing user interface programs for supporting users to access and search those databases.

## **Information System on Marine Affairs**

### **a. Overview**

The purposes of "Information System on Marine Affairs" are designing and building databases necessary for planning and implementing various marine related policies in Korea, and also developing user interfaces for accessing those databases. The system was designed and developed in 1999, and six databases were built at the same time. Six databases are "marine research and survey projects database", "marine related organizations database", "experts in marine issues database", "vessels database", "international marine related organizations and programs database", and "international marine policy reports database". Now, those databases are updated periodically.

### **b. Status of the System**

The system was designed and developed in 1999, and is upgraded and updated annually. This system is intended for marine community users in Korea, and thus almost all data and information are written in Korean. Now, total numbers of data records in each database are as follows:

- marine research and survey projects database – 5,804 records
- marine related organizations database – 132 records
- experts in marine issues database – 1,202 records
- vessels database – 240 records
- international marine related organizations and programs database – 39 records
- international marine policy reports database – 92 records

## **Information System on Oceanographic Metadata**

### **a. Overview**

The purposes of "Information System on Oceanographic Metadata" are promoting data and information exchange, and also collaboration of oceanographic data and products collected by various research and survey projects in Korea. Major scopes and targets of the works are setting up standard format of the metadata, collecting data and information for building the database, and developing user interface programs for accessing and searching the database.

Data and information sources are mainly collected from National Fisheries Research and Development Institute (NFRDI), National Oceanographic Research Institute (NORI) and Korea Ocean Research and Development Institute (KORDI), and a few sources are collected from universities.

#### **b. Metadata Format**

The metadata format is primarily based on DIF (Directory Interchange Format) and MEDI (Marine Environmental Data Information Referral Catalogue) format for promoting data and information exchange among IODE/IOC member states. But, some field items were modified or deleted according to the several common review works during the project. MEDI is a directory system for datasets, data catalogues and data inventories developed by IODE. Now, one staff member of KODC is joined to the MEDI Steering Group for supporting the development of new MEDI software.

Oceanographic metadata format of KODIS is composed of 9 groups of parameters as follows:

- Summary – dataset title, summary, language
- Citation & Reference – dataset citation, reference
- Coverage – temporal coverage, paleo-temporal coverage, spatial coverage, location, dataset progress, dataset maintenance
- Attributes – parameters, source name, sensor name, project, general keywords
- Data Center
- Distribution – access constraints, use constraints, data quality, distribution
- URL – related url
- Metadata Information – creation date, last revision date, revision history, parent records, IDN node
- Metadata Author Information – name, telephone, fax, e-mail, address

#### **c. Status of the System**

The prototype of the system was designed and developed in 2000, and it was upgraded and expanded in database design and contents, user interface programs in 2001. This system is intended for marine community users in Korea and abroad, and thus internet homepages were designed and developed in multi-languages (Korean and English). Users are able to login to the system as a “guest” or a member after registering to the system. Users’ guidance files are provided in the homepage for visiting users.

Metadata information of the datasets collected by marine related organizations in Korea from 1981 to 2000 were put in the database, and the total numbers of data records are 7,465. By the end of 2002, metadata information of the datasets collected from 1961 to 1980 will be added in the database.

#### **d. System Menu**

The menu of the system is composed of 5 parts. Those are “metadata creation”, “metadata search”, “XML export”, “XML import”, and “XSL download”. Using those menu items, users are able to create a new record in the database, and modify or edit it any time. Also, users are able to search records from the database, and browse them on the screen, print or save the search results as they want. Users can export or import records according to the predefined procedures, and also download files from the system. User help messages are provided in each menu for user conveniences.

#### **Future Plans**

The project is scheduled to continue for 8 years. In 2002, we are planning to develop NEAR-GOOS

databases including serial oceanographic station data, coastal oceanographic data collected by NFRDI from 1961, and also develop web-based user interface programs which users can search records according to several search criteria in a convenient way. Using the search results, users are able to make graphic presentation or display, download those data in a user-friendly text format, etc. This system will be connected with “Information system on Oceanographic Metadata” systematically, and thus users will get more detailed information from these two systems when they are going to search data or information in each databases.

We are also planning to develop an ARGO data service system by the end of this year. In Korea, real-time ARGO data will be managed and served by KMA (Korea Meteorological Agency), and delayed-mode data will be managed and served by KODC regularly.

## **REPORT ON NEAR-GOOS ACTIVITIES IN RUSSIA**

### **Introduction**

The basis of NEAR-GOOS area information on the state of the marine and coastal environment of Russia is various data of marine expeditions and the data of stationary, regular and accidental observations. Observations include:

- standard oceanographic data characterizing oceanographic parameters in NEAR-GOOS area;
- marine meteorological data, including data of ships and coastal stations;
- chemical and biological data;
- special data connected with decision of ecological problems and application of special research methods (remote sensing, radioactivity, etc.).

The main Russian Far Eastern marine organizations that own and supply the above types of information on NEAR-GOOS area including a coastal zone are the following:

- Far Eastern Regional Hydrometeorological Research Institute (FERHRI), Vladivostok;
- V.I.II'ichev Pacific Oceanological Institute, Far Eastern Branch of the Russian Academy of Sciences (POI FEBRUS), Vladivostok;
- Institute of Marine Biology, Far Eastern Branch of the Russian Academy of Sciences (IMB FEBRUS), Vladivostok;
- Pacific Scientific Research Fisheries Centre (TINRO-Centre), Vladivostok;
- Primorye Territorial Department for Hydrometeorology and Environmental Monitoring (PTDHEM) maintaining coastal stations and posts, Vladivostok;
- Hydrographic Service of the Pacific Navy (HS), Vladivostok.

The bulk of oceanographic data was obtained by research vessels of FERHRI, POI, TINRO-Centre. The most complete oceanographic set (temperature, salinity, marine currents, floats, etc) and chemical (dissolved oxygen, pH, nutrients, pollution, radioactive elements, etc) observations was carried out by the vessels of FERHRI and POI. The data provided by TINRO-Centre, and HS contain a few observations of chemical elements and practically no observations over water pollution.

### **NEAR-GOOS Data Bases**

The **Real Time Data Base (RTDB)** for NEAR-GOOS was created since 1998 by FERHRI serving as National RTDB for NEAR-GOOS in Russia. This base includes data of regular observations of ships and coastal stations of neighbouring marine areas. The measured parameters include the water and air temperature, water salinity, waves, meteorological elements and others. Many coastal stations and posts usually have no specialized databases, and all information is stored on outdated carriers. The information on RTDB for NEAR-GOOS is

located on the FERHRI WEB site: <http://www.hydromet.com>

Version of RTDB on Russian was created within WEB site of Russian Program “Integrated System of Information about the World Ocean” (ISIWO). In this version, information on goals of the NEAR-GOOS project is presented; short characteristic of information providing is presented as well as list of members of Coordinating Committee and web-sites of organizations connected with the NEAR-GOOS project. Also, numbers of operative and historical meteorological and oceanographic data sets on the Pacific Ocean with comfortable interactive access to information resources are prepared by FERHRI within ISIWO Program. These databases are accessible through Internet address: <http://www.rus.hydromet.com/~esimo/>. In 2001, the English version of RTDB for NEAR-GOOS was renewed.

The **Delayed Mode Data Base (DMDB)** for NEAR-GOOS was created since 1999 by POI serving as National DMDB in Russia. The base includes the data of historical domestic and foreign observations of temperature and salinity in the Northwest Pacific including NEAR-GOOS seas and the data set of POI, FERHRI and TINRO marine expeditions (hydrology, chemistry, and biology). The information of all oceanographic resources is located on the POI WEB site: <http://www.pacificinfo.ru>. These sites are at the state of permanent addition.

### **NEAR-GOOS Information Resources**

Information resources of DMDB for NEAR-GOOS area of POI make up the archive of deep-water measurements of temperature and salinity that carried out of national and foreign expeditions for period 1925-2002. This database contains the stations of temperature and salinity observations compiled from all available sources (Russia, Japan, Korea and USA).

Maintaining of DMDB is carried out with support of the Russian Federal Program “The World Ocean”. Upon making the archives inventory, a full catalogue was compiled of the research cruises and observed data including standard and non-standard bottles provided by the deep-water reversing thermometers, mechanical bathythermographs (MBT) and expendable bathythermographs (XBT).

A catalogue of the cruises implemented by Russian oceanographic vessels in the NEAR-GOOS areas is formed and maintained. The cruise scheme, hydrographic sections and brief report are provided for each cruise. A computer version of Oceanographic Atlas of Far Eastern Seas is also located there.

### **Future Development**

Plans for future development of data bases and information systems for NEAR-GOOS in Russia should take into account the concept of the second phase of the Russian Program “Integrated System of Information about the World Ocean” (2003-2007) of the Russian Federal Program “The World Ocean”, as well as national, regional and territorial interests on the basis of assigned finance.

### **China NEAR-GOOS Real-time Data Base**

*Zhouwen Yu, National Marine Environment Forecasting Center, State Oceanic Administration, China*

### **Status of the Data Base**

China NEAR-GOOS Real-Time Data Base has been in good operation during the intersessional period. The data input into the data-base everyday included real-time measurements collected from six coastal stations four times a day and one buoy, GTS data and marine forecasting products. The data users were mainly forecasters at the coastal forecasting stations in China and scientists of the related institutes and universities. The real-time data was periodically transferred to China NEAR-GOOS Delayed-Mode Data Base, which is located in Tianjin, China.

In the past year, there was little development for the China Real-Time Data Base except its operational maintenance. In this year, the data volume, data structure and data users were almost the same as before.

### **Suggestions**

With the efforts of all the NEAR-GOOS member countries, NEAR-GOOS has made satisfactory progress and the mechanism for marine data exchange and sharing has been well established. In this sense, NEAR-GOOS has set a good example for the Regional GOOS. However, It should be noted that the present NEAR-GOOS activities couldn't meet the needs required for the aims of NEAR-GOOS.

Therefore, it is urgent for us to think about the future development of NEAR-GOOS. For this reason, I would like to make the following suggestions

1. To further develop and improve the data exchange and sharing mechanism:
  - a) On the basis of the existing data exchange and sharing mechanism, data input into the Data Base should be increased both in terms of data volume and data type. Therefore, the member countries should try their best to make their commitments after thorough discussion of this matter within the member countries and full deliberations with the data management agencies of their countries.
  - b) Besides data exchange and sharing, the member countries should make exchange of other information, such as scientific activities, operational oceanographic activities, method and technology, operational products and research achievements, etc. All the information could be exchanged via web sites.

2. To expand the scope of NEAR-GOOS activities

At present, the main activity of NEAR-GOOS is the exchange and sharing of data and information. As the first stage of the development of NEAR-GOOS, we have made gratifying progress in this aspect. Now we should try to expand the scope of NEAR-GOOS activities to other fields. I think there is much we can do under the framework of NEAR-GOOS, such as joint research, cooperation on the marine environment monitoring and forecasting for the NEAR-GOOS region, and collaboration on marine disaster forecasting and reduction in the NEAR-GOOS region, etc. All this should be decided after serious discussion within the member countries.

Dr. Dong Young Lee, the Chairman, is very active in the promotion of the development of NEAR-GOOS. I think he has many good ideas for it. We can also refer to and study the experience of other regional GOOSes, such as EURO-GOOS.

3. Training

We are very grateful to the Japan JODC for its support for training course on NEAR-GOOS data management. Satisfactory achievements have been made, and the trainees have learnt a lot, especially on data management.

In order to make the Training Course more effective, except data management, the training contents could be extended to a wide scope. For example, training could include methods and technology, or other

fields directly related to NEAR-GOOS activities. Or as another form of training, a small-scale workshop related to NEAR-GOOS capacity building could be held, so that more people doing the NEAR-GOOS job will get benefit from it. Therefore, I think, discussions could be made on the NEAR-GOOS training at this CC-meeting, and then make suggestions for Japan related agencies's reference and decision.

## **Annex VIII**

### **VISION AND GOALS OF THE SECOND PHASE OF THE NEAR-GOOS**

#### **NEAR-GOOS VISION**

NEAR-GOOS is a BASIC source of information, services and products to support sustainable social and economic development, welfare, and safety, through SYSTEMATIC observations and associated research on coasts and seas in the NEAR-GOOS region. The system is OPERATIONAL in nature and designed to yield PRODUCTS and SERVICES that meet the needs of USERS. It provides information on the past, present and future state of the marine and coastal environment, on marine ecosystems, and on weather and climate variability. International cooperation and capacity building are essential to the effective operation of the system and to enable potential users to benefit from it.

#### **NEAR-GOOS Goal in the Second Phase (2002-2007)**

##### **Overall goal:**

Development of a basic integrated ocean observing and operational forecasting system in the NEAR-GOOS area, that adheres to the GOOS principles of design and principles of involvement, that builds on the existing data management and exchange mechanism developed in the first phase through the inclusion of additional parameters, increased coverage in space and time, the generation of a generic suite of data products and adequate QA/QC procedures.

##### **Specific objectives:**

- a) Seek optimal monitoring and observation strategies in terms of spatial and temporal coverage (platform location and frequency) through coordination at the national level and international level, and the introduction of innovative methods of data gathering (e.g. new sensors, joint platforms, ferry boat monitoring, modelled data, remote sensing and automated buoy systems or an integrated approach);
- b) Assess the feasibility of the inclusion of critical environmental and ecosystem parameters for operational purposes; establish demonstration projects in these fields;
- c) Provide ground truthing data for operational remote sensing to the extent possible;
- d) Establish a coordinating mechanism or platform to facilitate the development of generic suite of basic data products;
- e) Stimulate the use of QA/QC standards and protocols, preferably through harmonization of existing technologies, joint development of new standards, and calibration exercises;
- f) Further develop and improve as required the existing data exchange mechanism introducing the concept of merged and combined data sets;
- g) Pursue end-to-end data management with particular emphasis on (near-) real-time processing of data for operational applications;
- h) Effort to reduce the delay in data transmission from data collection to their use in specific

applications;

- i) Where possible, encourage the use of a meta data standard, giving insight in the quality assurance procedures used, data sampling, long term data availability and other necessary elements to enable interdisciplinary use of data among the data providers taking into account IODE initiatives;
- j) Conduct a needs assessment for capacity building in NEAR-GOOS and develop the future capacity building programmes suitable for those needs.



## **ANNEX IX**

### **TENTATIVE OUTLINE OF THE NEAR-GOOS SECOND PHASE STRATEGIC PLAN**

A draft outline prepared by Dr. Dong-young Lee for discussion at the Fifth Session of the IOC/WESTPAC Sub-Commission, Fremantle, Australia, September 2002.

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## ANNEX X

### RESOLUTION SC-WESTPAC-NEAR-GOOS-VII.1

#### REVISED TERMS OF REFERENCE

The Co-ordinating Committee for NEAR-GOOS,

**Recalling** the formal establishment of NEAR-GOOS by the Twenty-Ninth Session of the Executive Council, in Resolution EC-XXIX.5;

**Noting with satisfaction** the substantial progress achieved in NEAR-GOOS in the field of data exchange and management under the original Terms of Reference in the first phase of the programme.

**Aware** of the current new challenges faced by the NEAR-GOOS community

**Recognizing** the adoption of Recommendation SC-WESTPAC V.4 that provides the Coordinating Committee with the possibility of amending the Terms of Reference in response to the demands set by any future strategy.

**Decides** to amend the Terms of Reference as follows:

#### **Terms of Reference for the NEAR-GOOS Co-ordinating Committee:**

##### **Composition:**

The Committee shall consist of representatives of all member countries. Each country shall designate two members, preferably with one person coming from the operational meteorological/oceanographic community. The Committee shall elect a Chairperson among the members. The Chairperson of the Coordinating Committee will act as NEAR-GOOS Coordinator. The Committee shall meet to the extent possible in regular annual sessions at the expense of the participating countries. Other countries and appropriately affiliated organizations can attend the sessions as observers.

It is recommended that members of the committee do not stay on the committee for longer than three successive intersessional periods. In case a Member is unable to attend, his or her government will try to send a suitable replacement, so that there is continuity of representation.

##### **Terms of Reference:**

Coordinate the development of applications in operational oceanography that demonstrate the usefulness of regional collaboration;

Encourage the increase the volume of quality-controlled data available to the NEAR-GOOS Community through the respective national and regional databases, where possible with the smallest time delay possible;

- (i) Inventory and analyse existing activities relevant to NEAR-GOOS including operational systems and programmes, organizations, scientific programmes, services and products, commercial interests, and training and capacity building

- (ii) Coordinate to produce integrated comprehensive data sets and data products that conform to the principle of end-to-end data management
- (iii) Prepare a NEAR-GOOS Strategic Plan that highlights the direction of NEAR-GOOS over the next five years that incorporates the economic, social and environmental protection needs of the region with a clear approach to enhancing the coordinating mechanism of NEAR-GOOS.
- (iv) Publicise and disseminate NEAR-GOOS plans and information to regional governments and the general public.
- (v) Recommend scientific and technical activities to support NEAR-GOOS implementation by coordinating new pilot projects and providing linkages to existing projects and programmes.
- (vi) Produce guiding documents for the near real time data collection and exchange in the NEAR-GOOS region.
- (vii) Advise and consider sources of funding for pilot project development with various funding agencies and in consultation with pilot project leaders.
- (viii) Liaison with national NEAR-GOOS committees, J-COMM, GOOS Project Office and other GOOS-related bodies as appropriate.
- (ix) Develop linkages with existing relevant organizations, programmes and projects in the region.

**ANNEX XI**  
**LIST OF ACRONYMS**

CKJORC	The China-Korea Joint Ocean Research Center
COOP	Coastal Ocean Observation Panel
CREAMS	Circulation Research of the East Asian Marginal Seas
DMDB	Delayed Mode Data Base
DPRK	Democratic People's Republic of Korea
FERHRI	Far Eastern Regional Hydrometeorological Research Institute (Russian Federation)
FTP	File Transfer Protocol
GEF	Global Environment Facility (UNDP)
GODAE	Global Ocean Data Assimilation Experiment
GODAR	Global Oceanographic Data Archaeology and Rescue Project
GOOS	Global Ocean Observing System
GTS	Global Telecommunication System
I-GOOS	Intergovernmental Committee for GOOS
IOC	Intergovernmental Oceanographic Commission
J-DOSS	JODC Data Online Service System
JMA	Japan Meteorological Agency (Japan)
JODC	Japan Oceanographic Data Centre (Japan)
KODC	Korea Oceanographic Data Centre (Rep.of Korea)
KORDI	Korea Ocean Research and Development Institute (Rep.of Korea)
MLIT	Ministry of Land, Infrastructure and Transport (Japan)
MOMAF	Ministry of Maritime Affairs and Fisheries (Rep.of Korea)
NEAR-GOOS	North-East Asian Regional GOOS
NFRDI	National Fisheries Research and Development Institute (Rep.of Korea)
NOWPAP	North-West Pacific Action Plan (UNEP)
ONR	Office of Naval Research (U.S.A.)
OOSC	Operational Oceanographic Services Centre
ORI	Ocean Research Institute (University of Tokyo, Japan)
PICES	North Pacific Marine Science Organisation
POI	V.I.II'ichev Pacific Oceanological Institute (Russian Federation)
QA	Quality Assurance
QC	Quality Control
R/V	Research Vessel
RDMDB	Regional Delayed Mode Data Base
RIAM	Research Institute for Applied Mechanics (Kyushu University, Japan)
RRTDB	Regional Real Time Data Base
RTDB	Real Time Data Base
SOA	State Oceanic Administration (China)
TINRO	Pacific Scientific Research Fisheries Centre (TINRO-Centre) (Russian Federation)
UNDP	United Nations Development Programme
WESTPAC	Regional Committee for the Western Pacific
WMO	World Meteorological Organisation