

NOWPAP DINRAC

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UNEP

Report of 5th NOWPAP DINRAC Focal Points Meeting

DINRAC, Shenzhen, the People's Republic of China

10 – 11 May 2006

THE FIFTH NOWPAP DINRAC FOCAL POINTS MEETING

(DINRAC, Shenzhen, People's Republic of China, 10-11 May, 2006)

REPORT OF THE MEETING

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Background

1. The Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP) and three Resolutions were adopted at the First Intergovernmental Meeting (Seoul, 14 September 1994; UNEP(OCA)/NOWPAP/IG.1/5) by the States in the Northwest Pacific region: People's Republic of China, Japan, Republic of Korea and Russian Federation (hereinafter referred to as China, Japan, Korea, Russia, respectively). Resolution 1 identified five areas of priority for implementation of the Action Plan, one of which was NOWPAP/1: Establishment of a Comprehensive Database and Information Management System.

2. The Second NOWPAP Intergovernmental Meeting held in Tokyo, Japan (20 November 1996) adopted the Program Document describing the implementation of NOWPAP projects. Regarding NOWPAP/1, Intergovernmental Oceanographic Commission (IOC) of UNESCO was designated as the implementing agency to prepare the project proposal for the second phase of the implementation.

3. Subsequently, the proposal for the second phase of the implementation for NOWPAP/1 was adopted at the Fourth NOWPAP Intergovernmental Meeting held in Beijing, China (6-7 April 1999). The Meeting also decided to establish a network of Regional Activity Centres (RACs) for the implementation of the Action Plan.

4. In December 2000, the Data and Information Network Regional Activity Centre (DINRAC) hosted by the Environmental Information Center of State Environmental Protection Administration of China (SEPA) was established in Beijing based on the Resolution 2 of the Fourth NOWPAP Intergovernmental Meeting (ANNEX VI OF UNEP(WATER)/NOWPAP IG.4/7). DINRAC was designated to function as two secretariats for NOWPAP/1 and the NOWPAP/1 Coordinating Working Group (CWG) and took on the responsibilities as defined in its Terms of Reference.

5. Resolution 1 adopted at the Fourth NOWPAP Intergovernmental Meeting also requested the NOWPAP Members to designate necessary members for participation in the NOWPAP/1 CWG. Following up on the nomination and designation of the members of the CWG, the NOWPAP/1 CWG was established. The First Meeting of the Coordinating Working Group for the Establishment of a Comprehensive Database and Information System (NOWPAP/1) was held in Beijing (23-25 May 2001). The meeting approved the workplan and budget for DINRAC for 2001-2003 and identified ten priority fields of activities developed by DINRAC.

6. The Seventh NOWPAP Intergovernmental Meeting held in Vladivostok, Russia (20-22 March 2002) approved the recommendations of UNEP that a network of Focal Points (FPs) for DINRAC has to be established by re-arranging the title, organization and the responsibilities of the existing Coordinating Working Group in order to improve the implementation of NOWPAP/1. The Seventh NOWPAP Intergovernmental Meeting also requested NOWPAP

National Focal Points to nominate the DINRAC Focal Points for their respective countries.

7. Upon decision by the Seventh NOWPAP Intergovernmental Meeting, the CWG and the CWG Meeting for NOWPAP/1 evolved into the NOWPAP DINRAC Focal Points and the NOWPAP DINRAC Focal Points Meeting respectively as the institutional arrangement. The Focal Points Meeting would be organized once a year, starting with the First NOWPAP DINRAC Focal Points Meeting in 2002.

8. The First NOWPAP DINRAC Focal Points Meeting (FPM) was held in Shanghai, China (25-28 November, 2002). The meeting presented the NOWPAP DINRAC Report of activities 2001/2002 and reviewed the progress made by DINRAC for specific tasks agreed at the First CWG Meeting and also approved the activities and budget for NOWPAP DINRAC for 2002-2003 (UNEP/ NOWPAP/ DINRAC/ FPM1/13 ANNEX 3).

9. The Second NOWPAP DINRAC Focal Points Meeting was held in Sanya, China (29 October-1 November 2003). Besides the routine DINRAC activity report 2002/2003, the meeting mainly discussed and reviewed the General NOWPAP Policy on Data and Information Sharing and Guidelines (Activity D) and the Establishment of Principles and Guidelines for NOWPAP Meta-database Management System (Activity E). The meeting also approved the workplan and budget for NOWPAP DINRAC for 2004/2005 (UNEP/NOWPAP/DINRAC/FPM2/15 ANNEX 7).

10. The Eighth NOWPAP Intergovernmental Meeting held in Sanya, China (5-7 November 2003) approved the workplan and budget of NOWPAP for 2004/2005, including the budget of \$150,000 for DINRAC activities (UNEP/NOWPAP/IG.8/11 Annex I Resolution). The meeting also approved the Terms of Reference for the NOWPAP DINRAC Focal Points Meeting.

11. The Third NOWPAP DINRAC Focal Points Meeting was held on 26-28 October, 2004 in Busan, Korea. The meeting mainly discussed new suggested specific activities and mechanisms for implementation of DINRAC activities. The draft ToR for NOWPAP experts group and workplan and budget for NOWPAP DINRAC for 2004/2005 were also revised and agreed by the meeting. The Activity I on the Framework for the Creation of NOWPAP DINRAC Meta-database, Activity J on the Existing GIS-type Products from within and outside of NOWPAP regions and Activity K on the Compilation of National Reports and Regional Report on Coastal and Marine Biodiversity Data and Information were also agreed to be put into the DINRAC workplan for the biennium of 2004/2005.

12. In the Ninth NOWPAP Intergovernmental Meeting held on October 30-November 2 in Busan, Korea, the proposal for NOWPAP RACs evolution and direction change was put forward by UNEP for discussion. With regard to specific technical aspects, the proposal for RACs evolution and the Activity K of DINRAC was postponed until the NOWPAP Intersessional Workshop in 2005. The Activity I and Activity J were approved by the IGM to be implemented in 2005.

13. In accordance with the recommendations of the First Intersessional Workshop of NOWPAP held in Seoul, Korea, 25-26 July, 2005, data resulting from other NOWPAP RACs activities (oil spills, HABs, atmospheric and river inputs of contaminants, etc.) and biodiversity data could be also included into DINRAC database. Contributions towards implementation of global biodiversity conventions (CBD, CITES, CMS, Ramsar, etc.) and joint work with MERRAC on marine invasive species were also suggested for future DINRAC activities.

14. The Fourth NOWPAP DINRAC Focal Points Meeting was held on 27-28 September, 2005 in Dalian, China. The meeting mainly reviewed progress of the Activity I on the Framework for the Creation of NOWPAP DINRAC Meta-database and the Activity J on the Existing GIS-type Products from within and outside of NOWPAP regions. The meeting also discussed and approved the proposed DINRAC workplan and budget for the 2006/2007 biennium (UNEP/NOWPAP/DINRAC/FPM 4/17 ANNEX VI).

15. The Tenth NOWPAP Intergovernmental Meeting held on 24-26 November, 2005 in Toyama, Japan approved the proposal on new directions for NOWPAP RACs and RCU (UNEP/NOWPAP IG. 10/5/rev. 1) taking into account recommendation 1 of the NOWPAP Intersessional Workshop, in which the DINRAC website was envisioned as a primary source of environmental data and information for the NOWPAP region and also as a “switchboard” to provide links to resources available in NOWPAP member countries and DINRAC should serve as a NOWPAP Clearing-House, providing information about all NOWPAP-related activities and eventually also information about the state of marine environment in the NOWPAP region. In addition, DINRAC was requested to finalize, edit and publish the overview on national environmental legislation, strategies and policies using the resources allocated in the NOWPAP budget for the 2006/2007 biennium.

16. Based upon the agreement of the Fourth NOWPAP DINRAC Focal Points Meeting, the Fifth NOWPAP DINRAC Focal Points Meeting was held on 10-11 May, 2006 in Shenzhen, China. Representatives of the NOWPAP Members: China, Japan, Korea, Russia and representative of NOWPAP RCU participated in the meeting. The Data and Information Network Regional Activity Centre (DINRAC) acted as secretariat for the meeting. The Director of the Special Monitoring & Coastal Environmental Assessment Regional Activity Centre (CEARAC) and the representative of the Pollution Monitoring Regional Activity Centre (POMRAC) participated in the meeting as observers. A full list of participants is attached in **Annex I** to the report.

Agenda item 1: Opening of the meeting

17. The Meeting was opened at 9:10 a.m. on May 10, 2006 in Shenzhen, People's Republic of China by Mr. Jianguo WANG, Director of DINRAC. Mr. WANG expressed his welcome to all the participants and also his sincere gratitude to NOWPAP RCU and NOWPAP Members for their kind support and contributions to the DINRAC activities.

18. Upon the invitation of the Director of DINRAC, the delegates from China, Japan, Korea and Russia and other RACs made brief self-introductions to the meeting. Then Korean delegate expressed his appreciation to DINRAC for hosting the Meeting and hoped the Meeting would be fruitful and successful.

19. Mr. Xiaodong ZHONG, Deputy Coordinator of NOWPAP RCU delivered an opening remark to the Meeting. In his remark, he expressed DINRAC had made great efforts to promote data and information exchange in the NOWPAP region since its establishment. He also stressed the important role of DINRAC and the importance of the Fifth NOWPAP DINRAC Focal Points Meeting. The Fifth NOWPAP DINRAC Focal Point Meeting would not only review and assess progress DINRAC had made, but also have detailed discussion and make decisions on DINRAC activities in the biennium of 2006/2007 which had been approved by the 10th IGM. He also mentioned that practical cooperation between DINRAC and other relevant organizations or programmes was encouraged in the future and NOWPAP RCU would provide its continuous support and assistance for DINRAC's activities. Finally, he expressed his sincere appreciation to the State Environmental Protection Administration of China (SEPA) and NOWPAP Members for their kind support to the DINRAC activities and hoped the Meeting would be productive.

Agenda item 2: Organization of the meeting

Agenda item 2.1: Election of the officers (Chairperson, Rapporteur)

20. According to the Terms of Reference for the NOWPAP DINRAC Focal Points Meeting (UNEP/NOWPAP/DINRAC/FPM 3/17), the Meeting unanimously elected Mr. Satoshi SATO, Director, International Affairs Office, Technical Planning and International Affairs Division, Hydrographic and Oceanographic Department, Japan Coast Guard, as the Chairperson, and Dr. Hee-dong JEONG, Director, KODC/Oceanography Research Team, National Fisheries Research & Development Institute, the Republic of Korea, as the Rapporteur respectively.

Agenda item 2.2: Organization of work

21. The Meeting agreed to apply mutates mutandis the rules of procedures of the UNEP Governing Council for the Meeting in line with the provision in the Terms of Reference of the NOWPAP DINRAC Focal Points Meeting (UNEP/NOWPAP/DINRAC/FPM 3/17).

22. The list of documents is attached as **Annex II** to this meeting report.

Agenda item 2.3: Adoption of the agenda

23. Upon the invitation of the Chairperson, the Director of DINRAC made a brief introduction to the Provisional Agenda (UNEP/NOWPAP/DINRAC/FPM 5/1) with the Annotated Provisional

Agenda (UNEP/NOWPAP/DINRAC/FPM 5/2).

24. Dr. Hae-seok KANG, the expert from the Republic of Korea, suggested conducting the training course on NOWPAP DINRAC Meta-database System right ahead of Agenda item 4.5 since his early leave from the meeting. The Meeting agreed to his suggestion and adopted the agenda with the order change of some items (**Annex III**).

Agenda item 3: RCU's presentation on NOWPAP implementation since the 10th IGM

25. Mr. Xiaodong ZHONG, Deputy Coordinator of NOWPAP, presented to the Meeting a report on the implementation of NOWPAP since the 10th IGM (UNEP/NOWPAP/DINRAC/FPM 5/6) which mainly included decisions of 10th IGM, brief introduction to current activities of CEARAC, MERRAC and POMRAC and RCU. In his presentation, development of Marine Litter Activity (MALITA), NOWPAP GEF Project, NOWPAP/2 (update of overview on national environmental legislation, strategies and policies), Evaluation of NOWPAP RACs performance and other related issues were also mentioned.

26. Dr. Igor ROSTOV suggested that RCU should contribute more for widely distribution or exchange of reports published by each RAC among FPs of RACs. Mr. Zhong expressed in response that RCU would like to do so if requested by RACs.

Agenda item 4: Overview of the progress made in the intersessional period after the Fourth NOWPAP DINRAC Focal Points Meeting

Agenda item 4.1: Report on the implementation of DINRAC Activities in 2005

27. The Director of DINRAC presented the report on the DINRAC activities implemented in 2005 (UNEP/NOWPAP/DINRAC/FPM 5/7) which is attached as **Annex VI**.

28. Regarding the difference of concepts of switchboard and clearing house, Prof. Yoshihisa SHIRAYAMA, the Japanese expert set forth his own understanding. Then he suggested that metadatabase, switchboard and clearing house should be discussed seriously at the meeting since they are very important to DINRAC.

Agenda item 4.2: Report on the annual expenditure of DINRAC budget for 2004/2005 biennium

29. The Director of DINRAC subsequently presented the report on the annual expenditure of DINRAC budget for 2004/2005 biennium (UNEP/NOWPAP/DINRAC/FPM 5/8) (**Annex V**).

30. Mr. Xiaodong ZHONG, deputy coordinator of NOWPAP RCU reminded that DINRAC should have a well-planned budget for the activities which would be implemented in the next biennium in order to avoid the situation of unfinished workplan and unspent `budget.

Agenda item 4.3: Progress report on the Activity on Existing GIS type Products from within and outside of NOWPAP (Activity J)

31. Ms. Tong AN, senior engineer of DINRAC made a final report on the Activity on Existing GIS-type Products from within and outside of NOWPAP (UNEP/NOWPAP/DINRAC/FPM 5/9). She mainly made a brief summary on the implementation of Project and emphasized the achievement and significance of Activity J.

32. The Meeting requested DINRAC to send the distribution list of the National Reports on Coastal and Marine Environmental GIS and RS Application in the NOWPAP Region to the meeting participants via email after the Meeting.

Agenda item 4.4: Progress report on the Framework for the Creation of NOWPAP DINRAC Meta-database (Activity I)

33. Dr. Hae-Seok KANG, the expert from the Republic of Korea implementing Activity I made a detailed presentation on the further development progress of the NOWPAP DINRAC Meta-database after the 4th DINRAC FPM (UNEP/NOWPAP/DINRAC/FPM 5/10). In his presentation, background, objective and features of Activity I and its function extension were briefly introduced. The reference sites survey for benchmarking, development of map interface module and development of XML export/import function were stated in details.

34. The Director of DINRAC requested Dr. Hae-seok KANG to accelerate implementation of Activity I and finish the Framework as early as possible. He hoped that all of the software and final report of Activity I developed by Korean side would be submitted to DINRAC soon after this Meeting.

Agenda item 4.5: NOWPAP Meta-database System Training Course

35. Subsequently, Dr. Hae-seok KANG held the training course on the NOWPAP DINRAC Meta-database System. In his presentation, objectives, core metadata elements, functions of NOWPAP DINRAC Meta-database System---production, management, search and display systems were briefly introduced. Then he mainly demonstrated how to search NOWPAP DINRAC metadata, create new metadata records and modify existed metadata records. He also made clear explanation on the XML import and export functions.

36. The Meeting confirmed the importance of NOWPAP DINRAC Meta-database System and reached a consensus of opinion that the next important step should be how to integrate metadata in different categories into the system and make it more useful and operational in the future after input of metadata into the framework.

Agenda item 4.6: Progress Report on the Activity 6 of the NOWPAP MALITA Workplan

37. Mr. Yudong ZHU, researcher of DINRAC made a brief presentation on the progress of the Activity 6 of the NOWPAP MALITA Workplan implemented by DINRAC (UNEP/NOWPAP/DINRAC/FPM 5/12). He briefly introduced the background information, current progress, budget and expected outcomes of the Activity.

Agenda item 5: Information release from CEARAC, MERRAC and POMRAC Directors or their representatives on their activities related to creation of databases and subsequent discussion

Agenda item 5.1: Information release on POMRAC's activity related to Creation of AD and RDI Reference Database

38. Dr. Svetlana KOZHENKOVA, representative of POMRAC made a presentation on the proposal for Establishment of Reference Database on Atmospheric Deposition of Contaminants into the Marine and Coastal Environment in NOWPAP Region (AD Reference Database) and Reference Database on River and Direct Inputs of Contaminants into the Marine and Coastal Environment in NOWPAP Region (RDI Reference Database) through collaboration of DINRAC and POMRAC (UNEP/NOWPAP/DINRAC/FPM 5/Ref.2/1 and UNEP/NOWPAP/DINRAC/FPM 5/Ref.2/2). She mainly introduced the background information, recommendations on compilation of databases adopted at the Second Meetings of NOWPAP WG1 and WG2 and specific implementing plan for this cooperative activity after consultation with DINRAC.

39. The Director of DINRAC expressed that it was a good chance for DINRAC to cooperate with POMRAC and requested the Meeting to approve this cooperative proposal.

40. Dr. Hee-dong JEONG, the Korean Focal Point proposed to integrate AD and RDI Reference Databases into NOWPAP DINRAC Meta-database.

41. After a short discussion, the Meeting agreed to this proposal.

Agenda item 5.2: Information release on Databases related to CEARAC's Activity

42. Upon the invitation of the Chairperson, Mr. Masanobu MIYAZAKI, the Director of CEARAC, make a brief statement on the CEARAC's activity related to creation of databases---HAB Reference Database, Cochlodinium Homepage, Portal Site on Ocean RS, Website on Oil Spill Monitoring by RS and Marine Environmental Watch Project Homepage(UNEP/NOWPAP/DINRAC/FPM 5/Ref.3). He mentioned that Cochlodinium Homepage is mainly to the general public.

Agenda item 5.3: Information release on Databases related to MERRAC's Activity

43. The Director of DINRAC made a brief introduction on the MERRAC's activity related to creation of databases (UNEP/NOWPAP/DINRAC/FPM 5/Ref.4).

Agenda item 6: Information release about activities and reports of NEAR-GOOS and PICES related to DINRAC

44. Dr. Igor ROSTOV, the Russian Focal Point made a presentation on information release about activities and reports of the North Pacific Marine Science Organization (PICES) related to DINRAC. He mainly introduced PICES structure, strategy and activities of Technical Committee for Data Exchange (TCODE) of PICES, key tasks of Marine Environmental Quality (MEQ) Committee, and proposed themes for future integrative science programs of PICES.

45. Subsequently, Dr. Hee-dong JEONG, the Korean Focal Point made a presentation on the IOC Regional Sub-commission for the Western Pacific (IOC/WESTPAC) and the North East Asian Regional Global Ocean Observing System (NEAR-GOOS). He mainly introduced vision, mission and objectives of IOC/WESTPAC and database system, tasks and functions of NEAR-GOOS and etc.

46. Regarding the communication between DINRAC and NEAR-GOOS, the Director of DINRAC expressed his appreciation to Japan Oceanographic Data Center (JODC) for their invitation to the training course of NEAR-GOOS. He also explained that DINRAC had invited the Director of National Marine Data and Information Service of China (NMDIS) as representative of NEAR-GOOS to attend the DINRAC Focal Points Meeting, but she could not present at the Meeting due to some reasons.

47. The Chairperson and the Meeting confirmed the necessity of coordination between DINRAC and other relevant organizations in implementing regional activities on data and information exchange.

48. Mr. Xiaodong ZHONG, deputy coordinator of NOWPAP RCU proposed that, taking information release related to PICES and NEAR-GOOS into consideration, DINRAC should think how to avoid overlapping of future activities with other programs. The distribution of the meeting reports among the other programs is also suggested.

Agenda item 7: Discussion on new suggested Future Activities in biennium 2006/2007

Agenda item 7.1: Report on the DINRAC Workplan and Budget for 2006/2007 Biennium

49. Mr. Jianguo WANG, the Director of DINRAC reported on the DINRAC activity and budget for 2006/2007 biennium approved by the 10th NOWPAP IGM (UNEP/NOWPAP/DINRAC/FPM 5/13).

Agenda item 7.2: Establishment of the Regional Internet Communication Systems between DINRAC and National websites of NOWPAP Members (Activity L)

50. Dr. Nikolay RYKOV, the Russian Focal Point presented a revised proposal for the establishment of regional internet communication systems between DINRAC and National Websites of NOWPAP Members (UNEP/NOWPAP/DINRAC/FPM 5/14) with specific statements on objectives, tasks, actions and further requirements and specifications, detailed implementation plan project duration and budget allocation of Activity L.

51. A lengthy discussion on feasibility of this proposal and how to implement Activity L followed. With suggestion of the Director of DINRAC, the Meeting reached the consensus to have further discussion on the night meeting and make final decision on the Activity L at the morning session of May 11.

52. At the morning session of May 11, Prof. Yoshihisa SHIRAYAMA, the Japanese expert presented the idea of switchboard using an example of ocean portal. He proposed that each member country should make an effort to establish each webpage for switchboard of some categories which would be selected by each country from the candidates listed in the proposal, and the core categories of the switchboard should be selected through consultation among FPs of each NOWPAP Member and DINRAC. The Meeting agreed his proposal.

53. The Meeting decided Russia as the leading country in implementing Activity L.

Agenda item 7.3: Compilation of the National Reports and Regional Report on Coastal and Marine Biodiversity Data and Information in the NOWPAP Region (Activity K)

54. Ms. Liyuan LIU of DINRAC introduced the revised proposal for the compilation of national reports and regional report on coastal and marine biodiversity data and information in the NOWPAP region (UNEP/NOWPAP/DINRAC/FPM 5/15). She explained the reasons why Activity K was postponed till now and mainly emphasized the revised implementation plan and budget allocation of Activity K. She also hoped this activity would be implemented smoothly in this year.

55. Concerning the implementation of Activity K, Prof. Yoshihisa SHIRAYAMA, the Japanese expert suggested DINRAC Focal Points to draw supports from the Focal Points of the Global Biodiversity Information Facility (GBIF) and make full use of the existing information collected by implementing agencies of Convention on Biodiversity (CBD) in each NOWPAP Member.

56. With some revision comments adopted, the Meeting agreed this proposal and DINRAC was identified as the leading institution of Activity K.

Agenda item 7.4: Establishment of the Meta-database of Coastal and Marine Nature Reserves in the NOWPAP Region (Activity M)

57. Ms. Yi SHANG, engineer of DINRAC made a presentation on the revised proposal of establishment of the meta-database of coastal and marine nature reserves in the NOWPAP region (UNEP/NOWPAP/DINRAC/FPM 5/16). She mainly introduced background, objectives, expected outcomes, actions required and the revised implementation plan of Activity M.

58. The Meeting reviewed the proposal and renamed Activity M as Establishment of Database of Coastal and Marine Nature Reserves in the NOWPAP Region. China was identified as the leading country of Activity M. Taking the limited budget of DINRAC into consideration, the Meeting agreed to implement this activity step by step.

59. Dr. Xiangbin PEI, the Chinese Focal Point suggested the Activity M should have the content of digital map on nature reserves in the NOWPAP region. The Meeting agreed to his suggestion.

Agenda item 7.5: Establishment of the Meta-database on Contaminants and Nutrients in the Coastal and Marine Environment (Activity N)

60. The Director of DINRAC made a suggestion to list the Activity N into the DINRAC Workplan in 2007. He also suggested to identify Japan as the leading country of Activity N.

61. The Meeting agreed to the suggestion and requested DINRAC FP from Japan to prepare a proposal on Activity N and submit it to the Sixth DINRAC Focal Points Meeting for consideration.

Agenda item 8: Identification of Activities and Budget Allocation in Biennium 2006/2007

62. The Meeting reviewed the proposed Workplan and Budget for the DINRAC activities in 2006/2007 biennium (UNEP/NOWPAP/DINRAC/FPM 5/13).

63. Regarding the Activity C, Mr. Koji KAMBARA, the Japanese Focal Point expressed that he would fulfill his task free of charge.

64. Regarding the Activity N, the budget allocation temporarily for this activity will be changed in the next DINRAC Focal Points Meeting.

65. After a short discussion, the meeting agreed to revise the Workplan and Budget for the DINRAC activities in the 2006/2007 biennium (**Annex VI**) and submit it to the 11th IGM on NOWPAP.

Agenda item 9: Arrangement of intersessional work

66. Upon the invitation of Chairperson, the Meeting reviewed the arrangement of intersessional work before the 6th NOWPAP DINRAC Focal Points Meeting (UNEP/NOWPAP/DINRAC/FPM 5/17) as **Annex VII**. The leading country and leading institution responsible for each activity is requested to report on the progress at the next DINRAC FPM.

Agenda item 10: Preparations for the Sixth NOWPAP DINRAC Focal Points Meeting

67. The Meeting agreed that the Sixth NOWPAP DINRAC Focal Points Meeting will be held in China. The exact venue and date of the Meeting will be determined by the email communication among RCU, DINRAC and DINRAC Focal Points.

Agenda item 11: Other matters

68. Regarding "General NOWPAP Policy on Data and Information Sharing"-outcome of Activity D (UNEP/NOWPAP/DINRAC/FPM5/Ref.7), which has been adopted by the Third NOWPAP DINRAC Focal Points Meeting and attached as Annex V to the report of Third NOWPAP DINRAC FPM but delayed to be submitted to the IGM meeting, the Meeting agreed to submit "General NOWPAP Policy on Data and Information Sharing" to the 11th NOWPAP IGM.

69. Regarding "Establishment of Principles and Guidelines for NOWPAP DINRAC Meta-database Management System"-outcome of Activity E, it has been redeveloped and incorporated into "Framework for the Creation of NOWPAP DINRAC Meta-database"(UNEP/NOWPAP/DINRAC/FPM5/Ref.8) by DINRAC consultant after consultation with Dr. Toru SUZUKI, which has already been applied in implementation of Activity I as guideline. The Meeting decided that the Activity E had been concluded with "Framework for the Creation of NOWPAP DINRAC Metadatabase" as outcome of Activity E (**Annex VIII**).

Agenda item 12: Adoption of the report of the meeting

70. The draft report of the Fifth NOWPAP DINRAC Focal Points Meeting was prepared for consideration and adoption. The report was adopted by the meeting as the record of its deliberations. The final draft report will be sent to every participant after the Meeting for final approval.

Agenda item 13: Closure of the meeting

71. After the customary exchange of courtesies the Chairperson declared the Meeting closed at 13: 00 on Thursday, 11 May 2006.

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Annex IV	Report on the Implementation of DINRAC Activities in 2005
Annex V	Report on the Annual Expenditure of DINRAC Budget for the 2004/2005 Biennium
Annex VI	Revised Workplan and Budget for DINRAC Activities in the Biennium 2006/2007
Annex VII	Existing Tasks, Leading Country/Institution, Required Actions and Expected Outputs for 2006/2007 Biennium
Annex VIII	Final Report on the Activity on Existing GIS-Type Products from Within and Outside of NOWPAP
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Annex I

List of Participants to the Fifth NOWPAP DINRAC Focal Points Meeting

Annex I

List of Participants to the Fifth NOWPAP DINRAC Focal Points Meeting (Shenzhen, the People's Republic of China, 10-11 May 2006)

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Annex II

List of Documents for the Fifth NOWPAP DINRAC Focal Points Meeting

Annex II

List of Documents for the Fifth NOWPAP DINRAC Focal Points Meeting

Working Documents

UNEP/NOWPAP/DINRAC/FPM 5/1	Provisional Agenda
UNEP/NOWPAP/DINRAC/FPM 5/2	Annotated Provisional Agenda
UNEP/NOWPAP/DINRAC/FPM 5/3	List of Documents
UNEP/NOWPAP/DINRAC/FPM 5/4	List of Participants
UNEP/NOWPAP/DINRAC/FPM 5/5	List of the Focal Points for NOWPAP DINRAC
UNEP/NOWPAP/DINRAC/FPM 5/6	Report on the Implementation of NOWPAP Activities since IGM10 by RCU
UNEP/NOWPAP/DINRAC/FPM 5/7	Report on the Implementation of DINRAC Activities in 2005
UNEP/NOWPAP/DINRAC/FPM 5/8	Report on the Annual Expenditure of DINRAC Budget for the 2004/2005 biennium
UNEP/NOWPAP/DINRAC/FPM 5/9	Progress Report on the Activity on Existing GIS-type Products from within and outside of NOWPAP
UNEP/NOWPAP/DINRAC/FPM 5/10	Progress Report on the Further Development of the NOWPAP DINRAC Meta-database
UNEP/NOWPAP/DINRAC/FPM 5/11	Progress Report on the Review of the National Environmental Legislation
UNEP/NOWPAP/DINRAC/FPM 5/12	Progress Report on the Activity 6 of The NOWPAP MALITA Workplan
UNEP/NOWPAP/DINRAC/FPM 5/13	Report on the DINRAC Workplan and Budget for 2006 and 2007 Biennium
UNEP/NOWPAP/DINRAC/FPM 5/14	Proposal for the Establishment of Regional Internet Communication Systems between DINRAC and NOWPAP Members (revision)
UNEP/NOWPAP/DINRAC/FPM 5/15	Proposal for the Compilation of the National Reports and Regional Report on Coastal and Marine Biodiversity Data and Information in the NOWPAP Region (revision)

UNEP/NOWPAP/DINRAC/FPM 5/16	Proposal for the Establishment of the Meta-database on Coastal and Marine Nature Reserves in the NOWPAP Region (revision)
UNEP/NOWPAP/DINRAC/FPM 5/17	Arrangements for Intersessional Work

Reference Documents

UNEP/NOWPAP/DINRAC/FPM5/Ref.1/1	Logistic Information for the 5th NOWPAP DINRAC Focal Points Meeting (1)
UNEP/NOWPAP/DINRAC/FPM5/Ref.1/2	Logistic Information (2)
UNEP/NOWPAP/DINRAC/FPM 5/Ref.2/1	Information Release on POMRAC's Activity related to Creation of AD Reference Database
UNEP/NOWPAP/DINRAC/FPM 5/Ref.2/2	Information Release on POMRAC's Activity related to Creation of RDI Reference Database
UNEP/NOWPAP/DINRAC/FPM 5/Ref.3	Information Release on Databases related to CEARAC's Activity
UNEP/NOWPAP/DINRAC/FPM 5/Ref.4	Information Release on Databases related to MERRAC's Activity
UNEP/NOWPAP/DINRAC/FPM 5/Ref.5	Auditor's Report on Revenue and Expenditure of the Project of NOWPAP DINRAC
UNEP/NOWPAP/DINRAC/FPM 5/Ref.6	NOWPAP Meta-database System Training
UNEP/NOWPAP/DINRAC/FPM 5/Ref.7	General NOWPAP Policy on Data and Information Sharing
UNEP/NOWPAP/DINRAC/FPM 5/Ref.8	Framework for the Creation of NOWPAP DINRAC Meta-database
UNEP/NOWPAP/DINRAC/FPM 5/Ref.9	DINRAC Response on Chemical Spill at Songhua River
UNEP/NOWPAP IG.10/10	Meeting Report of the 10th NOWPAP IGM

Annex III

Agenda of the Fifth NOWPAP DINRAC Focal Points Meeting

Annex III

Agenda of the Fifth NOWPAP DINRAC Focal Points Meeting

1. Opening of the meeting
 - 1.1 Opening and welcome statement
 - 1.2 Statement by NOWPAP RCU
2. Organization of the meeting and adoption of the agenda
 - 2.1 Election of the officers (Chairperson, Rapporteur)
 - 2.2 Organization of work
 - 2.3 Adoption of the agenda
3. RCU presentation on NOWPAP implementation since the 10th IGM
4. Overview of the progress made in the intersessional period after the 4th NOWPAP DINRAC Focal Points Meeting
 - 4.1 Report on implementation of DINRAC Activities in 2005
 - 4.2 Report on the annual expenditure of DINRAC budget for the 2004/2005 biennium
 - 4.3 Progress report on the Activity on Existing GIS type Products from within and outside of NOWPAP (Activity J)
 - 4.4 Progress report on the further development of the NOWPAP DINRAC Meta-database (Activity I, including the Function Extension)
 - 4.5 NOWPAP Meta-database System Training Course by the Korean expert
 - 4.6 Progress report on the Activity 6 of the NOWPAP MALITA Workplan
5. Information release from CEARAC, MERRAC and POMRAC Directors or their representatives on their activities related to creation of databases and subsequent discussion
 - 5.1 Information release on POMRAC's activity related to Creation of AD and RDI Reference Database
 - 5.2 Information release on Databases related to CEARAC's Activity
 - 5.3 Information release on Databases related to MERRAC's Activity
6. Information release about activities and reports of NEAR-GOOS and PICES related to DINRAC

7. Discussion on new suggested future activities in biennium 2006/2007
 - 7.1 Report on the DINRAC Workplan and Budget for 2006/2007 Biennium
 - 7.2 Establishment of the Regional Internet Communication Systems between DINRAC and National websites of NOWPAP Members (Activity L)
 - 7.3 Compilation of the National Reports and Regional Report on Coastal and Marine Biodiversity Data and Information in the NOWPAP Region (Activity K)
 - 7.4 Establishment of the Meta-database of Coastal and Marine Nature Reserves in the NOWPAP Region (Activity M)
 - 7.5 Establishment of the Meta-database on Contaminants and Nutrients in the Coastal and Marine Environment (Activity N)
8. Identification of activities and budget allocation in biennium 2006/2007
9. Arrangement of intersessional work
10. Venue and date of the Sixth NOWPAP DINRAC Focal Points Meeting
11. Other matters (Decision on Previous Activity D and Activity E of DINRAC)
12. Adoption of the meeting report
13. Closure of the meeting

Annex IV

Report on the Implementation of DINRAC Activities in 2005

Annex IV

Report on the Implementation of DINRAC Activities in 2005

1. Introduction

Based on the Project Proposal for Phase II of the Establishment of a Comprehensive Database and Information Management System (NOWPAP/1) and the Resolution 2 of the Fourth Intergovernmental Meeting on the NOWPAP (Beijing, 6-7 April 1999), Institutional Arrangements for Implementation of NOWPAP, "decided to designate the Regional Activity Centre, as described in Annex VII of the UNEP (Water)/NOWPAP IG.4/7", the NOWPAP Data and Information Network Regional Activity Centre (NOWPAP DINRAC) was designated to be established.

In December 2000, NOWPAP DINRAC was formally established in Environmental Information Center (EIC) of State Environmental Protection Administration of China (SEPA). The purpose of the establishment of NOWPAP DINRAC is to coordinate various regional activities relevant to DINRAC and to offer the reliable and up-to-date information services for coastal and marine environment in NOWPAP region. Especially, the Centre is currently functioning as secretariat for the NOWPAP DINRAC Focal Points Meeting, Experts Meeting, and the NOWPAP Regional Policy on Data and Information Sharing and NOWPAP Regional Marine and Coastal Meta-database with assistance from UNEP. The Centre also manages the NOWPAP DINRAC Homepages.

DINRAC has the specific objective to coordinate regional activities, as specified in the terms of reference decided at the Fourth Intergovernmental Meeting. DINRAC was established recognizing that the activities under NOWPAP produce information on a number of different topics from several sources, the need for regional harmonization of data sets and information system, development of databases and networks for linking relevant institutions in the region and providing coherent information to serve the needs of the regions, as well as the need to develop protocols on data sharing. The development of a comprehensive database and information management system for the region through activity is coordinated and implemented by DINRAC. Other priority activities included building further data management capacity in the region and developing guidelines and a regional policy on data and information sharing.

DINRAC activities are carried out in consultation with the other NOWPAP RACs for efficient information exchanges as well as in close collaboration with e.g. the IOC of UNESCO and UNEP on specific topics.

2. Organization, Staff and Budget

DINRAC is a division within the premises of Environmental Information Center of SEPA. Five staff members are currently employed at DINRAC with financial support from the government of China. SEPA sponsors all DINRAC staffs salary and facilities on a total USD \$50,000 annually. DINRAC is

also funded by NOWPAP Trust Fund approved by Eighth NOWPAP Intergovernmental Meeting on a total USD \$150,000 for the biennium 2004/2005 for the DINRAC activities such as Focal Points Meeting, Experts Meeting, Specific Projects and others.

3. Major Activities of DINRAC in 2005

1) The Fourth NOWPAP DINRAC Focal Points Meeting:

- The Fourth NOWPAP DINRAC Focal Points Meeting took place in Dalian, the People's Republic of China, from 27 to 28 September 2005, with kind support from RCU.
- After a lengthy discussion, the meeting agreed the priorities of proposed workplan and budget, pending availability of funds for the activities of DINRAC for the biennium 2006/07 are as following:
 - 1) Activity L -- Establishment of the Regional Internet Communication Systems between DINRAC and National Websites of NOWPAP Members;
 - 2) Activity K -- Compilation of the National Reports and Regional Report on Coastal and Marine Biodiversity Data and Information in the NOWPAP Region;
 - 3) Activity I – Further Development of the NOWPAP DINRAC Meta-database;
 - 4) Activity M -- Establishment of the Meta-database of Coastal and Marine Nature Reserves in the NOWPAP Region and
 - 5) Activity N -- Establishment of the Meta-database on Contaminants and Nutrients in the Coastal and Marine Environment.
- The meeting agreed to cancel Experts Meeting in the intersessional period after the Fourth and Fifth NOWPAP DINRAC Focal Points Meetings.
- The next DINRAC Focal Point Meeting would focus on the project proposals made for DINRAC in the near future.
- The report on the Activities of DINRAC in the Biennium 2004/05, the work plan and budget for DINRAC in the biennium 2006/07 were also discussed and revised by the meeting. These results had been put forward for approval to the 10th NOWPAP IGM held in Toyama, Japan, from 24 to 26 November 2005.

2) Activities on Existing GIS-type Products from Within and Outside of NOWPAP (Activity J)

In line with the agreement of the 3rd DINRAC Focal Points Meeting, DINRAC has developed an Outline of the National Report on Coastal and Marine Environmental GIS and RS Applications in the NOWPAP Region and the Questionnaire for Coastal and Marine Environmental GIS and RS Data Products in the NOWPAP Region for datasets, databases and meta-databases, maps, atlases and multimedia products and other kinds of data products. The new formats for National Report and Questionnaires have been then distributed to four member Focal Points for their review. As a result,

four member reports in their countries respectively follow by the consistent new National Report Format. A database and data conversion has been established to collect the questionnaires from the Member countries. The collection, harmonization and compilation of the final National Reports and regional report have been finished before the 5th DINRAC FP Meeting.

3) Participation in the NOWPAP Intergovernmental Meetings and RACs FP Meetings:

Mr. Jianguo Wang, the director of DINRAC attended the Tenth Intergovernmental Meeting held in Toyama, Japan from 24 to 26 November 2005. He reported on the activities of DINRAC during 2004/2005 biennium and presented the budget and workplan for 2006/2007 biennium in line with the agreement of the 4th NOWPAP DINRAC Focal Points Meeting (UNEP/NOWPAP/DINRAC/FPM 4/17) to the meeting.

The Tenth Intergovernmental Meeting approved the budget and workplan for DINRAC activities for 2006/2007 biennium. But this approval budget may be revised and amended at a later stage, if necessary. The performance and implementation capacity of each RAC will be evaluated by RCU and the 11th NOWPAP IG Meeting. The meeting discussed entire NOWPAP's structure and activities and new directions for the NOWPAP Regional Activity Center (RACs). The meeting also approves the revised project proposal on Marine Litter Activity.

Ms. An Tong, the DINRAC Senior Consultant participated in the Third NOWPAP CEARAC Focal Points Meeting, held on 15-16 September 2005 in CEARAC (Toyama, Japan). Ms. Liu Liyuan, the DINRAC secretary participated in the Third NOWPAP POMRAC Focal Points Meeting, held on 13-14 October 2005 in Vladivostok, Russian Federation.

4) Publication of NOWPAP:

The report of the Fourth NOWPAP DINRAC Focal Points Meeting has been published and distributed to the related people and organizations in the late of 2005. All related documents and presentations for the meeting were burned on a CD-ROM which is attached to the report for reference.

The National and Regional Reports on Coastal and Marine Environmental GIS and RS Applications in the Northwest Pacific Region has been published and distributed to the related people and organizations before the 5th DINRAC FPM. This document is a compilation and reproduction as an outcome of a DINRAC activity – The Activity on Existing GIS-type Products from Within and Outside of NOWPAP, the activity J in the Workplan and Timetable for the 2004/2005 biennium. A CD-ROM, the content as same as the report, is attached to the report.

5) The Meeting and communication with NOWPAP Regional Coordinating Unit (RCU)

A meeting was held in DINRAC by the participating of the NOWPAP RCU Coordinator, Dr. Alexander Tkalin, the Deputy Coordinator, Mr. Zhong Xiaodong and the DINRAC team members in the morning session on 23 June 2005. DINRAC's ongoing and future activities were introduced and discussed in detail. RCU will keep close contact with DINRAC in order to better coordinate its activities and provide assistance whenever needed. RCU is facilitating the capacity building of DINRAC through training at the UNEP Regional Resource Centre for Asia and Pacific in Bangkok, Thailand.

It is advised by RCU through the communication that DINRAC can start gradually playing a role of NOWPAP clearinghouse using DINRAC website. DINRAC could establish separate "page" about marine environmental issues in the NOWPAP region (HAB, oil spills, atmospheric deposition, etc.) with very short text and then provide LINKS to RACs websites: CEARAC - about HAB and remote sensing applications (and reports); MERRAC - oil spills (and reports); POMRAC - atmospheric deposition of contaminants and river and direct inputs of contaminants (reports are not ready yet); and so on. Marine litter will follow soon and then the PTS (GEF PDF-B project).

NOWPAP RCU is facilitating the implementation of work by providing support and assistance to DINRAC activities.

6) The Function Extension of the Framework for the Creation of NOWPAP DINRAC Meta-database

In line with the agreement of the 4th DINRAC Focal Points Meeting, the Function Extension of the Framework for the Creation of NOWPAP DINRAC Meta-database has been carried out in 2005 in order to have a practical step to provide the data products in the region. Republic of Korea is continually the leading country to implement the additional work for the Activity I. The progresses of continuous work for Activity I have been reached now as the reported by the Korean Expert and software company.

The MoU regarding the Function Extension of the Framework for the Creation of NOWPAP DINRAC Meta-database has also been signed and first part budget for the work USD \$10,000 has been transferred to Korean Focal Point at the end of 2005.

7) Edition and Publication of the Overview on National Environmental Legislation, Strategies and Policies (NOWPAP/2)

In line with the resolution 7 made by the 10th IGM on the NOWPAP, NOWPAP member states are requested to facilitate updating the regional overview of national environmental legislation, objectives, strategies and policies (NOWPAP/2 project) reflecting the current national status of environmental legislation. DINRAC is requested to finalize, edit and publish the overview using the resources USD \$10,000 allocated in the NOWPAP budget for the 2006/2007 biennium.

Till January 2006, Chinese and Japanese experts provided the national updating to the Regional Overview. The ToR for nominating a regional consultant to modify and finalize the Regional Overview has been sent to the DINRAC FPs of NOWPAP member states in February by DINRAC

to nominate a consultant on Review of the National Environmental Legislation (Activity O). One application and her Curriculum Vitae of Prof. Yang Sujuan for the consultant to finalize the Regional Overview has been received in the requested date (UNEP/NOWPAP/DINRAC/FPM 5/11).

8) Marine Litter Activity (MALITA) in the NOWPAP Region

In line with the resolution 4 made by the 10th IGM on NOWPAP, NOWPAP RCU is requested to start this activity as soon as possible in close cooperation with the NOWPAP RACs, UNEP and other international organizations and programmes involved. DINRAC is requested to carry out the Activity 6 in the MALITA Work Plan, which are the establishment of a Database on Marine Litter coordinated by RCU and with other RACs and collection of information on relevant legal instruments and programmes on marine litter in each of the NOWPAP countries. The final task of the Activity 6 is to compile a regional review of national legal instruments and programmes provided by NOWPAP members in order to identify gaps and needs in the coverage of Marine Litter and make proposals for the revision, if appropriate.

The national experts in NOWPAP member countries to carry out the activity have been nominated at the end of January 2006. The Memorandum of Understanding (MOUs) Regarding the Activity 6 were signed by DINRAC and national experts at the early of March 2006. DINRAC has paid each National Expert of NOWPAP member countries a sum of USD \$1,000 for the cost of the Activity. The national summary on legal instruments and institutional arrangements related to the marine litter issue according to the harmonized manner is estimated to be finished at the end of May, 2006. The compilation and publication of the national summary will be finished before the end of June, 2006 (UNEP/NOWPAP/DINRAC/FPM 5/12).

9) Collection of the information and data related to the chemical spill at Songhua River

At the request of the NOWPAP RCU, DINRAC collected related information on the chemical spill at Songhua River (UNEP/NOWPAP/DINRAC/FPM 5/Ref.9) and reported to RCU as follows:

- the present status and statistics of the chemical spill
- the actions taken by the responsible Governments
- the predicted impact of the spilled chemicals to the NOWPAP region

Annex V

**Report on the Annual Expenditure of DINRAC Budget
for the 2004/2005 Biennium**

Annex V

Report on the Annual Expenditure of DINRAC Budget for the 2004/2005 Biennium

1. The proposed workplan and budget for entire DINRAC activities for the 2004/05 biennium agreed by the 2nd NOWPAP DINRAC Focal Points Meeting (UNEP/NOWPAP/DINRA/FPM 2/15) were forwarded to the Eighth Intergovernmental Meeting (Sanya, China, 5-7 November 2003) for its approval. The Eight IGM decided to allocate USD \$150,000 for DINRAC Activities and each NOWPAP RAC for the biennium 2004/05, due to limited resources available to the whole NOWPAP Programm (UNEP(DEC)/NOWPAP/IG 8/11 Resolution 1).
2. The 3rd NOWPAP DINRAC Focal Points Meeting (Busan, Republic of Korea, 26-28 October 2004) revised workplan and budget for the 2004/05 biennium for DINRAC activities (UNEP/NOWPAP/DINRA/FPM 3/18), as shown in **Table 1**.

Table 1 Workplan, budget and timetable for the DINRAC activities in biennium 2004/2005, adopted by the 3rd NOWPAP DINRAC Focal Points Meeting (Busan, Republic of Korea, 26-28 October 2004)

Unit: USD\$

Activities	Actions	Tentative Time	Budget (in USD)	
			In 2004	In 2005
<u>Activity B:</u> Update, Maintenance and Enrichment of DINRAC website (continue)	1. DB of Marine Experts and Institutions; 2. Meeting Reports; 3. Regional Seas 4. etc.		5,000	4,000
<u>Activity F:</u> Organization of DINRAC Experts Meeting/workshop	Expert meeting/workshop on evaluation of DINRAC current activities and proposal for the future activities	Mid 2005		28,000
<u>Activity G:</u> Organization of FPM	Organization of the 3rd Focal Points Meeting	October, 2004	28,000	
	Organization of the 4th Focal Points Meeting	Autumn 2005		22,000
<u>Activity H:</u> Cooperation, Communication of DINRAC activities	Coordination, travel, meetings, communication, publications of DINRAC activities		8,000	8,000
<u>Activity I:</u> Framework for the Creation of NOWPAP DINRAC Meta-database	Framework establishment, System development	September, 2005		17,000

<u>Activity J:</u> Activity on existing GIS-type products from within and outside of NOWPAP	1. Activity on existing GIS-type products to be applied for NOWPAP programmes 2. A proposal for creation of GIS-type products in the network system under DINRAC	November 2005	8,000	4,000
<u>Activity K*:</u> The compilation of a regional report on Coastal and Marine Biodiversity Data and Information	1. National report on Coastal and Marine Biodiversity data and information 2. Compilation and publication of a regional report	September, 2005		18,000
Sub-total			49,000	101,000
Total			150,000	

3. The FPM agreed in principle on these activities however with the understanding that the revised workplan and budget for DINRAC would be presented to the 9th IGM (Busan, Republic of Korea, November 2-4 2004) and final approval would be made based upon the decision of the 9th IGM. The 9th IGM, in Resolution 1, decided to postpone a decision on DINRAC Activity K until the Intersessional Workshop in 2005, to be held before the 10th IGM.
4. In order to implement the funded activities, UNEP and DINRAC developed a Project Document in March 2004, under which all encompass the funded activities of DINRAC (as shown in **Table 2**).

Table 2 DINRAC Budget in the biennium of 2004/05 from Trust fund of NOWPAP

Unit: USD\$

	2004 (in US \$)	2005 (in US \$)	Total (in US \$)
10 PROJECT PERSONNEL COMPONENT			
<u>1100 Professional staff</u>			
1101 DINRAC Director (funded by SEPA)	--	--	--
<u>1200 Consultants</u>			
1201 Draft of the General NOWPAP Guideline on Data and Information Sharing	9,000	0	9,000
1299 Sub total	9,000	0	9,000
<u>1600 Travel</u>			
1601 Travel on official business	3,000	3,000	6,000
1699 Sub total:	3,000	3,000	6,000
1999 Component total:	12,000	3,000	15,000
20 SUB-CONTRACTS COMPONENT			
<u>2100 DINRAC Website</u>			
2101 Update, Maintenance and Enrichment of DINRAC Website	5,000	4,000	9,000

2199 Sub total	5,000	4,000	9,000
2200 Products Studies			
2201 Activities on Existing GIS-type Products from Within and Outside of NOWPAP	10,000	0	10,000
2299 Sub total	10,000	0	10,000
2300 Information and Publication Exchanging			
2301 Exchange of Detailed Information and Publication of a Regional Overview	0	18,000	18,000
2399 Sub total	0	18,000	18,000
2400 Meta-database Frame Work			
2401 Frame Work for the Creation of NOWPAP DINRAC Meta-database		10,000	
2499 Sub total	0	10,000	10,000
2999 Component total:	15,000	32,000	47,000
30 TRAINING COMPONENT			
3200 Experts Meeting			
3201 Experts Meetings on Data Sharing, Meta-database Management and GIS-type product	14,000	14,000	28,000
3299 Sub total:	14,000	14,000	28,000
3300 Meetings/conferences			
3301 National Focal Points Meeting	25,000	25,000	50,000
3399 Sub total:	25,000	25,000	50,000
3999 Component total	39,000	39,000	78,000
40 EQUIPMENT COMPONENT			
4999 Component total	0	0	0
50 MISCELLANEOUS COMPONENT			
5200 Reporting cost			
5201 Publications	2,000	2,000	4,000
5299 Sub total:	2,000	2,000	4,000
5300 Sundry			
5301 Communications	2,000	2,000	4,000
5304 Other	1,000	1,000	2,000
5399 Sub total:	3,000	3,000	6,000
5999 Component total	5,000	5,000	10,000
99 GRAND TOTAL	82,000	68,000	150,000

5. Under the Project Document, in line with the agreements of the 3rd and the 4th NOWPAP DINRAC Focal Points Meetings, the expenditure of the 2004/05 biennium has been incurred as shown in **Table 3**.
6. The 4th NOWPAP DINRAC Focal Points Meeting agreed to allocate a part of the DINRAC budget unspent in 2005 to the additional work of the Activity I, Frame Work for the Creation of NOWPAP DINRAC Meta-database in 2005 which is USD \$16,000. The first part of the fund USD \$10,000 has been disbursed from DINRAC to Korean Focal Point in December 2005.

Table 3 DINRAC expenditures in the biennium 2004/05

Unit: USD\$

		As approved in the original document	2004 Expenditure	2005 Expenditure
10	PROJECT PERSONNEL COMPONENT			
	<u>1100 Professional staff</u>			
	1101 DINRAC Director and staff (funded by SEPA)	0	0	
	<u>1200 Consultants</u>			
	1201 Draft of the General NOWPAP Guideline on Data and Information Sharing	9,000	0	0
	1299 Sub Total	9,000	0	0
	<u>1600 Travel</u>			
	1601 Travel on official business	6,000	2,844	3,156
	1699 Sub total:	6,000	2,844	3,156
	1999 Component total:	15,000	2,844	3,156
20	SUB-CONTRACTS COMPONENT			
	<u>2100 DINRAC Website</u>			
	2101 Update, Maintenance and Enrichment of DINRAC Website	9,000	5,000	4,000
	2199 Sub total:	9,000	5,000	4,000
	<u>2200 Products Studies</u>			
	2201 Studies on Existing GIS-type Products from Within and Outside of NOWPAP	10,000	0	12,000
	2299 Sub total	10,000	0	12,000
	<u>2300 Information and Publication Exchanging</u>			
	2301 Exchange of Detailed Information and Publication of a Regional Overview	18,000	0	0
	2399 Sub total	18,000	0	0
	<u>2400 Meta-database Frame Work</u>			
	2401 Frame Work for the Creation of NOWPAP DINRAC Meta-database	10,000	0	27,000
	2499 Sub total	10,000		27,000
	2999 Component total:	47,000	5,000	43,000

30	<u>TRAINING COMPONENT</u>			
	3200 Experts Meeting			
	3201 Experts Meetings on Data Sharing, Meta-database Management and GIS-type Product	28,000	0	0
	3299 Sub Total	28,000	0	0
	<u>3300 Meetings/conferences</u>			
	3301 National Focal Points Meetings	50,000	27,989	22,448
	3399 Sub Total	50,000	27,989	22,448
	3999 Component total:	78,000	27,989	22,448
40	<u>EQUIPMENT COMPONENT</u>			
	4999 Component total:	0	0	
50	<u>MISCELLANEOUS COMPONENT</u>			
	5200 Reporting cost			
	5201 Publications	4,000	1,950	2,050
	5299 Sub total:	4,000	1,950	2,050
	<u>5300 Sundry</u>			
	5301 Communications	4,000	2,206	1,475
	5304 Other	2,000	1,108	1,211
	5399 Sub total:	6,000	3,314	2,686
	5999 Component total:	10,000	5,264	4,736
99	GRAND TOTAL	150,000	41,097	73,340

7. **Table 3** shows the summary of the DINRAC budget and expenditure incurred from 1 April 2004 up to 31 December, 2005.
8. Mr. Jorge Flores, the PMO of Budget and Financial Management Service of UNEP transferred NOWPAP Trust Fund \$50,000 in September, 2004 and \$50,000 in July, 2005 to DINRAC account respectively.
9. Mr. Norio BABA, the Administrative Officer of NOWPAP RCU Toyama Office has disbursed USD \$15,815 for the travel, DSA and bank commission fee of the DINRAC Focal Points participated the Fourth DINRAC Focal Points Meeting using the NOWPAP Trust Fund directly. It is included into the expenditure of the meeting USD \$22,448.
10. The opening cash balance of DINRAC account as at January 1, 2004 is USD \$12,257.
The total cumulative expenditures for DINRAC incurred from 1 April 2004 to 31 December 2005 is USD \$114,437. The unspent balance for the project (PN/6030-02-09) is USD \$13,635 (100,000+15,815+ 12,257-114,437).

11. Zhongcai Certified Public Accountants Co., Ltd has undertaken the financial audit of the revenue and expenditure in 2004/2005 biennium for DINRAC activities. In the Certified Public Accountants opinion, the DINRAC financial revenue and expenditure tables fairly reflected the revenue and expenditure in all important aspects on 26th March, 2006.

Annex VI

**Revised Workplan and Budget for the DINRAC Activities
in the Biennium 2006/2007**

Annex VI

Revised Workplan and Budget for DINRAC Activities in the Biennium 2006/2007

(as decided by 5th DINRAC Focal Points Meeting, Shenzhen, 10-11 May 2006)

Activities	Actions	Tentative Time	Budget (in USD)	
			In 2006	In 2007
Activity B: Update, Maintenance and Enrichment of DINRAC Website (continue)	<ul style="list-style-type: none"> - Continuous collection and dissemination of information - Creation of new pages and more related links 		2,500	2,500
Activity C: Update, Maintenance and Enrichment of the Databases of Institutions and Experts on Coastal and Marine Environment (continue)	Update and maintain NowpapExpert and NowpapInstitution Databases.			2,000
Activity G: Organization of FPM	Organization of the 5th Focal Points Meeting	April – May 2006	25,000	
	Organization of the 6th Focal Points Meeting	April – May 2007		25,000
Activity H: Cooperation, Communication of DINRAC Activities	Coordination, travel, meetings, communication, publications of DINRAC activities		8,000	8,000
Activity I: Further Development of the NOWPAP DINRAC Meta-database Framework (continue)	<ul style="list-style-type: none"> - Submission of all the softwares related to NOWPAP DINRAC Meta-database Framework - Submission of all the reports and manuals of DINRAC Meta-database Framework - System testing 	December, 2005 – May, 2006	6,000	
Activity K: The Compilation of National Reports and Regional Report on Coastal and Marine Biodiversity Data and Information	<ul style="list-style-type: none"> - Development of outlines for National Reports - Data-collection, harmonization and compilation of the National Reports - Analysis on National Reports and compilation of Regional Report - Harmonization and print of the National Reports and Regional Report 	May – December 2006	18,000	

<p>Activity L: Establishment of Regional Internet Communication Systems between DINRAC and NOWPAP Member Countries</p>	<ul style="list-style-type: none"> - Framework establishment, development of general system's structure and its design (it can be differ for different countries) - MoU with FPs - System components development - Design, reorganization, maintenance and enrichment of national/institutional websites - Put the system into operation - Definition of future development needs. 	~ December, 2007	15,000	12,000
<p>Activity M: Establishment of a Database of Coastal and Marine Nature Reserves in the NOWPAP Region</p>	<ul style="list-style-type: none"> - Development of formats for Questionnaires and National Reports - Data collection and harmonization - Establishment of database and data conversion - Development of the related Web service programs - Harmonization and print of the National Reports and Regional Reports - Development of CD-ROM 	December, 2006	16,000	
<p>Activity N: Establishment of a Meta-database on Contaminants and Nutrients in the Coastal and Marine Environment</p>	<ul style="list-style-type: none"> - Development of the proposal for establishment of a meta-database on contaminants and nutrients in the coastal and marine environment - Establishment of a meta-database 			8,000
<p>Activity O: Compilation and publication of the overview on national legislation, objectives, strategies, policies and laws associated with marine environment of NOWPAP Members (NOWPAP/2)</p>	<ul style="list-style-type: none"> - Recognizes the need to update the regional overview of national environmental legislation, objectives, strategies and policies, reflecting the current national status of environment legislation, - Requests NOWPAP member states to facilitate updating of such overview, - Finalize, edit and publish the overview on national environment legislation, strategies and policies using the resources. 	~ August, 2006	10,000	

<p>Activity P: Establishment of the Reference Databases on Atmospheric Deposition & River and Direct Inputs of Contaminants into the Marine and Coastal Environment in NOWPAP Region (Joint Activity with POMRAC)</p>	<ul style="list-style-type: none"> - Formulation of the data filling format - Establishment of the databases - Publishing of databases at the DINRAC Website - Development and Printing of the pamphlet and CD - (DINRAC by an expert) 	<p>~ December, 2007</p>	<p>1,000</p>	<p>1,000</p>
<p>MALITA: Establishment of Database on Marine Litter and Other Related Tasks Coordinated by RCU and with other RACs</p>	<ul style="list-style-type: none"> - Establishment of database on ML related information and data provided by NOWPAP members and data from GPA clearing house - Review of national legal instruments and programmes provided by NOWPAP members in the coverage of ML and make proposals for the revision, if appropriate - Development and implementation of long-term regional and national monitoring programmes on land-based ML, including formats for data gathering and storage - Formulation and implementation of awareness and education campaigns for general public, various groups within the tourism sector, industry, municipal authorities, local communities - Other Related Tasks Coordinated by RCU and with other RACs 	<p>~ December, 2007</p>	<p>5,500</p>	
<p>Total</p>			<p>107,000</p>	<p>58,500</p>

Annex VII

**Existing Tasks, Leading Country/Institution, Required Actions and
Expected Outputs for 2006/2007 Biennium**

Annex VII

Existing Tasks, Leading Country/Institution, Required Actions and Expected Outputs for 2006/2007 Biennium

Tasks	Leading Country / Institution	Actions	Expected Outputs
1. Routine Task carried out by DINRAC			
1. Update and Maintenance of DINRAC website	DINRAC	<ul style="list-style-type: none"> - Continuous collection and dissemination of information - Creation of new pages and more related links 	<ul style="list-style-type: none"> - Updated DINRAC website
2. Focal Points Meetings	DINRAC	<ul style="list-style-type: none"> - Coordinate and organize annual Focal Points Meeting 	<ul style="list-style-type: none"> - Focal Points Meetings / Reports submitted to Intergovernmental Meetings
3. Communications	DINRAC	<ul style="list-style-type: none"> - Maintain routine communication links between relevant authorities in the NOWPAP region 	<ul style="list-style-type: none"> - Facilitation of data and information exchange relevant to coastal and marine environment among the NOWPAP programmes
4. Publications	DINRAC	<ul style="list-style-type: none"> - Compile the third and fourth issue of the NOWPAP DINRAC Newsletter - Compile the updated NOWPAP brochure in Chinese-English version 	<ul style="list-style-type: none"> - Third and fourth issue of the NOWPAP DINRAC Newsletter - Updated NOWPAP brochure in Chinese-English version
5. Other Routine Tasks as described by the TOR of DINRAC or decided upon by the FP Meetings	DINRAC		

2. Specific project coordinated by DINRAC			
1. Update, Maintenance and Enrichment of the Databases of Institutions and Experts on Coastal and Marine Environment	DINRAC and DINRAC FPs in NOWPAP Members	<ul style="list-style-type: none"> - Update and maintain NowpapExpert and NowpapInstitution Databases. 	<ul style="list-style-type: none"> - Updated NowpapExpert and NowpapInstitution Databases
2. Compilation of the National Reports and Regional Report on Coastal and Marine Biodiversity Data and Information in the NOWPAP Region	DINRAC	<ul style="list-style-type: none"> - Development of outlines for National Reports - Data-collection, harmonization and compilation of the National Reports - Analysis on National Reports and compilation of Regional Report - Harmonization and print of the National Reports and Regional Report 	<ul style="list-style-type: none"> - The National Reports on marine and coastal biodiversity data and information in the NOWPAP region - The Regional Report on marine and coastal biodiversity data and information in the NOWPAP region
3. Establishment of Regional Internet Communication Systems between DINRAC and National Website of NOWPAP Members	RUSSIA	<ul style="list-style-type: none"> - Framework establishment, development of general system's structure and its design (it can be differ for different countries) - MoU with FPs - System components development - Design, reorganization, maintenance and enrichment of national/institutional websites - Put the system into operation - Definition of future development needs. 	<ul style="list-style-type: none"> - National/institutional thematic English-language websites/webpages - Regional Internet Communication Systems between DINRAC and NOWPAP Member Countries
4. Establishment of the Database of Coastal and Marine Nature Reserves in the NOWPAP Region	CHINA	<ul style="list-style-type: none"> - Development of formats for Questionnaires and National Reports - Data collection and harmonization - Establishment of database and data conversion - Development of the related Web service programs - Harmonization and print of the National Reports and Regional Reports - Development of CD-ROM 	<ul style="list-style-type: none"> - A database on marine and coastal nature reserves in the NOWPAP region - The National Reports on the Current Status of marine and coastal nature reserves in the NOWPAP region and The Regional Report on the Current Status of marine and coastal nature reserves in the NOWPAP region - CD-ROM

<p>5. Establishment of a Meta-database on Contaminants and Nutrients in the Coastal and Marine Environment</p>	<p>JAPAN</p>	<ul style="list-style-type: none"> - Development of the proposal for establishment of a meta-database on contaminants and nutrients in the coastal and marine environment 	<ul style="list-style-type: none"> - The proposal will be submitted to the Sixth NOWPAP DINRAC Focal Points Meeting for the final agreement
<p>6. Compilation and publication of the overview on national legislation, objectives, strategies, policies and laws associated with marine environment of NOWPAP Members (NOWPAP/2)</p>	<p>DINRAC</p>	<ul style="list-style-type: none"> - Recognizes the need to update the regional overview of national environmental legislation, objectives, strategies and policies, reflecting the current national status of environment legislation, - Requests NOWPAP member states to facilitate updating of such overview, - Finalize, edit and publish the overview on national environment legislation, strategies and policies using the resources. 	<ul style="list-style-type: none"> - National reports on the current status of marine environment legislation, objectives, strategies and policies of four NOWPAP member states; - Compilation and publication of the regional overview associated with the national reports of NOWPAP member states.
<p>7. Establishment of the Reference Databases on Atmospheric Deposition & River and Direct Inputs of Contaminants into the Marine and Coastal Environment in NOWPAP Region (AD and RDI Reference Databases)</p>	<p>DINRAC and POMRAC experts</p>	<ul style="list-style-type: none"> - Formulation of the data filling format - Establishment of the databases - Publishing of databases at the DINRAC Website - Development and Printing of the pamphlet and CD - Integration of databases into NOWPAP DINRAC Meta-database 	<ul style="list-style-type: none"> - Establishment of AD reference Database - Establishment of RDI Reference Database
<p>8. MALITA: Establishment of Database on Marine Litter and Other Related Tasks Coordinated by RCU and with other RACs</p>	<p>DINRAC</p>	<ul style="list-style-type: none"> - Establishment of database on ML related information and data provided by NOWPAP members and data from GPA clearing house - Review of national legal instruments and programmes provided by NOWPAP members in the coverage of ML and make proposals for the revision, if appropriate - Development and implementation of long-term regional and national monitoring programmes on 	<ul style="list-style-type: none"> - Establishment of database on marine litter - Preparation of brochures in Chinese for the purpose of promoting public awareness on the reduction of ML - Etc.

		<p>land-based ML, including formats for data gathering and storage</p> <ul style="list-style-type: none">- Formulation and implementation of awareness and education campaigns for general public, various groups within the tourism sector, industry, municipal authorities, local communities- Other Related Tasks Coordinated by RCU and with other RACs	
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Annex VIII

**Final Report on the Activity on Existing GIS-Type Products
from within and outside of NOWPAP**

Final Report on the Activity on Existing GIS-Type Products from within and outside of NOWPAP

1. Background

The Activities on GIS-type Products Within and Outside of NOWPAP Programme (Activity J) is one of four specific projects coordinated by DINRAC in the biennium 2004/2005.

The Activity is mainly implemented by DINRAC and DINRAC Focal Points in the NOWPAP Members.

Budget :(Total USD 12,000)

- a. USD 8,000 to the Focal Points for data collection, compilation of their National Reports (USD 2,000 for each NOWPAP Member).
- b. USD 4,000 to consultants of DINRAC for the development of the formats of the Questionnaires and the Outline of National Report; establishment of databases; development of the regional review, completion and print of the National Reports; development and print of the CD-ROM.

2. Summary of Project Implementation

The activity was completed in the end of March 2006. Actions required in the Implementation Plan have been accomplished.

Progress since Fourth DINRAC Focal Points Meeting

- Comments feedback, revision and finalization of the draft National Reports
- Draft, revision and finalization of the Regional Review to the National Reports
- Harmonization, completion and publication of the National Reports
- Development and print of the CD-ROM
- Distribution of the Publications

Outputs from the activity:

- NowpapGIS Database (NowpapGISdata, NowpapGISsystem and NowpapGISreport) with 98 records
- National Reports on Coastal and Marine Environmental GIS and RS Applications in the Northwest Pacific Region and the Regional Review (134pages)

Presentation of the outputs:

- Hardcopy and CD-ROM (UNEP/NOWPAP/DINRAC/Publication No.4)
- Website

3. Achievement and Significance

Since 1990's, GIS and RS have been applied in Coastal and Marine Environmental GIS and RS Applications in the Northwest Pacific Region, and can be briefly classified into the preliminary preparation phase – before 1996 and the implementation phase – after 1996. Presently, the applications have been advanced in both applying field and technique level. New applying field covers from marine fishery, coastal disaster and environment monitoring, marine physical feature information service to marine GIS. In the future, the applications will emphasize on the development of integrated system and routine operation system. With the blooming of Web technologies, integrated information Web service will be provided. With a steady growth of investment, the monitoring coverage of marine disaster and environment monitoring will be expanded and the number of monitoring features will be increased. Marine GIS will advance substantively in the analysis method and in-depth data modeling of ocean and coastal zone.

By implementing the activity, information on the datasets, systems and reports related to GIS and RS applications in the NOWPAP region was collected by means of sending questionnaires. There are 98 records in total developed from the returned questionnaires with most required fields filled, which mainly cover and reflect major products of the related institutions in this region as we expected.

Based on the analysis on the returned questionnaires and related further research conducted, the National Reports on Coastal and Marine Environmental GIS and RS Applications were developed by DINRAC Focal Points of each NOWPAP member. The final-revised National Reports of 96 pages mainly cover all the items required in the Outline, which give a general description on the development history, current situation and development trends of GIS and RS application in terms of applying field and technical level, and involve most of the related institutions, activities and outcomes and etc. in the NOWPAP region.

The Regional Review of 18 pages was developed with the support of the consultants, which aims to conclude an overview on the current situation, development trend of GIS and RS applications in the NOWPAP region at the regional level. The Regional Review includes description, statistics charts, tables/inventory and images under summary, analysis and statistics to four National Reports and the database. It could be considered as re-development and excavation to the National Reports and the database.

As the main outcomes of the Activity, the database and the National Reports were published in the DINRAC Website and made into the hardcopy and CD-ROM. The hardcopy and CD-ROM were also mailed to the NOWPAP-related organizations and institutions involved in the Activity.

In conclusion, with great efforts of DINRAC Focal Points and technical support by the consultants, the Activity was accomplished smoothly and successfully within one year. Generally speaking, the expected outcomes of Activity were achieved basically even though three months delayed due to some unforeseen technical difficulties and much time spent on coordinating and making revision to the national reports. The quantity and quality of the database and reports basically met the requirements of the activity. The outcomes, as one important achievement of DINRAC, will be of great benefit to promotion of the information and data sharing on GIS and RS products, provide a general understanding and review on GIS and RS applications in the NOWPAP region, and contribute to information exchange on marine and coastal environmental data and information management in the NOWPAP region.

4. Introduction of the outputs

4.1 Database---NowpapGIS

- NowpapGISdata 44 records
- NowpapGISsystem 30 records
- NowpapGISreport 24 records

4.2 National Reports on Coastal and Marine Environmental GIS and RS Applications in the Northwest Pacific Region

Contents:

- Note, Disclaimer and Acknowledgements
- Preface (NOWPAP DINRAC, NOWPAP DINRAC Activities and the Activity J)
- Contents
- List of Acronyms
- Regional Review
- National Report of the People's Republic of China
- National Report of Japan
- National Report of Republic of Korea
- National Report of Russian Federation

Content of the Regional Review:

1. Development of GIS and RS Applications in the Past 10 Years
2. Current Situation of GIS and RS Applications
3. Development Trend of GIS and RS Applications in the Future
4. Institutions/Organizations Involved in GIS and RS Applications

5. Activities related to GIS and RS Applications
6. GIS and RS Datasets, Systems and Reports

Contents of the National Reports:

1. Country
2. Issued Date of the National Report
3. NOWPAP DINRAC Focal Points
4. Development of GIS and RS Applications on Coastal and Marine Environmental Protection in the Past 10 Years
 - 4.1 Summary
 - 4.2 Description of Applications Development
5. Current Situation of GIS and RS Applications on Coastal and Marine Environmental Protection
 - 5.1 Summary
 - 5.2 Description of Applications
 - 5.3 The Number of the Institutions/Organizations Involved in the Applications
 - 5.4 The Number of the Existing Systems/Projects of the Applications
6. Development Trend of GIS and RS Applications on Coastal and Marine Environmental Protection in the Future
7. Institutions/Organizations Involved in GIS and RS Applications on Coastal and Marine Environmental Protection
 - 7.1 Introduction to the Main Institutions/Organizations
 - 7.2 Inventory of the Institutions/Organizations
8. Activities related to GIS and RS Applications on Coastal and Marine Environmental Protection
 - 8.1 Introduction of the Main Activities
 - 8.2 Inventory of the Activities
9. Inventory of the GIS and RS Data
10. Inventory of the GIS and RS Systems
11. Inventory of the GIS and RS Reports
12. Summary
 - 12.1 The Brief Introduction to the National History of GIS and RS Applications on Coastal and Marine Environmental Protection in the NOWPAP Region
 - 12.2 Quantity of the Related Institutions/Organizations, Experts, Budget and Data
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13. Comments

Annex IX

General NOWPAP Policy on Data and Information Sharing

General NOWPAP Policy on Data and Information Sharing

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1. Introduction

The Action Plan for the protection, management and development of the marine and coastal environment of the Northwest Pacific Region (NOWPAP) was adopted at the First Intergovernmental Meeting (Seoul, R. Korea, 14 September 1994) by representatives of the People's Republic of China, Japan, the Republic of Korea and Russian Federation (hereafter as NOWPAP Members). The geographical scope for this Action Plan is the marine and coastal zone from about 121°E to 143°E and from approximately 33°N to 52°N (hereafter as NOWPAP Region), without prejudice to the sovereign right of any NOWPAP Members.

The contents of seven priority activities include:

- NOWPAP/1: Establishment of a comprehensive database and information management system;
- NOWPAP/2: Survey of national environment legislation, strategies and policies;
- NOWPAP/3: Establishment of a collaborative, regional monitoring programme;
- NOWPAP/4: Development of effective measures for regional co-operation in marine pollution preparedness and response;
- NOWPAP/5: Commence the establishment of Regional Activity Centers and their network;
- NOWPAP/6: Raising public awareness regarding marine, coastal and associate with freshwater environment;
- NOWPAP/7: Assessment and management of land-based activities.

Four Regional Activity Centers have been established to implement the above NOWPAP activities:

- DINRAC, Beijing: Data and Information Network Regional Activity Centre, to support the implementation of NOWPAP1;
- POMRAC, Vladivostok: Pollution Monitoring Regional Activity Centre, to support the implementation of NOWPAP3;
- CEARAC, Toyama: Special Monitoring and Coastal Environmental Assessment Regional Activity Centre, to support the implementation of NOWPAP3;
- MERRAC, Taejon: Marine Environmental Emergency Preparedness and Response Regional Activity Centre, to support the implementation of NOWPAP4.

2. Background and Objectives

The marine and coastal environmental data and information are fundamental for all scientific research projects and management programme. The NOWPAP Members have collected these data and information, and data and information exchange systems have been developed by international organizations such as Intergovernmental Oceanographic Commission (IOC) of

UNESCO. In order to improve the marine and coastal environmental data and information exchange among the NOWPAP Members, a policy on data and information sharing is necessary for all NOWPAP activities. A project of “Establishment of the NOWPAP Policy on Data and Information Sharing” was agreed at the first DINRAC Focal Points Meeting (Shanghai, China, 25-28 November 2002), as one of activities in biennium 2002-2003.

3. General Policy

Cooperation and coordination in data and information sharing among the specialists, researchers, managers, and decision-makers in NOWPAP Members are essential to the success of the NOWPAP programmes. In order to activate and accelerate the marine and coastal environmental data and information exchange and sharing in NOWPAP Members and also non-NOWPAP Members, the following general policy based upon the IOC oceanographic data exchange policy except Clause 6, which was adopted in IOC twenty-second session of the assembly (Paris, 24 June – 4 July, 2003), is highly respected among NOWPAP Members. Status of the IOC oceanographic data exchange policy is shown in Appendix A.

Preamble

The timely, free and unrestricted international exchange of marine and coastal environmental data is essential for the efficient acquisition, integration and use of ocean observations gathered by the NOWPAP Members for a wide variety of purposes of NOWPAP programmes including the prediction of weather and climate, the operational forecasting of the marine and coastal environment, the preservation of life, the mitigation of human-induced changes on the marine and coastal environment, as well as for the advancement of scientific understanding that makes this possible.

Recognizing the vital importance of these purposes to all humankind and the role of NOWPAP and its programmes in this regard, the NOWPAP Members agree that the following clauses shall frame the NOWPAP policy for the sharing of marine and coastal data and information and its associated metadata.

Clause 1

NOWPAP Members shall provide timely, free and unrestricted access to all data, information, associated metadata and products generated under the auspices of NOWPAP programmes.

Clause 2

NOWPAP Members are encouraged to provide timely, free and unrestricted access to relevant data, information and associated metadata from non-NOWPAP programmes that are essential for application to the preservation of life, beneficial public use and protection of the ocean environment, the forecasting of weather, the operational forecasting of the marine and coastal environment, the monitoring and modelling of climate and sustainable development in the marine and coastal environment.

Clause 3

NOWPAP Members are encouraged to provide timely, free and unrestricted access to the marine and coastal environmental data, information and associated metadata, as referred to in Clauses 1 and 2 above, for non-commercial use by the research and education communities, provided that any products or results of such use shall be published in the open literature without delay or restriction.

Clause 4

With the objective of encouraging the participation of governmental and non-governmental marine and coastal data and information gathering bodies in international marine and coastal environmental data and information exchange and maximizing the contribution of marine and coastal environmental data and information from all sources, this Policy acknowledges the right of NOWPAP Members and data originators to determine the terms of such exchange, in a manner consistent with international conventions, where applicable.

Clause 5

NOWPAP Members shall, to the best practicable degree, use data centers linked to IODE's NODC and WDC network as long-term repositories for the marine and coastal environmental data, information and associated metadata. NOWPAP programmes and DINRAC will co-operate with data contributors to ensure that data can be accepted into the appropriate systems and can meet quality requirements.

Definitions

'Free and unrestricted' means non-discriminatory and without charge. "Without charge", in the context of this resolution means at no more than the cost of reproduction and delivery, without charge for the data and products themselves.

'Data' consists of marine and coastal environmental observation data, derived data and gridded fields.

'Metadata' is "data about data" describing the content, quality, condition, and other characteristics of data.

'Non-commercial' means not conducted for profit, cost-recovery or re-sale.

'Timely' in this context means the distribution of data and/or products, sufficiently rapidly to be of value for a given application.

'Product' means a value-added enhancement of data applied to a particular application.

4. Present Status and Utilization of the Existing Oceanographic and Meteorological Data Exchange Systems

For oceanographic data exchange and management, the system of International Oceanographic Data Exchange (IODE) of Intergovernmental Oceanographic Commission (IOC) of UNESCO comprises the World Data Centers (WDC) which have established under the guidance of the International Council of Scientific Unions (ICSU) and the National Oceanographic Data Centers (NODC). All NOWPAP Members constitute the NODC, and also China and Russia constitute WDC for Oceanography. Japan Oceanographic Data Center (JODC) manages the oceanographic data of WESTPAC (IOC Sub-Commission for the Western Pacific Region) programme as the Responsible National Oceanographic Data Center (RNODC). In fact the oceanographic data exchange and sharing goes into effect among NOWPAP and non-NOWPAP Members for a long time.

The North-East Asian Regional GOOS (NEAR-GOOS) which is implemented by NOWPAP Members, as a regional pilot project of the Global Ocean Observing System (GOOS), provides the oceanographic data through the Internet widely and freely. Overview of existing oceanographic data and information exchange systems are shown in Appendix B.

In addition the meteorological and oceanographic data have been exchanged in real-time under the World Meteorological Organization (WMO). The WMO/IOC Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) is an intergovernmental body of experts, which provides the international, intergovernmental coordination, regulation and management mechanism for an operational oceanographic and marine meteorological observing, data management and services system. Until the formation of JCOMM in 1999, the coordination of these activities was provided by two separate bodies: the WMO Commission for Marine Meteorology (CMM) and the Joint IOC/WMO Committee for the Integrated Global Ocean Services System (IGOSS). JCOMM is the result of the recognition of the increasing demand for integrated marine meteorological and oceanographic data and services, and the efficiencies that may be achieved by combining the expertise and technological capabilities of the WMO and IOC systems.

In NOWPAP Region, there are already several intergovernmental, regional and domestic systems dealing with oceanographic data and information exchange and sharing. Therefore it is also strongly encouraged to utilize the existing data exchange and sharing policy and systems, in order to facilitate exchange, and activate and accelerate the marine and coastal environmental data and information sharing in NOWPAP Members and also non-NOWPAP Members.

5. Tasks of NOWPAP Members and DINRAC

NOWPAP Members and DINRAC shall carry out their responsibility for the following tasks in order to activate and accelerate the marine and coastal environmental data and information

exchange and sharing in NOWPAP Members.

1. NOWPAP Members shall provide all marine and coastal environmental data, information, associated metadata and products under the auspices of NOWPAP programmes to the DINRAC and the relevant Regional Activity Centers, and provide timely, free and unrestricted access to them.
2. NOWPAP Members shall be encouraged to provide timely, free and unrestricted access to all marine and coastal environmental data, information, associated metadata and products from non-NOWPAP programmes that are essential for application to the protection of marine and coastal environment.
3. DINRAC shall be responsible to disseminate free and unrestricted access to all marine and coastal environmental data, information, associated metadata and products which are submitted by NOWPAP Members.
4. DINRAC shall maintain contact with the monitoring programmes of CEARAC and POMRAC, and MERRAC and other relevant NOWPAP activities.

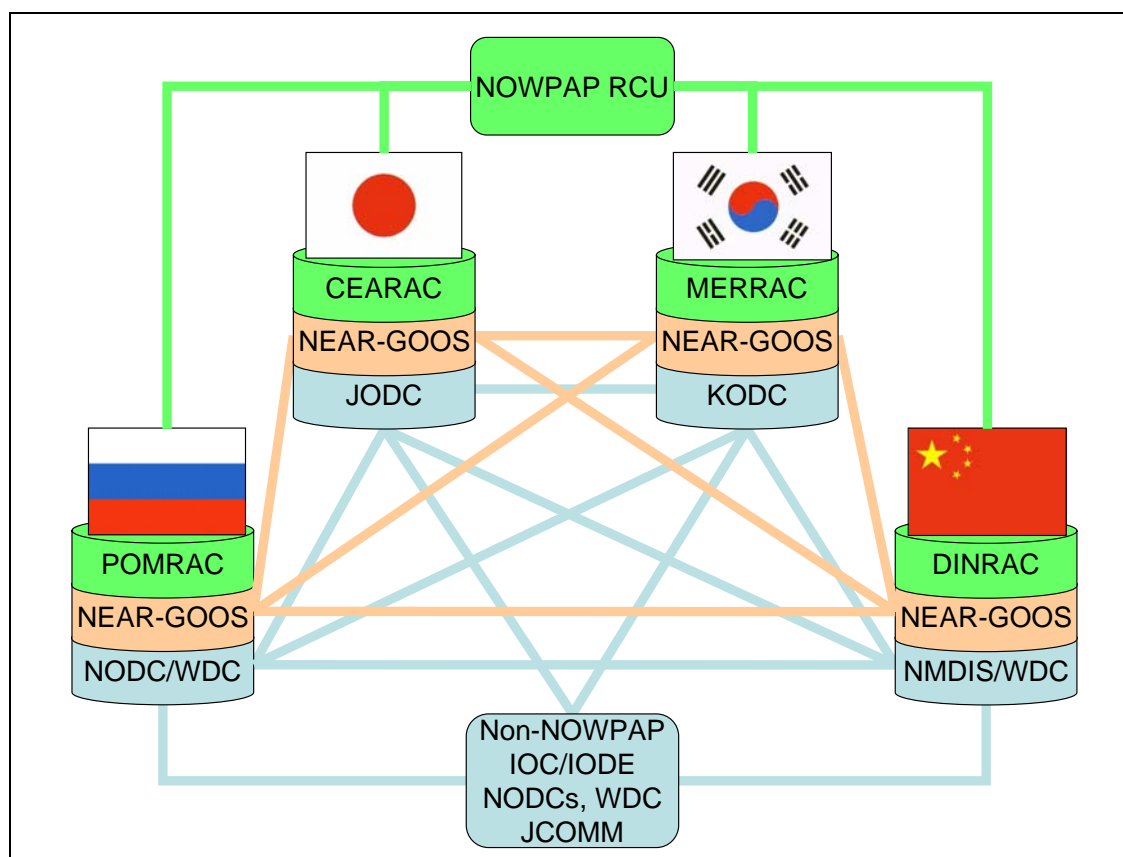


Fig.1: Schematic view of exchange and sharing of marine and coastal environmental data, information and NOWPAP programmes using existing system.

6. References

- Global Ocean Observing System (GOOS), ioc.unesco.org/goos/
- IOC-XXII Adopts new IOC Oceanographic Data Exchange Policy, ioc.unesco.org/iode/contents.php?id=200
- International Oceanographic Data and Information Exchange (IODE), Intergovernmental Oceanographic Commission (IOC), ioc.unesco.org/iode/
- Japan Oceanographic Data Center (JODC), www.jodc.go.jp
- Joint WMO/IOC Commission for Oceanography and Marine Meteorology (JCOMM), www.wmo.ch/web/aom/marprog/
- North-East Asian Regional Global Ocean Observing System (NEAR-GOOS), ioc.unesco.org/goos/NearGOOS/neargoos.htm
- Proposal for NOWPAP/1 Phase II, 1998, UNEP/IOC/NOWPAP WG.12/2/Rev.1.
- WESTPAC, www.jodc.go.jp/project_westpac.html
- World Data Center (WDC), www.ngdc.noaa.gov/wdc/wdcmain.html

Appendix A Status of Data Exchange Policy of IOC

The Second Session of the Intergovernmental Working Group on IOC Oceanographic Data Exchange Policy was held at UNESCO Headquarters, Paris on 17 and 18 June 2002, immediately following the 35th Session of the IOC Executive Council. After short presentations and discussions, the Meeting decided to create a policy statement including a preamble and six clauses:

- Preamble: to outline the fundamental principles;
- Clause 1: statement on exchange related to IOC programmes;
- Clause 2: statement on exchange related to non-IOC programmes;
- Clause 3: statement referring to research and education communities;
- Clause 4: statement on associated rights of the data originators and Member States;
- Clause 5: statement referring to long-term repositories for oceanographic data;
- Clause 6: statement on capacity building.

Finally the Second Session of the Intergovernmental Working Group on IOC Oceanographic Data Exchange Policy agreed on the draft policy.

The above IOC Oceanographic Data Exchange policy has been discussed since 1961 and adopted IOC/IODE-XVII meeting and will be made a decision at 22nd session of IOC assembly. All IOC regional programme such as WESTPAC and NEAR-GOOS and activities of World Data Center (WDC) and National Oceanographic Data Center (NODC) follow the IOC policy.

Appendix B Overview of Existing Oceanographic Data and Information Exchange Systems

B.1 World Data Centers for Oceanography

Scientific data gathering has a long history, but mechanisms for data distribution and exchange are more recent. The first large-scale international scientific enterprises were the International Polar Years of 1882-1883 which eventually led to the International Geophysical Year of 1957-1958. Planning of the IGY was coordinated by CSAGI, the Special Committee for the IGY set up by the International Council for Science. CSAGI established the World Data Center system to serve the IGY, and developed data management plans for each IGY scientific discipline. Because of its success, the WDC system was made permanent and used for post-IGY data.

Over the years the tally of WDCs has changed. A comprehensive set of WDCs was established in China in 1988. The WDC in the U.S.A. has expanded and WDC in Russia is now operated by three different organizations. Some of the WDC centers in Europe and Asia have moved or have closed, but new centers have opened. In 1999, the method of naming WDCs was modified to remove the -A, -B, -C, and -D references. World Data Centers are now referenced by the type of center without reference to the country operating the center, i.e. WDC for Glaciology. If there is more than one WDC for a discipline, the name of the city where the WDC resides is appended, i.e. WDC for Glaciology, Boulder. All centers now have computer facilities and most use electronic networks to meet requests, exchange catalog information and transfer data.

Today the WDC system is healthy and viable. Most centers are maintaining their funding, though not without struggle. Data acquisition, storage and distribution are expensive, WDCs cost money, but they are cost-effective in transferring data to users, and their operational costs represent a tiny fraction of worldwide scientific activity. The ICSU Panel on World Data Centers hopes that this Guide will provide a useful overview of the system.

For NOWPAP Members, there are two WDCs for Oceanography. WDC for Oceanography, Tianjin, China is maintained by State Oceanographic Administration (SOA) collocated with National Oceanographic Data and Information Center and provides many kinds of oceanographic data by magnetic tapes and/or disks.

WDC for Oceanography, Obninsk, Russia is maintained by Federal Service of Russia for Hydrometeorology and Monitoring of the Environment and provides copies of data and information products, information on incoming data; use of library, e-mail, fax and post. Web is available: <http://www.meteo.ru/>.

B.2 National Oceanographic Data Centers in the IOC/IODE System

The IOC was established in UNESCO to increase the knowledge on marine science and marine resources with the aim of promotion of scientific researches through Member States activities. The following recommendations were made at the first General Assembly in 1961 to encourage the system of International Oceanographic Data Exchange (IODE): (i) to promote data exchange in the framework of World Data Center (WDC) system under the guidance of the International Council of Scientific Unions (ICSU); (ii) to promulgate the concept of Declared National Programmes (DNP) and National Oceanographic Data Center (NODC) as national activities being carried out with the intention to exchange the data; (iii) to standardize the format for international exchange of marine scientific data; (iv) to assist the development of NODC.

The IODE system consists of three WDCs Oceanography; in Silver Spring, Maryland, U.S., in Obninsk, Russia, and in Tianjin, China as core of IODE system. National Oceanographic Data and Information Center, Japan Oceanographic Data Center (JODC; www.jodc.go.jp), Korea Oceanographic Data Center (KODC; www.nfrda.re.kr/kodc/index_e.html) and Oceanographic Data Center of All-Russian Research Institute of Hydrometeorological Information (RIHMI-WDC; www.meteo.ru/index_e.html) established as the National Oceanographic Data Centers in China, Japan, Korea and Russia, respectively, in the IODE system. The RIHMI-WDC also has a Regional Oceanographic Data Center (RODC) in Vladivostok, operated by the Far Eastern Regional Hydrometeorological Research Institute (FERHRI).

B.3 WESTPAC (IOC Sub-Commission for the Western Pacific Region)

The WESTPAC programme started in 1979 with 19 Member States as a semi-permanent project for comprehensive marine research in the western Pacific area. The fields of observation and investigation in this project are physical oceanography, biology, geology, geophysics and pollution.

As the Responsible National Oceanographic Data Center (RNODC) for WESTPAC, the JODC assists the development of the programme by publishing "WESTPAC Data Management Guide". In addition JODC holds a training course on oceanographic data management for the staff of the oceanographic data center in the developing countries in the WESTPAC region.

B.4 NEAR-GOOS

As a regional pilot project of the Global Ocean Observing System (GOOS), the North-East Asian Regional GOOS (NEAR-GOOS) is being implemented by China, Japan, Korea and Russia. NEAR-GOOS is intended to provide a regional framework for gathering and distributing oceanographic data in the North-East Asian region (Fig. 1), almost covered in NOWPAP Region, in enabling participating countries to make better use of their investments in ocean observations and research towards the establishment of the Global Ocean Observing

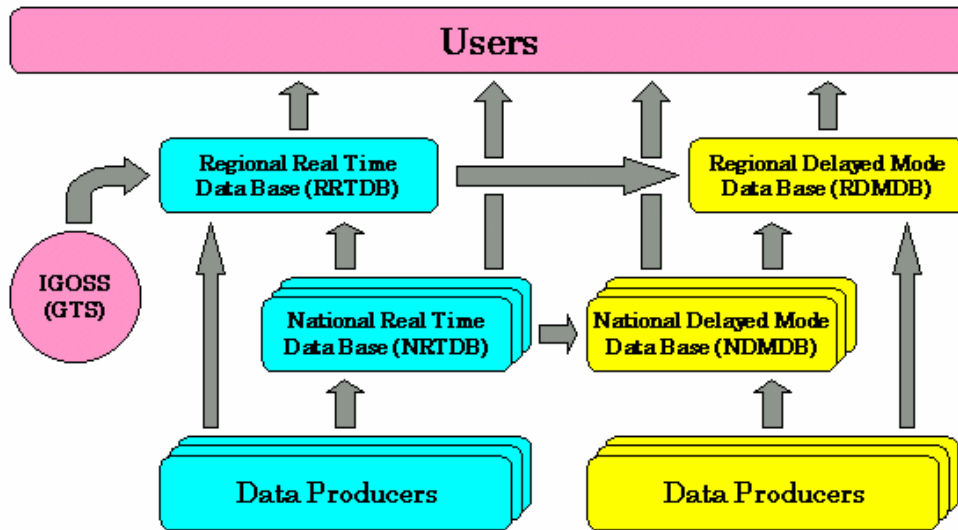
System. Oceanographic data and relevant products generated within NEAR-GOOS system will be open at free cost through electronic communications for various forms of marine uses. The oceanographic/marine meteorological data in the NEAR-GOOS region are maintained at the Regional Delayed Mode Data Base (RDMDB). The Regional Delayed Mode Data Base receives the data from the Regional Real Time Data Base (RRTDB) 30 days after they are collected. The Regional Delayed Mode Data Base also collects the data/products from the National Delayed Mode Data Bases (NDMDB) except those collected through Regional Real Time Data Base (Fig.2). National Data Bases of NEAR-GOOS are shown in Table 1.

Table 1: National Data Bases of NEAR-GOOS.

	Regional Real Time Data Base (RRTDB)	Regional Delayed Mode Data Base (RDMDB)
China	dell1500sc.nmefc.gov.cn	near-goos.coi.gov.cn
Japan	goos.kishou.go.jp	near-goos1.jodc.go.jp
Korea	near-goos.kordi.re.kr	kodis.nfrdi.re.kr/near_goos
Russia	hydromet.com/project/near-goos	www.pacificinfo.ru/en/near-goos



Fig.B1: Map of NEAR-GOOS region and member states.



Data Flow in the NEAR-GOOS Data Exchange System

Fig.B2: Data flow in the NEAR-GOOS Data Exchange System