R N O D C ACTIVITY REPORT

No. 19

March 2008

CONTENTS

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Preface

I would like to have a few words at the release of the last RNODC (Responsible National Oceanographic Data Center) Activity Report.

The first issue of the RNODC Activity Report appeared in 1990. At that time, the JODC (Japan Oceanographic Data Center) operated three RNODCs; WESTPAC, IGOSS and MARPOLMON. It also started to operate RNODC-ADCP since 1991.

In the first issue of the RNODC Activity Report in 1990, Mr. Osamu Yamada, the director at that time, wrote a Preface as follows:

> *"The major problem for the operation of the RNODCs is the lack of input. As you will see, RNODC for WESTPAC is suffering from the lack of information, which should be provided as ROSCOP, not to mention the lack of data. Very little activity of MARPOLMON can be found in RNODC/MARPOLMON. All the input we have got so far is from Japanese community."*

About two decades ago, JODC aimed to encourage Western Pacific nations to provide information by launching this RNODC Activity Report and widely distributing to those regions based on the idea that there was little information provided by those nations to RNODOCs managed by it.

JODC has also conducted various activities to promote exchanges of ocean data information in the Western Pacific region such as dispatch of experts to Malaysia to assist in the creation of the Oceanographic Data Center, holding of ICIWP'99 (International Conference on the International Oceanographic Data and Information Exchange in the Western Pacific, 1999) and promotion of GODAR-WESTPAC (Global Oceanographic Data Archaeology and Rescue project in the Western Pacific region).

Unfortunately, the same problem as two decades ago still remains while information provision to RNODCs managed by JODC has been partially improved.

The system of RNODC was resolved to be abolished in the 18th IODE Conference in 2005. JODC is asked to maintain functions of RNODCs, and RNODCs managed by JODC were formally abolished in 2005. This RNODC Activity Report has become a non-printed material since No. 18 issued in 2007 and we became unable to distribute it to each nation to encourage international exchanges of ocean data information. In fact, this RNODC Activity Report became unable to achieve its original target.

Under the circumstances, we decided to discontinue RNODC Activity Report and make No.19 the last issue.

Though RNODC Activity Report will be discontinued, JODC will succeed partial functions of RNODC and continue to collect information and disclose CSR (Cruise Summary Report) and others on the Web. Continued support of ocean survey organizations in the Western Pacific region will be greatly appreciated.

March, 2008
Satoshi SATO
Director,
Japan Oceanographic Data Center

RNODC's Activities under the Charge of JODC

Since 1974, JODC operated the function of RNODC under the framework of International Oceanographic Data and Information Exchange (IODE). The list of the RNODCs under the charge of JODC is following:

- RNODC for IGOSS (BATHY and TESAC) Established in 1974
- RNODC for IGOSS MAPMOPP Established in 1979
  (Succeeded by RNODC for MARPOLMON)
- RNODC for WESTPAC Established in 1979
- RNODC for MARPOLMON Established in 1987
- RNODC-ADCP Established in 1990

The brief history of RNODCs under the charge of JODC is shown as ANNEX I.

The 18th Session of IOC Committee on International Oceanographic Data and Information Exchange (IODE-XVIII) was held at the Kursaal, Ostend, Belgium between 26th and 30th April 2005.

The IODE Committee, during its 5 day Session, reviewed the work of the past inter-sessional period. Considerable attention was given to the IODE Review that had taken place during the inter-sessional period. The Committee reviewed all recommendations by the Review Team and made several fundamental and structural change decisions in response to the Review. These included the re-composition of the IODE Officers, the abolishment of the system of RNODCs and IODE Regional Co-ordinator systems. (Resolution IODE-XVIII.1 and Resolution IODE-XVIII.2 are shown as ANNEX II)

The Committee decided to abolish the system of RNODCs. However, to ensure that the resources and expertise acquired in the regional RNODCs will not be lost, the Committee instructed the ODIN projects to incorporate the resources of existing regional RNODCs. Similarly, the Committee instructed the Chair to discuss with host centres of other RNODCs how their operations, if considered essential for the international (science) community, could be maintained and properly acknowledged.

IODE officers, at their February 2006 meeting, requested the former RNODCs to incorporate these, as relevant, in the terms of reference of the relevant ODINs. The officers also requested the centres that hosted the former RNODCs for drifting buoys (Canada), IGOSS (Japan, USA and Russia), MARPOLMON (Japan, USA and Russia) and ADCP (Japan) to continue their work until the next Session of IODE.

The 19th session of IOC Committee on IODE was held at Trieste, Italy, 12th – 16th March 2007. A Pilot Project for the Ocean Data and Information Network for the Western Pacific Region (ODINWESTPAC-PP) was established (Recommendation IODE-XIX.9). It aims to prepare a formal proposal to establish an Ocean Data and Information Network for the WESTPAC region (ODINWESTPAC). The proposal will be submitted to the 7th Session of the IOC Regional Sub-Commission for the Western Pacific for its approval.

IODE officers held their meeting at Ostend, Belgium, 27th – 30th November 2007. It had been recommended that the functions of RNODCs dealing with regions (e.g. the RNODC for the WESTPAC region) would be taken over by ODIN arrangements.

1. RNODC-WESTPAC

1.1. Status of CSR and Data Management

The major activities of JODC are the collection and archiving of CSR (Cruise Summary Report of IODE, ROSCOP's third edition), and data from the beginning of the WESTPAC program in 1979.

The geographic scope of the WESTPAC region is shown in Fig. 1.

The terms of reference for RNODC-WESTPAC are shown in ANNEX III.

The CSRs received by JODC in 2007 are shown in Table 1.

Number of Archived Data in the WEATPAC region is shown in Table 2.

The WESTPAC region was referred as from 100 to 180 degree of longitude for the North Hemisphere and the area enclosed by from 110 to 230 degree of longitude and from 0 to 30 degree of latitude in the South Hemisphere, here.

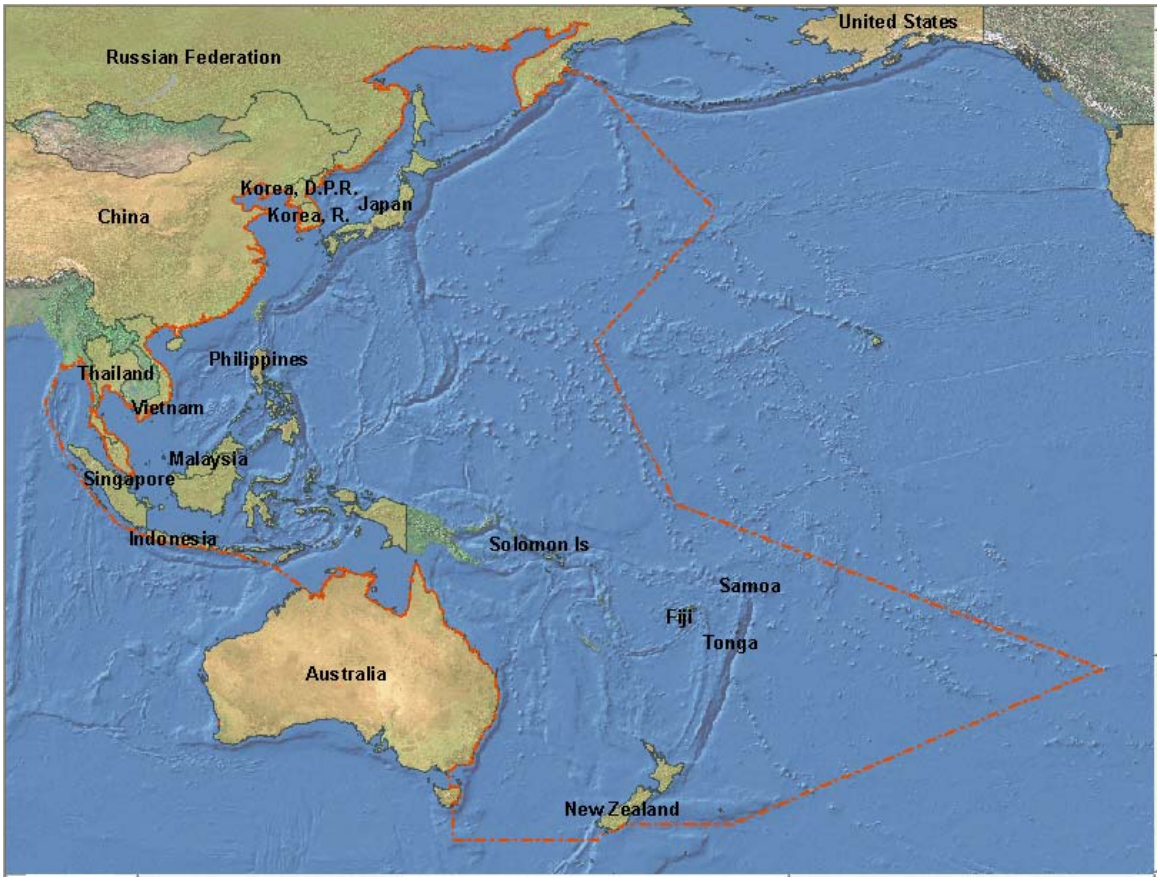

Fig. 1 the Geographic Scope of the WESTPAC Region

Table 1 Inventory of CSR Received by JODC in 2007

AGENCY	SHIP	AREA	PERIOD	DATA
JMA	RYOFU MARU	North Pacific Ocean	2002/04/24 - 2002/05/29	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2002/10/01 - 2002/11/27	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2003/01/24 - 2003/02/24	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean	2003/04/16 - 2003/05/22	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2003/06/20 - 2003/08/11	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2003/10/07 - 2003/11/07	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2004/01/14 - 2004/03/09	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean	2004/04/13 - 2004/05/16	B,D,G, H,M,P
ORI, UT	TANSEI MARU	Northwest Pacific Ocean	2004/04/29 - 2004/05/05	
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2004/06/08 - 2004/07/21	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2004/10/21 - 2004/11/19	B,D,G, H,M,P
ORI, UT	HAKUHO MARU	North Pacific Ocean	2004/11/29 - 2005/03/22	D,H,M
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2005/01/14 - 2005/03/10	B,D,G, H,M,P
GSES, Nagoya U.	TANSEI MARU	Northwest Pacific Ocean	2005/03/05 - 2005/03/11	B,D, H,P
ORI, UT	TANSEI MARU	North Pacific Ocean	2005/03/14 - 2005/03/19	
ORI, UT	TANSEI MARU	North Pacific Ocean	2005/03/22 - 2005/03/31	
ORI, UT	TANSEI MARU	North Pacific Ocean	2005/04/11 - 2005/04/19	G,H
JMA	RYOFU MARU	North Pacific Ocean	2005/04/22 - 2005/05/20	B,D, H,M,P
ORI, UT	TANSEI MARU	Japan Sea	2005/05/16 - 2007/05/26	
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2005/06/15 - 2005/07/28	B,D,G, H,M,P
HOD, JCG	TENYO	North Pacific Ocean	2005/09/23 - 2005/09/29	D
ORI, UT	TANSEI MARU	East China Sea	2005/09/28 - 2005/10/06	B,H
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2005/10/13 - 2005/11/16	B,D, H,M,P
ORI, UT	TANSEI MARU	East China Sea, Philippine Sea	2005/10/17 - 2005/10/26	
ORI, UT	TANSEI MARU	Northwest Pacific Ocean	2005/11/21 - 2005/11/27	
ADE	Shiranami	Philippine Sea	2006/01/01 - 2006/01/01	B,H,P
HOD, JCG	TENYO	North Pacific Ocean	2006/01/13 - 2006/01/19	D,H
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2006/01/13 - 2006/03/07	B,D,G, H,M,P
HOD, JCG	TENYO	North Pacific Ocean	2006/02/25 - 2006/03/03	D,H
ORI, UT	TANSEI MARU	North Pacific Ocean	2006/03/17 - 2006/03/24	
ORI, UT	TANSEI MARU	Philippine Sea	2006/04/11 - 2006/04/22	G
HOD, JCG	TENYO	North Pacific Ocean	2006/04/18 - 2006/04/24	D,H
JMA	RYOFU MARU	North Pacific Ocean	2006/04/19 - 2006/05/10	B,D, H,M,P

AGENCY	SHIP	AREA	PERIOD	DATA
ORI, UT	TANSEI MARU	Northwest Pacific Ocean	2006/04/25 - 2006/04/29	G,H
ORI, UT	TANSEI MARU	Pacific Ocean	2006/05/15 - 2006/05/18	B,H
ADE	Shiranami	Philippine Sea	2006/05/22 - 2006/05/23	B,H,P
ADE	Kaiko-maru	Philippine Sea	2006/05/22 - 2006/05/23	B,H,P
ORI, UT	TANSEI MARU	North Pacific Ocean	2006/06/02 - 2006/06/13	B,D, G,H
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2006/06/07 - 2006/08/04	B,D,G, H,M,P
ORI, UT	TANSEI MARU	Western Pacific Ocean	2006/06/23 - 2006/06/27	
ORI, UT	HAKUHO MARU	North Pacific Ocean	2006/06/26 - 2006/07/12	B,H
ADE	Kaiko-maru	Philippine Sea	2006/07/18 - 2006/07/19	B,H,P
ADE	Shiranami	Philippine Sea	2006/07/18 - 2006/07/19	B,H,P
HOD, JCG	MEIYO	North Pacific Ocean	2006/07/18 - 2006/07/25	G,H
YNCMT	YUGE MARU	Seto Inland Sea	2006/07/25 - 2006/07/29	G
YNCMT	YUGE MARU	Seto Inland Sea	2006/08/01 - 2006/08/03	G
HOD, JCG	TENYO	North Pacific Ocean	2006/08/16 - 2006/08/23	D,H
ORI, UT	TANSEI MARU	East China Sea, Philippine Sea	2006/09/09 - 2006/09/16	B
ORI, UT	HAKUHO MARU	Northwest Pacific Ocean	2006/09/14 - 2006/10/23	G
ORI, UT	TANSEI MARU	North Pacific Ocean	2006/09/18 - 2006/09/25	D,H
ADE	Shiranami	Philippine Sea	2006/09/25 - 2006/09/25	P
HOD, JCG	KAIYO	Japan Sea	2006/10/04 - 2006/10/18	G,H
MMO, JMA	SEIFU MARU	Japan Sea	2006/10/04 - 2006/11/18	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2006/10/11 - 2006/11/09	B,D, H,M,P
ADE	Kaiko-maru	Philippine Sea	2006/10/16 - 2006/10/17	B,H,P
ADE	Shiranami	Philippine Sea	2006/10/16 - 2006/10/17	B,H,P
HMO, JMA	KOFU MARU	North Pacific Ocean	2006/10/19 - 2006/11/30	B,D,G, H,M,P
HOD, JCG	KAIYO	North Pacific Ocean, Japan Sea	2006/10/29 - 2006/11/11	D,H
HOD, JCG	TENYO	North Pacific Ocean, Seto Inland Sea	2006/11/20 - 2006/12/05	G,H,P
ORI, UT	TANSEI MARU	North Pacific Ocean	2006/11/30 - 2006/12/04	
HOD, JCG	KAIYO	North Pacific Ocean	2006/12/01 - 2006/12/23	G,H
KMO, JMA	KEIFU MARU	North Pacific Ocean, Philippine Sea	2006/12/05 - 2006/12/14	D,G, H,M
HOD, JCG	TENYO	North Pacific Ocean	2006/12/19 - 2006/12/23	D
KMO, JMA	KEIFU MARU	North Pacific Ocean	2007/01/17 - 2007/03/06	B,D,G, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2007/01/18 - 2007/03/12	B,D,G, H,M,P
ADE	Kaiko-maru	Philippine Sea	2007/01/22 - 2007/01/23	B,H,P
ADE	Shiranami	Philippine Sea	2007/01/22 - 2007/01/23	B,H,P
MMO, JMA	SEIFU MARU	Japan Sea	2007/01/23 - 2007/02/25	B,D,G, H,M,P
HMO, JMA	KOFU MARU	North Pacific Ocean	2007/01/25 - 2007/03/04	D,G, H,M,P
ORI, UT	TANSEI MARU	East China Sea, Philippine Sea	2007/02/28 - 2007/03/06	G,H
OPMSHS	SHIN OITA MARU	North Pacific Ocean, Philippine Sea	2007/04/17 - 2007/11/19	

AGENCY	SHIP	AREA	PERIOD	DATA
JMA	RYOFU MARU	North Pacific Ocean	2007/04/19 - 2007/05/17	B,D, H,M,P
KMO, JMA	KEIFU MARU	North Pacific Ocean	2007/04/24 - 2007/05/25	B,D,G, H,M,P
HMO, JMA	KOFU MARU	North Pacific Ocean	2007/04/27 - 2007/05/31	B,D,G, H,M,P
HOD, JCG	KAIYO	Philippine Sea	2007/05/02 - 2007/05/17	G,H
ORI, UT	HAKUHO MARU	Northwest Pacific Ocean	2007/05/09 - 2007/06/08	B,D, H,M,P
JMA	RYOFU MARU	North Pacific Ocean, Philippine Sea	2007/06/06 - 2007/08/08	B,D,G, H,M,P
ORI, UT	TANSEI MARU	Northwest Pacific Ocean	2007/06/19 - 2007/06/26	B,G,H
HOD, JCG	KAIYO	North Pacific Ocean, Japan Sea, Sea of Okhotsk	2007/06/21 - 2007/07/13	G,H
HMO, JMA	KOFU MARU	North Pacific Ocean	2007/06/21 - 2007/08/09	B,D,G, H,M,P
ORI, UT	TANSEI MARU	Northwest Pacific Ocean	2007/06/28 - 2007/07/03	B,H,P
HOD, JCG	MEIYO	North Pacific Ocean	2007/06/29 - 2007/07/06	G,H
KMO, JMA	KEIFU MARU	North Pacific Ocean	2007/07/03 - 2007/08/10	B,D,G, H,M,P
HOD, JCG	MEIYO	North Pacific Ocean	2007/07/12 - 2007/07/26	G,H
HOD, JCG	KAIYO	Philippine Sea	2007/08/19 - 2007/08/31	G,H
ORI, UT	TANSEI MARU	East China Sea, Philippine Sea	2007/08/29 - 2007/09/03	G,H
HOD, JCG	MEIYO	North Pacific Ocean	2007/09/12 - 2007/09/26	G,H
ORI, UT	TANSEI MARU	Japan Sea	2007/09/25 - 2007/10/04	
ORI, UT	TANSEI MARU	North Pacific Ocean	2007/10/12 - 2007/10/18	D,H
ORI, UT	TANSEI MARU	Northwest Pacific Ocean	2007/10/21 - 2007/10/25	B,G, H,P
ORI, UT	TANSEI MARU	Northwest Pacific Ocean	2007/11/05 - 2007/11/11	B

Data Type Code

B: Biology & Fisheries
D: Physical Oceanography (Current)
G: Geology & Geophysics
H: Physical (Salinity & Temperature) & Chemical Oceanography
M: Meteorology
P: Contamination

Abbreviations of Agencies

Japan

JMA	Japan Meteorological Agency
HMO, JMA	Hakodate Marine Observatory, Japan Meteorological Agency
KMO, JMA	Kobe Marine Observatory, Japan Meteorological Agency
MMO, JMA	Maizuru Marine Observatory, Japan Meteorological Agency
HOD, JCG	Hydrographic and Oceanographic Department, Japan Coast Guard
ADE	Aichi Prefecture (Department of the Environment)
ORI, UT	Ocean Research Institute, University of Tokyo
GSES, Nagoya U.	Graduate School of Environmental Studies, Nagoya University
YNCMT	Yuge National College of Maritime Technology
OPMSHS	Oita Prefectural Marine Science High school

Table 2 Number of Archived Data in the WESTPAC Region

YEAR	SD	STD	CTD	XCTD	XBT	DBT	AXBT	BT	GEK	DRIFT	ADCP	Unknown
1979	7,105	47	2,829	0	9,667	672	0	18,215	5,247	118	0	12,370
1980	7,555	251	3,037	0	13,107	2,293	0	17,434	6,215	186	0	12,666
1981	5,557	120	3,608	0	10,628	2,345	1,231	16,897	5,982	215	0	12,825
1982	6,205	39	3,055	0	12,314	2,870	509	15,179	6,035	52	0	12,761
1983	6,360	23	4,188	0	13,024	3,068	824	13,615	6,016	109	0	12,386
1984	5,495	3	4,729	0	11,736	3,856	860	16,331	7,039	68	0	12,776
1985	5,963	134	7,091	0	15,282	3,510	1,073	15,714	5,426	85	3,386	12,346
1986	9,266	269	7,025	0	17,437	2,365	1,517	12,964	5,793	29	2,994	9,822
1987	11,580	231	11,063	0	18,645	1,700	1,272	14,101	4,971	4	4,483	6,664
1988	12,592	29	12,688	0	19,881	1,045	1,197	11,118	2,811	248	13,359	5,736
1989	10,180	73	12,335	0	18,891	475	1,323	7,977	1,626	314	59,587	4,744
1990	10,944	366	14,377	0	26,252	1,314	1,291	6,409	871	311	73,460	4,554
1991	7,978	0	16,877	0	24,252	1,405	1,509	1,871	841	348	50,362	3,564
1992	6,495	66	18,797	0	21,521	18	1,199	1,158	216	227	91,934	3,516
1993	5,829	2	17,301	5	27,504	1,313	1,160	1,420	152	20	92,541	3,148
1994	3,317	129	4,971	0	20,141	108	0	7,763	320	0	24,123	0
1995	3,293	0	5,270	41	34,989	115	1,002	659	97	0	284,706	0
1996	2,692	0	4,485	5	25,097	208	939	344	61	0	790,425	0
1997	1,539	0	4,725	20	19,947	242	918	91	73	0	608,342	0
1998	1,402	0	5,828	30	18,702	178	934	101	146	0	535,456	0
1999	1,545	0	6,951	84	21,928	208	1,017	56	0	0	497,053	0
2000	1,298	0	6,817	71	17,474	155	875	72	313	0	238,141	0
2001	974	0	5,815	165	15,252	180	1,898	7	316	0	142,206	0
2002	784	0	3,599	308	11,665	76	1,133	33	443	0	78,854	0
2003	784	0	3,245	110	12,156	29	1,016	0	884	0	350,031	0
2004	875	0	3,183	209	5,643	27	0	0	0	0	239,276	0
2005	788	0	0	19	609	4	0	0	0	0	4,818	0
2006	0	0	0	20	192	0	0	0	0	0	950	0
2007	0	0	0	0	0	0	0	0	0	0	2	0
Total	**138,395**	**1,782**	**198,771**	**1,087**	**463,936**	**29,779**	**24,697**	**179,529**	**61,894**	**2,334**	**4,186,489**	**129,878**

Data Items

SD: Serial station Data
STD: Salinity, Temperature, Depth profiler
CTD: Conductivity, Temperature, Depth profiler
XCTD: eXpendable Conductivity, Temperature, Depth profiler
XBT: eXpendable BathyThermograph
DBT: Digital memorial BathyThermograph
AXBT: Airborne eXpendable BathyThermograph
BT: BathyThermograph
GEK: Geomagnetic ElectroKinetograph
DRIFT: ship DRIFT
ADCP: Acoustic Doppler Current Profiler

1.2. NEAR-GOOS RDMDB

The NEAR-GOOS (North-East Asia Regional – Global Ocean Observing System) has been implemented as regional GOOS by Russia, China, Korea and Japan. The NEAR-GOOS RDMDB (Regional Delayed Mode Data Base) undertakes the final management of the oceanographic and marine meteorological data of the NEAR-GOOS.

The JODC has managed and operated the RDMDB based on the Recommendation of the 1st NEAR-GOOS Coordinating Committee held in 1996. The RDMDB started to operate as a DMDB in October 1996 and was given the status of the RDMDB by the Recommendation of the 3rd Coordinating Committee in August 1998, and at the same time the registration application procedure was abolished to activate its use. In addition, the provision of data to the anonymous users using guest account became possible based on the approval of the 7th NEAR-GOOS Coordinating Committee in October 2002. Incidentally, the user name of guest account is *guest@onetime*.

In the current system, each country's NRTDB (National Real Time Data Base) is supposed to collect data and send them to its own country's NDMDB (National Delayed Mode Data Base) and the RRTDB (Regional Real Time Data Base) operated by the Japan Meteorological Agency. The NDMDB independently collects the delayed mode data other than the data received from the NRTDB. The RDMDB receives the data collected by each country's NRTDB via the RRTDB and collects the delayed mode data from other sources to provide data for the users with monthly update.

At first, the data to be registered in the DMDB were only 6 items, which were collected by the RTDB via the GTS. With the items added every year, the data to be registered in the RDMDB today are up to 40 items. Below is the main part of the data items:

- Oceanographic data obtained by the Meteorological Agency via the GTS
  (BATHY, BUOY, SHIP, TESAC, TRACKOB)
- Data converted into unified format by RRTDB
  (Water Temperature, Salinity, Wind)
- Average water temperature data developed by the Meteorological Agency
  (Serial Station, Sea Surface)
- Tide data with 30-second interval by the Japan Coast Guard
- Water temperature data provided by the Russia Far Eastern Regional Hydrometeorological Research Institute
- Water temperature data provided by the Japan Fisheries Information Service Center (JAFIC)
- Water temperature data provided by the Ocean Research Institute of the University of Tokyo
- XBT observation data provided by the Tohoku University
- Wave observation data provided by the Port and Airport Research Institute
- Quality controlled data by the Canada Marine Environmental Data Service (MEDS)
  (Water Temperature, Salinity)

The data registered in the RDMDB can be obtained through the Internet. The RDMDB data provision system displays a list of data by item and by period so that data can easily be obtained only by selecting the item on the screen. The URL of the RDMDB data provision system is given below.

http://near-goos1.jodc.go.jp/index.html

Archived data type and volume of NEAR-GOOS RDMDB is shown in Table 3.

Table 3 Data Type and Volume of NEAR-GOOS RDMDB

TYPE OF DATA	DESCRIPTION OF DATA	PERIOD	VOLUME (MB)
BATHY	Regional Datasets of BATHY Report	Jun,1996 -	15.1
BATHY_G	Global Datasets of BATHY Report	Apr,2000 -	111.0
BUOY	Regional Datasets of BUOY Report	Jun,1996 -	404.3
BUOY_G	Global Datasets of BUOY Report	Apr,2000 -	6,245.5
SHIP	Regional Datasets of SHIP Report	Jun,1996 -	199.7
SHIP_G	Global Datasets of SHIP Report	Apr,2000 -	2,793.7
TESAC	Regional Datasets of TESAC Report	Sep,1998 -	64.6
TESAC_G	Global Datasets of TESAC Report	Jan,1996 -	773.0
TRACKOB	Regional Datasets of TRACKOB Report	Jun,1996 -	1.0
TRACKOB_G	Global Datasets of TRACKOB Report	Apr,2000 -	39.7
SUBST	Subsurface Temperature Decode Result	Jun,1997 -	982.8
SUBST_ERROR	Subsurface Temperature Decode Error Report	Jun,1997 -	5.8
TS	Temperature and Salinity Decode Result	Jul,2001 -	1,086.6
GLBTS	Global Temperature and Salinity Decode Result	Aug,2001 -	14,717.6
WIND	Wind Data Decode Result	Jan,1998 -	155.9
WIND_ERROR	Wind Data Decode Error Report	Jan,1998 -	1.4
WIND2	Wind Data (Format Ver.2.0)	Jul,2001 -	130.6
GLBWIND	Global Wind Data Decode Result	Aug,2001 -	2,239.9
SSTANL	Gridded Daily Sea Surface Temperature Data in the Northwest Pacific	Jun,1996 - May,2000	100.3
DAILYSST (JMA)	Daily Sea Surface Temperature Data Analysis	Apr,2000 -	250.5
WNPSST (JMA)	10-day Mean Sea Surface Temperature in the Northwest Pacific	Apr,2000 -	6.2
WNPSSTNORM (JMA)	Normals and Standard deviations of WNPSST	Jan,2000 - Dec,2000	1.0
GLBSST (JMA)	Global Monthly Mean Sea Surface Temperature	Apr,2000 -	5.5
ADJSUBS (JMA)	Monthly Mean Subsurface Temperature in Seas Around Japan (100m,200m,400m)	Mar,2000 -	19.7

TYPE OF DATA	DESCRIPTION OF DATA	PERIOD	VOLUME (MB)
PACSUBS (JMA)	Monthly Mean Subsurface Temperature in Pacific (100m,200m,400m)	Mar,2000 -	32.8
ASMDAY (JMA)	Daily subsurface temperature around Japan (100m, 200m, 400m)	Nov,2005 -	141.6
SSDH (JMA)	Analyzed Sea Surface Dynamic Height in the Pacific	Jan,2003 -	231.6
SSHA (JMA)	Analyzed Sea Surface Height Anomalies in the Pacific	Jan,2003 -	231.6
COBESST (JMA)	Monthly mean sea surface temperatures for 1 each degree squares over the global ocean	Jan,1996 -	27.8
COBESSTNORM (JMA)	Normals and Standard Deviations of COBESST	Jan,2000 - Dec,2000	4.7
SEA_ICE	Sea Ice Concentration in the Northeast Asia marginal Seas	Dec,2003 -	867.2
MGDSST	Merged satellite and in-situ data Global Daily Sea Surface Temperature	Apr,2004 -	4,162.8
GTSPP	GTSPP Quality Controlled Subsurface Temperature and Salinity Data Provided by MEDS	Jan,2003 -	405.8
FERHRI ship	Marine Meteorological Onboard Observation Data by FERHRI, Russia	Sep,1997 -	3.9
FERHRI station	Marine Meteorological Observation Data at the Station by FERHRI, Russia	Apr,2002 -	0.2
JAFIC	Sea Surface / Subsurface Temperature Data from Japan Fisheries Information Service Center	Jul,1998 -	58.9
PALACE	Subsurface Temperature Profile Data Observed by PALACE Float of Ocean Research Institute, University of Tokyo	Aug,1998 - Nov,2000	0.1
TOHOKU Univ.	XBT Data Observed by Tohoku University	Nov,1999 - Sep,2000	0.1
NOWPHAS	Japanese Nationwide Coastal Wave Data by Port and Airport Research Institute	Jan,2001 - Dec,2004	78.5
30s_TIDEST	30-sec. Interval Sea Tide Data at Tidal Stations of Japan Coast Guard	Jan,1999 -	8,164.6
Total			**44,763.5**

2. RNODC-IGOSS (BATHY and TESAC)

Four IGOSS RNODCs were established in 1974 at U.S.A., U.S.S.R., France and Japan, prior to establishment of other RNODCs.

JODC has been acting as RNODC for IGOSS since September 1979 with the U.S.A. and Russia.

The terms of reference for RNODC-IGOSS (BATHY and TESAC) are shown in ANNEX IV.

KODC has regularly submitted the log form of IGOSS BATHY/TESAC, totally 292 sheets of the log sheets were submitted by KODC in 2007. Data Holding Status is shown in Table 4 and Station Plots are shown in Fig. 2-1 and Fig. 2-2.

Table 4 Data Holding Status of IGOSS BATHY/TESAC

YEAR	BATHY	TESAC
1982	22,667	710
1983	25,478	5,443
1984	22,980	7,068
1985	26,079	5,784
1986	31,044	5,640
1987	40,301	6,580
1988	32,345	5,074
1989	27,933	4,996
1990	30,027	4,947
1991	22,731	2,137
1992	34,071	1,303
1993	35,058	2,153
1994	32,721	2,619
1995	33,908	2,207
1996	34,722	2,226
1997	37,993	1,430
1998	20,772	4,872
1999	19,701	9,913
2000	33,090	9,041
2001	30,026	24,834
2002	29,392	29,119
2003	32,172	60,460
2004	37,349	162,830
2005	34,838	248,751
2006	30,454	358,909
2007	26,360	778,148

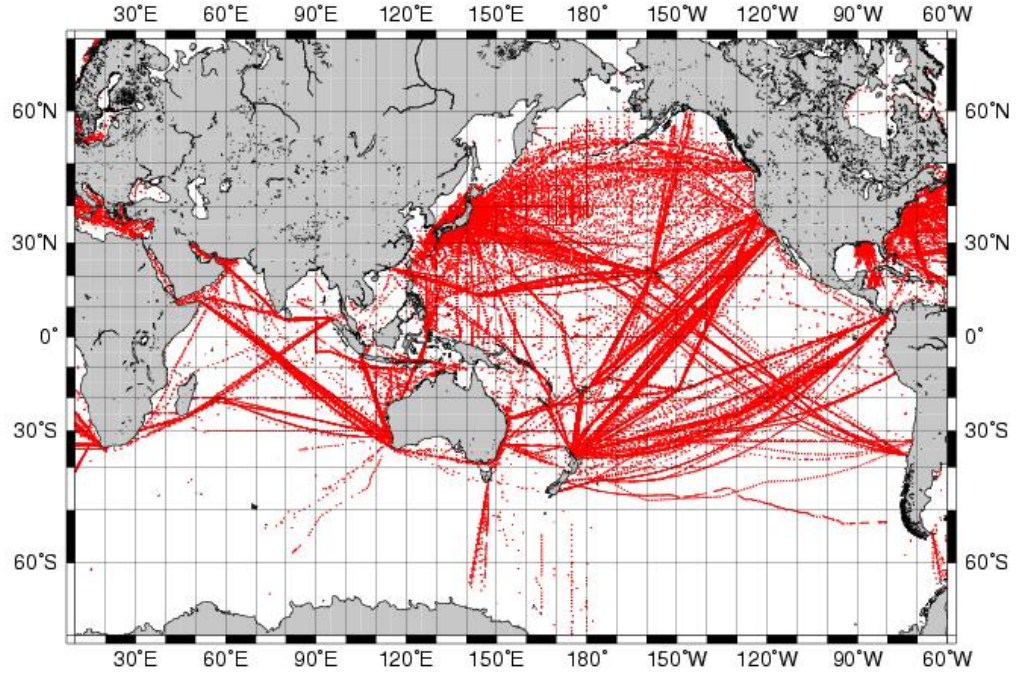

Fig. 2-1 Station Plots for BATHY

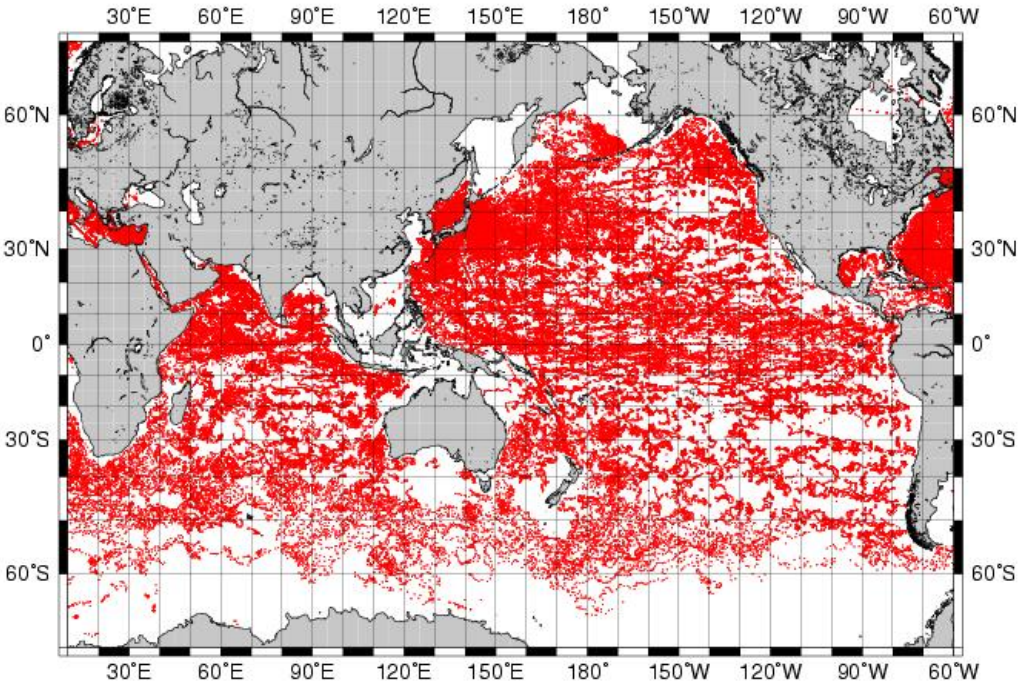

Fig. 2-2 Station Plots for TESAC

3. RNODC-MARPOLMON

In response to a recommendation by the United Nations Conference on the Human Environment (Stockholm, 1972), the IOC and WMO agreed to jointly undertake the design, planning, and development of a marine pollution-monitoring program.

As an initial step in this direction, a Pilot Project on Marine Pollution (Petroleum) Monitoring (MAPMOPP) was launched in 1975 within the framework of the Integrated Global Ocean Station System (IGOSS) and was aimed at monitoring petroleum-derived oils.

Bearing in mind the recommendations of the IOC Scientific Committee for the Global Investigation of Pollution in the Marine Environment adopted at its Sixth Session (Paris, 25 September - 1 October 1986) on the regional relevance to marine pollution management activities, RNODC for MARPOLMON have been established in Japan for the WESTPAC region, in the USA for the Caribbean region, and in the Russian Federation for the Atlantic, Mediterranean and Baltic Seas.

The terms of reference for RNODC-MARPOLMON are shown in ANNEX V.

The major activities of the JODC are the collection and management of four types of data: oil slicks, tar-ball, beach tar, and hydrocarbon, since 1975. Station Plots are shown in Fig. 3 and Data holding status is shown in Table 5.

With regard to other type of Marine Pollution data, the present holding status of these data in JODC is introduced in Table 6, and the Station Plots of the cadmium, lead and polychlorinated biphenyls data are indicated as Fig. 4-1, Fig. 4-2 and Fig. 4-3, respectively.

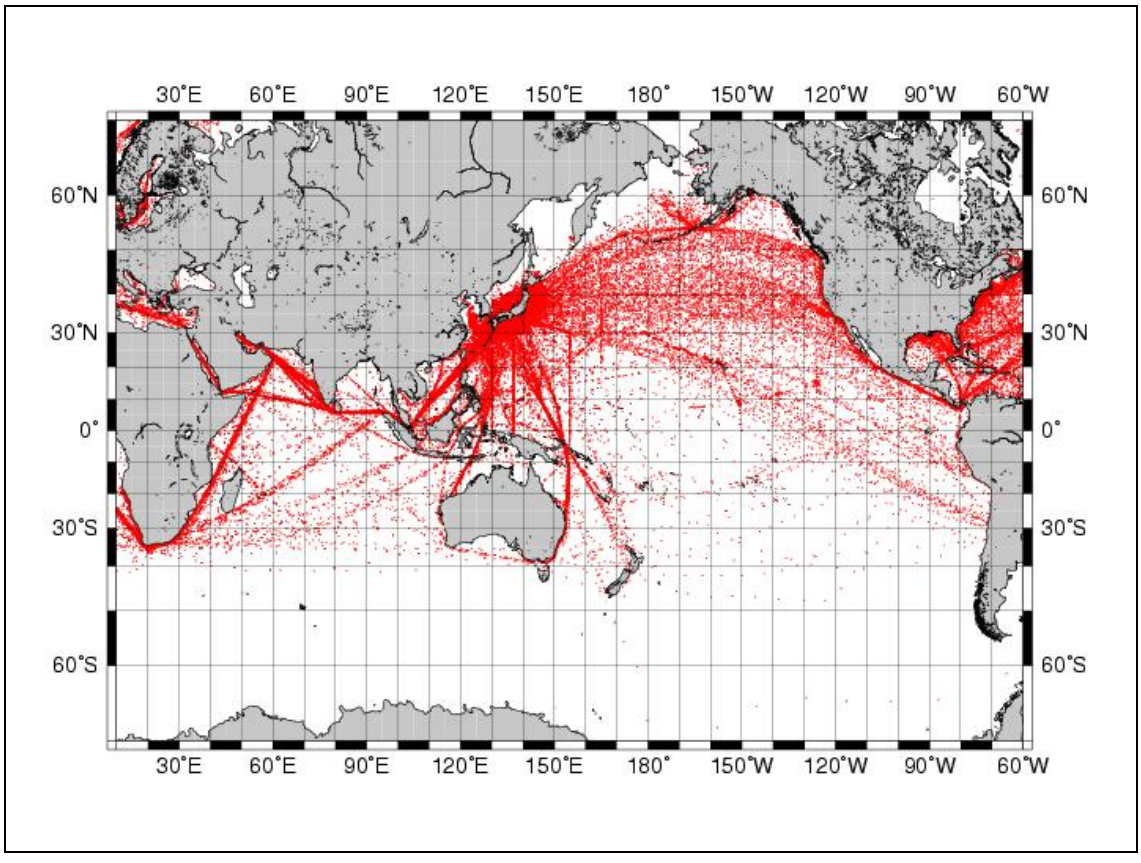

Fig. 3 Station Plots for Oil Slick

Table 5 Number of Archived Data for MARPOLMON

YEAR	BEACH TAR	TAR BALL	HYDRO CARBON	OIL SLICK
1973	0	341	0	0
1974	0	229	10	1,493
1975	404	1,059	604	16,712
1976	799	1,096	722	16,236
1977	740	738	877	19,683
1978	665	606	482	22,580
1979	676	384	387	14,699
1980	581	504	423	5,988
1981	570	501	362	3,948
1982	588	459	334	1,122
1983	560	585	329	583
1984	588	417	98	277
1985	582	449	239	382
1986	624	536	81	865
1987	638	598	62	1,015
1988	653	495	65	1,492
1989	679	564	68	1,948
1990	650	527	65	1,674
1991	647	467	60	1,286
1992	634	441	61	1,215
1993	618	420	60	991
1994	588	346	52	1,221
1995	583	324	53	1,517
1996	0	119	71	1,413
1997	0	110	86	1,783
1998	0	90	26	2,152
1999	10	95	66	1
2000	544	231	67	0
2001	538	207	40	0
2002	474	169	71	0
2003	469	164	55	0
2004	460	115	70	0
2005	409	128	69	0
2006	407	018	0	0
2007	0	0	0	0
Total	**16,378**	**13,532**	**6,115**	**122,276**

Table 6 Number of Data Related Marine Pollution

DATA TYPE	NUMBER	DATA TYPE	NUMBER
COD	1,922	PCB	1,603
NH4-N	3,969	As	1,127
Chlorophyll-a	98,845	Pb	1,125
Phaeophytin	19,941	Hg	1,866
TOC	1,126	Total-Hg	2,078
HC	2,054	Cd	3,740

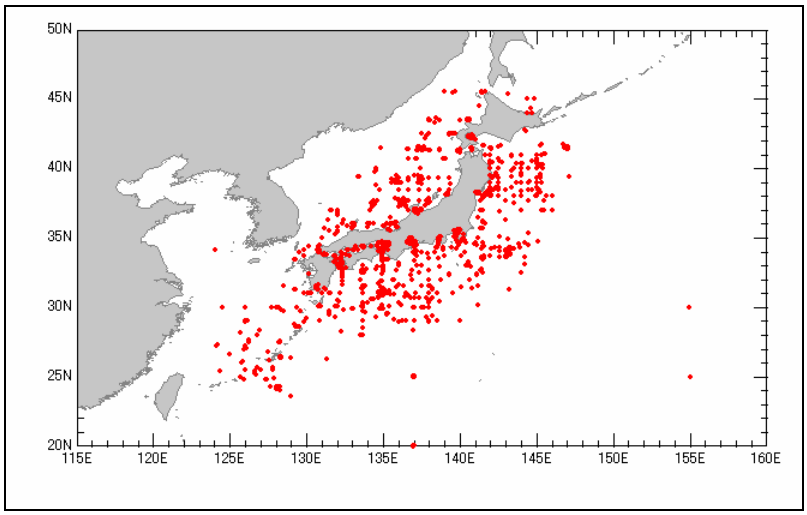

Fig. 4-1 Station Plots for Cd Data in the Northwest Pacific Ocean

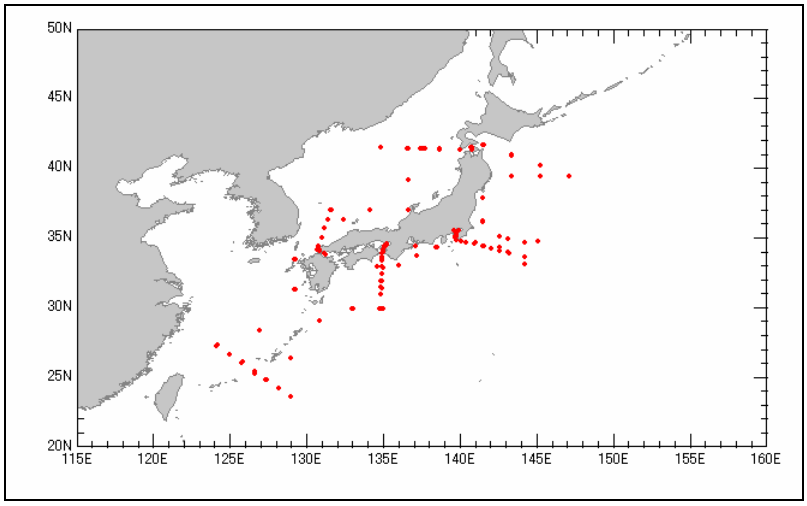

Fig. 4-2 Station Plots for Pb Data in the Northwest Pacific Ocean

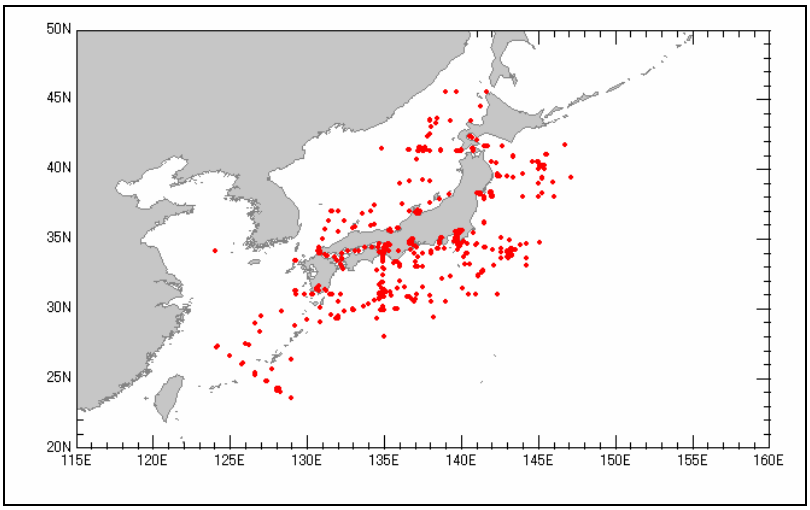

Fig. 4-3 Station Plots for PCB Data in the Northwest Pacific Ocean

4. RNODC-ADCP

The JODC has been RNODC-ADCP since 1990.
The terms of reference for RNODC-ADCP are shown in ANNEX VI.

The major activities of the JODC are the collection and archiving of data. Data holding status is shown in Table 7 and Station Plots are shown in Fig. 5-1 and Fig. 5-2.

Table 7 Number of Archived Data for ADCP

YEAR	NUMBER	YEAR	NUMBER
1985	3,545	1997	637,505
1986	2,994	1998	555,351
1987	4,932	1999	521,900
1988	13,553	2000	257,009
1989	66,249	2001	162,171
1990	77,474	2002	97,024
1991	63,034	2003	371,048
1992	110,666	2004	258,654
1993	125,761	2005	20,488
1994	58,470	2006	10,333
1995	318,597	2007	1,828
1996	805,561	2008	0
TOTAL			**4,544,147**

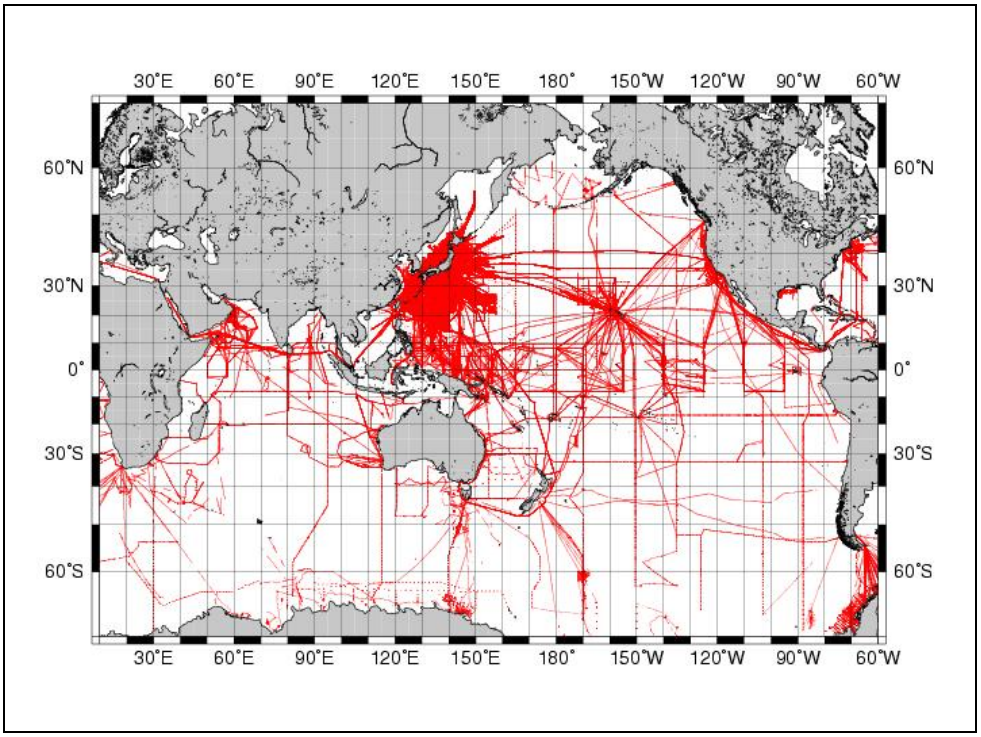

Fig. 5-1 Station Plots for ADCP Data in the Indian Ocean and the Pacific Ocean

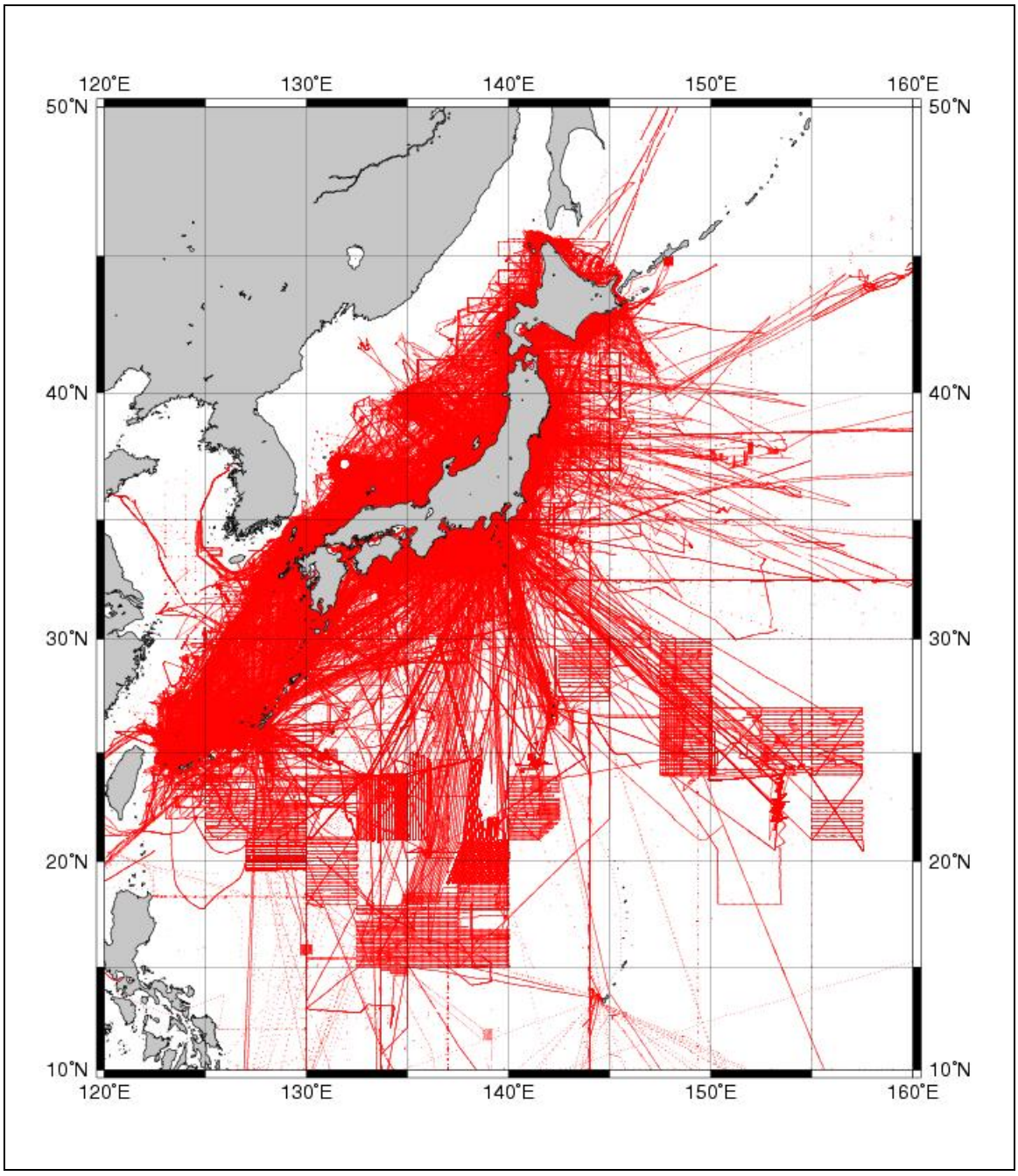

Fig. 5-2 Station Plots for ADCP Data in the Northwest Pacific Ocean

ANNEX I.

The Brief History of RNODCs under the charge of JODC

During the 4th Session of the Working Group on International Oceanographic Data Exchange (IODE) held in 1970, a discussion on the concept of the organizations to aid the World Data Centres (WDCs) for Oceanography was begun.

At the 7th Session of the Working Group on IODE held at New York, 9th – 13th July 1973, the Task Team on the Development of Arrangement for IODE suggested the establishment of the Responsible National Oceanographic Data Centres (RNODCs) as a new element of oceanographic data exchange network.

At around the same time, the Intergovernmental Oceanographic Commission (IOC) and the World Meteorological Organization (WMO) planned a joint project on BATHTY and TESAC, under the Integrated Global Ocean Services System (IGOSS). The two years pilot project on BATHY and TESAC was scheduled from 1975 to 1976. Prior to the start of the pilot project, the first four RNODCs were established in 1974. JODC was designated to one of these, together with NODCs of U.S.A., U.S.S.R. and France. These RNODCs named as "IGOSS Responsible National Oceanographic Data Centres" (IRNODCs) in earlier, and renamed as "RNODC for IGOSS (BATHY and TESAC)" in later. JODC started the data management of BATHY and TESAC from 1976.

At the 8th session of Working Committee on IODE held at Rome, 12th – 16th May 1975, the recommendations from the Task Team were adopted (Recommendation IODE-VIII.12). The operational plan for the implementation of the RNODCs was recommended, to make it fully operational by 1980. Then the Group of Experts on the Development of a Pilot Programme for Responsible National Oceanographic Data Centres (GE/RNODCs) was organized. The Director of JODC was assigned to a member of the GE/RNODC, together with the Directors of NODCs of U.S.A., U.S.S.R. and Colombia.

In October 1976, the 1st session of the GE/RNODCs held at Paris. The operational work plan for the development of RNODCs was discussed.

The 9th session of the Working Committee on IODE held at New York, 15th – 19th January 1979. The GE/RNODCs submitted a draft brochure on the concept of RNODCs and resolution on RNODCs was adopted (RESOLUTION IODE-IX.5). And also, RNODCs for "IGOSS Pilot Project on Marine Pollution (Petroleum) Monitoring" (MAPMOPP) were established. JODC was accepted to serve as one of two RNODCs for MAPMOPP, together with NODC of U.S.A.

The 1st session of the Working Group for the Western Pacific (WESTPAC) held at Tokyo, 21st – 24th February 1979, and WESTPAC Programme was started as successor to Co-operative Study of the Kuroshio and adjacent regions (CSK). JODC was operated Kuroshio Data Centre (KDC) since 1965, which was Regional Data Centre (RDC) for CSK. KDC was scheduled to be ceased at end of 1980 upon completion of CSK programme and RNODC for WESTPAC was established under the WESTPAC Programme. The offer of JODC to serve as the RNODC-WESTPAC was accepted in this session (DECISION WESTPAC-I.17).

The 2nd session of the GE/RNODCs held at Tokyo, 10th – 14th September 1979. JODC reported the activities of three RNODCs under the charge of their own (RNODC for IGOSS BATHY and TESAC, RNODC for IGOSS MAPMOPP and RNODC for WESTPAC) and submitted some data products as

samples of output of RNODC.

The IGOSS MAPMOPP was terminated at the end of June 1980, and successively, Marine Pollution-Monitoring Project (MARPOLMON) was started from July under the Global Investigation of Pollution in the Marine Environment (GIPME).

At 3rd session of GE/RNODCs held at Paris, 20th – 23rd January 1981, JODC confirmed to continue activities for MAPMOPP data.

At the 2nd session of the IOC Programme Group for the Western Pacific (WESTPAC-II) held at Jakarta, 19th – 24th October 1981, a newsletter on marine science activities was established. The offer of the RNODC for WESTPAC to produce the Newsletter was accepted. And also, the plan to organize a training course at RNODC for WESTPAC was discussed. (The descriptions of international training courses are shown as ANNEX VII)

In March 1982, RNODC for WESTPAC published the WESTPAC DATA MANAGEMENT GUIDE based on DECISION WESTPAC-I.17. And also, 1st issue of RNODC Newsletter for WESTPAC was published on discussion at WESTPAC-II.

The 1st Short-Term Training Course on Oceanographic Data Processing was held 29th March – 8th April 1982 at JODC. In order to provide guidance regarding the handling and international exchange of data, 3 trainees invited from Republic of Korea, Philippines and Thailand.

In December 1982, RNODC Newsletter for WESTPAC No. 2 was published.

The 2nd Short-Term Training Course on Data Management was held 16th – 28th May 1983 at JODC. 3 trainees invited from China, Indonesia and Malaysia.

In December 1983, RNODC Newsletter for WESTPAC No. 3 was published.

The 3rd Short-Term Training Course on Oceanographic Data Management was held 4th – 16th June 1984 at JODC. 3 trainees invited from China, Republic of Korea and Vietnam.

In December 1984, RNODC Newsletter for WESTPAC No. 4 was published.

The 4th Training Course on Oceanographic Data Management was held 2nd – 14th September 1985 at JODC. 3 trainees invited from China, Philippines and Vietnam.

In February 1986, RNODC Newsletter for WESTPAC No. 5 was published.

The 5th Training Course on Oceanographic Data Management was held 8th – 20th September 1986 at JODC. 6 trainees invited from China, Republic of Korea, D.P.R. of Korea, Malaysia (2 trainees), and Thailand.

In February 1987, RNODC Newsletter for WESTPAC No. 6 was published.

At 3rd May 1987, JODC was designated to one of three RNODCs for MARPOLMON, together with NODCs of U.S.A. and U.S.S.R. (IOC Circular Letter No. 1135).

The 6th Training Course on Oceanographic Data Management was held 7th – 19th September 1987 at JODC. 3 trainees invited from China, Philippines and Thailand.

In March 1988, RNODC Newsletter for WESTPAC No. 7 was published.

The 7th Training Course on Oceanographic Data Management was held 26th September – 8th October 1988 at JODC. 3 trainees invited from Republic of Korea, Thailand and Vietnam.

In March 1989, RNODC Newsletter for WESTPAC No. 8 was published.

The 8th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 25th September – 7th October 1989 at JODC. 4 trainees invited from China, Thailand, Indonesia and Malaysia. In addition, 1 self-paying trainee participated from Korea.

The 13th session of IOC Committee on IODE was held at New York, 17th – 24th January 1990. "RNODC for Development of Acoustic Doppler Current Profiling (ADCP) (Ship-Mounted) Data Management" (RNODC-ADCP) was established. JODC was recommended to serve as RNODC-ADCP (Resolution IODE-XIII.2).

In March 1990, RNODC Newsletter for WESTPAC No. 9 was published. And also, RNODC Activity Report No. 1 was published.

The 9th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 15th – 26th October 1990 at JODC. 3 trainees invited from Indonesia, Republic of Korea and Vietnam.

In March 1991, RNODC Newsletter for WESTPAC No. 10 and RNODC Activity Report No. 2 were published.

JODC was accepted to serve as RNODC-ADCP at 27th June 1991.

The 10th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 24th September – 9th October 1991 at JODC. 4 trainees invited from Indonesia, Malaysia, Philippines and Thailand. In addition, 1 trainee from Thailand participated on funding of Japan International Co-operative Agency (JICA).

In March 1992, RNODC Newsletter for WESTPAC No. 11 and RNODC Activity Report No. 3 were published.

The 11th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 28th September – 9th October 1992 at JODC. 3 trainees invited from Indonesia, Philippines and Thailand.

In March 1993, RNODC Newsletter for WESTPAC No. 12 and RNODC Activity Report No. 4 were published.

The 12th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 27th September – 8th October 1993 at JODC. 3 trainees invited from Indonesia, Thailand and Vietnam.

In March 1994, RNODC Newsletter for WESTPAC No. 13 and RNODC Activity Report No. 5 were published.

The 13th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 26th September – 7th October 1994 at JODC. 3 trainees invited from Malaysia, Philippines and Vietnam.

In March 1995, RNODC Newsletter for WESTPAC No. 14 and RNODC Activity Report No. 6 were published.

The 14th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 16th – 27th October 1995 at JODC. 3 trainees invited from China, Indonesia and Malaysia.

In March 1996, RNODC Newsletter for WESTPAC No. 15 and RNODC Activity Report No. 7 were

published. Publication of Newsletter was terminated in this year. And then, the list of received CSR in last year was published in RNODC Activity Report.

The 1st session of NEAR-GOOS Co-ordinating Committee was held at Bangkok, 4th – 6th September 1996. The committee endorsed the training activities in support of NEAR-GOOS, and invited JODC to organize a training course (Recommendation IOC/WESTPAC-NEAR-GOOS- CC-I.2).

The 15th IOC-JODC Training Course on Oceanographic Data Management in Support of WESTPAC Programme was held 14th – 25th October 1996 at JODC. 2 trainees invited from Philippines and Thailand.

In November 1996, the revised edition of WESTPAC DATA MANAGEMENT GUIDE was published.

In March 1997, RNODC Activity Report No. 8 was published.

The 1st IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 13th – 24th October 1997 at JODC. 7 trainees invited from Republic of Korea (5 trainees), Russia and Vietnam.

In March 1998, RNODC Activity Report No. 9 was published. This and later issues are also available as digital files in PDF format at JODC web page.

The 2nd IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 12th – 23rd October 1998 at JODC. 6 trainees invited from China (2 trainees), Republic of Korea (2 trainees), Malaysia and Russia.

In March 1999, RNODC Activity Report No. 10 was published.

The 3rd IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 12th – 23rd October 1999 at JODC. 5 trainees invited from China, Indonesia, Republic of Korea, Russia and Vietnam.

International Conference on the International Oceanographic Data & Information Exchange in the Western Pacific (IODE-WESTPAC) 1999 (ICIWP'99) was held at Langkawi, Malaysia, 1st – 4th November 1999. The IOC organized this conference in collaboration with the JODC and the Oceanographic Research Coordination Committee of Malaysia.

In March 2000, RNODC Activity Report No. 11 was published.

The 4th IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 27th November – 8th December 2000 at JODC. 5 trainees invited from China, Indonesia, Republic of Korea, Malaysia and Russia.

In March 2001, RNODC Activity Report No. 12 was published.

The 5th IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 5th – 16th November 2001 at JODC. 6 trainees invited from China, Republic of Korea, Russia, Vietnam, Thailand and Philippines.

The International Workshop for GODAR-WESTPAC was held at JODC, 5th – 7th March 2002. The method to promote GODAR activities was discussed.

In March 2002, RNODC Activity Report No. 13 was published.

The 6th IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 21st October – 1st November 2002 at JODC. 7 trainees invited from China, Fiji, Indonesia, Malaysia, Republic of Korea, Russia and Thailand.

In March 2003, RNODC Activity Report No. 14 was published.

The 7th IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 10th – 21st

November 2003 at JODC. 7 trainees invited from China, Indonesia, Republic of Korea, Philippines, Russia, Thailand and Vietnam.

In March 2004, RNODC Activity Report No. 15 was published.

The Second International Workshop for GODAR-WESTPAC was held at JODC, 10th – 12th November 2004.

In March 2005, RNODC Activity Report No. 16 was published.

The 18th session of IOC Committee on IODC held the Kursaal, Ostend, Belgium, 26th - 30th April 2005. Abolishment of the system of RNODCs and IODE Regional Co-ordinator systems was decided. The Committee instructed the ODIN projects to incorporate the resources of existing regional RNODCs. (Resolution IODE-XVIII.1 and Resolution IODE-XVIII.2, shown in ANNEX II)

The 8th IOC/WESTPAC Training Course on NEAR-GOOS Data Management was held 20th February – 3rd March 2006 at JODC. 7 trainees invited from China, Indonesia, Malaysia, Philippines, Russia, Thailand and Vietnam. In addition, 1 trainee from Republic of Korea participated as self-paying trainee. Unfortunately, the participant from Malaysia was cancelled, due to a traffic accident.

The IODE Officers Meeting was held at the IOC Project Office for IODE, Ostend, Belgium, 6th – 7th February 2006. The centres that hosted the former RNODCs for drifting buoys (Canada), IGOSS (Japan, USA and Russia), MARPOLMON (Japan, USA and Russia) and ADCP (Japan), were requested to continue their work until the next Session of IODE.

In March 2006, RNODC Activity Report No. 17 was published. This was final issue of printed version of RNODC Activity Report.

The Third International Workshop for GODAR-WESTPAC was held at JODC, 4th – 6th December 2006. And also, Preparatory Meeting towards the Development of an ODINWESTPAC (Prep-ODINWESTPAC) was held.

The 19th session of IOC Committee on IODE was held at Trieste, Italy, 12th – 16th March 2007. A Pilot Project for the Ocean Data and Information Network for the Western Pacific Region (ODINWESTPAC-PP) was established (Recommendation IODE-XIX.9).

In March 2007, RNODC Activity Report No. 18 was published. This issue is only available as PDF format from JODC web page.

IODE officers held their meeting at Ostend, Belgium, 27th – 30th November 2007. It had been recommended that the functions of RNODCs dealing with regions (e.g. the RNODC for the WESTPAC region) would be taken over by ODIN arrangements.

ANNEX II.

Resolutions of IODE-XVIII on the abolishment of IODE Regional Co-ordinators and RNODCs

Resolution IODE-XVIII. 1

IODE REGIONAL CO-ORDINATORS

The IOC Committee on International Oceanographic Data and Information Exchange,

Recalling Resolution-XV.4 (IODE Regional Co-ordinators) that appointed IODE Regional Coordinators for each of the IOC regional programmes,

Further recalling Recommendation IODE-XVI.2 (Strengthening of the Regional Co-ordinators Mechanism) that amended the Terms of Reference for Regional Co-ordinators,

Noting that the IODE Review considered that the terms of reference for an IODE Regional Coordinator are too demanding to be executed by a single person who has full-time national duties,

Considering that the function of the IODE Regional Co-ordinator in many cases has been assumed successfully by project coordinators of ODIN projects (e.g. ODINAFRICA, ODINCARSA),

Agrees to abolish the system of IODE Regional Co-ordinators;

Decides that the functions of the former IODE Regional Co-ordinators be included in the Terms of Reference of the relevant IODE Ocean Data and Information Networks (ODIN).

Resolution IODE-XVIII. 2

RESPONSIBLE NATIONAL OCEANOGRAPHIC DATA CENTRES (RNODCs)

The IOC Committee on International Oceanographic Data and Information Exchange,

Noting that the IODE Review reported that the various surveys had revealed that most RNODCs were not well known and little used,

Noting further that the IODE Review had questioned the relevance of RNODCs and recommended to abolish the RNODC system,

Recognizing however that some RNODCs perform well and provide useful products and services,

Agrees to abolish the system of IODE Responsible National Oceanographic Data Centres;

Requests that, where available, NODCs participating in Ocean Data and Information Networks (ODIN) assume the functions of former RNODCs;

Instructs the IODE Chair to discuss with host institutions of other RNODCs how their operations, if considered essential for the international community, could be maintained and properly acknowledged, or transferred to other Centres of the IODE network.

ANNEX III.

Terms of Reference for RNODC-WESTPAC

(Rev. 24 February 1979)

- Produce a work plan to define: i) the procedures of JODC in acquiring, processing, reformatting and archiving, distribution of data and inventory of research cruises in the WESTPAC region with reference to the WDC system, and ii) the implementation of this work plan;
- Provide a mechanism for registration of WESTPAC cruises with RNODC-WESTPAC;
- Work closely with National Co-ordinators for IODE and any other national contact points for data management within WESTPAC who might be appointed by Member States;
- Publish a guide for WESTPAC data management for distribution to Member States through national contact points.

ANNEX IV.

Terms of Reference for RNODC-IGOSS (BATHY and TESAC)

(Rev. September 1979)

- Acquire BATHY, TESAC datasets and sub-surface temperature data from drifting and moored buoys from the IGOSS Specialized Oceanographic Center (SOC) for areas of responsibility;
- Apply supplementary quality controls to acquired data and provide services to users after 30 days from receipt of that data;
- Archive, and make available to users, selected data products from SOCs and analysis centres;
- Acquire non-operational BATHY, TESAC and sub-surface temperature data from drifting and moored buoys and/or datasets for areas of responsibility;
- Apply quality controls to non-operational data, prepare integrated datasets and provide services to users;
- Provide for exchange of IGOSS data in GF-3 format with other RNODCs or to other users as requested;
- Maintain a database and inventories for areas of responsibility;
- Prepare products based on operational and non-operational IGOSS data, as appropriate;
- Transmit to the WDCs datasets in GF-3 format, inventories and selected data products;
- Prepare summary and BATHY, TESAC and sub-surface temperature from drifting and moored buoys database plots and transmit to the IOC Secretariat every 15 August and 15 February for data received during the previous 6 months;
- Participate in efforts to monitor data flow;
- Participate as feasible in IOC training programmes;
- Provide for exchange of documentation and software regarding quality control and processing procedures, with other RNODCs as possible.

ANNEX V.

Terms of Reference for RNODC-MARPOLMON

(Rev. May 1987)

A. Referral

The RNODC-MARPOLMON will:

- Provide a referral capacity to worldwide holdings of marine pollution data.

B. Access

The RNODC-MARPOLMON will be expected to demonstrate:

- A capability and willingness to perform automated data processing functions for marine pollution data;
- A willingness to accept marine pollution data which may not be received in automated form, and to convert the data to such a form;
- A capability for performing quality control (format and/or environmental) checks;
- A capability to work with discipline-oriented codes (biological and chemical);
- A capability for converting marine pollution data to GF3 format or other internationally recognized format.

C. Products

The RNODC-MARPOLMON will:

- Provide copies of processed data to World Data Centres A and B (Oceanography);
- Provide machine listings and simple statistics of marine pollution data;
- Produce graphics of marine pollution data, for use of concerned Member States.

D. Training

The RNODC-MARPOLMON will conduct formal or informal training sessions for data centre personnel involved in the programme and who actively submit marine pollution data. Expenses of trainees will not however, be borne by the RNODC concerned. Selection of trainees will be jointly arranged by IOC and the RNODC.

ANNEX VI.

Terms of Reference for RNODC-ADCP

(Rev. 27 June 1991)

- Compile, evaluate and keep updated information on existing datasets held by Member States already active in ADCP measurements;
- Produce, and keep updated a catalogue of ADCP users which will include information about ADCP instruments, related instrumentation (GSP, Loran, measurement of ship motion, etc.), procedures for averaging and sampling (temporal and spatial, vertical and horizontal), quality control methods, formats and products;
- In consultation with other NODCs, ICES and SCOR, establish and maintain standards and procedures for the reduction, quality control, archiving, and exchange of ADCP data;
- Assemble an archive of ADCP data received from other member states so as to assess the effectiveness of the proposed standards and procedures;
- Prepare guidelines concerning different performance characteristics and data documentation relevant to each instrument type in order to formulate adequate data documentation and quality control procedures;
- Report on the progress of RNODC ADCP to the Group of Experts on RNODCs and Global programs and to the IOC Committee on IODE.

ANNEX VII.

International Training Courses Organized by JODC

From 1982 to 2006

IOC-JODC Training Course on Oceanographic Data Management		
Date		Participants from each Member States:
1st	9 Mar. - 9 Apr. 1982	Rep. of Korea, Philippines, Thailand
2nd	16 May - 28 May.1983	China, Rep. of Korea, Vietnam
3rd	4 Jun. - 16 Jun.1984	China, Rep. of Korea, Vietnam
4th	2 Sept. - 14 Sept.1985	China, Philippines, Vietnam
5th	8 Sept. - 29 Sept.1986	China, Rep. of Korea, DPR of Korea, Malaysia(2),Thailand
6th	7 Sept. - 19 Sept.1987	China, Philippines, Thailand
7th	26 Oct. - 8 Sept.1988	Rep. of Korea, Thailand, Vietnam
8th	25 Oct. - 7 Sept.1989	China, Indonesia, Malaysia, Thailand, Rep. of Korea
9th	15 Oct. - 26 Oct.1990	Indonesia, Rep. of Korea, Vietnam
10th	24 Oct. - 7 Sept.1991	China, Indonesia, Malaysia, Rep. of Korea, Thailand(2)
11th	28 Oct. - 7 Sept.1992	Indonesia, Philippines, Thailand
12th	27 Oct. - 7 Sept.1993	Indonesia, Thailand, Vietnam
13th	26 Oct. - 7 Sept.1994	Malaysia, Philippines, Vietnam
14th	6 Oct. - 27 Oct.1995	China, Indonesia, Rep. of Korea(5)
15th	14 Oct. - 25 Oct.1996	Philippines, Thailand
IOC/WESTPAC Training Course on NEAR-GOOS Data Management		
1st	13 Oct. - 24 Oct.1997	Rep. of Korea(5), Russia, Vietnam
2nd	12 Oct. - 23 Oct.1998	China(2), Rep. of Korea(2), Malaysia, Russia
3rd	24 Jan. - 4 Feb.1999	China, Indonesia, Rep. of Korea, Russia, Vietnam
4th	27 Nov. - 8 Dec.2000	China, Indonesia, Rep. of Korea, Malaysia, Russia
5th	5 Nov. - 16 Dec.2001	China, Rep. of Korea, Philippines, Thailand, Russia, Vietnam
6th	21 Oct. - 1 Nov.2002	China, Fiji, Indonesia, Malaysia, Rep. of Korea, Russia, Thailand,
7th	10 Nov. - 21 Nov.2003	China, Indonesia, Rep. of Korea, Philippines, Thailand, Russia , Vietnam
8th	20 Feb. - 3 Mar.2006	China, Indonesia, Rep. of Korea, Philippines, Thailand, Russia , Vietnam

List of Instructors and Local Secretariat at IOC/WESTPAC Training Courses on NEAR-GOOS Data Management

1st IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Mr. Yoshio Shimizu	Japan Oceanographic Data Center (Course Organizer)
Mr. Eiji Mukainaka	Japan Oceanographic Data Center (Course Coordinator)
Mr. Yutaka Michida	Japan Oceanographic Data Center
Mr. Minoru Tsunemasa	Japan Oceanographic Data Center
Mr. Takeharu Miyake	Japan Oceanographic Data Center
Mr. Norio Baba	Japan Oceanographic Data Center
Mr. Hideki Nakazato	Japan Oceanographic Data Center
Mr. Naohisa Yoza	Japan Oceanographic Data Center
Mr. Tomonori Miura	Japan Oceanographic Data Center
Mr. Takuro Nakamura	Japan Oceanographic Data Center
Dr. Minoru Odamaki	Japan Hydrographic Department
Mr. Satoshi Sato	Japan Hydrographic Department
Mr. Hiroyuki Yoritaka	Japan Hydrographic Department
Dr. Keisuke Taira	Institute of Oceanography, University of Tokyo
Mr. Naoyuki Hasegawa	Japan Meteolorogy Agency

2nd IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Mr. Toshihiro TAKASHIBA	Japan Oceanographic Data Center (Course Organizer)
Mr. Junichi NANBA	Japan Oceanographic Data Center (Course Coordinator)
Mr. Yutaka MICHIDA	Japan Oceanographic Data Center
Mr. Goroo MATUURA	Japan Oceanographic Data Center
Mr. Naoki NODA	Japan Oceanographic Data Center
Mr. Takeharu MIYAKE	Japan Oceanographic Data Center
Mr. Naohisa YOZA	Japan Oceanographic Data Center
Mr. Hideki NAKAZATO	Japan Oceanographic Data Center
Mr. Touru HAZAMA	Japan Oceanographic Data Center
Dr. Minoru ODAMAKI	Japan Oceanographic Data Center
Mr. Satoshi SATO	Japan Oceanographic Data Center
Dr. Masaki KAWABE	Ocean Research Institute of Tokyo University
Mr. Naoyuki HASEGAWA	Japan Meteorological Agency
Dr. Yutaka NAGATA	Marine Information Research Center

3rd IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Mr. Toshio NAGAI	Japan Oceanographic Data Center
Mr. Satoshi SATO	Japan Oceanographic Data Center
Mr. Keiji AIURA	Japan Oceanographic Data Center
Mr. Naoki NODA	Japan Oceanographic Data Center
Mr. Takeharu MIYAKE	Japan Oceanographic Data Center
Mr. Naohisa YOZA	Japan Oceanographic Data Center
Dr. Yutaka MICHIDA	Japan Hydrographic Department
Mr. Taiji IMOTO	Japan Hydrographic Department
Prof. Dr. Keisuke TAIRA	Ocean Research Institute of Tokyo University
Mr. Naoyuki HASEGAWA	Japan Meteorological Agency
Dr. Yutaka NAGATA	Marine Information Research Center
Mr. Toshihiro TAKASHIBA	Japan Oceanographic Data Center
Mr. Mamoru UEDA	Japan Oceanographic Data Center
Ms. Masako SAITO	Japan Oceanographic Data Center

4th IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Mr. Toshio NAGAI	Japan Oceanographic Data Center
Mr. Satoshi SATO	Japan Oceanographic Data Center
Mr. Keiji AIURA	Japan Oceanographic Data Center
Mr. Kiyohisa ITO	Japan Oceanographic Data Center
Mr. Yoshio SHIMIZU	Japan Oceanographic Data Center
Mr. Takeharu MIYAKE	Japan Oceanographic Data Center
Mr. Hideki NAKAZATO	Japan Oceanographic Data Center
Mr. Taiji IMOTO	Japan Hydrographic Department
Prof. Dr. Keisuke TAIRA	Ocean Research Institute of Tokyo University
Mr. Patrick C. Caldwell	Dept. of Oceanography- Univ. of Hawaii
Mr. Naoyuki HASEGAWA	Japan Meteorological Agency
Dr. Yutaka NAGATA	Marine Information Research Center
Dr. Toru SUZUKI	Marine Information Research Center
Mr. Shigeru TOYOSHIMA	Japan Oceanographic Data Center
Mr. Hiromi KINOSHITA	Japan Oceanographic Data Center
Ms. Masako SAITO	Japan Oceanographic Data Center

5th IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Mr. Greg Reed	Ocean Services, IOC/IODE
Mr. Tsuyoshi Shiota	GOOS Project Office, IOC
Prof. Dr. Keisuke Taira	Ocean Research Institute of Tokyo University
Dr. Yutaka Michida	Ocean Research Institute of Tokyo University
Mr. Naoyuki Hasegawa	Japan Meteorological Agency
Dr. Yutaka Nagata	Marine Information Research Center
Mr. Taiji Imoto	Japan Hydrographic Department
Dr. Tadahiko Katsura	Japan Oceanographic Data Center
Mr. Satoshi Sato	Japan Oceanographic Data Center
Mr. Shigeru Toyoshima	Japan Oceanographic Data Center
Mr. Yoshio Shimizu	Japan Oceanographic Data Center
Mr. Takeharu Miyake	Japan Oceanographic Data Center
Mr. Baba Norio	Japan Oceanographic Data Center
Mr. Tsuyoshi Chiba	Japan Oceanographic Data Center
Mr. Shigeru Toyoshima	Japan Oceanographic Data Center
Mr. Isao Tedokon	Japan Oceanographic Data Center
Mr. Yuichi Kyuma	Japan Oceanographic Data Center
Ms. Akiko Honma	Japan Oceanographic Data Center

6th IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Mr. Robert D. Gelfeld	World Data Center -A for Oceanography
Dr. Keisuke Taira	Japan Society for the Promotion of Science
Prof. Dr. Makoto Terazaki	Ocean Research Institute of Tokyo University
Dr. Yutaka Michida	Ocean Research Institute of Tokyo University
Mr. Takashi Yoshida	Japan Meteorological Agency
Dr. Yutaka Nagata	Marine Information Research Center
Ms. Sachiko Oguma	Marine Information Research Center
Dr. Minoru Odamaki	Japan Hydrographic and Oceanographic Department
Mr. Hideki Kinoshita	Japan Hydrographic and Oceanographic Department
Mr. Nobuyuki Shibayama	Japan Oceanographic Data Center
Mr. Satoshi Sato	Japan Oceanographic Data Center
Mr. Shigeru Toyoshima	Japan Oceanographic Data Center
Mr. Masahide Ameku	Japan Oceanographic Data Center
Mr. Takeharu Miyake	Japan Oceanographic Data Center
Mr. Yoshihiko Sugiyama	Japan Oceanographic Data Center
Mr. Tsuyoshi Chiba	Japan Oceanographic Data Center
Mr. Isao Tedokon	Japan Oceanographic Data Center
Mr. Yuichi Kyuma	Japan Oceanographic Data Center
Mr. Norio Baba	Japan Oceanographic Data Center
Mr. Hiroki Yunomae	Japan Oceanographic Data Center

7th IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Mr. Sydney Levitus	World Data Center-A
Prof. Dr. Makoto Terazaki	Ocean Research Institute of Tokyo University
Dr. Yutaka Michida	Ocean Research Institute of Tokyo University
Mr. Takashi Yoshida	Japan Meteorological Agency
Ms. Sachiko Oguma	Marine Information Research Center
Mr. Nobuyuki Shibayama	Japan Oceanographic Data Center
Mr. Satoshi Sato	Japan Oceanographic Data Center
Mr. Taiji Imoto	Japan Hydrographic and Oceanographic Department
Mr. Tomotaka Ito	Japan Hydrographic and Oceanographic Department
Mr. Yoshihiko Sugiyama	Japan Oceanographic Data Center
Mr. Isao Tedokon	Japan Oceanographic Data Center
Mr. Hideo Nihei	Japan Oceanographic Data Center
Mr. Tsuyoshi Chiba	Japan Oceanographic Data Center
Mr. Michihiro Nagao	Japan Oceanographic Data Center
Mr. Shigeru Toyoshima	Japan Oceanographic Data Center
Mr. Yukio Tani	Japan Oceanographic Data Center
Mr. Naoki Noda	Japan Oceanographic Data Center
Mr. Masahide Ameku	Japan Oceanographic Data Center
Mr. Tatsuya Saeki	Japan Oceanographic Data Center
Mr. Tsuneo Shirakami	Japan Oceanographic Data Center
Mr. Kazuyoshi Oichi	Japan Oceanographic Data Center
Mr. Yutaka Tomioka	Japan Oceanographic Data Center

8th IOC/WESTPAC Training Course on NEAR-GOOS Data Management

Prof. Dr. Makoto Terazaki	Ocean Research Institute of Tokyo University
Dr. Yutaka Michida	Ocean Research Institute of Tokyo University
Mr. Takashi Yoshida	Japan Meteorological Agency
Dr. Yutaka Nagata	Marine Information Research Center
Mr. Norio Baba	UNEP
Mr. Taiji Imoto	Japan Hydrographic and Oceanographic Department
Mr. Eiichi Suzuki	Japan Hydrographic and Oceanographic Department
Mr. Hideo Nihei	Japan Oceanographic Data Center
Mr. Kazuhiro Okuya	Japan Oceanographic Data Center
Mr. Yukio Tani	Japan Oceanographic Data Center
Mr. Shigeru Imaki	Japan Oceanographic Data Center
Mr. Isao Tedokon	Japan Oceanographic Data Center
Mr. Hidemi Ogawara	Japan Oceanographic Data Center
Mr. Kiyohisa Ito	Japan Oceanographic Data Center
Mr. Hirofumi Okano	Japan Oceanographic Data Center
Mr. Katsuyoshi Fuchigami	Japan Oceanographic Data Center
Mr. Kazuyoshi Oichi	Japan Oceanographic Data Center