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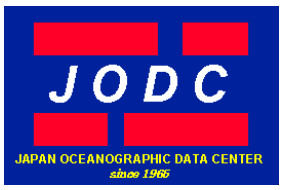

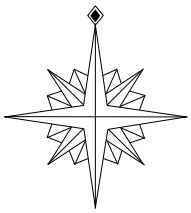

RNODC ACTIVITY REPORT

No.12
March 2001

Responsible National Oceanographic Data Center
for WESTPAC
for IGOSS
for MARPOLMON
for ADCP

JAPAN OCEANOGRAPHIC DATA CENTER

Hydrographic Department
Japan Coast Guard
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PREFACE

The Japan Oceanographic Data Center (JODC) was established in the Hydrographic Department, Maritime Safety Agency of Japan in 1965 in accordance with the resolution adopted by the Intergovernmental Oceanographic Commission (IOC) of UNESCO in 1961.

Since its establishment, JODC has been fulfilling the role of the synthetic marine data bank of Japan, and has been carrying out internationally its services as the National Oceanographic Data Center under the system of International Oceanographic Data and Information Exchange (IODE) and also in charge of the Responsible National Oceanographic Data Center (RNODC) for WESTPAC, IGOSS, MARPOLMON and ADCP.

This annual publication, "RNODC Activity Report" is to inform of the activities of JODC as the aforementioned RNODCs to data contributors, data users, oceanographic community and other national oceanographic data centers within the framework of IODE.

I would like to take this opportunity to express my sincere appreciation for the continuing support given by institutes and centers of the IODE System through their sending of data.

Lastly, I would like to inform that the English name of our organization was changed from the Japanese Maritime Safety Agency (JMSA) to the Japan Coast Guard (JCG) as of April 2000.

The purpose of this change is to help people gain a better understanding of the organization's services, including law enforcement activities. The services remain the same as before.

March, 2001

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CONTENTS

1. Terms of Reference for RNODCs

1.1 RNODC for WESTPAC

Operated by NODC of Japan since 24 February 1979.

(1) To 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;

(2) To provide a mechanism for registration of WESTPAC cruises with RNODC - WESTPAC;

(3) To 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;

(4) To publish a guide for WESTPAC data management for distribution to Member States through national contact points.

1.2 RNODC for IGOSS (BATHY and TESAC)

Operated by NODCs of Japan, the USA and Russia (then, the USSR) since September 1979.

(1) To acquire BATHY, TESAC data sets and sub-surface temperature data from drifting and moored buoys from IGOSS Specialized Oceanographic Center (SOC) for area of responsibility;

(2) To apply supplementary quality control to acquire d data and provide services to users after 30 days from receipt of that data;

(3) To archive, and make available to users, selected data products from SOCs and analysis centres;

(4) To acquire non-operational BATHY, TESAC and sub-surface temperature data from drifting and moored buoys and/or datasets for area of responsibility;

(5) To apply quality control of non-operational data, prepare integrated datasets and provide services to users;

(6) To provide for exchange of IGOSS data in GF-3 format with other RNODCs or to other users as requested;

(7) To maintain a database and inventories for areas of responsibility;

(8) To prepare products based on operational and non-operational IGOSS data, as appropriate;

(9) To transmit to the WDCs annually datasets in GF-3 format, inventories and selected data products;

(10) To 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;

(11) To participate in efforts to monitor data flow;
(12) To participate as feasible in IOC training programmes;
(13) To provide for exchange of documentation and software regarding quality control and processing procedures, with other RNODCs, as possible.

1.3 RNODC for MARPOLMON

Operated by NODCs of Japan, the USA and Russia (then, the USSR) since 3 May 1987.

(1) To provide a referral capacity to worldwide holdings of marine pollution data.
(2) To provide copies of processed data to World Data Centres A and B (Oceanography);
(3) To provide machine listings and simple statistics of marine pollution data;
(4) To produce graphics of marine pollution data, for the use of concerned Member States;
(5) To conduct formal or informal training sessions for data centre personnel involved in the programme and for those who actively submit marine pollution data.

1.4 RNODC for ADCP

Operated by NODC of Japan since July 1991.

(1) To compile and evaluate information on existing data sets held by Member States already active ADCP measurements and produce a catalogue of ADCP users with referral capacity;
(2) To produce a detailed catalogue of ADCP users that includes information about their ADCP instrumentation, related instrumentation (GPS, Loran, measurement of ship motion, etc.), procedures, averaging/sampling (temporal and spatial vertical and horizontal), quality assurance methods, formats, products and uses of data;
(3) To establish provisional standards and procedures for the reduction, quality control, archiving, and exchange of ADCP data;
(4) To assemble a pilot ADCP data archive of samples of ADCP data from other Member States so as to assess the effectiveness of the proposed standards and procedures;
(5) To prepare guidelines concerning the different performance characteristics and data documentation relevant to each instrument type, in order to formulate adequate data documentation and quality control;
(6) To report on the progress of RNODC ADCP to the Group of Experts on RNODCs and Climate Data, and to IODE-XIV.

2 Activity of RNODCs

2.1 RNODC-WESTPAC

2.1.1 Activities

Major activities are as follows:

(1) The collection and archive of CSR (Cruise Summary Report of IODE, ROSCOPs 3rd edition) and data since the starting of the WESTPAC programme in 1979.

Connected website about WESTPAC and CSR are follows:

WESTPAC : http:// www.jodc.jhd.go.jp/project_westpac.html

CSR : http:// www.jodc.jhd.go.jp/info/csr_j.html (Japanese)

(2) The annual training course on oceanographic data management carried out from 27 November to 8 December 2000 and five trainees from China, Indonesia, Korea, Malaysia and Russia were participated.

2.1.2 Data holdings

Data holdings are shown in the following tables:

(1) Table 1: The inventory of CSR in 1998.

(2) Table 2: Number of Archived Data for WESTPAC.

Table1: The inventory of CSR in 1999

AGENCY	SHIP	AREA	PERIOD	DATA TYPE
IRD - CENTRE DE NOUMEA	ATALANTE	South Pacific Ocean	1999/1/10 - 1999/10/12	D,H,G,M
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/1/12 - 1999/1/18	B,H
ORI,UT	HAKUHO MARU	North Pacific Ocean	1999/1/14 - 1999/3/4	B,D,H,M
MMO,JMA	SEIFU MARU	Japan Sea	1999/1/19 - 1999/3/5	B,D,G,H,M,P
JMA	KEIFU MARU	North Pacific Ocean, Philippine Sea	1999/1/21 - 1999/2/18	D,H,G,M,P
KMO, JMA	SHUMPU MARU	Philippine Sea	1999/1/21 - 1999/2/26	B,D,H,G,M,P
CMD,JMA	RYOFU MARU	Philippine Sea	1999/1/22 - 1999/2/22	B,D,G,H,M,P
SFHS	WAKATORI MARU	North Pacific Ocean	1999/1/25 - 1999/3/20	B,D,H,M
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/1/29 - 1999/3/1	B,D,H,M,P
IFREMER	ATALANTE	South Pacific Ocean	1999/1/29 - 1999/9/2	H,G,M
IFREMER CENTRE DE TOULON	ATALANTE	South Pacific Ocean	1999/1/29 - 1999/2/9	H,G,M
IFREMER CENTRE DE TOULON	ATALANTE	South Pacific Ocean	1999/1/29 - 1999/2/9	H,G,M
GRGS/MOUETTE	ASTROLABE	Antarctic Ocean Pacific Sector	1999/2/19 - 1999/3/7	H
IRD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/2/22 - 1999/3/14	B,G
IRD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/2/22 - 1999/3/14	B,G
Univ P & M Curie, IRD	ATALANTE	Pacific Ocean	1999/2/23 - 1999/3/20	H,G,M
IRD - CENTRE DE	ALIS	South Pacific Ocean	1999/3/19 - 1999/3/28	B,D,G,H,P

NOUMEA				
GENAVIR BREST	ATALANTE	Northeast Pacific	1999/3/22 - 1999/3/31	H,G,M
LAB. OCEANOG. & BIOGEOCHIMIE-COM-LUMINY	MARION DUFRESNE	Indian Ocean	1999/4/1 - 1999/2/23	B,D,H,P
FF, NU	NAGASAKI MARU	East China Sea	1999/4/2 - 1999/4/22	B,H
NFRDI/KOREA	INCHON 888	Yellow Sea	1999/4/7 - 1999/4/17	B,D,H,M
ORI,UT	TANSEI MARU	Philippine Sea	1999/4/7 - 1999/4/13	G
NFRDI/KOREA	TAMGU 3	East China Sea	1999/4/8 - 1999/4/16	B,D,H,M
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1999/4/15 - 1999/4/22	B,D,H,M
CMD,JMA	RYOFU MARU	North Pacific Ocean	1999/4/19 - 1999/5/26	B,D,G,H,M,P
JMA	KEIFU MARU	North Pacific Ocean, Philippine Sea	1999/4/27 - 1999/6/7	D,H,M
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/4/27 - 1999/6/3	B,D,H,M,P
STATION BIOLOGIQUE DE ROSCOFF	ATALANTE	South Pacific Ocean	1999/4/27 - 1999/5/22	H,G,M
KMO, JMA	SHUMPU MARU	Philippine Sea	1999/4/28 - 1999/5/27	B,D,H,G,M,P
MMO,JMA	SEIFU MARU	Japan Sea	1999/4/28 - 1999/5/25	B,D,G,H,M,P
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/5/7 - 1999/5/14	B,D,H
FF, NU	NAGASAKI MARU	East China Sea	1999/5/8 - 1999/6/4	B,H
FF, NU	KAKUYO MARU	East China Sea	1999/5/22 - 1999/5/30	B,D,G,H
NFRDI/KOREA	TAMGU 3	East China Sea	1999/5/24 - 1999/5/28	B,D,H,M
IRD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/5/25 - 1999/6/3	G
UMR 6539-FLUX MATIERE-REPONSE DU VIVANT	ATALANTE	Northeast Pacific	1999/5/26 - 1999/6/16	H,G,M
GRGS/MOUETTE	ASTROLABE	Antarctic Ocean Pacific Sector	1999/6/1 - 1999/1/25	H
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1999/6/3 - 1999/6/10	B,D,H,M
FF, HU	OSHORO MARU	North Pacific Ocean,Bering Sea	1999/6/3 - 1999/8/18	B,H
NFRDI/KOREA	INCHON 888	Yellow Sea	1999/6/4 - 1999/6/8	B,D,H,M
NFRDI/KOREA	TAMGU 3	East China Sea	1999/6/7 - 1999/6/11	B,D,H,M
RIAM, KU	KAKUYO MARU	Japan Sea	1999/6/7 - 1999/6/22	D,H
IRD - CENTRE DE NOUMEA	ALIS	Pacific Ocean	1999/6/7 - 1999/7/28	B
KMO, JMA	SHUMPU MARU	Philippine Sea	1999/6/15 - 1999/7/28	B,D,H,G,M,P
ORI,UT	TANSEI MARU	Philippine Sea	1999/6/17 - 1999/6/22	B,G,H
INSTITUT DE PHYSIQUE DU GLOBE PARIS	ATALANTE	Pacific Ocean	1999/6/18 - 1999/7/5	H,G,M
JMA	KEIFU MARU	North Pacific Ocean, Philippine Sea	1999/6/22 - 1999/7/28	D,H,G,M,P
CMD,JMA	RYOFU MARU	North Pacific Ocean	1999/6/22 - 1999/7/7	B,D,G,H,M,P
RD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/6/23 - 1999/6/28	B,D,G,H
MMO,JMA	SEIFU MARU	Japan Sea	1999/6/24 - 1999/8/13	B,D,G,H,M,P
FF, NU	KAKUYO MARU	East China Sea	1999/6/28 - 1999/7/6	B
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/6/28 - 1999/8/10	B,D,G,H,M,P
IFREMER/DRO/G	ATALANTE	Pacific Ocean	1999/7/7 - 1999/8/8	D,H,G,M

M - GEOSCIENCES MARINES				
IRD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/7/9 - 1999/9/11	B,G
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/7/21 - 1999/7/27	
NFRDI/KOREA	TAMGU 3	East China Sea	1999/8/8 - 1999/8/18	B,D,H,M
NFRDI/KOREA	INCHON 888	Yellow Sea	1999/8/11 - 1999/8/20	B,D,H,M
JMA	KEIFU MARU	North Pacific Ocean, Philippine Sea	1999/8/17 - 1999/9/20	D,H,G,M
NFRDI/KOREA	TAMGU 3	East China Sea	1999/8/18 - 1999/8/20	B,D,H,M
INSTITUT DE PHYSIQUE DU GLOBE PARIS	ATALANTE	Southeast Pacific	1999/8/23 - 1999/9/26	D,H,G,M
NFRDI/KOREA	TAMGU 3	Japan Sea	1999/8/25 - 1999/9/2	B,D,H,M
KMO, JMA	SHUMPU MARU	Philippine Sea	1999/8/30 - 1999/9/17	B,D,H,G,M,P
IRD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/8/30 - 1999/9/3	B,H,P
STATION BIOLOGIQUE DE ROSCOFF	ATALANTE	Northeast Pacific	1999/9/4 - 1999/4/26	H,G,M
IRD - CENTRE DE NOUMEA	ALIS	Pacific Ocean	1999/9/8 - 1999/12/8	B
CMD,JMA	RYOFU MARU	North Pacific Ocean	1999/9/17 - 1999/11/09	B,D,G,H,M,P
IRD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/9/19 - 1999/10/2	B,G
ORI,UT	HAKUHO MARU	Japan Sea	1999/9/22 - 1999/10/25	
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/9/29 - 1999/10/29	B,D,H,M,P
NFRDI/KOREA	INCHON 888	Yellow Sea	1999/10/5 - 1999/10/18	B,D,H,M
KMO, JMA	SHUMPU MARU	Philippine Sea	1999/10/6 - 1999/11/12	B,D,H,G,M,P
MMO,JMA	SEIFU MARU	Japan Sea	1999/10/6 - 1999/11/5	B,D,G,H,M,P
IFREMER/DRO/GM - GEOSCIENCES MARINES	ATALANTE	South Pacific Ocean	1999/10/13 - 1999/11/7	B,D,H,G,M
IRD - CENTRE DE NOUMEA	ALIS	Pacific Ocean	1999/10/14 - 1999/11/9	D,H
SFHS	WAKATORI MARU	North Pacific Ocean	1999/10/15 - 1999/11/29	B,D,H,M
NFRDI/KOREA	TAMGU 3	East China Sea	1999/10/19 - 1999/10/26	B,D,H,M
JMA	KEIFU MARU	North Pacific Ocean, Philippine Sea	1999/10/21 - 1999/11/25	D,H,M
LEGOS	ASTROLABE	Antarctic Ocean Pacific Sector	1999/10/22 - 1999/11/12	H
FF, NU	KAKUYO MARU	North Pacific Ocean	1999/10/24 - 1999/12/22	H
NFRDI/KOREA	TAMGU 3	Japan Sea	1999/11/10 - 1999/11/21	B,D,H,M
LAB. GEODYNAMIQUE	ATALANTE	South Pacific Ocean	1999/11/11 - 1999/12/13	D,H,G,M

TECTONIQUE ENVIRONNE				
LAB. GEODYNAMIQUE TECTONIQUE ENVIRONNE.	ATALANTE	South Pacific Ocean	1999/11/11 - 1999/12/13	D,H,G,M
NFRDI/KOREA	TAMGU 3	East China Sea	1999/11/14 - 1999/11/18	B,D,H,M
IRD - CENTRE DE NOUMEA	ALIS	South Pacific Ocean	1999/11/15 - 1999/11/21	D,H,G
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/11/16 - 1999/12/9	B,D,H,M
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/11/17 - 1999/11/25	
CMD,JMA	RYOFU MARU	Philippine Sea	1999/11/26 - 1999/12/2	D,G,H,M
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/11/28 - 1999/12/12	B,D,H
ANTENNE I.R.D. DE VILLEFRANCHE/ MER	ALIS	South Pacific Ocean	1999/12/4 - 1999/5/15	B,G
NFRDI/KOREA	TAMGU 3	East China Sea	1999/12/8 - 1999/12/15	B,D,H,M
NFRDI/KOREA	INCHON 888	Yellow Sea	1999/12/23 - 1999/12/28	B,D,H,M
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1999/12/26 - 2000/1/5	B,D,H,M

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

Table 2: Number of Archived Data for WESTPAC

	NANSEN	STD	CTD	XBT	DBT	GEK	DRIFT
1979	2,806	110	0	2,790	672	5,228	307
1980	2,923	31	0	4,637	2,311	6,219	380
1981	2,726	187	0	3,866	2,431	65,987	422
1982	2,559	181	0	5,605	3,076	6,041	280
1983	1,427	72	119	5,683	3,221	6,022	0
1984	1,377	21	357	6,368	3,624	7,059	0
1985	1,071	156	388	8,117	3,281	5,471	0
1986	1,550	376	726	8,853	2,090	5,793	0
1987	1,153	365	1,175	8,443	1,654	4,971	0
1988	454	0	2,524	12,065	877	2,811	0
1989	3	0	2,909	11,531	475	1,623	0
1990	1,491	0	2,576	11,280	1,093	871	0
1991	1,310	0	2,230	11,723	1,405	841	0
1992	1,035	0	1,809	9,120	18	216	0
1993	1,452	0	3,803	11,198	1,316	152	0
1994	1,598	0	2,767	3,044	73	24	0
1995	1,903	0	1,993	2,933	0	97	0
1996	1,950	0	1,935	1,058	0	0	0
1997	1,634	0	1,608	1,916	0	0	0
1998	1,451	0	1,641	1,131	0	0	0
1999	0	0	0	465	0	0	0
2000	0	0	0	89	0	0	0
TOTAL	31,873	1,499	28,560	131,915	27,617	119,426	1,389

Remark: above data was extracted by area of 100E to 180E and 40S to 60N.

2.2 RNODC-IGOSS (Integrated Global Ocean Services System)

2.2.1 Activities

Major activities is the management of the data for specific geographical areas as RNODC with the responsibility since the starting of the IGOSS project in 1977.

2.2.2 Data holdings

JODC received BATHY/TESAC data through the GTS (Global Telecommunications System) from JMA (Japan Meteorological Agency), that is one of SOC, and applied quality control procedure for final archiving.

And also JODC have been provided BATHY data through NEAR-GOOS Regional Delayed Mode Data Base (RDMDB) from 1997. http://near-goos.jodc.jhd.go.jp/index.html

Data holdings are shown in the following table and figure:

(1) Table 3: Number of Archived Data for BATHY/TESAC.

(2) Fig.1: Station Plots for BATHY/TESAC.

(3) Fig.2: Number of Archived Data of RDMDB for BATHY.

Table 3: Number of Archived Data for BATHY/TESAC

YEAR	1982	1983	1984	1985	1986	1987	1988
BATHY	22,677	25,478	22,980	26,079	31,044	40,301	32,245
TESAC	710	5,443	7,068	5,784	5,640	6,580	5,074

YEAR	1989	1990	1991	1992	1993	1994	1995
BATHY	27,933	30,027	22,731	34,071	35,058	32,721	33,908
TESAC	4,966	4,947	2,137	1,303	2,153	2,619	2,207

YEAR	1996	1997	1998	1999	2000
BATHY	34,632	37,932	5,984	6,852	33,908
TESAC	2,170	1,265	2	851	2,207

Fig.1: Station Plots for BATHY/TESAC

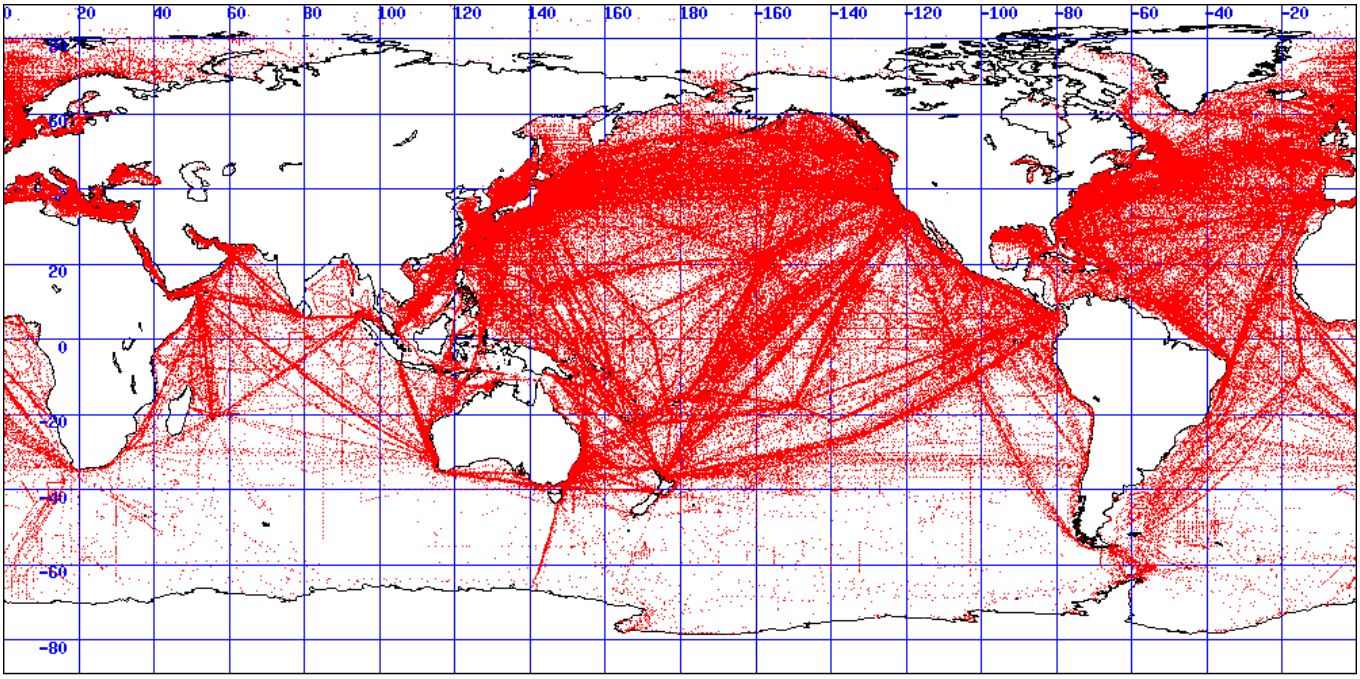
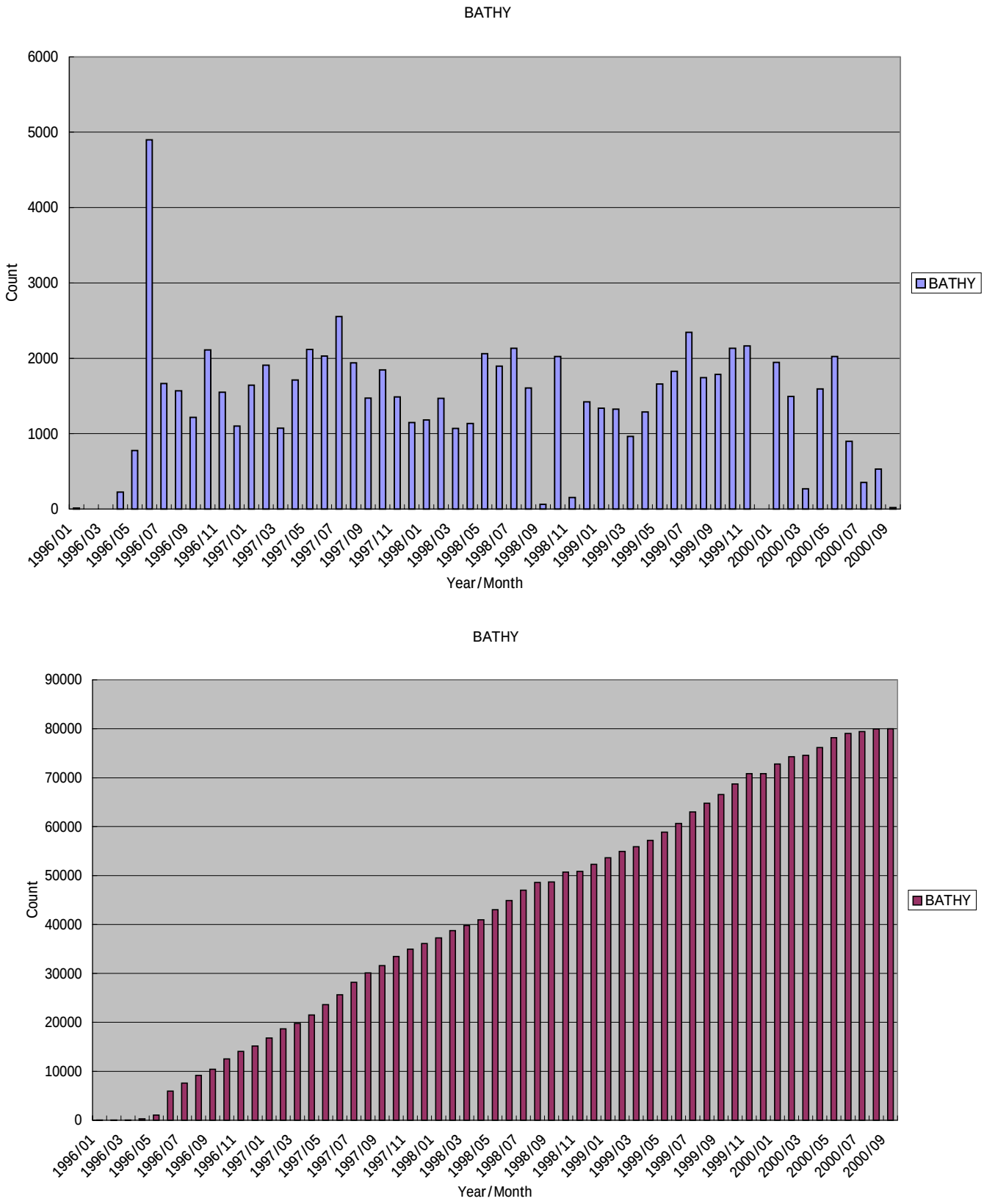


Fig.2: Number of Archived Data of RDMDB for BATHY/TESAC



2.3 RNODC-MARPOLMON

2.3.1 Activities

Major activities are as follows:

(1) Collection and management of four types of data, namely oil slick, tar ball, beach tar and hydrocarbon, since 1975.

(2) The received data are digitized and forwarded to WDC in the IODE exchange format.

2.3.2 Data holdings

Data holdings are shown in the following table and figures:

(1) Table 4: Number of Archived Data for MARPOLMON

(2) Fig. 2: Station Plots for BEACH TAR

(3) Fig. 3: Station Plots for TAR BALL

(4) Fig. 4: Station Plots for HYDROCARBON

(5) Fig. 5: Station Plots for OIL SLICK

Table 4: Number of Archived Data for MARPOLMON

Year	BEACH TAR	TAR BALL	HYDRO CARBON	OIL SLICK
1973	0	325	0	0
1974	0	229	10	1,421
1975	404	1,046	159	15,797
1976	797	1,094	253	15,603
1977	740	737	400	19,607
1978	665	606	395	22,583
1979	674	384	330	14,649
1980	580	500	361	5,967
1981	570	499	298	3,940
1982	588	454	318	1,112
1983	559	578	284	575
1984	588	415	98	274
1985	582	449	229	380
1986	624	536	80	810
1987	638	595	62	1,014
1988	653	479	65	1,476
1989	676	557	68	1,781
1990	650	527	65	1,526
1991	647	465	60	1,222
1992	634	441	61	1,199
1993	617	421	60	989
1994	588	345	52	1,221
1995	583	325	54	1,258
1996	0	119	70	1,244
1997	0	110	86	1,624
1998	0	90	26	1,943

Fig. 3: Station Plots for BEACH TAR

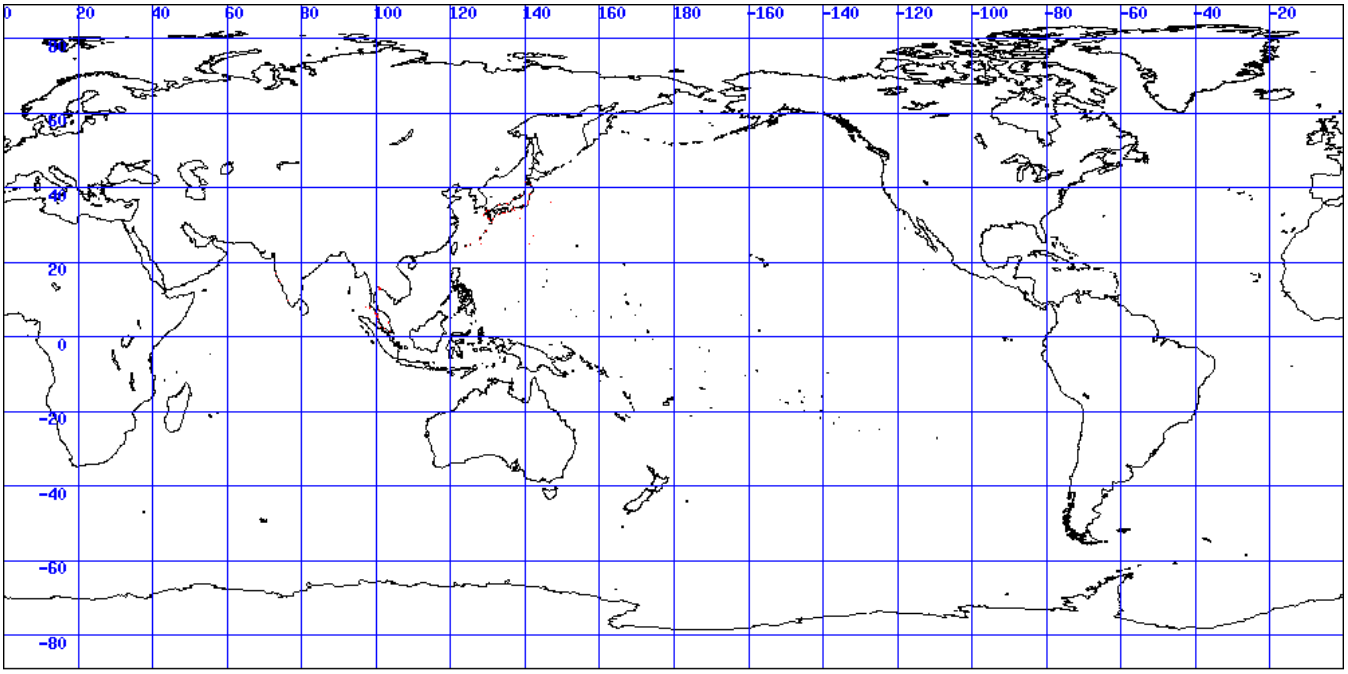


Fig. 4: Station Plots for TAR BALL

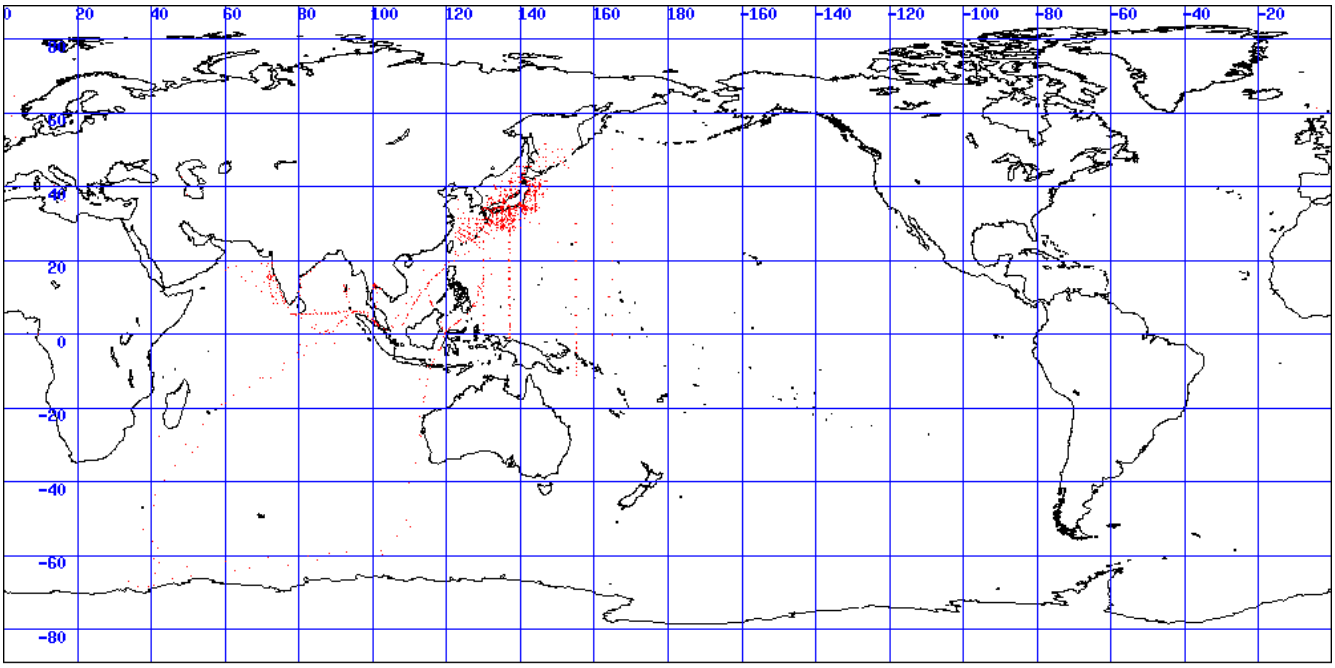


Fig. 5: Station Plots for HYDROCARBON

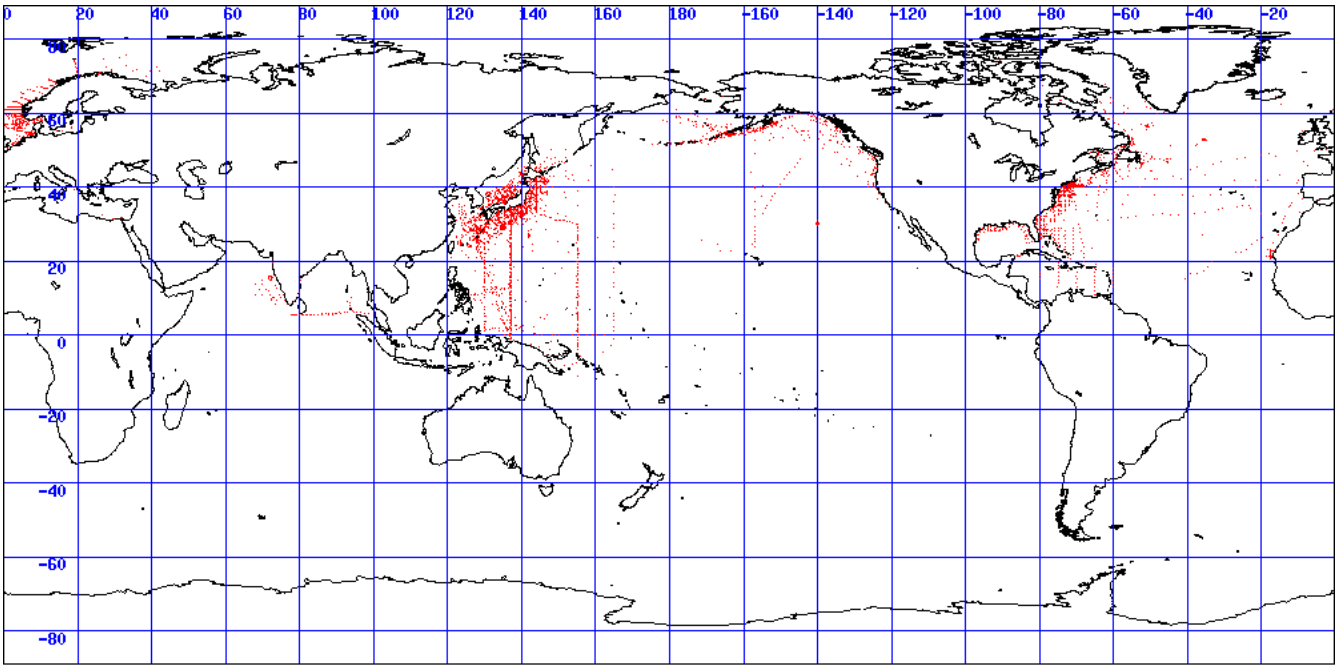
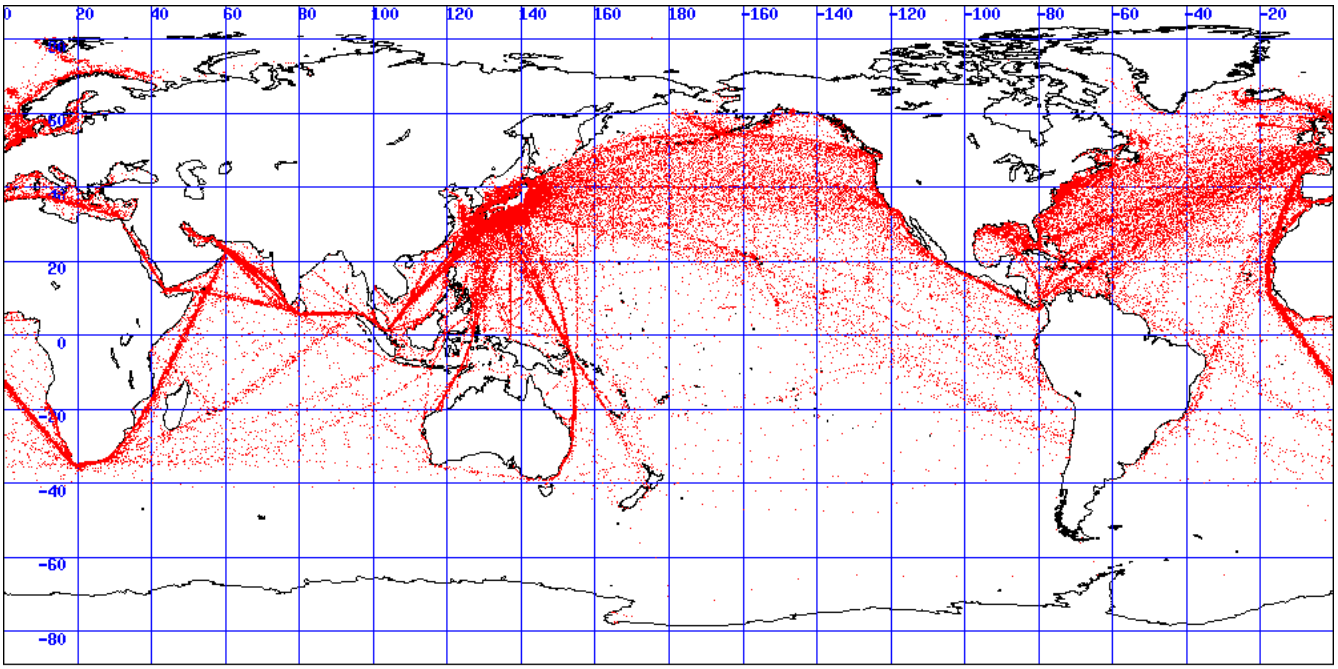


Fig. 6: Station Plots for OIL SLICK



2.4 RNODC-ADCP (Acoustic Doppler Current Profiler)

2.4.1 Activities

Major activities are as follows:

(1) The collection and archive of data and development of the methodology of ADCP data management since 1991.

(2) The operation of ADCP-DAC (Data Assembly Center) of WOCE (World Ocean Circulation Experiment) since 1995 on cooperated with Univ. of Hawaii.

(3) The development and using of ADCP data management system on the data base of JODC.

2.4.2 Data holdings

Data holdings are shown by the following table and figure:

(1) Table 5: Number of Archived Data for ADCP

(2) Fig. 6: Station Plots for ADCP

Table 5: Number of Archived Data for ADCP

YEAR	1985	1986	1987	1988	1989	1990	1991	1992
	1,943	6,240	4,908	2,790	54,448	67,108	53,119	74,376

YEAR	1993	1994	1995	1996	1997	1998	1999	2000
	122,918	48,279	326,113	818,835	510,443	597,757	480,527	63,610

Fig. 7: Station Plots for ADCP