ISSN 0915-9851
JP012-00-1

RNODC ACTIVITY REPORT

No.11
March 2000

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

JAPAN OCEANOGRAPHIC DATA CENTER

Hydrographic Department
Maritime Safety Agency
5-3-1, Tsukiji, Chuo-ku, TOKYO, 104-0045 JAPAN

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.

March, 2000

Toshio NAGAI
Director
Japan Oceanographic Data Center
5-3-1 Tsukiji, Chuo-ku
Tokyo 104-0045 Japan

Phone : +81 3 3541 4295
Fax : +81 3 3545 2885
E-mail : mail@jodc.jhd.go.jp
WWW : http://www.jodc.jhd.go.jp

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 24 January to 4 February 2000 and five trainees from China, Indonesia, Korea, Russia and Vietnam 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 1998

AGENCY	SHIP	AREA	PERIOD	DATA TYPE
ORI/UT	TANSEI MARU	Philippine Sea	1998/01/13 - 1998/01/19	B,H
MMO/JMA	SEIFU MARU	Japan Sea	1998/01/16 - 1998/03/02	B,D,G,H,M,P
CMD/JMA	KEIFU MARU	North Pacific Ocean, Philippine Sea	1998/01/21 - 1998/02/20	D,G,H,M,P
CMD/JMA	RYOFU MARU	East China Sea, Philippine Sea	1998/01/23 - 1998/03/05	B,D,G,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1998/01/30 - 1998/03/04	B,D,H,M,P
ORI/UT	TANSEI MARU	North Pacific Ocean	1998/02/20 - 1998/02/26	B,H
ORI/UT	TANSEI MARU	Philippine Sea	1998/03/11 - 1998/03/17	B,G,H,P
NFRDI/KOREA	INCHON 888	Yellow Sea	1998/04/01 - 1998/04/20	B,D,H,M
FF/NU	NAGASAKI MARU	East China Sea	1998/04/02 - 1998/04/22	B,H
ORI/UT	TANSEI MARU	North Pacific Ocean	1998/04/07 - 1998/04/13	
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1998/04/07 - 1998/04/20	B,D,H,M
SFHS	WAKATORI MARU	Philippine Sea	1998/04/09 - 1998/04/25	H,M
NFRDI/KOREA	TANGU3	East China Sea	1998/04/14 - 1998/04/21	B,D,H,M
CMD/JMA	RYOFU MARU	North Pacific Ocean	1998/04/23 - 1998/05/15	B,D,G,H,M,P
CMD/JMA	RYOFU MARU	North Pacific Ocean	1998/04/23 - 1998/05/15	B,D,G,H,M,P
MMO/JMA	SEIFU MARU	Japan Sea	1998/04/24 - 1998/05/31	B,D,G,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1998/04/28 - 1998/05/29	B,D,H,M,P
ORI/UT	TANSEI MARU	Philippine Sea	1998/05/08 - 1998/05/15	B,D,H
FF/NU	NAGASAKI MARU	East China Sea	1998/05/08 - 1998/06/04	B,D,H
NFRDI/KOREA	TANGU3	East China Sea	1998/05/12 - 1998/05/22	B,D,H,M
ORI/UT	TANSEI MARU	North Pacific Ocean	1998/05/18 - 1998/05/24	B,D,H

ESST/KU	KAKUYO MARU	East China Sea	1998/05/20 - 1998/05/28	D,H
FF/HU	OSHORO MARU	Bering Sea, North Pacific Ocean	1998/06/03 - 1998/08/19	B,H
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1998/06/06 - 1998/06/17	B,D,H,M
NFRDI/KOREA	TANGU3	East China Sea	1998/06/08 - 1998/06/15	B,D,H,M
NFRDI/KOREA	INCHON 888	Yellow Sea	1998/06/08 - 1998/06/19	B,D,H,M
CMD/JMA	RYOFU MARU	North Pacific Ocean	1998/06/09 - 1998/07/31	B,D,G,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1998/06/10 - 1998/08/10	B,D,G,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1998/06/10 - 1998/10/08	B,D,G,H,M,P
ORI/UT	TANSEI MARU	Philippine Sea	1998/06/15 - 1998/06/24	G
FF/NU	KAKUYO MARU	East China Sea	1998/06/24 - 1998/07/03	B
MMO/JMA	SEIFU MARU	Japan Sea	1998/06/26 - 1998/08/14	B,D,G,H,M,P
ORI/UT	TANSEI MARU	East China Sea, Philippine Sea	1998/06/27 - 1998/07/06	M
RIAM/KU	KAKUYO MARU	Japan Sea	1998/06/30 - 1998/06/18	D,H
FF/NU	KAKUYO MARU	North Pacific Ocean	1998/07/12 - 1998/08/11	H
FF/NU	NAGASAKI MARU	East China Sea, Philippine Sea	1998/07/12 - 1998/08/10	B,H
ORI/UT	TANSEI MARU	North Pacific Ocean	1998/07/22 - 1998/07/28	B,D,H
ORI/UT	TANSEI MARU	Philippine Sea	1998/07/31 - 1998/08/05	B,G,H
NFRDI/KOREA	INCHON 888	Yellow Sea	1998/08/04 - 1998/08/20	B,D,H,M
NFRDI/KOREA	TANGU3	East China Sea	1998/08/05 - 1998/08/13	B,D,H,M
NFRDI/KOREA	PUSAN 851	East China Sea	1998/08/05 - 1998/08/08	B,D,H,M
NFRDI/KOREA	TANGU3	Japan Sea	1998/08/19 - 1998/08/26	B,D,H,M
FF/NU	NAGASAKI MARU	East China Sea	1998/08/20 - 1998/09/04	B,H
ORI/UT	HAKUHO MARU	North Pacific Ocean	1998/09/07 - 1998/10/28	B,D,H
CMD/JMA	RYOFU MARU	North Pacific Ocean	1998/09/16 - 1998/11/13	B,D,G,H,M,P
ORI/UT	TANSEI MARU	North Pacific Ocean, Japan Sea	1998/09/25 - 1998/10/02	B,G
HMO/JMA	KOFU MARU	North Pacific Ocean	1998/10/06 - 1998/11/05	B,D,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1998/10/06 - 1998/11/05	B,D,H,M,P
MMO/JMA	SEIFU MARU	Japan Sea	1998/10/07 - 1998/11/08	B,D,H,M,P
FF/NU	KAKUYO MARU	North Pacific Ocean	1998/10/24 - 1998/12/21	H
FF/NU	NAGASAKI MARU	East China Sea	1998/11/06 - 1998/11/30	B,G,H
MMO/JMA	SEIFU MARU	Japan Sea	1998/11/18 - 1998/12/06	B,D,G,H,M
HMO/JMA	KOFU MARU	North Pacific Ocean	1998/11/18 - 1998/12/10	B,D,H,M
CMD/JMA	RYOFU MARU	Philippine Sea	1998/11/26 - 1998/12/02	D,H,G,M
NFRDI/KOREA	INCHON 888	Yellow Sea	1998/12/04 - 1998/12/16	B,D,H,M
FF/NU	NAGASAKI MARU	East China Sea	1998/12/08 - 1998/12/18	B,H
NFRDI/KOREA	TANGU3	East China Sea	1998/12/09 - 1998/12/16	B,D,H,M
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1998/12/09 - 1998/12/18	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	2,925	110	0	2,847	674	5,269
1980	3,023	319	0	4,645	2,321	6,281
1981	2,898	187	0	3,869	2,507	6,041
1982	2,669	181	0	5,665	3,225	6,061
1983	1,691	72	119	5,804	3,423	6,025
1984	1,499	21	370	6,385	3,846	7,121
1985	1,173	156	486	8,002	3,503	5,471
1986	1,607	376	891	8,863	2,090	5,793
1987	1,190	365	1,289	8,457	1,667	4,972
1988	454	0	2,624	12,083	877	2,811
1989	5	0	2,909	11,577	475	1,626
1990	1,491	0	2,576	11,304	1,134	871
1991	1,322	0	2,231	11,769	1,650	841
1992	1,060	0	1,809	9,216	18	216
1993	226	0	2,563	11,244	1,891	152
1994	262	0	1,446	3,084	73	24
1995	182	0	315	2,525	0	117
1996	125	0	222	2,312	0	0
1997	0	0	217	3,137	0	0
1998	0	0	278	810	0	0
1999	0	0	0	0	0	0
TOTAL	23,802	1,787	20,345	133,598	29,374	59,692

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.

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.

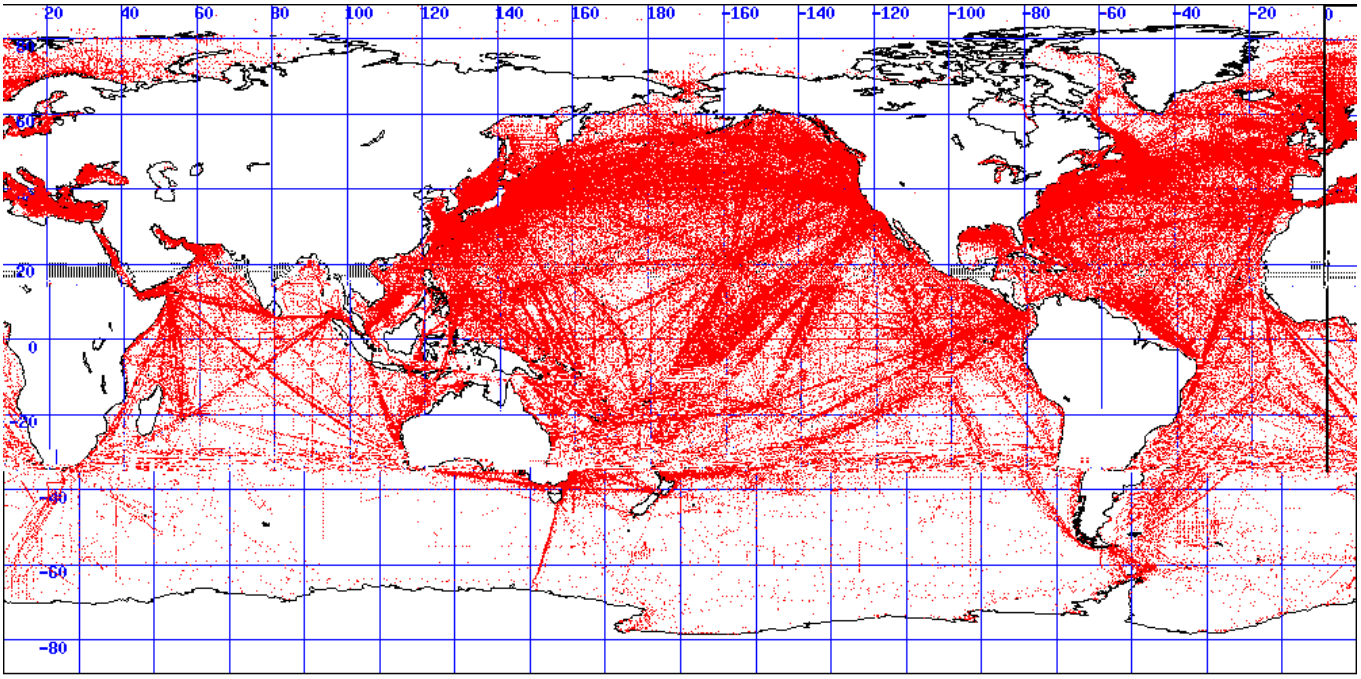
Table 3: Number of Archived Data for BATHY/TESAC

YEAR	1982	1983	1984	1985	1986	1987	1988
BATHY	23,649	25,766	23,235	26,561	32,256	41,767	33,437
TESAC	721	5,501	7,099	5,824	5,678	6,633	5,120

YEAR	1989	1990	1991	1992	1993	1994	1995
BATHY	29,159	31,410	25,367	43,324	55,762	57,239	60,039
TESAC	5,008	4,969	2,141	1,320	2,155	2,622	2,207

YEAR	1996	1997	1998	1999
BATHY	63,896	72,723	49,684	56,148
TESAC	2,171	1,266	4,740	9,332

Fig.3: Station Plots 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	341	0	0
1974	0	229	10	1,495
1975	404	1,059	604	16,714
1976	799	1,096	722	16,239
1977	740	738	877	19,687
1978	665	606	482	22,608
1979	676	385	389	14,665
1980	581	503	421	5,978
1981	570	501	363	3,948
1982	588	459	334	1,124
1983	560	585	329	585
1984	588	417	98	278
1985	582	449	240	390
1986	624	536	80	858
1987	638	598	62	1,015
1988	653	494	65	1,492
1989	679	565	68	1,949
1990	650	527	65	1,672
1991	647	465	60	1,286
1992	634	441	61	1,215
1993	618	422	60	991
1994	588	345	52	1,221
1995	583	325	54	1,518
1996	0	119	70	1,413
1997	0	110	86	1,783

Fig. 2: Station Plots for BEACH TAR

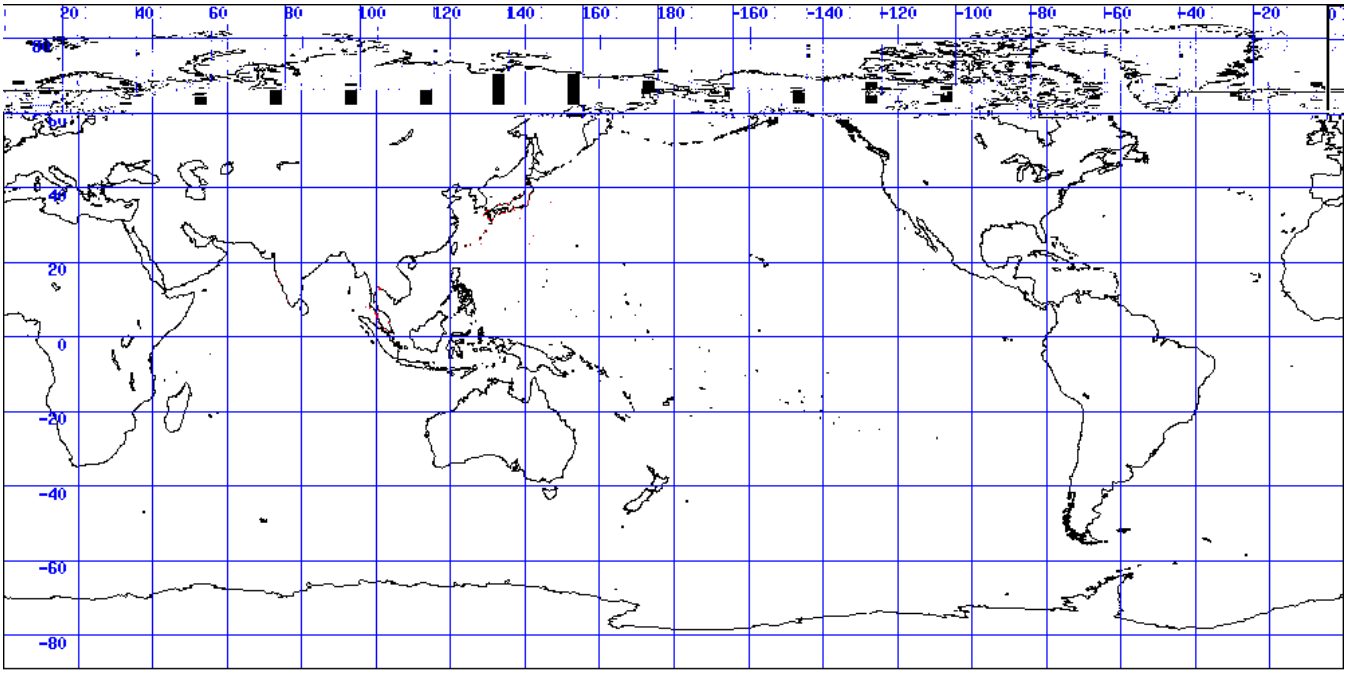


Fig. 3: Station Plots for TAR BALL

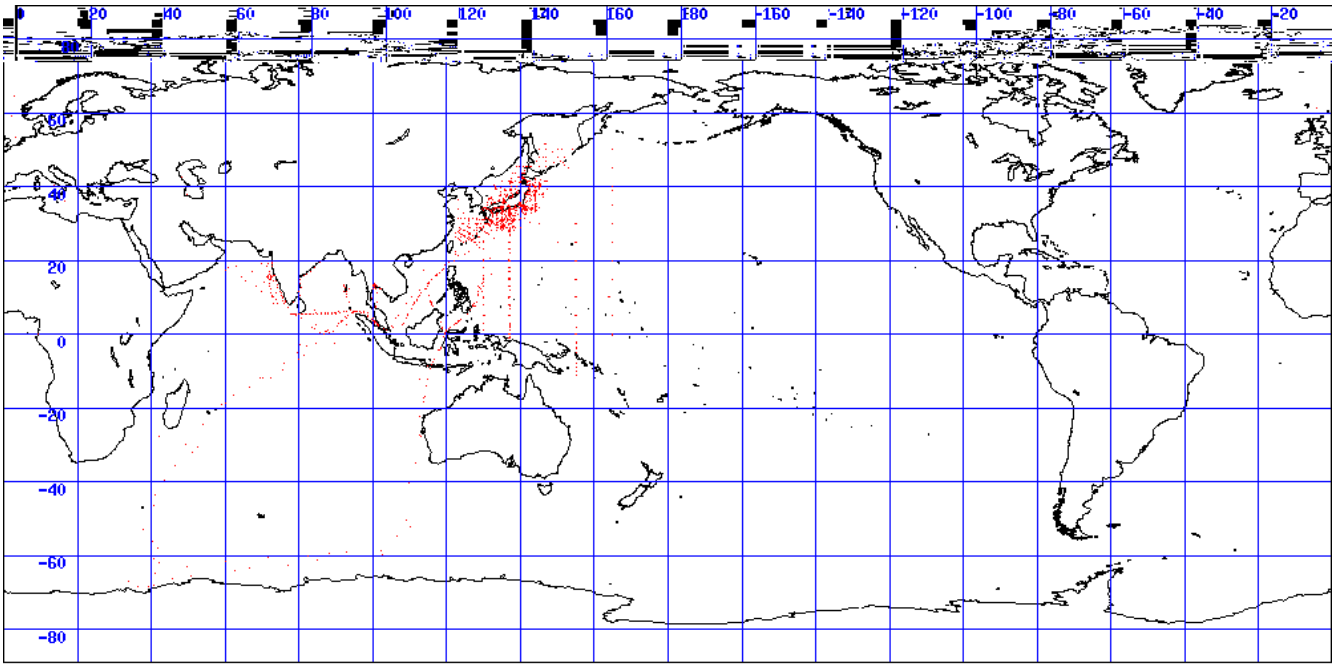


Fig. 4: Station Plots for HYDROCARBON

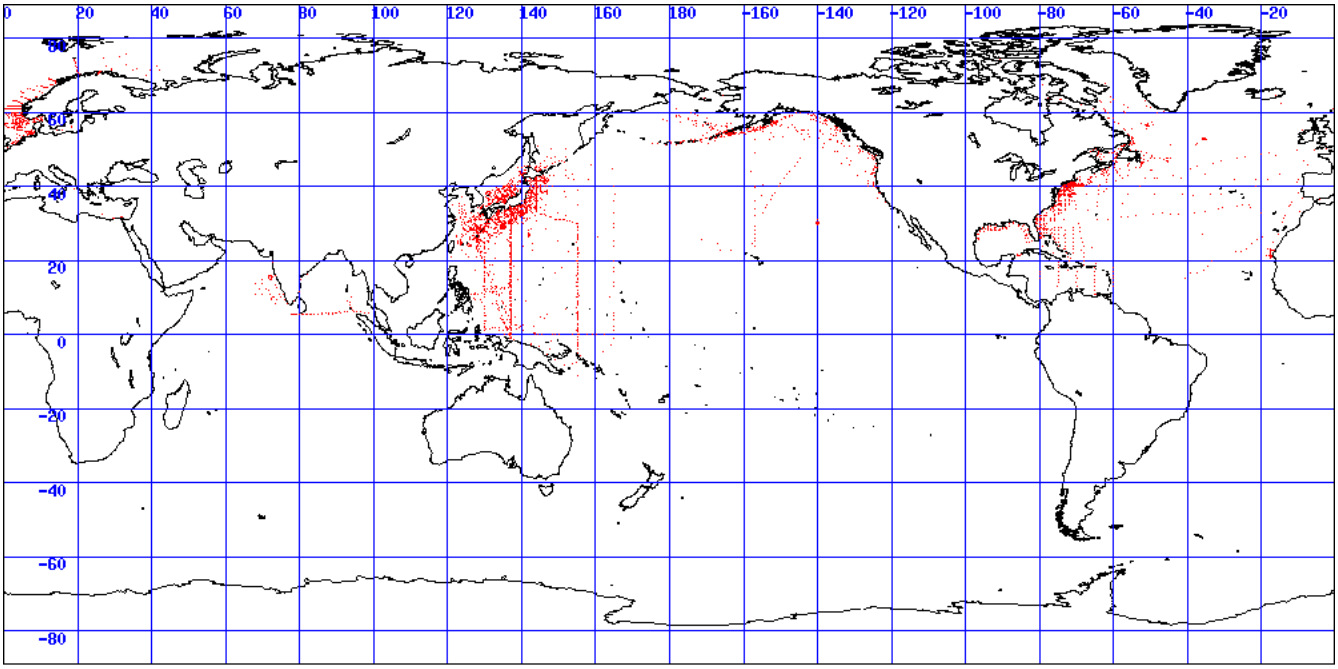
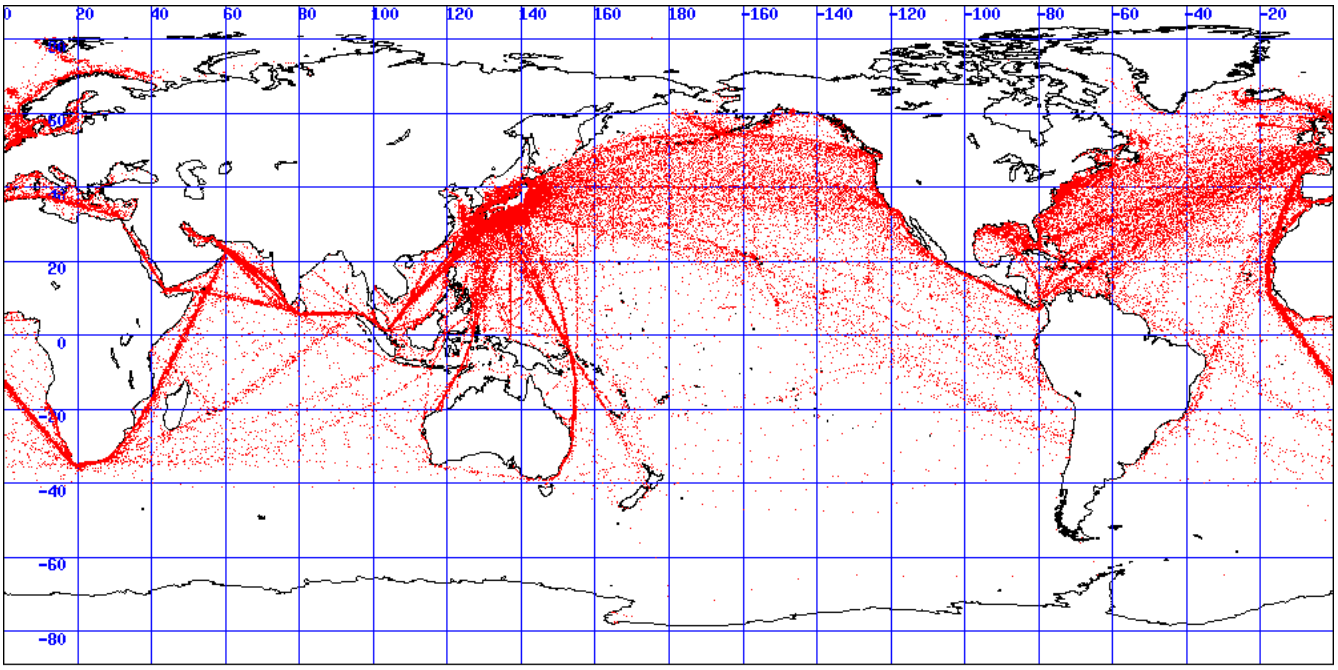


Fig. 5: Station Plots for OIL SLICK



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	1991	1992	1993	1994	1995	1996
	48,585	11,093	99,714	27,843	304,663	834,069

YEAR	1997	1998	1999
	614,741	602,014	480,527

Fig. 6: Station Plots for ADCP