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RNODC ACTIVITY REPORT

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

JAPAN OCEANOGRAPHIC DATA CENTER

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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.

March, 1999

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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.

(2) The annual training course on oceanographic data management carried out from 13 to 24 October 1997 and seven trainees from Korea, Russia and Vietnam were participated.

2.1.2 Data holdings

Data holdings are shown in the following tables and figures: --

(1) Table 1: The inventory of CSR in 1996.

(2) Table 2: The numbers of observation station classified according to instruments in each year.

Table 1: Inventory of Archived Data in 1997

AGENCY	SHIP	AREA	PERIOD	DATA TYPE
ORI	HAKUHO MARU	Andaman Sea	1996/12/19-1997/02/18	G,H
KSL/KOREA	YUZHMORGEOLOGIYA	Antarctic Sea	1996/12/29-1997/01/06	G
MMO/JMA	SEIFU MARU	Japan Sea	1997/01/14-1997/02/27	B,D,G,H,M,P
MRI/JMA	RYOFU MARU	Philippine Sea	1997/01/21-1997/02/25	B,D,G,H,M,P
MD/JMA	KEIFU MARU	North Pacific Ocean	1997/01/22-1997/02/25	D,G,H,M,P
KMO/JMA	SHUMPU MARU	Philippine Sea	1997/01/22-1997/02/28	B,D,G,H,M,P
NMO/JMA	CHOFU MARU	East China Sea	1997/01/22-1997/03/08	B,D,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1997/01/27-1997/03/04	B,D,H,M,P
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1997/02/04-1997/02/23	B,H,M
NFRDI/KOREA	CHONNAM 881	East China Sea	1997/02/11-1997/02/23	B,H,M
NFRDI/KOREA	INCHON 888	Yellow Sea	1997/02/13-1997/02/24	B,H,M
NFRDI/KOREA	INCHON 888	East China Sea	1997/03/16-1997/03/22	B,H,M
NAGASAKI UNIV.	NAGASAKI MARU	East China Sea	1997/04/02-1997/04/22	B,H
NFRDI/KOREA	INCHON 888	Yellow Sea	1997/04/04-1997/04/19	B,H,M
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1997/04/06-1997/04/19	B,H,M
ORI	TANSEI MARU	North Pacific Ocean	1997/04/10-1997/04/16	D,H
JHD/MSA	SHOYO	Japan Sea	1997/04/15-1997/05/01	G,P
MD/JMA	KEIFU MARU	North Pacific Ocean	1997/04/23-1997/04/30	D,H,M,P
NFRDI/KOREA	KYONGBUK 885	East China Sea	1997/04/23-1997/05/02	B,H,M
MD/JMA	RYOFU MARU	North Pacific Ocean	1997/04/23-1997/05/06	B,G,H,M,P
KMO/JMA	SHUMPU MARU	Inland Sea	1997/04/24-1997/05/23	B,D,G,H,M,P
MMO/JMA	SEIFU MARU	Japan Sea	1997/04/25-1997/05/26	B,D,G,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1997/04/28-1997/05/30	B,D,H,M,P
NAGASAKI UNIV.	NAGASAKI MARU	East China Sea	1997/05/06-1997/06/05	B,G,H
SAKAI F. H.SCHOOL	WAKATORI MARU	North Pacific Ocean	1997/05/15-1997/07/10	B,H,M

AGENCY	SHIP	AREA	PERIOD	DATA TYPE
NFRDI/KOREA	INCHON 888	East China Sea	1997/05/19-1997/05/23	B,H,M
NAGASAKI UNIV.	KAKUYO MARU	East China Sea	1997/05/24-1997/06/02	H
MD/JMA	RYOFU MARU	North Pacific Ocean	1997/05/30-1997/07/22	B,D,G,H,M,P
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1997/06/03-1997/06/13	B,H,M
JHD/MSA	SHOYO	North Pacific Ocean	1997/06/04-1997/07/03	D,G,H
KYUSHU UNIV.	KAKUYO MARU	Japan Sea	1997/06/08-1997/06/21	D,H
NFRDI/KOREA	INCHON 888	Yellow Sea	1997/06/11-1997/06/17	B,H,M
HMO/JMA	KOFU MARU	North Pacific Ocean	1997/06/12-1997/07/04	B,D,H,M,P
NMO/JMA	CHOFU MARU	East China Sea	1997/06/13-1997/08/02	B,D,H,M,P
NAGASAKI UNIV.	KAKUYO MARU	Amami-Oshima	1997/06/24-1997/07/03	B
MMO/JMA	SEIFU MARU	Japan Sea	1997/06/25-1997/08/13	B,D,G,H,M,P
KMO/JMA	SHUMPU MARU	North Pacific Ocean	1997/06/26-1997/08/03	B,D,G,H,M,P
NFRDI/KOREA	KYONGBUK 885	East China Sea	1997/06/30-1997/07/10	B,H,M
ORI	HAKUHO MARU	Bering Sea	1997/07/09-1997/09/08	B,G,H
NAGASAKI UNIV.	KAKUYO MARU	North Pacific Ocean	1997/07/12-1997/08/11	H
JHD/MSA	SHOYO	North Pacific Ocean	1997/07/14-1997/07/29	D
HMO/JMA	KOFU MARU	North Pacific Ocean	1997/07/14-1997/08/07	B,D,H,M,P
ORI	TANSEI MARU		1997/07/27-1997/07/31	B,H
JHD/MSA	SHOYO	North Pacific Ocean	1997/08/06-1997/08/25	D,G,H
NFRDI/KOREA	PUSAN 851	East China Sea	1997/08/11-1997/08/16	B,H,M
NFRDI/KOREA	INCHON 888	Yellow Sea	1997/08/11-1997/08/24	B,H,M
NFRDI/KOREA	PUSAN 851	East China Sea	1997/08/20-1997/08/24	B,H,M
NAGASAKI UNIV.	KAKUYO MARU	North Pacific Ocean	1997/08/20-1997/09/04	H
KMO/JMA	SHUMPU MARU	Philippine Sea	1997/08/21-1997/09/09	B,D,G,H,M
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1997/08/23-1997/08/30	B,H,M
ORI	TANSEI MARU	North Pacific Ocean	1997/09/01-1997/09/07	B,D,H
JHD/MSA	SHOYO	Japan Sea	1997/09/01-1997/09/30	D,H
JHD/MSA	SHOYO	Japan Sea	1997/09/01-1997/09/30	D,H
ORI	TANSEI MARU	Japan Sea	1997/09/10-1997/09/16	B,G
MD/JMA	RYOFU MARU	North Pacific Ocean	1997/09/12-1997/11/07	B,D,G,H,M,P
ORI	HAKUHO MARU	Japan Sea	1997/09/19-1997/10/02	
NMO/JMA	CHOFU MARU	East China Sea	1997/10/03-1997/10/31	B,D,H,M,P
KMO/JMA	SHUMPU MARU	Philippine Sea	1997/10/06-1997/11/13	B,D,G,H,M,P
NFRDI/KOREA	KYONGBUK 885	Japan Sea	1997/10/08-1997/10/23	B,H
NFRDI/KOREA	INCHON 888	Yellow Sea	1997/10/08-1997/10/23	B,H,M
MMO/JMA	SEIFU MARU	Japan Sea	1997/10/08-1997/11/05	B,D,G,H,M,P
HMO/JMA	KOFU MARU	North Pacific Ocean	1997/10/08-1997/11/07	B,D,H,M,P
NFRDI/KOREA	CHONNAM 881	East China Sea	1997/10/21-1997/10/29	B,H,M
NAGASAKI UNIV.	KAKUYO MARU	North Pacific Ocean	1997/10/24-1997/12/21	H
NFRDI/KOREA	PUSAN 851	Yellow Sea	1997/11/01-1997/11/05	B,H,M
NAGASAKI UNIV.	NAGASAKI MARU		1997/11/04-1997/11/28	B,D,G,H
ORI	TANSEI MARU	North Pacific Ocean	1997/11/17-1997/11/26	G
NMO/JMA	CHOFU MARU	East China Sea	1997/11/19-1997/12/16	B,D,H,M
HMO/JMA	KOFU MARU	North Pacific Ocean	1997/11/21-1997/12/11	B,D,H,M
MMO/JMA	SEIFU MARU	Japan Sea	1997/11/21-1997/12/11	B,D,G,H,M

AGENCY	SHIP	AREA	PERIOD	DATA TYPE
JHD/MSA	SHOYO	North Pacific Ocean	1997/11/25-1997/12/20	D,G,H
JHD/MSA	KAIYO	North Pacific Ocean	1997/11/27-1997/12/02	G
MD/JMA	RYOFU MARU	Philippine Sea	1997/11/28-1997/12/04	D,G,H,M
ORI	TANSEI MARU	Sagami Bay	1997/12/02-1997/12/08	B,D,G,H
NFRDI/KOREA	KYONGBUK 885	East China Sea	1997/12/04-1997/12/24	B,H,M
NAGASAKI UNIV.	NAGASAKI MARU		1997/12/08-1997/12/18	B
NFRDI/KOREA	CHONNAM 881	East China Sea	1997/12/12-1997/12/16	B,H,M
NFRDI/KOREA	INCHON 888	Yellow Sea	1997/12/13-1997/12/16	B,H,M

DATA TYPE CODE

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 in JODC

	NANSEN	STD	CTD	MBT	XBT	DBT	GEK/ADCP
1979	2,190	28	0	0	0	138	52
1980	2,144	92	0	0	0	164	65
1981	2,050	0	0	0	3	156	0
1982	2,094	0	0	0	0	0	0
1983	136	0	0	0	0	0	169
1984	0	0	0	0	0	249	0
1985	1,546	0	184	0	546	1,556	2,568
1986	1,490	0	224	0	509	1,720	2,407
1987	0	0	688	0	154	46	850
1988	0	0	674	0	0	0	776
1989	0	0	0	0	0	0	1,418
1990	1,816	0	0	0	417	86	3,680
1991	1,836	0	0	0	449	78	3,636
1992	1,612	0	360	0	350	0	2,317
1993	132	0	3,706	0	175	13	3,161
1994	232	0	1,496	0	336	68	1,891
1995	182	0	137	0	3,943	0	9,303
1996	123	0	112	0	0	0	27,469
1997	0	0	42	0	240	0	609
1998	0	0	0	0	0	0	39,708
TOTAL	17,583	120	7,623	0	7,122	4,274	100,079

2.2 RNODC-IGOSS (Integrated Global Ocean Services System)

2.2.1 Activities

Major activities are as follows: --

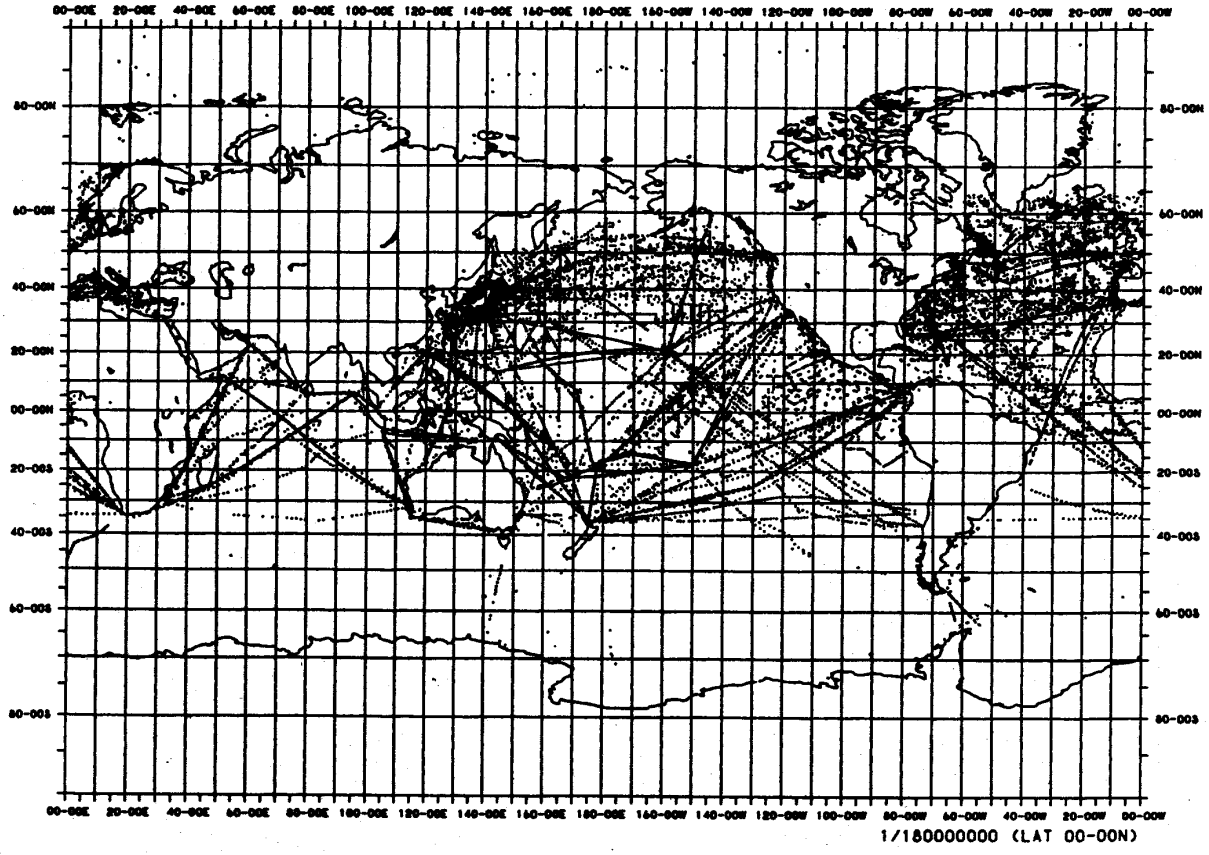
(1) The management of the data for specific geographical areas as RNODC with the responsibility since the starting of the IGOSS project in 1977.

(2) The report of the state of data management to IOC and WMO twice a year.

2.2.2 Data holdings

JODC received BATHY/TESAC data for 1997 from JMA (Japan Meteorological Agency), that is one of SOC, and applied quality control procedure for final archiving.

All of the observation spots for archived dat holdings are shown in the following figure l.



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 tables and figures: --

(1) Table 3: Data volume archived according to their types.

(2) Fig. 2: The existence spots for oil slick data.

(3) Fig. 3: The observation spots for tar ball data.

(4) Fig. 4: The observation spots for beach tar data.

(5) Fig. 5: The observation spots for hydrocarbon data.

Table 3: JODC holds following data which were provided by WDC-A, JMA and JMSA

Oil Slicks	:	115,616 points	(1974-1994)
Tar Ball	:	12,070 points	(1973-1995)
Beach Tar	:	13,044 points	(1975-1995)
Hydrocarbon	:	5,441 points	(1974-1994)

Fig 2: The existence spots for oil slick data

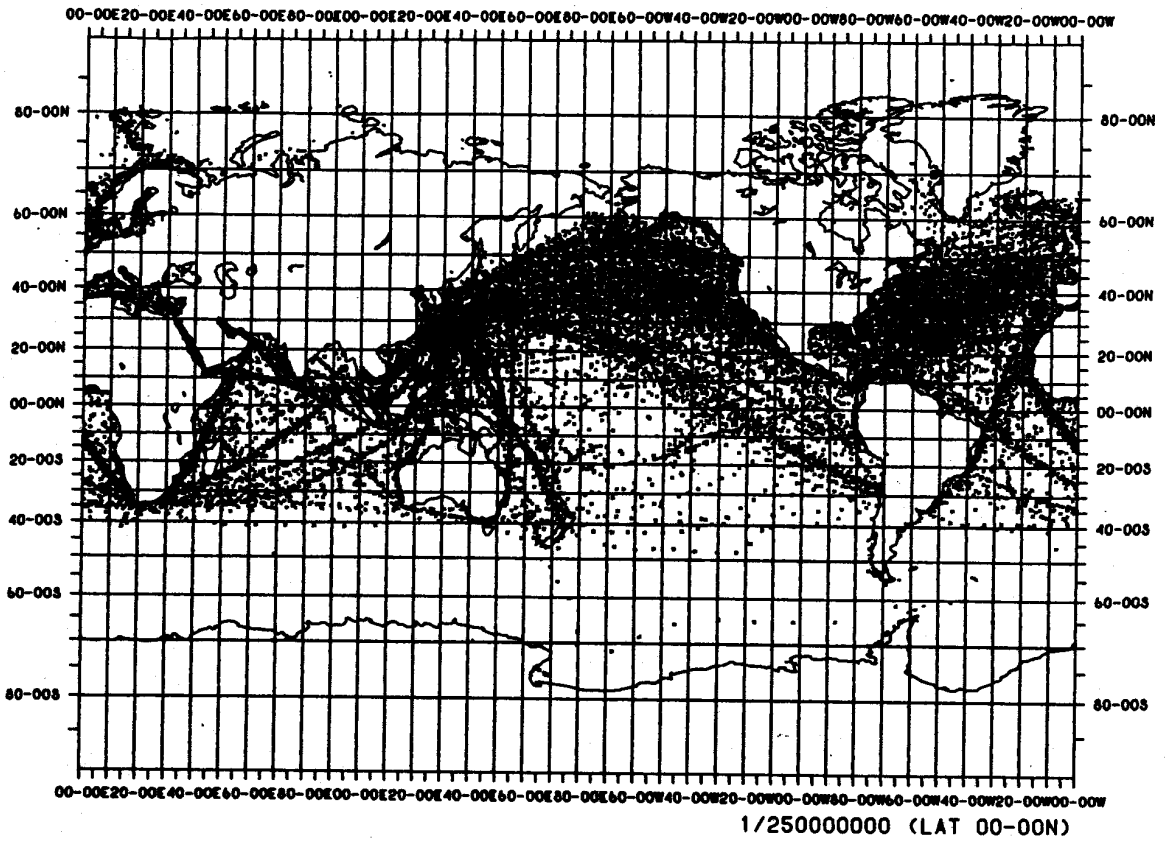


Fig 3: The existence spots for tar ball data

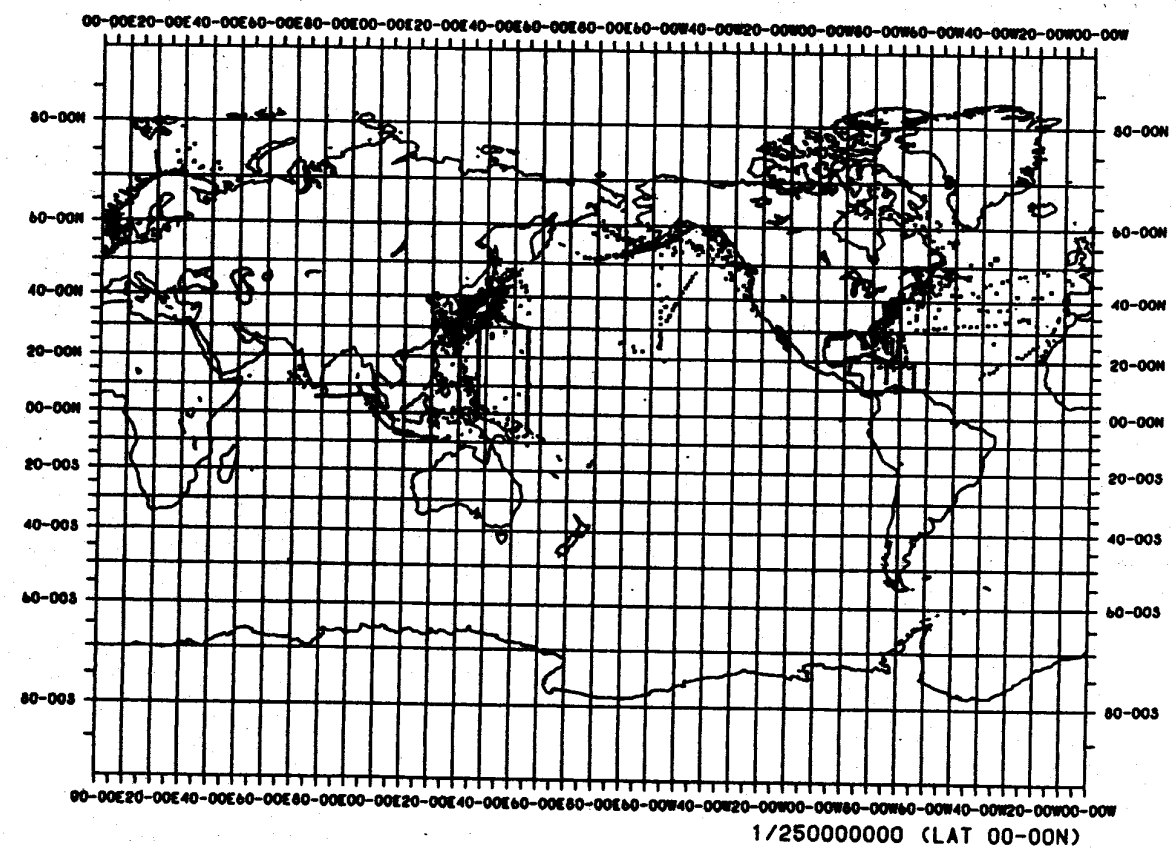


Fig 4: The existence spots for beach tar

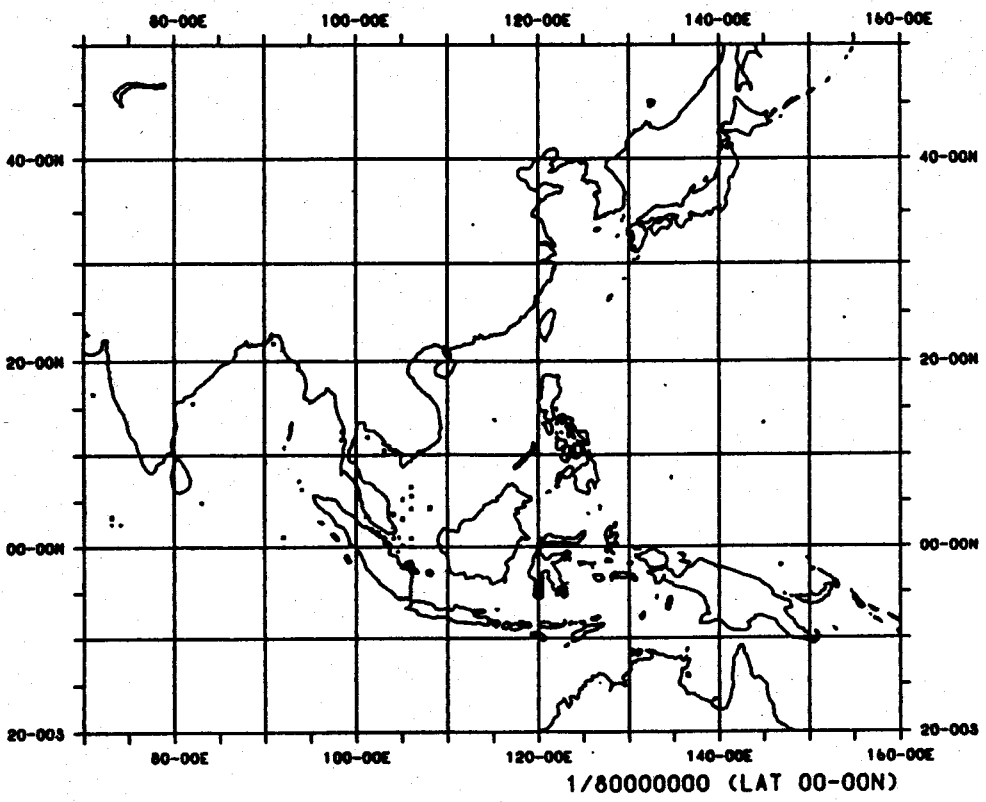
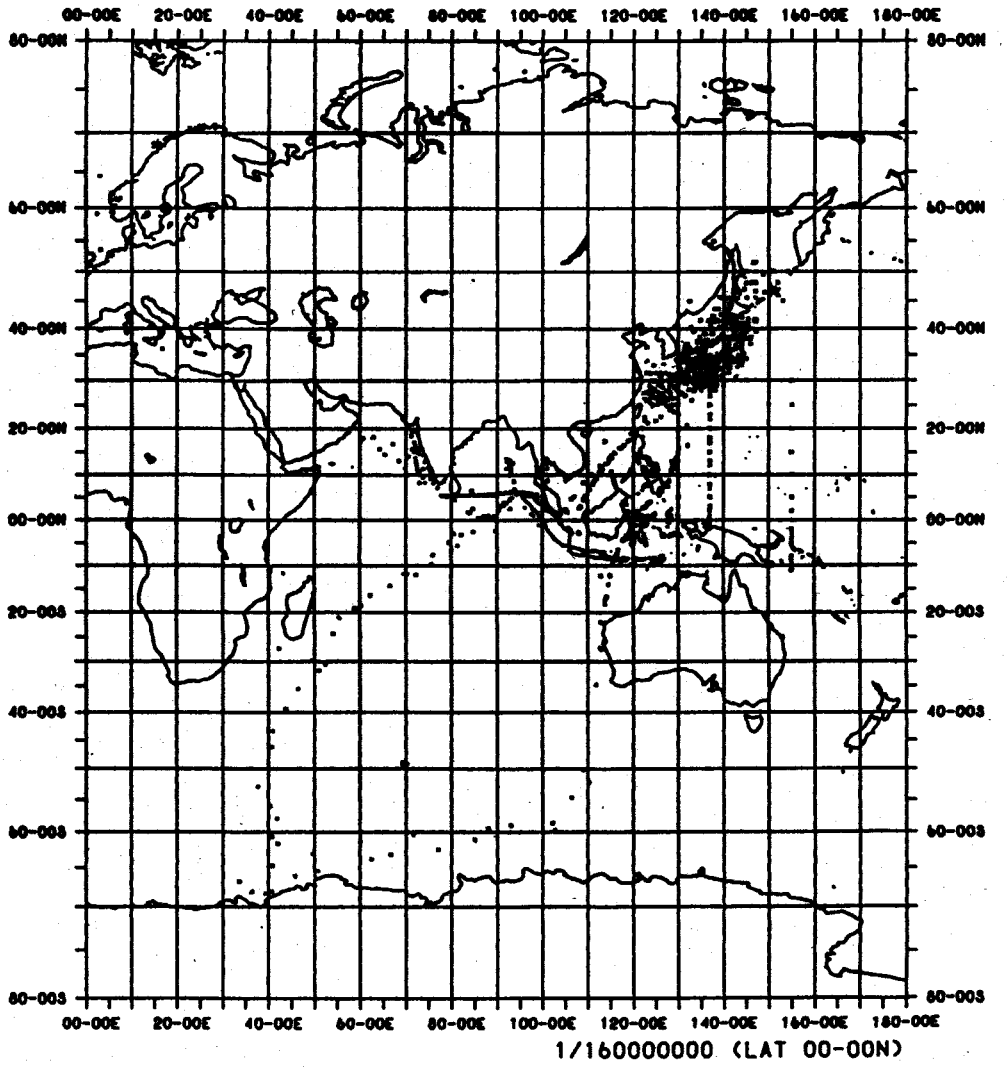


Fig 5: The existence spots for hydrocarbon data



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) WOCE/ADCP Data Set(Ver.1.0)

(4) 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 tables: --

(1) Table 4: The number of archived data in 1998 by country.

(2) Table 5: The inventory of data with provided by Univ. of Hawaii in1998.

Table 4: ADCP Data received at JODC in 1998.

Japan	:	35 Cruises
U.S.A.	:	42 Cruises

Table 5: ADCP Inventories provided by Univ. of Hawaii in 1998.

JODC Ref.	Start	End	Lat-min	Long-min	Lat-max	Long-max
319700187	1997/06/02	1997/06/06	21.25 N	158.51 W	22.85 N	157.89 W
319700188	1997/01/11	1997/01/13	21.26 N	158.33 W	22.56 N	157.89 W
319700189	1997/05/12	1997/05/21	21.25 N	158.33 W	22.69 N	156.91 W
319700200	1997/06/26	1997/07/02	21.25 N	158.41 W	28.13 N	155.34 W
319700201	1997/07/07	1997/07/11	21.25 N	158.33 W	23.04 N	157.90 W
319700202	1997/07/31	1997/08/04	21.26 N	158.37 W	22.84 N	157.89 W
319700204	1997/09/24	1997/09/26	21.23 N	158.43 W	22.79 N	157.90 W
319600205	1996/05/04	1996/07/03	66.42 S	018.63 E	34.40 S	147.49 E
319600212	1996/10/24	1996/11/01	37.71 N	069.37 W	43.51 N	028.33 W
319600213	1996/11/02	1996/12/05	37.70 N	042.95 W	64.90 N	003.64 W
319700214	1997/10/03	1997/11/20	37.70 N	070.67 W	64.64 N	011.29 W
319300215	1993/05/15	1993/06/26	34.58 N	159.10 W	57.33 N	123.46 W
319200216	1992/05/01	1992/05/26	33.04 S	112.67 W	27.90 S	071.50 W
319200217	1992/05/30	1992/07/06	36.30 S	174.98 E	27.14 S	109.44 W
319200218	1992/07/13	1992/07/29	36.14 S	152.60 E	30.04 S	177.56 E
319200219	1992/09/01	1992/09/13	36.14 S	175.01 E	18.27 S	178.56 E
319700221	1997/12/01	1997/12/02	21.25 N	158.33 W	22.48 N	157.91 W
319700222	1997/12/03	1997/12/07	21.25 N	158.33 W	22.89 N	157.89 W
319700223	1997/12/20	1997/12/22	21.23 N	158.33 W	22.89 N	157.61 W
319800224	1998/01/09	1998/01/13	21.26 N	158.33 W	22.77 N	157.90 W
319800225	1998/02/17	1998/02/21	21.25 N	158.33 W	22.94 N	157.89 W
319800231	1998/03/16	1998/03/20	21.24 N	158.33 W	23.18 N	157.91 W
319300232	1993/01/02	1993/02/09	05.69 S	049.97 W	07.50 N	011.25 E
319300233	1993/02/14	1993/03/19	04.75 S	051.28 W	08.34 N	011.07 E
319800234	1998/04/13	1998/04/17	21.26 N	158.34 W	22.88 N	157.86 W
319800235	1998/04/18	1998/04/19	21.21 N	158.33 W	22.56 N	157.90 W
319800236	1998/04/27	1998/04/30	21.25 N	158.34 W	22.65 N	156.60 W
319500249	1995/03/25	1995/04/25	02.01 S	043.13 E	24.67 N	061.50 E
319500250	1995/06/08	1995/07/10	04.54 S	050.00 E	16.93 N	059.49 E
319500252	1995/08/16	1995/09/19	02.51 S	049.99 E	23.64 N	060.11 E
319300254	1993/07/30	1993/08/10	40.93 N	052.71 W	47.56 N	041.67 W
319800255	1998/05/11	1998/05/15	21.26 N	158.33 W	22.85 N	157.88 W
319800256	1998/06/15	1998/06/19	21.26 N	158.33 W	22.90 N	157.89 W
319100260	1991/05/24	1991/06/10	05.61 S	044.41 W	04.70 N	029.86 W
319200261	1992/10/26	1992/11/14	10.00 S	044.39 W	06.59 N	030.01 W
319400262	1994/02/28	1994/03/25	10.00 S	044.40 W	07.94 N	030.08 W
319200263	1992/11/24	1992/12/16	20.00 N	030.10 W	37.74 N	015.29 W
319800264	1998/07/13	1998/07/17	21.25 N	158.33 W	22.82 N	157.89 W
319800265	1998/08/08	1998/08/12	21.26 N	158.34 W	22.78 N	157.89 W
319400271	1994/01/06	1994/03/21	50.70 S	057.22 W	13.66 N	030.00 W
319500272	1995/01/13	1995/02/16	45.53 S	017.28 W	12.85 N	018.21 E
319500273	1995/02/22	1995/04/02	40.01 S	017.81 W	14.19 N	018.22 E