

Limited Distribution

IOC/IODE-XVII/8.2
Paris, 11 February 2003
Original: English

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Seventeenth Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE), Paris, France, 3-7 March 2003

Reports on activities:
World Data Center-B for Oceanography
(Nick Mikhailov)

- 1. Name of Data Centre:**
Research Institute of Hydrometeorological Information – World Data Centre (RIHMI-WDC),
Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet)
- 2. RNODC Coordinator:**
Name: Marsel Shaimardanov
Address: 6, Korolev St., Obninsk, Kaluga Region, 249035, Russia
Tel: +7 (08439) 74181
Fax: +7 (095) 2555 21 94
E-mail: marsel@meteo.ru
- 3. Data Center Address:**
Same as above
- 4. Data Center URL:**
<http://www.meteo.ru>
- 5. Data Center Designation Date:**
1964
- 6. Data Center Description:**

The World Data Centre – B for Oceanography (WDC-B) of Russian Federation has been operated by All-Russian Research Institute of Hydrometeorological Information-World Data Centre (RIHMI-WDC) since 1984. The operation of WDC-B is a part of the RIHMI-WDC activity, in which 3 divisions of the Institute are involved.

Basic data management facilities of WDC-B:

- (i) PCs, the corporate and local network;
- (ii) the marine information- reference subsystem under Oracle DBMS to manage information on WDC data as a fragment of the Russian NODC metadata base;
- (iii) the specialized software for key-entry, primary processing, QC, reformatting and preparing the oceanographic data sets;

- (iv) the Web-oriented applications to provide a remote access to the catalogue of RV cruises and the IODE data.

When it is necessary for preparation of information products WDC-B uses marine data management system of Russian NODC for sampling, calculations, graphical and textual data and information viewing under DBMS Oracle and GIS ArcView.

Oceanographic data and information comes to WDC-B in accordance with IOC Manuals and Guides N9 and data management plans of international programmes and projects. The data accumulated in WDC-B are supported by RIHMI-WDC primarily in the form of metadata bases and data sets. The WDC data are held in the State Data Holding. The WDC metadata are loaded under Oracle DBMS.

The WDC-B provides information assistance to marine institutions of various countries and Russia in the form of data and the results of their processing applied for implementing research programs and solving practical tasks.

7. Brief History of the Data Centre:

1964	The WDC-B for Oceanography was established under the Main Directorate of the Hydrometeorological Service of the USSR.
1965-	WDC-B began to prepare and distribute the "WDC-B Catalogue". In 1965-1999 more than 120 issues were prepared.
1970-1980	WDC-B collects GARP programme data including such experiments as TROPEX-72, GATE, FGGE and others
1984	WDC-B/Russian NODC produced the metadata base under the USSR DBMS based on the third generation of the USSR mainframe computers.
1989-	WDC-B/Russian NODC began actively to participate in the IOC Training Courses on oceanographic data management.
1990-	WDC-B/Russian NODC began to reformat the arrived oceanographic data to the specific data storage format.
1993	WDC-B/Russian NODC began to participate in the GODAR Project.
1995	WDC-B/Russian NODC developed the ocean data sets and data collection and processing software on PCs.
1996	WDC-B/Russian NODC produced the new version of metadata software under DBMS Oracle including a possibility to register NOP and ROSCOP
1999-2001	WDC-B/Russian NODC participated in the MEDAR Project operating as the regional data centre and preparing the data catalogue of the Project.
2002	WDC-B developed the Web-oriented application for a remote access to the World Ocean catalogue RV cruises (the total number of RV cruises exceeds 32 000) (the Russian version)
2002	WDC-B developed the Web-oriented application for a remote access to the IODE data (the Russian version)
2003	WDC-B began to develop the English versions of the Web-oriented applications for a remote access to the IODE data and metadata

8. Roles and Responsibilities of the Data Centre:

WDC-B performs:

- (i) registration and description of all submitted data (in the framework of Declared National Programmes (DNP) and international projects) supporting the reference data base: ROSCOP (if this forms were submitted), Russian NODC form, formats, codes, tables of geographical areas, parameters, units, etc.;
- (ii) all data being submitted are permanently archived at RIHMI-WDC in the data originator and Russian NODC formats(forms);
- (iii) data available in manuscript form are digitized by RIHMI-WDC and put on technical media in the Russian NODC formats;
- (iv) data submitted on technical media (tapes, CDs, etc.) are reformatted to the Russian NODC formats;
- (v) all data (in manuscripts and on technical media) are processed for QC, checked for the structure and contents and subjected to other operations using a PC software.

During 1964-2002 WDC-B accumulated oceanographic data from over 15.000 R/V cruises for 1890-1998 from 64 countries - 1.950.000 oceanographic stations, 1.850.000 BT profiles and 95.000 CTD profiles; 800 current meter series, 35.000 pollution records.

During the intersessional period (2000-2003) the WDC-B received oceanographic data of 353 R/V cruises from 20 countries (including the former Soviet republics).

The analysis of data flow allows for the conclusion that the conventional form of international oceanographic data exchange using the DNP mechanism tends to decrease. Besides, DNP data arrives at the WDC-B at a delay much exceeding a two-year period (3-5 years on the average) established by ICSU and IOC.

WDC-B receives data on different media. The largest portion of data received in 2000-2002 was on CDs. During the intersessional period WDC-B received 5 CDs with data of WOCE, GLOSS, MEDAR and other projects.

Oceanographic data of international projects received by the WDC-B in 1996-2002

Project	Supplier	Type of observations	Data Volume	Period of data	Carrier	Date
GTSP	MEDS Canada	BATHY, TESAC	180.000	1990-1994	CD-ROM	1996
WOCE	USA	Satellite data		1994	CD-ROM	1996
IGOSS, IODE	JAPAN	BATHY, TESAC, BOUY, ocean stations		1977-1994	CD-ROM	1996
MEDATL AS	IFREMER	Ocean stations, CTD, BT	1800 cruises	1900-1995	CD-ROM	1998
JGOFS Arabian Sea Under study	Netherlands, UK, USA, India, Russia	Ocean stations, CTD, XBT	42 R/V cruises	1990-1997	CD-ROM	1998
GODAR	U.S.NODC/ WDC-A	Ocean stations, CTD, BT	5.200.000 stations, profiles	1900-1995	CD-ROM	1998
GODAR	WDC-A/MMBI Russia	Ocean stations, CTD, BT	74256	1898-1993	CD-ROM	1999
JGOFS	India	CTD, ocean	7 R/V cruises	1992-1997	CD-ROM	1999

		stations, radiochemical pollution				
WOCE	USA	Data of RV cruises		1994-2000	DVD	2002

The increased number of data exchange formats should be noted. In the period 2000-2001, over 12 data formats were used for submission of data to WDC-B. The largest portion of these represents the national formats or the formats used under different international programmes. This makes a direct use of data much more difficult. During 2000-2002 WDC-B received 35 ROSCOP forms. The total number of ROSCOPs received is 11555. 40 marine scientific publications were also received by the Centre.

During the intersessional period WDC-B made the following products available to users:

- issues of the WDC-B data catalogue (183 users from 95 countries on a regular basis);
- data and information provided on requests from scientists and experts of Russia and other countries to conduct research and fulfill practical tasks. During 2000-2002 WDC-B met 12 user requests for oceanographic data: data copying and sampling - 4 requests; information about data - 8 requests.

9. Data Centre Products and Services Developed and/or Made Available During the Intersessional Period:

Products	Output form	Source	Time schedule	Region
Information on arrived data	Publication, Computer inventory	Metadata base	1 time per 4 months	World ocean
Space-time data distribution, information on long-term time series	Computer maps	Database	On request	World ocean
Oceanographic data	Data base	Data base	On request	World ocean
Data on RV cruises (Web application, Russian version)	HTML/ASCII tables	Data base	On-line request	World ocean
IODE RV data (Web application, Russian version)	HTML/ASCII tables	Data base	On-line request	On-line request