Russian contribution to international oceanographic data exchange

Alxander Mikheev, Alxander Vorontsov, Evgenii Viazilov
RIHMI-WDC
World Data Center - B
"Oceanography" is acting at the National Oceanographic Data Centre of RIHMI-WDC and provides storage and maintenance of users the physical, chemical parameters of the World ocean, which were obtained as a result of international exchange from different countries, participation in international projects, or presented for international exchange.
To facilitate and promote the discovery, exchange of, and access to, oceanographic data and information including metadata, products and information in real-time, near real time and delayed mode, through the use of international standards, and in compliance with the WDS Policy, the IOC Oceanographic Data Exchange Policy for the ocean research and observation community and other stakeholders.
The main idea: The using of an integrated, distributed, heterogeneous oceanographic data.

National systems of France (IFREMER), Canada (ISDM), Japan (MIRC), USA (NODC),
International project: EMODNET

Ocean Data Portal, IOC UNESCO

Universal visualization tools

Work Stations

Data using

Users

Russian national system ESIMO: 37 Data Providers (RIHMI-WDC, FFRI, SOI, FERHRI, HMC, ...)

International project: EMODNET
In 2016 RIHMI-WDC developed the new WDC-B «Oceanography» site, using the WDS principles:
- open access,
- data download users
- metadata availability

WDC-B «Oceanography» site (http://meteo.ru/mcd/ewdcoce.html)

Oceanographic information

Data

Climate data

Information on cruises with 1900
Information on research Vessels

Oceanographic data
- TESAC
- GLOSS

Open Area
Coastal station
Information on cruises of research vessels

For period from 1873 to 2014
Access to oceanographic Data

The fund WDC-B "Oceanography" accumulated international data on the state of the marine environment over a long period of time (1900-2015) for 5 thousand Russian expeditions.

Search, visualization, metadata, and data download.
8 Russian GLOSS stations: TUAPSE, KALININGRAD, MURMANSK, RUSSKAIA GAVAN, DIKSON, TIKSI, NAGAEVO, YUZHNO KURILSK, PROVIDENIA
# Real-time data - TESAK

**Functions:**
- Data collect
- Data download to data base
- Data visualisation
- Data using

<table>
<thead>
<tr>
<th>Time</th>
<th>Date/Time</th>
<th>Platform ID</th>
<th>Latitude, deg - min</th>
<th>Longitude, deg - min</th>
<th>Temp, deg</th>
<th>Salinity</th>
<th>Speed, cm/s</th>
<th>Direction, deg</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00</td>
<td>2016-09-27T04:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>6:00</td>
<td>2016-09-27T06:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>8:00</td>
<td>2016-09-27T08:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>10:00</td>
<td>2016-09-27T10:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>12:00</td>
<td>2016-09-27T12:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>14:00</td>
<td>2016-09-27T14:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>16:00</td>
<td>2016-09-27T16:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>18:00</td>
<td>2016-09-27T18:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>20:00</td>
<td>2016-09-27T20:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>22:00</td>
<td>2016-09-27T22:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>24:00</td>
<td>2016-09-28T00:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>26:00</td>
<td>2016-09-28T02:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>28:00</td>
<td>2016-09-28T04:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>30:00</td>
<td>2016-09-28T06:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>32:00</td>
<td>2016-09-28T08:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>34:00</td>
<td>2016-09-28T10:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>36:00</td>
<td>2016-09-28T12:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>38:00</td>
<td>2016-09-28T14:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>40:00</td>
<td>2016-09-28T16:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
<tr>
<td>42:00</td>
<td>2016-09-28T18:00</td>
<td>Q352149</td>
<td>-2.750000</td>
<td>-97.200000</td>
<td>23.3700</td>
<td>34.0900</td>
<td>2.50</td>
<td>120</td>
</tr>
</tbody>
</table>
Climatic Data for Russian Seas

Parameters: temperature of water, salinity, wave height, wind speed, sea level, ...

Coastal station
- The Sea of Japan
- Barents Sea
- Chukchee Sea
- Black Sea

Open sea
- The Sea of Japan
- Barents Sea
- Chukchee Sea
- Black Sea
More detailed information is on the site
http://meteo.ru/mcd/ewdcoce.html

THANK YOU!