Participation of the World Data Center for Solid Earth Physics in creation of distributed geophysical data resource in the Internet

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Geophysical Center of the RAS

WDC for Solid Earth Physics , Moscow is a division of the Geophysical Center of Russian Academy of Sciences.

The activity of the WDC for SEP is carried out according to the "Guide to the World Data Center System".

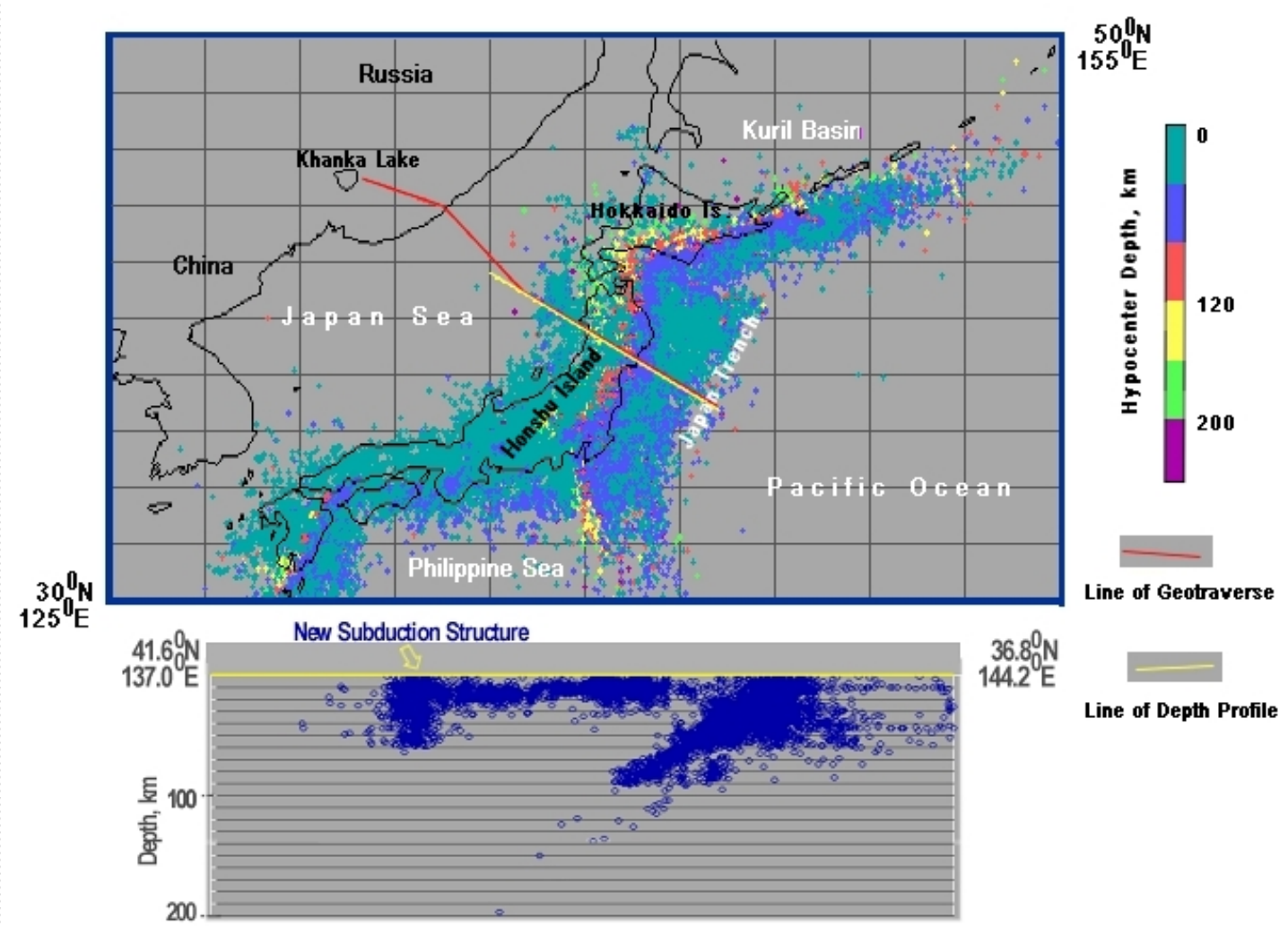
Main WDC functions according to "Guide"

- Data collection and archiving, data analysis, quality control, processing and long-time storage
- Data maitenance, preparation of inventory catalogues, meta-data documentation, etc.
- Data distribution - data exchange, execution of user requests, service of visitors, publication of data sets
- Use of new data technologies and software, use of INTERNET
- Assistance to educational programs, participation in research programs

About our users

- WDC for SEP serves scientists, students, researchers in our country and other countries
- Users prefer to take data sets from WDC in the form of separate (ASCII) files or selected from computer data base
- Some users request the results of data processing: statistics, spatial and temporal distributions, cross-sections and other products

Example: Spatial distribution of earthquake epicenters and depth cross-section



Since 1995 the Center has own Internet site and provides free access to Solid Earth physics information resource.

Digital data, metadata, thematic and problem oriented databases are available on-line at this site.

Special user interface is developed to provide comfortable means for finding, reviewing, visualization, and selection data in net and assignment them to user.

Main page of WDC for SEP web-site

Адрес: http://zeus.wdcb.ru/wdcb/sep/hp/data.html

Russian

Geophysical Center, Russian Academy of Sciences

World Data Center for Solid Earth Physics

Moscow, Russia

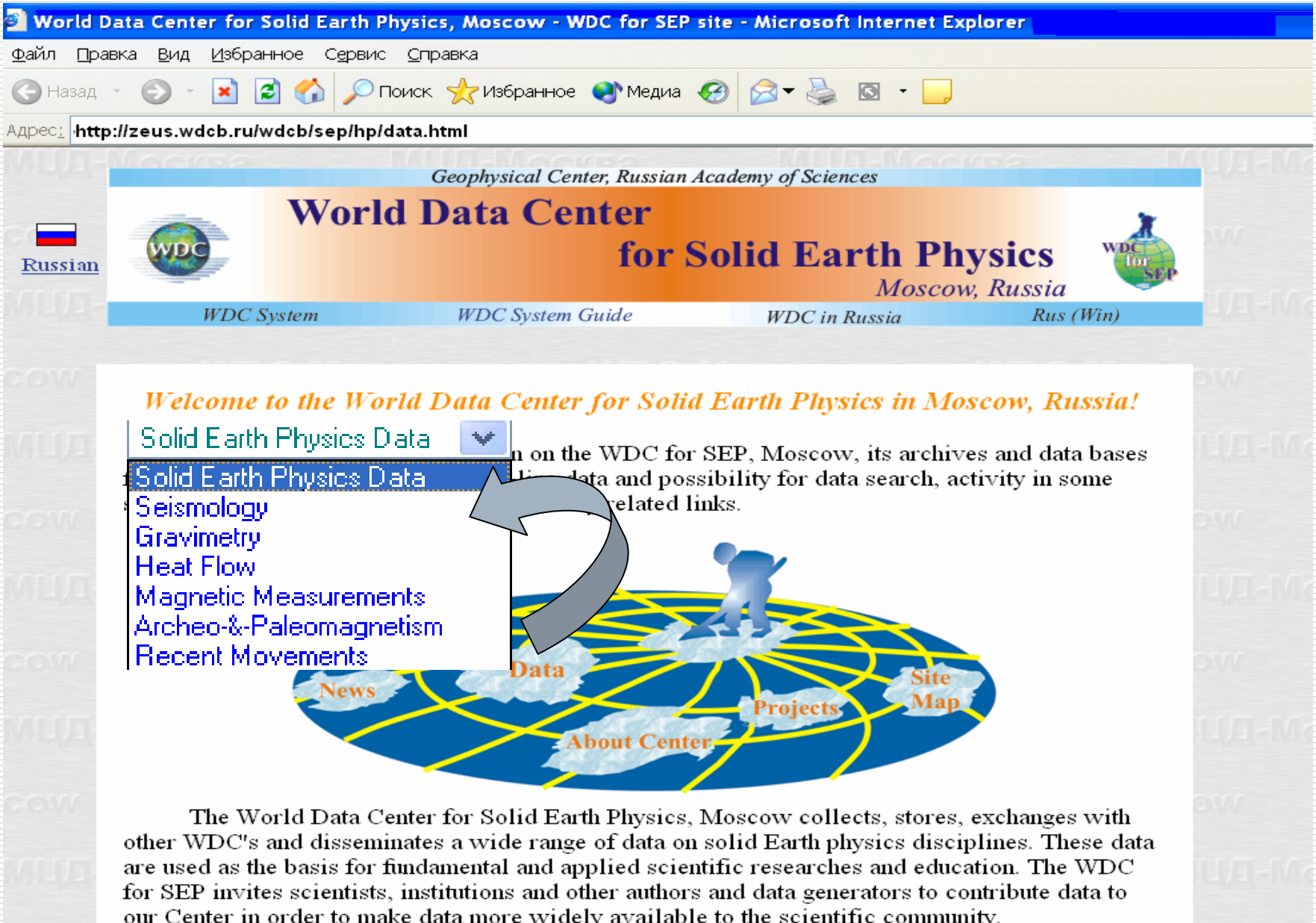
WDC System | *WDC System Guide* | *WDC in Russia* | *Rus (Win)*

Welcome to the World Data Center for Solid Earth Physics in Moscow, Russia!

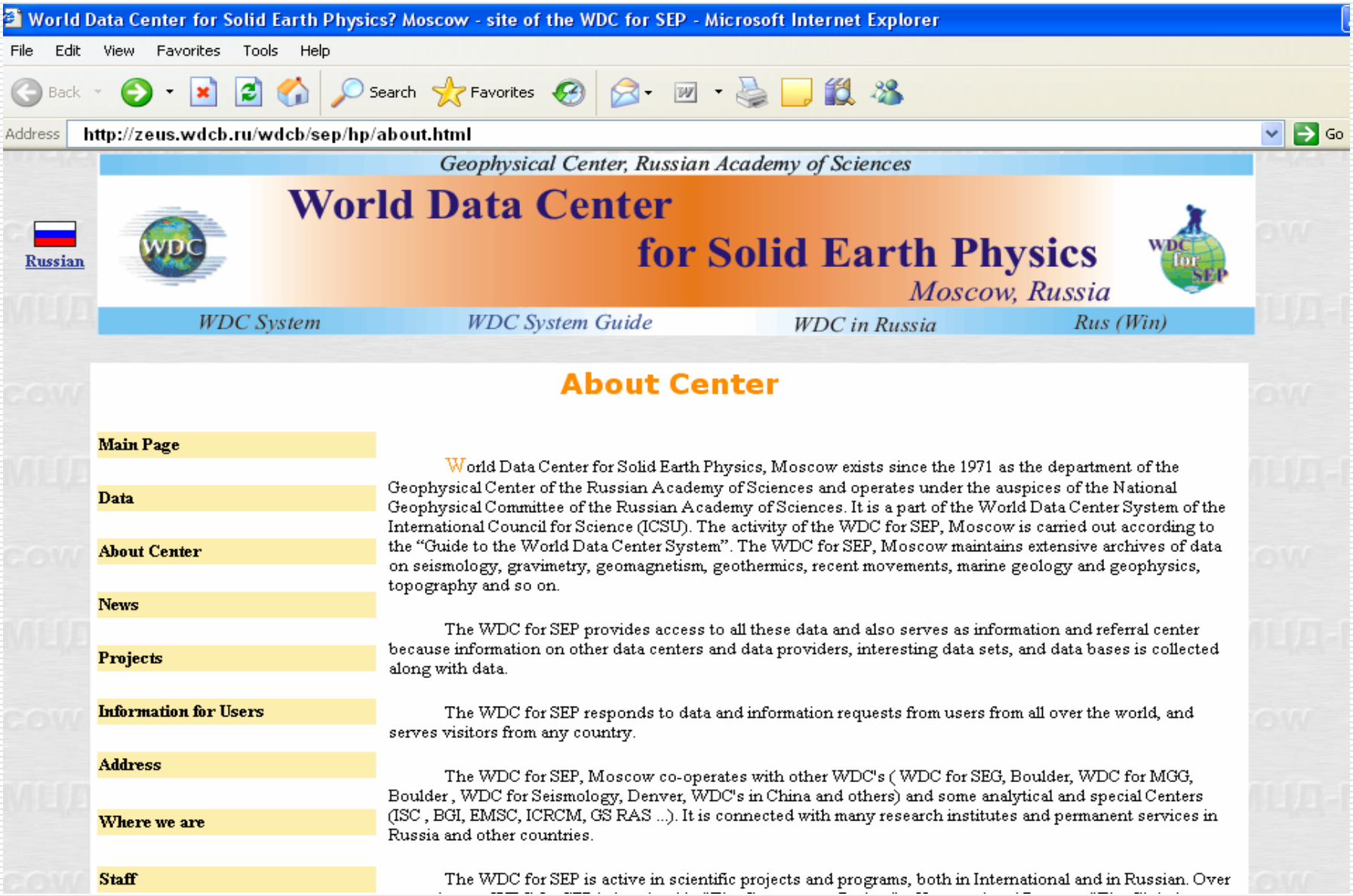
This web site gives information on the WDC for SEP, Moscow, its archives and data bases for some geophysical disciplines, on-line data and possibility for data search, activity in some scientific projects and programs and on many related links.

The World Data Center for Solid Earth Physics, Moscow collects, stores, exchanges with other WDC's and disseminates a wide range of data on solid Earth physics disciplines. These data are used as the basis for fundamental and applied scientific researches and education. The WDC for SEP invites scientists, institutions and other authors and data generators to contribute data to our Center in order to make data more widely available to the scientific community.

Main page of WDC for SEP web-site- List of Disciplines



Page with information about Center



Solid Earth Physics Data On-line

- Information on Seismological Stations
- Wave forms - Seismograms
- Phase Data - Seismological Bulletins
- Hypocenter Data – Earthquake Catalogs
- Catalogs of Gravity measured values
- Maps of the Earth's gravity field and its anomalies
- Catalogues of measured values of Geomagnetic field elements
- Maps of isolines of Geomagnetic field elements
- Annual mean values of geomagnetic elements
- Catalogs of Heat Flow data
- Catalogs of paleomagnetic determinations of the ancient geomagnetic field elements
- Special Data Bases

Metadata Standard

At creation of databases and on-line resourses the base of metadata is simultaneously formed in WDC.

The metadata international standard of Federal Geographic Data Committee (FGDC)_is used.

It is most widespread for Digital Geospatial Metadata.

Structure of metadata base

List of Parameters describing a data set:

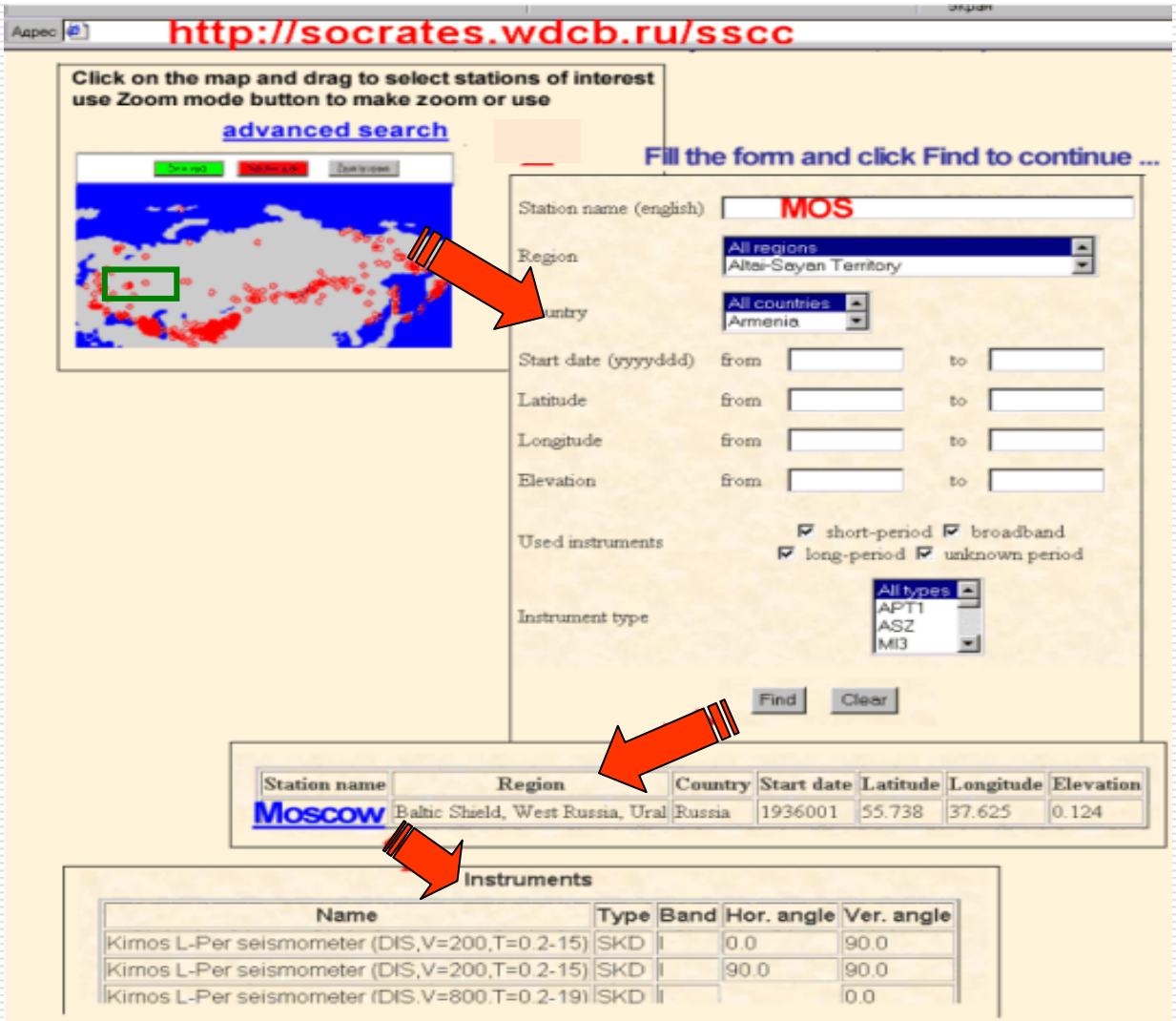
- identifier of a resource;
- name of a resource ;
- author (person, organization, … addresses);
- keywords;
- description of a resource, summary;
- discipline;
- kind of observation;
- territorial covering;
- time interval;
- areas of change of main parameters;
- bibliographic references;

Structure of metadata base

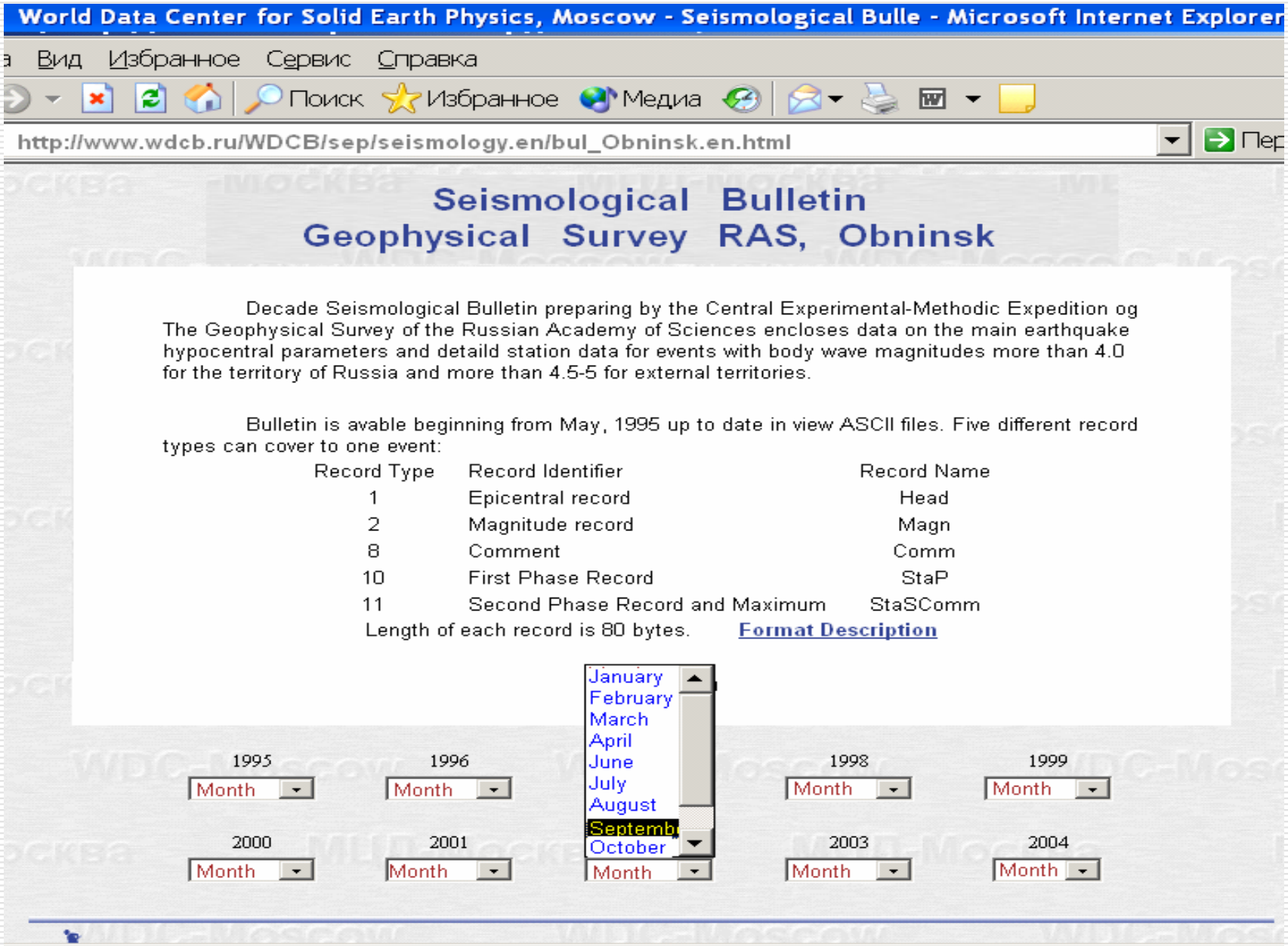
List of Parameters describing the same data set, as the Internet-resource

- organization providing access on-line;
- Internet-address;
- responsible person;
- date of creation of access to a resource;
- date of last updating;
- language;
- type;
- volume;
- description of a format of data

DataBase: Seismic Stations and Instruments of the Unified System of Seismic Observations in the CIS countries

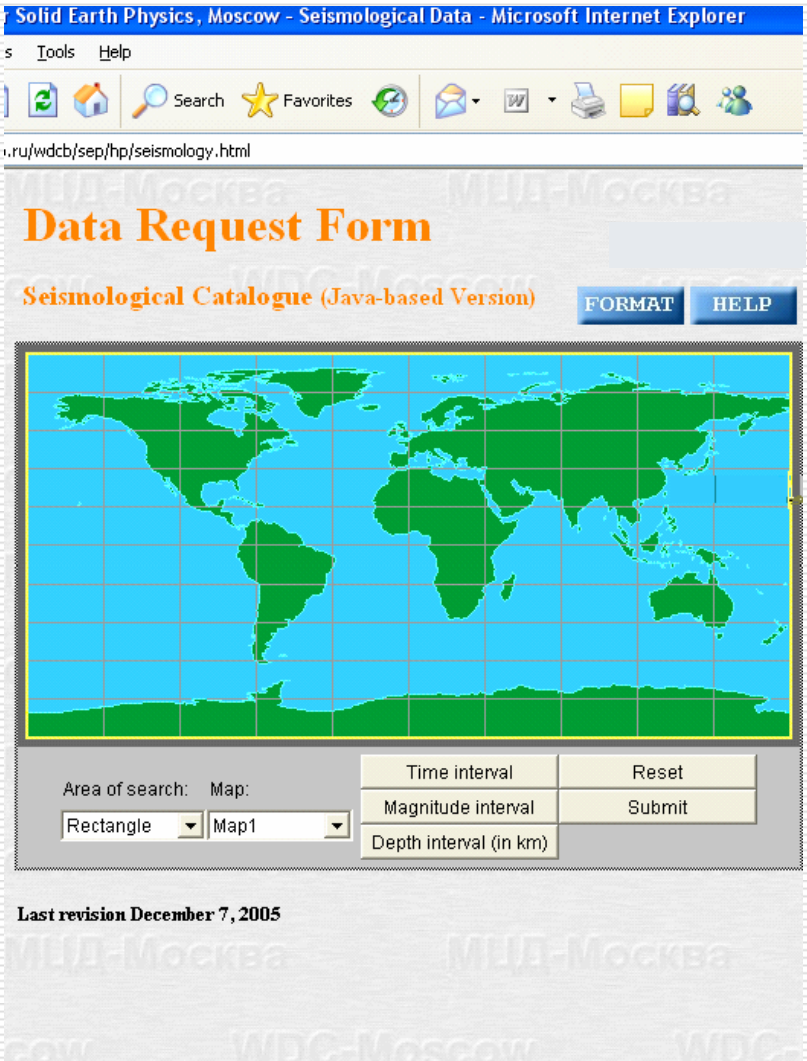


Access to detailed station data on earthquakes

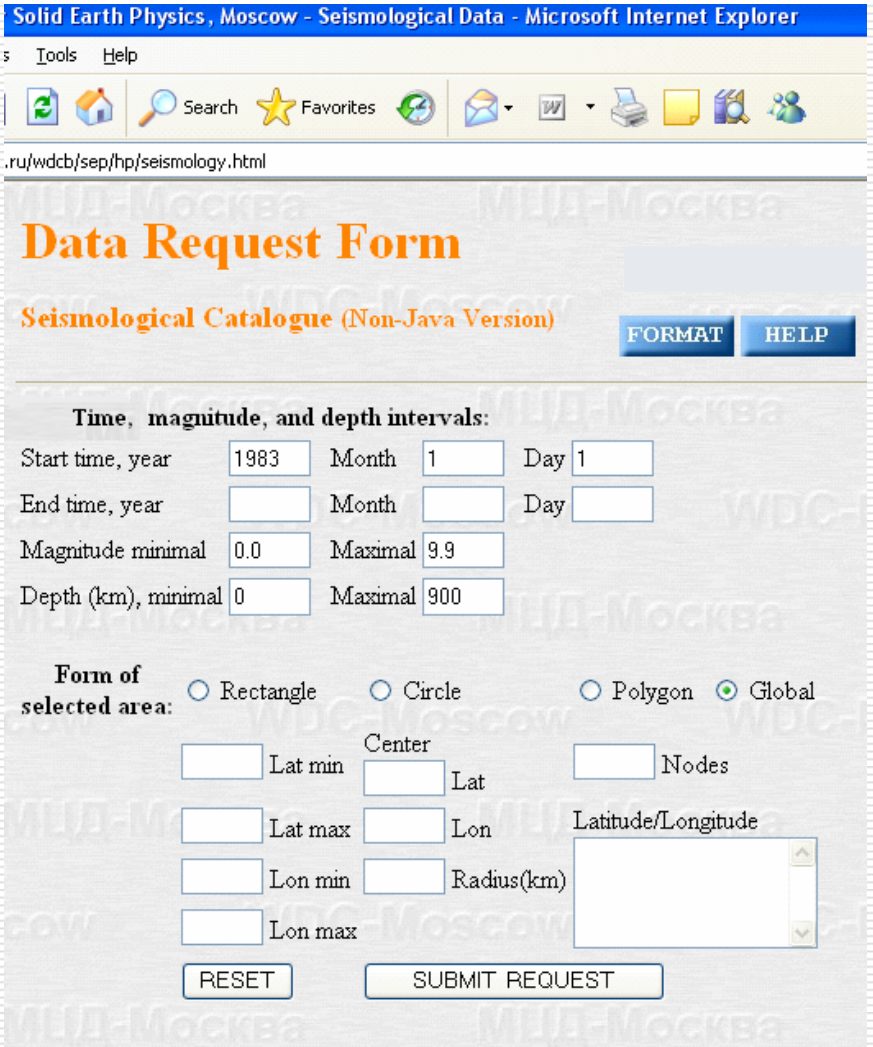


Interactive Access to Earthquake Catalog

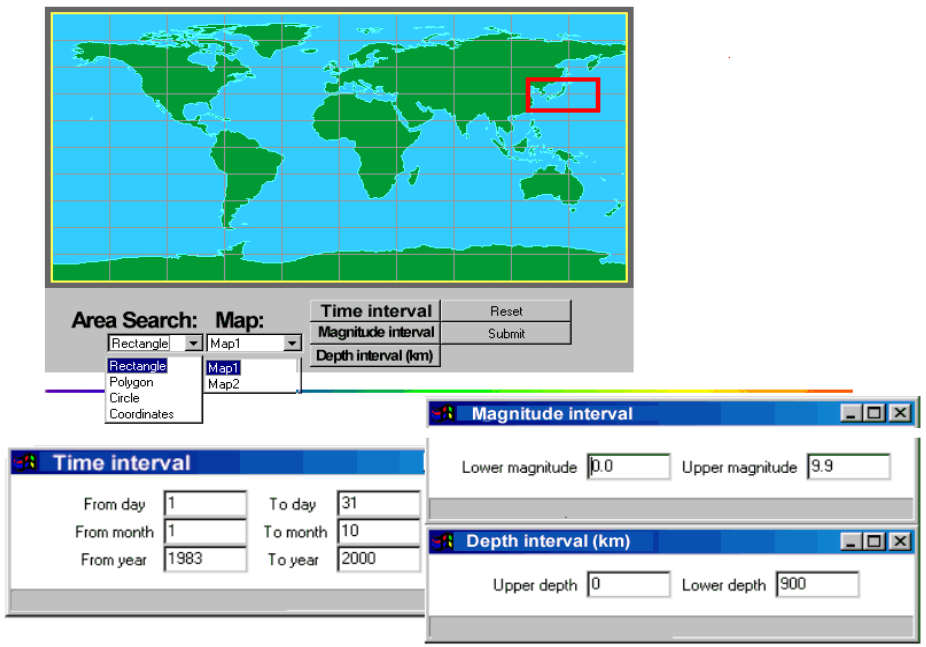
Java-applet



Non-Java form



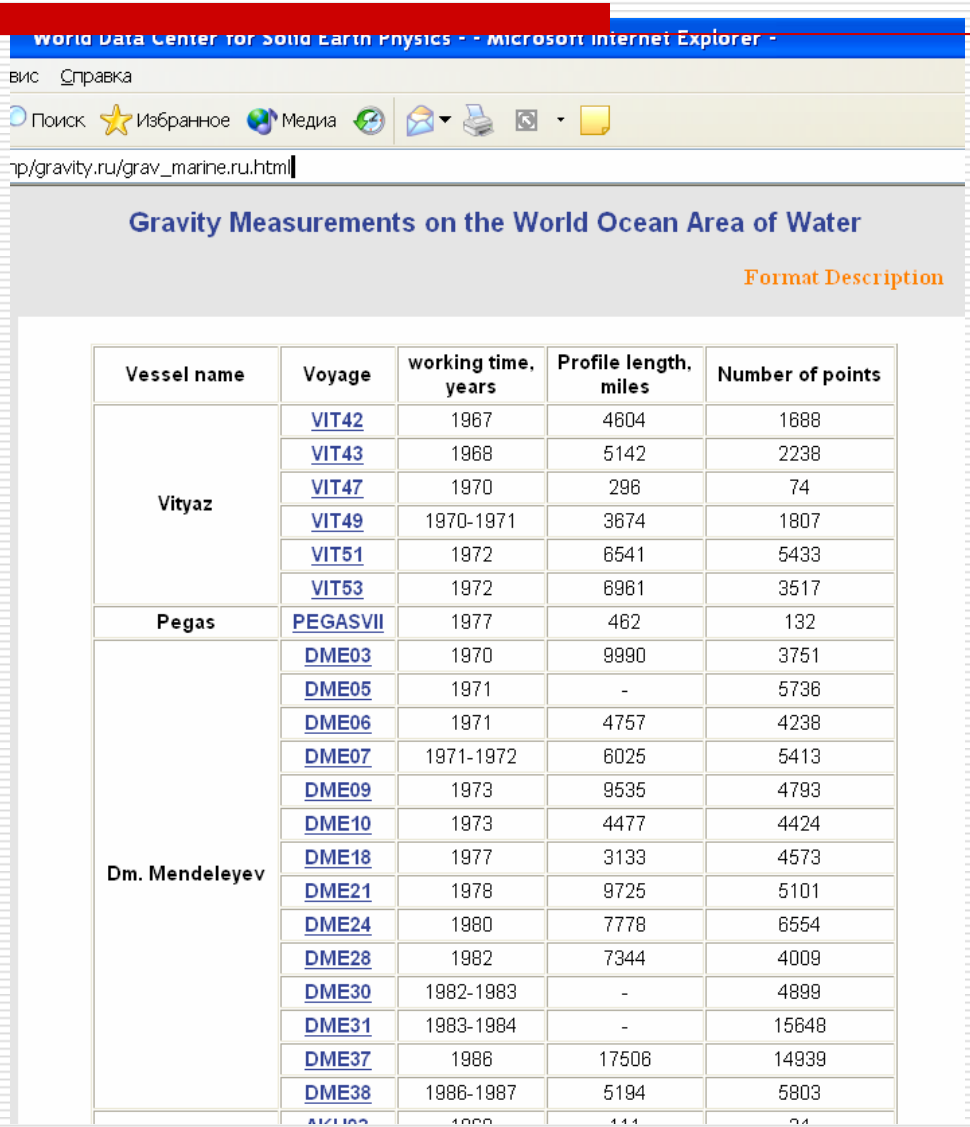
Example of filled inquiry form and selected data



Selected Data

Date	Time	Latitude	Longitude	Depth	Magnitude
1983 1 1	5 32 47.9	34.750N	149.050E	600	5.3 MPSP
1983 1 1	10 46 22.5	27.860N	145.490E	33	4.9 MPSP
1983 1 1	11 18 6.7	31.520N	147.200E	35	5.5 MPSP
1983 1 1	21 54 22.7	29.760N	130.680E	3	4.8 MPSP
1983 1 1	23 6 24.1	39.830N	140.340E	33	4.7 MPSP
1983 1 2	1 29 35.5	41.660N	136.060E	5	
1983 1 2	6 20 6.5	37.630N	127.150E	33	

Page providing access to data of Gravity Measurements on the Russian Research Vessels



Gravity Measurements on the World Ocean Area of Water

Format Description

Vessel name	Voyage	working time, years	Profile length, miles	Number of points
Vityaz	VIT42	1967	4604	1688
	VIT43	1968	5142	2238
	VIT47	1970	296	74
	VIT49	1970-1971	3674	1807
	VIT51	1972	6541	5433
	VIT53	1972	6961	3517
Pegas	PEGASVII	1977	462	132
Dm. Mendeleyev	DME03	1970	9990	3751
	DME05	1971	-	5736
	DME06	1971	4757	4238
	DME07	1971-1972	6025	5413
	DME09	1973	9535	4793
	DME10	1973	4477	4424
	DME18	1977	3133	4573
	DME21	1978	9725	5101
	DME24	1980	7778	6554
	DME28	1982	7344	4009
	DME30	1982-1983	-	4899
	DME31	1983-1984	-	15648
	DME37	1986	17506	14939
	DME38	1986-1987	5194	5803

Page providing access to Heat Flow data & example of selected data for Philippine Sea region

Адрес: J:\temp\heat_flow.html Переход Ссылки

Russian

Geophysical Center, Russian Academy of Sciences

World Data Center for Solid Earth Physics

Moscow, Russia

WDC System | WDC System Guide | WDC in Russia | Rus (Win)

Global Heat Flow Dat

- Main Page
- Data
- About Center
- News
- Projects
- Information for Users
- Address
- Where we are
- Staff

Catalogs of Heat Flow Values. - Publica ns

Maps of Heat Flow Isolines

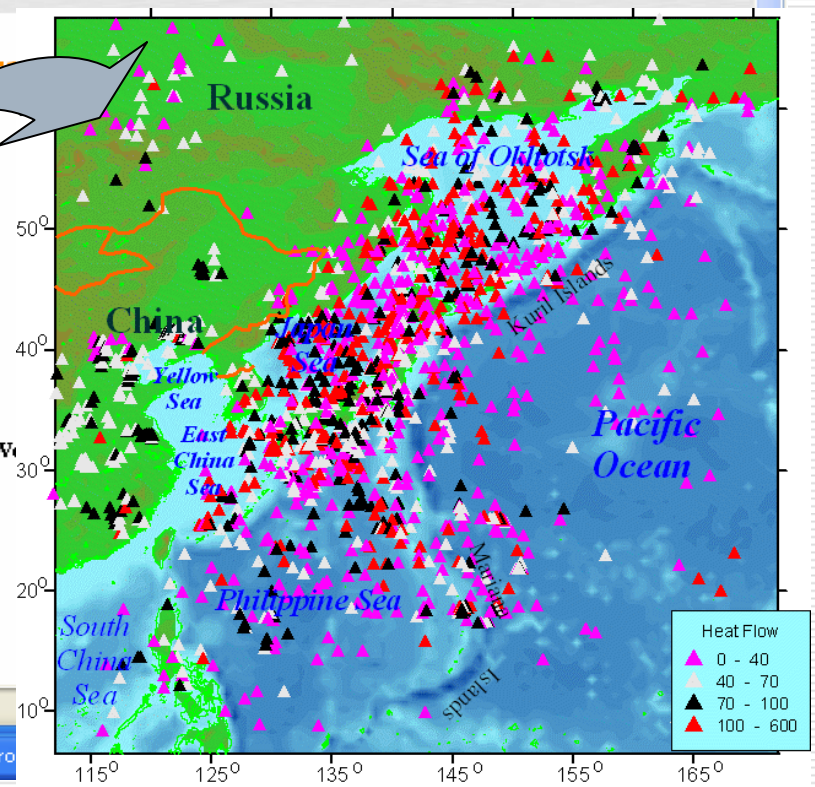
Earth Heat Flow Data on-line

1. New Global Heat Flow Compilation

Pollak H. N., Hurter S. J., and Johnson J. R.
Department of Geological Sciences, University of Michigan,
U.S.A., March, 1991.

2. Catalog of Heat Flow Data for East of Asia, Australia and W

Veselov O.V., Lipina E.N.
Institute of Tectonics and Geophysics
Vladivostok, 1982.



пуск Windows Commander... 9 Internet Explorer Micro

Participation of WDC for SEP in Scientific Projects

World Data Center for Solid Earth Physics (Moscow, Russia) takes part in the Project "International Polar Year 2007-2008"
The Center has made a special site on which all data on Arctic and Antarctic regions available in our archives are presented.
At present this site is only in Russian.

Example: Seismological Data for Arctic

Earthquake spatial distribution and location of seismological stations

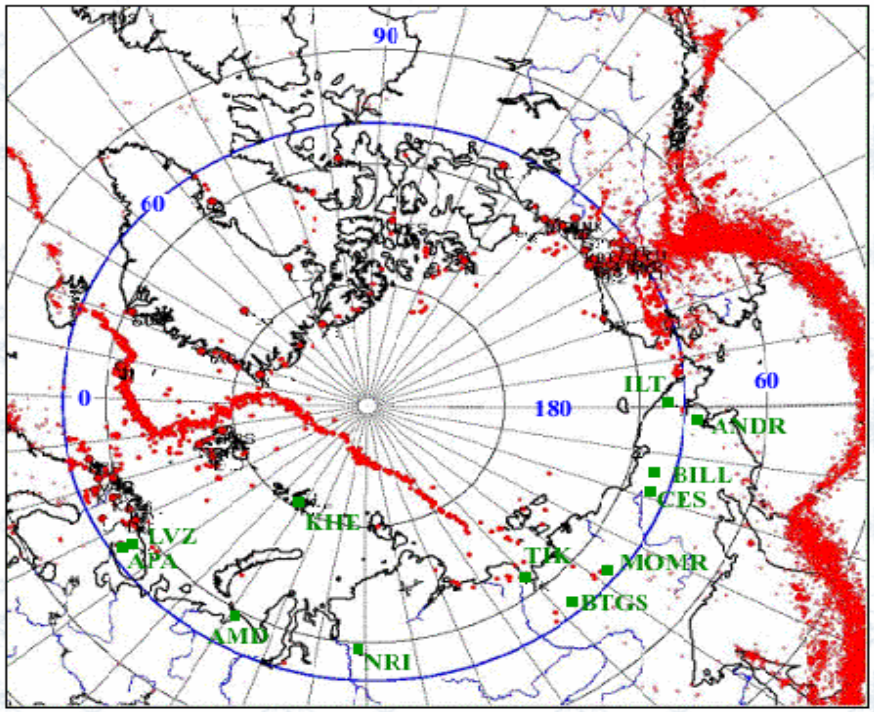
Search Favorites

DCB/IPY/Arctic_eq.ru.html Go

А Р К Т И К А

Сейсмологические данные

Сейсмичность Арктики



(По данным Каталога землетрясений Международного сейсмологического центра)

Данные о землетрясениях Арктики:

По каталогу Геофизической службы РАН
Описание формата

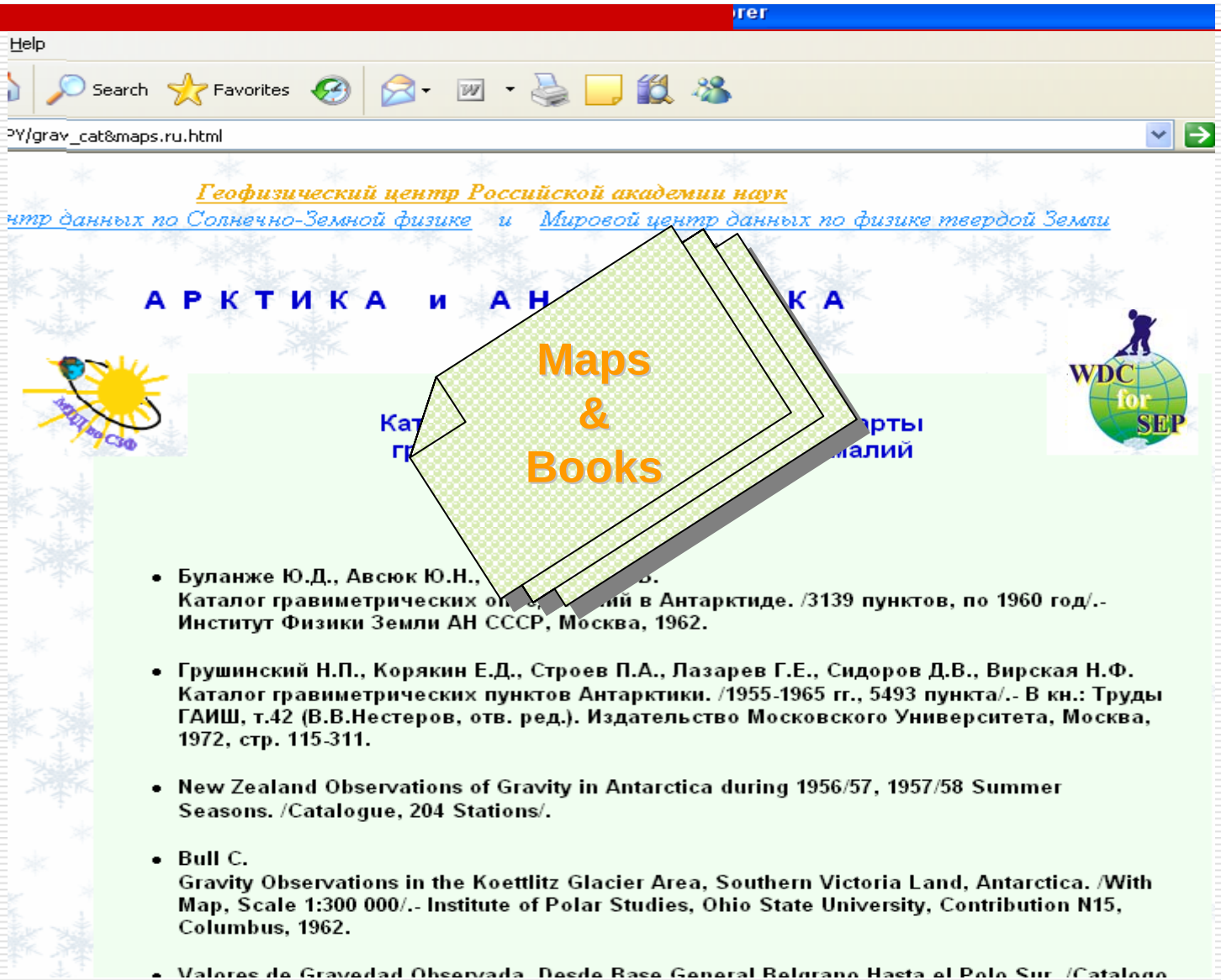
По каталогу Международного сейсмологического центра
Описание формата

По каталогу Гутенберга Б. Рихтера К.
Описание формата

Сейсмические обсерватории в Арктике

Название обсерватории	код	южн. широта	долгота	альтитуда
Амдерма	AMD	69.77	61.68	0.0
Апатиты	APA	67.57	33.40	182.0
Билибино	BILL	68.04	166.27	299.0
Батагай	BTGS	67.65	134.64	110.0
Черский	CES	68.70	161.20	0.0
Хейса о.	KHE	80.62	58.05	21.6
Ловозеро	LVZ	67.89	34.65	630.0
Мома	MOMR	66.47	143.22	192.0

List of Gravity Catalogs & Maps for Arctic and Antarctic



- Буланже Ю.Д., Авсюк Ю.Н., [illegible]
  Каталог гравиметрических оп[illegible]ий в Антарктиде. /3139 пунктов, по 1960 год/.- Институт Физики Земли АН СССР, Москва, 1962.

- Грушинский Н.П., Корякин Е.Д., Строев П.А., Лазарев Г.Е., Сидоров Д.В., Вирская Н.Ф.
  Каталог гравиметрических пунктов Антарктики. /1955-1965 гг., 5493 пункта/.- В кн.: Труды ГАИШ, т.42 (В.В.Нестеров, отв. ред.). Издательство Московского Университета, Москва, 1972, стр. 115-311.

- New Zealand Observations of Gravity in Antarctica during 1956/57, 1957/58 Summer Seasons. /Catalogue, 204 Stations/.

- Bull C.
  Gravity Observations in the Koettlitz Glacier Area, Southern Victoria Land, Antarctica. /With Map, Scale 1:300 000/.- Institute of Polar Studies, Ohio State University, Contribution N15, Columbus, 1962.

- Valores de Gravedad Observada, Desde Base General Belgrano Hasta el Polo Sur. /Catalogo

Participation of WDC for SEP in Scientific Projects

WDC for SEP takes part in the Program InterMARGINS.

InterMARGINS is International and Interdisciplinary initiative concerned with all aspects of continental margin research.

Our participation in the Program is connected with studying active subduction zones of Pacific ocean.

Next slides describe Internet-Pages of our web-site on this Program.

Address http://www.intermargins.org/index.php

InterMARGINS

Continental Margin Research

HOME | InterMARGINS | Administration | Science Activity&Information | Publication | Site Map

InterMARGINS
Continental Margin Resea

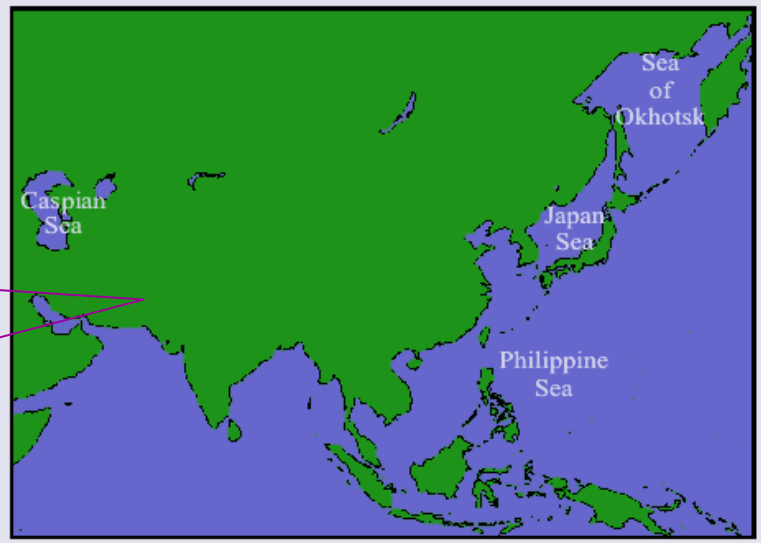
InterMARGINS is an international and
research.

Address http://www.wdcb.ru/lithosphere/lithosphere.html

Geophysical Center, Russian Academy of Sciences
World Data Center for Solid Earth Physics, Moscow

Lithosphere of Margin and Inner Seas

Language



Site sections
- Site sections
- Sea of Okhotsk
- Japan Sea
- Philippine Sea
- Caspian Sea
- Main Page

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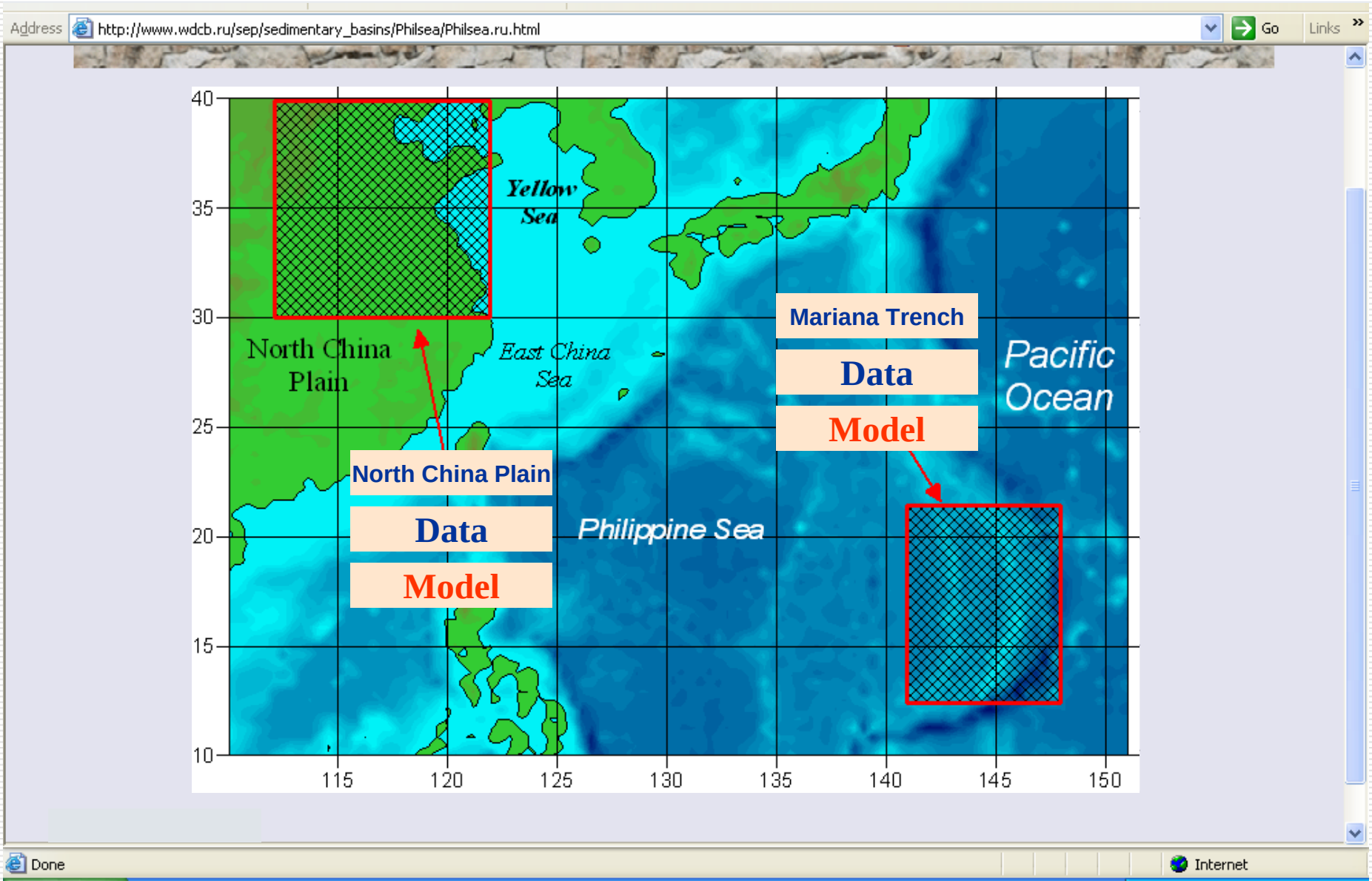
tions of the
rginal seas in a transition zone from Asian continent to the Pacific Ocean investigated under the Geotraverse International Project. A great deal of various geological and geophysical data sets were collected. A part of these data has been used for the construction of the lithosphere models along the separate traverses in the Sea of Okhotsk, the Japan, and Philippine Seas http://www.wdcb.ru/GCRAS/traverse.html (This work was supported by the Russian Foundation for Basic Research, Project N 98-07-90201).

Presently, in the Geophysical Center of the Russian Academy of

Sea of Okhotsk
Japan Sea
Philippine Sea
Caspian Sea

DataBase:
Sedimentary basins of Philippine Sea region



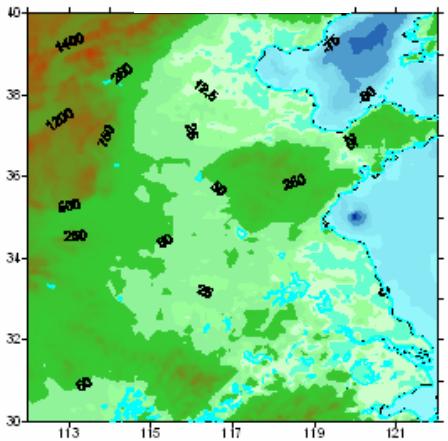
DataBase:
Sedimentary basins of Philippine Sea region

Address http://www.wdcb.ru/sep/sedimentary_basins/Philsea/data_NChinaPl.ru.html Go Links

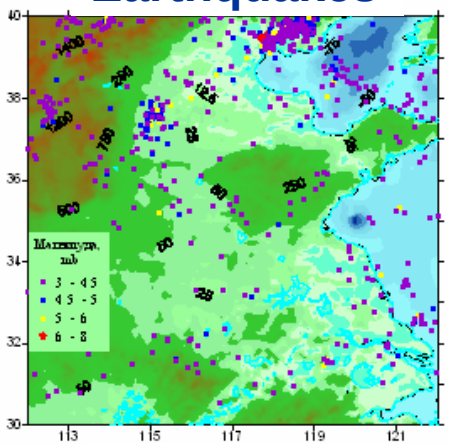
North China Plain
Geological & Geophysical Data

30° N - 40° N. 112° E - 122° E

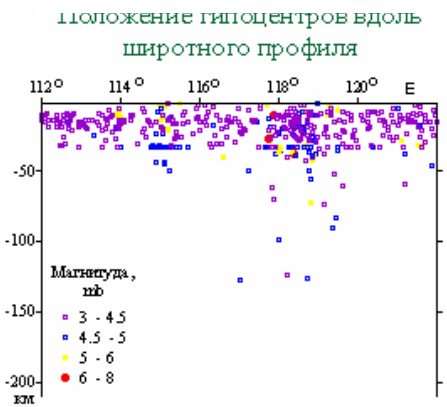
Relief



Earthquakes



Seismological Profile



Data Format

Data Format

Данные ГСЗ

Sino-Korean Sino-Korean Yantze platform South China South China

Format Description for the Bathymetric Data

POSITIONS	LENGTH OF FIELD	FORMAT	DESCRIPTION
1- 6	6	(f6.3)	Latitude in degrees
8-14	7	(f7.3)	Longitude in degrees
17-21	5	(a5)	Depth in meters

PEK	*1965/09/04	04:21:33	36.30N	113.40E	4.3	Eastern China
ISC	*1966/03/07	21:29:17	37.35N	114.96E	5.5B	242 North-Eastern
ISC	*1966/03/07	22:19:46	37.40N	114.90E	33 4.7B	10 North-Eastern
ISC	*1966/03/08	00:04:52	37.50N	115.20E	33 4.3B	13 North-Eastern
ISC	*1966/03/08	02:04:21	37.40N	114.90E	33 4.7B	22 North-Eastern
ISC	*1966/03/08	03:46:39	37.61N	114.91E	44 4.8B	33 North-Eastern
ISC	*1966/03/08	06:25:13	37.79N	115.00E	33 5.0B	17 North-Eastern
ISC	*1966/03/08	07:36:42	37.40N	114.95E	7 4.7B	29 North-Eastern
ISC	*1966/03/11	06:20:48	37.00N	115.00E	33 4.4B	18 North-Eastern
ISC	*1966/03/11	06:22:42	37.74N	114.00E	33 4.5B	15 North-Eastern
ISC	*1966/03/19	16:59:42	37.35N	114.96E	31 4.7B	39 North-Eastern
ISC	*1966/03/22	05:57:46	37.87N	114.81E	31 4.5B	19 North-Eastern
ISC	*1966/03/22	08:11:33	37.54N	115.00E	3 5.6B	204 North-Eastern

Conclusion

At present the global distributed geophysical data resource is formed in the Internet.
As indicated above the WDC for Solid Earth Physics introduces the network technologies into its activity and realizes the remote access to the WDC's information resources.