A Federation of PICES Member Country Metadatabases

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Vision

We envision a one-stop PICES utility for public search, access and delivery of international marine ecosystem data through the Internet.
Boundary Currents, Shared Ecosystems and PICES Nations
Rationale

✧ Shared ecosystems can produce conflict due to national interests and management.
✧ Much environmental information remains unavailable.
✧ A method is needed for sharing national information about marine ecosystems, independent of political boundaries.
✧ This requires international collaboration using standard tools that foster multi-national sharing of information on marine ecosystems.
✧ It is logical that multi-national partnerships include PICES member countries.
PICIES Metadata Federation

- **Definition:** Federate - join together in a league or association
- Enables fast and easy metadata access, search and delivery from participants of all PICIES member nations
- Offers a browsable and searchable on-line inventory of data and other information
- Is transparent to users.
How a Metadata Federation Works

- A central server provides a clearinghouse and gateway for Internet communication between distributed clients using a common protocol and standardized format.
- Each distributed client subscribes to the common protocol and standard format.
- A user accessing the central server has the ability to search and retrieve information from any and all distributed servers.
The clearinghouse presently in use by the PICES Metadata Federation is the National Spatial Data Infrastructure (NSDI) Clearinghouse coordinated by the Federal Geographic Data Committee (FGDC), U.S. Department of the Interior.

NSDI employs the Z39.50 Internet communication protocol and requires that metadata be encoded using the FGDC standard. NSDI is changing to the ISO 19115 metadata standard.
NSDI’s gateway application was developed and maintained by Blue Angel, a commercial information management network provider.

NSDI is replacing the Blue Angel gateway with an open-source solution, GeoNetwork, obtained from the United Nations Food and Agriculture Organization.
Steps to become a registered member of a clearinghouse:

- Provide geospatial metadata in English complying to the FDGC standard.
- Acquire a server and install the Z39.50 communications protocol package Isite.
- Upload FGDC-compliant XML metadata records to the server.
- Open a port on the server.
- Index XML metadata records, test and register.
User Interface

- Enter search criteria.

- Spatial search
- Temporal search
- Text search
- Server selector

National Spatial Data Infrastructure Clearinghouse Search Form

Define the Geographic Area of Coverage
Specify a query region by selecting or entering values.

- International
- United States
- Afghanistan
- Africa
- Albania
- Algeria

Select a region and specify the coverage area.

Specify Time Period of Content
Specify a date or date range for desired spatial data by selecting one of the methods below.

- Don’t search based on period
- Get data whose date is before the date
- Get data from the date through the date

Enter search criteria.

Search in Full-Text (Any) or by Field
Specify search words by using one or more of the fields below.

Select Data Servers to Search
Specify the data sources to query and the number of records that will be retrieved from each source. Use control key combinations to make multiple selections.

Find All Data
- Only Find Data With Interactive Web Mapping Services (OGC)
- Find All Data With Interactive Web Mapping Services (OGC)

Server selector

Maximum number of records to display on each results page: 10 Records

- Search More
- Reset this form

Enter search criteria.

Receive results, click for listing.
User Interface

- Enter search criteria.
- Receive results, click for listing.
- Click list element for detailed information, data download link, if enabled.

Summary Metadata Information
You are currently viewing record 5 out of 223 from database 'PICES North Pacific Ecosystem Metadata (PICES - NPEM)'.

Title: Sea Ice Concentration Grids for the Polar Regions on CD-ROM
Time Period of Content: 1987-07-09 to 1991-12-31

Having troubles using this software to find what you need? Click here to send us a message.
Starting in 2003, the North Pacific Ecosystem Metadatabase (NPEM) project began soliciting collaboration through PICES TCODE.

The first demonstrated collaboration was with South Korea in 2005.

Far East Russia became a partner shortly after.

Japan’s Marine Information Research Center is the current partner developing federated capability.
Hourly Status of International Clearinghouse Nodes

Monday 08th of May 2006

All registered Clearinghouse Nodes are polled periodically (hourly) to determine the status of the Z39.50 processes. A set of pie and bar charts displays the general status of all Clearinghouse Nodes and can be viewed as Hourly, Daily, Weekly or Monthly graphs.

Each individual Clearinghouse Node displays information such as the status, registration information, ping time, individual node graphs, weekly reports and the ability to re-run the weekly report through the Update Node function.

For more information, please use our online help by clicking on the question mark icon above.

Test Results

starting in the the upper left quadrant and moving clockwise the quadrants represent the status of the ping, title search, spatial, and full text searches. Simply move your mouse over the pie chart for more information.

<table>
<thead>
<tr>
<th>Status</th>
<th>Node Name</th>
<th>View</th>
<th>Ping Time (seconds)</th>
<th>Last Test Run</th>
<th>Daily Graph</th>
<th>Weekly Graph</th>
<th>Monthly Graph</th>
<th>Current Status</th>
<th>Update Node</th>
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<tr>
<td>Up</td>
<td>PICES - KODC (Korea Oceanographic Data Center)</td>
<td></td>
<td>0.212</td>
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<tr>
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</table>
PICES Metadata Federation

- Russia
- Canada
- Korea
- USA
- China
- Japan
Future Work

ستراتيجies:

- Bring other PICES countries and their various marine data agencies into the federation.
- Change from FGDC to ISO metadata standard.
- Change NSDI Clearinghouse to PICES Clearinghouse using GeoNetwork open-source application.
- Join PICES Clearinghouse to World Clearinghouse.
Challenges

✧ Obtain funds to bring other PICIES countries into the federation
✧ Cross talk between metadata standards other than FGDC, communication protocols other than Z39.50
✧ Translation of metadata records to English
✧ Geographic name conflicts
Participants


Korea Oceanographic Data Center (KODC, http://www.nfrda.re.kr/kodc/index_e.html)

National Fisheries Research & Development Institute (NFRDI, http://www.nfrdi.re.kr/)

Pacific Research Fisheries Center (TINRO, http://www.tinro.ru/)

Marine Information Research Center (MIRC, http://www.mirc.jha.or.jp/en/)

Japan Oceanographic Data Center (JODC, http://www.jodc.go.jp)


North Pacific Marine Science Organization (PICES, http://www.pices.int/)

Domo arigato!
Xie xie!
Kamsahamnida!
Spasibo!
Thank you!
Thank you, eh?