

Using the PICES TCODE catalog service

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S9: Applications of artificial intelligence to advance the understanding of North Pacific ecosystems

Data for AI/ML

- data architecture for AI/ML applications is different from traditional
- AI/ML works with large volumes of data represented and stored (e. g., in data lakes) not only in the relational (table) form
- with machine learning computers learn from data
- there is a strong synergy between code and used data

Data catalogs

- collections of metadata that helps users to find the data they actually need
- function in environments that provide authorization, editing, publishing, moderation, searching
- have to become core elements of modern data management

Metadata records

- features of some resource (data, information, service) that important for
 - discovery
 - understanding
 - preliminary evaluation
 - retrieving
 - use
 - management, etc.
- structured and may contain different fields
- include links to corresponding providers and lead eventually to seeking resources

Standards

- standards (represented as schemes) define syntax and semantics of metadata descriptions
- widely used
 - the ISO 19115/11139 standard for spatial resources (e.g., datasets, services, maps)
 - the Dublin Core scheme for referencing publications and reports,
 - the ISO 19110 standard for the feature cataloging

History of TCODE metadata sharing initiatives

- PICES Long Term Time Series
- Bering Sea Ecosystem Biophysical Metadatabase
- North Pacific Ecosystem Metadatabase
- PICES metadata federation project (PMFP) (Bernard A. Megrey and S. Allen Macklin, 2005) for preparing, publishing and searching metadata on marine ecosystems of the North Pacific
- PMFP was a great success in terms of number of collected records (it was funded, technical work done by paid staff) but not in terms of created infrastructure (US national FGDC standard and NSDI clearinghouse network)

Cataloging with open source technology

- at some point, the “multilingual” Geonetwork Opensource based on international standards became available
- after a positive evaluation of its features at TINRO, the Geonetwork software package was installed on a rented server as PTC
- when the US NSDI Clearinghouse Network ceased functioning, all collected metadata holdings eventually were automatically converted (with a loss of some content) and moved to the PICES TCODE metadata catalog (PTC)

Catalog-2

- a service that allows running sub-catalogs by expert groups and individuals has been arranged
- PTC-2 (ver. 3.4, ISO 19115/19139, Dublin Core, lives on a virtual server in TINRO, `http://tcode.tinro.ru/geonetwork/`) became the primary source of collected metadata including lossy converted PMFP records from the FGDC standard
- original FGDC metadata records are available as XML files on the PMF site `https://sites.google.com/view/pices-metadata/home`

Creating and publishing metadata records

- life cycle typically goes through such states as Draft, Submitted, Approved, Retired
- a user chooses a metadata template and a group, and then fills out the chosen fields in screen forms
- records can be associated with different types of resources (files, weblinks, etc.)
- external categories (as, e.g., Datasets, Maps, PICES related datasets, etc.) may be assigned to metadata records (not parts of metadata)
- users may identify user groups and privileges (to view, to download, to edit, etc.) to metadata records and any attached data

Homepage

PICES TCODE Catalog - 2 - Chromium

Yandex.Messenger x WhatsApp x PICES TCODE Catalog - 2 x PICES Metadata Federation x +

Not secure | 172.16.10.101:8080/geonetwork/jsrv/eng/catalog/search#/home

PICES TCODE Catalog - 2 Search Map Contribute Admin console Igor Shevchenko ADMINISTRATOR

PICES Inventory Search 4283 data sets, services and maps, ...

Browse by Topics

- Climatology, meteorology, atmosphere 239
- Boundaries 36
- Location 22
- Utilities communication 13
- Imagery base maps earth cover 7
- Geoscientific information 176
- Environment 30
- Biota 17
- Elevation 12
- Transportation 1
- Oceans 66
- Health 29
- Inland waters 13
- Structure 4

Browse resources

- Dataset 4281
- Service 3
- service-OGC:WMS 2
- Maps and graphics 1
- Other 1
- Attribute 1
- Feature catalog 1
- Text 1

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Example of metadata record (depends on the standard)

The screenshot shows a web browser window with the title "PICES TCODE Catalog - 2 - Chromium". The address bar shows the URL: "172.16.10.101:8080/geonetwork/srv/eng/catalog.search#/metadata/7614cc7a-6747-4724-8a03-650a1975dca1". The browser tabs include "Yandex.Messenger", "WhatsApp", "PICES TCODE Catalog - 2", and "PICES Metadata Federati...".

The page content includes a search bar with "Q Back to search", action buttons for "Edit", "Delete", "Manage record", "Download", and "Display mode", and a user profile for "Igor Shevchenko ADMINISTRATOR".

PICES TCODE catalog service

This service allows individuals and groups to catalog data, information, services, and make created catalogs searchable on the Internet. This service is provided to the scientific community involved in the study of the marine ecosystems and climate of the Northern Pacific Ocean.

Download and links

home
<http://tcode.tinro.ru/geonetwork/srv/rus/catalog.search#/home> Open link

About this resource

Categories Registers

Other keywords

- metadata [Q](#)
- datasets [Q](#)
- data and information services [Q](#)
- PICES inventory [Q](#)

Legal constraints The PICES Secretariate

Contact for the resource PICES

- Point of contact:

Technical information

Update frequency Unknown

No ratings ★

[See all feedback](#) [Add your review](#)

Spatial extent

Provided by

Updated: 11 minutes ago

Share on social sites

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Adding a record (depends on the standard)

The screenshot displays the 'PICES TCODE Catalog - 2' web application in a Chromium browser. The browser's address bar shows the URL '172.16.10.101:8080/geonetwork/srv/eng/catalog.edit#/create'. The page header includes navigation links for 'Search', 'Map', 'Contribute', and 'Admin console', along with the user name 'Igor Shevchenko ADMINISTRATOR'.

The main content area is titled 'Create a' and is divided into three main sections:

- Create a Others:** A vertical list of icons representing different record types: Dataset, Feature catalog, Map, Service, service-OGC-WMS, service-other, and Others (highlighted in blue).
- From Template for Dublin Core:** A section containing two template options: 'Template for Dublin Core' (highlighted in blue) and 'Template for Dublin Core - Related resource'.
- In ...:** A dropdown menu currently showing 'TCODE members'.

At the top right of the form area, there are two buttons: a green '+ Create' button and a grey 'x Cancel' button. At the bottom left, there is a 'Need help?' link.

Adding a record (depends on the standard)

PICES TCODE Catalog - 2 - Chromium

Yandex.Messenger x WhatsApp x PICES TCODE Catalog - 2 x PICES Metadata Federati x +

← → 🔒 Not secure 172.16.10.101:8080/geonetwork/srv/eng/catalog.edit#/metadata/22197?justcreated&redirectUrl=catalog.edit

Copy of template Template for Dublin Core created ... Categories Group Validate Cancel Save & close Save

Validation

Associated resources



+ Add +


Need help


Metadata

Title * Copy of template Template for Dublin Core created at 2021-09-28 16:05:20

Creator * --


Subject and Keywords * Type or search ...  

Type or search ... 


 Add keyword


Description *

Publisher * --

Date Created * mm/dd/yyyy 

Date Modified * 2021-09-28T16:05:20

Date Submitted * mm/dd/yyyy 



Resource Type * Recommended values 


Format * text/plain


Resource Identifier * 42bae8e5-2ef3-4618-8bff-f3e225397622

Language * eng

Coverage

 Choose a region 

WGS84 (EPSG:4326) 

 Draw extent

Status quo

- PMF catalog and the catalog service are not in demand of the PICES community
- reasons are not specific to PICES
 - no adequate formal recognition of data products
 - no mandatory sharing policies
 - no an understandable and explicit legal basis regarding donors and users rights
 - no generally accepted ethical codes, etc.

References

- Metadata Federation of PICES Member Countries. PICES Technical Report No. 1, Edited by Bernard A. Megrey, S. Allen Macklin, Kimberly Bahl, and P. Daniel Klawitter, 2007.
- PICES TCODE catalog - 2. URL:
`http://tcode.tinro.ru/geonetwork/`
- Website: PICES TCODE catalog service. URL: `https://sites.google.com/site/picestcodegeonetwork/`

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<https://meetings.pices.int/publications/pices-press/volume28/PPJul2020.pdf>
- IOC/IODE Inter-sessional Working Group To propose a Strategy on Ocean Data and Information Stewardship for the UN Ocean Decade (IWG-SODIS). First Interim Report. June 2020. URL:
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