

Redesigning the FRDR Discovery Interface: Better, Stronger, Geospatial-er

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Research Data Management Summer Lunch and Learn Series



Digital Research
Alliance of Canada

Alliance de recherche
numérique du Canada

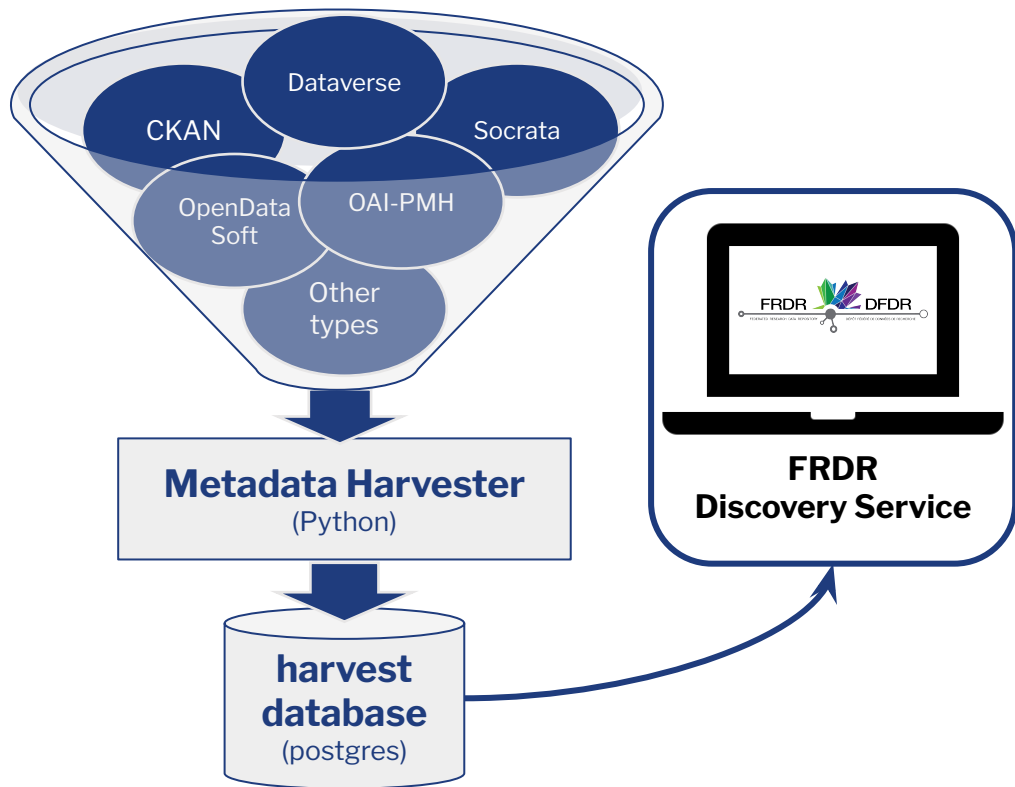
In this presentation:

1. Introduction to the Federated Research Data Repository (FRDR), and the FRDR Discovery Service
2. The FRDR Discovery Redesign Project

What is FRDR?

- Federated Research Data Repository (FRDR) / Dépôt fédéré de données de recherche (DFDR)
- Scalable federated platform for digital research data management and discovery
- A service provided by the Digital Research Alliance of Canada (The Alliance)
- Three components:
 - **Discovery:** National discovery layer indexing Canadian research data repositories
 - **Deposit:** Data repository with dedicated curation support
 - **Preservation:** Archivemata integration and preservation pipeline

The FRDR Discovery Service



Find Data

Search FRDR to find research datasets originating from researchers affiliated with Canadian institutions. Data deposited to other repositories across Canada can also be found by searching in FRDR. View the growing list of [collaborating repositories](#).

[Learn more »](#)

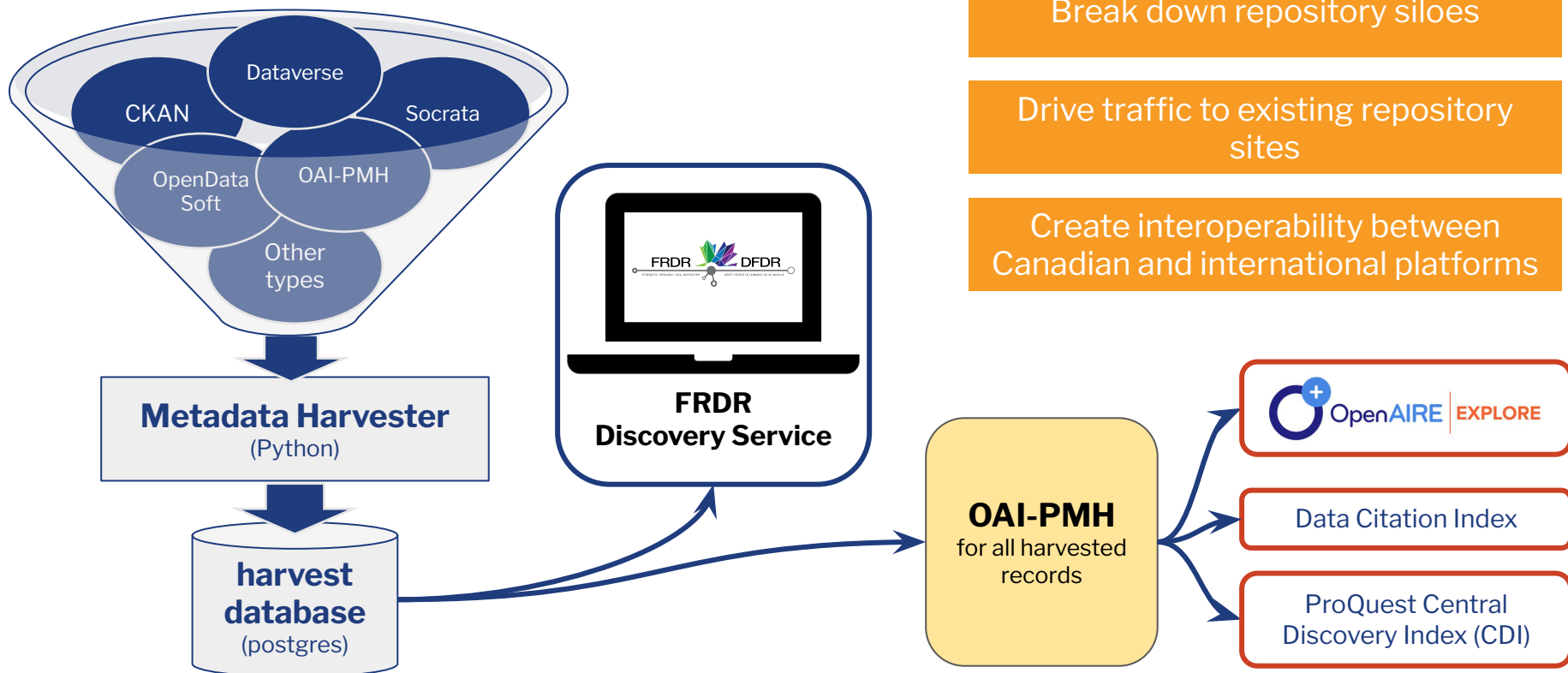
Deposit Data

Any researcher affiliated with a Canadian institution can deposit data into FRDR. The platform can efficiently ingest datasets of any size, and preservation processing is done automatically. Data professionals from the Portage Network and institutions across Canada work with researchers to curate and approve deposited items.

[Learn more »](#)

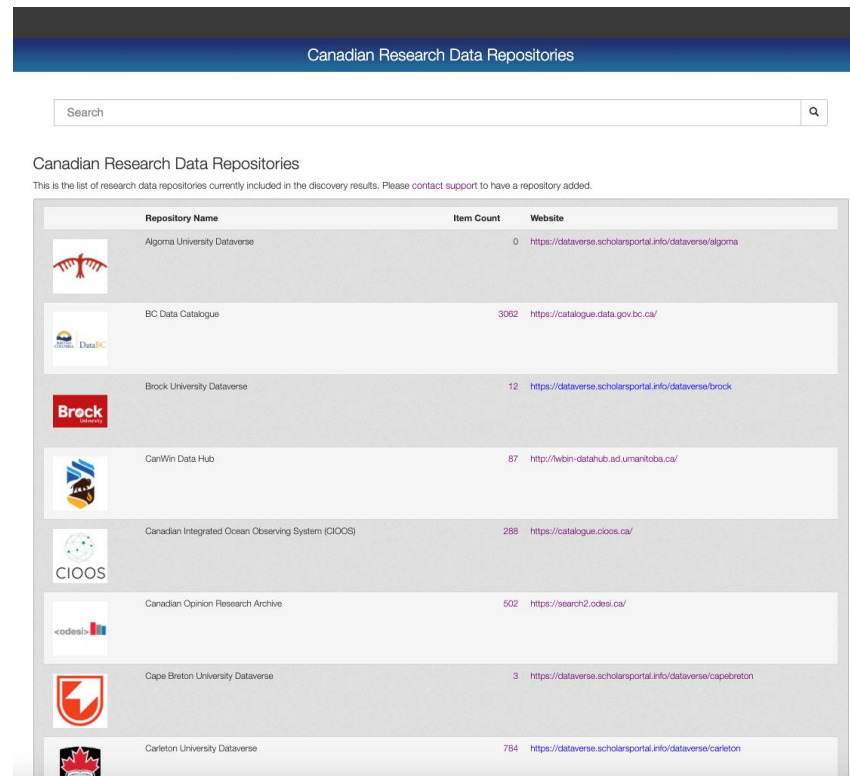
<https://www.frdr-dfdr.ca/>

What are the benefits?



Collaborating repositories

- Over 100 discoverable research data repositories including:
 - **University** repositories, including Scholars Portal Dataverses
 - **Government** repositories at the federal, provincial, and local levels
 - **Domain-specific** repositories
 - Datasets deposited in **FRDR**











Canadian Research Data Repositories

Search

Canadian Research Data Repositories

This is the list of research data repositories currently included in the discovery results. Please contact support to have a repository added.

Repository Name	Item Count	Website
 Algoma University Dataverse	0	https://dataverse.scholarsportal.info/dataverse/algoma
 BC Data Catalogue	3062	https://catalogue.data.gov.bc.ca/
 Brock University Dataverse	12	https://dataverse.scholarsportal.info/dataverse/brock
 CarWin Data Hub	87	http://twbin-datahub.ad.umanitoba.ca/
 Canadian Integrated Ocean Observing System (CIOOS)	288	https://catalogue.cioos.ca/
 Canadian Opinion Research Archive	502	https://search2.odesi.ca/
 Cape Breton University Dataverse	3	https://dataverse.scholarsportal.info/dataverse/capebreton
 Carleton University Dataverse	784	https://dataverse.scholarsportal.info/dataverse/carleton

Text-based discovery

- **Keyword** search, with support for English and French language analysis
- **Filters** for date range, author, and source repository

TransLink - Metro Vancouver Boundary
BC Data Catalogue
Greg Kolesniak; Alan Tabbernor — 2020-04-07

ACCESS Public
AUTHOR Greg Kolesniak , Alan Tabbernor
AUTHOR_AFFILIATION
SOURCE BC Data Catalogue
This data set shows the boundary of TransLink's service area, which aligns with the boundary of the Metro Vancouver region. It is a subset of the Municipal Boundaries data set downloaded from Metro Vancouver's Open Data Catalogue (<http://www.metrovancouver.org/data/>). This data set shows the boundary of TransLink's service area, which aligns with the boundary of the Metro Vancouver region. It is a subset of the Municipal Boundaries data set downloaded from Metro Vancouver's Open Data Catalogue (<http://www.metrovancouver.org/data/>).

DESCRIPTION_EN
This data set shows the boundary of TransLink's service area, which aligns with the boundary of the Metro Vancouver region. It is a subset of the Municipal Boundaries data set downloaded from Metro Vancouver's Open Data Catalogue (<http://www.metrovancouver.org/data/>). This data set shows the boundary of Metro Vancouver. This data set is a subset of the Municipal Boundaries data set downloaded from Metro Vancouver's Open Data Catalogue (<http://www.metrovancouver.org/data/>).

DESCRIPTION_FR
[[{"frdr_geospatial_geometry":{"frdr_geometry_coordinates":[-113.5,48],[-113.5,60],[-139.5,60],[-139.5,48]},{"frdr_geometry_type":"Polygon"},"frdr_geospatial_type":"Feature"}]]
<https://catalogue.data.gov.bc.ca/dataset/874721e7-6d61-49f4-8bd0-379904575d2b>
"Vancouver", "TransLink", "Metro Vancouver Boundary", "Metro Vancouver", "Boundary"

PUBLISHER Open Government Licence – TransLink
https://www.translink.ca/-/media/Documents/plans_and_projects/managing_the_transit_network/2017-TSPRI/Open-Government-Licence-TransLink-TSPRI.pdf

RIGHTS
SERIES
DATE
SUBJECT_EN Transportation
SUBJECT_FR
TITLE_EN TransLink - Metro Vancouver Boundary
TITLE_FR
TYPE dataset

[Hide Details](#)

FRDR

Feedback Deposit Data Account Help About EN

vancouver

Advanced Search

Filter Results

Date range Clear

2018 to 2020

2018 to 2020

Apply filter

Author

Statistics Canada 17
Greg Kolesniak 12
Statistics Canada | Statistique Canada 8
Maria Surry 5
Ben Arnil 4
Hakai Institute 4
Jamie Galt 4
SBOT Requests 3
Allan Johnsrude 2
Bruce Patten 2

Load More

Source

BC Data Catalogue 24
Open Data Canada 20
UBC Dataverse 17
Hakai Institute 4
University of Victoria Dataverse 4
University of Toronto Dataverse 3

81 results found. 1 filter applied.

Sort by relevance List view

1 to 20 of 81

Page 1

[TransLink - Downtown Vancouver](#)
BC Data Catalogue
Greg Kolesniak — 2020-04-07
[+ Show Details](#)

[TransLink - Metro Vancouver Boundary](#)
BC Data Catalogue
Greg Kolesniak — 2020-04-07
[+ Show Details](#)

[TransLink - Port of Vancouver Facilities / Terminals](#)
BC Data Catalogue
Greg Kolesniak — 2020-04-07
[+ Show Details](#)

[West Coast Vancouver Island Synoptic Bottom Trawl Survey](#)
Open Data Canada
Maria Surry — 2018-07-13
[+ Show Details](#)

[GDP at Basic Prices by Industry, Vancouver, 1987-2018 \[Excel files\]](#)
University of Toronto Dataverse
Conference Board of Canada — 2019-11-01
[+ Show Details](#)

[Immigrant status and selected places of birth for residential property owners in the census metropolitan areas of Toronto and Vancouver](#)
Open Data Canada

Map-based discovery

FRDR map search:

- An adaptation of the open-source [Geodisy](#) project
- Uses the open-source software GeoBlacklight
- Search results are driven by an interactive map
- Directly tied to FRDR's research data indexing
- Contains datasets that are geospatial in nature or simply associated with a location
- Available in English and French


Why is geospatial search useful?

- Data can be difficult to find! When searching for data about a particular place, keywords can be hit or miss. A text search might look something like this:

((British Columbia OR BC OR B.C.) N2 (north*)) OR (Alaska N2 south*) OR (Yukon N2 south*)
OR (Tatshenshini-Alsek ADJ2 park) OR (Glacier Bay ADJ2 (park or preserve))
OR (Kluane ADJ2 (park OR reserve)) OR (Atlin ADJ2 (park OR recreation area) OR ...



FRDR Map Search: search results page

FRDR  Help About Contact Us EN ▾

climate
















climate ✖

Bounding Box > -178.56168 -10.833313 -28.444492 78.134492 ✖


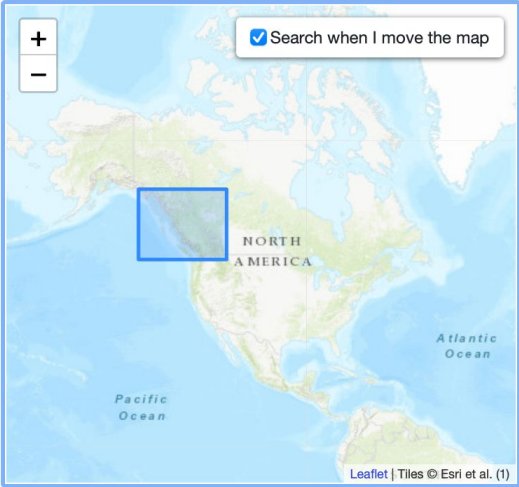
« Previous | 1 - 10 of 2,124 | Next »

Limit your search

- Institution >
- Author(s) >
- Subject(s) >
- Place >
- Collection >
- Access >
- Data Type >
- Format >

1. [Topographic Mapping – Physical locati...](#)  
2. [Topographic Mapping – Treed Area](#)  
3. [Renewable Energy Installations](#)  
4. [In-filled Climate Data](#) 
5. [BC Climate Stations](#) 
6. [Flood Reporting notes by Toronto Wat...](#)  
7. [Rain Gauge Locations and Water Colle...](#)  
8. [Automatic climate stations: recording ...](#) 
9. [Permafrost and Climate Monitoring Ne...](#) 
10. [Climate Normals \(1961 - 1990\)](#) 

« Previous Next » 1 2 3 4 5 ... 212 213

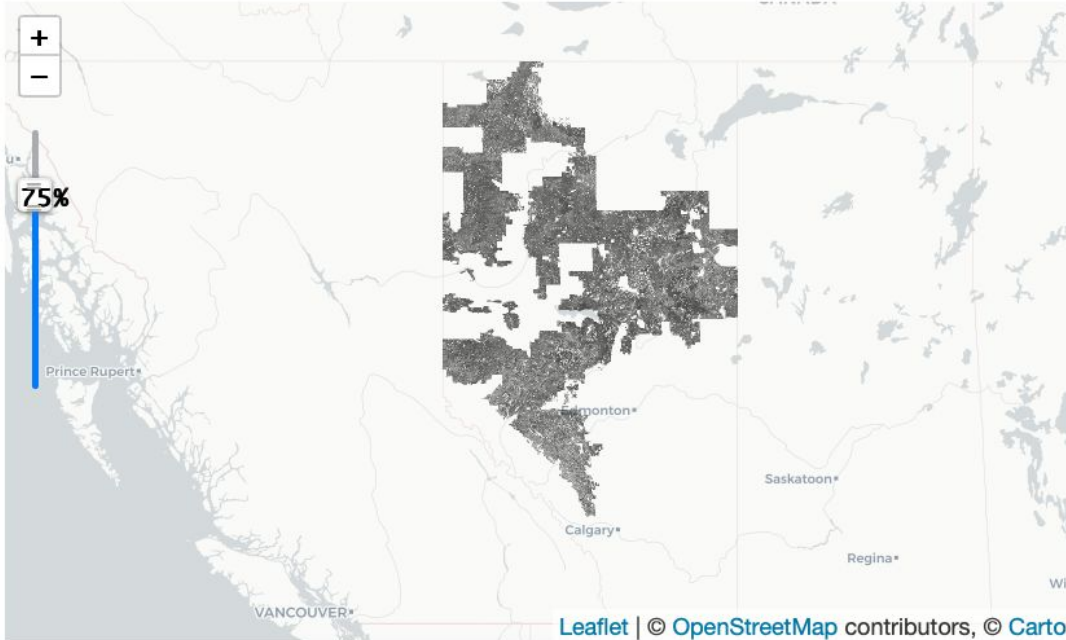


FRDR Map Search: record page - geospatial preview

Held by: [Scholars Portal Dataverse](#)

Data source: <https://doi.org/10.5683/SP2/KITZQK>

Web Map Service (WMS)



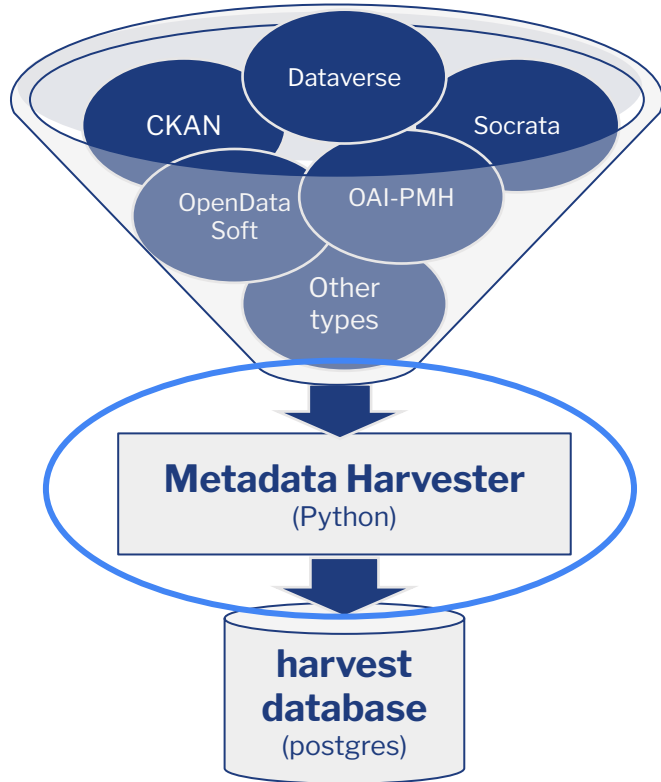
(02 of 56)

[Multivariate maps of forest attributes for management units in Canada's boreal forest \(03 of 56\)](#)

[Multivariate maps of forest attributes for management units in Canada's boreal forest \(04 of 56\)](#)

[Browse all 55 records...](#)

Metadata harvesting



Different for each repository type

(OAI-PMH, Dataverse, CKAN, OpenDataSoft, Socrata, etc.)

Steps:

1. Query the repository API to get list of records
2. For each record:
 - a. query to get full metadata from repository
 - b. “crosswalk”—or map— as many metadata fields as we can to the FRDR schema
 - c. write the crosswalked metadata to database
3. Periodically refresh each record

The FRDR metadata profile

- Primarily **Dublin Core** elements
 - dc.contributor.author
 - dc.title
 - etc.
- Some elements from the **DataCite** schema
 - creatorAffiliation (“Author Affiliation”)
 - resourceTypeGeneral (“Type”)
- Some **custom** elements
 - access
 - item_url

Fields
Title (EN)
Title (FR)
Date
Author
Author Affiliation
Contributor
Description (EN)
Description (FR)
Geolocation (place)
Geolocation (box)
Geolocation (point)
Item URL
Keyword (EN)
Keyword (FR)
Subject (EN)
Subject (FR)
Access
Rights
Series
Publisher
Type

Metadata crosswalking

- Crosswalking involves mapping from one set or “schema” of metadata elements to another
- This is how we transform the source repository metadata to fit FRDR’s metadata profile
- Multiple metadata schemas are reconciled to a set of general elements
 - FRDR users can search multiple repositories with one metadata profile
- Not all of the source metadata is stored in FRDR records
 - FRDR users can view complete metadata on the source repository’s landing page

We can rebuild it

We have the technology

We can make it better than it was

Better, stronger, ~~faster~~ geospatial-er

The Discovery Redesign Project will result in a standalone discovery platform that integrates map-based searching with the existing FRDR discovery platform and enhances overall search capabilities

FRDR DFDR
Find and Share Canadian Research Data

Find Data
Deposit Data

FRDR (Find and Share Research Data) is a national research data infrastructure platform that provides a central location for researchers to find and share their research data. It is a collaborative effort between the federal government and the research community. The platform is designed to be user-friendly and accessible to researchers from all disciplines. It provides a central location for researchers to find and share their research data. It is a collaborative effort between the federal government and the research community. The platform is designed to be user-friendly and accessible to researchers from all disciplines.

Filter Results: 488 results found

Top 10 results

Item	Year	Accession Number
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111
Therapeutic Drug	2018	10.26907/25111

Explore Canadian research data

Search by location

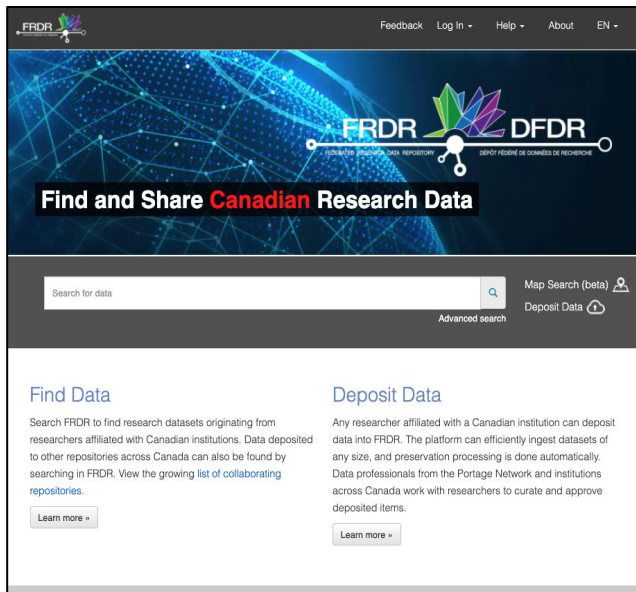
Map showing Canada with a search box and a 'Search' button.

Data source: https://doi.org/10.26907/25111

Map Map Service (2018)

Map showing Canada with a search box and a 'Search' button.

Map showing Canada with a search box and a 'Search' button.



The screenshot shows the FRDR website homepage. At the top, there is a navigation bar with links for Feedback, Log In, Help, About, and EN. The main header features the FRDR logo and the text "Find and Share Canadian Research Data". Below the header, there is a search bar with the placeholder text "Search for data" and a search icon. To the right of the search bar, there are links for "Map Search (beta)", "Deposit Data", and "Advanced search". The main content area is divided into two columns: "Find Data" and "Deposit Data". The "Find Data" section includes a paragraph about finding research datasets and a "Learn more" button. The "Deposit Data" section includes a paragraph about depositing data and a "Learn more" button.

FRDR DFDR
Find and Share Canadian Research Data

Search for data Search Map Search (beta) Deposit Data Advanced search

Find Data

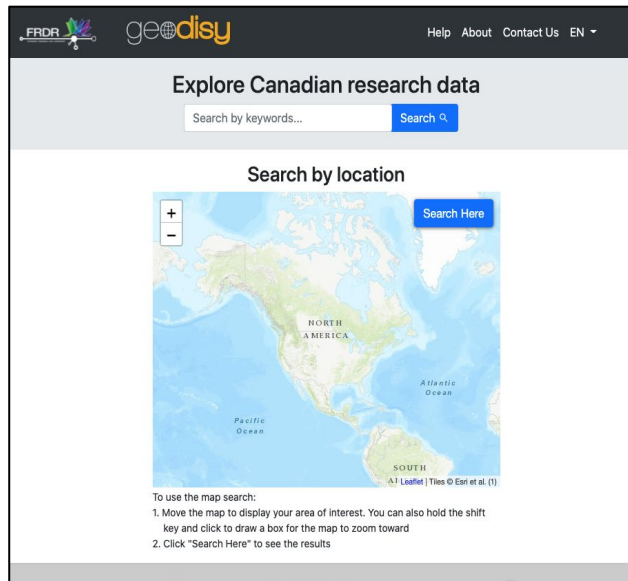
Search FRDR to find research datasets originating from researchers affiliated with Canadian institutions. Data deposited to other repositories across Canada can also be found by searching in FRDR. View the growing list of collaborating repositories.

Learn more

Deposit Data

Any researcher affiliated with a Canadian institution can deposit data into FRDR. The platform can efficiently ingest datasets of any size, and preservation processing is done automatically. Data professionals from the Portage Network and institutions across Canada work with researchers to curate and approve deposited items.

Learn more



The screenshot shows the geodisy website search interface. At the top, there is a navigation bar with links for Help, About, Contact Us, and EN. The main header features the geodisy logo and the text "Explore Canadian research data". Below the header, there is a search bar with the placeholder text "Search by keywords..." and a search icon. Below the search bar, there is a section titled "Search by location" which includes a map of North America. The map has a "Search Here" button. Below the map, there is a list of instructions for using the map search.

FRDR geodisy
Explore Canadian research data

Search by keywords... Search

Search by location

Search Here

To use the map search:

1. Move the map to display your area of interest. You can also hold the shift key and click to draw a box for the map to zoom toward
2. Click "Search Here" to see the results





lunaris

FRDR

Feedback Log In Help About EN

FRDR DFDR
FÉDÉRATED RESEARCH DATA REPOSITORY DÉPÔT FÉDÉRE DE DONNÉES DE RECHERCHE

Find and Share **Canadian** Research Data

Search for data

Advanced search

Map Search (beta)

Deposit Data

Find Data

Search FRDR to find research datasets originating from researchers affiliated with Canadian institutions. Data deposited to other repositories across Canada can also be found by searching in FRDR. View the growing [list of collaborating repositories](#).

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FRDR
Federated **Research**
Data Repository



DFDR
Dépôt fédéré de
donées de recherche

Discovery Redesign Project: Goals

- Integrate the existing FRDR Discovery Service platform with FRDR Map Search, ensuring a seamless experience that combines text- and map-based searching for users
- Expand the capabilities of FRDR's search, through mechanisms including filters and advanced search
- Build a foundation upon which FRDR can better leverage persistent identifiers and controlled vocabularies, including ORCID, ROR, and FAST
- Respond to diverse community needs for discovery of Canadian research data

The project is supported by a core project team and the Discovery Redesign Working Group, ensuring the project is community-driven and incorporates usability best practices.

Discovery Redesign Project: Process

Completed:

- Environmental scan and comparative analysis
- Established working group
- User research - visioning exercise and user survey
- Confirmed high-level website structure (discovery will be separate from repository)
- Creation of semi-functional figma mockup
- Initial usability testing with figma mockup
- Worked with design firms to establish logo, branding, and wireframe design

Discovery Redesign Project: Process

Completed (continued):

- Design modules with working group
 - Module 1: Record pages
 - Module 2: Search results page
 - Module 3: Home search, browse page, & repo list
 - Module 4: Keyword and map search functionality/algorithm
 - Module 5: Filters and metadata display
 - Module 6: Linking and enriching research data
 - Module 7: API functionality and analytics

In progress:

- Development of alpha prototype



lunaris will (re-)use a variety of open-source software components

FRDR Harvester: Repository metadata harvester

+

Globus Search: Text and geospatial search and filtering

+

Geodisy: Metadata and data retrieval and processing

+

GDAL: Geospatial file processing

+

GeoServer: Server for publishing and distributing geospatial data

+

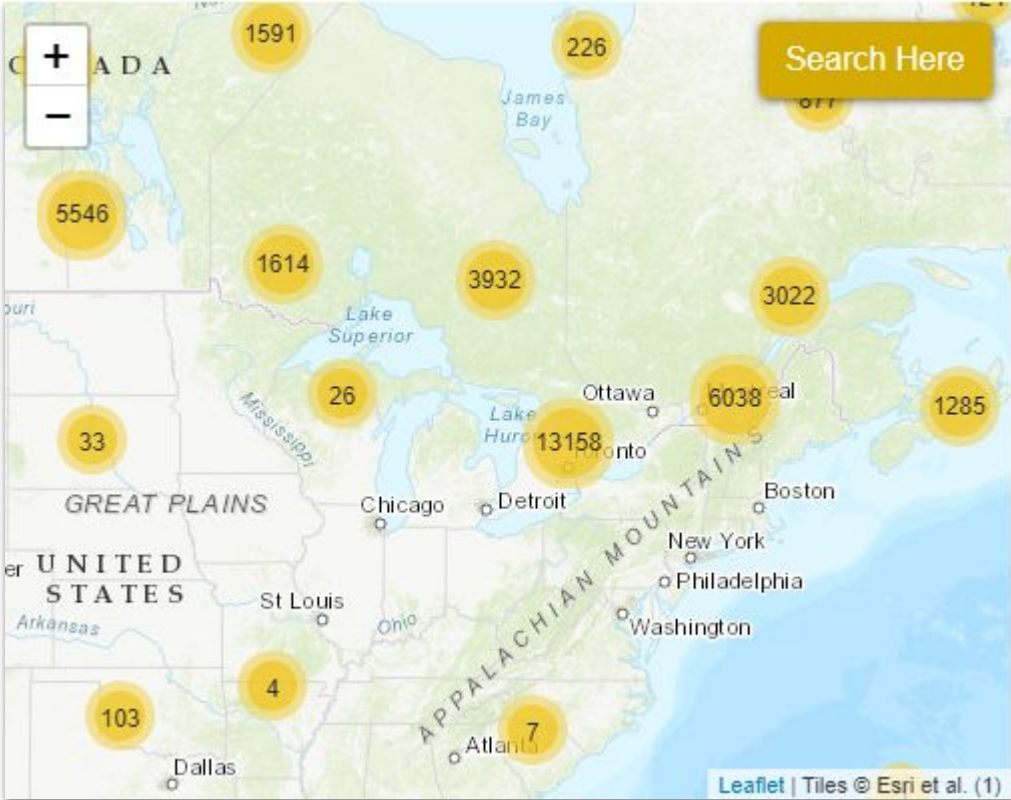
GeoBlacklight: Discovery layer

Planned enhancements: Search by place name

The image shows a map interface with several planned enhancements highlighted by a blue arrow pointing to the top right. The interface includes:

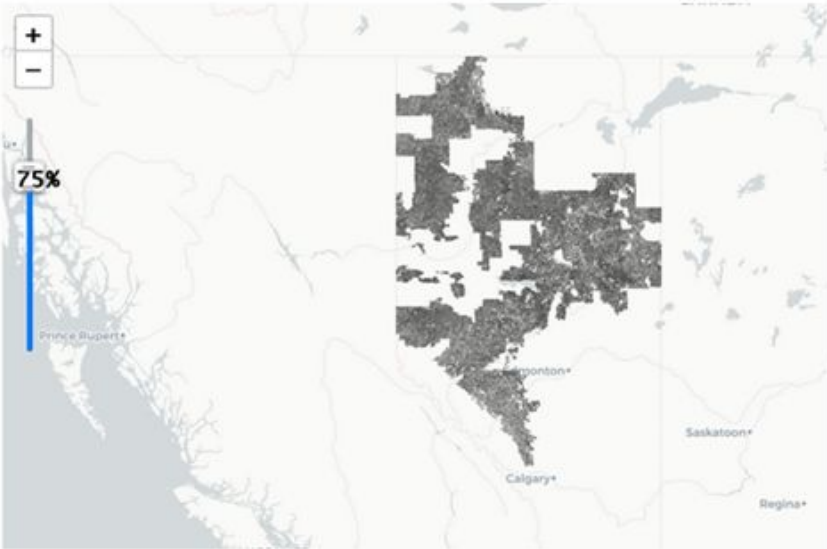
- A search bar at the top left with the placeholder text "Enter a place name...".
- A "Move map here" button at the top right, which is the target of a blue arrow.
- A map showing North America and the Pacific Ocean.
- A search bar on the map with the text "Search".
- A zoom control on the left side with "+" and "-" buttons.
- A help icon (a question mark in a circle) in the top right corner of the map area.
- A notification box at the bottom left with a globe icon and the text: "Enabling the location filter restricts your search to only datasets that have location information described." and a "Got it!" button.
- A "Leaflet map" dropdown menu at the bottom right.

Planned enhancement:
Clustering to preview
dataset locations



Planned enhancements:
Ability to preview multiple
geospatial files on a
single dataset record
page

Geospatial information



The image shows a map of Canada with a dark grey geospatial data overlay. A blue vertical bar on the left side of the map is labeled '75%' and has a '+' sign above it and a '-' sign below it. The map includes labels for 'Prince Rupert*', 'Vancouver*', 'Calgary*', 'Saskatoon*', and 'Regina*'. To the right of the map is a sidebar with three sections: 'Geospatial Files', 'Bounding Boxes', and 'Points'. Each section has a 'Show all' or 'Hide all' button.

Geospatial Files

- none
- geofile1.json
- geofile2.kml
- geofile3.json
- geofile4.json

Bounding Boxes [Show all](#)

- W: -123.241289 E: -123.234602
N: 49.251356 S: 49.248001
- W: -125.160843 E: -125.158203
N: 48.8592 S: 48.857391
- Stanley Park, Vancouver, British Columbia, Canada
- Toronto, Ontario, Canada

Points [Hide all](#)

- 49.251356, -123.241289
- 48.8592, -125.158203
- 49.251356, -123.241289

Planned enhancements

- Links to related publications in other repositories
- Metadata export (eg. ISO 19139, DDI, DC)
- Improved advanced search field options
- Stay tuned for more!

Discovery Redesign Project - next steps

- Continued development of alpha prototype
- User testing with alpha prototype
- Continued working group engagement
- Promotion
- Launch of beta version: early 2023

Contributors

Geodisy Team

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Special thanks to Kelly Stathis

Thanks! Questions?

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Alliance de recherche
numérique du Canada