

# Advancing data management

at University of Waterloo through Global Water Futures Program

## WHAT IS RESEARCH DATA MANAGEMENT (RDM) PLANNING ?

Data Management Planning provides researchers and programs the opportunity to consider all their DM needs from collection and analysis, to storage, and backup, security and ethics, costs, and preservation.



## HOW CAN UW GWF TEAM ASSIST RESEARCHERS ?

We can provide advice on best practices for naming conventions and file organization and we can upload your metadata and data on a trusted repository to get a DOI. More details on how the University of Waterloo GWF RDM team can assist researchers is available in Appendix C of the [GWF Data Policy](#)

## WHY SHOULD RESEARCHERS CARE ABOUT RDM?

Practising good data management from the inception of your project will prevent data loss and ensure the preservation and accessibility of your data. More journals are requesting authors to put their data in public repositories. For example, [AGU data policy](#) requires a clear explanation where data can be accessed.

## DATA MANAGEMENT IS NECESSARY

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GLOBAL WATER FUTURES – DATA POLICY Originally Adopted March 1, 2017 Revised March 4, 2019		

## WHERE ARE METADATA AND DATA LOCATED?

All metadata provided are available on the [Polar Data Catalogue](#) and Waterloo Metadata Index ([WAMEDEX](#)) portals. The [Cuizinart](#) provides a system to subset and large-scale gridded data, while the [Water Institute \(WI\) Storage Group](#) on FRDR portal is used for long term preservation of research data for research groups. A DOI is assigned to your research data on FRDR which is openly available and discoverable.

## WHAT IS METADATA?

Metadata is data about data. The RDM team at UW adopt an internationally recognised metadata schema from International Organisation for Standardization (i.e. [ISO 19115](#) Geographic information Metadata) as this metadata schema will facilitate interoperability with most standardize metadata schemas use across the various academic discipline

## What is a DOI?

Digital objective identifier ([DOI](#))- unique ID for dataset such that you can cite/reference it

## What is a Dataset?

Metadata plus actual data

# Advancing data management through collaboration

Tools for supporting the Global Water Futures program and beyond at University of Waterloo

## PUBLISH METADATA

### Polar Data Catalogue (PDC)

- Follows international metadata schema standards ([ISO 19115](#))
- Facilitates metadata digestion across North America
- Creates unique ID (no DOI) for meta-dataset
- Searchable metadata and data
- Can store data and assign DOI  
(currently only to GWF Pillar 3 [TTWS](#) project)
- Spatial extent are limited in the PDC interface  
(but portals with different extent can be developed and/or supported)



### Wamedex

- Currently subset of PDC metadata linked to Global Water Futures Program
- (Searchable) list of metadata of datasets used/produced at University of Waterloo and other partners linked with GWF, etc.
- Visualize available spatial domain of data

All datasets in Cuizinart/CaSPAr should appear in Wamedex

All datasets that are published in WI/FRDR or PDC should appear in Wamedex

## MAKE DATA ACCESSIBLE

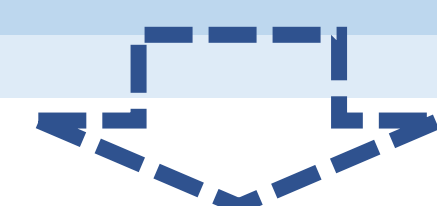
### CaSPAr

- Similar to Cuizinart but ONLY for ECCC's NWP



### Cuizinart

- Storing data
- Storage (theoretically) unlimited
- Must be NetCDF (support with conversion)
- Ease subsetting of data (spatially and temporally)
- Beneficial if datasets large (and gridded)



- × No DOI
- × Only NetCDF
- ✓ Subsetting (slice-and-dice): get only domain/variables/etc., you require

## PUBLISH DATA and GET DOI

### FRDR

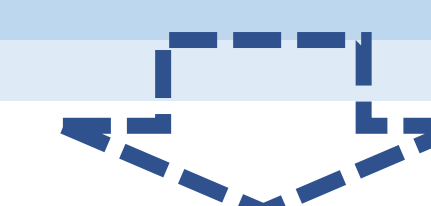
- Can store research data
- Creates DOI for datasets for free (currently)
- Link to other Canadian databases (not storing)



### Water Institute (WI) Storage

#### Group on FRDR

- WI has account on FRDR
- Unlimited (theoretically) storage
- Provide assistance to upload data to get DOI on FRDR



- ✓ Creates DOI
- ✓ No specific format
- × No subsetting (you have to download the entire dataset)

For more information please contact:

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