



# DataCite Canada



**Cyndie Found, CISTI**

**2012-10-25**



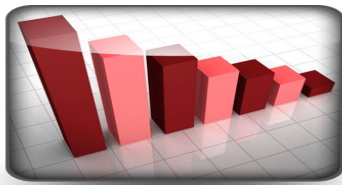
# Overview

- **Background** : Who is CISTI, Definition of Data
- **Research Data Management(RDM)** – Benefits, Challenges
- **Addressing the RDM challenges**
- **DataCite Canada**
  - What is DataCite International?
  - What is DataCite Canada?
  - How DataCite Canada works
    - Allocator Responsibilities
    - Client Responsibilities
  - DataCite Services Overview
- **Questions**

# CISTI: Who We Are

- Library of the NRC and Canada's national science library
- Involved in research data initiatives
  - Canadian National Committee for CODATA
  - Research Data Canada
    - [http://rds-sdr.cisti-icist.nrc-cnrc.gc.ca/docs/data\\_summit-sommet\\_donnees/Data\\_Summit\\_Report.pdf](http://rds-sdr.cisti-icist.nrc-cnrc.gc.ca/docs/data_summit-sommet_donnees/Data_Summit_Report.pdf)
  - DataCite Canada: Canada's digital object identifier(DOI) allocation agent





## Data: a Definition

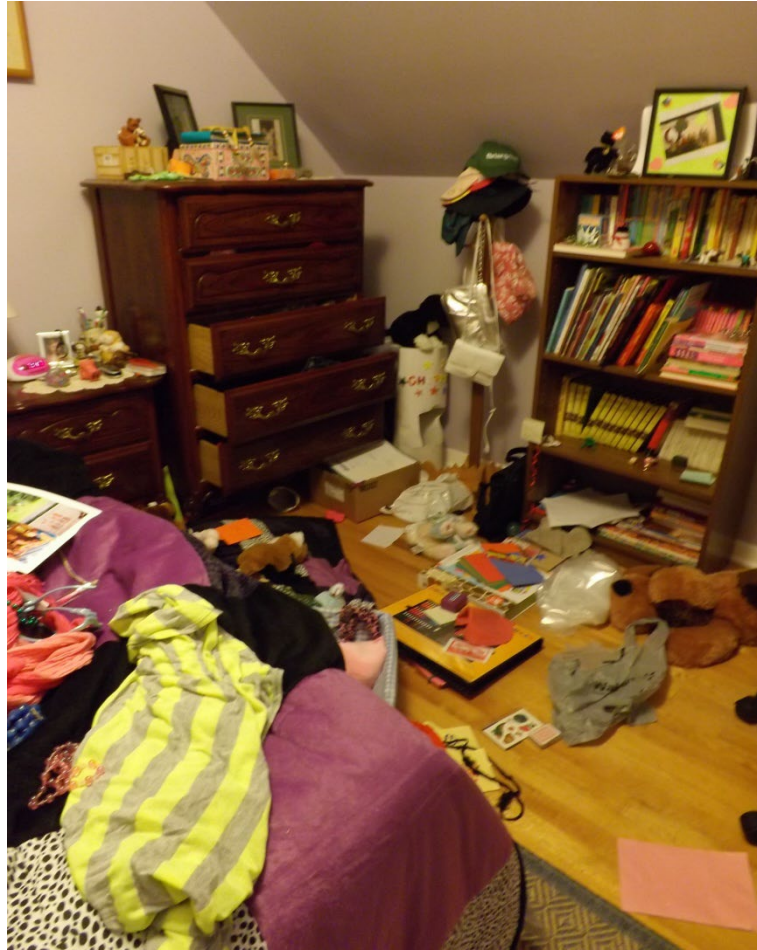


“Data’ means recorded information, regardless of the form or media on which it may be recorded, and includes writings, films, sound recordings, pictorial reproductions, drawings, designs, or other graphic representations, procedural manuals, forms, diagrams, work flow charts, equipment descriptions, data files, data processing or computer programs (software), statistical records, and other research data.”



--U.S National Institutes of Health  
Grants Policy Statement  
2011-09-01

# Why data management?



# Rewards of managed data

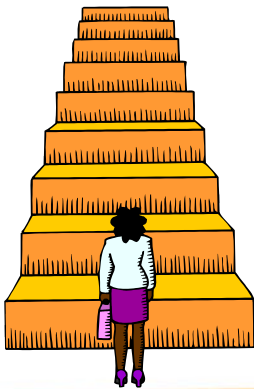
Once data is organized and properly managed it becomes:

- Discoverable – easy to find
- Accessible – easy to get reach
- Meaningful - placed in a context
- Reusable – others can use and build on it
- Verifiable – check others results more carefully
- Citable – people can get credit for their data
- Attributable – Can be used in CVs and promotion cases.
- Valuable – Adds value for organization and researcher



# Challenges to managing data

- Data difficult to manage once funding associated with the project ceases
- Data shared through informal networks
- Only 21% use a national or international facility
- Only 18% deposit data with a data centre
  - But 43% expressed the need to access other researchers' data

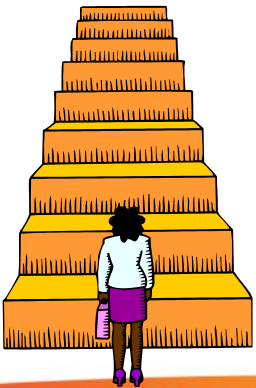


Source: UKRDS study:  
The Data Imperative, 2009

# Challenges to managing data

## The Challenges

- No widely used method to identify datasets
- No widely used method to cite datasets
- No effective way to link between articles and datasets



How can we start to solve these challenges?



# DataCite (International)



- International Not-for-profit organisation formed in London on 1 December 2009.
- Founding members were from 6 countries, including Canada, many more joined since that time
- Provides a global infrastructure for assigning DOIs to research data.
- Aims to:
  - establish easier access to research data on the Internet
  - increase acceptance of research data as legitimate, citable contributions to the scholarly record
  - support data archiving that will permit results to be verified and re-purposed for future study.



# DataCite (International)



- AU: Australian National Data Service
- CA: Canada Institute for Scientific and Technical Information
- CH: ETH Zurich
- DE: German National Library of Science and Technology; German National Library of Medicine; GESIS – Leibniz Institute for Social Science; German National Library of Economics
- DK: Technical Information Center of Denmark
- FR: Institute for Scientific and Technical Information
- IT: Conferenza dei Rettori delle Università italiane
- KR: Korea Institute of Science and Technology Information
- NL: TU Delft Library
- SE: Swedish National Data Service
- UK: British Library; Digital Curation Centre
- US: California Digital Library; Office of Scientific and Technical Information, US Dept. of Energy; Purdue University Libraries; Interuniversity Consortium for Political and Social Research; Microsoft Research



20 organizations in 12 countries



# DOIs - Addressing the Challenge



- Definition:

a persistent identifier consisting of a prefix and suffix that together form a completely unique identifier that is permanently linked to an object itself, and not to where it is located such as in the case of a URL.

- Anatomy

**PREFIX:**

**Provided by CISTI**

**10.4224/17210689**

**SUFFIX:**

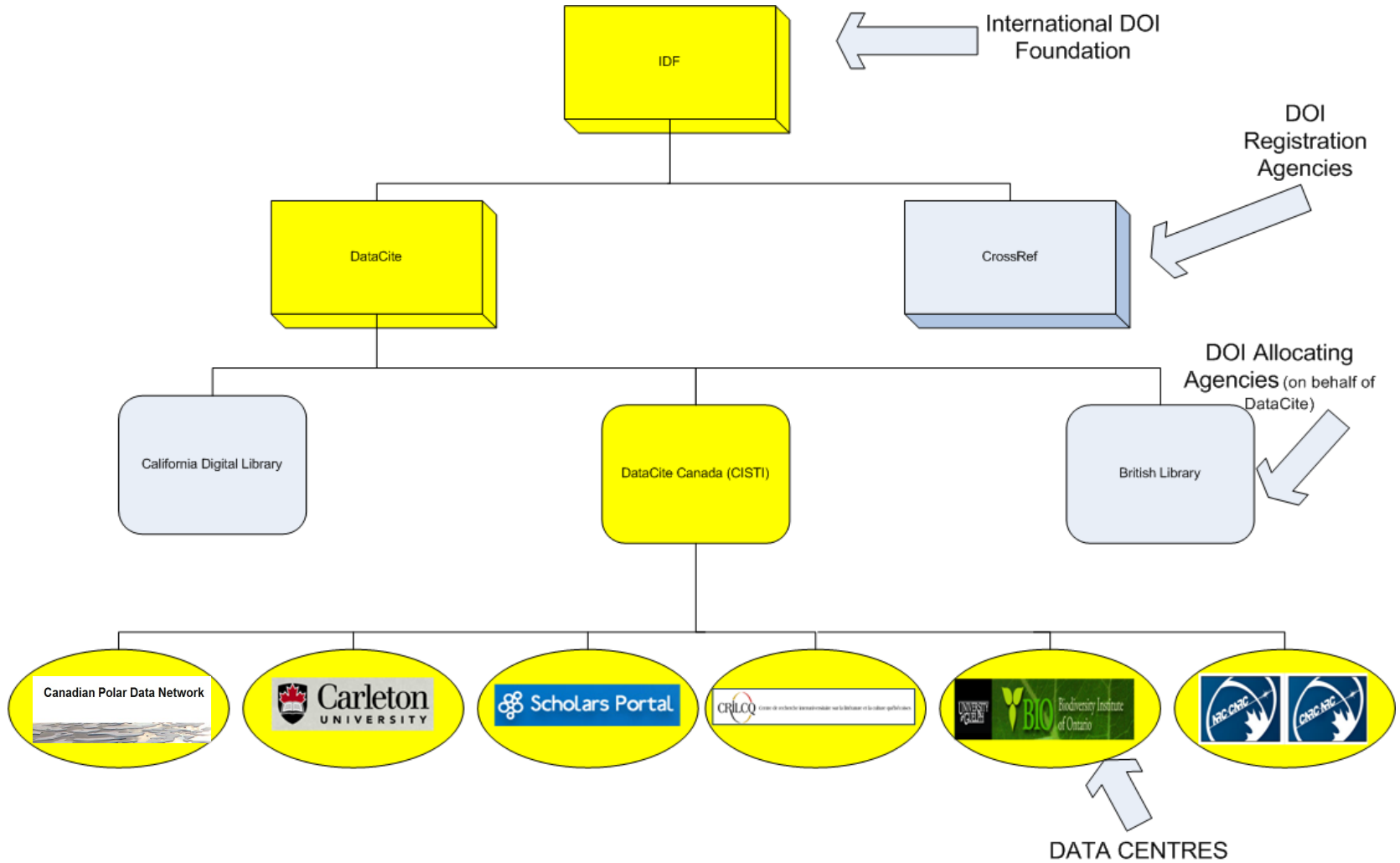
**Assigned by the Client**

**10.4224/17210689**

# DOIs Strengths

- ISO standard <http://www.iso.org/iso/news.htm?refid=Ref1561>  
**ISO 26324:2012, *Information and documentation -- Digital object identifier system***
- Existing infrastructure and support
- Well established in the scholarly journal article world.
- Metadata included facilitating discoverability and citation of data
- URL can be updated in one place to ensure ongoing access, same DOI even if object has URL change
- Track more easily, produce use and citation statistics from DOIs. Funding and research groups review citation stats.
- A means for researchers to get credit for data citations, can use on CVs, makes data sharing more acceptable

# Data Cite Canada



# CISTI's role with DataCite

DataCite Canada is Canada's DOI allocating agency for data.

- Provides local services and support for Canadian researchers, data centres and libraries
- Contributes to ongoing development of DataCite's services and resources on behalf of Canadian clients
- Promotes the value of data archiving, citation and discoverability within Canada

# Data Cite Canada

- WHO does DataCite Canada work with?  
non-profit organizations and government departments who have responsibility for managing data.
- WHAT type of data.  
Datasets, grey literature (e.g. thesis, technical reports)
- COST  
Free to non-profit organizations and government departments until March 2015

# Data Cite Canada(cont'd)

- **PROCESS**

1. Client contacts DataCite Canada via email
2. DataCite Canada staff have a conversation to determine if the basic criteria for becoming a client are met.
3. If so, then the client is sent a client info package which provides additional information about the DOI registration process.
4. Further conversations by phone or email to ensure prospective client is able to meet their responsibilities as a DataCite Client.



# Data Cite Canada(cont'd)

- PROCESS (cont'd)
  5. Sign an MOU or SLA
  6. Establish an account for the new client and provide them with their own prefix
  7. Client then start to use the DataCite admin interface to register individual DOIs or develop a webservice so that they can integrate DOI registration within their existing metadata process by using DataCite's API.
  8. DataCite Canada provides the client with all the support they need to use available services, including access to documentation.

# Data Cite Canada – how it works

As the DataCite registration agency, CISTI is responsible for:

1. Providing access to DOI registration services.
2. Providing access to technical and account support for the registration services.
3. Providing access to technical documentation explaining the APIs and metadata schema.
4. Providing the data centre name 60 days written notice of any changes to the metadata schema or APIs that could impact upon the data centre's name ability to register their data.



## National Research Council Canada

www.nrc-cnrc.gc.ca



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## About Knowledge Management

## NRC National Science Library

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## Community Services

- NRC Publications Archive
- DataCite Canada
- DOCLINE in Canada
- PubMed Central Canada
- Gateway to Scientific Data

## Completed Access to Information Requests

## Proactive Disclosure



## DataCite Canada

## DataCite Canada Services

## Adding value to your research through data registration

DataCite Canada's data registration service provides Canadian data centres and libraries with a mechanism for registering research data and assigning digital object identifiers (DOIs) to them.

DOIs help data producers take control of the management of their research, share, get credit for it and build their reputation through data citations. DOIs also make research data easier to access, reuse and verify, thereby making it easier to build on previous work, conduct new research and avoid duplicating already existing work.

Our data registration service requires organizations to first register for an account. To find out how, see our [Information for Prospective Clients](#) section.

DataCite Canada's services are offered in cooperation with [DataCite](#), an international consortium of national-scale libraries and research organizations committed to increasing access to research data on the Internet. DataCite Canada is DataCite's DOI allocation agent for Canada.

## Metadata Searches

- [Search all research data registered in DataCite](#)  
(This link takes you to the DataCite (international) Metadata Search page, where you can search over one million registered datasets from around the world.)
- [View all research data registered by DataCite Canada](#)  
(This link allows you to view only those research datasets registered by DataCite Canada.)

## DataCite Canada account holders

Login to assign your DOIs

## Enquiries: DataCite Canada

Email: [datacite.cisti@nrc-cnrc.gc.ca](mailto:datacite.cisti@nrc-cnrc.gc.ca)

## Quick Links

- [DataCite Canada Home](#)
- [About DataCite Canada](#)
- [Fact Sheets](#)
- [Information for Prospective Clients](#)
- [Information for Account Holders](#)
- [Information for NRC](#)

## News

- [DataCite and publishing community sign joint statement](#)
- [NRC-CISTI launches DataCite Canada](#)
- [DataCite Canada update: First DOIs assigned](#)
- [DataCite Canada pilot participants announced](#)

*DataCite - a global registration agency for research data*

DataCite Canada is part of the broader international DataCite initiative...

[More about DataCite]



<http://cisti-icist.nrc-cnrc.gc.ca/eng/services/cisti/datacite-canada/index.html>

## Dataset

[Register new Dataset](#)

[List all Datasets](#)

[Find by DOI](#)

## View

[API documentation](#)

### ▼ Register new Dataset

DOI latency: Be aware that it can take up to 24 hours until a DOI update is globally known. New DOIs should be resolvable after about 5 minutes.

**For testing purposes please only use our dedicated test prefix 10.5072**

DOI:

Url:

Is Active:

Is Ref Quality:

SAVE

### ▼ DataCite Metadata Store Login

You have tried to access a protected area of this application.

Symbol

Password

Remember me on this computer

SUBMIT RESET

# Responsibilities of DataCite Canada clients

The DataCite Canada Client is responsible for:

1. Quality of the data and metadata.
2. Data Storage.
3. Ensuring that it has the authority to make the data and metadata available.
4. DOI Registration – registering each research data object using DataCite’s registration system by providing the DOI, the core metadata elements (as defined in the DataCite Metadata Schema) and a URL for the landing page.
5. Providing persistent data access by ensuring that the landing page includes information about the data, direct access to the data or information about how to access it, and ensuring that any changes to the landing page URL are reflected in the DOI registration system.
6. Agreeing to make their metadata freely available for discovery purposes.

# Landing Page



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Council Canada

Conseil national  
de recherches Canada

Canada



National Research Council Canada

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[DataCite Canada](#)

[DOCLINE in Canada](#)

[PubMed Central  
Canada](#)

[Gateway to Scientific  
Data](#)

## NRC Publications Archive

[View deposited version](#)

DOI: <http://dx.doi.org/10.4224/17210689>

### Numerical Work for Oceanide Project - A Progress Report

**Author(s):** Derradji-Aouat, Ahmed  
**Affiliation:** National Research Council Canada; NRC Institute for Ocean Technology  
**Language:** English  
**Type:** Report  
**Series:** Technical Report  
**Series #:** TR-2010-22  
**Date:** 2011  
**Description:** 10p.  
**NPArc #:** 17210689  
**Keywords:** Experimental; numerical; ice ridges; strain rates  
**Program(s):** Arctic Operations; Opérations dans l'Arctique  
**Group(s):** Research; Recherche  
**Abstract:** This is a progress summary for the numerical component of

# MetaData

- Metadata (<http://schema.datacite.org/>)
- Small mandatory element set for citations
  - DOI
  - Title
  - Creator
  - Publisher
  - Publication year

Irino, T; Tada, R (2009): Chemical and mineral compositions of sediments from ODP Site 127-797. Geological Institute, University of Tokyo. <http://dx.doi.org/10.1594/PANGAEA.726855>

Registrations by Allocators

Registrations by Datacentres

Registrations by Prefixes

Resolutions by Month

Datacentre	DOI Registrations				Metadata Uploads				Metadata Ratio
	All Time	This Year	Last 30 Days	Last 7 Days	All Time	This Year	Last 30 Days	Last 7 Days	
ANDS.CENTRE-1 - Griffith University	22	22	0	0	22	22	0	0	100%
ANDS.CENTRE-2 - CSSE Uni Melbourne	4	0	0	0	4	0	0	0	100%
ANDS.CENTRE-3 - Curtin University	0	0	0	0	0	0	0	0	0%
CDL.UMA - UMA	1	1	0	0	1	0	0	0	100%
CDL.IISGS - IISGS	27	26	0	0	27	26	0	0	100%
CISTIBOLD - Biodiversity Institute of Ontario	5	5	2	0	0	0	0	0	0%
CISTIPY - International Polar Year (PY)	80	80	35	0	80	80	35	0	100%
CISTINRC - National Research Council	1 818	1 791	1 791	0	1 818	1 791	1 791	0	100%
CRULUMMI - Università degli Studi di Milano	1	1	0	0	0	0	0	0	0%
DATA.CITE - DataCite	6	0	0	0	6	0	0	0	100%
DELFT.DATACENT - 3TU Datacenter	2 146	2 119	0	0	2 144	2 144	0	0	99%
DELFT.JRC - Joint Research Centre's Institute of Energy	63	0	0	0	63	63	0	0	100%
DELFT.TUDARCH - TU Delft Architecture	22	22	1	0	22	22	1	0	100%
DELFT.TUDELFT - TU Delft Library	336	89	34	11	62	62	33	11	18%
DK.DTIC - DTIC Datacenter	2 021	0	0	0	2 020	0	0	0	99%
ETHZ.DODIS - DODIS - Diplomatische Dokumente der Schweiz	15	15	15	0	15	15	15	0	100%
ETHZ.E-COLL - DOI-CH	26 168	26 168	84	26	26 165	26 165	81	23	99%
ETHZ.E-COLL - DOI-CH		5	0	0		5	0	0	100%
ZBW.PBR - e-Journal of Practical Business Research	36	5	0	0	11	5	0	0	30%
<b>Totals</b>	<b>1 102 170</b>	<b>354 103</b>	<b>12 828</b>	<b>1 630</b>	<b>849 607</b>	<b>332 375</b>	<b>11 209</b>	<b>716</b>	





# crossref DOI Citation Formatter beta

DOI:  apa en-US Format



# crossref DOI Citation Formatter beta

DOI:  apa en-US Format

- apa
- apa5th
- applied-spect
- apsa
- archives-of-ph
- art-history
- arzneimittelh
- asa
- asa-cssa-sss
- associacao-bi
- associacao-bi
- associacao-bi
- associacao-bi
- australian-hist
- australian-jou
- australian-leg
- avian-patholog
- aviation-space
- basic-and-app
- bba-biochemic
- behavioral-ec
- bibtex
- biochemistry
- bioconjugate-
- bioelectromag
- bioessays
- bioinformatics
- biological-psy
- bioorganic-an



# crossref DOI Citation Formatter beta

DOI:  apa en-US Format

Derradji-Aouat, Ahmed. (2011). Numerical Work for Oceanide Project - A Progress Report. National Research Council Canada. doi:10.4224/17210689

<http://crosscite.org/citeproc/>





DataCite

Helping you to find  
access, and reuse data

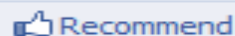
<http://www.datacite.org/repolist>


## Repositories

This list is a working document, initiated via a collaboration between the British Library, [BioMed Central](#) and the [Digital Curation Centre](#), that aims to capture the growing number of repositories for research data. It is provided for information purposes only: DataCite provides no endorsements as to the quality or suitability of the repositories listed. We encourage community participation in developing this resource. Please [contact us](#) to suggest changes or additions. A copy of the list can be downloaded from [Google Docs](#).

Repository	Website	Subject area(s)	Funding model	Deposit restrictions	Access restrictions	Li
<b>Domain-specific and general data repositories (multiple formats accepted)</b>						
3TU.Datacentrum	<a href="http://www.datacentrum">http://www.datacentrum</a>	Technical sciences, climate, fluid dynamics, earth sciences	Project funded by 3TU.Federation	None, preferred formats suggested	Data is only displayed if permission has been granted by the owner who has stored it at 3TU.Datacentrum.	N lic a
Access to Archival Databases	<a href="http://aad.archives.gov/">http://aad.archives.gov/</a>	Various - social, historical, political etc	US government - part of National Archives and Records Administration (NARA)			
			Multiple funders: AHRC, NERC, National & International project		All data are free to	D re Al e: to

# Thomson Reuters Launches Data Citation Index for Discovering Global Data Sets



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SOURCE Thomson Reuters

## **First-of-its-kind Data Citation Index connects researchers to data repositories around the world**

PHILADELPHIA, Oct. 16, 2012 /PRNewswire/ -- The [Intellectual Property & Science business](#) of Thomson Reuters, the world's leading provider of intelligent information for businesses and professionals, announced today the launch of the *Data Citation Index*<sup>™</sup>, a research resource within the *Web of Knowledge*(SM) to facilitate the discovery, use and attribution of data sets and data studies that also link to peer-reviewed literature.

This new research resource from Thomson Reuters creates a single source of discovery for scientific, social sciences and arts and humanities information. It provides a single access point to discover foundational research within data repositories around the world in the broader context of peer-reviewed literature in journals, books, and conference proceedings already indexed in the *Web of Knowledge*.

Historically, it has been extremely difficult to discover, attribute and measure the research compiled within data sets. Analysts at Thomson Reuters closely researched this issue and determined that a system was needed to help researchers more easily discover data relevant to their work and attribute it in a way that appropriately acknowledges intellectual debt. The Thomson Reuters white paper, "[Collaborative Science: Solving the Issues of Discovery, Attribution](#)

<http://www.wmctv.com/story/19833836/thomson-reuters-launches-data-citation-index-for-discovering-global-data-sets>



# Metadata Search beta

<http://search.datacite.org>



## Filter

allocator

datacentre

prefix

resourceType

contributor

creator

publicationYear

publisher

language

refQuality

has\_metadata

No active filters. Use the sidebar to filter search results.

23956 documents found in 1486ms

Page 1 of 2396

["Heritage at Risk": Cultural Heritage Management in the Antarctic](#)

[doi:10.6067/XCV85T3JNK](#)

Evans, Sherrie-lee, AUTHOR (null)

*publisher:* ICOMOS 2007- eXtreme heritage; The heritage of Polar Landscapes

[Polar Lichen photobionts](#)

[doi:10.6084/M9.FIGSHARE.101](#)

Stephanie Domaschke

*title:* Polar Lichen photobionts

[Interactome polar map](#)

[doi:10.6084/M9.FIGSHARE.8265](#)

André X. C. N. Valente, Michael E. Cusick

*title:* Interactome polar map

[Documenting traditional knowledge in relation to climate change and its effects in Tr'ondëk Hwëch'in traditional territory](#)

[doi:10.5443/11378](#) Collection

Winton, Alexandra • McLeod, Georgette • Neufeld, David • Roburn, Shirley • Friendship, Katelyn • (et. al.)

*datacentre:* CISTI.IPY - International Polar Year (IPY)

*subject:* International Polar Year (IPY) 2007-2008

[Arctic Wildlife Observatories Linking Vulnerable EcoSystems \(ArcticWOLVES\)](#)

[doi:10.5443/11402](#) Collection

Gauthier, Gilles • Berteaux, Dominique • Abraham, Kenneth • Béty, Joël • Carrière, Suzanne • (et. al.)

*datacentre:* CISTI.IPY - International Polar Year (IPY)

*description:* established close ties with CiCAT, another project funded by the International Polar Year (IPY)

*subject:* International Polar Year (IPY) 2007-2008

[Ecological monitoring of polar bears and seals in Nunavut a step toward the future.](#)

[doi:10.5443/11419](#) Collection

Peacock, Elizabeth • Bortoluzzi, Tara • Luque, Sebastian • Derocher, Andrew • Ferguson, Steven H. • (et. al.)

*datacentre:* CISTI.IPY - International Polar Year (IPY)

*title:* Ecological monitoring of polar bears and seals in Nunavut a step toward the future.


*description:* summer of 2009. Polar bear transmitters have been deployed in Hudson Bay in 2007, 2008, and 2009

*subject:* Polar bear



DataCite

## Filter

- allocator
- datacentre
- prefix
- resourceType
- Dataset (23555)** 
- Collection (292)
- Text (19)
- <not supplied> (90)
- contributor
- creator
- publicationYear
- publisher
- language
- refQuality
- has\_metadata

No active filters. Use the sidebar to filter search results.

23956 documents found in 409ms

Page 1 of 2396 

["Heritage at Risk": Cultural Heritage Management in the Antarctic](#)

 [doi:10.6067/XCV85T3JNK](https://doi.org/10.6067/XCV85T3JNK)

Evans, Sherrie-lee, AUTHOR (null)

*publisher:* ICOMOS 2007- eXtreme heritage; The heritage of **Polar** Landscapes

[Polar Lichen photobionts](#)

 [doi:10.6084/M9.FIGSHARE.101](https://doi.org/10.6084/M9.FIGSHARE.101)

Stephanie Domaschke

*title:* **Polar** Lichen photobionts

[Interactome polar map](#)

 [doi:10.6084/M9.FIGSHARE.8265](https://doi.org/10.6084/M9.FIGSHARE.8265)

André X. C. N. Valente, Michael E. Cusick

*title:* Interactome **polar** map

[Documenting traditional knowledge in relation to climate change and its effects in Tr'ondë](#)

 [doi:10.5443/11378](https://doi.org/10.5443/11378) Collection

Winton, Alexandra • McLeod, Georgette • Neufeld, David • Roburn, Shirley • Friendship, Katelyn • (et. al.)

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*subject:* International **Polar** Year (IPY) 2007-2008

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Gauthier, Gilles • Berteaux, Dominique • Abraham, Kenneth • Béty, Joël • Carrière, Suzanne • (et. al.)

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*subject:* International **Polar** Year (IPY) 2007-2008

[Ecological monitoring of polar bears and seals in Nunavut a step toward the future.](#)

## Filter

- allocator
- datacentre
- prefix
- contributor
- creator
- publicationYear
- publisher
- language
- refQuality
- has\_metadata

Active filters (  clear all):  resourceType Dataset

23555 documents found in 1020ms

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[cops\\_radk\\_cband: radar data from C-Band Doppler Radar run by FZK-IMK during COPS 2007 \[version 1\]](#)

 [doi:10.1594/WDCC/COPS\\_RADK\\_CBAND](https://doi.org/10.1594/WDCC/COPS_RADK_CBAND) Dataset : Digital

Handwerker, Jan

*description:* . Volume data in **polar** coordinates are delivered. Two scans have been performed: 1. 14 Elevation volume

[\(Table T1\) Radiolaria abundance of ODP Hole 175-1082A, supplement to: Weinheimer, Amy L \(2001\): Radiolarians from Drilling Program, Scientific Results, College Station, TX \(Ocean Drilling Program\), 175, 1-16](#)

 [doi:10.1594/PANGAEA.787554](https://doi.org/10.1594/PANGAEA.787554) Dataset : Supplementary Dataset

Weinheimer, Amy L

*description:* characterize the equatorial, subtropical, transition, subpolar, and **polar** regions of ocean basins

[Bones collection of Lena Delta reserve Tiksi, Appendix 4-6](#)

 [doi:10.1594/PANGAEA.614882](https://doi.org/10.1594/PANGAEA.614882) Dataset : Dataset

Kuznetsova, Tatyana V

*description:* bones collected by Yarlykov Yu. A. on Makar Island (Yana Delta Region) near the Makar **polar** station

[Concentrations of total organic carbon on vertical profiles in waters of the Weddell Sea measured on water bottle samples](#)

 [doi:10.1594/PANGAEA.696180](https://doi.org/10.1594/PANGAEA.696180) Dataset : Dataset

Kähler, Paul • Björnisen, Peter K • Luchte, Karin • Antia, Avan





*description:* **Polar** Front in the north, the zone of melting sea-ice in the south, and waters of the Antarctic

[\(Table T1\) Abundance of radiolarian skeletons in scrape samples of ODP Hole 178-1098B, supplement to: Weinheimer, Amy L \(2001\): Radiolarians from Drilling Program, Scientific Results, College Station, TX \(Ocean Drilling Program\), 178, 1-16](#)

 [doi:10.1594/PANGAEA.142770](https://doi.org/10.1594/PANGAEA.142770) Dataset : Supplementary Dataset

Weinheimer, Amy L

*description:* hydrographic boundaries. In a transect from the subtropical Atlantic to **polar** Antarctic zones, radiolarians in

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Show Map

**Data Description**

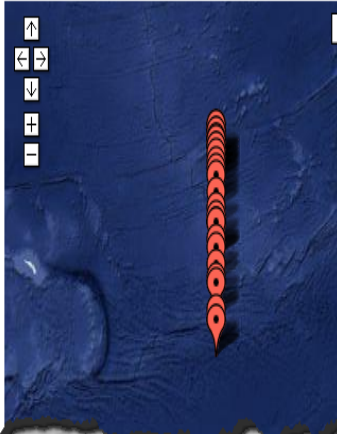
**Citation:** Kähler, Paul; Bjørnsen, Peter K; Lochte, Karin; Antia, Avan (2008): Concentrations of total organic carbon on vertical profiles in waters of the Weddell Sea measured on water bottle sample during POLARSTERN cruise ANT-X/6. doi:10.1594/PANGAEA.696180

**Reference(s):** Kähler, Paul; Bjørnsen, Peter K; Lochte, Karin; Antia, Avan (1997): Dissolved organic matter and its utilization by bacteria during Spring in the Southern Ocean. 44, 341-353. *Deep Sea Research Part II: Topical Studies in Oceanography*, 44(1-2), 341-353. doi:10.1016/S0967-0645(96)00071-9

**Abstract:** Concentrations of dissolved organic carbon (DOC) and nitrogen (DON) were measured during early austral Spring 1992 at a number of stations along the 6°W meridian between 47° and 60°S. This included the Polar Front in the north, the zone of melting sea-ice in the south, and waters of the Antarctic Circumpolar Current in between. Concentrations of DOC were low in deep water (34-38 ?M) with generally similar or slightly higher values in the surface mixed layer (38-55 ?M). DOC:DON ratios are wider in surface water than in deep water, i.e. surface accumulations contain relatively C-rich dissolved organic matter. The highly variable distribution of the surface DOC was not related to hydrographic or biotic features (fronts, plankton development) indicating the lability and transient occurrence of this material.

Growth rates of bacteria were determined in subsamples from 51 0.8-?m-filtered batches of seawater incubated in the dark at in-situ temperature. Thymidine and leucine uptake and bacterial biomass change as well as changes in dissolved organic carbon in the batches, and oxygen consumption in parallel incubations correlated linearly over 2 weeks of incubation which allowed extrapolation to in-situ conditions.

Bacterial growth in these experiments depended strongly on the amount of initial DOC. Growth in water from greater depth (1000 m) containing 38 ?M DOC was minimal, as were DOC-decrease and oxygen consumption. Higher rates were observed in surface water slightly enriched with DOC, and highest rates in surface water amended with DOC-rich melted sea ice. Bacterial growth efficiencies (biomass C-increase vs DOC consumed) were about 30%. The experiments showed that at least 40-60% of the DOC in excess of deep water concentrations was available to bacteria.



Not filtered water was collected immediately after being acidified with 10% phosphoric acid, pH 2, and measured on board the ship or at the next day, or preserved and being acidified and measured in home labs.

Measurement was by high-temperature catalytic oxidation in a 10 cm column packed with 5% Pt on aluminum oxide beads at 900°C in a stream of oxygen, and CO2 detection by infrared extinction after the removal of moisture and SO2 by appropriate traps (colony percarbonate, Na-pyrophosphate, tin, bronze or Sulfix). The apparatus was the dual channel Dimatek 2000 equipped with a Binos 200 detector.

**Parameter(s):**

#	Name	Short Name	Unit	Principal Investigator	Method	Comment
1	Event label	Event				Metadata
2	DATE/TIME	Date/Time				Geocode
3	LATITUDE	Latitude				Geocode
4	LONGITUDE	Longitude				Geocode
5	Elevation of event	Elevation	m			Metadata
6	DEPTH, water	Depth water	m			Geocode
7	Carbon, organic, total (dissolved+particulate)	TOC	µmol/l	Kähler, Paul		

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**Size:** 201 data points

**Download Data**

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Concentrations of total organic carbon on vertical profiles in waters of the Weddell Sea measured on water bottle sample during POLARSTERN cruise ANT-X/6

doi:10.1594/PANGAEA.696180 Dataset : Dataset

Kähler, Paul • Bjørnsen, Peter K • Lochte, Karin • Antia, Avan

description: Polar Front in the north, the zone of melting sea-ice in the south, and waters of the Antarctic

(Table T1) Abundance of radiolarian skeletons in scrape samples of ODP Hole 178-1098B, supplement to: Weinheimer, Amy L (2002): Data report: Radiolarians in sediments from Palmer 1098. In: Barker, PF; Camerlenghi, A; Acton, GD; Ramsay, ATS (eds.) Proceedings of the Ocean Drilling Program, Scientific Results, College Station, TX (Ocean Drilling Program), 178, 1-

doi:10.1594/PANGAEA.142770 Dataset : Supplementary Dataset

Weinheimer, Amy L

description: hydrographic boundaries. In a transect from the subtropical Atlantic to polar Antarctic zones, radiolarians in

doi:10.1594/PANGAEA.696180

This page represents DataCite's metadata for *doi:10.1594/PANGAEA.696180*.

For a landing page of this dataset please follow <http://dx.doi.org/10.1594/PANGAEA.696180>

#### Citation

Kähler, Paul; Bjørnsen, Peter K; Lochte, Karin; Antia, Avan; (2008): Concentrations of total organic carbon on vertical profiles in waters of the Weddell Sea measured on water bottle sample during POLARSTERN cruise ANT

Data Publisher for Earth & Environmental Science. <http://dx.doi.org/10.1594/PANGAEA.696180>  

#### Descriptions

##### Abstract

Concentrations of dissolved organic carbon (DOC) and nitrogen (DON) were measured during early austral Spring 1992 at a number of stations along the 6°W meridian between 47° and 60°S. This included the Polar Front in melting sea-ice in the south, and waters of the Antarctic Circumpolar Current in between. Concentrations of DOC were low in deep water (34-38 μM) with generally similar or slightly higher values in the surface mixed layer (30-40 μM). DOC concentrations ratios are wider in surface water than in deep water, i.e. surface accumulations contain relatively C-rich dissolved organic matter. The highly variable distribution of the surface DOC was not related to hydrographic or biotic features (e.g. plankton development) indicating the lability and transient occurrence of this material. Growth rates of bacteria were determined in subsamples from 51 0.8-μm-filtered batches of seawater incubated in the dark at in-situ temperature and leucine uptake and bacterial biomass change as well as changes in dissolved organic carbon in the batches, and oxygen consumption in parallel incubations correlated linearly over 2 weeks of incubation which allowed for the determination of bacterial growth conditions. Bacterial growth in these experiments depended strongly on the amount of initial DOC. Growth in water from greater depth (1000 m) containing 38 μM DOC was minimal, as were DOC-decrease and oxygen consumption. Growth was observed in surface water slightly enriched with DOC, and highest rates in surface water amended with DOC-rich melted sea ice. Bacterial growth efficiencies (biomass C-increase vs DOC consumed) were about 30%. These results showed that at least 40-60% of the DOC in excess of deep water concentrations was available to bacteria.

#### Resource type

##### Dataset

Dataset

#### Subjects

##### Parameter

Carbon, organic, total (dissolved+particulate)

##### Campaign

ANT-X/6

##### Basis

Polarstern

##### License

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##### Size

201 data points

##### Language

eng

# THIS IS WORTH DOING!!!



# Questions?

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Marcin Paluch - DataCite Canada Technical Lead



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