

# Tri-Agency Research Data Management Policy: Data Storage

## *The International context*

Dr. Karen Payne

Associate Director, International Technology  
International Science Council, World Data System



**International  
Science Council**

[Third Tri-Agency Policy Pillar Webinar on Data](#)

[Deposit](#) 26 October 2021



I acknowledge with respect the ləkʷəŋən peoples on whose traditional territory I live and work, and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.





*298 members globally as of  
October 2021*



# Tri-Agency Research Data Management Policy

Institutional strategies should address “providing, or supporting access to, repository services or other platforms that ***securely preserve, curate*** and provide appropriate ***access*** to research data;”

“Grant recipients are required to deposit into a digital repository all digital research ***data, metadata*** and ***code*** that directly support the research conclusions in journal publications and pre-prints that arise from agency-supported research.”



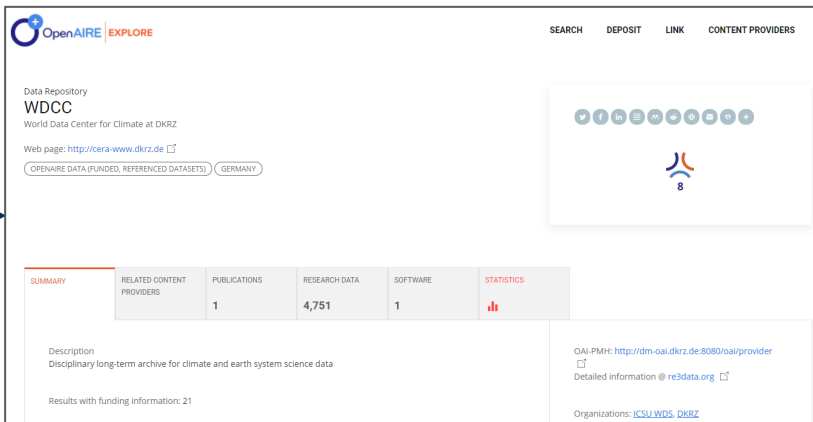
# Curation

Done in stages,  
can be  
distributed

World Data Center for Climate at  
DKRZ (Germany) >1.5 million  
datasets

The screenshot shows the WDC CLIMATE website interface. At the top, there is a navigation bar with links for Home, FAIRness, Documentation, Utilities, Register, and Login. A warning message states: "Tape download not available until Tue 26 October 2021". Below this, there is a search bar and a map of the world. The search results section displays "Results" for "ICON-ESM\_Pdaf\_System2" with 135833 results found. The results list includes "Aerosol radiative forcing at tropopause", "Model levels for 3D volcanic SO2 emissions", "Volcanic SO2 emissions as 3D stratospheric vmr perturbations", and "Volcanic SO2 emissions from degassing into troposphere". Each result has a "dataset" label and a download icon.





OpenAIRE EXPLORE

SEARCH DEPOSIT LINK CONTENT PROVIDERS

Data Repository  
**WDCC**  
World Data Center for Climate at DKRZ  
Web page: <http://cera-www.dkrz.de>

OPENAIRE DATA (FUNDED, REFERENCED DATASETS) GERMANY

SUMMARY	RELATED CONTENT PROVIDERS	PUBLICATIONS	RESEARCH DATA	SOFTWARE	STATISTICS
		1	4,751	1	

Description  
Disciplinary long-term archive for climate and earth system science data

Results with funding information: 21

OAI-PMH: <http://dm-oai.dkrz.de:8080/oai/provider>  
Detailed information @ [re3data.org](mailto:re3data.org)

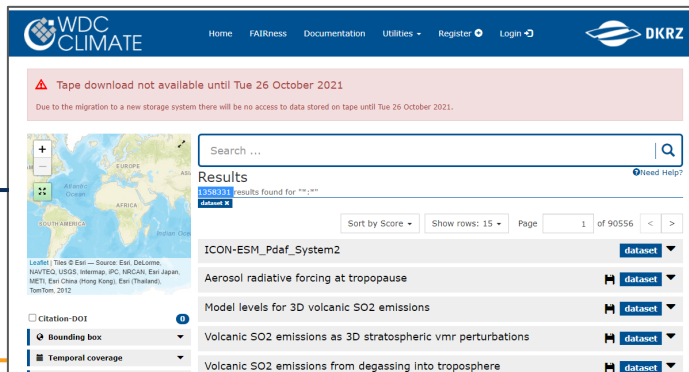
Organizations: [ICSU WDS](#), [DKRZ](#)



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WDC CLIMATE

Home FAIRness Documentation Utilities Register Login

DKRZ

Warning: Tape download not available until Tue 26 October 2021

Search ...

Results  
138331 results found for "\*\*\*\*"

Sort by Score - Show rows: 15 - Page 1 of 90556

ICON-ESM_Pdaf_System2	dataset
Aerosol radiative forcing at tropopause	dataset
Model levels for 3D volcanic SO2 emissions	dataset
Volcanic SO2 emissions as 3D stratospheric vmr perturbations	dataset
Volcanic SO2 emissions from degassing into troposphere	dataset

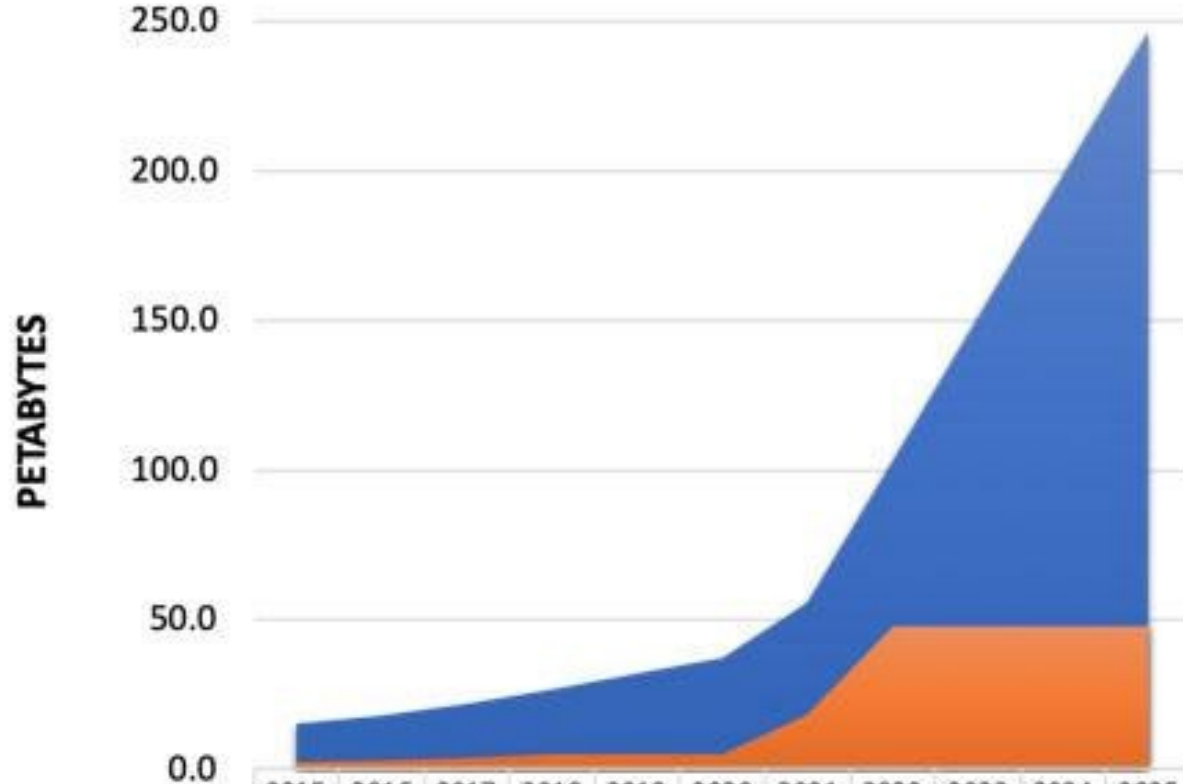
Citation-DOI 0

Bounding box

Temporal coverage



# NASA EOSDIS Archive



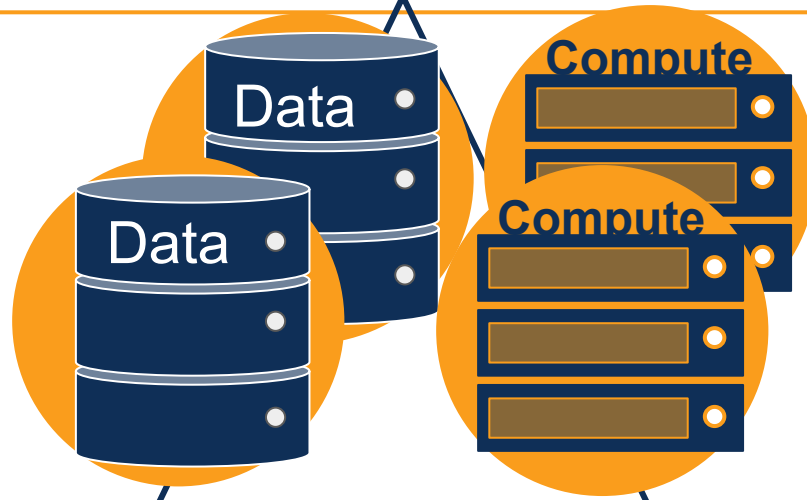
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
■ Archive Size (PB)	15.0	17.7	21.6	26.8	32.0	37.2	55.6	103.4	151.1	198.9	246.6
■ Annual Growth (PB)	2.6	2.8	3.9	5.2	5.2	5.2	18.4	47.7	47.7	47.7	47.7

## Preservation

Goal: low  
latency and  
high  
bandwidth



Cloud



# Preservation

Fog / edge  
computing

Fog (nodes)



Edge

(Devices)







# Preservation

Cold vs. Hot  
Storage

New data ==  
Hot by default

Automatically  
migrate to lower  
tier depending  
on access and  
search metrics



# Preservation

## Community ranking



The screenshot shows the homepage of the Global Biodata Coalition. At the top left is the logo, which consists of a circular arrangement of horizontal lines of varying lengths, with the text 'GLOBAL BIODATA COALITION' to its right. A navigation menu is located at the top right, with 'HOME' highlighted in blue. Below the navigation is a dark blue banner with the title 'GLOBAL BIODATA COALITION' in large, light blue, sans-serif font. Underneath the title is a paragraph of text in white, explaining the coalition's purpose. At the bottom of the banner is a stylized world map composed of small blue dots.

globalbiodata.org

GLOBAL BIODATA COALITION

[HOME](#) SCIENTIFIC ACTIVITIES GOVERNANCE AND SUPPORT RESOURCES CONTACT

## GLOBAL BIODATA COALITION

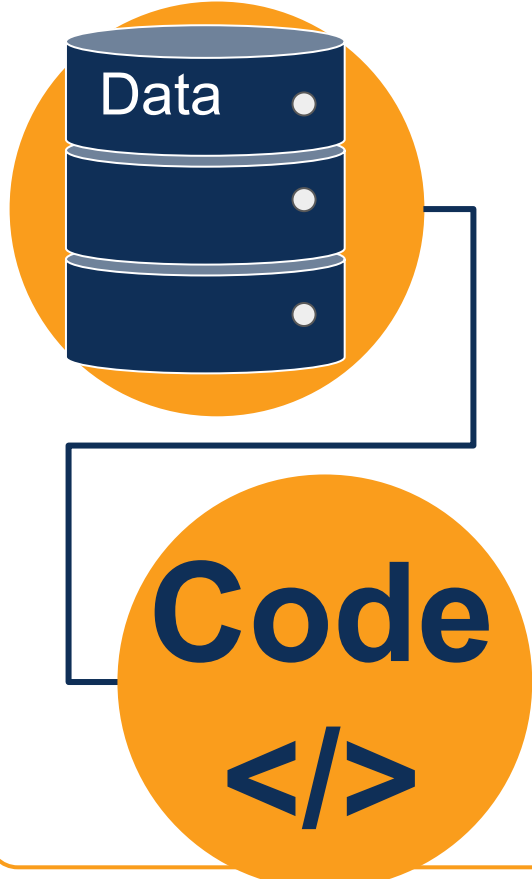
The Global Biodata Coalition (GBC) is a forum for research funders to better coordinate and share approaches for the efficient management and growth of biodata resources worldwide. The GBC aims to stabilize and ensure sustainable financial support for the global biodata infrastructure and in particular to identify for prioritized long-term support a set of Global Core Biodata Resources that are crucial for sustaining the broader biodata infrastructure.



Alternatively: Data samples=hot storage; full datasets=cold



# Data, Metadata and **Code**



# Data, Metadata and **Code**



**Code**



# Data, Metadata and *Code*



**Code**





Thank you!

Karen Payne

[ito-director@oceannetworks.ca](mailto:ito-director@oceannetworks.ca)

