

# ICSU World Data System: Trusted Data Services for Open Science

Mustapha Mokrane

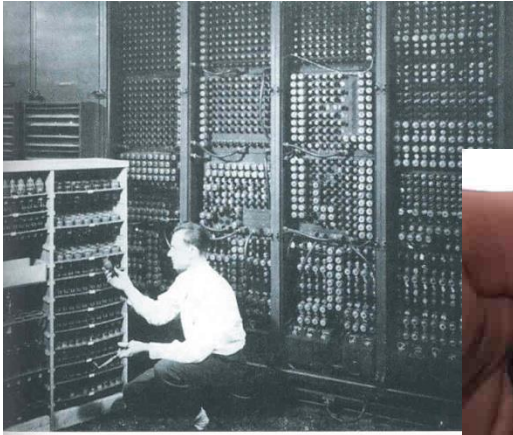
WDS-IPO Executive Director

*SCOSTEP-WDS Workshop on Global  
Data Activities for the Study of Solar-  
Terrestrial Variability*

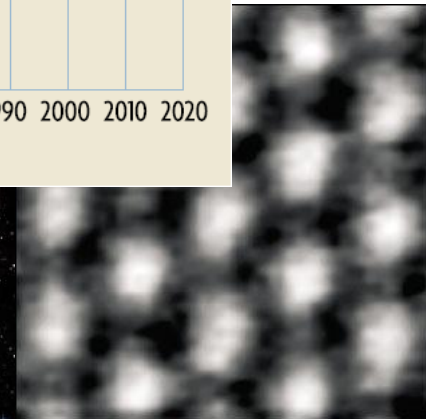
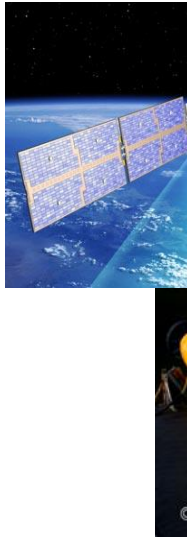
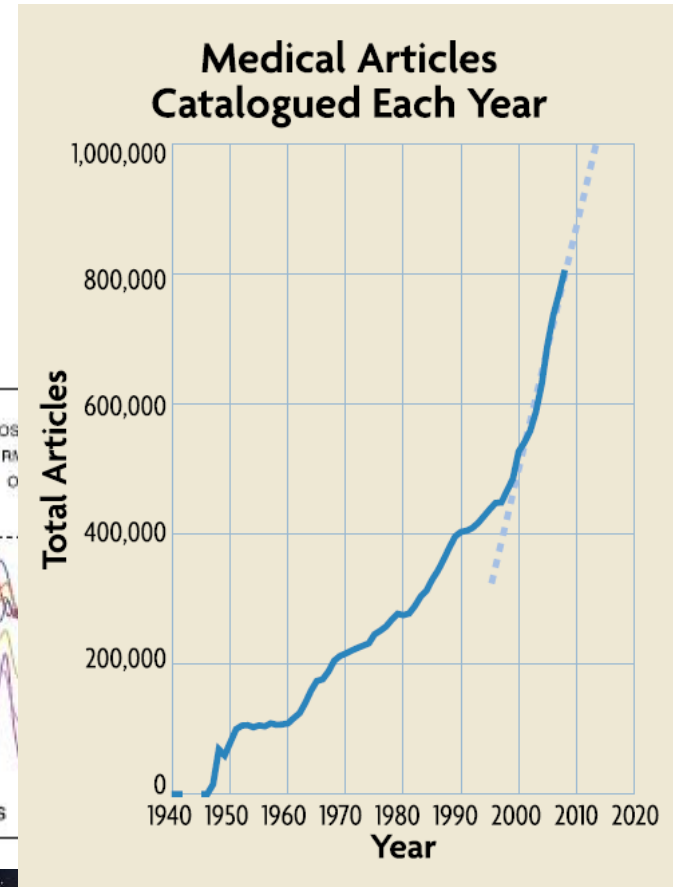
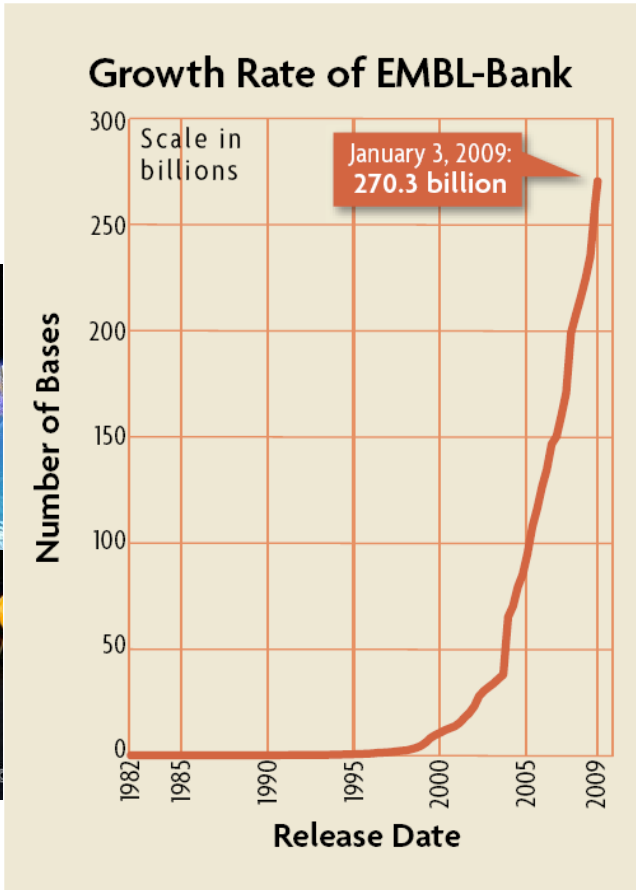


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# Technological developments



# Data Intensive Science



# History

***‘all observational data shall be available to scientists and scientific institutions in all countries.’***

International Geophysical Year 1957–58

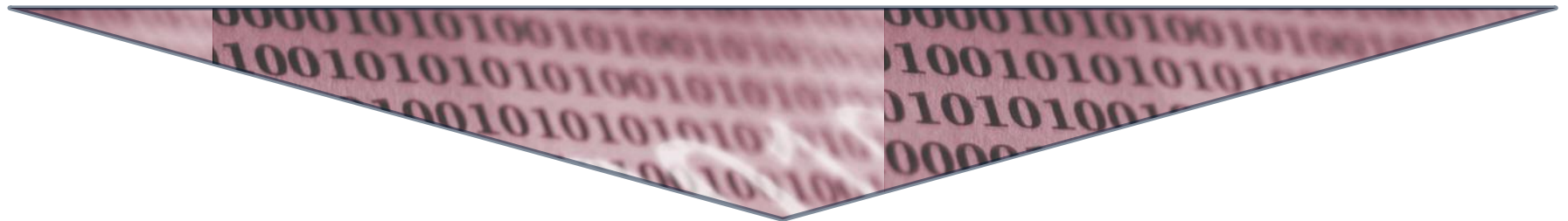


# History

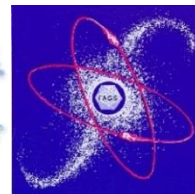
## IGY 1957–58



### ICSU



WDCs



FAGS

# Foundation of WDS



ICSU's 29th General  
Assembly in October 2008:

To establish a new  
**ICSU World Data System** as  
an Interdisciplinary Body

# ICSU World Data System

**‘ICSU’s long-term vision** is of a world where excellence in science is effectively translated into policy making and socio-economic development. In such a world, **universal and equitable access to scientific data and information** is a reality ...’



ICSU Strategic Plan II, 2012-2017  
(including a summary of progress made in  
implementing the Strategic Plan I, 2006-2011)



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# WDS Goals

- Enable universal and equitable access to **quality-assured** scientific data, data services, products and information
- Ensure **long term** data stewardship
- Foster compliance to agreed-upon **data standards and conventions**
- Provide **mechanisms to facilitate and improve access** to data and data products





# WDS Members

**Scientific Data Services:** Assist organizations in the **capture, storage, curation, long-term preservation, discovery, access, retrieval, aggregation, analysis, and/or visualization** of scientific data, as well as in the associated **legal frameworks, to support disciplinary and multidisciplinary scientific research.**



# WDS Members

- Full and open access data sharing principles
- Trustworthiness and adoption of data standards/conventions (*certification*)
- Broad disciplinary and geographic coverage



# WDS Membership (September 2015)

## **61 Regular**

Organizations that are data stewards and/or data analysis services

## **10 Networks**

umbrella bodies representing groups of data stewardship organizations and/or data analysis services (ESDIS, IODE, IVOA...)

## **5 Partners**

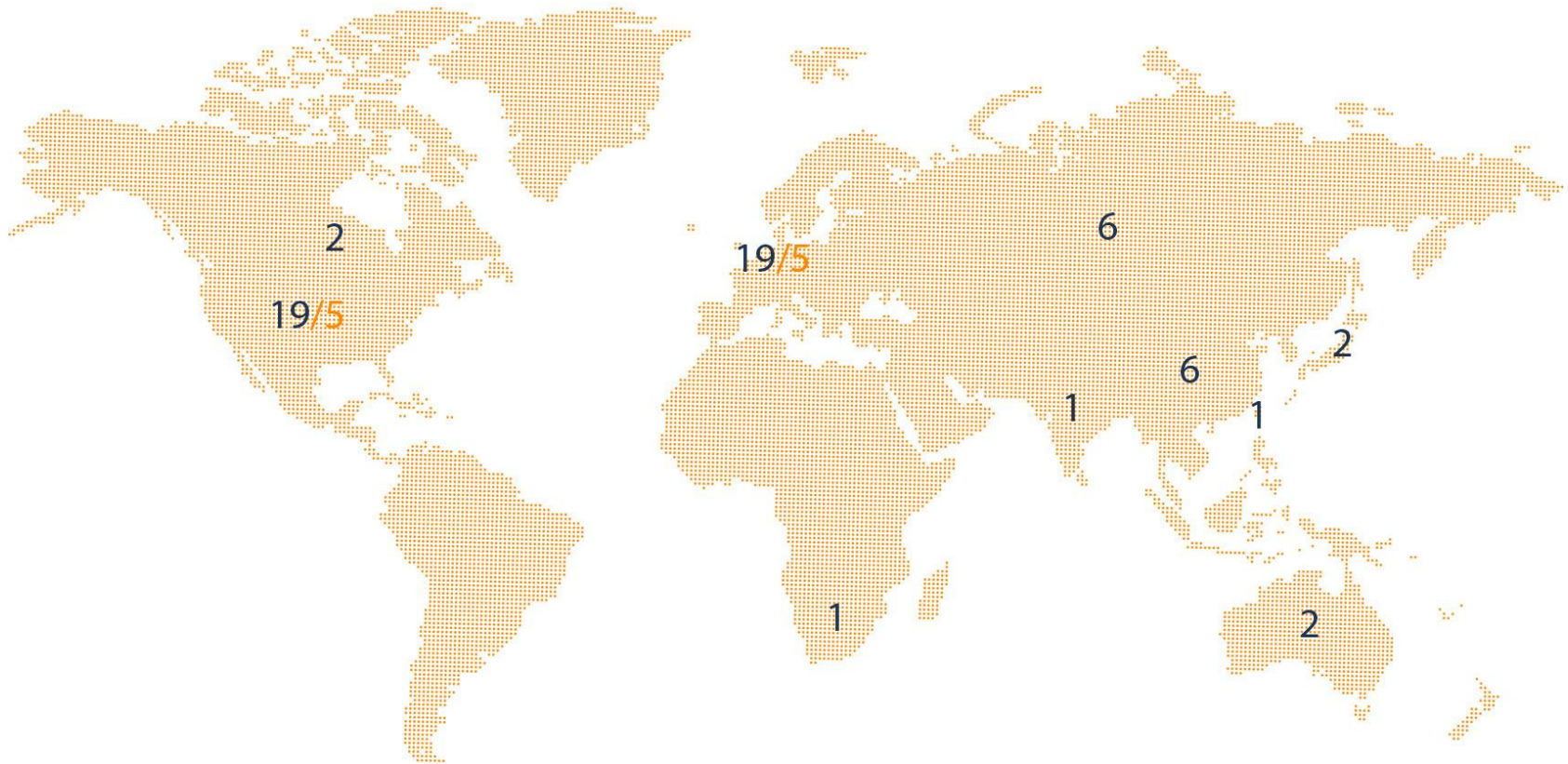
Contribute support to WDS Membership

## **18 Associates**

Interested in the WDS endeavour



# WDS Membership



- Regular Members
- Network Members

# 2014–15 Certified and co-opted Members

## Regular Members

- Permanent Service for Mean Sea Level (PSMSL)
- Socioeconomic Data and Applications Center (SEDAC) NASA DAAC
- UNAVCO Inc.
- Land Processes NASA Distributed Active Archive Center
- Alaska Satellite Facility (NASA, USA)
- Canadian Astronomy Data Centre (NRC, Canada)
- Environment Climate Data Sweden
- Ocean Networks Canada

## Network Members

- Intermagnet (BGS, UK)

## Partner Members

- **SCOSTEP**
- Federation of Earth Science Information Partners (ESIP, USA)

## Associate Members

- Committee on Data for Science and Technology (CODATA)
- International Council for Scientific Technical Information (ICSTI)
- Research Data Alliance (RDA)

# Scientific Committee 2015–18

- **Sandra Harrison** (*Chair, UK*)
- **Aude Chambodut** (*France*)
- **Arona Diedhiou** (*Senegal/France*)
- **Ingrid Dillo** (*The Netherlands*)
- **Claudia Emerson** (*Canada*)
- **Elaine Faustman** (*USA*)
- **Wim Hugo** (*South Africa*)
- **Toshihiko Iyemori** (*Japan*)
- **Rob Kitchin** (*Ireland*)
- **Guoqing Li** (*China*)
- **Alexander de Sherbinin** (*USA*)
- **Sanna Sorvari** (*Finland*)
- **Seat for Latin America** (*TbC*)

Ex Officios:

- **Heide Hackmann** (*ICSU*)
- **Yasuhiro Murayama** (*NICT*)



# Strategic Targets



- 1) Make trusted data services an integral part of international collaborative scientific research
- 2) Nurture active disciplinary and multidisciplinary scientific data services communities
- 3) Improve the funding environment
- 4) Improve the trust in and quality of open scientific data services
- 5) Position WDS as the premium global multidisciplinary network for quality-assessed scientific research data

<https://www.icsu-wds.org/organization/strategic-plan>



# Strategic Target 1

Make trusted data services an integral part of international collaborative scientific research



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# Support Future Earth



- Identify data challenges and opportunities
- Define data policy and management principles
- Expand WDS membership in Social Sciences:
  - ✓ Inter-university Consortium for Political and Social Research
  - ✓ DataFirst
  - ✓ The Language Archive
- SciDataCon 2014: four conference tracks
  - bridge cross-cutting data themes and research themes of Future Earth

# Strategic Target 3

Improve the funding environment  
for data services



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## ICSU-WDS and the Belmont Forum

### **E-Infrastructures and Data Management Collaborative Research Action**

Goal: data management as an integral part of research funding

- Funding provisions for national calls
- Monitoring of applied & current research projects

# Strategic Target 4

Improve the trust in, and quality of,  
open scientific data services



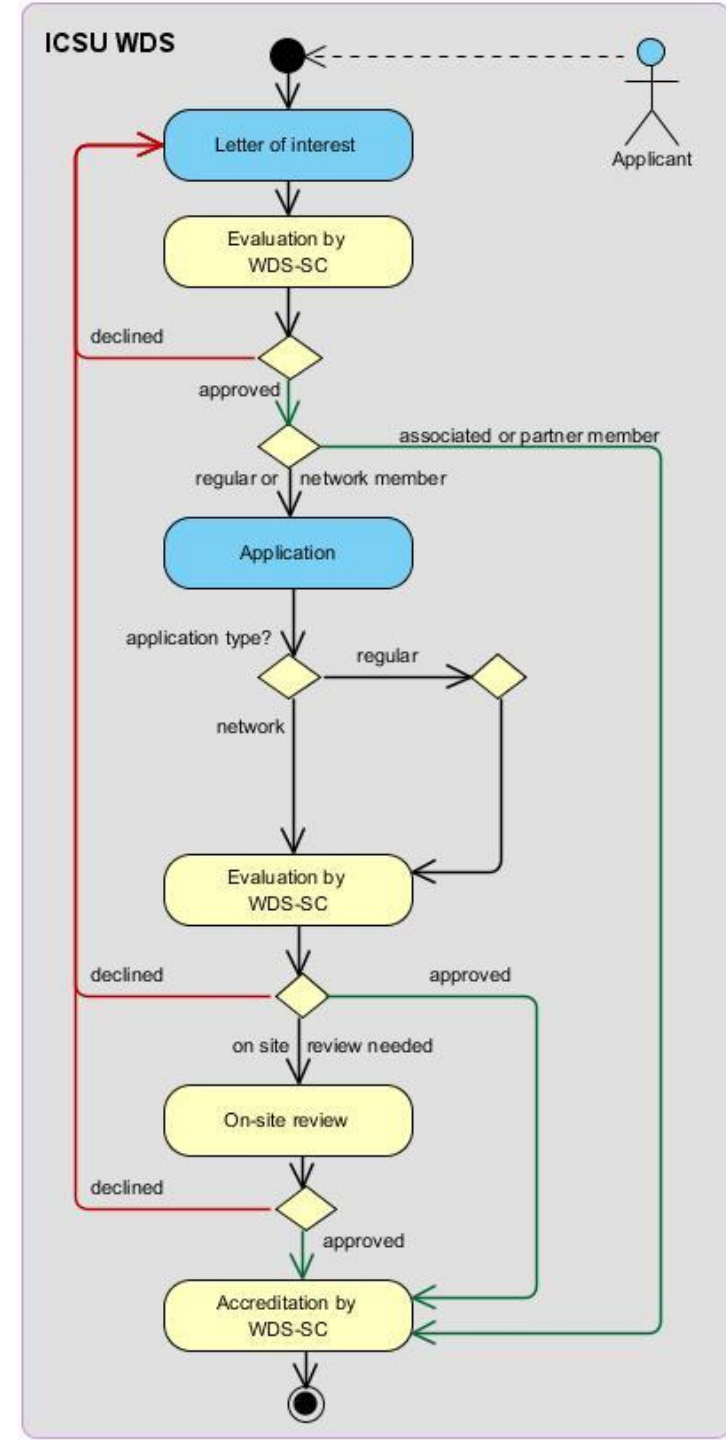
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# WDS Certification

Evaluation criteria based on a compilation of international standards and best practices:

- General requirements & policies
- Organizational framework
- Management of data, products and services
- Technical infrastructure

Reviewers board - certification agency (CA)



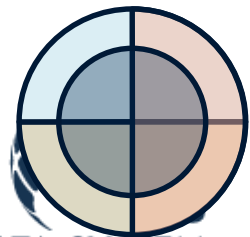
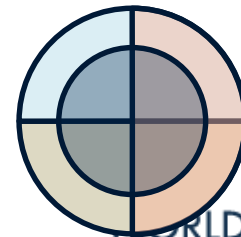
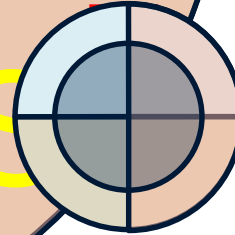
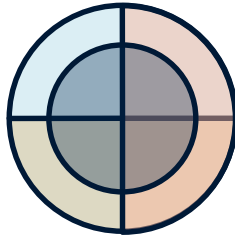
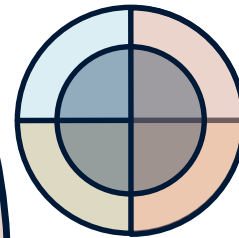
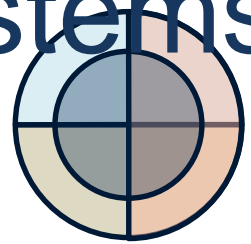
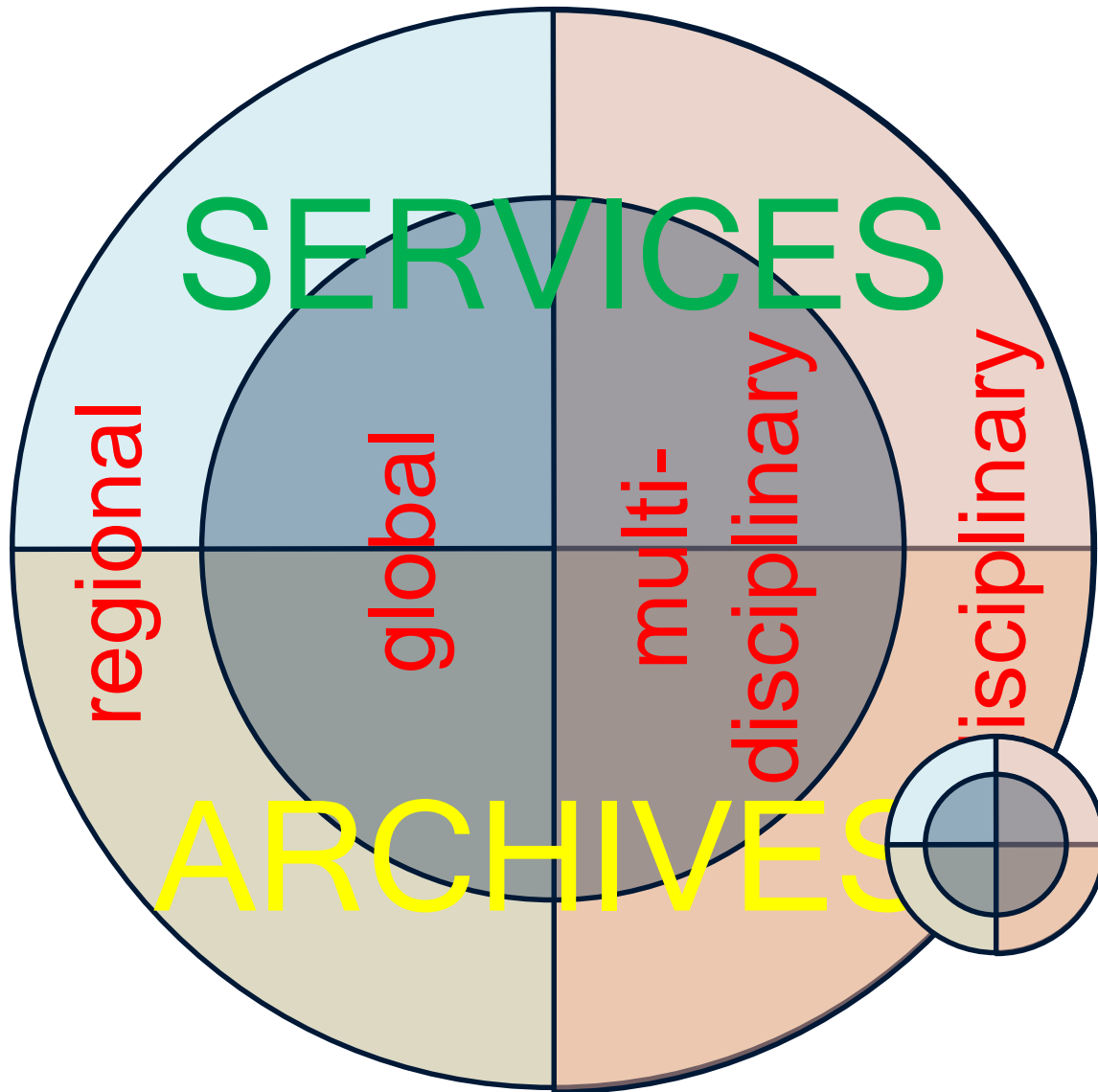
# Strategic Target 5

Position ICSU-WDS as the premium global multidisciplinary network for quality assessed data



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# ICSU-WDS a system of systems



# More...

## www.ICSU-WDS.org

The screenshot displays the ICSU World Data System website. At the top, there is a search bar and navigation icons for Home, Library, Login, Contact, and Password. The main header includes the ICSU World Data System logo and the tagline 'Trusted Data Services for Global Science'. A navigation menu lists Home, About, Community, Data and Services, Publications, News, and Events. The breadcrumb trail reads: Home » Community » Working Groups » Publishing Data.

### Community

#### Publishing Data


Share

**Co-chairs:**

- Eefke Smit (The Netherlands, STM)
- Michael Diepenbroek (Germany, PANGAEA and WDS-SC)

Case Statement: available [here](#).  
Group Forum: available [here](#).

In late 2012, a first WDS Working Group on Data Publication was started, which was subsequently endorsed in 2013 by the Research Data Alliance (RDA) as an RDA-WDS Interest Group (IG) on Publishing Data.



The Publishing Data Interest Group is focused on all issues related to the data publication concept. It brings together all stakeholders involved in data publication activities such as data repositories, science publishers, and service providers. Every effort will be made to get a good representation from the major international programmes, their working groups and other private or institutional activities involved in this area. The Publishing Data Interest Group will build on existing resources, reports and other shared experiences from the different stakeholders and will nurture more specific and targeted working groups addressing practical aspects of the data publication concept. The Publishing Data Interest Group can be regarded as a broad and inclusive forum for interested individuals engaged in testing, validating and promoting the findings of the Working Groups.

The main objectives of the Publishing Data Interest Group are to promote and establish the data publication concept among scientists, data repositories, science publishers, and bibliometric service providers by addressing the issues of workflows for publishing data and establishing corresponding services as part of scholarly publishing.

#### Publishing Data

- › [Bibliometrics](#)
- › [Services](#)
- › [Workflows](#)
- › [Cost Recovery](#)

#### Members

- › [Michael Diepenbroek \(Co-chair\)](#)
- › [Eefke Smit \(Co-chair\)](#)
- › [Mustapha Mokrane \(Ex officio\)](#)
- › [David Anderson](#)
- › [Claire Austin](#)
- › [Geoffrey Bilder](#)
- › [Theodora Bloom](#)
- › [Lukasz Bollkowski](#)
- › [Jan Brase](#)
- › [Ian Bruno](#)
- › [Adrian Burton](#)
- › [Sarah Callaghan](#)
- › [Ross Cameron](#)
- › [Eleni Castro](#)
- › [Cyndy Chandler](#)
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- › [Janine Felden](#)
- › [Mike Fortun](#)
- › [Bettina Görner](#)
- › [Laurel Haak](#)
- › [John Helly](#)



# INTERNATIONAL DATA WEEK 2016

WWW.INTERNATIONALDATAWEEK.ORG

Organized by:



***Autumn 2016 – USA***

***SciDataCon 2016***

***International Data Forum***

***RDA 8<sup>th</sup> Plenary***

**[info@internationaldataweek.org](mailto:info@internationaldataweek.org)**