ICSU World Data System

Trustworthy Data Services for Global Science

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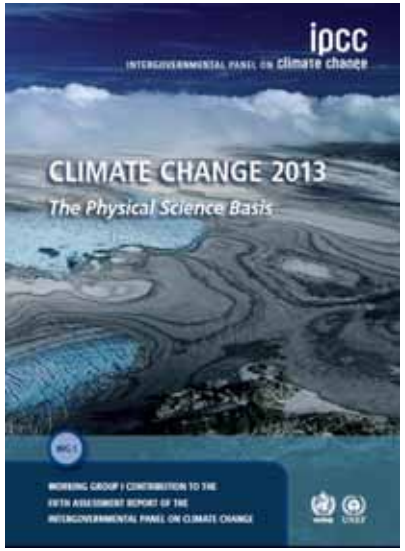
Science in the 21st century

- Scrutiny
- Verifiability
- Re-use
- Re-purposing

- Multi-source
- Transdisciplinary



SUSTAINABLE DEVELOPMENT GOALS

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WDS: strategic targets

Strategic Target 1 —

Improve the sustainability, trust in, and quality of open Scientific Data Services

Strategic Target 2 —

Nurture active disciplinary and multidisciplinary scientific data services communities

Strategic Target 3 —

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

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WDS: Achievements

Membership

- Regional networks
  e.g. Asia and Pacific network 2017

CoreTrustSeal

- Certification of repositories

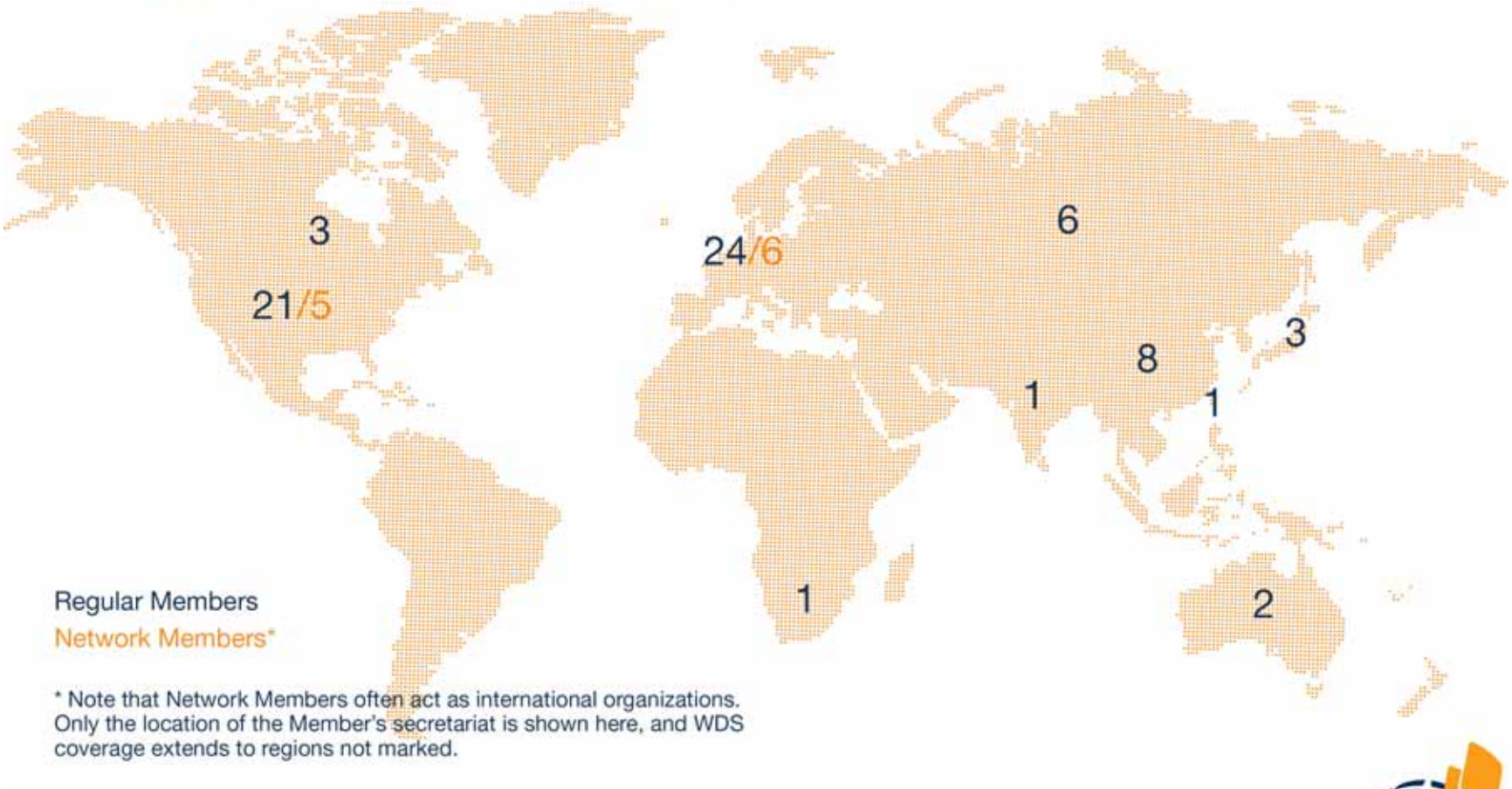
Conferences

- IDW and SciDataCon
  (India 2014, USA 2016, Botswana 2018)

Coordination, policy-makers, funders, stakeholders

- Belmont Forum e-Infrastructure and Data Management

WDS Membership (November 2017)



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WDS Membership (November 2017)

70 Regular	Data stewards and/or data analysis services: certified **Trustworthy Data Repositories** (IEDA, NSIDC, NASA-DAACS, IRIS-DS, PANGAEA, DANS, GBIF…)
11 Networks	Umbrella bodies of data stewards: accredited **Trustworthy Data Networks** (NASA-ESDIS, NERC-EDC, IODE, IVOA…)
9 Partners	Contribute support to WDS Membership (DataCite, ORCID, IEDRO…)
18 Associates	Interested in the WDS endeavour

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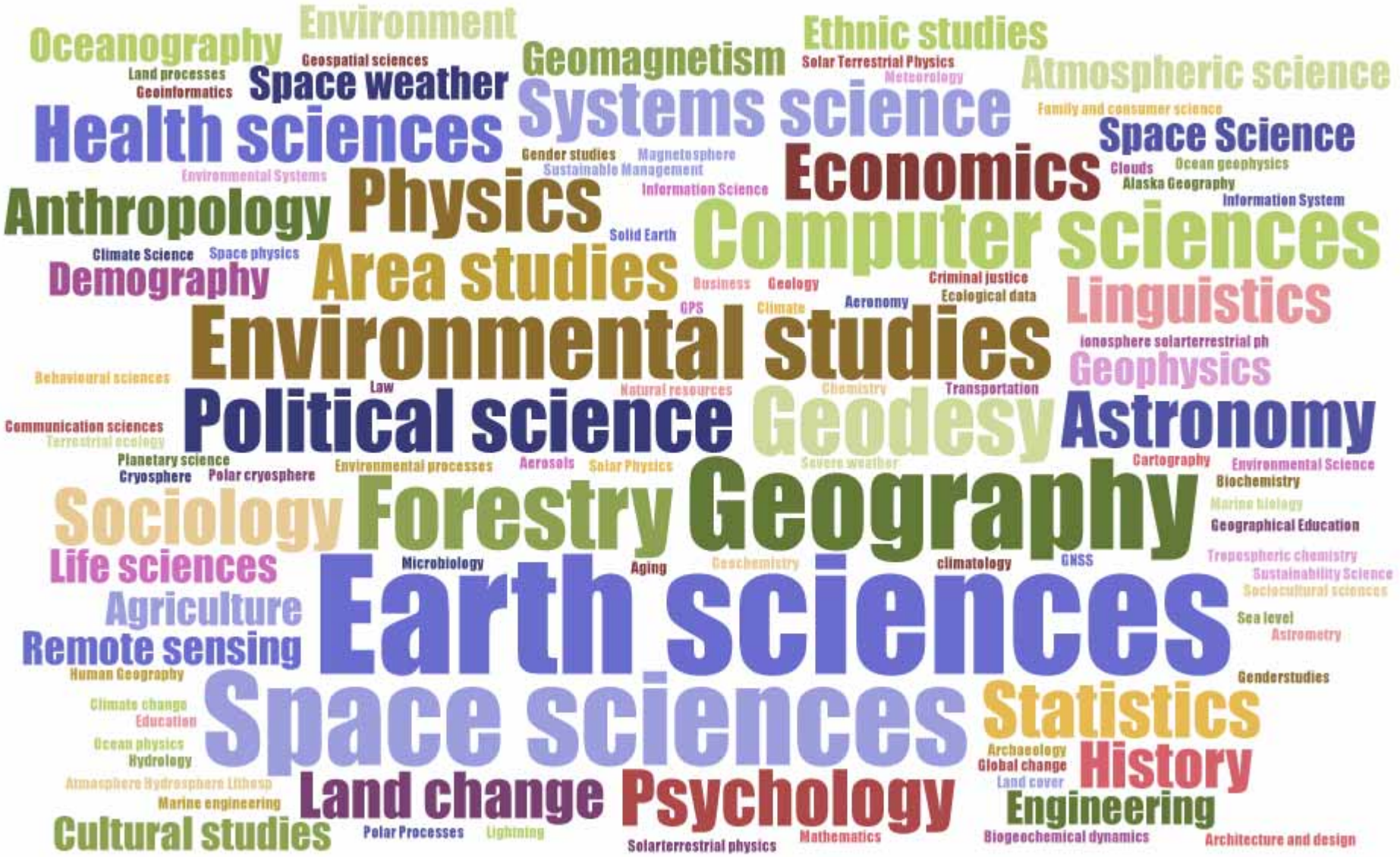
Disciplinary coverage



Core level Certification

16 Requirements

- Context
- Organizational infrastructure (6)
- Digital object management (8)
- Technology (2)
- Applicant feedback

www.icsu-wds.org/services/certification

WDS: priorities (1)

Expanded Membership

- Disciplinary & geographical scope
- Regional networks (Asia, Africa, LAC)

International Technology Office

- April 2018, hosted in Canada
- Will provide structural support curently only available on pro-bono basis

Improved accessibility of tools

- DataCite/Re3data, Scholix node for a Knowledge Network, Brokering service with OpenAIRE-connect

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WDS: priorities (2)

Data for policy

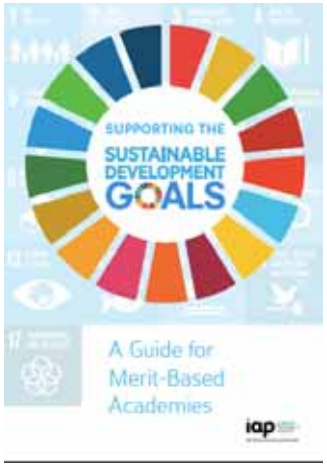
- SDGs and IRDR, working with IPCC, IPBES, IRDR
- IAP-WDS collaboration

Education, education, education!

- Data stewardship award
- Collaboration with INASP for online course aimed at young scientists
- Collaboration with IIASA YS summer programme

Policy for data

- Working with Academies and Funders
- OECD
- EOSC



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IIASA

Young Scientists Summer Program

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Are we really on-message and hands-on?

Data culture and FAIR data

- [**Data culture**] European science must be grounded in a common culture of data stewardship, so that research data is recognised as a significant output of research and is appropriately curated throughout and after the period conducting the research. Only a considerable cultural change will enable long-term reuse for science and for innovation of data created by research activities: no disciplines, institutions or countries must be left behind. ✔
- [**Open access by-default**] All researchers in Europe must enjoy access to an open-by-default, efficient and cross-disciplinary research data environment supported by FAIR data principles. Open access must be the default setting for all results of publicly funded research in Europe, allowing for proportionate limitations only in duly justified cases of personal data protection, confidentiality, IPR concerns, national security or similar (e.g. 'as open as possible and as closed as necessary'). ✔
- [**Skills**] The necessary skills and education in research data management, data stewardship and data science should be provided throughout the EU as part of higher education, the training system and on-the-job best practice in the industry. University associations, research organisations, research libraries and other educational brokers play an important role but they need substantial support from the European Commission and the Member States. ✔
- [**Data stewardship**] Researchers need the support of adequately trained data stewards. The European Commission and Member States should invest in the education of data stewards via career programmes delivered by universities, research institutions and other trans-European agents. ✔
- [**Rewards and incentives**] Rewarding research data sharing is essential. Researchers who make research data open and FAIR for reuse and/or reuse and reproduce data should be rewarded, both in their career assessment and in the evaluation of projects (initial funding, review of performance and impact). This should go hand in hand with other career policies in universities and research institutions (appointments, promotions etc.). ✔
- [**FAIR principles**] Implementation of the FAIR principles must be pragmatic and technology-neutral, encompassing all four dimensions: findability, accessibility, interoperability and reusability. FAIR principles are neither standards nor practices. The disciplinary sectors must develop their specific notions of FAIR data in a coordinated fashion and determine the desired level of FAIR-ness. FAIR principles should apply not only to research data but also to data-related algorithms, tools, workflows, protocols, services and other kinds of digital research objects. ✔

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