ICSU World Data System
Strategic Plan 2014–18

Trusted data services for global science

Background

The ICSU World Data System (ICSU-WDS) builds on the 50+ year legacy of the World Data Centres and Federation of Astronomical and Geophysical data analysis Services established by the International Council of Science (ICSU) to manage data generated by the International Geophysical Year (1957–1958). It became clear after the International Polar Year (2007–2008) that these bodies were not able to respond fully to modern data needs and they were thus disbanded by the ICSU General Assembly in 2008 to be replaced by ICSU World Data System in 2009.

Vision

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 and all countries have the scientific capacity to use these and to contribute to generating the new knowledge that is necessary to establish their own development pathways in a sustainable manner."*

As an ICSU Interdisciplinary body, the World Data System supports this vision by promoting universal and equitable access to, and long-term stewardship of, **quality-assured scientific data and data services, products, and information** covering a broad range of disciplines from the natural and social sciences, and humanities. WDS aims at facilitating the scientific research endeavours under the ICSU umbrella by coordinating **trusted scientific data services** for the provision, use, and preservation of relevant datasets.

Trusted Scientific Data Services and Data Communities

To fulfil its remit, ICSU-WDS is striving to build worldwide '**communities of excellence**' for **scientific data services** by certifying member organizations—holders and providers of data or data products—from wide-ranging fields using internationally recognized standards. WDS Members are then the building blocks of a searchable common infrastructure with which to form a data system that is both interoperable and distributed.

Benefits for WDS Members

In bringing together Member Organizations to coordinate their activities and form communities of excellence, ICSU-WDS aims also at improving their individual capacities. Membership in WDS provides the imprimatur of ICSU—the leading international and multidisciplinary nongovernmental scientific organization— and increases local and international scientific recognition. Membership also increases exposure to potential international users and collaborators, and demonstrates a strong and tangible commitment to open data sharing, data and service quality, and preservation—all of which are increasingly considered prime requirements by science funders and are high on policymakers' agendas for they benefit to the scientific community, economy, and society in general.

> **Scientific Data Services** are any organization that assists 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.
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> **Data Communities** are formed by the stakeholders consisting of both producers and users of data including (but not limited to) data providers, consumers, brokers, and infrastructure and service providers.

Strategic Targets

The overall objectives of ICSU-WDS are to:

- *Enable universal and equitable access to 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*

To achieve these objectives, the Scientific Committee has set to achieve the following five WDS Strategic Targets.

Strategic Target 1:

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

- Subtarget 1: Involve more closely WDS Members into international collaborative scientific research
- Subtarget 2: Promote the use of best practices in international collaborative research programmes

Strategic Target 2:

Nurture active disciplinary and multidisciplinary scientific data services communities

- Subtarget 1: Support existing communities whose practices serve their members well
- Subtarget 2: Strengthen emerging communities by helping them to identify their needs and to organize their activities
- Subtarget 3: Provide mechanisms that facilitate cross-disciplinary interactions and activities.
- Subtarget 4: Contribute towards scientific development by improving the analytical environment

Strategic Target 3:

Improve the funding environment

- Subtarget 1: Promote international, national and disciplinary policies that lead to sustainable long-term funding
- Subtarget 2: Engage and work with research funders to increase resources for data services

Strategic Target 4:

Improve the trust[1] in and quality of open scientific data services

- Subtarget 1: Actively promote policies of full and open access to data at national and international venues
- Subtarget 2: Foster interoperable practices to facilitate data sharing
- Subtarget 3: Facilitate access to and use and reuse of datasets, in particular for multidisciplinary research

Strategic Target 5:

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

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[1] Where trust in this context contains a
  - Technical element that can be verified through accreditation
  - Relationship element
  - Quality element that comes through verification