Implementation of Open Access Principles in the Developing World:
Examples from the ICSU World Data System

Mustapha Mokrane,
Executive Director
‘As an ICSU Interdisciplinary body, the mission of the World Data System is to support ICSU’s vision by promoting long-term stewardship of, and universal and equitable access to, quality-assured scientific data and data services, products, and information across a range of disciplines in the natural and social sciences, and the humanities.’

WDS Strategic Plan 2014–2018

https://www.icsu-wds.org/organization/strategic-plan
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 for Scientific Data Services

4) Improve trust in and quality of open Scientific Data Services

5) Position WDS as the premium global multidisciplinary network for quality-assessed scientific research data
Open, Inclusive and Trusted

✓ Full and open access data sharing policy
✓ Broad disciplinary and geographic coverage
✓ Trustworthiness: **WDS Certification procedure** addresses **GEO Data Management Principles** (Discoverability, Accessibility, Usability, Preservation, Curation.)
WDS Membership

• **57 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 (NASA ESDIS, IOC/IODE, IVOA...)

• **3 Partners and 17 Associates**
Network members with global footprints

- International VLBI Service for Geodesy and Astrometry
- International Laser Ranging Service
- International GNSS Service
- International Virtual Observatory Alliance (IVOA)
- International Oceanographic Data and Information Exchange (IODE)
- NASA ESDIS Project
- International Space Environment Service (ISES)
- CLARIN-ERIC
- International DORIS Service
- INTERMAGNET
GEO: What’s missing?

- Long-term preservation?
- Quality assessment?
From Principles to Implementation!

- Having principles is good but not enough
- Alignment is critical (Data revolution or data mess?)
- Use and strengthen existing national, regional and international capacities
- International coordination is needed: ICSU-WDS provides an International umbrella to improve Data Management
Ex.1: WDS China Clearinghouse

- Chinese Astronomical Data Centre
- Cold and Arid Regions Science Data Centre at Lanzhou
- WDC for Marine Sciences in Tianjin
- WDC for Renewable Resources and Environment, Beijing
- WDC for Microorganisms
- Chinese Space Science Data Centre
- Chinese National Antarctic & Arctic Data Centre
Ex.2: Network Data Centre for Socio-Economic Data in Africa

- Collaboration with NRF/SAEON, DataFirst, and ICSU Reg. Office for Africa,
- ICSU Grant for this specific activity
- Workshop in June 2013 as part of the 5th African Digital Scholarship and Curation Conference, Durban, South Africa.
Ex.3: WDC for Biodiversity and Human Health (South Africa)

• Collaboration with USGS and NRF and CSIR & SAEON (extended spatial data infrastructure CoSAMP) started in 2008
• Funding from ICSU, USGS, and NRF
• Prototype for continent-wide data center
Ex.4: Trusted Data Services Framework

• WDS & DSA: lightweight certification

• Registry of Trusted Data Services: Re3data/DataBib merging under DataCite: Subset of the registry that aggregates quality and certification properties (WDS, DSA, ISO 16363, etc.) managed by WDS.
Lessons learned

• Cannot fund infrastructure on research funds
• Sustainability is the limiting factor for moving from prototypes to permanent services
• National and institutional support is key
• International coordination
Thank you!

www.ICSU-WDS.org