

The World Data System –Building Trust in Scientific Data

*Rorie Edmunds¹

1. World Data System of the International Science Council

The World Data System (WDS) is a Research Programme of the International Science Council. It was formed to help realize the vision of universal and equitable access to scientific data and information. To this end, WDS promotes long-term data stewardship that will deliver quality-assured scientific data, data services, products, and information. WDS promotes ‘communities of excellence’ by helping organizations become persistent, robust, and trustworthy components of a data infrastructure from which a knowledge system that is both interoperable and distributed can be based.

In September 2017, WDS and the Data Seal of Approval (DSA), based on a partnership established under the umbrella of the Research Data Alliance, established the CoreTrustSeal standard for certifying the trustworthiness of data repositories. CoreTrustSeal sets overarching Requirements that harmonize the prior standards of WDS and DSA, act as a foundation for the ISO 16363 and DIN 31644 standards, and embrace the FAIR principles. The certification is an embodiment of the new TRUST principles of Transparency, Responsibility, User Focus, Sustainability, and Technology.

Since its formation, over 70 repositories have been certified by CoreTrustSeal, a similar number are being processed, and demand is growing. Such demand is driven through recognition of the importance of CoreTrustSeal certification by the European Commission, by the American Geophysical Union (AGU) / Coalition for Publishing Data in the Earth and Space Sciences (COPDESS), and increasingly by publishers. The CoreTrustSeal Data Repositories Requirements have been nominated for inclusion in the European Commission’s official ICT Technical Specifications, and explicitly named in both the final report and action plan from the European Commission expert group on FAIR data and the AGU/COPDESS Enabling FAIR Data Project.

The year 2019 marked the first review of the CoreTrustSeal Requirements. After an open community review, the revised Requirements for 2020–2022 were released in November 2019 and applications against them are now being accepted. Given the number of repositories continuing to transition to the CoreTrustSeal certification, the Requirements remain fundamentally stable for 2020–2022.

This presentation will give an overview of current status of the World Data System and its successes in helping make data more open. As well as focus on core certification of data repositories by the CoreTrustSeal and an introduction to the TRUST principles, it will briefly discuss:

- The new WDS International Technology Office (ITO), which provides technical infrastructure and services in support of the WDS goals.
- The Scholarly Link Exchange (SCHOLIX), a high-level interoperability framework for exchanging information about the links between scholarly literature and data.
- WDS strategic activities with partners, such as the joint WDS–CODATA Task Group on ‘Citizen Science for the SDGs –Aligning Citizen Science outcomes to the UN Sustainable Development Goals’, and the Belmont Forum funded PARSEC project ‘Building New Tools for Data Sharing and Reuse through a Transnational Investigation of the Socioeconomic Impacts of Protected Areas’.

Keywords: Scientific Data, Open Science, Trustworthiness, Repository Certification, CoreTrustSeal,
SCHOLIX