Meeting the Challenges of the TRUST Principles for Digital Repositories

Robert R. Downs [1]

NASA Socioeconomic Data and Applications Center (SEDAC)
Center for International Earth Science Information Network (CIESIN), Columbia University,
[1] rdowns@ciesin.columbia.edu

Prepared for Presentation to the 2020 ESIP Summer Meeting
July 14-24, 2020, Virtual Event
July 17, 2020 Poster Session

Digital repositories, including scientific data centers, archives, and other data facilities must provide stewardship for the resources that they have been entrusted to manage and disseminate for their user communities. The tenets of transparency, responsibility, user focus, sustainability, and technology that are described in the TRUST Principles for Digital Repositories offer guidance for meeting the needs of users who can use research data, today, as well as succeeding generations of users (Lin, et al., 2020). Developed by several stakeholders from across the digital preservation and research data stewardship community, the TRUST Principles for Digital Repositories can be built upon by the broader community of data stewards to ensure that the data that are being collected now and in the future will be treated as valuable intellectual assets so that they are findable, accessible, interoperable, and reusable, as articulated in the FAIR Principles (Wilkinson, et al., 2016).

Diligent digital curation and stewardship efforts will help to ensure that research data products and services can be used to continue scientific progress and achieve the societal benefits that such research can provide. Along with future stewards of research data and related resources, the digital repository professionals that practice today have an opportunity to learn from the guidance offered by the TRUST Principles for Digital Repositories and to accept them as challenges for improving their own data stewardship capabilities and the capabilities of others. Together, members of the digital preservation and data stewardship community can engage in training, certification programs, and sharing of knowledge, skills, and technologies to improve their capabilities for managing and sharing scientific data. Such efforts to improve capabilities for data curation and stewardship can contribute to the enduring value of research data, enabling the digital preservation and data stewardship community to provide FAIR data, meet the challenges of the TRUST Principles for Digital Repositories, and continue to offer future benefits to science and society.

TRUST Principles for Digital Repositories*

Transparency

To be transparent about specific repository services and data holdings that are verifiable by publicly accessible evidence.

Responsibility

To be responsible for ensuring the authenticity and integrity of data holdings and for the reliability and persistence of its service.

User Focus

To ensure that the data management norms and expectations of target user communities are met.

Sustainability

To sustain services and preserve data holdings for the long-term.

Technology

To provide infrastructure and capabilities to support secure, persistent, and reliable services.

*Reproduced from Lin, et al., 2020. The TRUST Principles for Digital Repositories.

Endorsement of the TRUST Principles for Digital Repositories

The Research Data Alliance has called for organizations to endorse the TRUST Principles for Digital Repositories. See https://www.rd-alliance.org/rda-community-effort-trust-principles-digital-repositories

Certification Programs

CoreTrustSeal (2020)

ISO 16363 (2011)

Nestor (2013)

Sharing of Knowledge, Skills, and Technologies

Council of Data Facilities Shared Infrastructure Initiative (2019)

ESIP Data Management Training Clearinghouse (2020)

References

Audit and Certification of Trustworthy Digital Repositories. ISO 16363/CCSDS 652.0-M-1, https://public.ccsds.org/Pubs/652x0m1.pdf (2011).

CoreTrustSeal Trustworthy Data Repositories Requirements. 2020. https://www.coretrustseal.org/why-certification/requirements/

ESIP Data Management Training Clearinghouse. 2020. https://dmtclearinghouse.esipfed.org/

Lehnert et al. 2019. Building Resilience by Sharing Infrastructure Among Data Facilities: An Initiative of the EarthCube Council of Data Facilities. https://agu2019fallmeeting-agu.ipostersessions.com/default.aspx?s=A6-0C-96-FA-24-07-F6-36-77-00-78-35-E6-7C-AC-51

Lin, D., et al. The TRUST Principles for digital repositories. Sci Data 7, 144 (2020). https://doi.org/10.1038/s41597-020-0486-7

Harmsen, H. et al. Explanatory notes on the Nestor seal for trustworthy digital archives. Nestor Certification Working Group, http://nbn-resolving.de/urn:nbn:de:0008-2013100901 (2013).

Wilkinson, MD. et al. The FAIR Guiding Principles for scientific data management and stewardship. Sci. Data 3, 160018 (2016). https://doi.org/10.1038%2Fsdata.2016.18

Center for International Earth Science Information Network
Earth Institute | Columbia University

The work reported here has been supported by the National Aeronautics and Space Administration under Contract 80GSFC18C0111 for the Socioeconomic Data and Applications Distributed Active Archive Center (DAAC).