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GAGE Facility Geodetic Data Archive: Discoverability, Accessibility, Interoperability & Attribution

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The U.S. National Science Foundation's Geodesy Advancing Geosciences (GAGE) Facility, operated by UNAVCO, is building systems and adopting practices in support of more comprehensive data discovery, search and access capabilities across our various geodetic data holdings. As a World Data Center, the GAGE Facility recognizes the need for interoperability of its Earth data holdings in its archives, as represented by the FAIR Data Principles. To this end, web services, both as back-end and front-end resources, are being developed to provide new and enhanced capabilities.

UNAVCO is exploring international standards such as ISO Geographic information Metadata and the Open Geospatial Consortium's (OGC) web services that have been in development for decades to help facilitate interoperability. Through various collaborations, UNAVCO seeks to develop and promote infrastructure, metadata, and interoperability standards for the community. We are participating in the development of the next version of GeodesyML, being led by Geoscience Australia, which will leverage standards and help codify metadata practices for the geodetic community. New web technologies like Linked Data, are arising to augment these standards and provide greater connectivity and interoperability of structured data and UNAVCO has implemented Schema.org metadata for its datasets and partnered with EarthCube's Project 418/419 and Google Dataset Search. Persistent identifiers are being adopted with DOI's for datasets and exploration into RORs for organizational affiliation, and ORCID iDs for identity and access management and usage metrics are being explored. As UNAVCO investigates these various technologies and practices, they remain in various states of acceptance and implementation, we share our experiences to date.