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Converging Seismic and Geodetic Data Services

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One of the fundamental tenets of the Incorporated Research Institutions for Seismology's (IRIS's) mission is to "Promote exchange of seismic and other geophysical data … through pursuing policies of free and unrestricted data access." UNAVCO also adheres to a data policy that promotes free and unrestricted use of data. A major outcome of these policies has been to reduce the time that researchers spend finding, obtaining, and reformatting data. While rapid, easy access to large archives of data has been successfully achieved in seismology, geodesy and many other distinct disciplines, integrating different data types in a converged data center that promotes interdisciplinary research remains a challenge. This challenge will be addressed in an integrated seismological and geodetic data services facility that is being mandated by the National Science Foundation (NSF). NSF's Seismological Facility for the Advancement of Geoscience (SAGE), which is managed by IRIS, will be integrated with NSF's Geodetic Facility for the Advancement of Geoscience (GAGE), which is managed by UNAVCO. The combined data services portion of the facility, for which a prototype will be developed over the next two to three years, will host a number of different data types including seismic, GNSS, magnetotelluric, SAR, infrasonic, hydroacoustic, and many others. Although IRIS and UNAVCO have worked closely for many years on mutually beneficial projects and have shared their experience with each other, combining the seismic and geodetic data services presents challenges to the well-functioning SAGE and GAGE data facilities that have served their respective scientific communities for more than 30 years. This presentation describes some preliminary thoughts and guiding principles to ensure that we build upon the demonstrated success of both facilities and how an integrated GAGE and SAGE data services facility might address the challenges of fostering interdisciplinary research.