Science Societies

A nationwide effort to monitor soil moisture

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A typical soil moisture station in the Fort Cobb region of Oklahoma, operated by the USDA. Phot

A typical soil moisture station in the Fort Cobb region of Oklahoma, operated by the USDA. Photo by Michael Cosh.

In situ networks that monitor soil moisture have been growing in recent years as the public recognizes the value of knowing the state of soil moisture. From droughts to floods and agriculture to wildfires, soil moisture state is a critical variable for accurate monitoring and forecasting for the public good. The large number of networks, remote-sensing platforms, and models that produce soil moisture products are based on different methods and have a complex array of assumptions and characteristics, which makes it difficult to compare them.

An independent group of researchers and scientists, in collaboration with the National Integrated Drought Information System, developed a strategy to coordinate these

diverse networks and data sources, providing a comprehensive and harmonized set of data products. The resulting strategy summarized in *Vadose Zone Journal* is the first step in the development of a community of practice to inform multi-agency, multi-state coordination of soil moisture product development from various sources. This effort should provide an increased value to the public with a high quality, well-validated, and harmonized soil moisture product.

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Cosh, M.H., Caldwell, T.G., Baker, C.B., Bolten, J.D., Edwards, N., Goble, P., … & Woloszyn, M.E. (2021). Developing a strategy for the National Coordinated Soil Moisture Monitoring Network. *Vadose Zone Journal*, *20*, e20139. https://doi.org/10.1002/vzj2.20139

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