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## **Integrated, operational water availability estimates for the conterminous United States: transdisciplinary data and modeling successes and challenges**

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The U.S. Geological Survey, through the National Water Census, has produced a near real-time, operational concept map of water availability for the conterminous United States. Currently, this map aggregates “natural” landscape-dimension storage volumes (e.g. soil moisture, snowpack, and surface depression storage) and relates these values to historic averages for a given spatial unit for the given time of year. The purpose of this operational concept map is to improve communication of current water availability to the general public using the best available knowledge and technology. Current operational model deployment is an application of nationally-consistent methods; however, the degree to which regionalization and local knowledge might be applied and interwoven into the national product are current topics of exploration. In addition, future development for this model and visualization process will include adding water quality and water use as variables that contribute to the overall availability of water. Adding these transdisciplinary components to the existing physical model is not straightforward; the differences in model structure and data types needed for specific disciplines will need to be overcome to present a truly integrated water availability estimate that can provide useful information for the public as well as the technical research community. In this presentation, we explore the successes and challenges of the existing operational model used for the National Water Census, including transdisciplinary model integration, calibration, and uncertainty, with the goal of improving communication of water availability.