



## **Improved cyberinfrastructure for integrated hydrometeorological predictions within the fully-coupled WRF-Hydro modeling system**

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The community WRF-Hydro system is currently being used in a variety of flood prediction and regional hydroclimate impacts assessment applications around the world. Despite its increasingly wide use certain cyberinfrastructure bottlenecks exist in the setup, execution and post-processing of WRF-Hydro model runs. These bottlenecks result in wasted time, labor, data transfer bandwidth and computational resource use. Appropriate development and use of cyberinfrastructure to setup and manage WRF-Hydro modeling applications will streamline the entire workflow of hydrologic model predictions. This talk will present recent advances in the development and use of new open-source cyberinfrastructure tools for the WRF-Hydro architecture. These tools include new web-accessible pre-processing applications, supercomputer job management applications and automated verification and visualization applications. The tools will be described successively and then demonstrated in a set of flash flood use cases for recent destructive flood events in the U.S. and in Europe. Throughout, an emphasis on the implementation and use of community data standards for data exchange is made.