**CI-WATER Tethys-ADHydro Workshop**

Wednesday, July 15, 2015

1:30 - 5:00 PM

CI-WATER is a collaborative research project funded by the National Science Foundation involving researchers in Utah and Wyoming from Brigham Young University, the University of Utah, Utah State University, and the University of Wyoming. Through this project, a set of free and open source tools were developed that facilitate cloud-based modeling and large-scale simulations. Some of these tools were featured prominently in the NFIE summer institute. In this workshop, we will provide an overview and perform demonstrations of the following systems:

**Tethys** is a development and hosting platform for deploying water resource models on the cloud for decision support. Tethys significantly lowers the barrier for cloud-based app development, simplifies the process of accessing scalable distributed cloud computing resources, and leverages additional projects for data and computationally intensive modeling.

**CI-WATER data services and HydroGate Python Client**. These services provide access to key datasets for the Western US and the ability to use them to prepare inputs to and run hydrologic models directly from Python on your computer using data and software services.

**WaM-DaM** is a data model to synthesize and organize water management data. It can be used to organize multiple data formats like time series, text, multi-column, and parameters from various sources. It fosters integrated analysis and understanding of water systems.

**ADHydro** is a large-scale, high-resolution, multi-physics watershed model that was specifically developed for high performance computing environments. It includes all hydrologically important processes and anthropogenic influences at scales of relevance using a physics-based approach where parameter values are measurable and identifiable and provide useful results for non-researchers.

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| **AGENDA** | |
| 1:30 – 3:00 pm | Tethys and TethysCluster overview and demonstration. Watch while we create a new cloud-based water resource application from scratch. |
| 3:00 – 3:15 pm | Break |
| 3:15 – 4:00 pm | CI-WATER data services and HydroGate Python Client. Watch while we prepare inputs to and execute the Utah Energy Balance Snowmelt model using CI-WATER data services. |
| 4:00 – 4:20 pm | WaM-DaM. Discover what water management data is available to run a WEAP model for the lower Bear River basin. |
| 4:20 – 4:45 pm | AD Hydro |
| 4:45 – 5:00 pm | General question and answer session. Closing comments. |