High Performance Computing in Hydrology: ADHydro Model Workshop

All day- Friday, 17 July, 2015, U.S. National Water Center, Tuscaloosa, Alabama.

In conjunction with the 3rd CUAHSI Conference on Hydroinformatics, the joint Utah/Wyoming NSF-EPSCoR funded CI-WATER project is holding a 1-day workshop aimed at establishing a user community for the new quasi-3D large watershed simulator ADHydro. The ADHydro model was developed from the beginning for operations on massively parallel computing hardware to efficiently simulate large managed watersheds. The model uses an unstructured mesh to allow high resolution where needed, and course resolution where not needed. The ADHydro workshop will cover the following topics:

- ADHydro features and formulation
- Input requirements
- Workflow and model setup
- Source code compilation and running ADHydro
- Input/output visualization using QGIS and Paraview
- Coupling and forcing with WRF output

Because of the 1-day duration of this workshop, some prerequisites are required:

Workshop participants must be experienced Linux users and will need a Linux laptop on which they will install ADHydro and several supporting packages for ADHydro.

- Experience with GIS tools is required, experience with QGIS is preferred.
- Experience with Paraview is preferred.
- Experience with the Charm++ HPC run time environment is preferred.
- Some experience with programming in either C, C++, or python is required.

User's will complete this one-day workshop with enough knowledge to install, set-up, and run ADHydro on a computing cluster.

Interested persons should contact Prof. Fred L. Ogden (fogden@uwyo.edu) with statement of interest. Please state your level of experience with the required and optional skills listed above. In addition to skill level, preference will be given to, in order of preference: (1) other members of the CI-WATER collaborative and water managers from Utah and Wyoming, (2) participants from EPSCoR jurisdictions, (3) staff of the National Water Center, and (4) other universities. Participants will receive instructions on pre-loading required software on their laptops before the meeting. Support will be available for this function through the Center for Computational Hydrology and Hydrosciences at the University of Wyoming.

Seating is limited to 12. No travel support is available. Attendance is free of charge.

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