

Summer Short Course on Watershed Modeling using GSSHA

June 15-21, 2014

University of Wyoming, Laramie, Wyoming

The CI-WATER Project, sponsored by the National Science Foundation, is pleased to announce a course on spatial hydrologic modeling.

You will learn the basics of:

- *GSSHA (Gridded Surface Subsurface Hydrologic Analysis) Model*, as developed at the U.S. Army Corps of Engineers, Engineering Research and Development Center, and the University of Wyoming,
- *WMS (Watershed Modeling System)*, as developed at Aquaveo LLC,
- Spatial data required to parameterize GSSHA distributed models, including data requirements, basics of GSSHA/WMS and how to find and use spatial geographic data to develop GSSHA models using the WMS Hydrologic Model Wizard.

The GSSHA/WMS models constitute a complete watershed analysis system that can be used for a variety of engineering computation and design issues, such as flood simulation, hydrologic impacts of land use change, and best management practice design and location.

Course Design:

Through a combination of lecture and experiential applications, the course features the spatially distributed modeling components of this system. The course begins with an overview of the capabilities of the WMS to ensure maximum benefit from the hands-on portions of the class. Attendees will learn to use WMS to set up GSSHA models that include overland flow, infiltration, distributed rainfall, hydraulic structures, continuous simulations with frozen precipitation and erosion and sediment transport.

June 16, 17 – Lectures and hands-on use of software.

June 18 – Collect outdoor data in Laramie area using rainfall simulator to observe how runoff is produced and collect data on how rainwater enters soil to use in computer simulations.

June 19, 20 – Flood simulations using collected data.

Outcome:

Having completed this course, attendees will gain a working knowledge of the premier spatial hydrology tools. You will also understand how, when, and why you might be able to apply the tools to specific studies as well as understand the input data requirements.

Who Should Attend?

The course is intended for anyone interested in flooding, the effects of landscape changes on hydrology, and/or analyzing best management practices. Experience with hydrologic modeling and numerical methods are not required.

Room and board provided at University of Wyoming Honors House. Stipend of \$250 plus travel reimbursement provided. To register, contact Beth Cable, 307-766-3544, bcable@uwyo.edu.