

Two-dimensional Runoff, Erosion, and Export Model TREX June 2nd to 5th

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Guest Lecturer: John England, PhD, PE
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Guest Lecturer: James Halgren, PhD Candidate
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Objectives:

The objective of this course is to introduce you to watershed modeling using TREX. You will learn: (1) Basic Theory; (2) Creating an Executable; (3) Input File Set-Up Using GIS; (4) Model Calibration; (5) Model Output Visualization; and (6) Customizing the TREX Computer Code.

We will meet daily from 9AM to 12PM. It is advantageous for you to spend time after class to practice what you have learned each day. We recommend that you bring data for your project site. Otherwise, we will provide a practice watershed. I will be available in the afternoon to answer questions.

Schedule:

Date	Topic
June 2 nd	Overview of TREX – Manual, Papers, etc. Creating a TREX Executable (.exe) File: C Programming Environment How to Obtain Data GIS-Based Data Pre-Processing: Digital Elevation Model (DEM) Data Analysis (Watershed Delineation) Land Use and Soil Type Files
June 3 rd	TREX Tools: Creating Link and Node Maps for Stream Channels Input Files: Main Input File (Data Groups A-F) and Ancillary Input Files Hydrologic Model Set-Up Running the Model (from the command prompt): Single Events, Pseudo-Continuous Hydrologic Model Calibration and Calibration Strategies
June 4 th	Guest Speaker – TREX Hydrology Application on Arkansas River (John England) Model Output Visualization and GIS-based Output Post-Processing Sediment Transport Model Set-Up (Additional Input Parameters)* Sediment Transport Model Calibration and Calibration Strategies*
June 5 th	Guest Speaker – Current Direction of TREX and Future Potential (James Halgren) Guest Speaker – TREX Application for Copper Transport and Fate (Mark Velleux) Adding Code to TREX* Chemical Transport and Fate (Additional Input Parameters)*

* If Time Permits