

Automated Geospatial Watershed Assessment (AGWA) Tool Training Agenda

Date: March 4-5, 2019
Location: Room 250N, ENR2, University of Arizona
1064 E Lowell St, Tucson, AZ 85709

This two-day training course provides an introduction to the AGWA tool through a combination of lectures and hands-on exercises. AGWA automates the parameterization and execution of a suite of hydrologic and erosion models (RHEM, KINEROS2, and SWAT). It has been designed to support watershed assessment and analysis across a range of spatial and temporal scales, automate the model parameterization process, and graphically visualize modeling results. Through an intuitive interface in ArcMap, and requiring relatively little hydrologic expertise from the user, AGWA identifies areas that are more susceptible to land use impacts and evaluates different management scenarios and/or alternative futures. Several tutorial tracks will be available that highlight AGWA tools and functionality, including, but not limited to: 1) post-fire watershed assessments, 2) alternative futures and BMPs, 3) green infrastructure 4) stock pond/erosion control dams and 5) better representation of land use and watershed characteristics with KINEROS2. Specific training for using KINEROS2 and learning to manipulate input files outside of the AGWA framework to address field- and small watershed-scale modeling will also be available. One-on-one assistance with your own data and projects will be available as time allows. The training provides an optional ~2 hour ArcMap refresher for those whose GIS skills may be a bit rusty. If you are not an everyday ArcMap user, this refresher will make the subsequent training much smoother.

Trainers:

Phil Guertin, University of Arizona
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Shea Burns, University of Arizona
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Yoga Korgaonkar, University of Arizona
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Carl Unkrich, USDA-ARS
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Day 1 (Monday, March 4)

Session I – ESRI ArcGIS Refresher

08:30 – 08:40	Welcome and Introductions
08:40 – 09:45	Refresher: ArcMap basics (Guertin)
09:45 – 10:00	Break
10:00 – 10:20	AGWA Data Requirements and Data Organization (Guertin/Burns)
10:20 – 12:00	Tutorial one: Data Management Tutorial (Burns/Guertin)
12:00 – 01:00	Lunch (on your own, multiple options within walking distance)

Session II - Introduction to AGWA

01:00 – 02:00	AGWA Background, hydrologic modeling basics presentation (Guertin)
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<https://www.tucson.ars.ag.gov/agwa>

<https://www.epa.gov/water-research/automated-geospatial-watershed-assessment-agwa-tool-hydrologic-modeling-and-watershed>

02:00 – 04:00	Tutorial two, pick from: <ul style="list-style-type: none"> • AGWA: Land Cover Change and Hydrologic Response – San Pedro • AGWA: Land Cover Change and Hydrologic Response – South Platte
04:00 – 05:00	Review on how AGWA works and on the GIS data layers used to generate the derivative parameters (Burns)

Day 2 (Tuesday, March 5)

Session III – Advanced AGWA Tools and Tutorials

08:30 – 09:00	Overview of KINEROS2: Major model components and limitations (Guertin)
09:00 – 09:30	Introduction to KINEROS2 parameters and input files (Unkrich)
09:30 – 09:45	Break
09:45 – 11:45	Tutorial three, pick from: <ul style="list-style-type: none"> • Assessing Constructed Wetlands for development mitigation • Assessing Detention Ponds for development mitigation • Assessing the Influence of Ponds • BAER Process Tutorial (continuation of Data Management tutorial) • BAER Post-fire Treatment Tutorial • Assessing Post-development effects and the impact of Green Infrastructure • KINEROS improved land use representation tutorial • Whetstone Land Cover Modification Tutorial • Whetstone Rainwater Harvesting Tutorial
11:45 – 12:45	Lunch (on your own, multiple options within walking distance)
12:45 – 01:15	Review of AGWA Management Toolkit (Guertin)
01:15 – 01:45	Overview of the AGWA Green Infrastructure Tool (Korgaonkar)
01:45 – 02:00	Break
02:00 – 04:00	Tutorial four, pick from: <ul style="list-style-type: none"> • Assessing Constructed Wetlands for development mitigation • Assessing Detention Ponds for development mitigation • Assessing the Influence of Ponds • BAER Process Tutorial (continuation of Data Management tutorial) • BAER Post-fire Treatment Tutorial • Assessing Post-development effects and the impact of Green Infrastructure • KINEROS improved land use representation tutorial • Whetstone Land Cover Modification Tutorial • Whetstone Rainwater Harvesting Tutorial
04:00 – 04:30	Wrap-up, review, questions, future directions