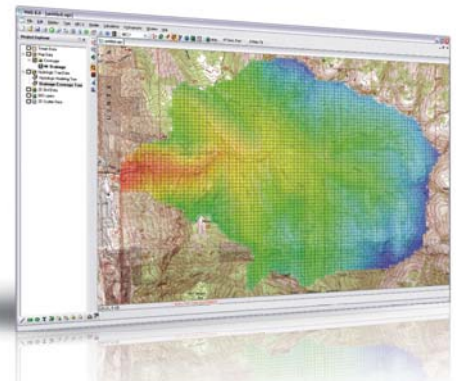




# Watershed Modeling System

## Version 8.2



### What's New in WMS 8.2

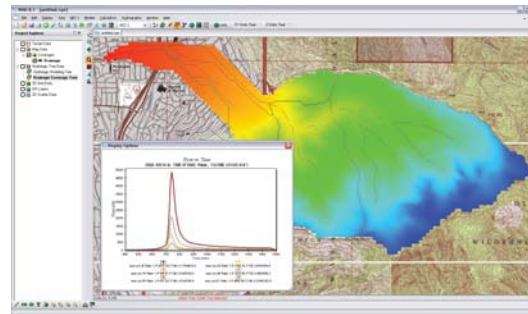
- Define modeling area using the Microsoft® Virtual Earth explorer
- Import images, DEMs, and other data using web services inside WMS
- GSSHA™ enhancements including the support of calibration and batch mode processes and multiple scenarios
- Improved GSSHA hydrologic modeling wizard
- Output animated KMZ files to Google™ Earth
- Many more!

### Model Interfaces

- HEC-HMS  
Rainfall/runoff simulation
- HEC-1  
Rainfall/runoff simulation
- National Flood Frequency  
Flood peak discharge
- GSSHA  
2D Distributed hydrology
- HEC-RAS  
1D Hydraulic modeling
- EPA-SWMM/xpswmm  
Stormwater modeling
- TR-20  
Rainfall/runoff simulation
- TR-55  
Urban storm runoff
- MODRAT  
LA County runoff model
- Rational Method  
Urban hydrology modeling
- HSPF  
Hydrologic and water-quality simulation
- CE QUAL W2  
Water quality reservoir modeling
- SMPDBK  
Dam failure flood analysis

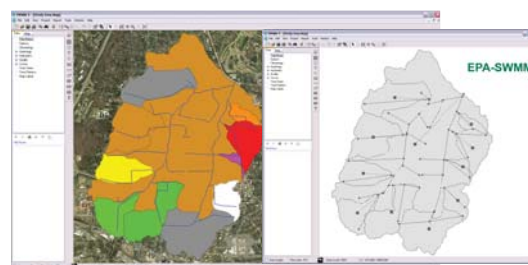
### Automated Hydrology Solutions

- Quickly delineate watershed basins
- Simplify hydrologic analysis
- Understand and clarify with advanced graphical tools
- Complete floodplain mapping solution
- Single source for H&H tools!



### 2D Distributed Hydrology

- Grid based 2D flow with GSSHA model
- True distributed flow and routing
- Use radar rainfall data
- Support for long-term simulations
- Groundwater/Surface-water interaction
- Wetlands analysis capability

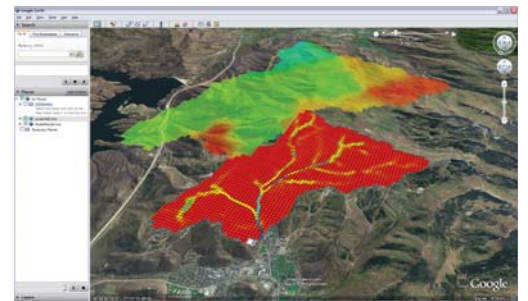


### Hydrologic Modeling

- Import digital elevation data
- Automatically delineate basins & calculate basin parameters
- Run HEC-HMS and other hydrologic models
- Visualize models and results with background data
- Use stand-alone GIS based interface
- Perform stochastic analysis for peak flows

### Hydraulic Modeling & Flood Mapping

- Georeference centerlines and banks for HEC-RAS models
- Extract cross-sections from digital data
- Seamlessly import to HEC-RAS
- Generate flood extent maps from stages
- Visualize and export flood contour maps



### Stormdrain Modeling

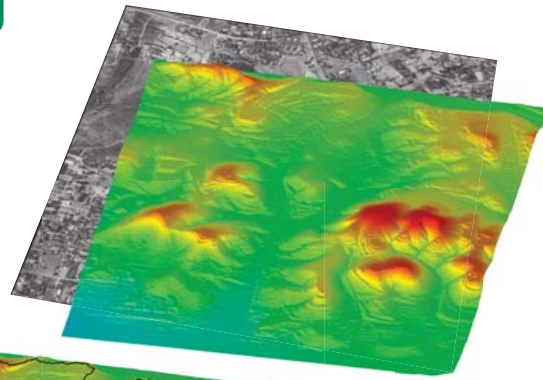
- Build EPA & XP-SWMM models within GIS interface
- Import peak flows from hydrologic models
- Complete stormwater flow and water quality

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# Integrated Hydrologic & Hydraulic Modeling and Floodplain Mapping

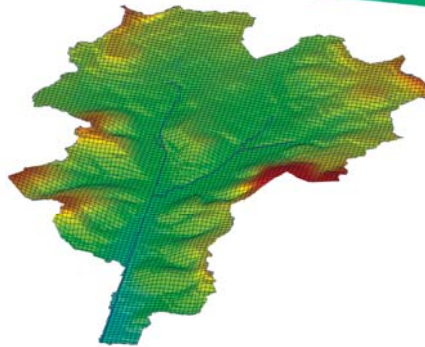
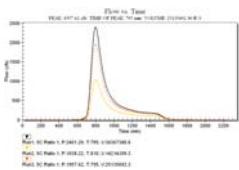
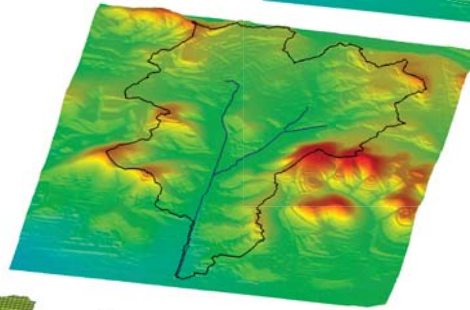
## Import Background Data

- Elevations (DEMs, TINs, Grids)
- Topo maps, aerial photos
- Soil and Land Use data
- Automatically import data via web services



## Delineate Watershed

- Select outlet location
- Automatically delineate streams & basins
- Calculate basin parameters

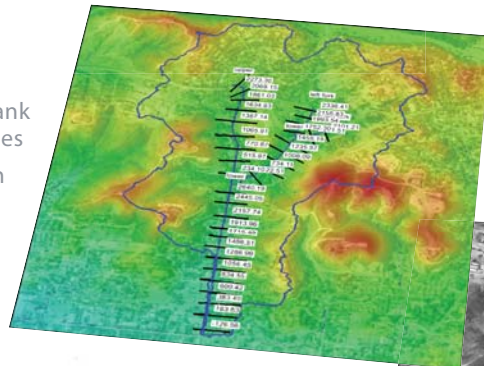


## Develop & Run Hydrologic Model

- Define rainfall and loss methods
- Create grid for distributed models
- Run hydrologic model
- Use HEC-HMS, HEC-1, TR22, GSSHA & more!
- View & export peak flows and hydrographs

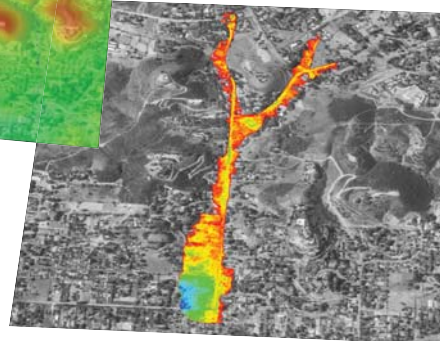
## Create & Run HEC-RAS Model

- Build model center and bank lines on background images
- Create cross-sections from digital elevations
- Run HEC-RAS within WMS



## Delineate Floodplain

- Import stages from HEC-RAS
- Auto-delineate flood extents to digital topography
- Visualize and export flood contour maps and polygons
- Google Earth support



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