CWEMF
IWFM v4.0 Workshop

January 7-8, 2014
West Yost Associates, Davis, CA

Emin Can Dogrul
California Department of Water Resources

Pre-processor Tools

Pre-processor Tools

- Tools available at the IWFM web page through Support Tools link
- *Soil Data Builder* to process one SSURGO soils database at a time to develop root zone parameters
- *Soil Data Builder with GIS* to process multiple SSURGO databases to develop root zone parameters within the ArcGIS environment (currently being tested and will be available to public soon)
- *Land Use Interpolation-Extrapolation* tool to combine data from DWR soil surveys and Agricultural Commissioner's reports to develop element-level time series land-use data
- *IWFM Mesh Generator* to generate triangular grid within the ArcGIS environment (mixed quadrilateral-triangular mesh generator will be developed by UC Davis Dept. of Computer Science)

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Upcoming Developments

Upcoming IWFM Developments

- Already developed and being tested internally:
  - Root water uptake from groundwater
  - Access of riparian vegetation to stream water
  - Stream wetted perimeter given as a function of stream flow depth
  - Better modularization of IWFM simulation components (groundwater, small watersheds, unsaturated zone, subsidence)
- Implementation of an IWFM-v3.02-style moisture routing and demand calculation as an option:
  - Averaged crop characteristics for a single representative crop
  - Demand and flow processes are computed at subregion level instead of element level
  - Provides backward compatibility

Upcoming IWFM Developments

- Routing stream flow storage using a kinematic wave approach (currently being developed)
- Develop a post-processor to analyze different water budget components at user-specified grid cells (similar to Z-Budget but for other hydrologic components)
- Modify Z-Budget post-processor and the IWFM Add-in for Excel to efficiently transfer Z-Budget data to Excel
- Printing of groundwater fluxes to be used in transport simulations
- Incorporate crop yield functions into the root zone component (i.e. IDC)
- Develop a graphical user interface (GUI)

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IDC v4.0 Workshop

December 11-12, 2013
West Yost Associates, Davis, CA

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Workshop Summary

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- Summarized the concepts and mathematical methods used in IWFM to route water through multiple hydrologic components
- Summarized the concepts and mathematical methods used to calculate agricultural and urban water demands
- Discussed how to assign pumping and stream diversion to specific destinations to meet agricultural and urban water demands
- Discussed how to use the automated supply adjustment feature of IWFM to meet the water demands
- Learned how to use IWFM post-processors (Budget , Z-Budget and IWFM Tools Add-in for Excel) and mentioned several IWFM pre-processor tools

THE END