California Water and Environment Modeling Forum

Promoting Excellence and Consensus in Water and Environment Modeling

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Technical Workshop

Integrated Water Flow Model (IWFM) Version 2015 Training

(in cooperation with the California Department of Water Resources)

June 4 – 7, 2019, 9:00am to 4:30pm
West Yost Associates Training Room
2020 Research Park Dr., Suite 100, Davis, CA 95618
(Note: Parking is free)

Workshop Fee: $200 for CWEMF members, $400 for non-members, and $100 for students. Pre-registration is requested. Refreshments included all days, lunch not included.

To reserve your seat, please email cwemf@cwemf.org and pay via credit card/PayPal at www.cwemf.org or send a check to: CWEMF, P.O. Box 5051, Vacaville, CA 95696-5051.

Integrated Water Flow Model (IWFM) version 2015 is a water resources management and planning tool that simulates land surface and root zone flow processes, groundwater, stream flows, and surface water-groundwater interactions. Tile drains, subsidence, lakes and lake-groundwater interactions can also be simulated. IWFM models groundwater flow as a three-dimensional system and solves the governing flow equation using the Galerkin finite element method. A unique feature of IWFM is the land use based approach of calculating water demands. Agricultural and urban water demands can be pre-specified, or calculated internally based on user-specified land use distribution, soil properties, climatic conditions and farm water management practices.

This is a companion workshop to the *IWFM Demand Calculator (IDC) Version 2015* workshop which is offered separately, and specifically concentrates on the land-surface and root zone component of IWFM. The workshop participants will learn the basic concepts and mathematical methods used in IWFM, and will have hands-on exercises that will teach them how to build models from scratch. The software tools that are developed to aid IWFM users in pre- and post-processing model data and simulation results will also be covered.

Workshop participants will need to bring a laptop computer with several programs installed, including MS Excel, and a powerful text editor such as TextPad. Before the workshop, participants will need to download workshop materials (presentations, hands-on examples and guidelines for these examples) and install the IWFM pre- and post-processor tools.

Major topics will include:

- Overview of IWFM-2015
- Simulation of groundwater flow
- Stream flows and stream-groundwater interactions
- Lakes and lake-groundwater interactions
- Tile drains, subsidence, pumping and recharge of groundwater
- Land-use and soil moisture routing; computation of agricultural and urban water demands **(these topics will be covered only briefly; *IWFM Demand Calculator (IDC) Version 2015* workshop covers these topics in more detail)**
- Stream diversions and pumping as water supply
- Automated adjustment of diversions and pumping to meet water demand
- Demonstration of pre- and post-processor tools