



ECFTX Groundwater Model Updated

The expanded East-Central Florida Transient (ECFTX) groundwater model, originally developed in 2019 to support water supply planning decisions, was recently updated to make the model a more suitable tool for regulatory decisions and improve the model performance in the areas where critical minimum flows and levels (MFL) water bodies are located.

A groundwater modeling team from the St. Johns, Southwest and South Florida water management districts reviewed the model and identified an area within the CFWI portion of the domain where the original calibration could be improved. This area primarily included the Wekiva River springs groundwater contributing basin and Seminole County and was called the focus area. The recalibration effort was conducted only in the focus area with a goal to improve the model's ability to better match observed water levels and spring flows. The recalibrated model is referred to as ECFTX v2.0. The ECFTX v2.0 model performance was considerably improved within the focus area and aquifer parameters were adjusted within a range consistent with the known hydrogeology in the region. Accordingly, the model-wide calibration performance was also improved as a result of the improvement in the focus area. Overall, the results of the recalibration provided greater confidence that ECFTX v2.0 is an appropriate tool for assisting in regulatory decisions, MFL evaluations, and future planning efforts.

To facilitate water use permitting evaluations, Environmental Simulations, Inc. was retained by the three districts to develop a user-friendly regulatory tool by implementing Focus Telescopic mesh refinement in Groundwater Vistas for ECFTX v2.0. This process gives water use permit applicants the ability to select a smaller subset of the larger model domain where grid spacing can be refined and also modify local scale aquifer parameters in the model due to site-specific aquifer performance testing. The regulatory model runs are also shorter in duration than the original planning-level model so run time has been significantly reduced.

The project is part of CFWI's overall mission to identify groundwater availability for the region and to assist with planning to meet the water demands of Central Florida while protecting natural systems such as springs, lakes, and wetlands.

To learn more about the model update, visit cfwiwater.com/hydrologic.