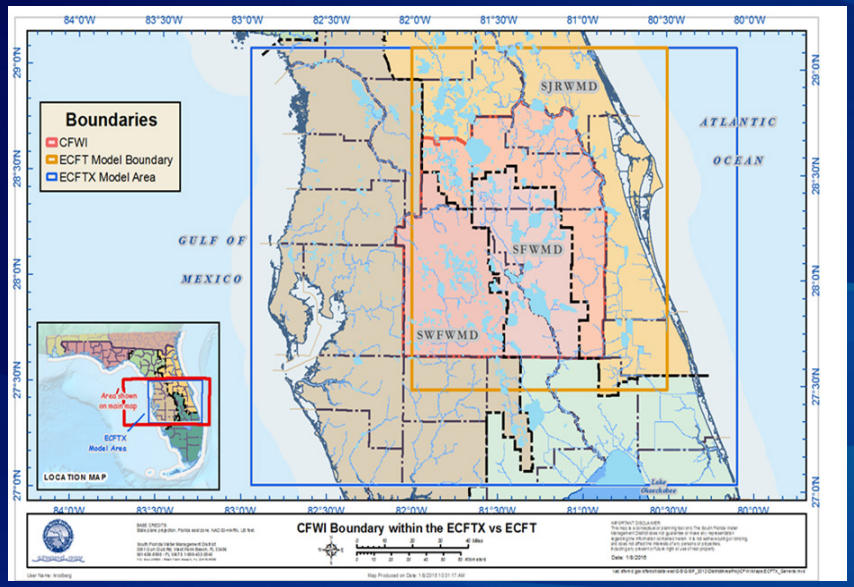
ECFTX Model Update



CENTRAL FLORIDA WATER INITIATIVE
WATER FOR TOMORROW

CFWI Management Oversight Committee (MOC) Meeting

January 14, 2019

Peter J. Kwiatkowski, P.G.

Hydrologic Analysis Team

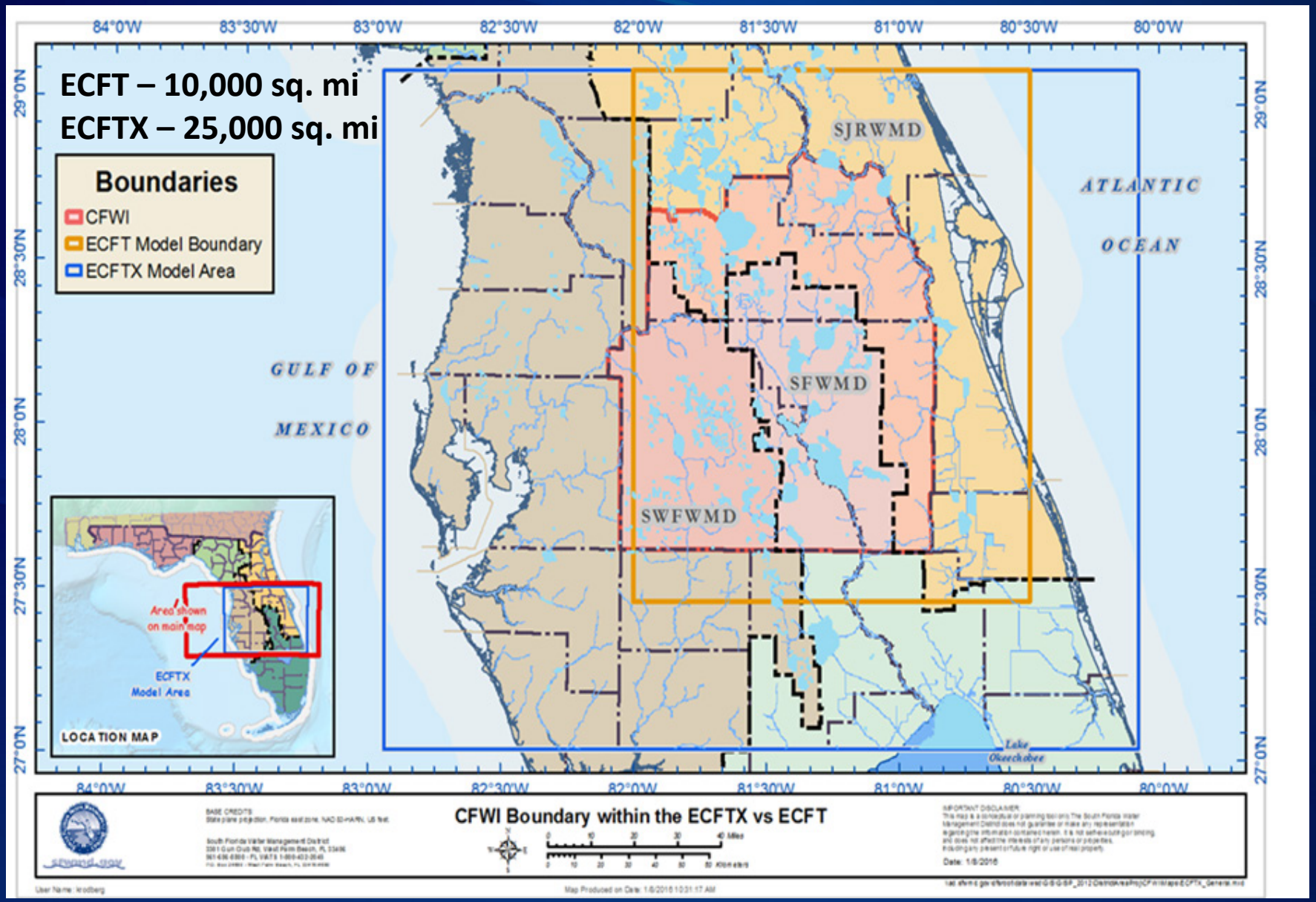
www.cfwiwater.com

Objectives

Improve confidence in model and associated predictions by:

- Reducing boundary issues
- Becoming more computationally efficient
- Resolving water use discrepancies
- Reaching consensus on hydrostratigraphy and model layering
- Incorporating more recent data for calibration (2004 to 2012) and verification (2013 to 2014)

Boundary Locations



Model Improvements

- Incorporate additional model layering of the Lower Floridan Aquifer
- Use of information from other peer-reviewed models
- Improved conceptualization of boundary conditions – Atlantic Ocean and Gulf
- Peer Review – incorporate comments as we go
- Consistency between the model and reported use described in the water supply plan using a single water use database

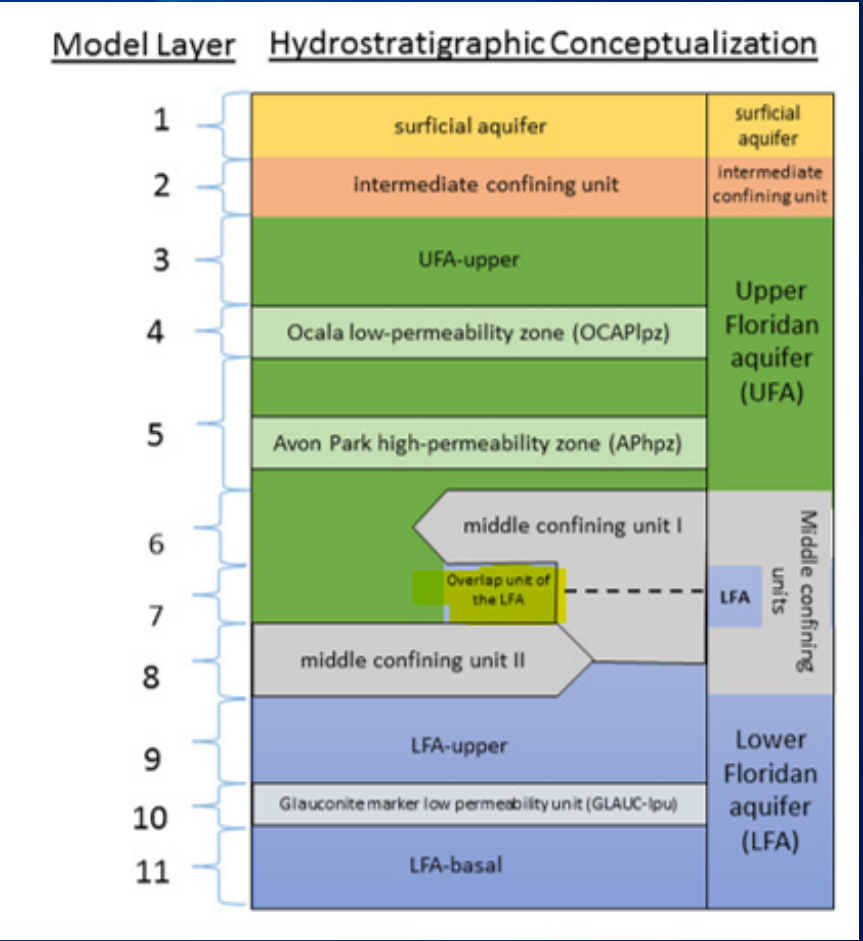


Figure 1. Critical Hydrogeologic Units

Peer Review Panel

- Groundwater Modeling Experts
  - Louis Motz, PhD, Associate Professor Emeritus, University of Florida
  - Mark Stewart, PhD, Professor Emeritus, University of South Florida
  - Peter Anderson, P.E., M.S., Principal Engineer, Tetra Tech GEO

- Scope of Work – Review:
  - Conceptual Model Documentation
  - Calibration Plan and Implementation
  - Final Documentation

Timeline

- Started Work – March 2015
- Peer Review Kickoff – September 2016
- Steady-State Calibration – June 2018
- Transient Calibration – November 2018

Plan Forward

- Peer Review Concurrence with Calibration – January 2019
- Complete Normalization (De-trending) of Water Use Demands – January 2019
- Conduct Reference Condition Simulation – January 2019
- Conduct 2030 and 2040 Simulations – February 2019
- Prepare DRAFT Model Documentation – March 2019
- Peer Review of Model Documentation – May 2019
- Final Model Documentation – July 2019

Questions?