Integrated Water Resources Planning for South Florida

Bridging science and decision making using a participatory approach

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Overview of Presentation

- Frame the problem
- Present integrated approach
- Present model design
- Climate information issues
- Questions

Problem Description

- Complex management environment
  - Dynamic drivers
  - Uncertainty
  - Various physical/social scales
- Multiple players
- Multiple/Competing objectives
- Requires integrated management

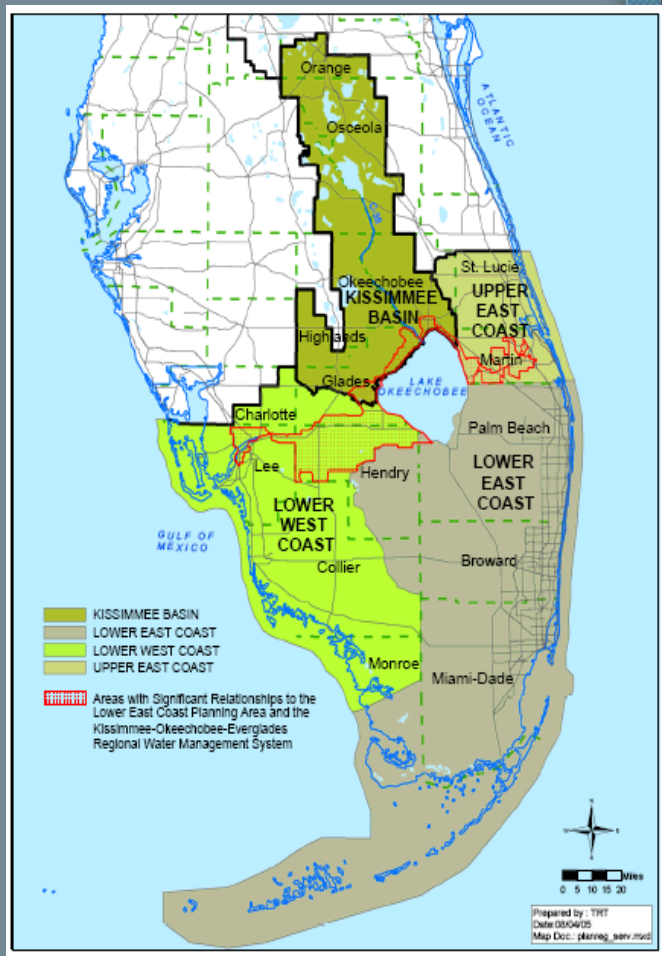


Figure 1. Planning Areas of the South Florida Water Management District.

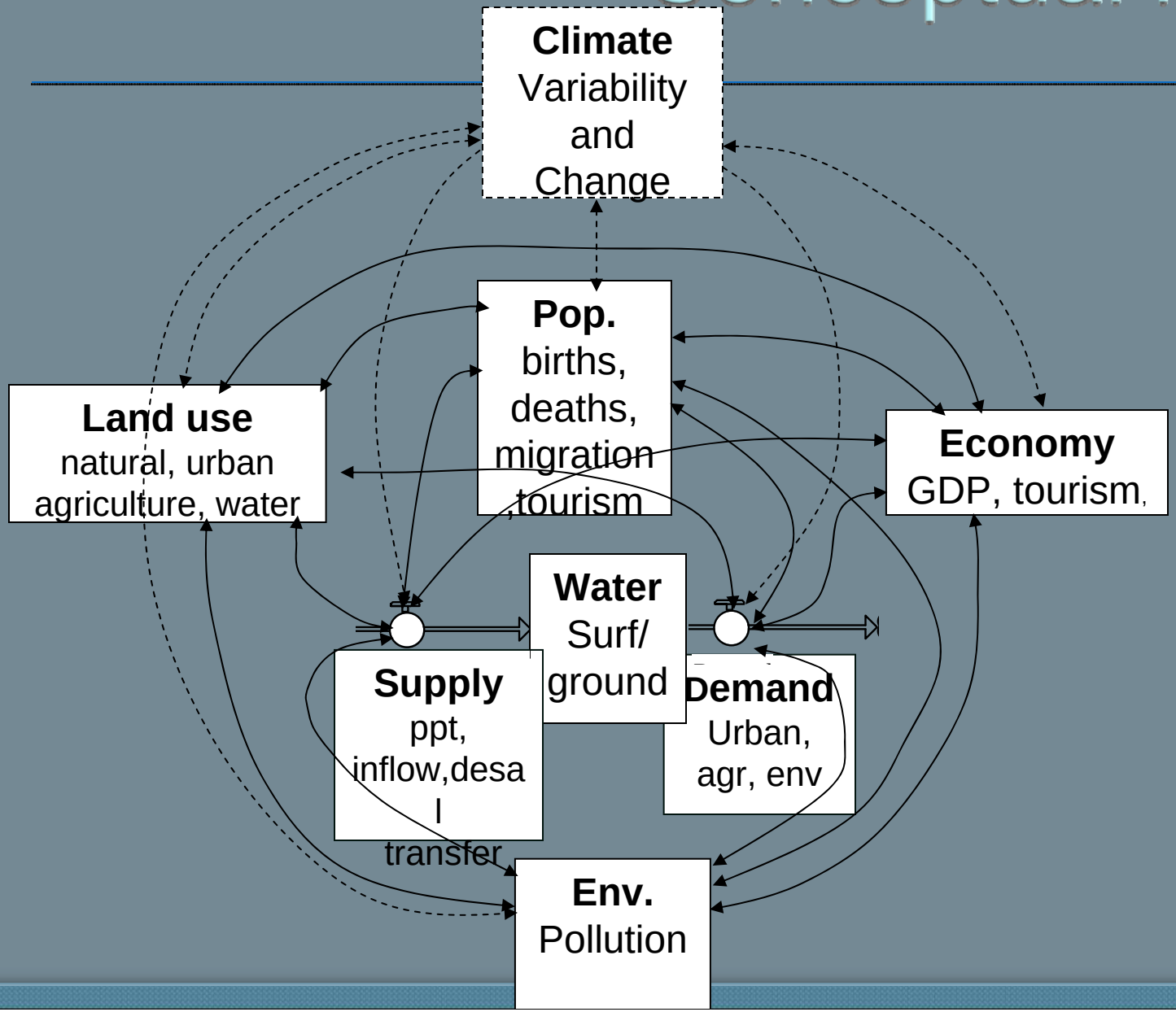
Research goals

- Assess regional stakeholder concerns
- Inform regional water balance model of concerns
- Model system drivers
  - Supply
  - Demand
- Build scenarios
- Run model with scenarios
- Provide tool that can help stakeholders envision relationship between climate and water supply/demand

Model Building Steps

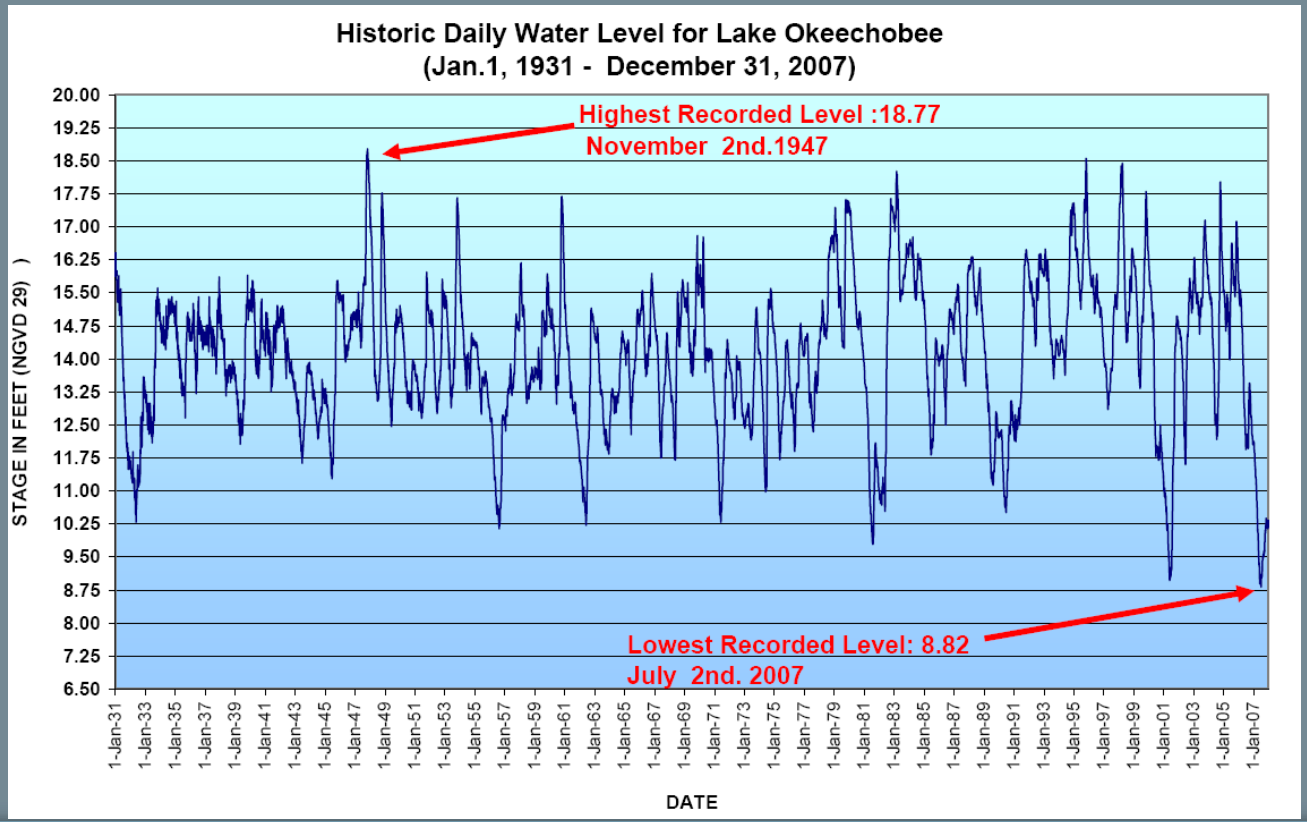
1. Stakeholder interviews
2. Identify key variables
3. Develop stock flow diagrams
4. Calibrate and validate model
5. Scenario building
   (Examples: climate, land use, salt-water intrusion)
6. Use model for policy analysis

Conceptual model

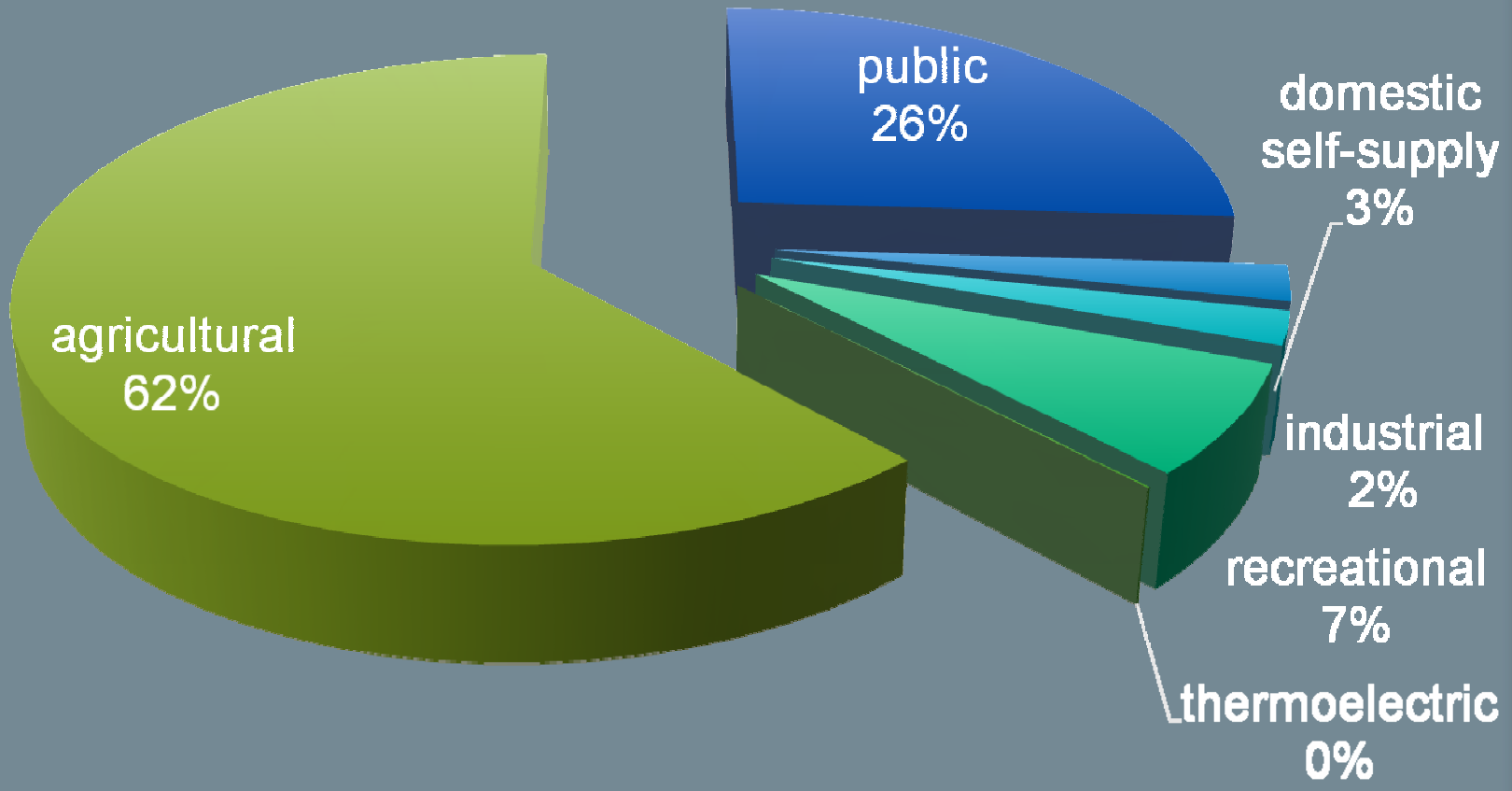


Climate

- Climate and policy timescales
- Current variability and future demand



Current water use - SFWMD



Total Demand 3750 MGD

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KEY points we want to make:

- Decision tools promoted, but do they work? Is this the best way to spend our resources?
- What do models tell us about the sensitivity of the water system in the region to climate, demographics, land use changes?
- Do our models catch the real challenging problems to water management? Why? What are the constraints?
- How can IWRM be used to implement adaptive management, which in the literature is discussed as more theoretical than practical.
- Learn to do by doing.
- Models are growing in number, more integration, more use of risk management and scenarios, but are our decision making bodies evolving too?

Land Use in the SFWMD