Tampa Bay Water's Climate Change Impact Assessment Research Overview

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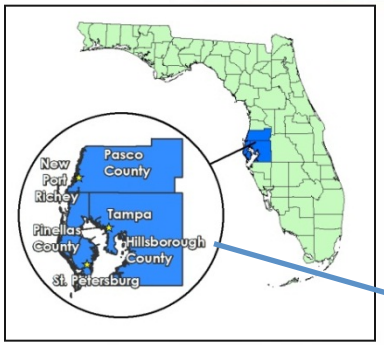
Boulder. CO

One of the Largest Wholesale Provider in the Southeast US

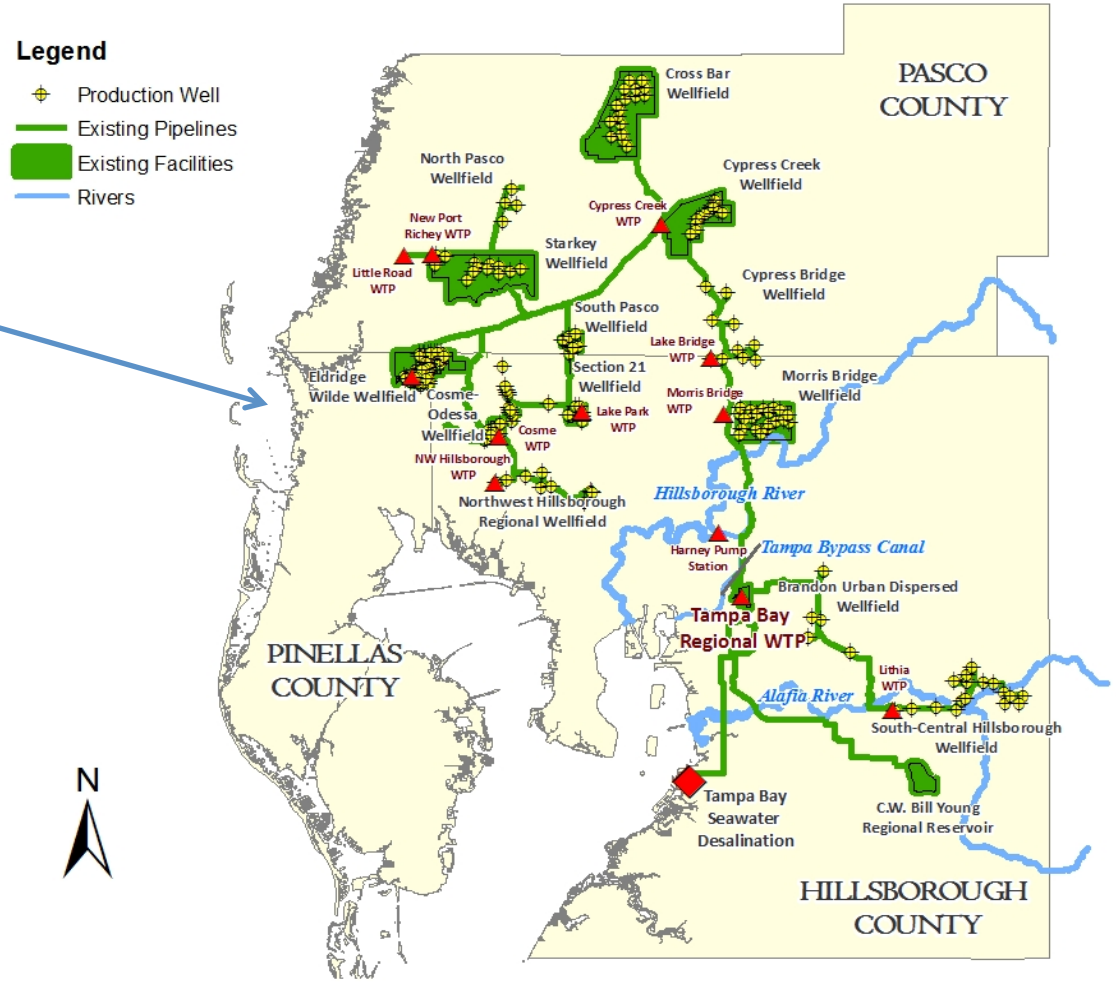


Wholesale drinking water to six governments

2.5 Million Residents

220-250 mgd annual average

Seasonal to multi-year variable climate



Historical Background

- 2007- Tampa Bay Water initiated applied research collaborative effort with UF
- 4-phases of projects
- Phase I:

✓ In-house Climate Model (MM5)

✓ Developed statistical downscaling approach that was driven the unique Tampa Bay/Florida spatial-temporal correlation

✓ Demonstrated the use of Climate Change data into the agency's integrated hydrologic model

Historical Background (cont.)

- Phase II

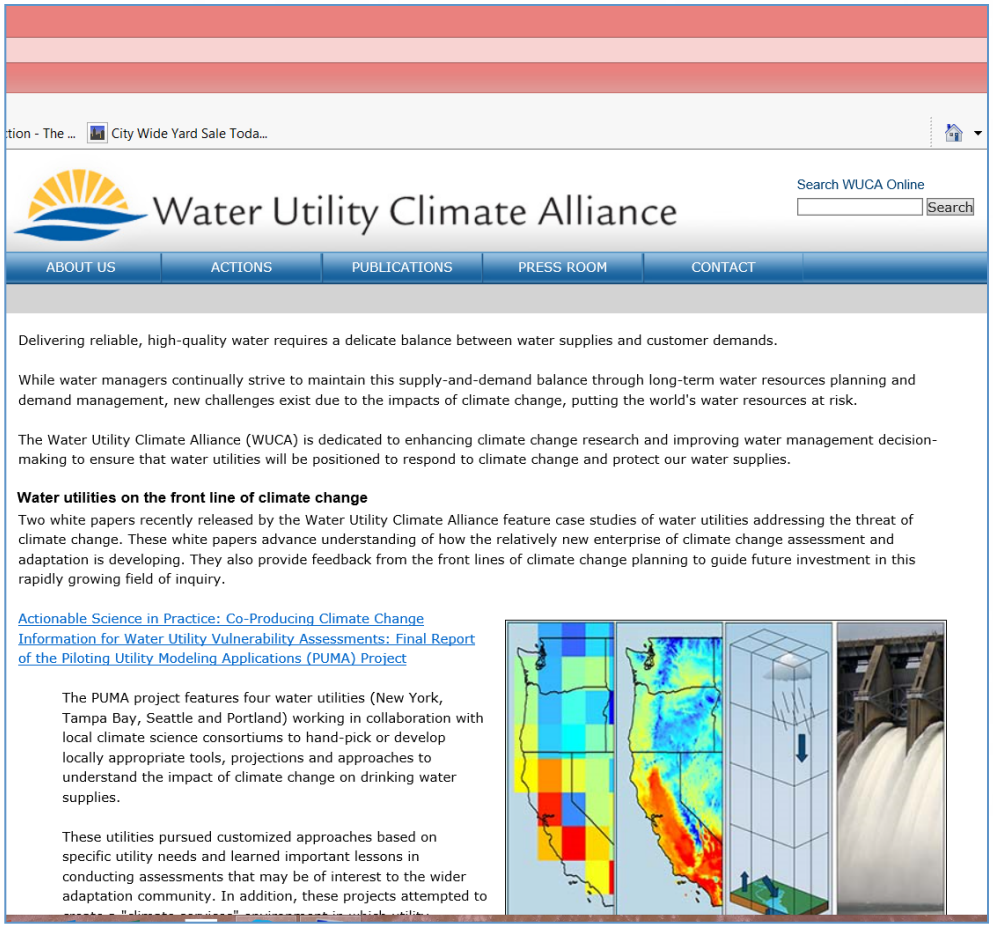
✓ Collaboration with FSU COAPS

✓ Dynamically downscaled reanalysis and retrospective simulations *required bias-correction*

✓ Three future Dynamical model simulations (CLARENCE10)

✓ Streamflow, spring flows, and groundwater levels of select location

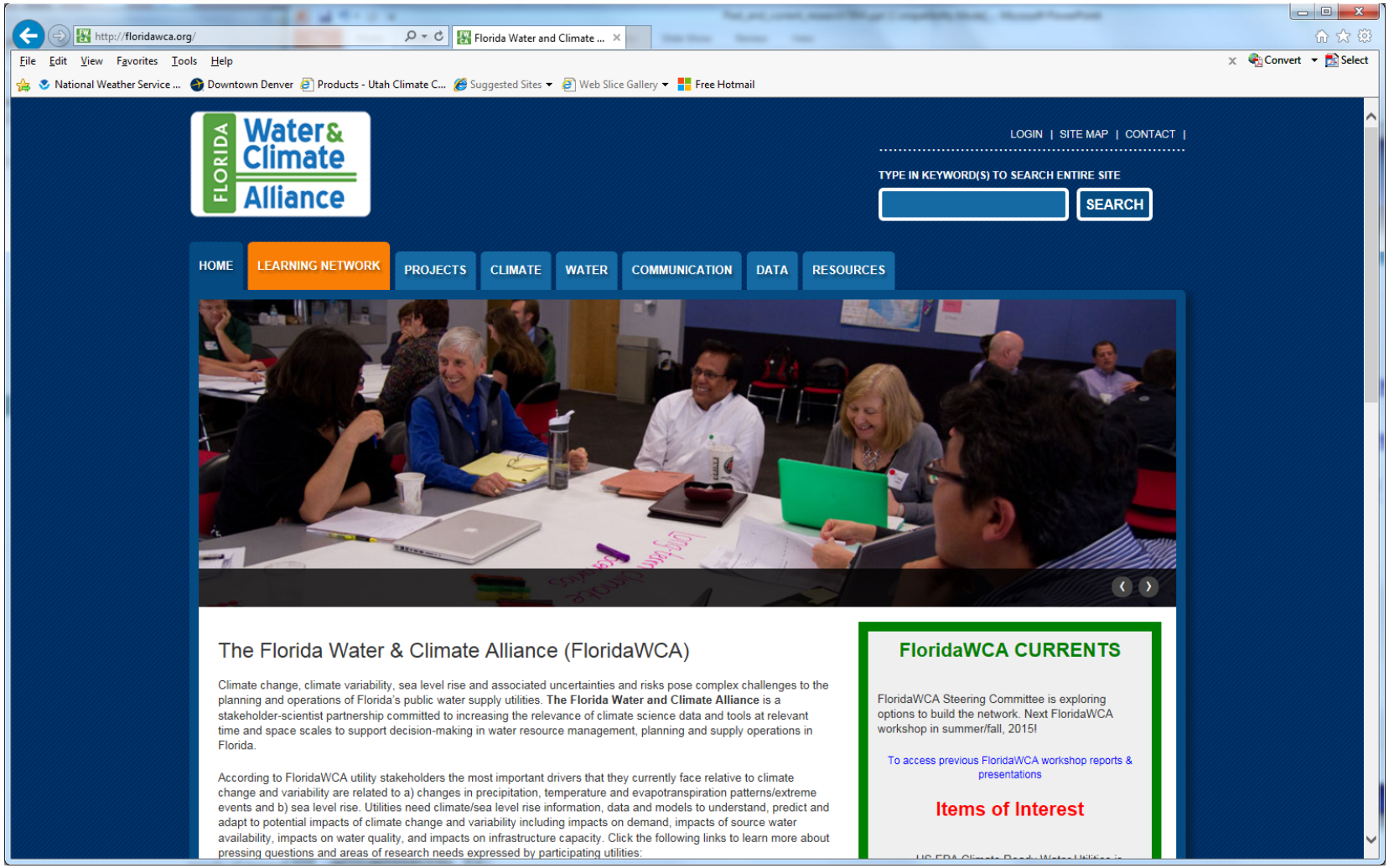
Phase I and II work were highlighted in PUMA



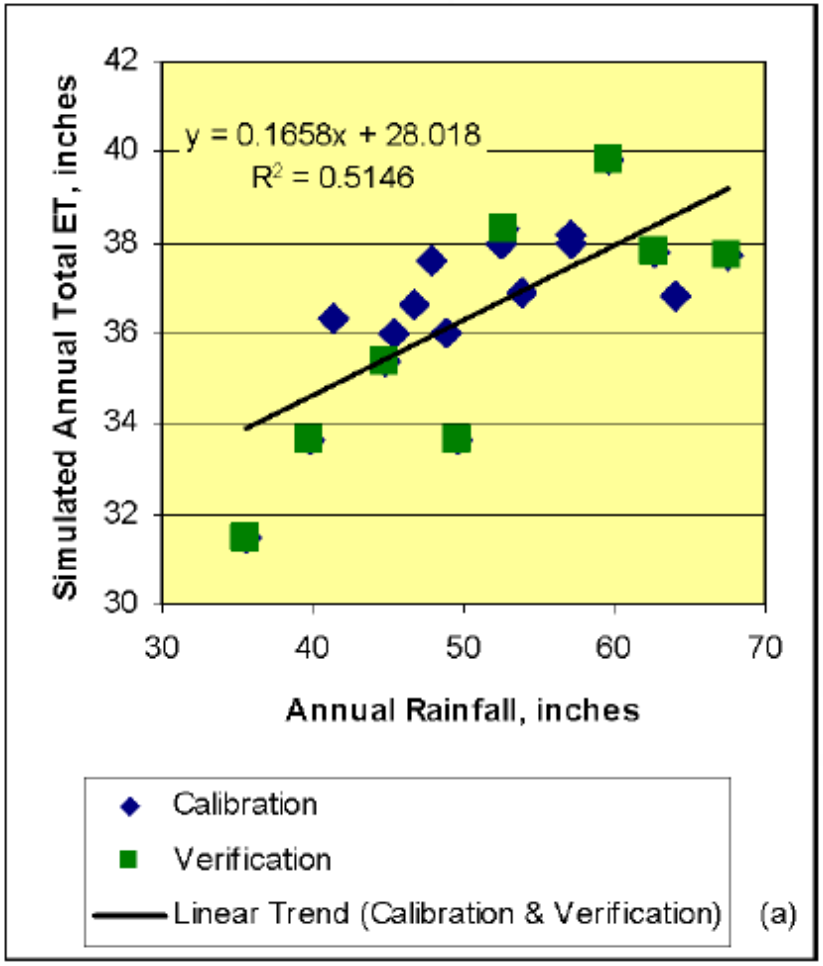
[Actionable Science in Practice: Co-Producing Climate Change Information for Water Utility Vulnerability Assessments: Final Report of the Piloting Utility Modeling Applications (PUMA) Project]

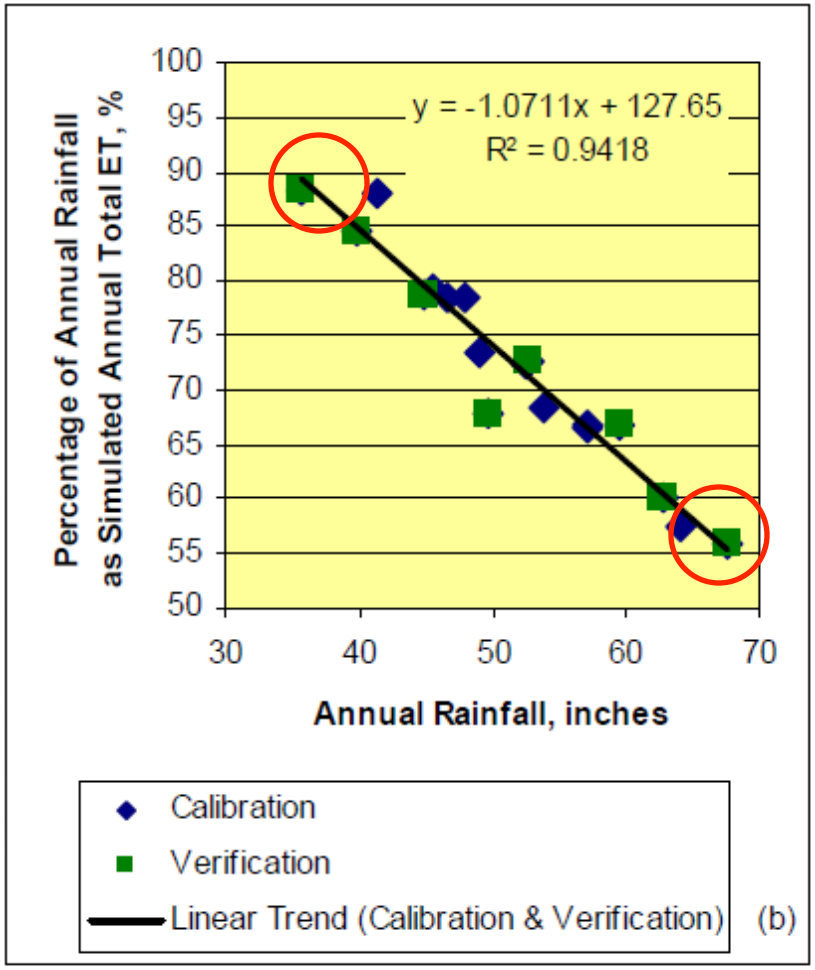
Tampa Bay Water
Portland Water Bureau
Seattle Public Utilities
NYC DEP

Results are Extensively Documented



Since PUMA (Phase III and IV) Relationship Between ET-Rainfall





How Do We Do This?

- Have been sponsoring a full time PhD/post-doc student with University of Florida
- Continuity of work is maintained by
  - Same University researchers, continued engagement through Florida Water and Climate Alliance
  - Same Tampa Bay Water Senior technical staff oversees Integrated Hydrologic Modeling (IHM)
    - Provide intensive course on (IHM) and parallel computing using our in-house cluster
  - Applied research work is part of department work plan (one to two man months over the course of a project)
- Challenge: IT

TAMPA BAY WATER

Question ?