



Center for Advanced Decision Support for  
Water and Environmental Systems (CADSWES)

UNIVERSITY OF COLORADO **BOULDER**

# Welcome to the 2018 RiverWare User Group Meeting

2018 RiverWare User Group Meeting

February 1-2, 2018

# 2018 Sesquiennial RiverWare User Group Meeting

- Hear about interesting applications
- Find out about new/upcoming enhancements and the future of RiverWare
- Meet other users and network
- Get to know the CADSWES Team
- Ask those burning questions
- Voice your opinion about what is needed or what you like/don't like



# Who uses RiverWare?

**Bureau of Reclamation – 26 offices**

**Tennessee Valley Authority – River Operations, Knoxville, TN**

**U.S. Army Corps of Engineers (12 offices)**

**10 Federal Agencies and research labs**

**28 State, City and District Water Agencies**

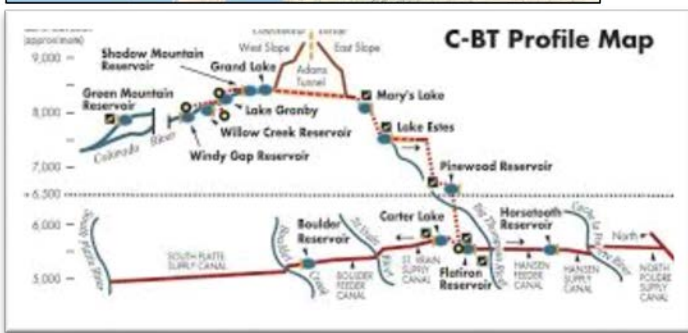
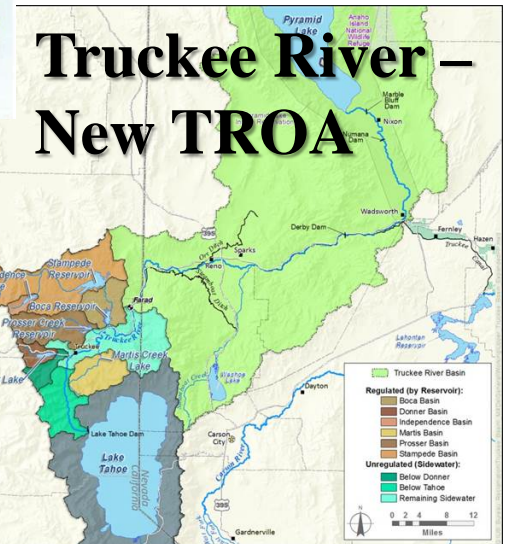
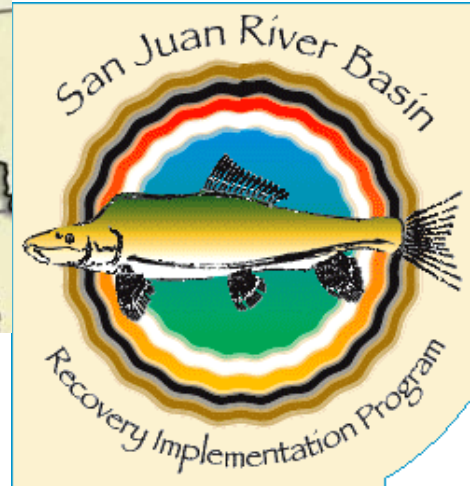
**8 Electric Utilities – US and Canada**

**22 Consulting companies and NGOs**

**8 Universities and research labs**

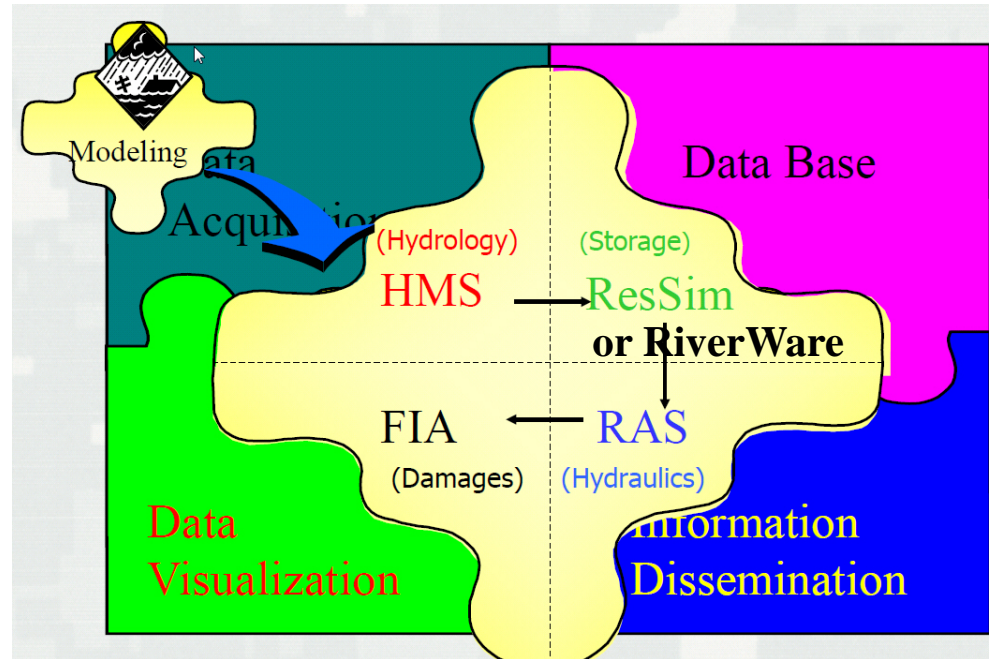
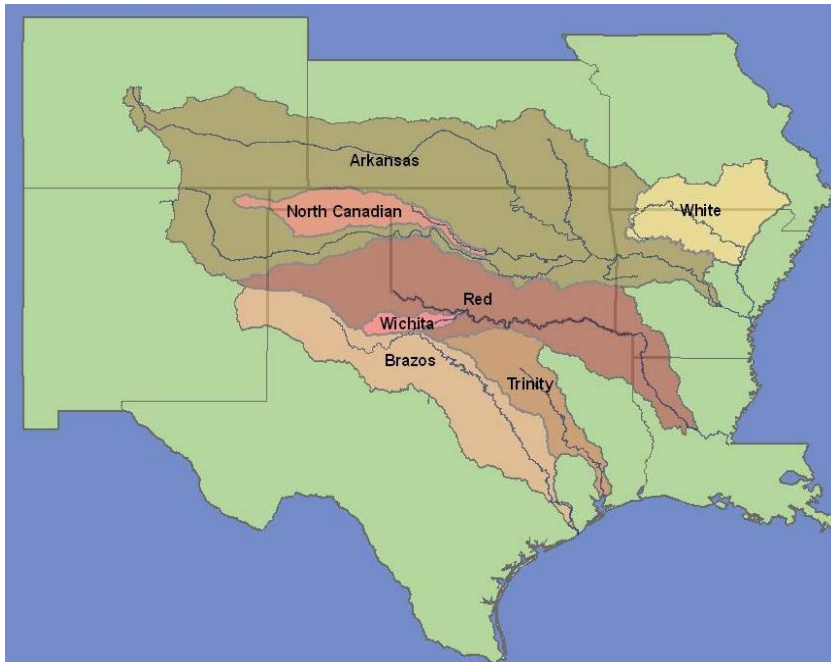
**13 Foreign Entities**

# Applications throughout Reclamation



# Applications: USACE SWD

- Continued use of long term planning models for yield, flood control policy, changing operational criteria

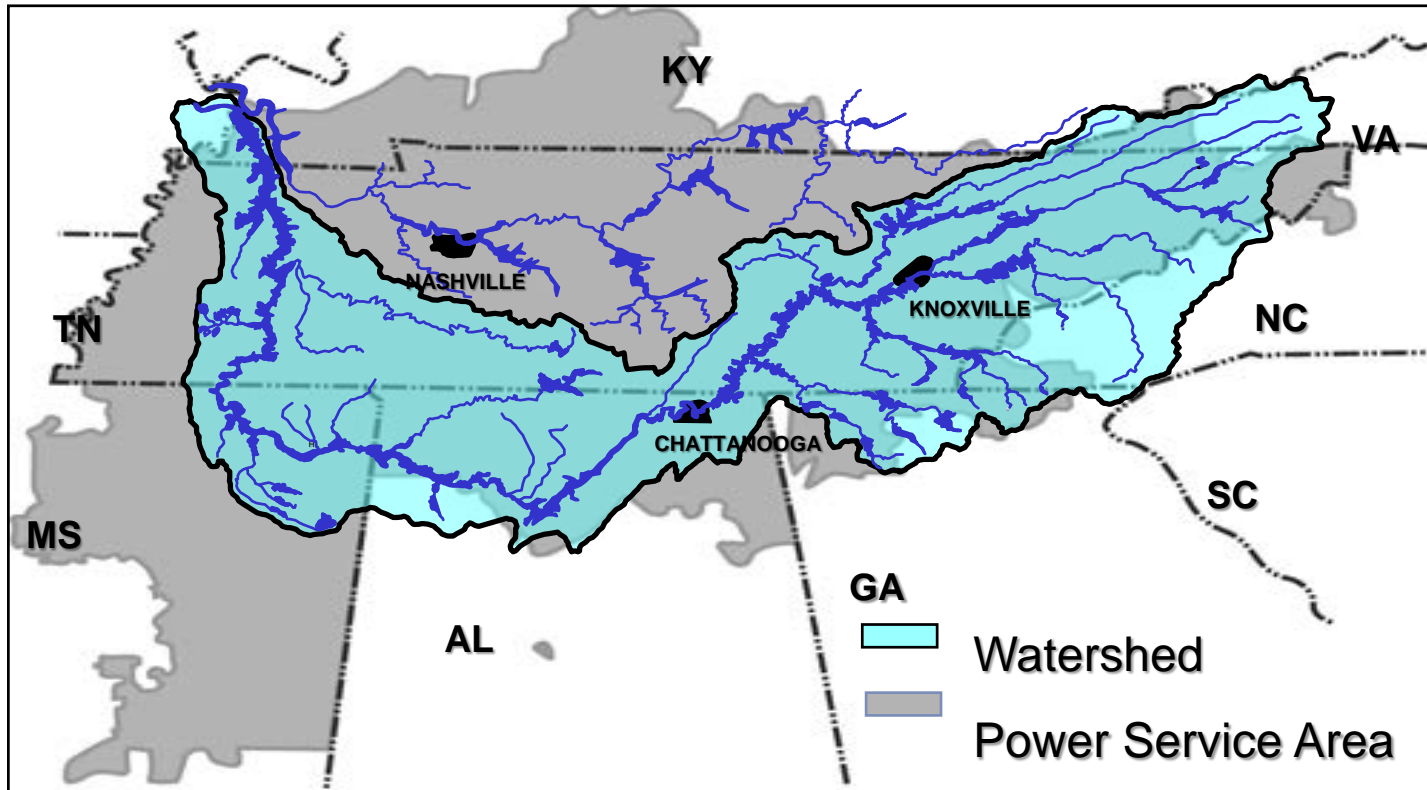


Corps Water Management System (CWMS)

- Starting to move into more Operations type models

# Tennessee Valley Authority

- Daily and hourly operations, hydropower optimization, flood study
- New FEWS System



# Bonneville Power Administration



Operates the Federal Columbia Power System



New Application: RiverWare for real time and short term operations – “going live” in September

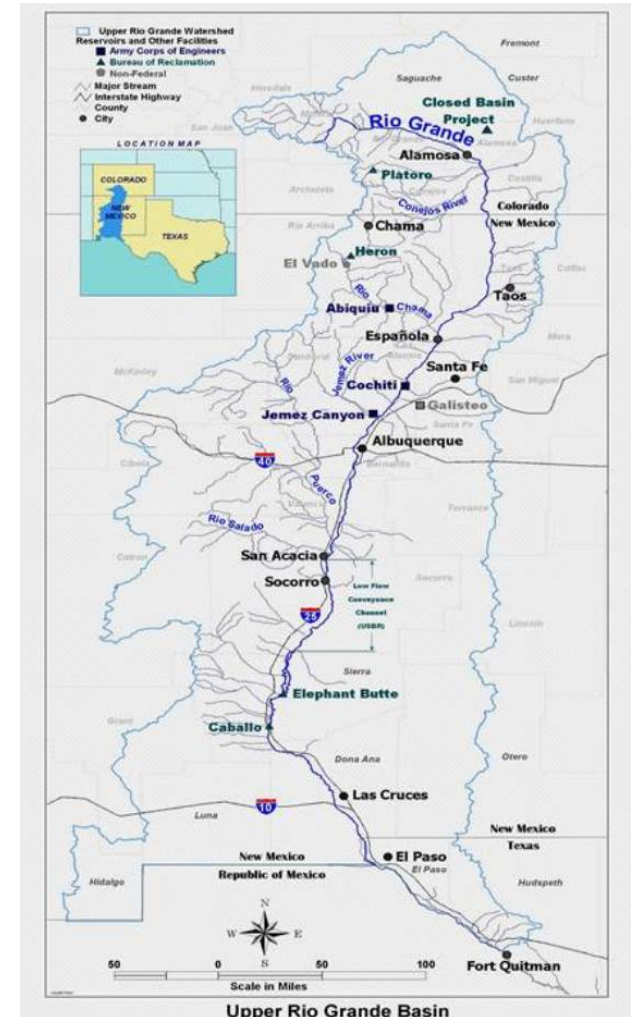
BPA funded FEWS adapter and many enhancements to RiverWare’s optimization modeling

# Big basin Multi-objective: Upper Rio Grande

Headwaters in Colorado all the way to Texas

- Water Rights and Water Accounting
- Salinity Modeling and Groundwater
- Soil Moisture Modeling throughout
- One daily After the Fact Accounting model that is converted to various applications
  - Long term planning
  - Annual operating plan
  - Monthly Timestep planning model

Bureau of Reclamation, USACE, USGS, New Mexico Interstate Stream Commission; many consultants

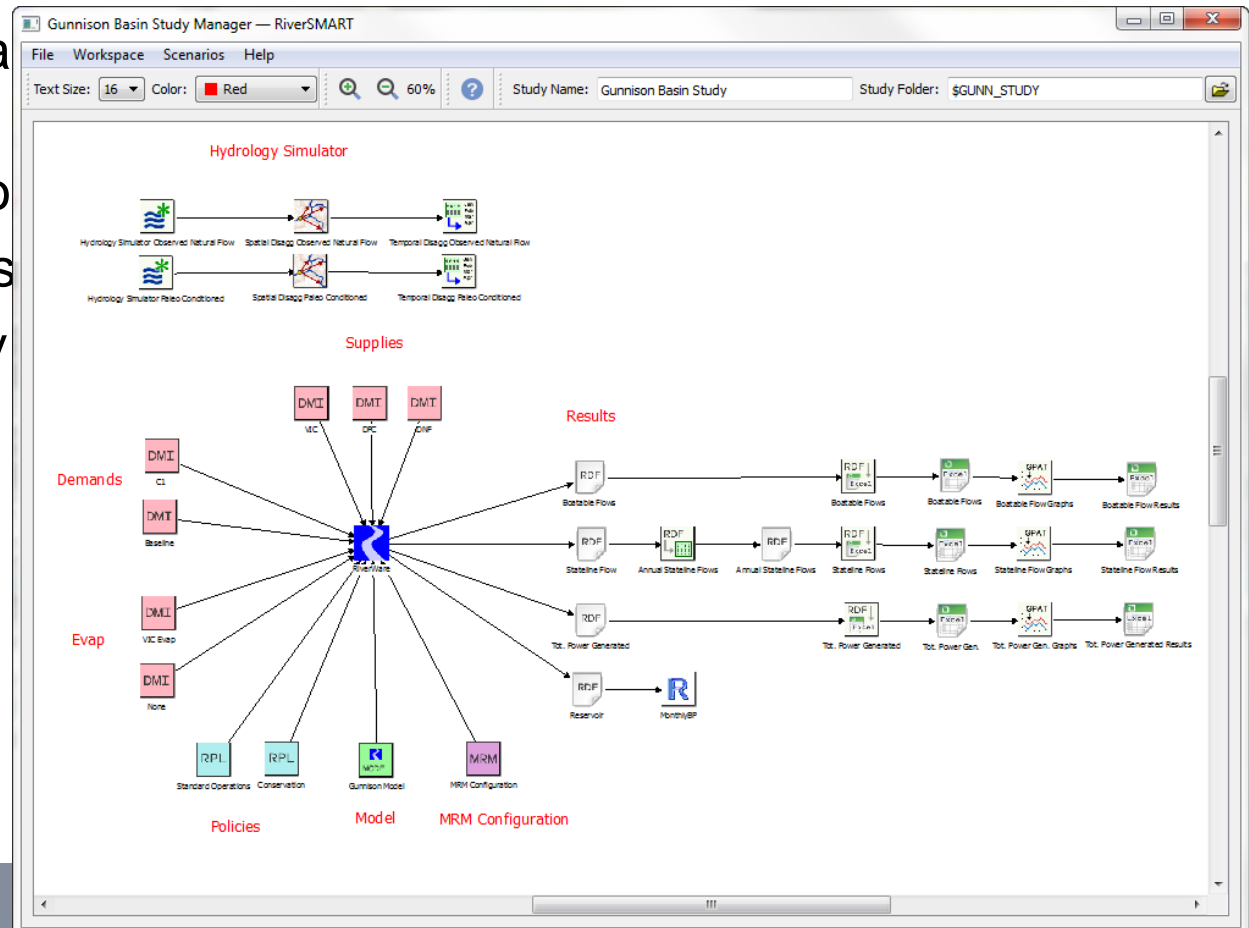




# RiverWare Study Manager and Research Tools (RiverSMART)

Facilitates large studies with many combinations of inputs by organizing and executing scenarios

- Develop Scenarios that consist of combinations of alternative
- Provide Graphical Representation
- Manage Executio
- Organize Outputs
- Archive the study



# Future Directions?

Help us identify user needs....

- Cloud computing
- Web Maps and Web Viewers
- Scenario Stakeholder Interaction
- Integration into data/model frameworks (RiverSMART, FEWS, CHPS, CWMS, DHI Customized)
- More powerful and flexible hydropower optimization
- Simulation based optimization (MOEAs)
- Easier post-processing
- Database Connections



# 2018 RiverWare User Group Meeting

## Introductions – the CADSWES team



Phil Weinstein

# 2018 RiverWare User Group Meeting

- Introductions – the CADSWES team
- Announcements and Logistics
  - Agenda and speaker guidelines, mics, questions, timekeeping
  - List of Enhancements
  - Lunch and breakout space
  - Photographer
  - Happy Hour
  - Open Mic, needs/ issues/ questions/ group discussion,