Center for Advanced Decision Support for
Water and Environmental Systems (CADSWES)
UNIVERSITY OF COLORADO **BOULDER**

Integration of RiverWare into CWMS

Presenters: David Neumann

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Corp Water Management System

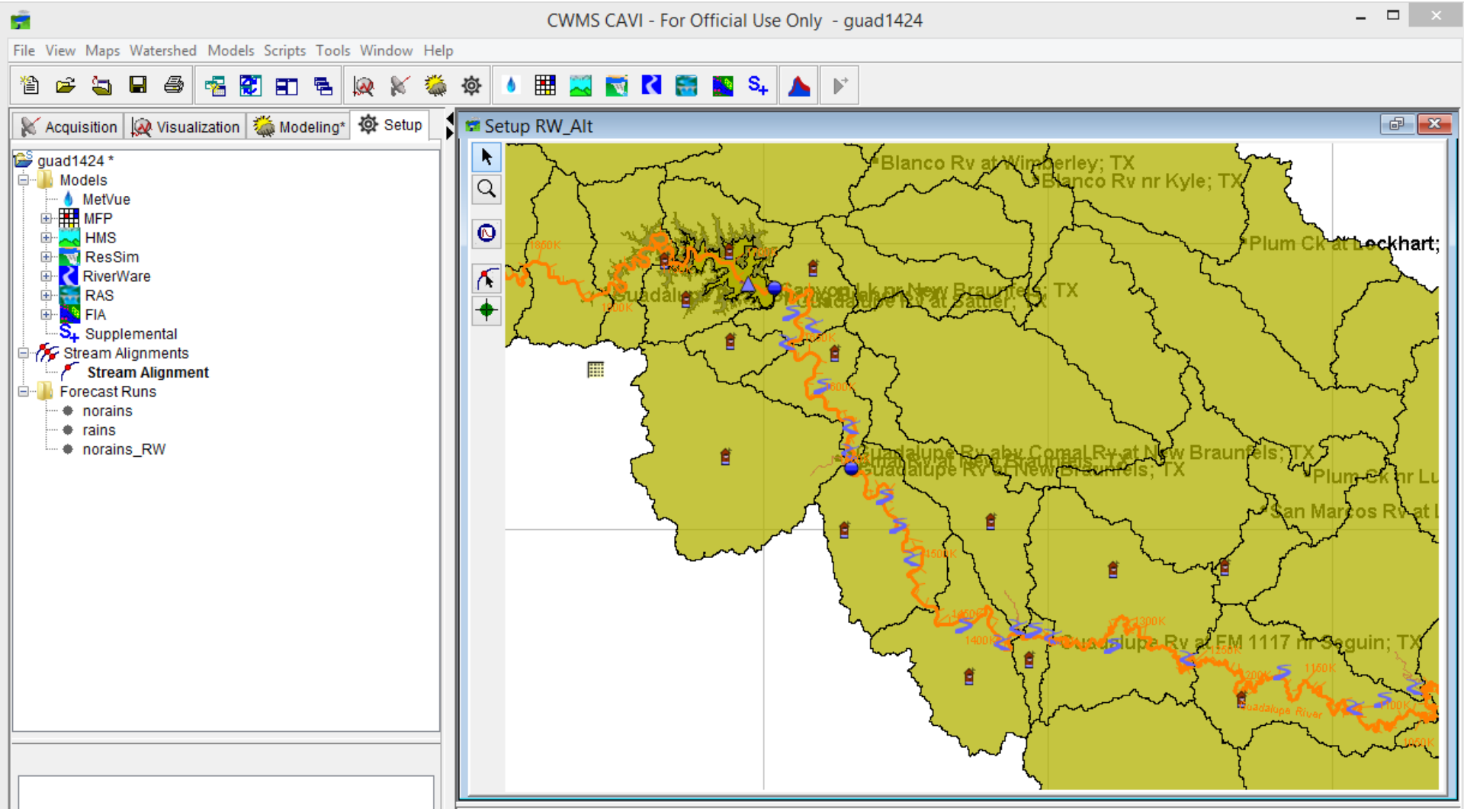
- Modeling Framework that integrates USACE models together
- Operate the system across modeling applications
- Integration uses HEC-DSS to move data

Some Supported Models in CWMS

- HEC MFP – Precipitation forecast
- HEC HMS – Rainfall Runoff
- HEC Res Sim – Reservoir Modeling
- RiverWare
- HEC RAS – Flood Inundation Analysis
- HEC FIA – Flood Impacts Analysis

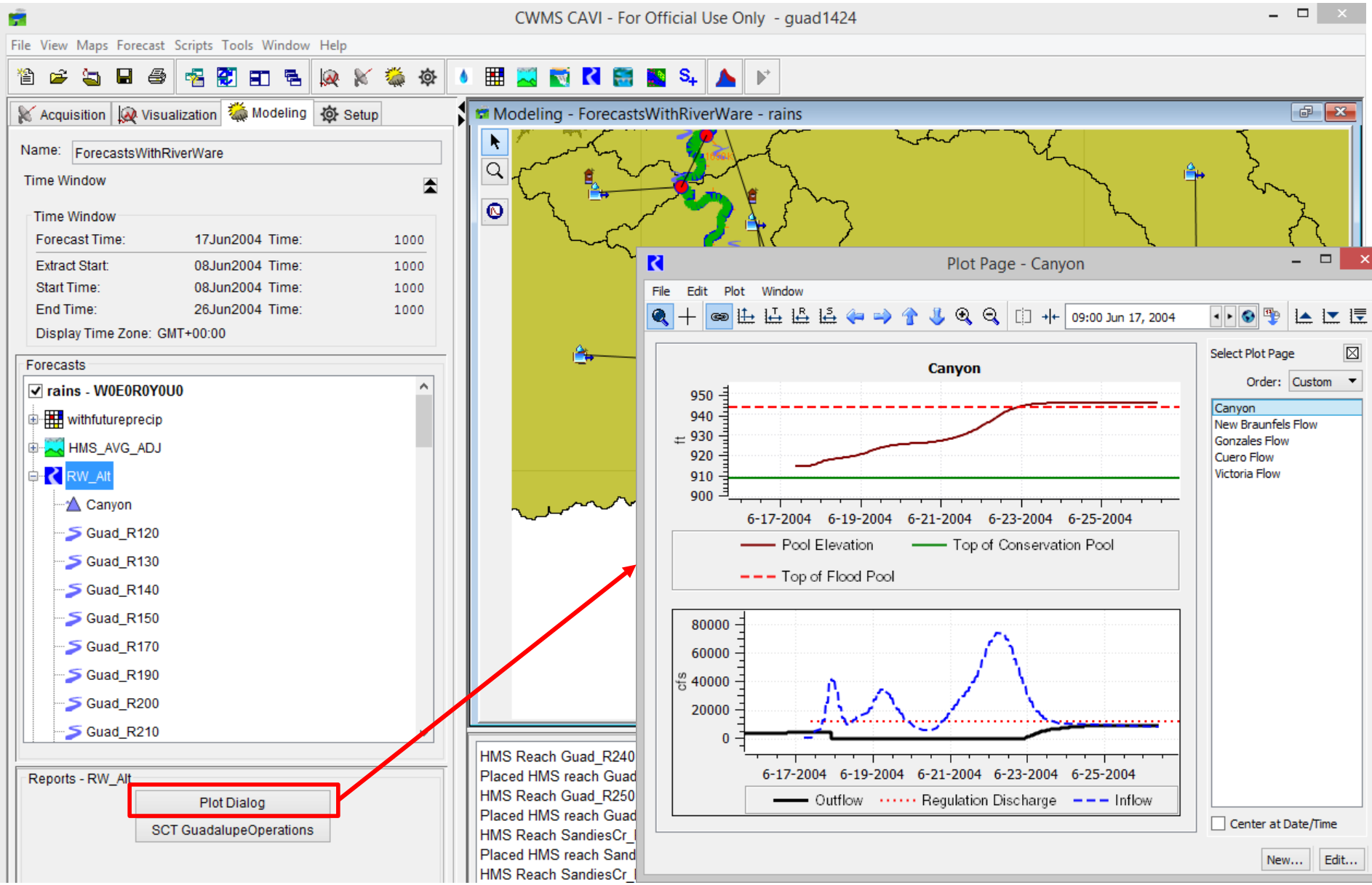
RiverWare Display Functionality

- Show RiverWare models in the CWMS framework
- Display objects in the maps and interface


CWMS CAVI - For Official Use Only - guad1424
File View Maps Watershed Models Scripts Tools Window Help
Acquisition
Visualization
Modeling*
Setup
guad1424 *
Models
MetVue
MFP
HMS
ResSim
RiverWare
RAS
FIA
Supplemental
Stream Alignments
Stream Alignment
Forecast Runs
norains
rains
norains_RW
Setup RW_Alt
Blanco Rv at Wimberley; TX
Blanco Rv nr Kyle; TX
Plum Ck at Lockhart;
Guadalupe Rv abv Comal Rv at New Braunfels; TX
Guadalupe Rv at New Braunfels; TX
Guadalupe Rv at FM 1117 nr Seguin; TX
Guadalupe River

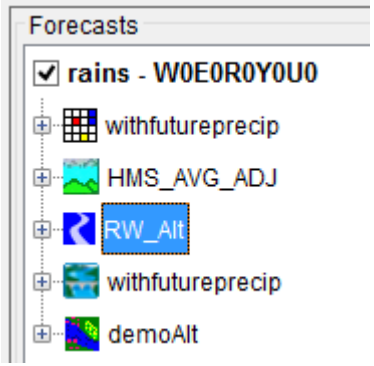
RiverWare Interface Opens

- SCT
- RPL Sets
- Plots
- Objects
- Workspace
- Diagnostics


CWMS CAVI - For Official Use Only - guad1424
File View Maps Forecast Scripts Tools Window Help
Acquisition
Visualization
Modeling
Setup
Name: ForecastsWithRiverWare
Time Window
Time Window
Forecast Time: 17Jun2004 Time: 1000
Extract Start: 08Jun2004 Time: 1000
Start Time: 08Jun2004 Time: 1000
End Time: 26Jun2004 Time: 1000
Display Time Zone: GMT+00:00
Forecasts
rains - W0E0R0Y0U0
withfutureprecip
HMS_AVG_ADJ
RW_Alt
Canyon
Guad_R120
Guad_R130
Guad_R140
Guad_R150
Guad_R170
Guad_R190
Guad_R200
Guad_R210
Reports - RW_Alt
Plot Dialog
SCT GuadalupeOperations
Modeling - ForecastsWithRiverWare - rains
HMS Reach Guad_R240
Placed HMS reach Guad
HMS Reach Guad_R250
Placed HMS reach Guad
HMS Reach SandiesCr_I
Placed HMS reach Sand
HMS Reach SandiesCr_I
Plot Page - Canyon
File Edit Plot Window
09:00 Jun 17, 2004
Canyon
950
940
930
920
910
900
ft
6-17-2004 6-19-2004 6-21-2004 6-23-2004 6-25-2004
Pool Elevation
Top of Conservation Pool
Top of Flood Pool
80000
60000
40000
20000
0
cfs
6-17-2004 6-19-2004 6-21-2004 6-23-2004 6-25-2004
Outflow
Regulation Discharge
Inflow
Select Plot Page
Order: Custom
Canyon
New Braunfels Flow
Gonzales Flow
Cuero Flow
Victoria Flow
Center at Date/Time
New...
Edit...

CWMS "Compute"

- Each model is run in sequential order
- Data is automatically loaded
  - Input data from previous model
  - Output data sent to the next model
- All models use HEC-DSS for data transfer
- RiverWare uses Database DMIs



Upcoming work

- Investigate ways to aggregate / disaggregate data to different time scales
  - HMS models = 1hr
  - RiverWare = 1day
  - RAS = 1hr or 6hr
- CWMS Version compatibility: CWMS 3.1 will require DSS 7
- Questions?