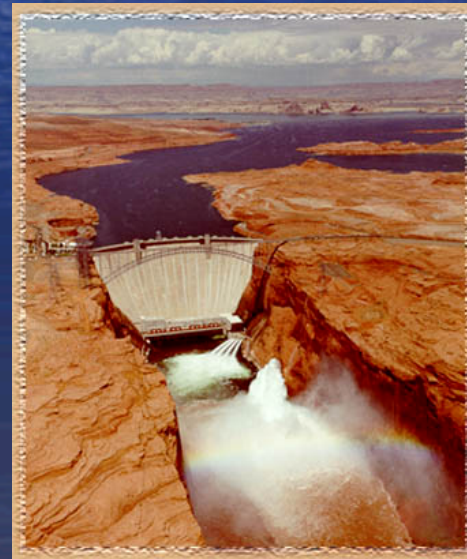
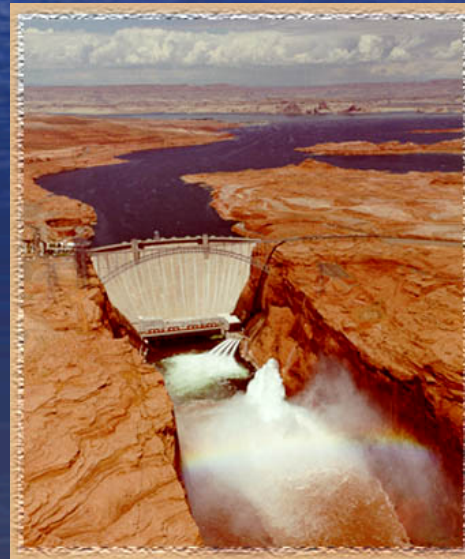


Welcome to the Colorado Basin River Forecast Center



Welcome to the Colorado Basin River Forecast Center



Customer Workshop Goals

- Increase your understanding of our services
 - What we do, how we do it
 - Capabilities, limitations
- Gather your feedback
 - Improve our understanding of your needs and how you use our products
 - Improve our services
- Stronger working relationships



Today's agenda

- Short overview of our office
 - Our mission, function, staffing
- Water Supply forecasting
 - Calibration
 - Methods: ESP and SWS
 - Climate
 - Peak Flow
 - Verification
- Innovations, goals
- Open discussion, feedback





CBRFC

General Overview



CBRFC

General Overview



CBRFC

Colorado Basin River Forecast Center

National Weather
Service

NOAA

DOC



CBRFC



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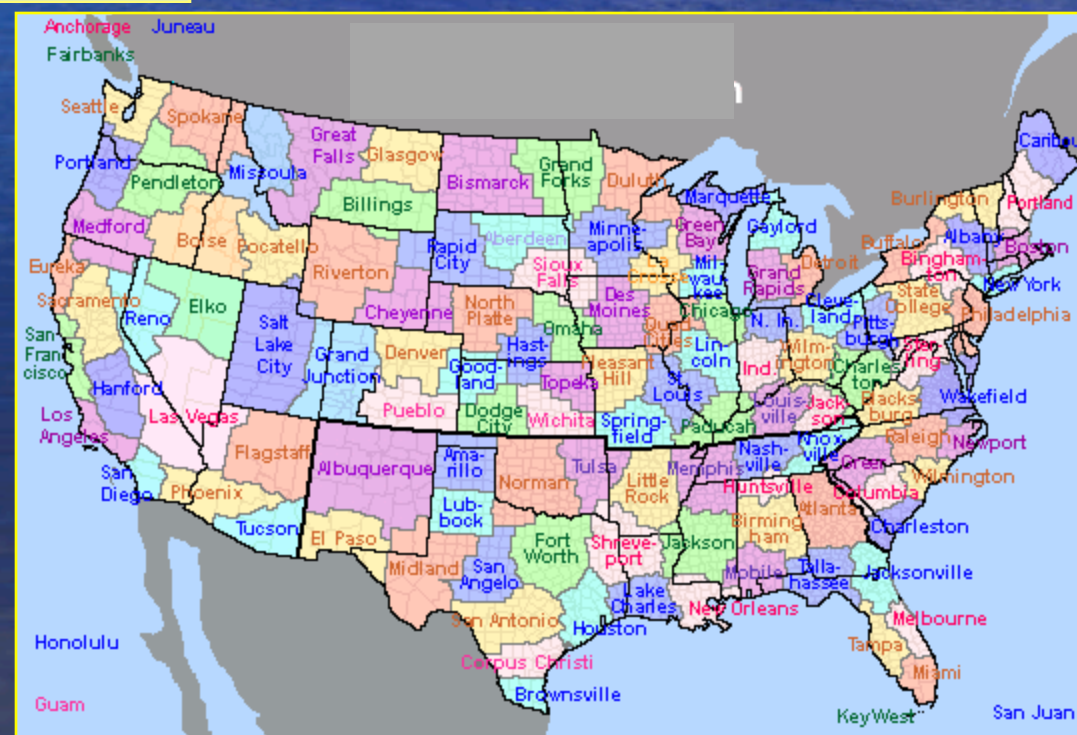


13 River Forecast Centers (RFCs):

- Calibrate and maintain river model
- Provide River Forecasts – Flood events and daily (recreational etc)
- Provide Water Supply Forecasts
- Large area of responsibility based on river basins
- Staffed daily

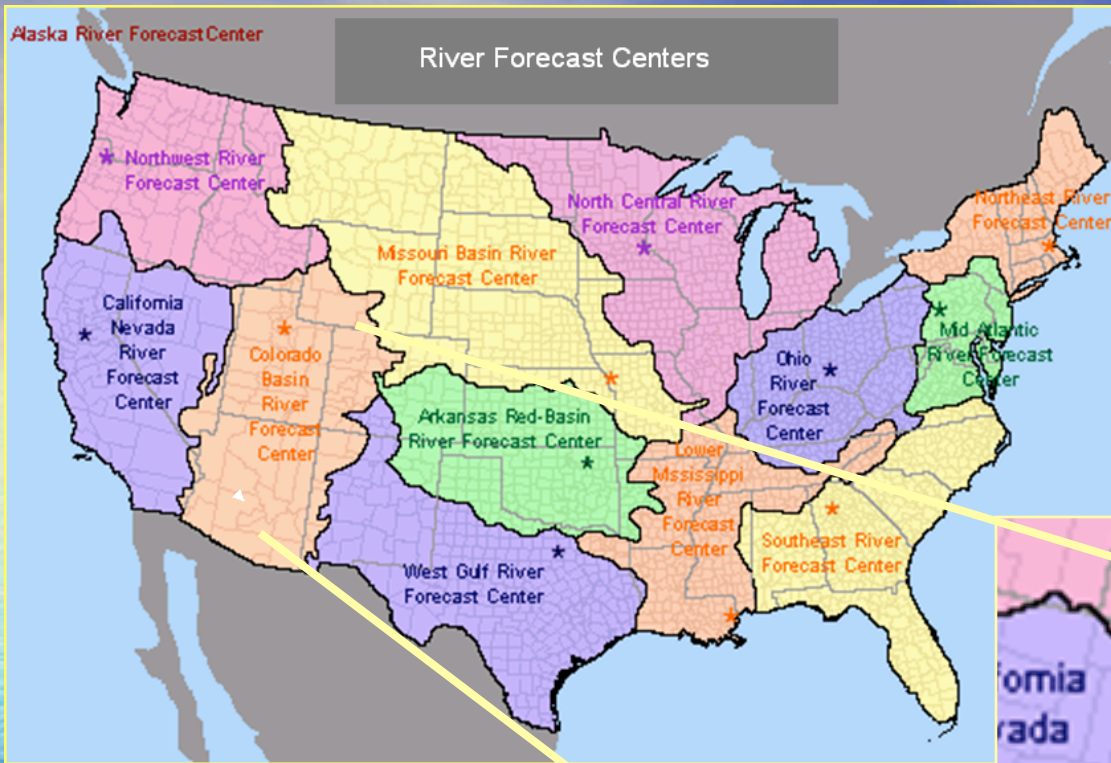
122 Weather Forecast Offices (WFOs)

- Weather forecasts
- Watches and warnings
- Close relationship with community/emergency managers/media
- Field work
- Staffed 24 hours



Alaska River Forecast Center

River Forecast Centers



CBRFC is one of 13 RFCs



CBRFC STATISTICS:

AREA = 303,450 SM

STATES = 7

WFOs = 13

Radars = 16

HYDROLOGIC FEATURES

80% Runoff from snowmelt

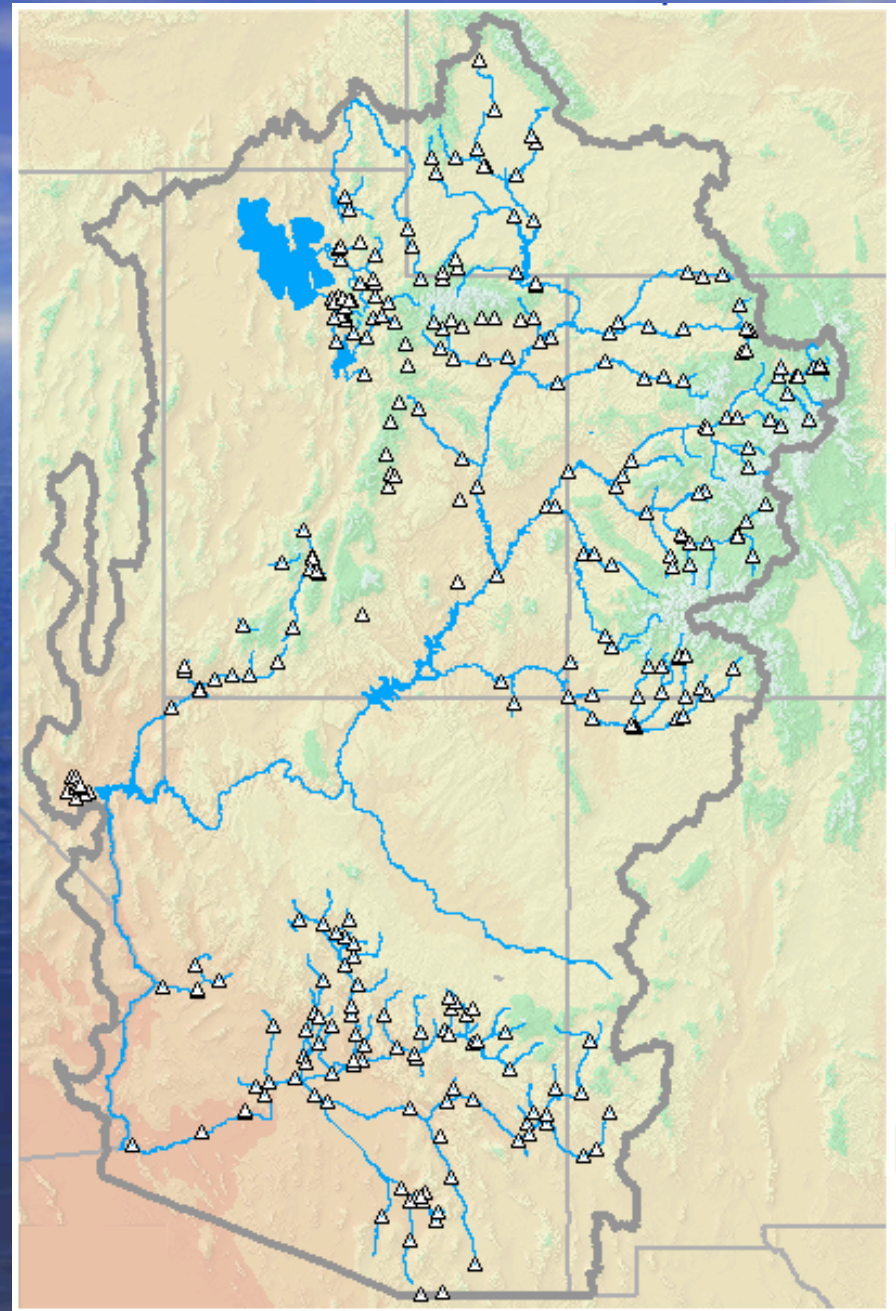
Large evaporation rates

Small precipitation amounts

Precipitation ranges from 75 to 1200 mm

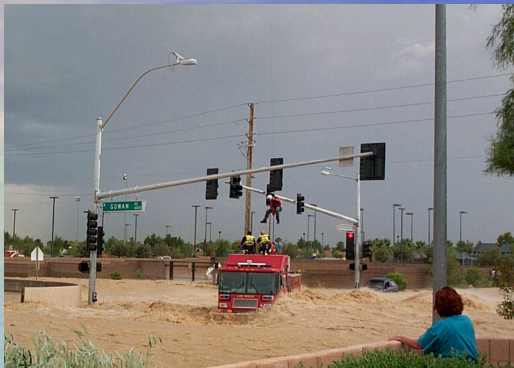
Desert to Alpine climates

Elevation range: 200 ft - 14,200 ft (MSL)





OUR MISSION ...



OUR MISSION ...



Flash Flood Forecasts/Warnings



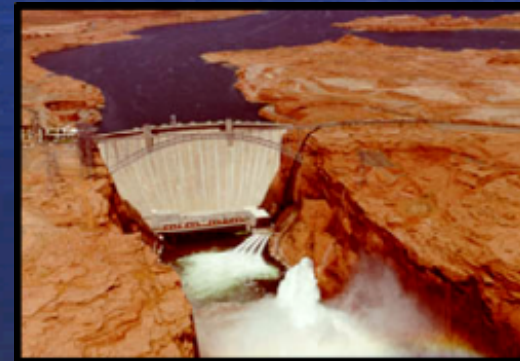
OUR MISSION ...



Flash Flood Forecasts/Warnings



River Forecasts/Warnings



OUR MISSION ...



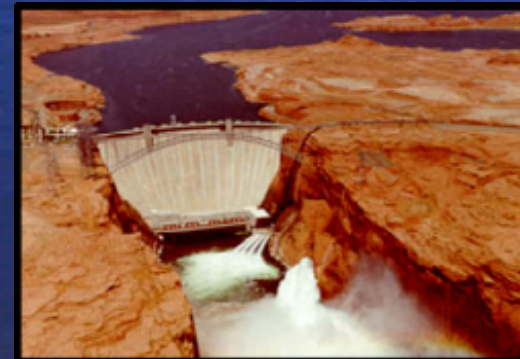
Flash Flood Forecasts/Warnings



River Forecasts/Warnings



Recreational Forecasts



OUR MISSION ...



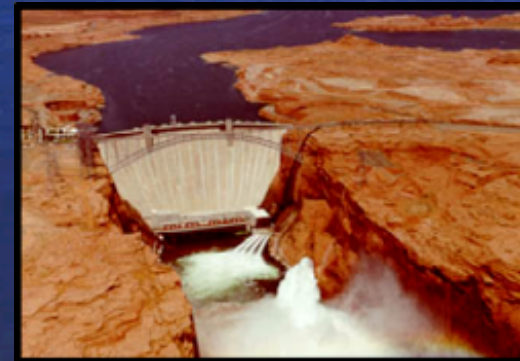
Flash Flood Forecasts/Warnings



River Forecasts/Warnings



Recreational Forecasts

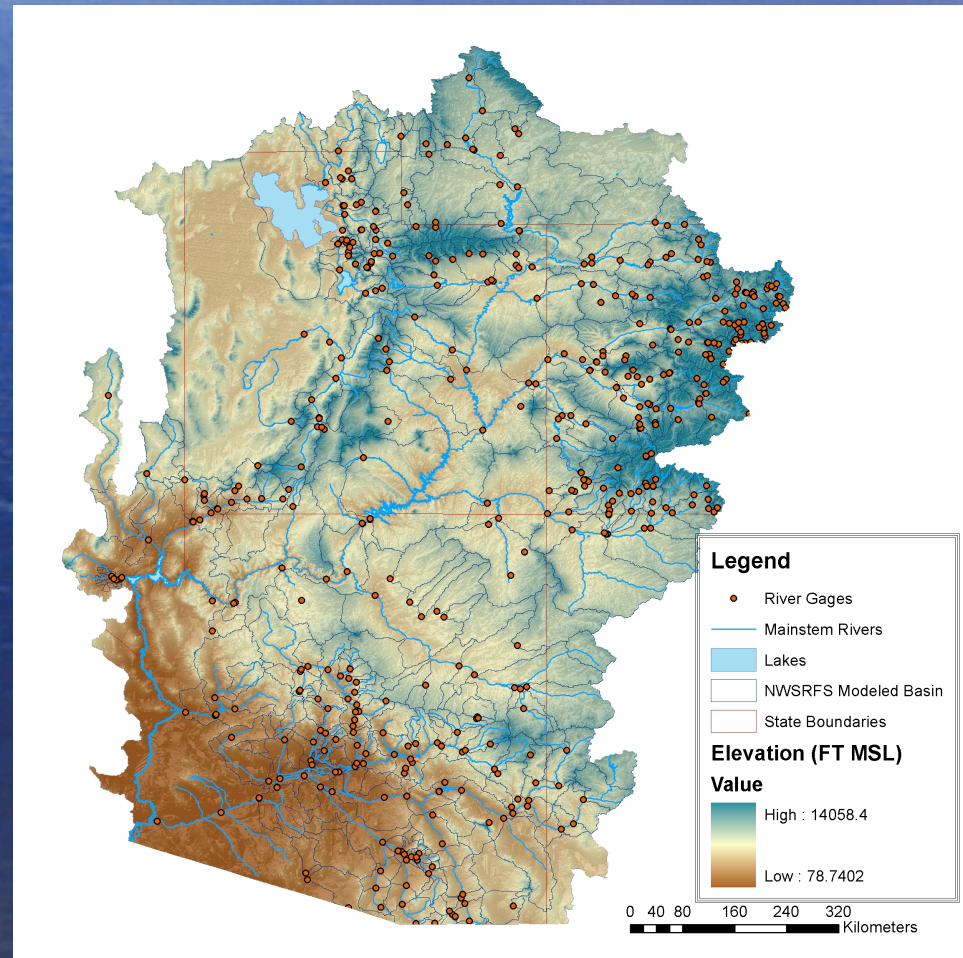


Water Supply/Management



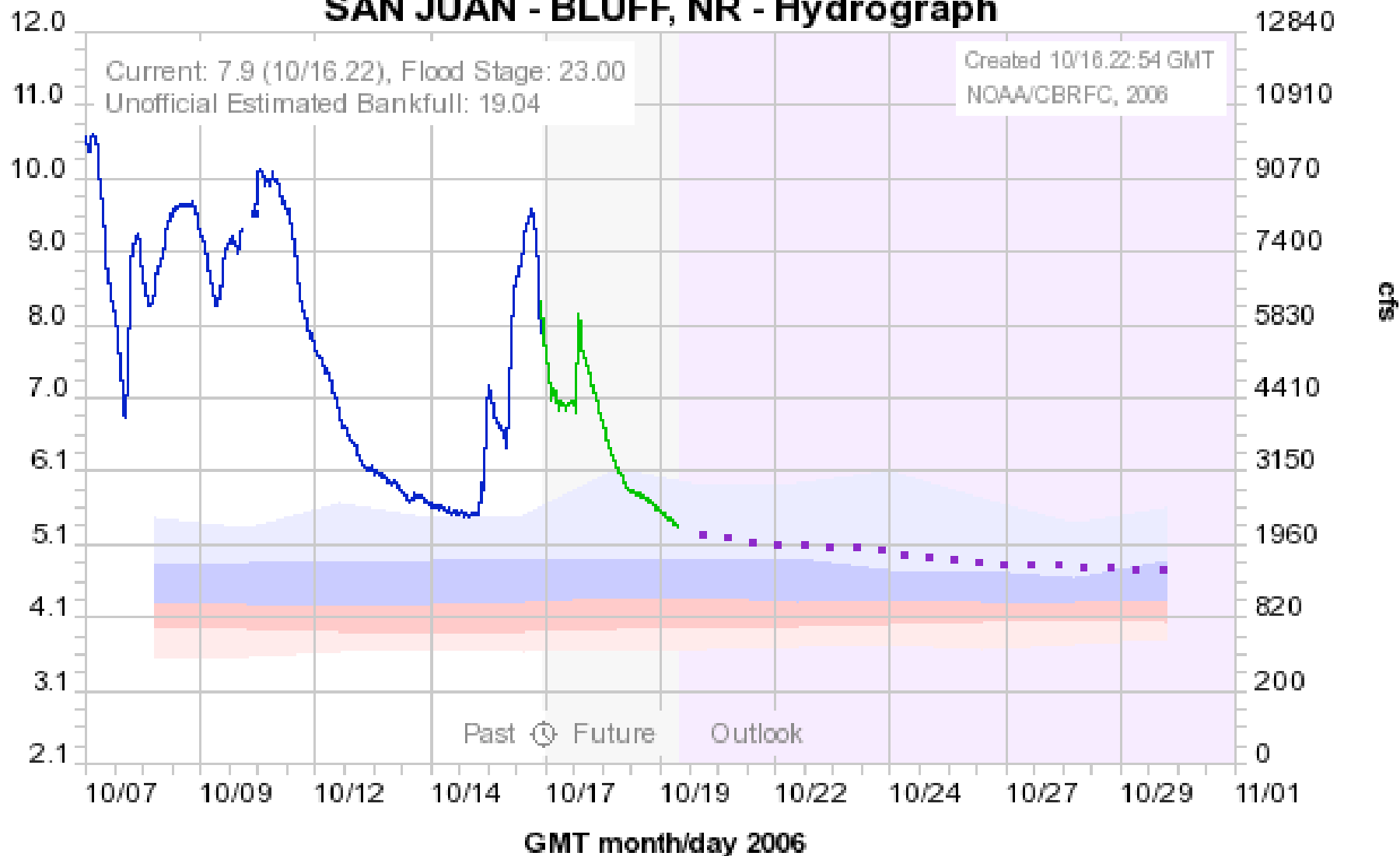
Daily River Forecasts

- Issue short term (out 14 days) deterministic forecasts 6 times a day for over 426 points throughout the basin
- Model 81 reservoirs



Colorado Basin River Forecast Center

SAN JUAN - BLUFF, NR - Hydrograph

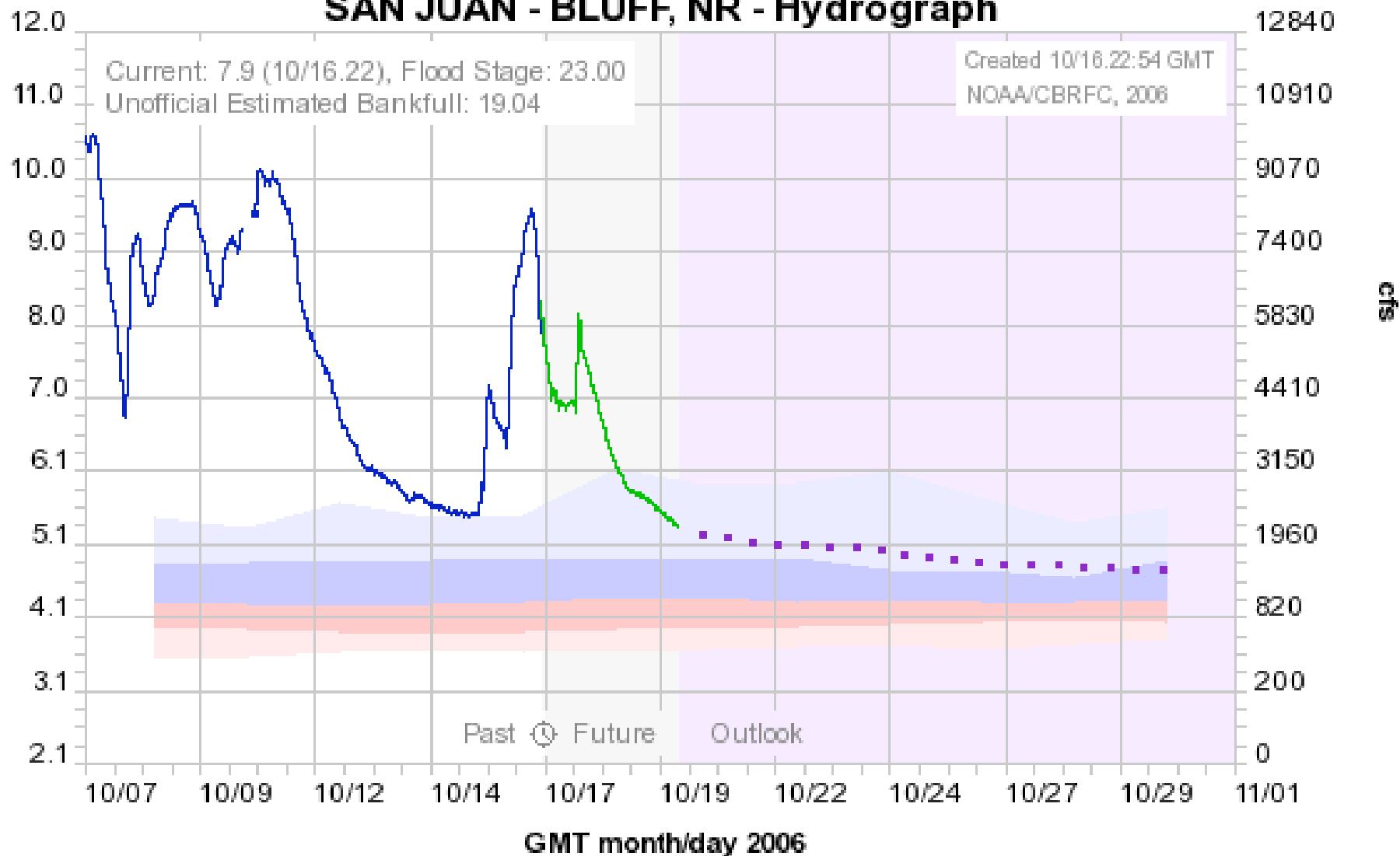


Observed — Forecast (10/16.20:00) — Outlook (increasing uncertainty) - - -

Historical Exceedance Probability (USGS): 90-75% 75-50% 50-25% 25-10%

Colorado Basin River Forecast Center

SAN JUAN - BLUFF, NR - Hydrograph

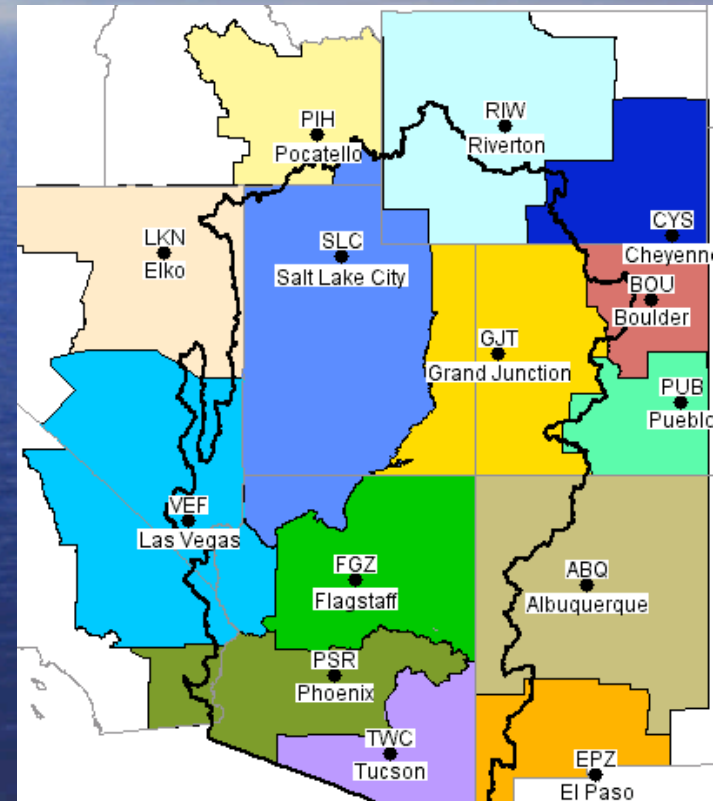


Observed — Forecast (10/16.20:00) — Outlook (increasing uncertainty) - - -

Historical Exceedance Probability (USGS): 90-75% ■ 75-50% ■ 50-25% ■ 25-10% ■

Flood Events – Partnership with WFOs

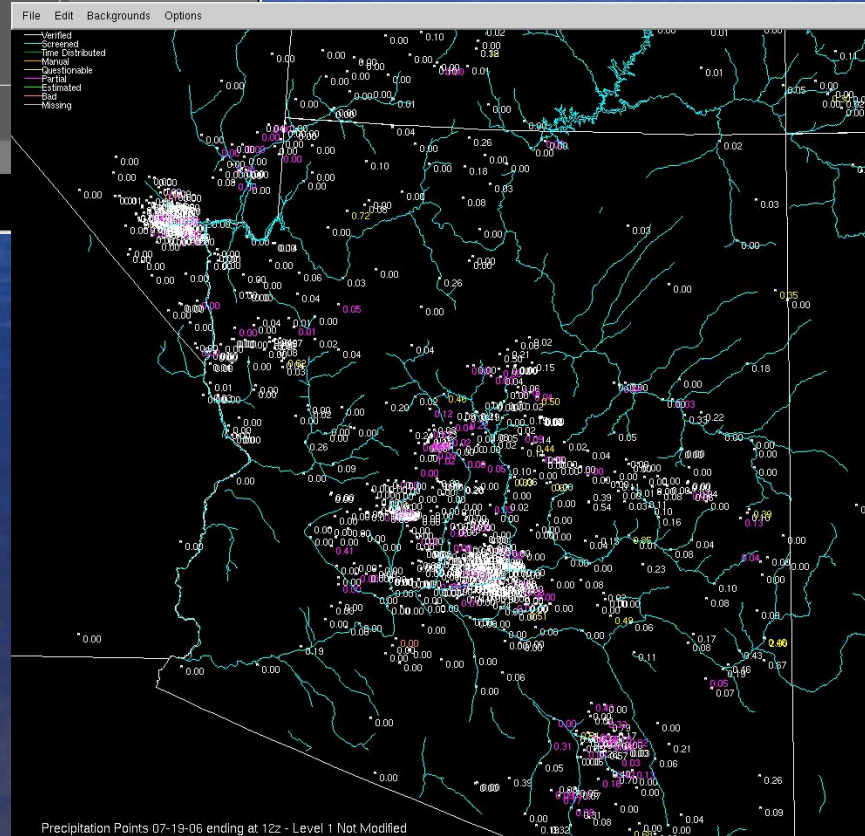
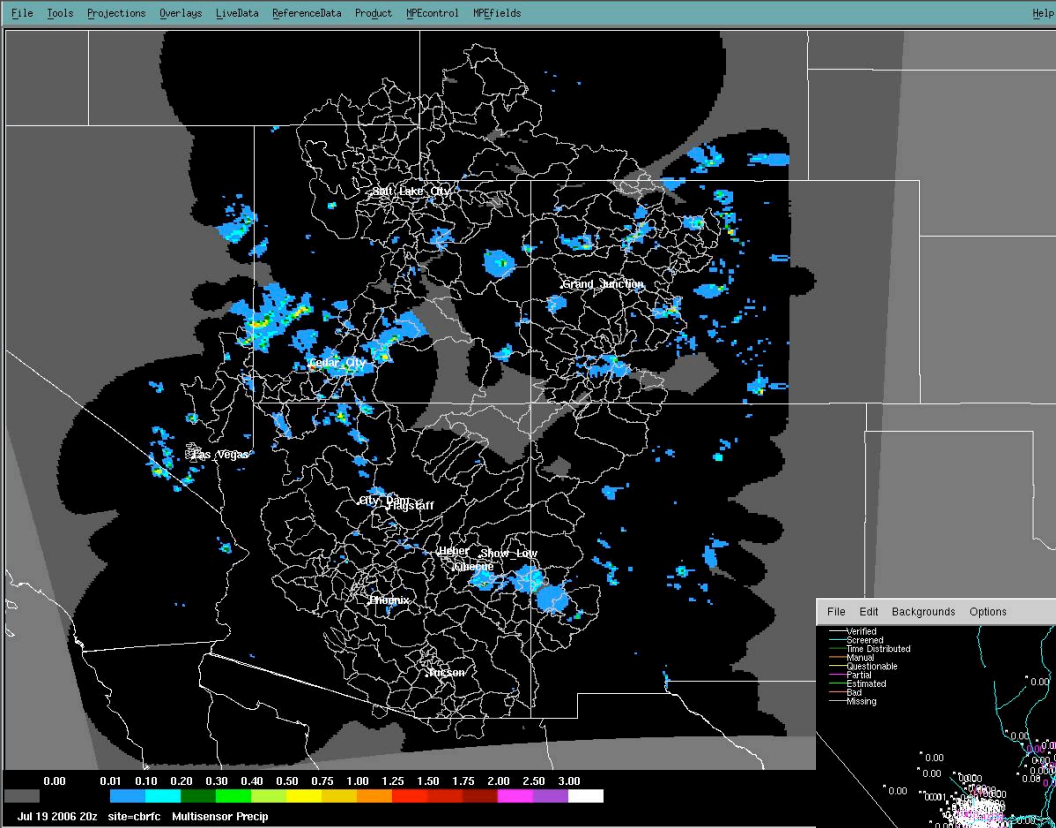
- Role of the WFOs
 - Issue flood watches and warnings
 - Establish flood forecast points and flood stages
 - Work directly with community, EMs and media
- Role of the RFCs
 - Provide river forecasts
 - 24 hour hydrologic support to the WFOs



Daily operations

- Data gathering and quality control
 - Observed precipitation
 - Point data (Snotel, ALERT, GOES, COOP, etc..)
 - Radar derived estimates
 - Observed temperatures (maximum and minimum)
 - Observed river levels





DC_stations_popup

Data options

24 hour

Points

Render Grids+MAPs Group Edit

Precip type All

Point type

NEXRAD SNOTEL ALL

GOES LARC

ALERT COOP

Point quality

Verified Partial

Screened Estimated

Time Dist Bad

Manual All

Questionable

Point character Tip+Weigh

Point display Data

Point screening Coarse

Point Tconsistency All

Point Sconsistency All

0.00

Point filter (inches)

20.00

Point reverse filter (inches)

0

Point elevation (feet)

1.00



Daily operations – cont...

- Input data into model
 - Observed QC'd data
 - Forecast temperatures and precipitation
- Run the model
 - Run-time modifications to adjust model
- Issue forecasts
- Monitor
- Repeat 4 times a day, more during high water



Flash Flood Program

- WFOs issue flash flood warnings
- RFCs provide threshold information – Flash Flood Guidance
- CBRFC developed Flash Flood Potential Index – GIS based tool – More useful in the West
- Dam Failures



Water Supply forecasts

- Seasonal (January through June)
- WS forecasters dedicated first 4 days of month
- Workload intense in the spring, especially during flooding



Other activities - Development

- Calibration and maintenance of NWSRFS
- Expand forecasts services
- Distributed models
- Web improvements
- Training
- Outreach
- Verification
- National activities



Staffing

- 9 Hydrologists
- 1 Computer systems specialist
- 1 Development and Science Hydrologist
- 1 Hydrologist in Charge
- 1 Administrative Assistant

Hours of operation

- Non-Flood periods
 - 6:30 a.m. to 6:00 p.m.
 - 7 days a week
- During floods or high water
 - 24 hours a day



CBRFC Basin Focal Points

- Upper Colorado River
 - Jeff Smith
 - Brenda Alcorn
- Green River
 - Ed Clark
- Great Basin
 - Brent Bernard
 - Greg Smith



CBRFC Basin Focal Points - cont

- San Juan River
 - Brent Bernard
 - Tracy Cox
- Lower Colorado River
 - Bill Reed
- Virgin River
 - Brent Taylor

