

NOAA's Colorado Basin River Forecast Center

Working With Partners Relationships and Communication

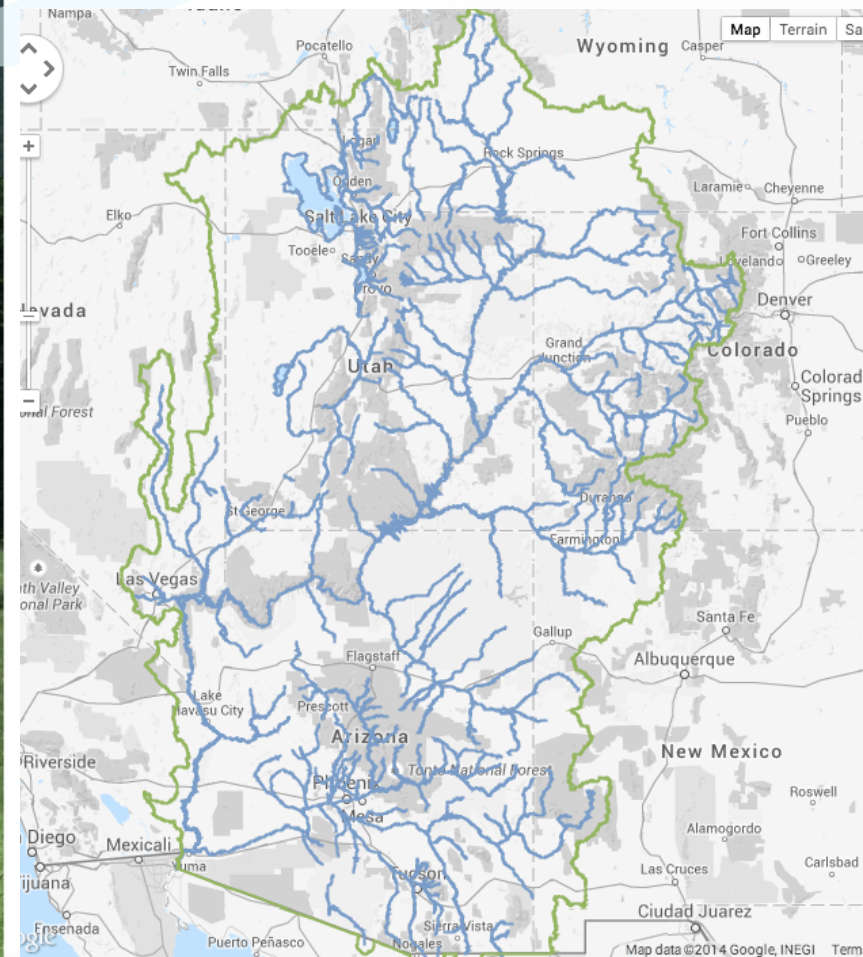
Brenda Alcorn
Senior Hydrologist

2016 Stakeholder Open House



Who we are

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- An office in NOAA
 - National Weather Service
 - One of 13 RFCs in the nation
 - Co-located with Salt Lake City Weather Forecast Office
- Area of responsibility
 - Colorado River Basin
 - Eastern Great Basin



Who We Are

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- Work with a broad and diverse set of stakeholders
 - Weather Forecast Offices, Reclamation
 - USGS, NRCS, and many other federal agencies
 - Municipal and Agricultural Water Users
 - State, academic, NGOs, Tribes
- Receive data from many of these sources



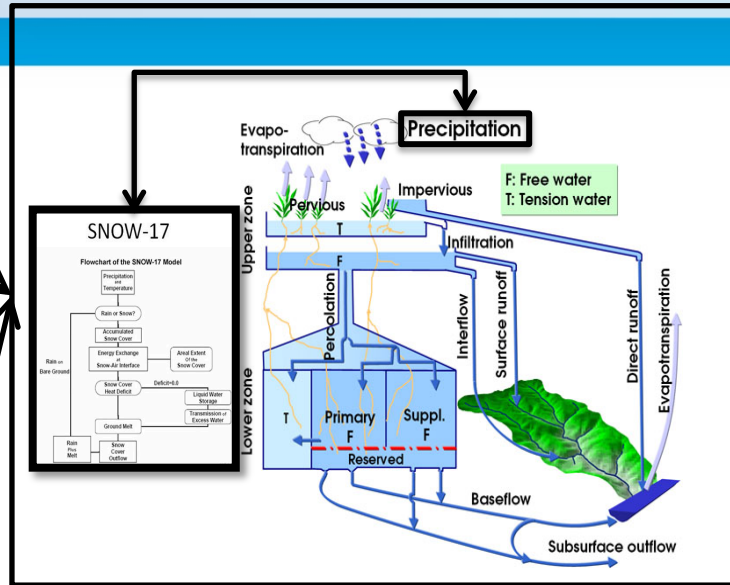
Model-Centric Office

Observed data:

- Precipitation
- Temperature
- Freezing Level
- Flow/reservoir levels

Forecast data:

- Precipitation
- Temperature
- Freezing Level
- Reservoir release schedules

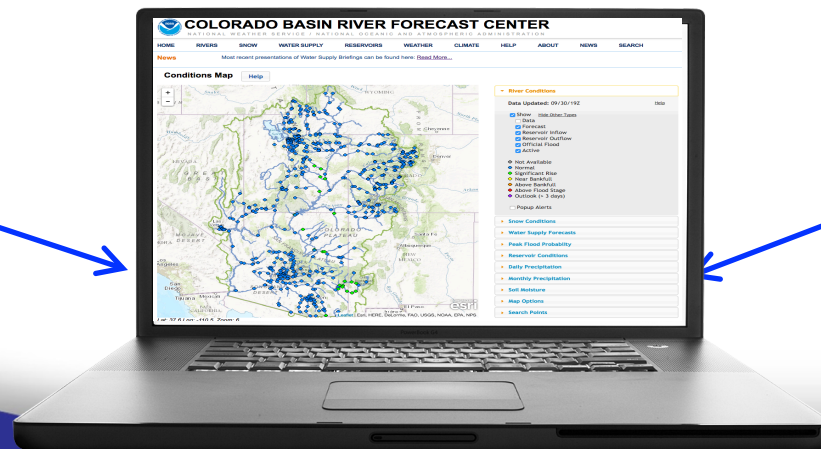


Model states:

- Soil moisture
- Snow water equivalent

Hydrologic forecasts:

- River flow
- Water Supply volume
- Peak flow
- Pool elevation



Inputs

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- We are really collectors of data
 - Little control over any of the data we use regularly
- Collection methods
 - NWS communication networks
 - Satellite (e.g. USGS)
 - NRCS SNOTEL data
 - ALERT data
 - COOP, ASOS data
 - Meteorological forecasts
 - Automated FTP from numerous partners
 - Web-scraping, automatic queries
 - Manual input from e-mail, spreadsheets, etc...



Inputs

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- Getting initial conditions correct is vital
 - Daily data QA/QC is essential
 - Constant coordination effort:
 - Contact owner agencies with questions about specific gages (malfunctions, ratings)
 - New data sources
- Future conditions are also important – greatest uncertainty in forecast process
 - Meteorological elements strongly model driven, some human adjustment
 - During significant or unusual events, coordinate with the WFOs
 - Receive some notification of future reservoir release schedules
 - Contact operators for spill information (yes/no/timing)
 - Updated reservoir rules and operations always appreciated
 - Very little future diversion information received
 - Usually based on typical behavior



Hydrologic Model

Calibration Model:
30-years of record (1981-2010)
Important for having a model
that is accurate and storing
historical information.

Operations Model:
Important for disseminating
timely information and data to
our stakeholders, protecting life
and property, and maintenance
of our model states.

ESP Model:
Important for decision support
services we provide, especially
with how it relates to water
supply. Forecasts made with
this information have big policy
implications.



Hydrologic Model

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- A “Hydrologic Model-centric” Office
 - How can we improve the model to make better forecasts?
 - Data
 - Techniques
 - Can we improve to make better forecasts?
 - Verification/yearly review
 - Lessons learned



Outputs

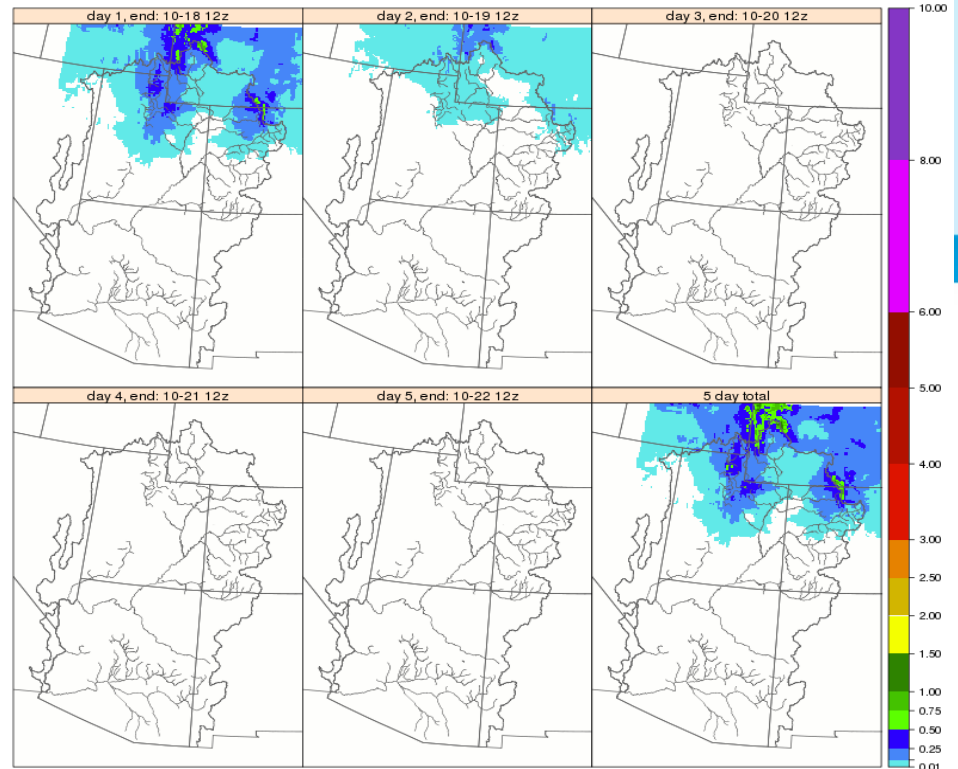
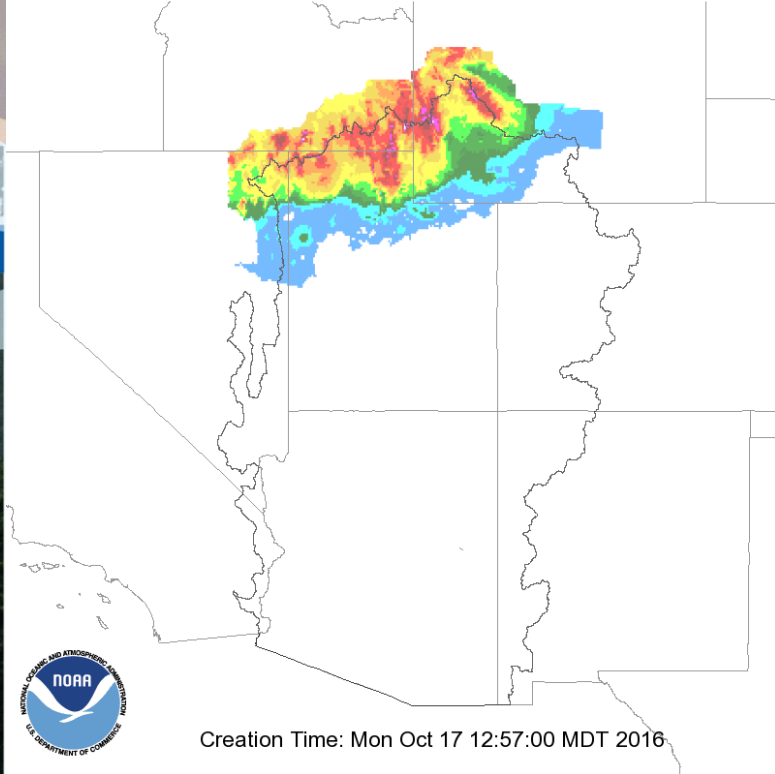
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- Everything is available on our webpage
 - Data used to run the model
 - Flow/pool predictions as well as model snow and soil
 - Forecast products
 - Encourage users to view these



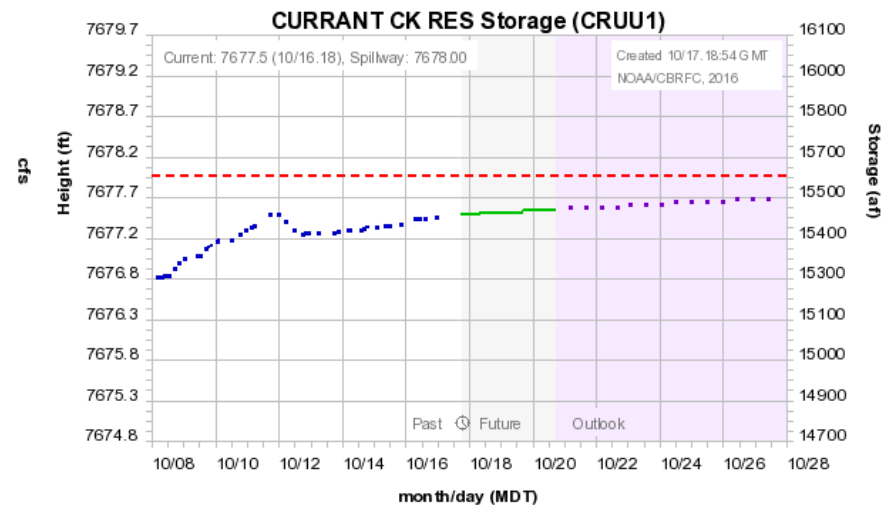
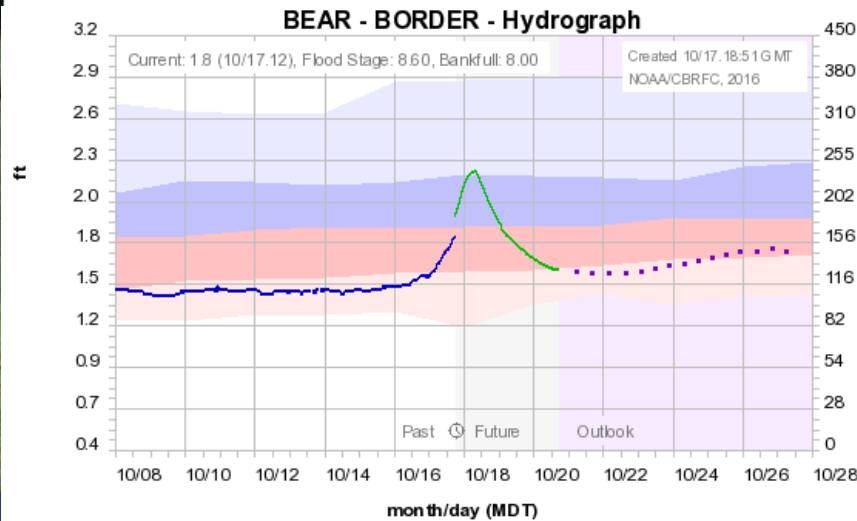
Observed 24hr Precipitation, Ending 12Z, 10/17/2016

QPF Daily Totals (inches), issued: 10-17-2016 12z



Creation Time: Mon Oct 17 12:57:00 MDT 2016

CBRFC/NWS/NOAA



Observed — Forecast (10/17.14:00) — Outlook (increasing uncertainty) — Spill 7678.0 — Average



Coordination

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- Please call us to discuss inputs and forecasts
 - Need to consistently receive feedback from stakeholders
 - Need to understand decision process and decision points
 - This type of collaboration results in a better forecast
- CBRFC Direct Line: 801-524-4004
- Michelle's Cell: 801-819-5967



Additional Coordination

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- Frequent webinars
 - Water Supply
 - Peak Flow
 - Basin-specific
- Participation in partner-run meetings
- Coordination Meeting (CRFS)

