

National Weather Service Colorado Basin River Forecast Center



River Forecasts



Water Management



Flash Floods



Recreation

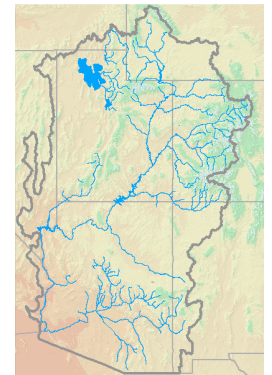
River Forecast Centers

The NOAA National Weather Service has thirteen River Forecast Centers (RFCs) located within major river basins throughout the U.S. The mission of the RFCs is to produce the Nation's river, flood and water supply forecasts in support of saving lives and property and to enhance the economy and environment of the country. RFC Hydrologists are the technical experts in operational river and water management forecasting. RFC products and services support many programs including: Flash Flood, River Flooding, River Forecasts, Recreation, Reservoir Management, Drought, and Seasonal Water Supply.



CBRFC

The Colorado Basin River Forecast Center (CBRFC) is responsible for the entire Colorado Basin and the Great Basin. It includes all or part of seven states with an area of 303,450 square miles. It has topography that ranges from elevations of 200 to over 14,200 feet. It includes dry desert regions to snowy alpine areas. Nearly 80% of the runoff in the Colorado Basin comes from snow-melt. It also has the largest evaporation rates of any RFC. Flooding events range from flashy arroyos due to thunderstorms in the southwest to longer term rises resulting from snow-melt of large snow packs.

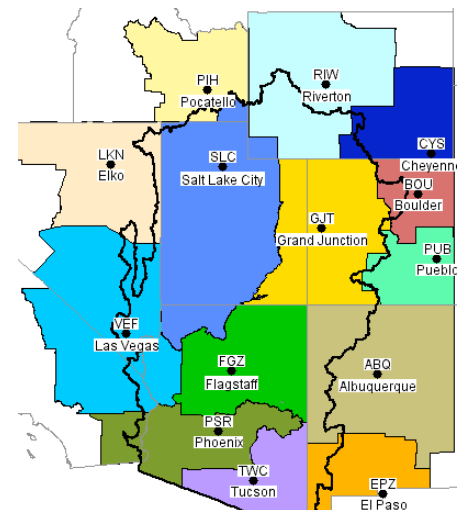


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Weather Forecast Offices

The CBRFC works closely with local Weather Forecast Offices (WFOs) within their area of responsibility. WFOs are responsible for issuing River Flood Warnings and Flash Flood Warnings to local emergency managers, media, and the public. The CBRFC provides river forecasts and other technical support to the WFOs. In turn, the WFOs prepare Flood Watches, Flood and Flash Flood Warnings and disseminate the products to their local users.



Colorado Basin River Forecast Center, 2006

Advanced Hydrologic Prediction Service

Each year floods kill more people than any other form of severe weather and cause damages in excess of \$3.5 billion. Three-quarters of all presidential declared disasters are the result of flooding. To help mitigate and address these problems, the NOAA Weather Service has developed a service program called the Advanced Hydrologic Prediction Service or AHPS. It provides new information and products through the infusion of new science and technology. It couples and integrates the meteorological, hydrological and climate programs in NOAA to provide a wide range of water services.

AHPS Provides:

More accurate water forecasts and flood warnings.

Visually oriented, commercially valuable products to satisfy diverse customer needs such as emergency response, river commerce, flood control, water supply, hydropower, irrigation and recreation.

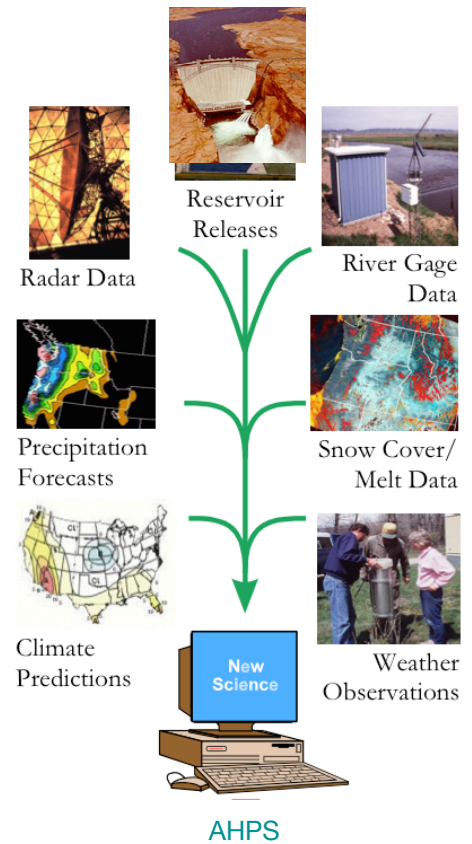
Better information for decision making, especially with regard to the prevalent challenge with energy products and water resource stewardship.

Incorporates new science and technology improvements.

AHPS Helps to Answer:

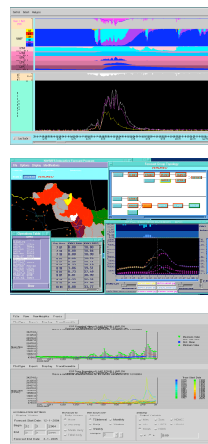
- How high the river will rise?
- When the river will reach its peak?
- Where property will be flooded?
- How long flooding will last?
- What volume of water will enter a reservoir?
- When and where snowmelt peaks will occur?
- When low flow conditions will persist?

For more information: <http://www.nws.noaa.gov/oh/ahps>



Forecast Models

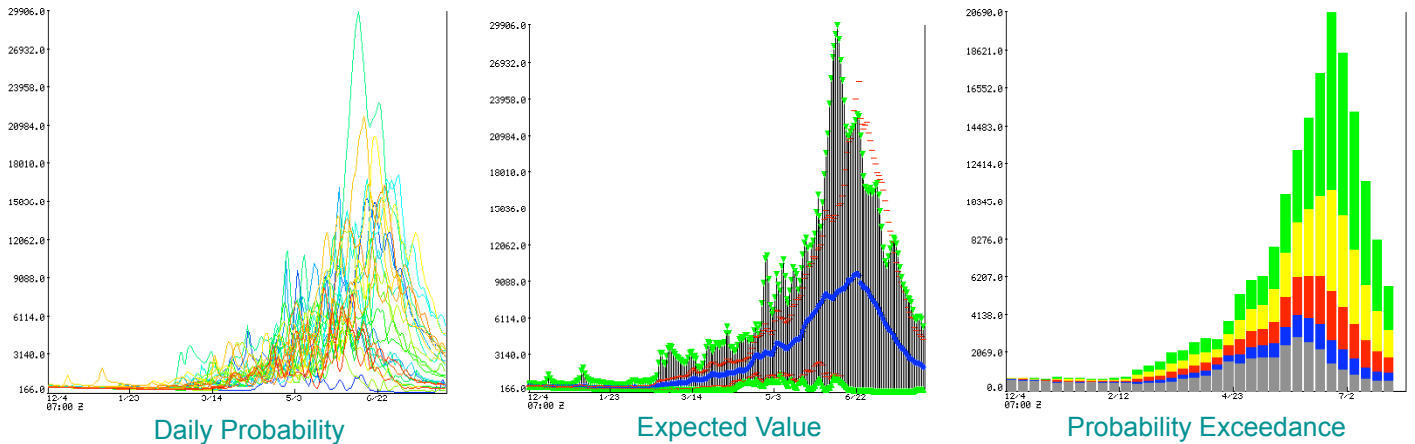
The CBRFC uses the National Weather Service River Forecast System. NWSRFS consists of three parts: Calibration, Operational Forecast, and Ensemble Streamflow Prediction. NWSRFS allows a forecaster to produce streamflow forecasts in a time scale from hours to seasons. All three parts are 'linked' together through model calibration so that compatibility is retained, e.g., between initial conditions of soil moisture, precipitation, snow, and streamflow over time and space. The Calibration System allows a user to calibrate a river basin using historical information. The Operational Forecast System provides capabilities to run the models, make modifications, and to produce short term forecasts. The Ensemble Streamflow System provides short to long term probabilistic forecasts.



- 1 Calibration System
Interactive Calibration Program
- 2 Operational Forecast System
Interactive Forecast Program
- 3 Ensemble Streamflow Prediction System
ESP Analysis/Display Program

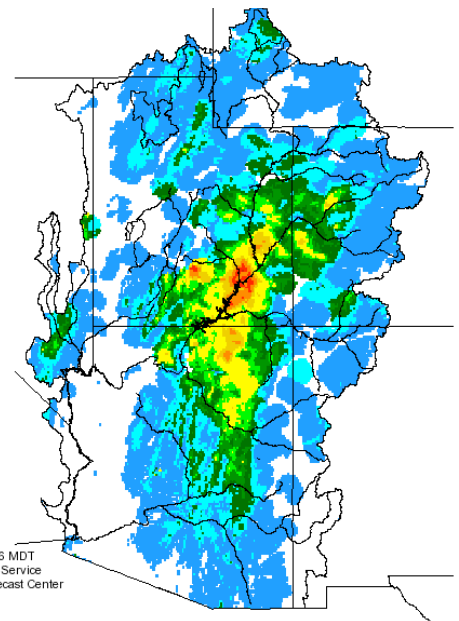
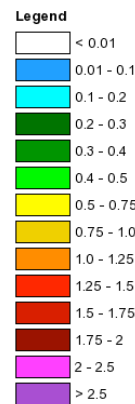
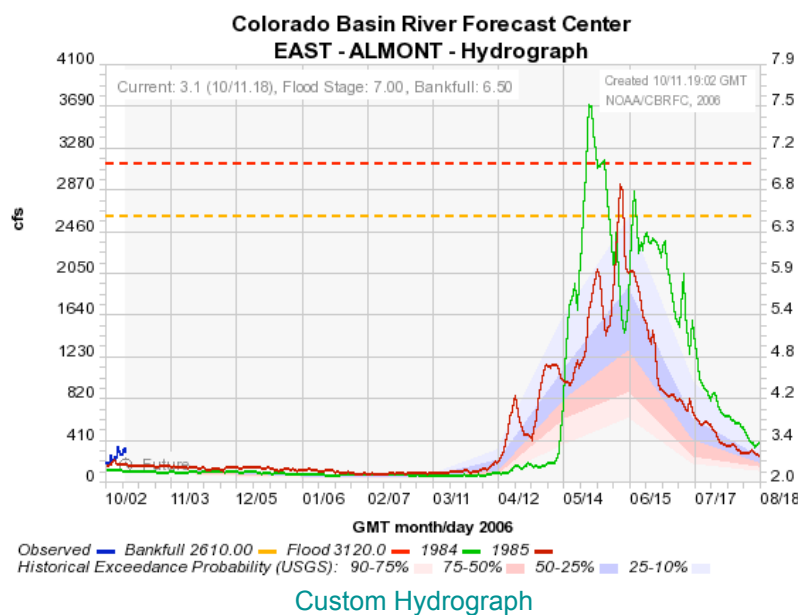
Ensemble Streamflow Prediction

The Ensemble Streamflow Prediction System (ESP) part of the NWSRFS can produce probabilistic forecasts for a variety of user choices. The choices can be peak flows, minimum flows, flow volumes, number of days to reach or fall below a specific flow, etc. for flexible periods in the future. The probability information can be displayed in various formats. ESP uses historical streamflow, historical weather data, future weather forecasts and future climate variability to produce the probability forecasts.



Products and Services

CBRFC forecast products are produced from the National Weather Service River Forecast System. This includes the Ensemble Streamflow Prediction System which provides forecast probabilities. The NWSRFS can produce a seamless suite of river forecast products from hours to seasons. Products can be probabilistic or single values. Forecast displays range from simple text to complex graphics. The NWSRFS uses current soil moisture, snow pack, river flows, temperatures and precipitation (including future weather and climate variability such as El Nina/La Nina) from a variety of sources. Many of these products and services are delivered through WFOs and on the CBRFC interactive web page at www.cbrfc.noaa.gov



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NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

Multisensor Precipitation Map

Web Site

The CBRFC distributes much of its products and services through an Interactive Web Page located at: www.cbrfc.noaa.gov. The website is continually updated with new observations, forecasts and other information. Many features of the web page allow a user to customize their request.

River Conditions

Forecasts are guidance only. [Click here for official warnings and forecasts.](#)

Legend. Map data updated 10/11.19:29 GMT, 10/11.13:29 MDT. Click map to zoom.

Data Type: [River Conditions](#) | [Reservoirs](#) | [Recreational](#) | [Snow Conditions](#)

Click to: [Select Zoom](#) Zoom to: [1x](#) [4x](#) [8x](#) [Help](#)

Legend

Basin Conditions (0-3 days)

- 1 = Normal, 0 = No Data
- 2 = Significant Rise
- 3 = Near Bankfull
- 4 = Above Bankfull
- 5 = Above Flood Stage
- Observed (Solid)
- Forecast (Striped)
- Outlook (beyond 3 days)

Station Types

- AHPS Point
- Forecast Point
- Data Point

Quick Plot

NWS ID

Display Options

- Topography
- States
- RFC
- Rivers
- HSAs
- Basins
- Basins Above Normal
- Data Points
- Forecast Points
- AHPS Points
- Stations Above Normal
- Station Labels

Areas of hydrologic activity are highlighted. Observations are solid colors, forecasts are striped.

Enter ID to go directly to hydrograph

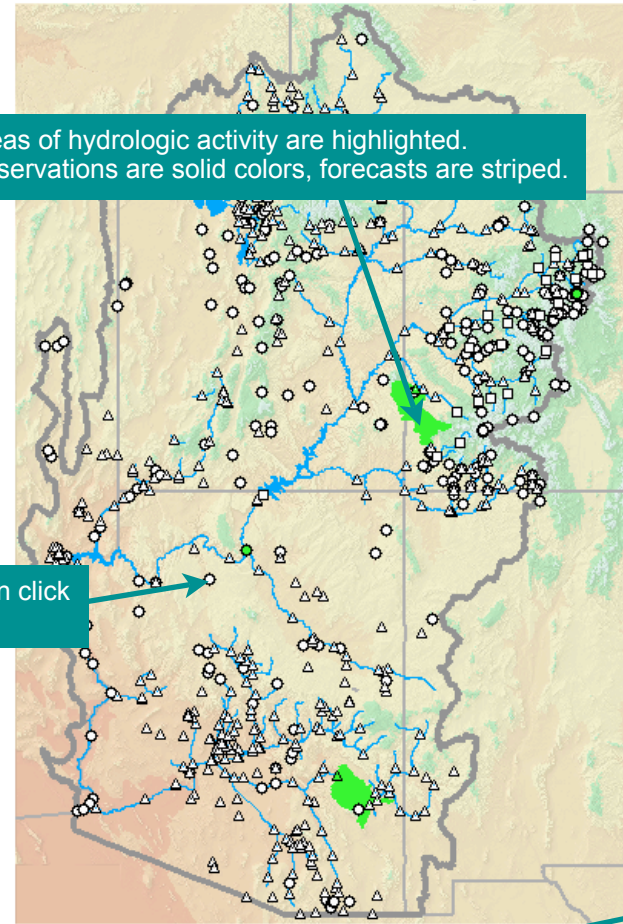
Click to zoom in, then click point for hydrograph

Toggle display overlays

Choose from alphabetical list for hydrograph

List sites by river.

Choose from list of active stations for hydrograph



--All Stations--

--Rivers--

--Stations Above Normal--

Contact Information

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 Salt Lake City, Utah 84116
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 Web Site: www.cbrfc.noaa.gov

Cooperating Agencies

US Bureau of Reclamation
 US Geological Survey
 US Army Corps of Engineers
 US Forest Services
 Federal Emergency Management Agency
 USDA Natural Resources Conservation Service