

# INTERMOUNTAIN WEST CLIMATE SUMMARY



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## The NOAA National Weather Service Water Resource Outlook

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The NOAA National Weather Service (NWS) forecasts streamflow for rivers around the country to support decision-making related to flooding and water management. Forecasts are produced by 13 NWS River Forecast Centers (RFCs), including the Colorado Basin River Forecast Center in Salt Lake City. In times of excess runoff, these forecasts are useful for planning for or mitigating flooding; this has been the traditional focus of the NWS's streamflow forecast services. Of course, streamflow forecasts can also help maximize the efficiency of water storage and use during other times, particularly during droughts. The NWS is currently developing a user-friendly web tool for decisionmakers, especially those concerned about drought and water availability.

The experimental Water Resource Outlook Tool (<http://wateroutlook.nwrwc.noaa.gov/>) provides access to streamflow forecasts, and a variety of visualization tools. The site allows users to navigate a map of North America (Figure 1) and select specific gages of interest. At present, the database is not completely populated; information for remaining parts of the country will be made available in the coming months.

When a gage is selected, details related to the seasonal water supply forecast (in the western US only), the seasonal ensemble outlook, and the monthly ensemble outlook are shown on a Summary page (Figure 2). Official seasonal water supply forecasts are typically coordinated between the Natural Resources Conservation Service (NRCS) and the NOAA RFCs. These forecasts are issued at the beginning of each month between January and the end of the melt season. The seasonal and monthly ensemble outlooks are solely from the NOAA RFC.

For users looking for more details, additional analyses, plots, and data can be accessed from the blue bar at the top of Summary page (Figure 2). For example, selecting "Forecast Evolution Plot" will display a plot showing the monthly evolution of the seasonal streamflow forecasts (Figure 3). The

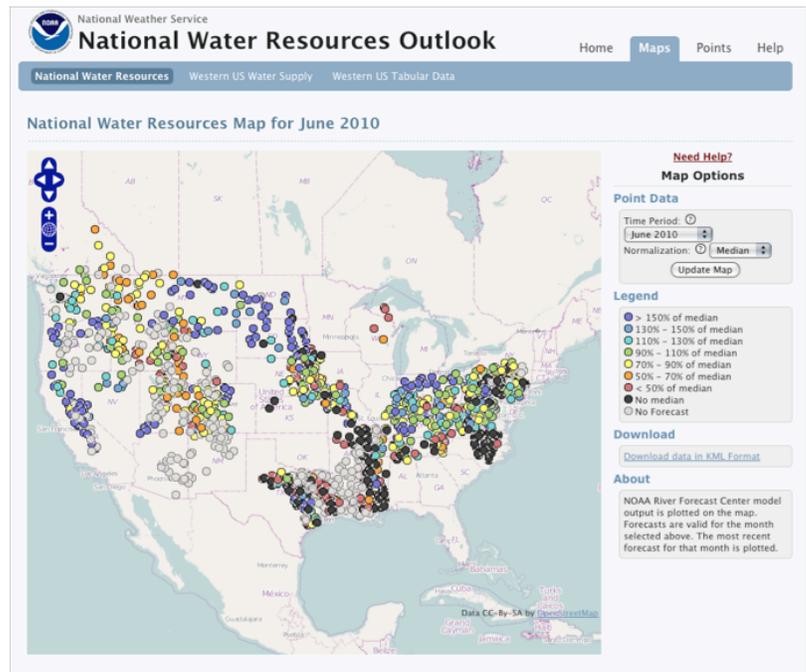


Figure 1. National Water Resources Map for June 2010.

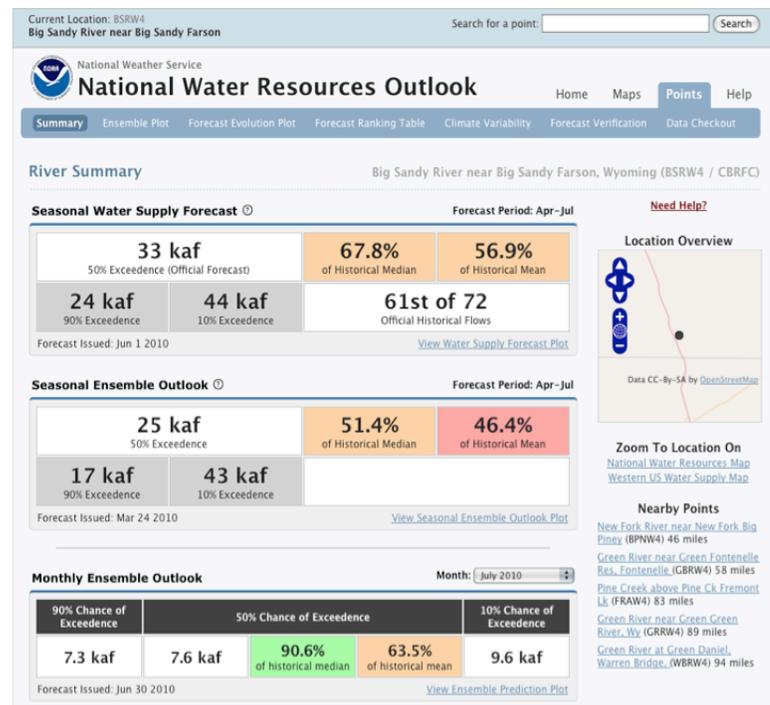


Figure 2. Example of Summary page, showing April-July 2010 forecasts and outlooks for the Big Sandy River near Farson, Wyoming.



“Ensemble Plot” option displays a box-and-whiskers plot showing the distribution of the ensemble (ESP) forecast for each month of a user-selected period (Figure 4). The “Forecast Ranking Table” option displays a table showing the forecasted flow from a user-elected Seasonal Water Supply Forecast in the context of the past observed flows for that gage. This ranking is also provided on the Summary page (e.g., “61st of 72 Official Historic Flows” in Figure 2).

The remaining three options, on the right side of the blue bar, allow more advanced users to explore other aspects of the forecasts. The “Climate Variability” option allows users to plot different climate variables against observed streamflows to assess climate-streamflow relationships. “Forecast Verification” provides many options for computing forecast verification statistics using different metrics of forecast robustness. The “Data Checkout” option allows users to download the underlying data, including observed streamflows, forecasted streamflows, climate indices, and flow summary statistics.

On any page, users can click on “Need Help?” or the “Help” button, in the top right, to access guidance for all of the options for a given page.

This online tool is still in an experimental phase, and the developers at the Colorado Basin River Forecast Center are interested in your input. If you would like to learn more about how to use the tool and provide feedback to the developers, please go to the following online tutorial and survey, which will walk you through the different pages and options: [http://www.surveymonkey.com/s/NWRO\\_Feedback](http://www.surveymonkey.com/s/NWRO_Feedback). In addition, you can contact Kevin Werner at [kevin.werner@noaa.gov](mailto:kevin.werner@noaa.gov) with comments and suggestions.

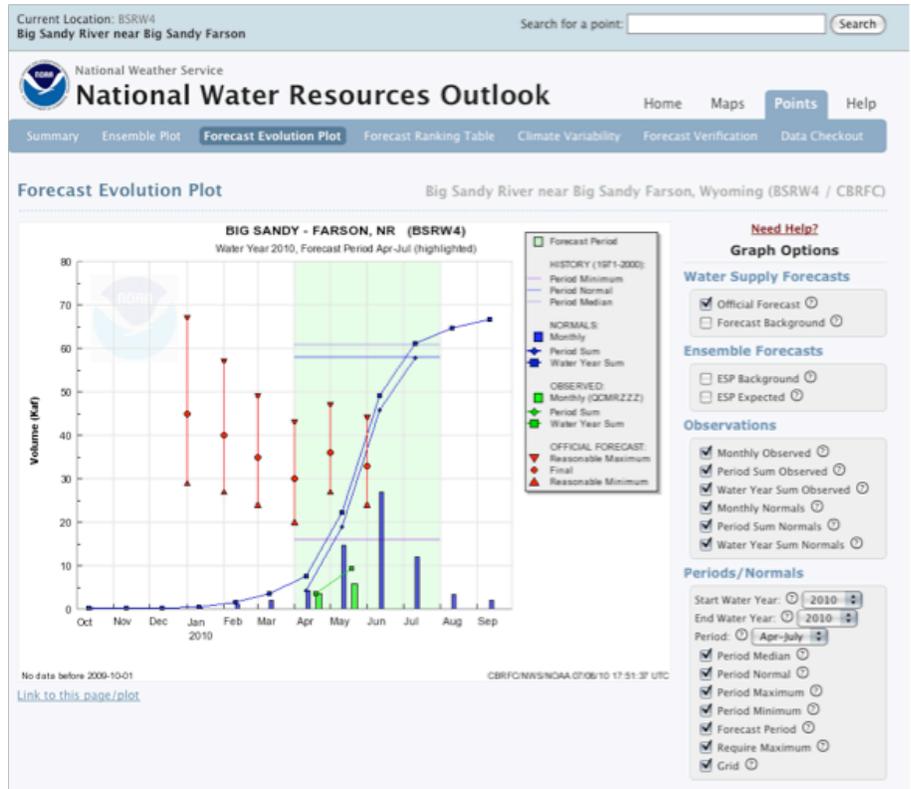


Figure 3. Example of Forecast Evolution Plot for January–June 2010, Big Sandy River near Farson, WY

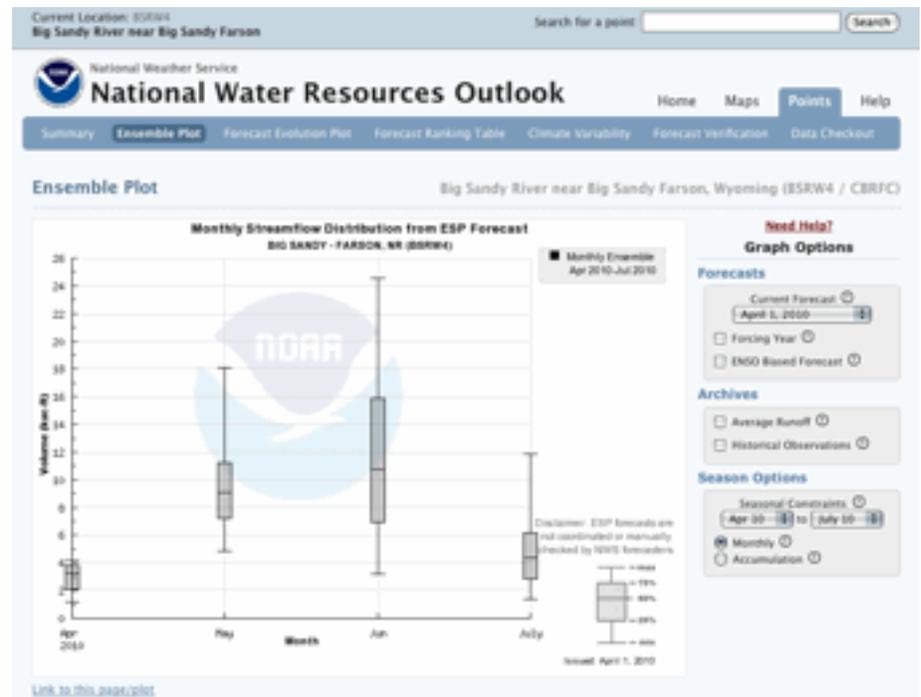


Figure 4. Example of Ensemble Forecast Plot for April–July 2010, Big Sandy River near Farson, WY

