

FFMP Basin Trend Graphs

Introduction

The basin trend graphs provide a way to compare rainfall accumulations (and optionally forecast rainfall amounts) to flash flood guidance over various time intervals.

These graphs provide some level of user interactivity.

Follow the black circular buttons to learn more about the features of the basin trend plots.

Instantaneous Rainfall Rate

The blue curve is the instantaneous rainfall rate. Each calculated value for the aggregation area is plotted using a blue dot.

In this example, precipitation was observed beginning about an hour ago, and the rainfall rate exceeded 4"/hr several times in the last 30 minutes.

Accumulation (QPE) Curve

The black line consists of all the rainfall accumulations.

In this example, approximately 1 inch of rain fell in the last 15 minutes, and about 3 inches fell in the last hour. No additional rain fell prior to the last hour, so the rainfall amount for any *accumulation period* greater than 1 hour is 3 inches.

Guidance Curve

The purple line represents flash flood guidance values. This curve interpolates these basin-averaged values between 1 and 6 hours.

In this case, the actual values (purple dots) are:

- 1 hour FFG = ~2.5 inches
- 3 hour FFG = ~2.6 inches
- 6 hour FFG = ~3.2 inches

Underlay

Use these diamond buttons to toggle the color-filled underlay plot.

NOTE: **ratio** and **diff** are selectable only when **guid** is already selected because **guid** is necessary to determine **ratio** and **diff**.

Line Plot

Use the square check boxes to toggle the various line plots off and on.

- rate = instantaneous rainfall rate
- qpe = quantitative precip. estimate (accumulation)
- qpf = quantitative precip. forecast (forecast amount)
 - QPFSCAN = forecasts from SCAN, determined by advecting reflectivity.
- Your local office configuration may have other forecast sources defined, including the HPN (High-Resolution Precipitation Nowcaster), labeled as QPFHPE
- guid = flash flood guidance

NOTE: **qpf** is selectable only when **guid** is selected.

Scroll Bars

The scroll bars provide a mechanism to roam around the plot. This is useful for a long duration event or for situations when rainfall accumulations exceed 6 inches.

Reverse Axis

The reverse axis button allows the time sense of the plot to be reversed. The time axis is hours before the current time (time decreases to the right), so this option allows the time sense to be reversed so that time increases to the right.

In this example, 1 hour means the accumulation between 2114 and 2214 GMT, while 6 hours means the accumulation between 1614 and 2214 UTC.

All Hour Plot

The All Hour plot provides a summary view and permits comparison of accumulations and guidance across all time scales at once. This is the default view.

When the rainfall accumulation (black line) exceeds the FFG (purple line), the guidance was exceeded for that accumulation period. In this example, both the 1 hour and 3 hour FFG values were exceeded. The 6 hour FFG has not been exceeded, but the accumulation is not very far below the FFG value, so any additional rainfall would probably exceed that guidance value as well.

1 hr plot

The time sense of the hourly plots is increasing time to the right. This plot indicates the rainfall accumulation exceeded the flash flood guidance (2.5 inches) sometime after 2159.

3 hr plot

The 3-hour plot is similar to the hourly plot, except the FFG value plotted is the 3-hour FFG (about 2.75 inches) rather than the 1-hour FFG.

Be careful using the hourly plots because it is easy to stay fixed on one time scale, and only one FFG value is plotted per plot. This makes it easy to lose sight of the other, valid FFG values.

6 hr plot

The 6-hour plot is similar to the hourly plot, except the FFG value plotted is the 6-hour FFG (slightly more than 3 inches) rather than the 1-hour FFG.

12 hr plot

The 12-hour plot is similar to the hourly plot, except no FFG value is plotted. No FFG values are generated by the River Forecast Centers (RFCs) beyond 6 hours.

24 hr plot

The 24-hour plot is similar to the hourly plot, except no FFG value is plotted. No FFG values are generated by the River Forecast Centers (RFCs) beyond 6 hours.