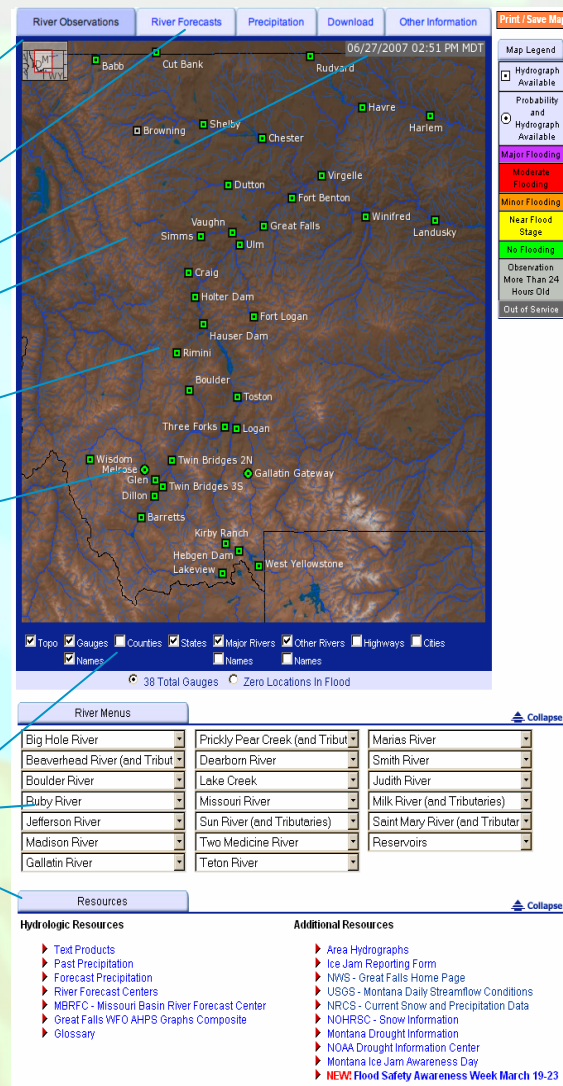# Site Map

Inset map shows area of interest in relation to entire state.

Link to map of forecast flood categories.

Date and time of map.

Map background includes topography as well as rivers and streams.

Icon color indicates category of observed flooding.

Icon shape indicates site type. Generally, squares indicate data sites, some with forecast data. Circles indicate sites which also offer probabilistic forecasts for several weeks to several months into the future.

Selectable map overlays.

Drop-down river menus offer additional data sites.

Links to other local and national hydrologic resources.

Map Legend

- Hydrograph Available
- Probability and Hydrograph Available
- Major Flooding
- Moderate Flooding
- Minor Flooding
- Near Flood Stage
- No Flooding
- Observation More Than 24 Hours Old
- Out of Service

River Observations | River Forecasts | Precipitation | Download | Other Information

06/27/2007 02:51 PM MDT

River Menus

Big Hole River | Prickly Pear Creek (and Tribut | Marias River
Beaverhead River (and Tribut | Dearborn River | Smith River
Boulder River | Lake Creek | Judith River
Ruby River | Missouri River | Milk River (and Tributaries)
Jefferson River | Sun River (and Tributaries) | Saint Mary River (and Tribut
Madison River | Two Medicine River | Reservoirs
Gallatin River | Teton River

Resources

Hydrologic Resources
- Ted Products
- Past Precipitation
- Forecast Precipitation
- River Forecast Centers
- MBRFC - Missouri Basin River Forecast Center
- Great Falls WFO AHPS Graphs Composite
- Glossary

Additional Resources
- Area Hydrographs
- Ice Jam Reporting Form
- NWS - Great Falls Home Page
- USGS - Montana Daily Streamflow Conditions
- NRCS - Current Snow and Precipitation Data
- NOHRSC - Snow Information
- Montana Drought Information
- NOAA Drought Information Center
- Montana Ice Jam Awareness Day
- NEW! Flood Safety Awareness Week March 19-23

Observed water level hydrograph available. Hydrograph may include forecast water levels for next several days.

Observed water level hydrograph available. Hydrograph may include forecast for next several days. Probability of exceedance forecasts for the next several months also available.

Major Flooding—Extensive inundation of structures and roads with property damage. Significant evacuations of people and livestock and/or transfer of property to higher elevations.

Moderate Flooding—Some inundation of structures and roads near the stream/river. Some evacuations of people and/or transfer of property to higher elevations is necessary.

Minor Flooding—Minimal or no property damage but possibly some public inconvenience.

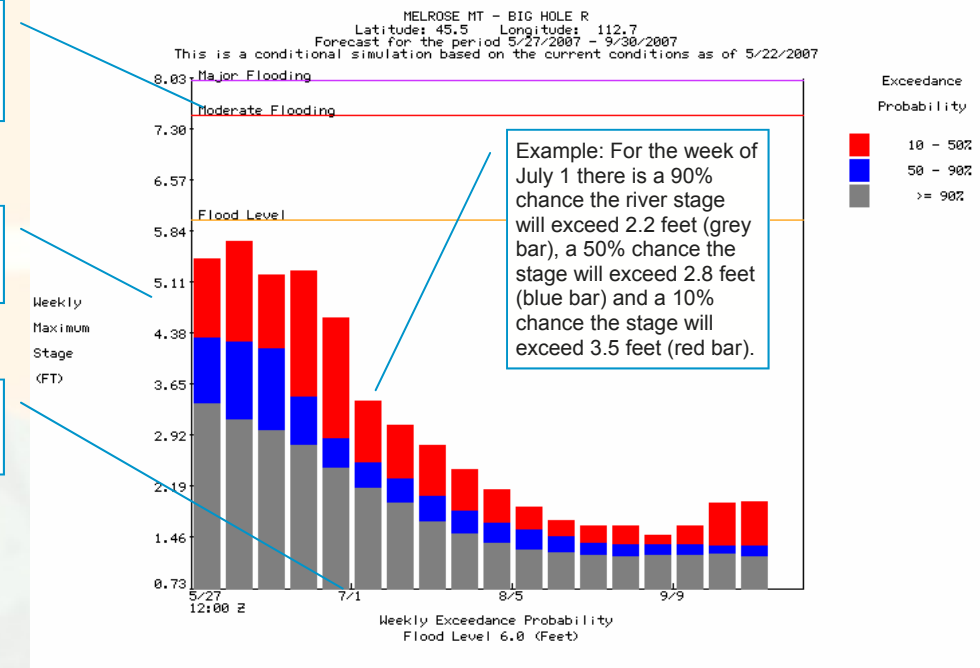Water level approaching flood stage.

Water level below flood stage.

No data received from this site in at least 24 hours.

River gauge is not operating.

What is AHPS?

AHPS is a National Weather Service program designed to provide improved river and flood forecasting as well as water information. AHPS expands the accessibility of river and water data and forecasts by providing easy-to-read graphical products and information through the Internet.

Hydrograph

Latest data stage, time and date. Flood stage if available.

Water levels indicated by both a stage in feet (ft) scale (left side) and a flow in thousands of cubic feet per second (kcfs) scale (right side).

Peak flow of time period covered by graph.

Observed Trace—Indicates water level trends over past several days.

Hydrograph | River at a Glance | Download | Weekly Chance of Exceeding Levels | Chance of Exceeding Levels During Entire Period

BIG HOLE RIVER 7 S MELROSE

Universal Time (UTC)

Latest observed value: 2.7 ft at 5:15 PM MDT 20-Jun-2007. Flood Stage is 6.0 ft.

4.06 ft

Major Stage: 8.0'
Moderate Stage: 7.5'
Flood Stage: 6.0'
Action Stage: 5.0'

Site Time (MDT)

---- Graph Created (8:25pm Jun 20, 2007) ---- Observed ---- Forecast (issued 7:39am Jun 20)

MLRM8 (plotting HGIRG) "Gage 0" Datum: 5032.9'   Observations courtesy of the US Geological Survey

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Probability forecasts links (not available for all sites).

Universal Coordinated Time (Greenwich Time) scale.

Flood categories color coded with flood stages indicated. Color schematic is consistent throughout AHPS.

Current time indicator.

Forecast trace indicates expected water level trends over next few days.

Local time scale.

Probabilities displayed relative to flood stage. Flood category levels displayed using the AHPS color schematic.

Probabilities available in either stage or flow (cubic feet per second or cfs — not shown).

Probabilities reflect calculated chance of flooding for each week of forecast period.

MELROSE MT - BIG HOLE R
Latitude: 45.5 Longitude: 112.7
Forecast for the period 5/27/2007 - 9/30/2007
This is a conditional simulation based on the current conditions as of 5/22/2007

Exceedance Probability:
- 10 - 50%
- 50 - 90%
- >= 90%

Example: For the week of July 1 there is a 90% chance the river stage will exceed 2.2 feet (grey bar), a 50% chance the stage will exceed 2.8 feet (blue bar) and a 10% chance the stage will exceed 3.5 feet (red bar).

Weekly Maximum Stage (FT)

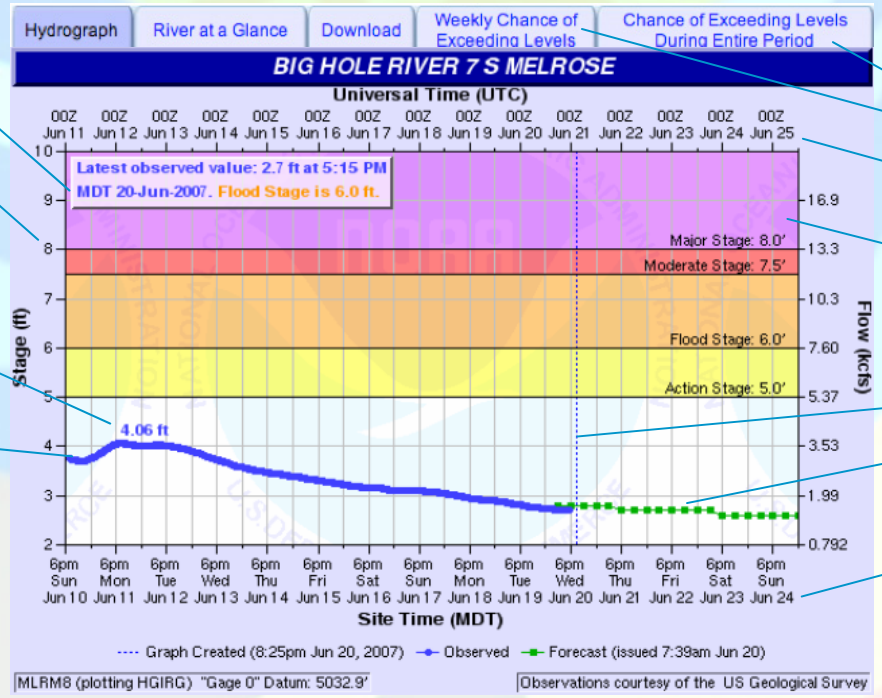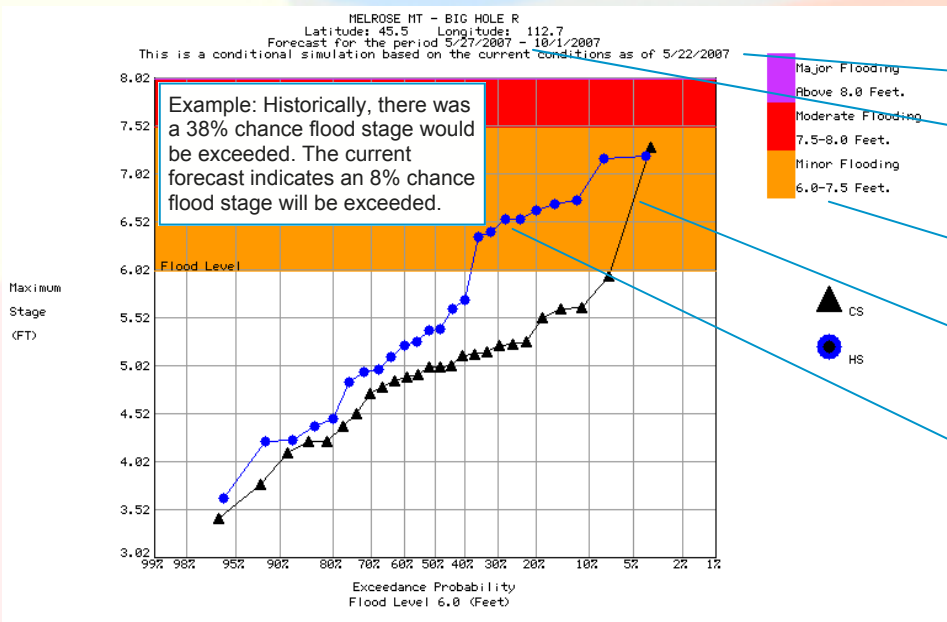Weekly Exceedance Probability
Flood Level 6.0 (Feet)

Long Range Probabilistic Outlooks

The National Weather Service produces AHPS probability products for two different types of model simulations, Conditional Simulation (CS) and Historical Simulation (HS). The difference lies in how the Ensemble Streamflow Prediction (ESP) system is run. The ESP can make multiple simulations based on weather data from the past. Each simulation produces a trace (or hydrograph) of the streamflow for that year for the period of interest.

With the Conditional Simulation, the model is run multiple times. Each run begins using current snow, soil and runoff conditions. The model then follows the temperature and precipitation trends that occurred for one of the previous years. The forecasts may be adjusted for the anticipated conditions indicated by the current climate outlook. The result is multiple forecast hydrographs. The peak flows for each year's simulation are selected and then ranked. This simulation reflects forecast conditions.

With the Historic Simulation, the model is run one time. The run begins using the current snow, soil and runoff conditions and then runs through the temperature and precipitation trends for all of the previous years used in the Conditional Simulation. This produces one hydrograph of streamflow data several years long. The peak flows for each year are selected for the period of interest and ranked to determine Probabilities of Exceedance. This simulation reflects the historic range of possibilities.

MELROSE MT - BIG HOLE R
Latitude: 45.5 Longitude: 112.7
Forecast for the period 5/27/2007 - 10/1/2007
This is a conditional simulation based on the current conditions as of 5/22/2007

- Major Flooding, Above 8.0 Feet.
- Moderate Flooding, 7.5-8.0 Feet.
- Minor Flooding, 6.0-7.5 Feet.

Example: Historically, there was a 38% chance flood stage would be exceeded. The current forecast indicates an 8% chance flood stage will be exceeded.

Maximum Stage (FT)

Exceedance Probability
Flood Level 6.0 (Feet)

CS
HS

Forecast date.

Probabilities reflect calculated chance of exceeding particular stage values during entire forecast period.

Flood categories color coded with flood stages indicated.

Probability of Exceedance using the Conditional Simulation (reflects forecast conditions).

Probability of Exceedance using the Historical Simulation (reflects historical conditions).