

NOAA's National Weather Service

Guide to Hydrologic Information on the Web



Colorado River at Lees Ferry

Photo: courtesy Tim Helble

Your gateway to web resources provided through NOAA's
Advanced Hydrologic Prediction Service begins here:
water.weather.gov

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service
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National Map

This web page shows the flood status at all National Weather Service river forecast locations.

Clicking on this tab shows locations where observations are color-coded according to their current flood status.

Click this button to have the map automatically update every 5 minutes.

Click this button to bookmark or share your current view.

Top row shows options available on the NWS home page.

Bottom row shows options available under the "Water" category.

Clicking on this tab shows locations that are color-coded according to the maximum forecast flood category through the entire period. Because the period for which a forecast is prepared varies from RFC to RFC, the entire period generally varies from 2 to 10 days.

Drop-down menu allows user to display all locations, hydrograph only locations, hydrograph/probability forecast locations, and inundation map locations.

NWS river forecasts and flood products are critically dependent on the USGS stream gaging network.

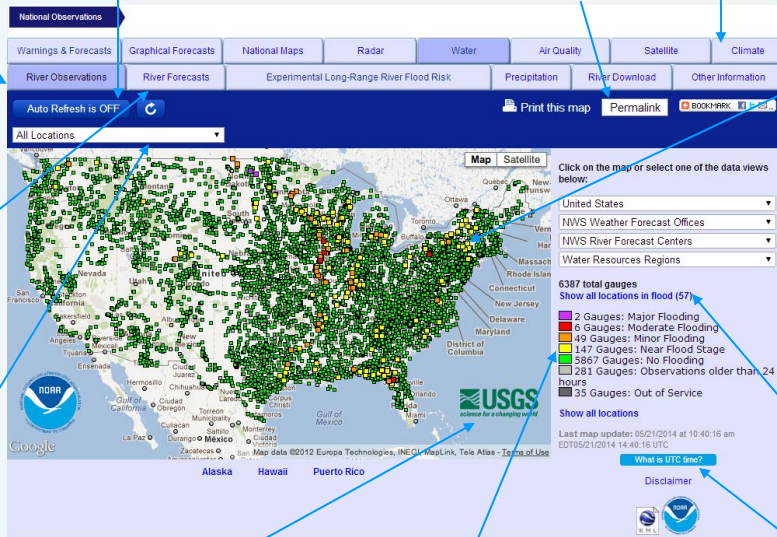
Color-coding is used on map locations to indicate flood status. Click on a colored box and only points in that flood category are displayed.

Hover over this location to learn about UTC time.

Clicking on any location brings up a regional map showing a NWS Weather Forecast Office (WFO) Hydrologic Service Area (HSA) containing that location.

Use drop-down menus to show locations across different regions, including states, NWS WFO HSAs, NWS River Forecast Center (RFC) areas of responsibility, and USGS water resource regions.

Click here to only display locations currently in flood.



Regional Map

This web page shows the flood status of river forecast locations in the selected region. Selecting a specific river/stream location provides access to localized information.

Clicking on this tab shows locations where observations are color-coded according to their current flood status.

Clicking on this tab shows locations that are color-coded according to the highest forecast flood category through the entire period. Use the forecast timeline slider at the top of the map to adjust the forecast period. For example, clicking on the Day 1 tick mark shows locations that are color-coded according to the highest forecast flood category through Day 1.

Squares indicate locations with observed hydrograph plots, some which include near-term forecasts.

Navigation arrows allow users to move to neighboring WFO HSAs.



Use checkboxes to turn overlays off and on and slider bars to adjust the transparency of the overlays.

Circles are used for locations that also have forecast uncertainty information out to several months.

Color of icon indicates category of flooding.

Extensive inundation of structures and roads. Significant evacuations of people and property.

Some inundation of structures and roads near stream – some evacuations of people and property.

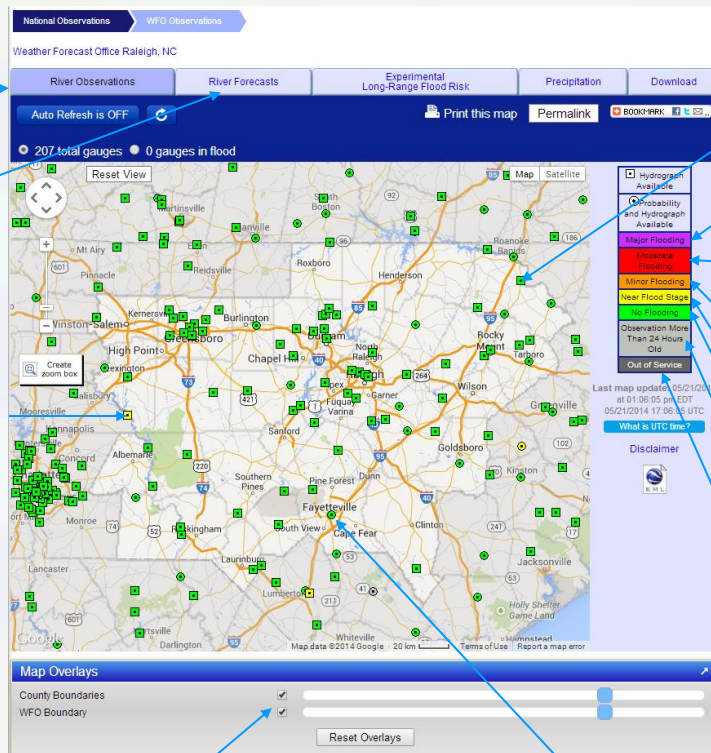
Minimal or no property damage, but possibly some public threat.

River or stream level approaching flood stage.

River or stream level below flood stage.

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

River or stream gauge is not operating.

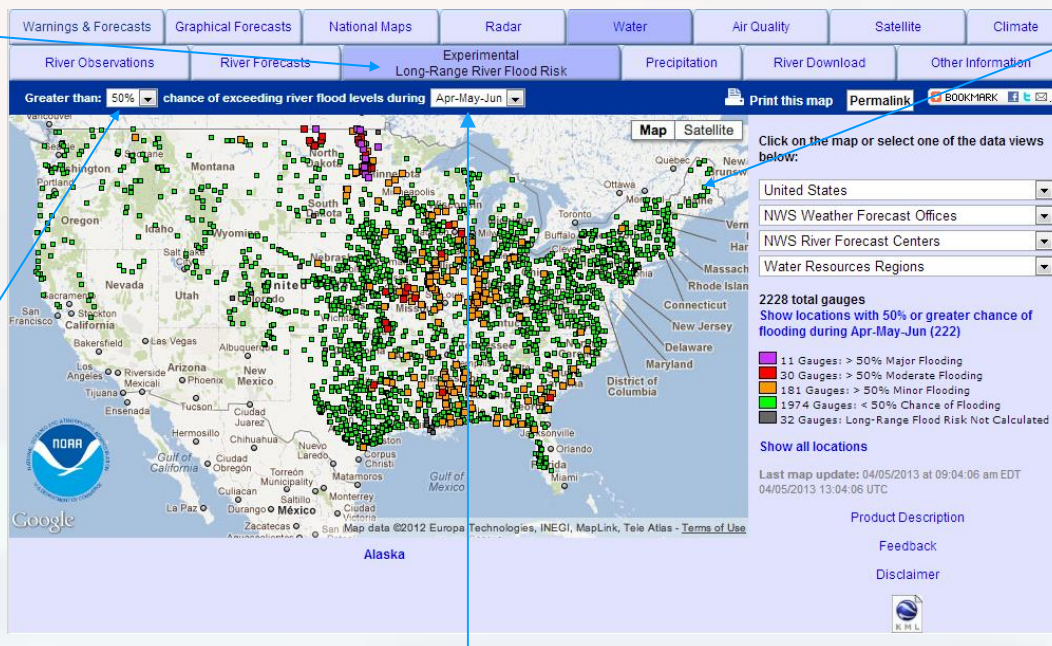


Experimental Long-Range River Flood Risk Map

This interactive web page shows the long-range (3-month) risk of minor, moderate and major river flooding at locations where probabilistic forecasts are produced. The risk information is based on NWS Ensemble Streamflow (ESP) forecasts which are generated for thousands of river and stream forecast locations across the nation.

Clicking on this tab shows locations where there is a greater than 50% chance of exceeding minor, moderate, and major flooding.

Allows user to choose values of greater than 5, 10, 25, 50, 75, 90, or 95% chance of exceeding river flood levels during a 3-month period.



Click on the map to display a regional map of the WFO HSA containing that location.

Use the dropdown menus to view four types of regional maps, including state, WFO HSA, NWS RFC area of responsibility, or USGS water resource region.

Allows user to select the 3-month period of interest. Through the 28th day of the current month, the 3-month period defaults to the current month, current month + 1 month, current month + 2 months. After the 28th day of the current month, the 3-month period defaults to the current month + 1 month, current month + 2 months, current month + 3 months.

On a regional map, click on a point to view the Chance of Exceeding Levels During Entire Period graphic for that location.

Hydrograph

Click on a specific river/stream location on a regional map to bring up a small hydrograph. Click the link at the bottom of the small hydrograph to go to the main hydrograph page. The hydrograph provides recent observations and for many points a forecast for the next few days. Tabs at the top of the hydrograph allow a user to display other graphical information for the river/stream location.

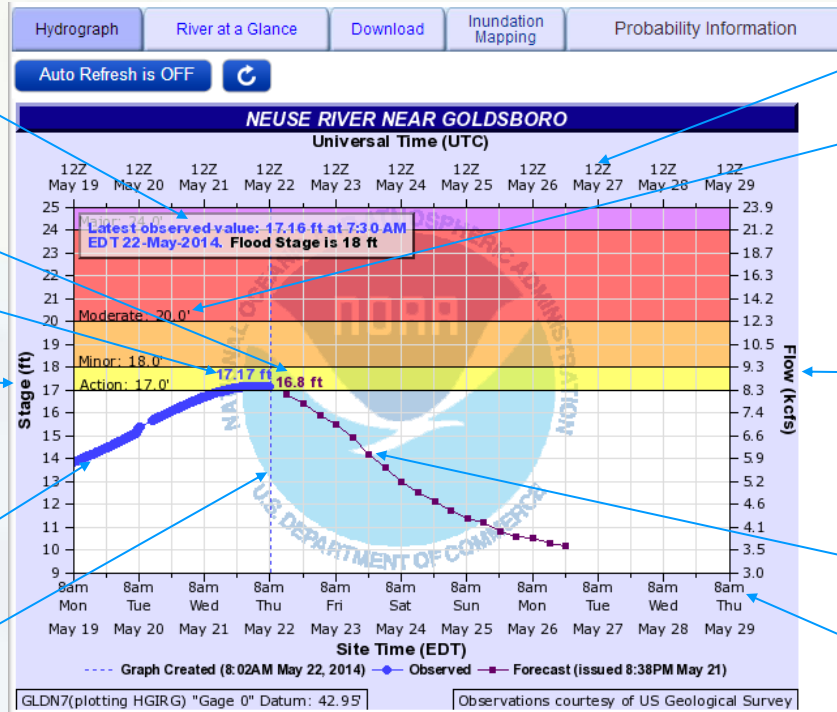
Latest observed stage with time and date. Flood stage is included if available.

Peak observed and forecast stages during time period covered by graph.

Scale for indicating water level in terms of stage in feet (ft).

Observed trace – indicates water level trends over past several days.

Vertical line marks the current viewing time.



Coordinated Universal Time (UTC) scale.

Color-coded flood categories for location being viewed, with stage where each category starts. Flood severity color scheme is consistent throughout these web pages.

Scale for indicating water level in terms of flow in thousands of cubic feet per second (kcfs) or cubic feet per second (cfs).

Forecast trace – shows expected water level trend over next few

Local time scale.

Weekly Chance of Exceeding Levels

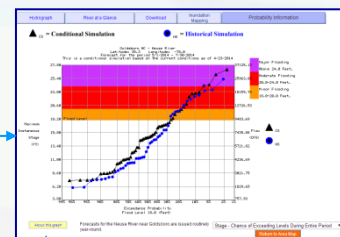
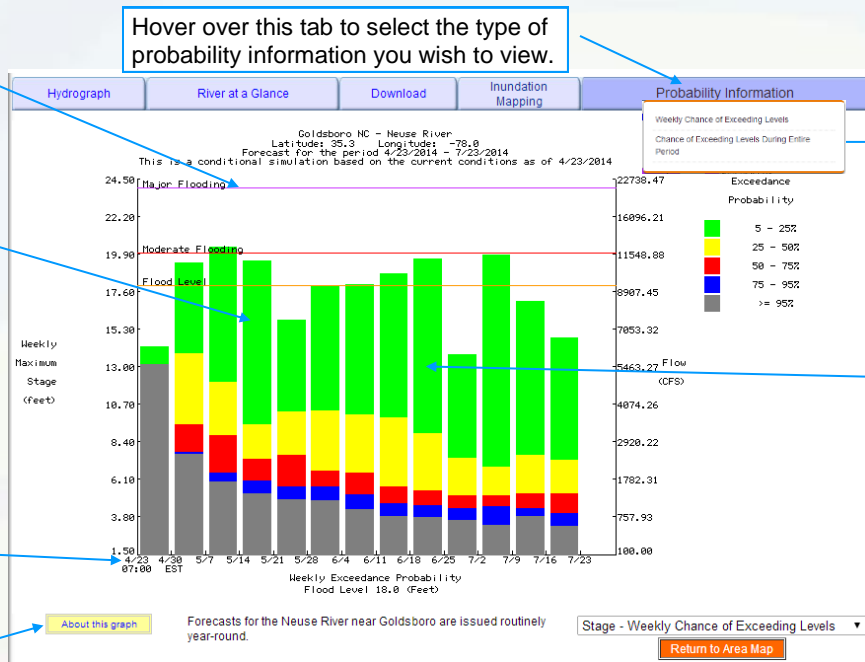
This graphic provides the probability of exceeding various river/stream levels during the next three months given the weather patterns in past years and the best available long-term forecasts.

Lines for flood category levels use the same color scheme shown on the flood hydrograph and other web pages.

Each colored section of vertical bar represents a range of probabilities (e.g., 5% to 25% for the green bars). Range of stages corresponding to those probabilities can be found on the left scale of the graph (see Example).

Bars are shown in weekly increments.

Provides explanation of the graph.



On the web, click on "About this graph" for description of this plot

Example: For week of 6/18 to 6/25, the bottom of the green bar shows there is a 25% chance the stage will exceed about 8.8 feet and the top shows there is a 5% chance the stage will exceed about 19.7 feet.

Allows user to display probabilities in terms of stage, discharge, or weekly flow volume

Precipitation

This web page shows the digital precipitation estimates used in National Weather Service river forecast models.

Allows download of digital data in shapefile or netCDF format.

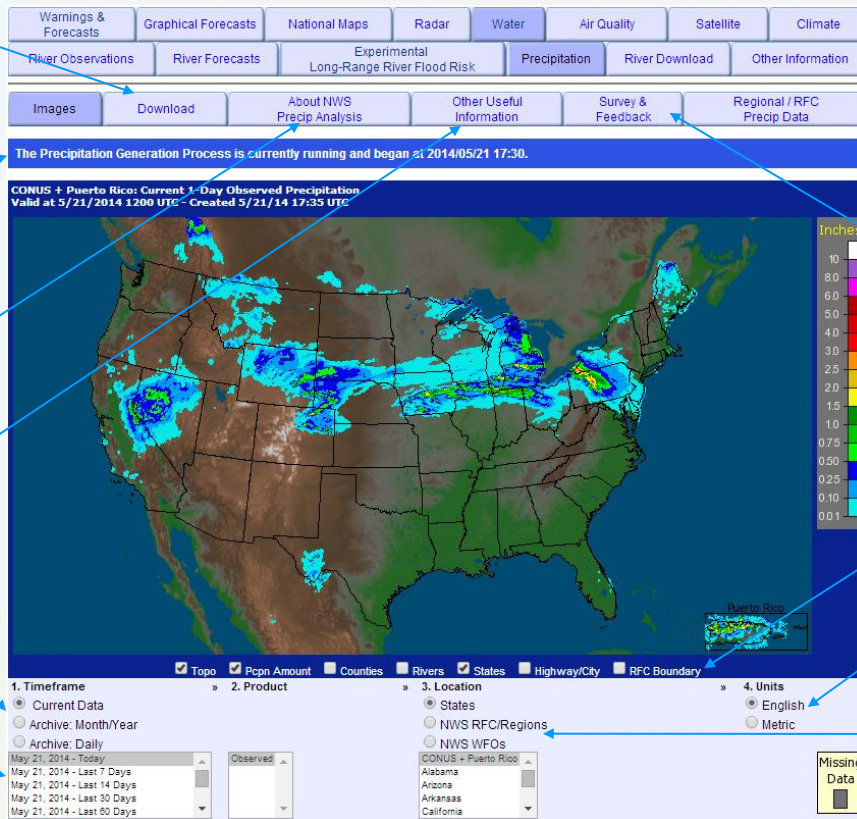
Indicates when precipitation image and shapefile updates are underway but not completely available.

Description of precipitation display and its features.

Provides list of links to other precipitation-related web pages.

Selectable timeframe: current, archived monthly, or archived daily data.

User can select year and month or year, month, and day depending on archive timeframe chosen.



Third row shows options available under "Precipitation" category.

Feedback from users is highly valued.

Precipitation depth in selected units.

User-selectable overlays.

Select units for display.

Area covered: state, major hydrologic region, or weather forecast office area (defaults to CONUS + Puerto Rico).

Interactive Snow Information

This web page (www.nohrsc.nws.gov/interactive/) provides an interface to remotely sensed snow information.

Control map by zooming in or out.

When box is red, clicking and dragging while holding down mouse button and then releasing zooms in on created rectangle area.

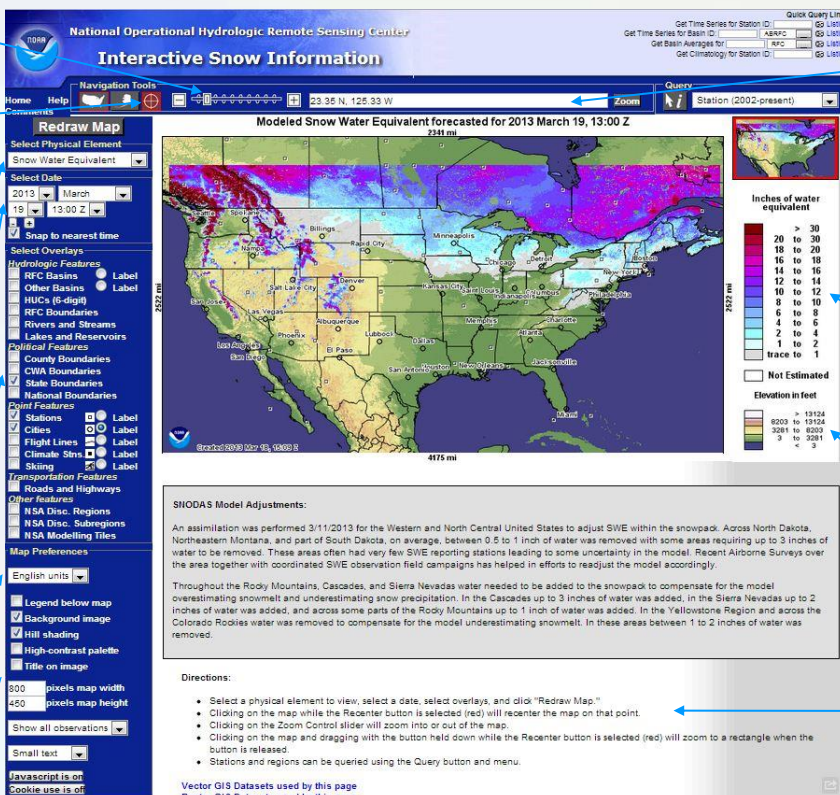
Select type of data to display – e.g., snow water equivalent, snow depth, or snow water equivalent change.

Select date and time to display.

Select geographic features to display.

Select display units (U.S., metric).

Miscellaneous display control features.



Latitude and longitude of cursor location. User can enter coordinates to re-center map.

Map shows portion of U.S. currently being displayed.

Key to information being displayed.

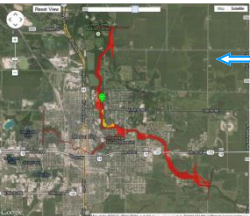
Elevation key for base map.

Directions for use of interactive features.

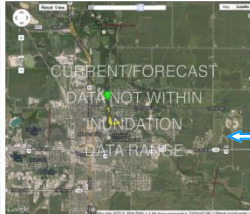
Flood Inundation Map

This interactive web page shows the spatial extent of possible or expected flooding in a given area. It can be used to show if roadways and structures will be impacted by floodwaters. At the limited number of forecast locations where inundation maps are currently available, this web page is accessed by clicking on the inundation mapping tab on the hydrograph web page. In collaboration with partners, this product will be expanded to new locations.

Set display: inundation levels, flood categories, or current forecast.



Flood category display



Current forecast display

Menu for inundation levels shown on map: stage = 18.5 feet is highlighted in yellow.

Mouse cursor location information, including water depth when the feature is activated.

Slider for adjusting transparency of overlay.

Latest stage observation.

Stage at inundation level currently shown on map.

Describes stage where each flood category begins.

List of historical flood crests.

Select background: Google high-resolution aerial or satellite images.

Color scale for depth of inundation.

Flood inundation at stage = 18.5 ft is shown on map.

Download data and links to supporting documents.

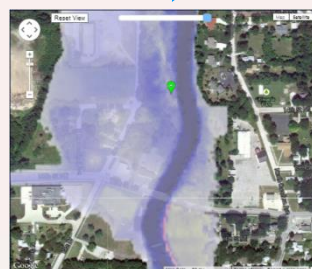
Link to user guide video on YouTube.

Levee risk area and flood control structures overlays are displayed when flood inundation map is viewed for the first time.

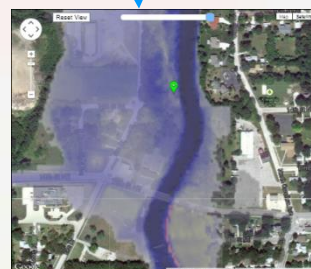
Use tear-away to move map overlay controls.

Clicking anywhere on map displays marker info, including depth, latitude, longitude, and nearest geo-located address.

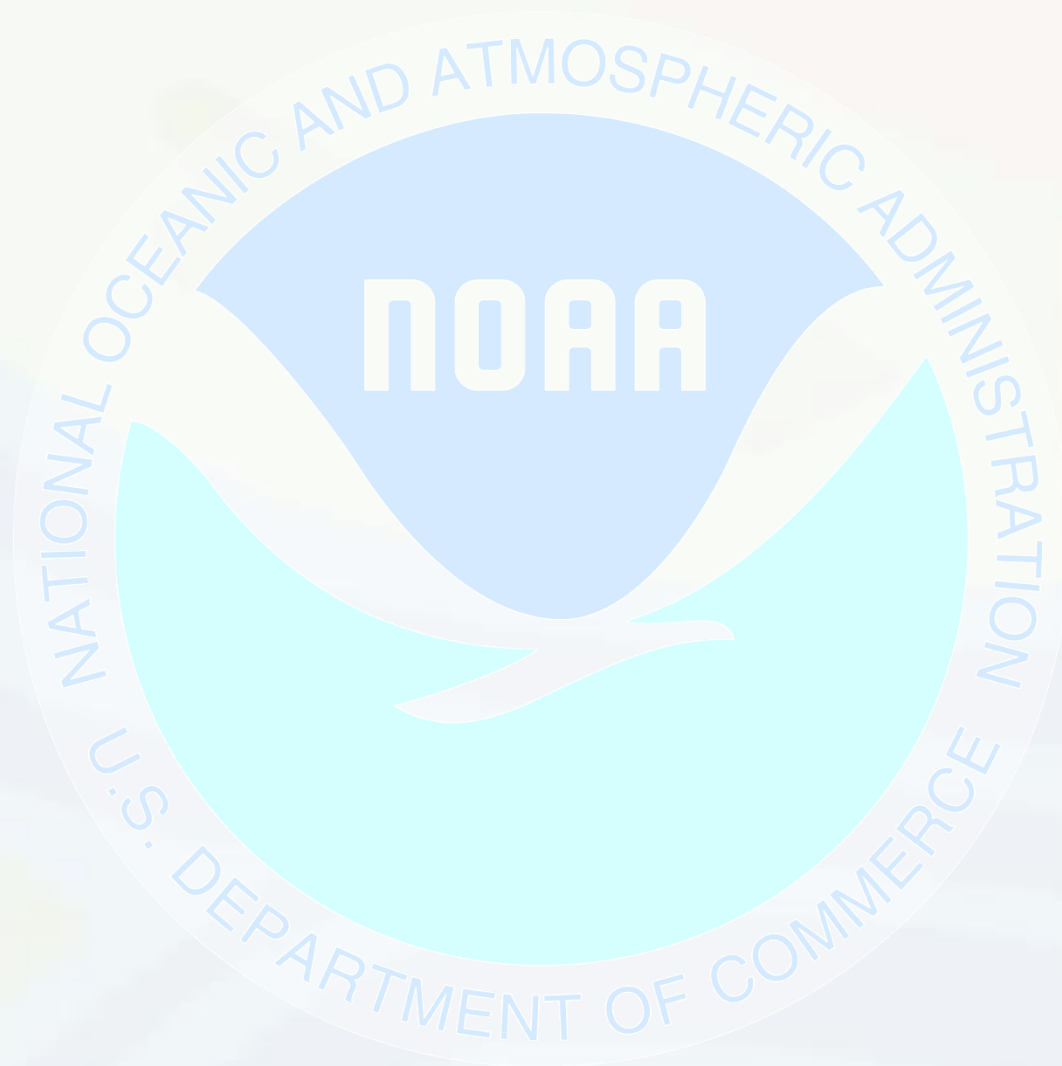
Provides overlays for FEMA 0.2% and 1% annual exceedance flood probability maps.



1% Annual Exceedance Flood Probability



0.2% Annual Exceedance Flood Probability



The Advanced Hydrologic Prediction Service, or AHPS, is a program in NOAA's National Weather Service designed to provide improved river and flood forecasting and water information. AHPS provides a suite of graphical and numeric products over the Internet to assist community leaders and emergency managers in making better life- and cost-saving decisions about evacuations and movement of property before flooding occurs.

To access the water information in this brochure, see:
water.weather.gov

Feedback on these web pages is welcome at:
weather.gov/contact

