

FLOOD INUNDATION MAP GRAPHIC

Part I - Mission Connection

- a. Product Description - The NWS Southeast River Forecast Center produces river stage forecasts for several hundred locations in the Southeast U.S. These forecasts reference numeric gage heights at a single site along the river, generally in or near a city. The experimental Flood Inundation Map Graphics show the lateral extent of projected flooding on local map backgrounds. Currently, they are only being produced during flooding events for a section of the Tar River in North Carolina.

Four graphics are available: One for the entire reach of the Tar River for which the flood inundation mapping is performed, and one each that covers the cities of Rocky Mount, Tarboro, and Greenville.

- b. Purpose/Intended Use - Flood Inundation Maps will show the extent of flooding expected spatially over a given area. This will indicate when roadways, streets, buildings, airports, etc. are likely to be impacted by floodwaters. The accuracy of the mapping depends on the degree of accuracy of DEM data available for use in the GIS application, plus other factors.
- c. Audience - The initial target audience is the state and local agencies that must make emergency operational decisions during flooding events. However, since the graphics are easy to view, anyone with an interest during these events can make use of the maps, including the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS), Corps of Engineers (COE), state and local emergency managers, the media, and the general public.
- d. Presentation Format - The Flood Inundation Maps are web-based graphics. A text version of the actual river forecast numbers is also available. The web-page has a description of the product and there are four views/maps available. Each view/map will show the maximum extent of the flood inundation for the 7 day forecast period, plus instantaneous inundation at 6 hour intervals for the next 72 hours.
- e. Feedback Method - Comments regarding the SERFC Flood Inundation Maps should be sent to the feedback e:mail address on the webpage containing the product. A survey link will also be available on the webpage. Comments may also be provided to:

Southeast River Forecast Center
4 Falcon Drive
Peachtree City, GA 30269
Attn: John Feldt
John.Feldt@noaa.gov

Experimental Feedback Period: January 1 through November 30, 2004.

Part II - Technical Description

- a. Format and Science Basis - Inundation areas depicted in the maps are derived using two models plus a Geographic Information System (GIS). The NWS hydrologic model is used to predict the amount of flow in entering the Tar River at various points. Using these predicted flows, a dynamic routing model, FLDWAV, is used to predict a profile of water surface elevations. This FLDWAV implementation predicts the water surface profile only along the Tar River main stem, and is not intended to predict water surface elevations on tributaries. A map, that provides a visual depiction of a flood forecast, is created using a series of GIS algorithms and is then posted to our web page. The text product for the numerical forecast is available from a link on the web page. A sample of this product can be found at: <http://www.srh.noaa.gov/alr/inundation/peak.htm>
- b. Product Availability - The SERFC Tar River Flood Inundation Maps will be produced and sent to the web daily.
- c. Additional Information - Contact John Feldt (John.Feldt@noaa.gov) or Wylie Quillian (Wylie.Quillian@noaa.gov) at SERFC (phone 770-486-0028).