

LMRFC Fact Sheet #3

LMRFC Flood Outlooks

The Lower Mississippi River Forecast Center (LMRFC) has historically issued site-specific river stage forecasts for selected locations along major rivers using observed rainfall and rainfall forecasted 12 hours in the future. Based on meteorological analysis, LMRFC hydrologists often have information on the potential for flooding to occur utilizing rainfall beyond the 12 hours currently included in site-specific stage forecasts. To convey this information, LMRFC began issuing a River Flood Outlook (RFO) and Flood Outlook Potential (FOP) this fall.

River Flood Outlook (RFO)

The RFO will provide specific, detailed information on the potential for flooding in the next 48 hours based on forecasted rainfall for the next 24 hours. The RFO a National Weather Service (NWS) Southern Region (SR) initiative, started in November, 2001. LMRFC runs its hydrologic model using quantitative precipitation forecasts (QPF) for the upcoming 24 hours. These stages are compared against stages from LMRFC's routine model runs with only 12 hours of QPF. Any locations that are expected to flood based on the additional 12 hours of QPF will be included in the RFO. This outlook will

also include any locations where there is potential for flooding to worsen (go from minor to moderate flooding as an example). The outlook will list the locations where flooding is possible and also list the counties or parishes that would be affected.

To convey information to the public, the RFO will be issued as a text product on the NOAA Weather Wire Service (NWWS), Emergency Management Weather Information Network (EMWIN), and the Family of Services and posted to the NWS websites. The text product will contain information on amount of forecasted rainfall that may produce flooding, the severity of

the flooding, and the counties that are affected. The product is issued in the ESF category. For example, the RFO from WFO New Orleans (NEW) will be NEWESFNEW. A series of web graphics are prepared. These graphics will highlight basins and counties affected. These graphics are available for the all of SR, (www.srh.noaa.gov/ftproot/hsd/html/rfo.htm), each SR RFC, and each SR WFO. A sample graphic for LMRFC (www.srh.noaa.gov/lmrfc/rfo/lmrfcfo.shtml) and WFO Jackson are shown in Figures 1 and 2, respectively.

The RFO will be updated twice daily at about 10AM and 9PM each day. Updates may be made at 2:30PM and 2:30AM if conditions change rapidly.

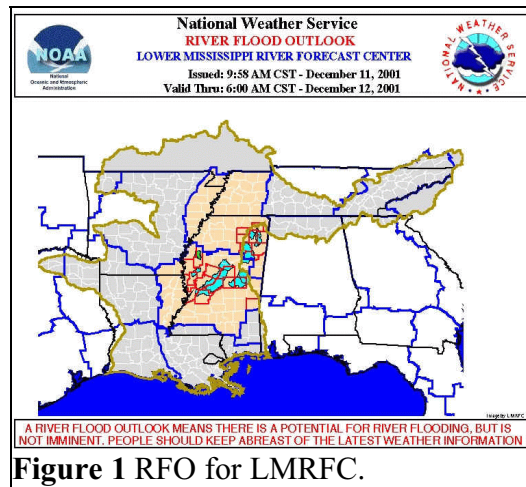


Figure 1 RFO for LMRFC.

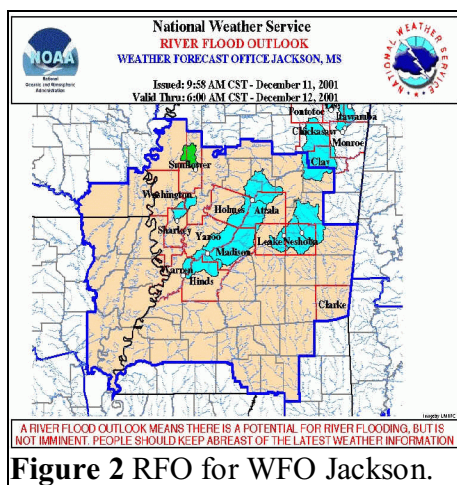


Figure 2 RFO for WFO Jackson.

Significant Flood Outlook Potential (FOP)

The FOP will provide a “broadbrush” outlook for the potential for significant flooding over the next five days. This product is based on observed rainfall, current soil moisture conditions, and 72 hours of QPF and will delineate the areas where there is a potential of “significant” flooding over the next five days. The NWS classifies flood levels as minor, moderate, major, and record. “Significant” flooding is defined as moderate or greater flooding. The FOP will delineate areas where significant flooding is possible, likely or ongoing/imminent. Significant flooding “likely” means hydrometeorological conditions indicate that significant flooding can be expected during this period. Significant flooding “possible” means conditions indicate that flooding could occur but such flooding is neither certain nor imminent. Significant flooding “occurring/imminent” delineates areas where significant flooding is occurring or has been forecasted by the NWS. By design, this product is based largely on hydrologists knowledge and experience and could be very subjective.

The FOP is available only as a graphic on the Internet. Each of the 13 RFCs across the country will prepare the FOP for their area. The Hydrometeorological Prediction Center will mosaic the FOP from each RFC into a national mosaic. These products will be issued by 3PM Central Local time. A sample LMRFC product (www.srh.noaa.gov/lmrfc/fop/index.shtml) is shown in Figure 3. A sample national product is shown in Figure 4 (www.hpc.ncep.noaa.gov/nationalfloodoutlook/).

A Real-time Example

How will this product benefit our customers? Assume it is Monday and meteorological models forecast conditions associated with heavy rainfall occurring Thursday in central Mississippi (MS). Due to previous rainfall, the rivers are above normal and soil moisture is high. Combining knowledge of hydrologic conditions and meteorological forecasts, the RFC issues a FOP for the possibility of significant flooding in central MS for Friday. Emergency managers and reservoir operators can begin actions to mitigate possible flooding. On Tuesday and Wednesday, these forecasted conditions persist and RFC forecasters issue a FOP with significant flooding likely on Friday because they are more certain of the heavy rainfall. On Thursday, the LMRFC uses 24 hours of QPF of 4-5 inches in RFO model runs and these runs indicate that moderate and major flooding could occur in central MS. RFC hydrologists now issue a basin specific RFO alerting specific counties to the possibility of significant flooding. Based on this RFO, local Emergency Managers may schedule overtime and ensure that last minute mitigation efforts are completed. For Thursday evening forecast issuances, LMRFC hydrologists issue site-specific crest forecasts for flooding.

Please contact LMRFC at 985-641-4343 for any questions on these two new products. Also, please provide comments as requested on the websites listed above.

