

Service Description Document

Hourly Multi-Sensor Precipitation Estimate Web-Based Service

Part I - Mission Connection

a. Product Description - The National Weather Service (NWS) collects rainfall data to support its forecast and warning operations. Individual River Forecast Centers (RFCs) and Weather Forecast Offices (WFOs) typically provide rainfall collectives in text and graphical formats for their areas of responsibility. This service provides unified hourly precipitation estimates for the continental U.S. and the Commonwealth of Puerto Rico on the Internet. The service includes graphics that display these precipitation data, as well as the ability to download the information in shapefile format for seven days post-event. This suite of graphics includes precipitation estimates for the last 1, 3, 6, 12, 24, 48, and 72 hourly accumulations, as well as “since 12z” accumulations. Hourly archives will be maintained.

b. Purpose – These Quantitative Precipitation Estimates (QPE) graphics are representations of estimated rainfall from radar that have occurred for a specific length of time. Currently, each RFC prepares its QPE graphics using different colors, precipitation thresholds and map projections. Producing these graphics centrally will enable the public to compare QPE data across most of the continental U.S. and the Commonwealth of Puerto Rico.

c. Audience - The target audience for these graphics is wide ranging. Partners, such as the U. S. Army Corps of Engineers, the U.S. Geological Survey, the Federal Emergency Management Agency, the U.S. Department of Agriculture, the National Park Service, state emergency managers, and river authorities have areas of responsibility that span states and often River Forecast Centers. The centralized location of these graphics makes it easy for these partners to view precipitation data for a wide area. Use will not be limited to those interested in large areas, however. Local emergency managers and the general public will also use these graphics to evaluate conditions at the local level.

d. Presentation Format - The Precipitation Graphics are web-based graphics, and can be viewed at the following URL:

http://www.srh.noaa.gov/rfcshare/precip_analysis_hourly.php

The information can also be downloaded in shape file format for seven days post rain event.

Part II - Technical Description

a. Format and Science Basis - Rainfall data (gage) are collected from cooperative observers and data collection networks such as GOES Data Collection Platforms and Automated Surface Observing Systems (ASOS). Hourly precipitation estimates from WSR-

88D NEXRAD radar are compared with gage precipitation and satellite-derived estimates to derive a multi-sensor precipitation estimate. Software written in C programming language is used to prepare the web-ready precipitation suite of graphics for most of the continental U.S., including Puerto Rico, using hourly multi-sensor precipitation files generated at the RFCs. Web browsers using standard Hypertext Markup Language (HTML) can be used to display these graphics. A sample graphic is shown in Figure 1. Users can also download the observed precipitation information in shapefile format for use in their projects or research.

b. Product Availability - The Precipitation Graphics are routinely updated each hour.

c. Additional Information – Please click on the “About NWS Precip Analysis” tab at the top of the graphic.

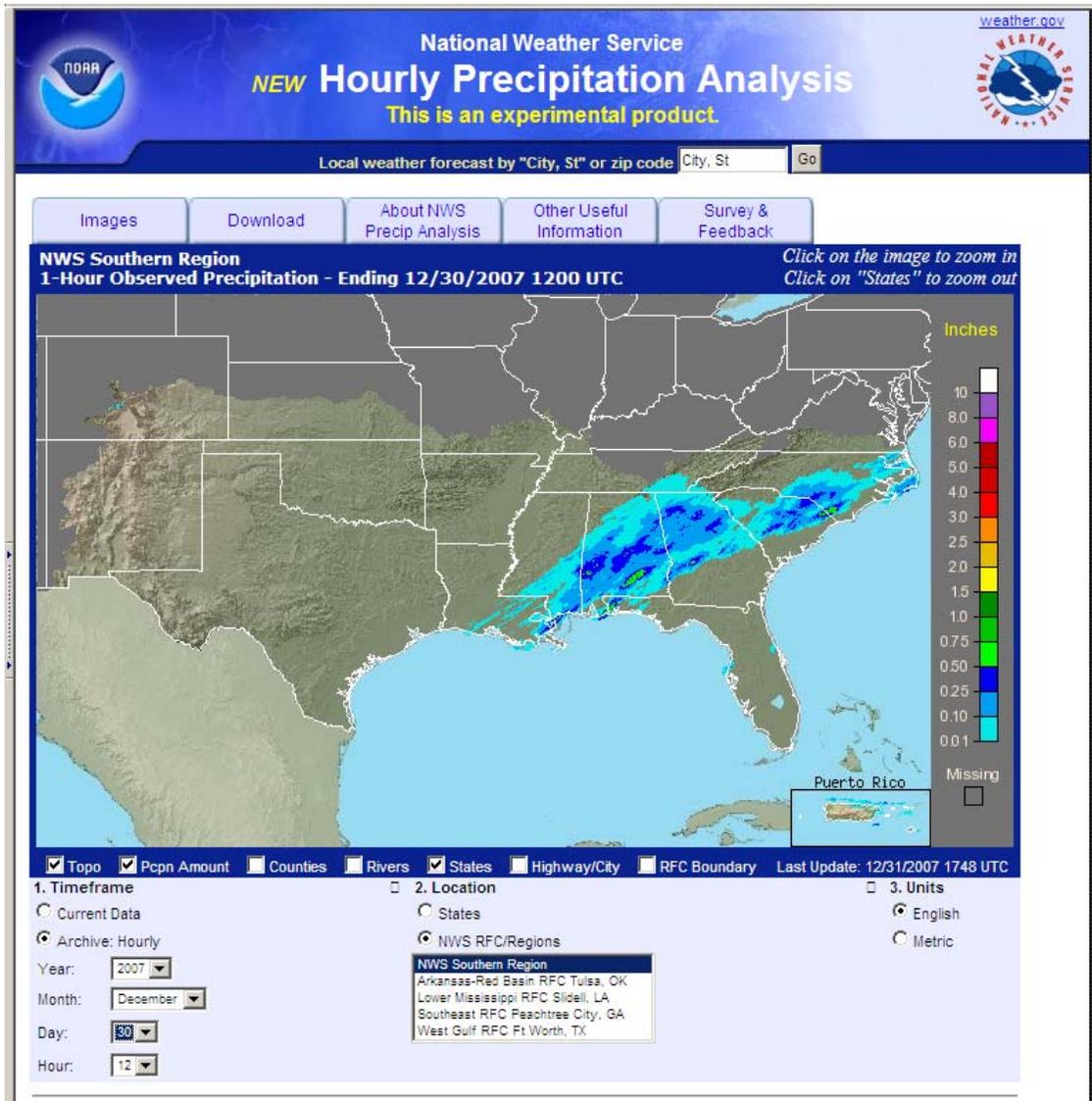


Figure 1. Screen capture showing estimated precipitation for the one hour period of December 30, 2007 at 12z.