

USING THE NATIONAL WEATHER SERVICE AHPS WEB SITE

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Abstract: The Advanced Hydrologic Prediction Service (AHPS), a new and major initiative of the National Weather Service (NWS), is a web-based suite of hydrological forecast products. These AHPS products take advantage of advances in hydrometeorology and hydrology and are available in an easily navigable, organized and consistent manner on the Internet to better serve NWS customers across the nation. Products available on the AHPS web pages include forecast hydrographs, probabilistic forecasts, historical crest data, flooding impact information, maps of gage sites, pictures of gage sites, inundation mapping, and links to forecast and observed precipitation data. These new products will enable emergency managers and other government officials, as well as individuals, to make informed decisions and take appropriate actions to mitigate the dangers of expected flooding.

History

AHPS was born out of the devastating floods in the Midwest U.S. in 1993. The first AHPS test bed was the Des Moines River Basin by the Des Moines Weather Forecast Office (WFO). The program was praised by the local water resources and emergency management agencies and, as a result, was spread to much of the Midwest U.S with the help of the North Central River Forecast Center (RFC) in Minneapolis. During this period the Internet was quite young. Most users had relatively slow dial-up connectivity. As a result, graphics were kept at a minimum on the web pages and were quite simple by today's standards.

Prior to 1995, Southeast River Forecast Center (SERFC) river forecast products were text-based and were available to the public, but only through the local National Weather Service (NWS) WFO as river statements and warnings. These WFO products were disseminated to the public via NOAA Weather Radio and weather wire. The SERFC web site was first launched in 1995, and these text-based river forecast products were finally available to the public in raw format. There were approximately 80 river forecasts issued daily and approximately 150 issued when significant rises or flooding was expected. Although the publication of these forecasts was welcomed by our partners, they were difficult and confusing to the layman.

In 1999, the SERFC began work on producing automated graphical products for viewing on the Internet. These graphical products were to show not only river forecast hydrographs, but also color coded "status" maps, clickable to the hydrographs. In September 1999, when Hurricane Floyd approached the Southeastern United States, the Federal Emergency Management Agency (FEMA) requested the hydrographs be made available on the Internet as soon as possible. The SERFC complied and hastily completed the necessary programs to bring the graphics online 3 days prior to landfall. These products were the first of their kind across the United States, and were a contributing forerunner to the present-day AHPS web pages. Soon after the Hurricane Floyd Disaster Assessment listed these new graphical products as a "Best Practice," other RFCs across the country followed with Internet graphical products of their own. Unfortunately, these new hydrologic graphical products were inconsistent in their "look and feel" across the country.

The Internet web page inconsistency was addressed in 2001, when National Weather Service Headquarters put forth a plan to bring a "corporate web look" to all National Weather Service web sites. A big part of this plan was to put a status map on the front page of each WFO's web site that would show watches, warnings, and advisories in effect. The new maps would then be clickable to the local forecast. Although the RFCs conformed to the new corporate web look, there was still no standard put in place for the RFC's hydrological graphic products. Therefore, Southern Region Headquarters in Fort Worth developed a team of RFC webmasters to address the inconsistency problem across the region. Finally, in 2003, work began on implementing a nationally consistent suite of hydrologic graphical products to the Internet as a part of the AHPS program.

Using the AHPS Web Site

The AHPS web pages can be accessed a couple of different ways. To see a map of river forecast conditions for all of the Southeast U.S, go to the SERFC web site at: www.srh.noaa.gov/serfc. You will see a color-coded status map showing forecasted maximum river levels over the next 5 days. By clicking on the map, you may go to a zoomed up portion of the map. Then, by clicking on a forecast point, you may go to its AHPS web page.

The AHPS web pages are now hosted by the servicing WFO. To reach the AHPS front page for the Atlanta WFO, go to: www.srh.noaa.gov/cgi-bin/ahps.cgi?ffc. This page will show you a status map of the Atlanta WFO's hydrologic service area (HSA), which includes north and central Georgia. The status map will show the river points currently in flood with a red square or circle. A square indicates that a hydrograph is available, and a circle indicates that both hydrograph and probability information are available.

By clicking on the square or circle, you are brought to the AHPS page. This page shows forecast hydrographs, probabilistic forecasts (if available), historical crest data, flooding impact information, maps of gage sites, pictures of gage sites, inundation mapping, and links to forecast and observed precipitation data.

A hydrograph shows how the river level changes over time at a specific location. At key river gages, daily forecast hydrographs are provided, whether or not flooding is anticipated. Otherwise, forecast information is only shown when significant river rises or flooding is expected. At some locations, probabilistic outlooks for extended periods of up to 90 days are provided. These products are part of the Ensemble Streamflow Prediction program (ESP) underway at RFCs.

Summary

The AHPS web sites are still a work in progress. Work is being done to expand probabilistic forecast information, as well as inundation maps to more river forecast points. Customer feedback is still being asked for on the AHPS web pages. As a result of this feedback, changes are being made to make the site load faster and hydrographs easier to decipher. There will be nationally consistent precipitation and water resources pages. The changes will come on line by summer of 2005. This and all future web site upgrades take into account not only our core users such as emergency managers and various government water agencies, but also the layman that may have a house on a riverbank.

LITERATURE CITED

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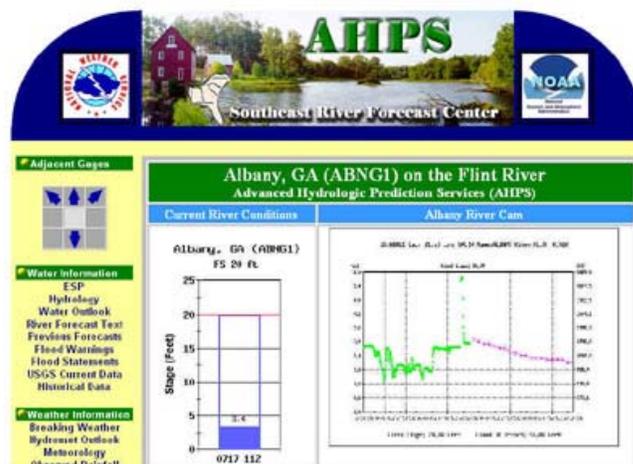


Figure 1. AHPS Web page from 2000, for Albany, GA



Figure 2. Present day AHPS web page for Albany, GA



Figure 3. Mockup of new AHPS web page coming on line, summer of 2005.