Lower Mississippi River Forecast Center

Crawfish Tales

www.srh.noaa.gov/lmrfc

Vol. 7, No. 4
Summer 2004

Features

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Did you know?

* Rivers supply the majority of water that we use in everyday life, yet rivers only account for 1/10,000 of 1% of the world's water.

* Groundwater is the largest portion of fresh water on Earth at a mere 0.61% of total water.

From the Hydrologist-In-Charge

With the last few weeks of relatively dry weather, this spring flood season has finally come to an end. Soil moisture is still high and streamflows are above normal for this time of year. We will keep a close watch on the rivers as we enter the most active portion of the hurricane season.

We have a large amount of procedure development activities ongoing and planned for this summer and fall. Significant staff time is being devoted to model calibration to support Advanced Hydrologic Prediction Services (AHPS). We are also working closely with our offices in the Tennessee River valley to provide training on AHPS products and services. In addition to this, we are also working closely with our Weather Forecast Offices to assist them in training. Our support for AHPS has taken much of our time and we will continue to spend a significant amount of time implementing these services.

Feedback is always welcome. Please let us know if there are additional products or services you need form the LMRFC. We always enjoy hearing from our cooperators and partners.

- Dave Reed

AHPS Implementation

During the Fiscal year 2004, The Lower Mississippi River Forecast Center began a seven year project to implement the National Weather Service's Advanced Hydrologic Prediction Service (AHPS) across its area. AHPS will result in a more precise hydrologic forecast over all time scales, provide information for users to make risk based decisions using probabilistic forecats, provide a wide variety of products across multiple mediums, and issue visually based products.

AHPS points will consist of at least a short term hydrologic forecast in both text and graphical format, graphical maps of where the river gage is located, river level impacts at crtical heights, and long term probabilities of flow, height, and volume.

During Fiscal year 2004, the LMRFC will implement AHPS services at 25 locations in western North Carolina, eastern and middle Tennessee, southwest Virginia and northern Alabama. At the end of July 2004, 14 of these points will be fully implentented.

To prepare a more accurate hydrologic forecast, the LMRFC is also calibrating its hydrologic model while

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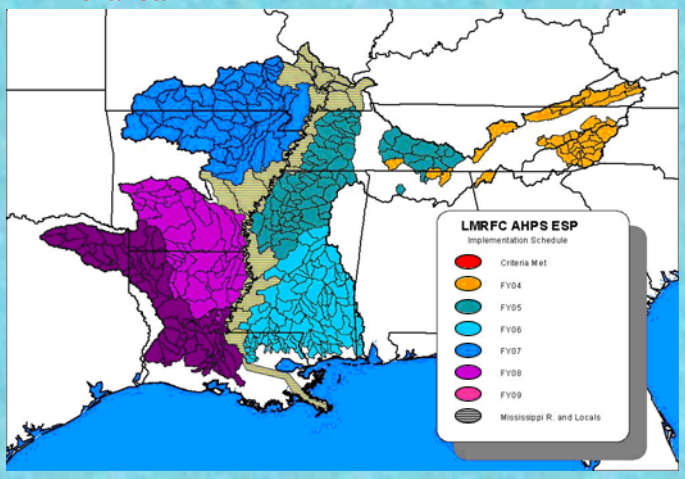
AHPS continued...

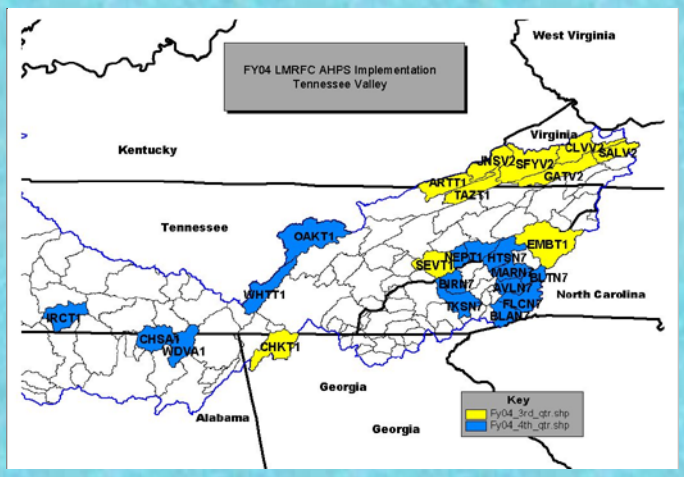
implenting AHPS. The rainfall-runoff (Sacremento) model, hydrologic routings and unit hydrographs are to be fully calibrated during the process of establishing AHPS forecast points. Calibrations are being performed by a combination of LMRFC staff members and outside contractors.

AHPS implentation is scheduled to be completed across the LMRFC area in 2011 (The schedule to implement AHPS for the Mississippi River will be determined at a later date).

The national AHPS website can be accessed at: http://www.nws.noaa.gov/rivers_tab.html

Figure 1:Scheduled AHPS implemetation across the LMRFC area

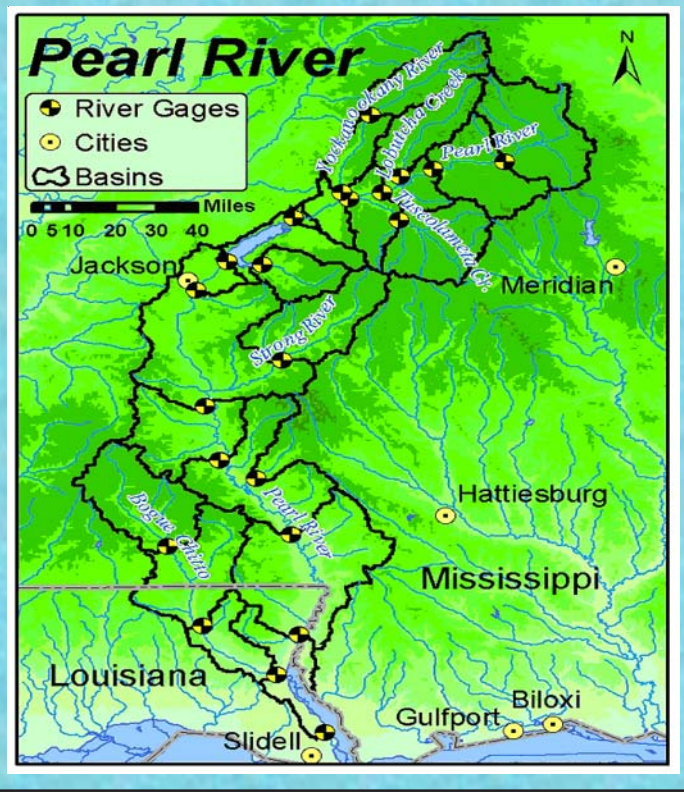




Know Your River Systems: Pearl River System

The Pearl River basin is the third largest drainage basin in Mississippi and meanders approximately 421 miles through the central portion of Mississippi and a small portion of southeastern Louisiana. The basin drains all or parts of 23 counties in Mississippi and 3 parishes in Louisiana, an area of 8,760 square miles. The principal headwater tributaries are the Yockanookany River and Lobutcha Creek, both of which are located in a distinctive rolling hills topography. Other major tributaries along its length are the Strong River and the Bogue Chitto River located in the central and lower reaches respectively.

The Pearl River tends to be a winding, slow moving river which becomes wider as it travels southward. The lowest reaches of the river flow through swamp/marsh land through the Honey Island Swamp and the Bogue Chitto National Wildlife Refuge below Bogalusa, Louisiana. The Pearl River drainage incorporates one major population center,



Mississippi's capital city of Jackson. The city is located on the Pearl River approximately 10 miles downstream of the Ross Barnett Reservoir, which was designed and constructed for water supply and has only limited flood control capacity. A smaller tributary, Pelahatchie Creek, enters into the lower portion of the reservoir on the southeast side of the lake and can be effected by backwater from the reservoir. The pool of the reservoir can rise rapidly from water entering the lake from Pelahatchie Creek.

The Pearl River is modeled as two forecast groups: 1) The Upper Pearl River extending from the headwaters north of Jackson, MS to the Highway 80 gage at Jackson, MS below the Ross Barnett Reservoir and 2) The Lower Pearl River, which includes all the Pearl River drainages below Jackson, MS. Tributary river response times vary along the entire reach of the Pearl, with crest times usually ranging from 1-4 days. A flood wave can take up to two weeks to traverse the Pearl. The annual rainfall ranges from 40 inches annually in the upper part of the river basin to over 60 inches along the Louisiana Gulf Coast.

Upper Pearl River Basin

River	Location	Flood Stage	Record
Pearl	Philadelphia, MS	13	23.31 4/13/79
Pearl	Edinburg, MS	20	30.06 4/14/79
Pearl	Carthage, MS	17	28.74 4/14/79
Tuscolameta Creek	Walnut Grove, MS	25	33.00 1/07/50
Pearl	Lena (Good Hope), MS	24	32.70 4/17/79
Yockanookany	Kosciusko, MS	15	23.06 4/13/79
Yockanookany	Ofahoma, MS	19	28.27 4/14/79
Pearl	Ratliffs Ferry, MS	303	313.1 4/14/79
Pearl	Ross Barnett		
Pearl	Jackson, MS	28	43.28 4/17/79

Lower Pearl River Basin

River	Location	Flood Stage	Record
Strong	D'Lo, MS	25	33.48 4/07/83
Pearl	Rockport, MS	25	42.84 4/18/79
Pearl	Monticello, MS	19	34.08 4/20/79
Pearl	Columbia, MS	17	27.8 4/22/79
Pearl	Bogalusa, LA	18	23.23 4/24/79
Pearl	Tylertown, MS	15	34.62 4/7/83
Bogue Chitto	Franklinton, LA	12	24.69 4/7/83
Bogue Chitto	Bush, LA	11	21.22 4/8/83
Pearl	Pearl River, LA	14	21.05 4/9/83

www.srh.noaa.gov/lmrfc/forecast/tributaries/status_pearl.shtml

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Stucky Receives Max Kohler Award

LMRFC Development and Operations Hydrologist Bob Stucky received the Max Kohler Award presented annually to a field forecaster for meritorious service to the Hydrologic Services Program of the NWS. Bob has been involved in river forecasting since joining the NWS and LMRFC in 1976. He has been involved in providing critical forecasts for many major floods including the Pearl River floods of 1979 and 1983; the Red River in 1991; the Mississippi River in 1979, 1995, and 1997; and Tropical Storm Allison in 2001.

Bob has also been a leader in implementing new technologies at LMRFC. He was a leader in integrating SLOSH and DWOPER output to predict storm surges and implementing AWIPS in the 1990s.

Congratulations on a well deserved honor for Bob.