



*Working Together to Save Lives*

## National Weather Service Advanced Hydrologic Prediction Service

The FY 05 President's Budget maintains \$6.1M for the Advanced Hydrologic Prediction Service (AHPS) to improve the Nation's capability to take timely and effective actions to mitigate the economic losses from major floods and droughts. National implementation of AHPS will save lives and an estimated \$240 million per year in flood losses, and will contribute an additional \$520 million per year in economic benefits to water resource users.

### Background

Each year, floods kill more people than any other form of severe weather, and cause damages in excess of \$3.5 billion. Three-quarters of all presidentially declared disasters are the result of flooding. Clearly, hydrologic forecasting is critical to public safety and the economy. AHPS river, flood and drought forecasts are prepared by hydrologists and hydrometeorologists at the NWS's 13 River Forecast Centers and 122 Weather Forecast Offices.

AHPS provide forecasts of river levels and river flow volumes from an hour to a season for areas large and small, including river forecast information such as:

- How high the river will rise
- When the river will reach its peak
- Where property will be flooded
- How long flooding will continue
- How long a drought will last

AHPS also provides better information to water managers and city officials, helping them make decisions about water allocation and economics such as:

- When and where to evacuate people, goods and industrial property from potential flood areas, thus saving more lives and contributing to economic savings
- How to use reservoir storage capacity and release to reduce flood impacts on people and businesses, including agricultural demands
- When to reinforce levees and at what level, to help reduce damage to areas nearby



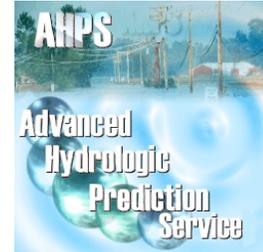
*In an average year, more than 130 people are killed by flooding and flash flooding.*

AHPS applies new science which provides more accurate forecasts for flow conditions ranging from droughts to floods in a timely and user-friendly manner. AHPS uses a combination of software and hardware tools to analyze data and create graphical displays of probability forecasts.

## Key Activities

Nationwide implementation of AHPS is underway. During FY 05 the NWS will implement AHPS at 386 forecast points for a total of 1,522 points in the U.S., expanding AHPS to all Regions of the U.S. As implemented AHPS will:

- Produce new information with better predictions of river height and flood potential to reduce loss of life and property
- Deliver high resolution, visually oriented products to provide partners and customers valuable information for decision making
- Refresh aging hydrologic forecasting infrastructure to support rapid infusion of scientific advances
- Leverage NOAA's investments in observational systems and atmospheric models to enhance accuracy and resolution of river forecasts.



## Outcomes

AHPS reduces loss of life and property, mitigates flood damages (three fourths of all Presidential Disaster Declarations involve flood damages), leads to a savings of over \$760M per year, and significantly improves NOAA's capability to respond to prevalent challenges with energy production and water resource stewardship. Specifically, AHPS:

- Incorporates new science and technology improvements;
- Provides more accurate water forecasts and flood warnings;
- Generates visually oriented, commercially valuable products to satisfy diverse customer needs such as emergency response, river commerce, flood control, water supply, hydropower, irrigation and recreation; and,
- Provides better information for decision making, especially with regard to the prevalent challenge with energy production and water resource stewardship.

## Budget Summary

Program	FY04 Appropriation	FY 05 Request	Increase
AHPS	\$6.1M	\$6.1M	0