

**ADVANCED HYDROLOGIC PREDICTION SERVICE (AHPS)
FLOOD INUNDATION MAP INTERFACE
Product Description Document (PDD)**

Part I - Mission Connection

a. Product Description - The National Weather Service (NWS) is enhancing the communication of flood risk and impacts through the use of Advanced Hydrologic Prediction Service (AHPS) flood inundation maps. Developed in partnership with other government agencies, these flood inundation maps provide information on the spatial extent and depth of flood waters in the vicinity of NWS river forecast locations. The final inundation maps and web interface are the result of extensive outreach, including responses to numerous surveys and direct interaction with partners and customers at several local, regional, and national venues.

b. Purpose/Intended Use - The NWS River Forecast Centers produce river stage forecasts for more than three thousand locations in the U.S. These forecasts reference numeric gage heights at a single site along the river, generally in or near a city. Flood inundation maps are available for specific NWS forecast points where a flood inundation library has been developed through a partnership with Federal, state, and/or local agencies.

Flood Inundation Maps show the extent of flooding expected spatially over a given area. This will indicate where roadways, streets, buildings, airports, etc., are likely to be impacted by floodwaters. Combined with river observations and NWS river forecasts, inundation maps provide decision-makers additional information needed to better mitigate the impacts of flooding and build more resilient communities.

c. Audience – The target audience is the state and local agencies that must make emergency operational decisions during flooding events. An easily accessible map graphics will provide users more awareness of the flood hazards in their local community. The target users of the flood inundation mapping set of reference tools include emergency managers, floodplain managers, planners, operational hydrologists, and meteorologists.

d. Presentation Format – A library, or collection of inundation map graphics, is created for each river forecast location. The AHPS webpage also includes a text version of the actual river forecast as well as a graphical forecast hydrograph.

Impact and historical information is also included with the inundation maps. User-selectable displays will provide maps for various inundation levels or by flood categories. The interface also includes an interactive mouse locator water depth feature. A complete description of the interface is available in an online user guide available at:

http://newweb.erh.noaa.gov/ahps2/inundation/inundation_mapping_user_guide.pdf

e. Feedback Method – Users are welcomed to provide comments regarding the flood inundation maps and interface through the online feedback available. Comments may also be provided directly to:

National Weather Service
1325 East-West Highway
Silver Spring, MD 20910
Attn: Victor Hom, Rm 13450

f. Example URL:

<http://newweb.erh.noaa.gov/ahps2/inundation/inundation.php?wfo=rah&gage=gldn7&view=1,1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6>

g. PDD approved by Dennis McCarthy, Director, Office of Climate, Water, and Weather Services.

Part II - Technical Description

a. Format and Science Basis – Graphical representation of flood inundation for NWS flood categories are based on steady state hydraulic modeling of water surface elevations for incremented discharges. Each map shows approximate inundation areas for given water surface elevations and should not be used for navigation or permitting or other legal purposes, but strictly as a planning reference tool.

b. Product Availability - Inundation map libraries are accessible via the Internet. Users can display flood inundation maps for forecast river levels ranging from minor flooding through the largest observed flood on record. These flood inundation maps and associated geospatial data (e.g., shapefiles) are accessible through the AHPS webpage at:

<http://www.weather.gov/ahps/>

The interface provides the ability to view inundation levels at stages in the minor, moderate, and major flood categories. The 100-year flood, 500-year flood, and the floodway zones may also be displayed. From this interface, the user can also view maps of observed or forecast inundation levels based on current NWS river forecasts. The user has the option to use either a standard map background showing basic features such as main roads and highways or a detailed background based on areal photography.

Currently, only a limited number of NWS forecast locations have a flood inundation mapping interface. These locations can be found at the following URL:

<http://www.weather.gov/ahps/inundation.php>.

c. Additional Information: Contact: Victor Hom, NWS National Inundation Mapping Services Leader, Phone: 301-713-0006 ext. 173, E-mail: victor.hom@noaa.gov