



Useful Websites for Emergency Managers

Water Conditions and Flood Forecasting:

- ❖ This website (<http://water.usgs.gov/floods/>) brings together information about current and past flooding and USGS flood-focused resources.
- ❖ The Pennsylvania AHPS website <http://water.weather.gov/ahps/region.php?state=pa> shows the real-time flood stages of all of the NWS stream gages in Pennsylvania.
- ❖ WaterWatch (<http://waterwatch.usgs.gov>) is a USGS website that displays maps, graphs, and tables describing real-time, recent, and past streamflow conditions for the United States. The Forecast tab takes the user to the NWS-AHPS page for the site of interest. It features a point-and-click interface allowing users to retrieve graphs of stream stage and flow and highlights locations where extreme hydrologic events, such as floods, are occurring. It also provides a link to our National Water Information System (NWIS) website where historical data can be retrieved.
- ❖ StreamStats (<http://streamstats.usgs.gov/>) is a web-based Geographic Information System (GIS) site that provides users with access to an assortment of analytical tools that are useful for water-resources planning and management, and for engineering design applications, such as the design of bridges. StreamStats allows users to easily obtain streamflow statistics, drainage-basin characteristics, and other information for user-selected sites on streams.
- ❖ Current weather forecasts can be found via the National Weather Service website (<http://forecast.weather.gov/>).
- ❖ To get information on significant flooding in western Pennsylvania (Ohio River Basin), NWS's Ohio River Forecast Center website is a good resource (<http://www.erh.noaa.gov/er/ohrfc/fop.html>).
- ❖ To get information on significant flooding in central and eastern Pennsylvania (Susquehanna and Delaware River Basins), NWS's Mid-Atlantic River Forecast Center website is a good resource (<http://www.erh.noaa.gov/marfc/fop/>).
- ❖ For those residents who do not have internet access or are not near a computer, current river conditions and forecasts can be obtained by calling NWS River Conditions Code-A-Phone at **888-881-7555**.

Alerts:

- ❖ The U.S. Geological Survey WaterAlert service (<http://water.usgs.gov/wateralert/>) sends e-mail or text (SMS) messages when certain parameters (e.g., streamflow, gage height, water temperature, total precipitation, etc.), as measured by a USGS real-time data-

collection station, exceed user-definable thresholds. The development and maintenance of the WaterAlert system is supported by the USGS and its partners, including numerous federal, state, and local agencies.

Real-time data from USGS gages are transmitted via satellite or other telemetry to USGS offices at various intervals; in most cases, once every 1 or 4 hours. Emergency transmissions, such as during floods, may be more frequent. Notifications will be based on the data received at these site-dependent intervals.

- ❖ WaterNow (<http://water.usgs.gov/waternow/>) provides on-demand, current conditions for water data directly to your mobile phone or email. This application requires the user to send an email or text message containing a unique USGS site number (e.g., the site number for Susquehanna River at Harrisburg is 01570500) and optional parameter code (needed only if the user wants information other than the latest observations for flow & stage, for instance water temp).

Mapping:

- ❖ The USGS Flood Inundation Mapping Program focuses its efforts at state and local levels to help communities understand flood risks and make cost-effective mitigation decisions. We partner with local communities to assist in the development flood inundation map libraries. A flood inundation map library contains a series of sequential maps that help communicate where flooding may occur over a range of river levels. The library can be connected to real-time and forecasted river levels at USGS stream gages to help communities identify immediate risks during a flood. Communities can use these maps to help protect lives and property. More information regarding this program can be obtained from the following website, (http://water.usgs.gov/osw/flood_inundation/). The Mapper tab takes the user to an interactive map showing locations where flood-inundation maps currently exist.
- ❖ An option associated with USGS Flood Inundation Mapping is FEMA's HAZUS tool (http://water.usgs.gov/osw/flood_inundation/toolbox/hazus.html), which may be used for mitigation and recovery as well as preparedness and response. Government planners, GIS specialists, and emergency managers use HAZUS to determine losses and the most beneficial mitigation approaches to take to minimize them. HAZUS can be used in the assessment step in the mitigation planning process, which is the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. Being ready will aid in recovery after a natural disaster.

Insurance:

- ❖ Flood Insurance Rate Maps (FIRMs) for Pennsylvania communities have been updated over the past few years, and digital versions of these maps are now available online (<http://www.pafloodmaps.com>). This PA Flood Maps site provides the FIRMs, helps homeowners and community officials determine flood risk, and provides useful links to flood insurance information.

- ❖ FEMA's National Flood Insurance Program (NFIP) website for state and local officials (<http://www.fema.gov/national-flood-insurance-program/information-state-local-officials>) provides information on flood maps, the Community Rating System, flood insurance, and more.

Types and Causes of Flooding:

- ❖ The NFIP's FloodSmart page provides a variety of resources and information to help residents prepare for flood events, including information on the different causes of floods (http://www.floodsmart.gov/floodsmart/pages/flooding_flood_risks/what_causes_flooding.jsp).
- ❖ The Susquehanna Flood Forecast and Warning System website also gives descriptions of types and causes of flooding, but focuses on those types of flooding common to the Susquehanna River (<http://www.susquehannafloodforecasting.org/flood-types.html>).
- ❖ There is often confusion surrounding the term "100-year flood" and its meaning. This USGS factsheet (<http://pubs.usgs.gov/fs/FS-229-96/>) explains the meaning of the term and describes what residents should understand about this flooding probability.

Other:

- ❖ The Pennsylvania Silver Jackets team has developed a website (<http://www.nab.usace.army.mil/Home/SilverJackets.aspx>) to provide Pennsylvania residents and business owners with the best resources for information related to flood preparedness and response. The site is divided into three sections: Before the Flood/General Information, During the Flood, and After the Flood. Each section contains some of the most frequently asked questions regarding floods and provides links to resources that can answer those questions.