

Susquehanna River Basin Commission Information Sheet

Susquehanna River Basin Flood Forecast and Warning System



Flood-Prone Watershed

The Susquehanna River Basin is one of the most flood-prone watersheds in the nation – experiencing damages in excess of \$150 million on average every year. More than 80 percent of the basin's 1,400 plus municipalities have areas that are flood prone. While a number of flood damage reduction projects are in place to protect the basin's citizens, studies have determined the best way to further reduce flood damages in the Susquehanna basin is through nonstructural measures such as flood forecast and warning systems.



Susquehanna Flood Forecast and Warning

In 1986, the Susquehanna River Basin Commission (SRBC) in partnership with the National Weather Service (NWS), the U.S. Geological Survey and others initiated an enhanced flood warning system for the Susquehanna basin. The Susquehanna Flood Forecast and Warning System (SFFWS) is a state-of-the-art, technological system utilizing radar and a network of stream and rain gages to provide data used by NWS to forecast river levels and issue more timely and accurate early warnings. (See SFFWS program goals on back page.)

The SFFWS provides its users (communities and businesses) with early flood warnings so they can secure their property and get themselves to safer locations. Community and emergency management officials rely on the SFFWS to make good flood preparedness decisions, including notifying their residents of expected flooding and what actions they should take to protect themselves and whether emergency officials need to activate evacuation procedures.

The SFFWS is extremely cost-effective, with an estimated benefit-cost ratio of 20-to-1. For every federal dollar invested in the SFFWS, \$20 is saved through reduced damages and reduced federal flood recovery payouts. The system helps save lives and reduces average annual flood damages by \$32 million.



SFFWS Interagency Committee Members

The SFFWS is maintained and operated by an interagency committee coordinated by SRBC. The other members of the interagency committee are National Weather Service, U.S. Geological Survey, U.S. Army Corps of Engineers, New York State Department of Environmental Conservation, New York State Emergency Management Office, Pennsylvania Department of Environmental Protection, Pennsylvania Emergency Management Agency, Pennsylvania Department of Community and Economic Development, Maryland Department of the Environment, and Maryland Emergency Management Agency.

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How the SFFWS Works

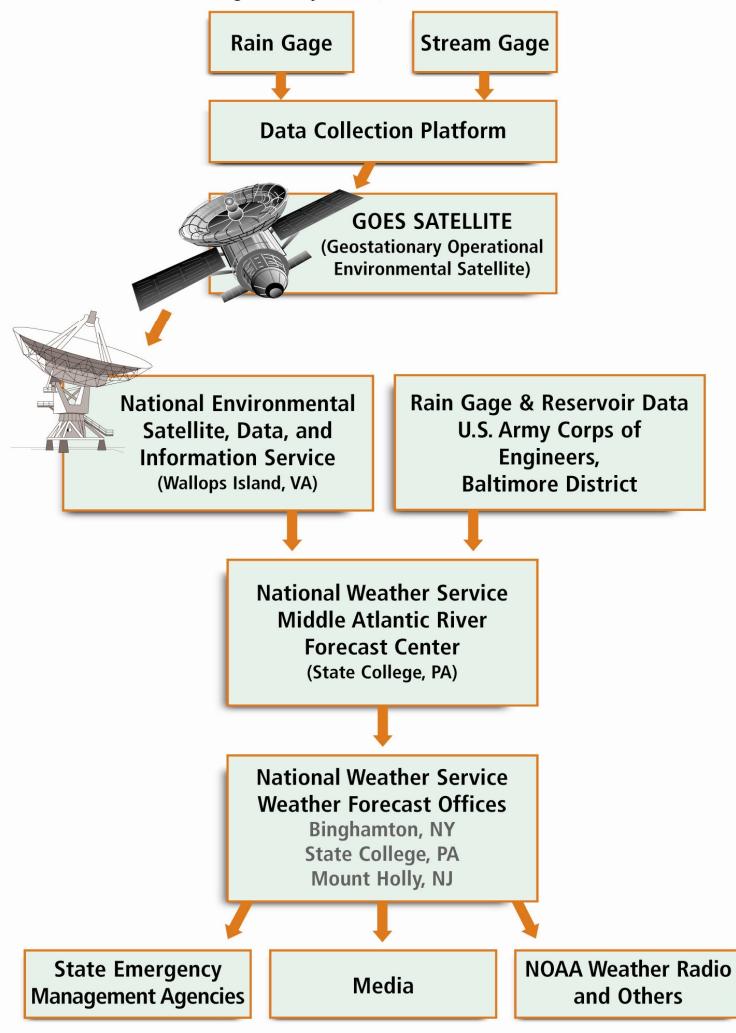
Daily river stage forecast guidance is issued by the Middle Atlantic River Forecast Center (MARFC), which provides specific estimates of flood crest stages at selected locations on rivers and major tributaries in the Susquehanna basin. The forecast stages are based on model results incorporating large amounts of hydrometeorological data, including precipitation measured at a number of gages, precipitation estimates from several weather radars, and quantitative precipitation forecasts prepared by support offices of the NWS.

The forecasts generated by MARFC are disseminated to NWS offices in State College, Pa., Binghamton, N.Y., and Mount Holly, N.J. Those offices in turn are responsible for issuing flood and flash flood watches and warnings in the Susquehanna basin. Watches indicate there is potential for flooding, and warnings indicate flooding is imminent.

The NWS forecast offices disseminate the information to state emergency management agencies, other governmental bodies, and the news media. The state emergency management agencies distribute the information to the counties, and the counties then distribute the information to local emergency management officials and others who need the forecasts.

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U.S. Geological Survey – NY, PA, and MD Water Science Centers



Program Goals of the SFFWS

The SFFWS interagency committee identified the following goals to ensure that the program continues to meet the forecasting and warning needs of the Susquehanna River Basin.

1. Develop a sustainable, state-of-the-art observational network.
2. Provide as much lead-time and accuracy in forecasts and warnings as practicably possible (the current goal of the SFFWS is to provide at least 6 hours of advance warnings).
3. Evaluate the spatial distribution of flood damages in the basin.
4. Expand the flood warning system to support water resources management of public water supply, drought, and recreation within the basin.
5. Improve flood warning dissemination through the use of technology.
6. Increase public awareness, support, and use of National Weather Service products.
7. Develop a mechanism for administration and secure source of funding for the SFFWS.

For More Information on the SFFWS

Visit the SFFWS web site at www.susquehannahfloodforecasting.org.