## A PARTNERSHIP FOR FLOODING OUTREACH

P. Wnek\*, P. Ahnert, W. Marosi, G. Szatkowski, R. Kruzdlo, R. Hogan Carr, K. Brandes, K. Maxfield

## 1. INTRODUCTION

The National Weather Service's (NWS) Middle Atlantic River Forecast Center (MARFC), and Mt Holly, NJ Weather Forecast Office partnered with the Nurture Nature Center (NNC) to develop the replicable flood education program, Floods Happen. Lessen the Loss, after the citizens of the Delaware Basin suffered severe losses from three historical floods over just a two year period. This collaborative effort resulted in a broad variety of materials that have already won four awards and other strong positive feedback from classroom teachers to municipal professionals. The program's message is that floods are natural; and it emphasizes actions people can take to lessen their loss, such as having a plan, sharing river forecast information and evacuating when requested.

## 2. FLOODS HAPPEN, LESSEN THE LOSS.

This theme was coined by the NWS's MARFC after lengthy discussion of the key learning goals and audiences. This theme was the central slogan of the campaign and appears on numerous printed and web-based materials.



The phrase provided an excellent entry into conversations with public audiences, because it provides two distinct important messages.

Firstly, that "floods happen." This portion allows for conversation about the natural and beneficial functions of floods and floodplains, and also about the inevitability of flooding in floodplains.

The second portion, "Lessen the Loss," allows for practical conversation about ways that people can reduce their risk through preparedness.

# 3. THE WEBSITE

The <u>www.focusonfloods.org</u> website is the repository for the majority of the materials that were produced during the campaign, and is the primary dissemination tool that has been and continues to be accessed for information.

The site includes an innovative "river feed" tool on the homepage, which visitors can customize to reflect the current river level at the stream gage nearest their home or business.

<sup>\*</sup> Corresponding author address: Patricia A. Wnek, National Weather Service, Middle Atlantic River Forecast Center, State College, PA 16803-6609; email: patricia.wnek@noaa.gov

This tool also shows the flood stage at each gage.

## 4. CLASSROOM MATERIALS

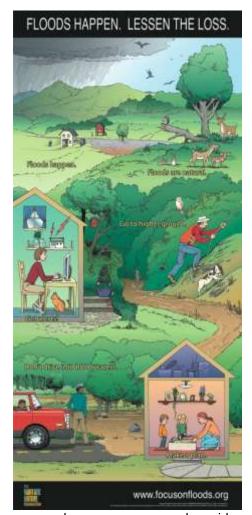
The NNC produced a series of educational posters for use in classrooms and other eductational venues. The first poster focuses on the "What's Your Number?" theme developed through the outreach campaign.



This theme

encourages people to know the "flood stage" at the river gage nearest their home or business, and to monitor the NWS's Advanced Hydrologic Prediction Services (AHPS) hydrograph information during flood events.

A second poster, a children's illustrated classroom poster, focuses on six different



preparedness messages, and provides ample teaching opportunities for teachers about the natural functions of rivers and floodplains. It is accompanied by six downloadable black and white .pdf coloring sheets, which can be assembled together to recreate a full color poster. The coloring sheets are accompanied by activities, which can be copied on the back of the coloring sheets or used alone, which provide mazes, word searches, and other



about flooding and flood preparedness.

Students are guided throughout the activity by the virtual character, "High-water Mark" and his dog, Noah. This poster won a Bronze award during the 2011 Greater Lehigh Valley Ad club "Addy" Award competition.

The third poster is a "Flood Terrain" poster that explains how flood terrain affects weather and flood risk. This is part of a teaching theme employed throughout the campaign to encourage people to understand how terrain and geographic location affect their flood risk.

# 5. PROFESSIONAL DEVELOPMENT AND PUBLIC EDUCATION MATERIALS

A series of multimedia educational pieces were created to highlight the use of NWS flood alerts and also provide ample context about the various factors affecting flood risk.

"The Day of the Flood" is a 9 minute animated film, depicting a town where everyone does all they can do to lessen their loss from flooding. Residents are seen looking up their river forecast on the NWS website, enacting their personal flood plan, moving belongings, sharing news with neighbors, evacuating, and avoiding flooded streets. "Understanding Flood Risk in the Delaware River Basin" is a piece addressing the various aspects of flood risk and preparedness, including geography, climate, hydrology, land use planning, the use of flood alerts and citizen preparedness. Videos of interviews with a variety of flood-related professionals and authorities, and include textbased study guides with links to more resources on each topic.

"Welcome to Focus on Floods" is a ten minute overview video, introducing viewers to the broad array of issues associated with flooding.

Four one-hour radio shows aired through WDIY FM radio through a broad region centered on the flood-prone Lehigh Valley, PA and extending into western NJ. Each show featured an interview on a distinct flood topic such as the challenges that face individuals in flood events and interviews with flood victim counselors.

## 6. EXHIBITS

Three different exhibits were completed in the campaign. The first was a table-top "What's Your Number?" exhibit and was used at a variety of conferences. It is designed to be easily portable for short-term presentations, such as shorter one-day conferences.

The second exhibit is a traveling display highlighting 6 critical flood safety messages: turn around don't drown, know your flood level, share news about weather alerts, sign up for flood alerts, have a plan and follow evacuation requests,



Six handout cards that correspond with each flood safety message are provided and describe each in greater detail. The exhibit coordinates with the "Day of the Flood" animated film, which is shown on an accompanying television. Due to its' high quality, low production cost, and portability, two copies of this exhibit were developed. One is on display at the NNC and the other is loaned out to educators and officials.

7. CONCLUSION

The materials this partnership produced have significantly elevated the quality and quantity of the NWS's outreach efforts in the region and helped the NWS reach entirely new audiences. The partnership has continued into a second project, Science on a Sphere and Flood Forums: Education to Action with the placement of a NOAA Science on a Sphere (SOS) at NNC's flood museum, and the creation of the first SOS flood-related program. This program will explain how climatic and oceanic changes are contributing to the increasing frequency and

severity of floods throughout the U.S. and world. The program will also be integrated into public forums on sustainable resource management and positive stewardship of the environment.