



# **Communicating Information When It Matters The Most**

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**Silver Spring, MD.**

**FERC Workshop (01/28/04)**



# NWS Dissemination Infrastructure



- Family of Services
- NOAAPORT
- NOAA Weather Wire Service
- Emergency Managers Weather Information Network
- National & Local Web Sites
- Disasterhelp.gov (Nov 2002)
- NOAA Weather Radio





# NWS Dissemination



- **EMWIN - intended to be used *primarily* by emergency managers and public safety officials who need timely weather information to make critical decisions.**
- **NWR – All hazards system on special receiver with up to seven frequencies**
- **They compliment one another**



# StormReady

NATIONAL WEATHER SERVICE

- **StormReady is a “grass roots” program that focuses on improving timeliness and effectiveness of hazardous weather warnings for the public**
- **StormReady helps community leaders and emergency managers strengthen local safety programs**
- **StormReady prepares communities for severe weather throughout the year**
- **StormReady encourages the enhancement of hazardous weather preparedness programs in locations surrounding “StormReady Communities/Counties”**



# NOAA Weather Radio



*The voice of the National Weather Service*



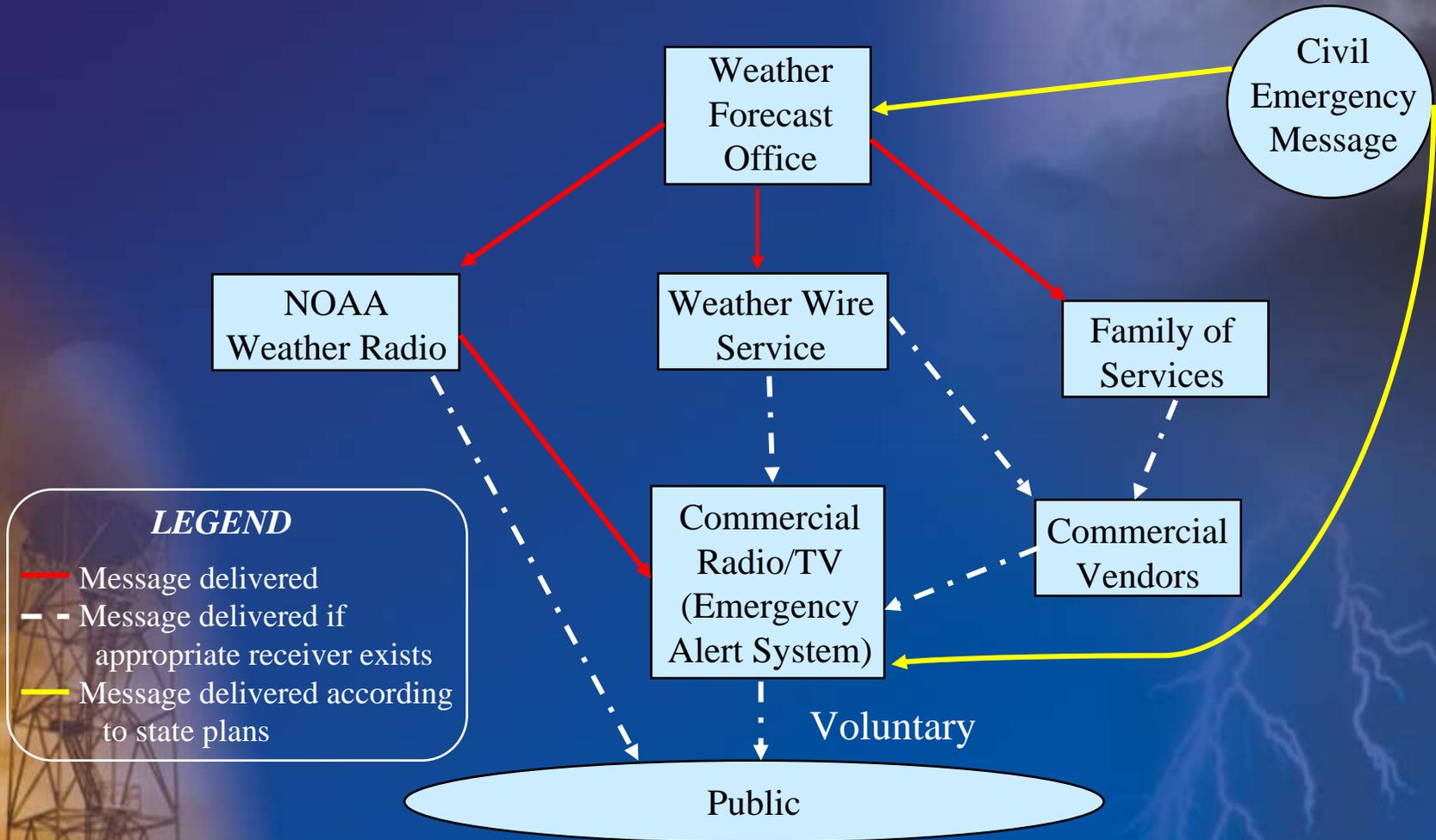


# NOAA Weather Radio and Support of Homeland Security





# How Civil Emergency Messages Reach the Public





# NWR and Homeland Security Limitations



- **CEM collection is a manual process**
- **No authentication and security protocols exist**
- **Some areas are not covered by NWR broadcasts**
- **Older NWR transmitters are not redundant and do not have backup power**
- **No backup transmitter communications lines exist**



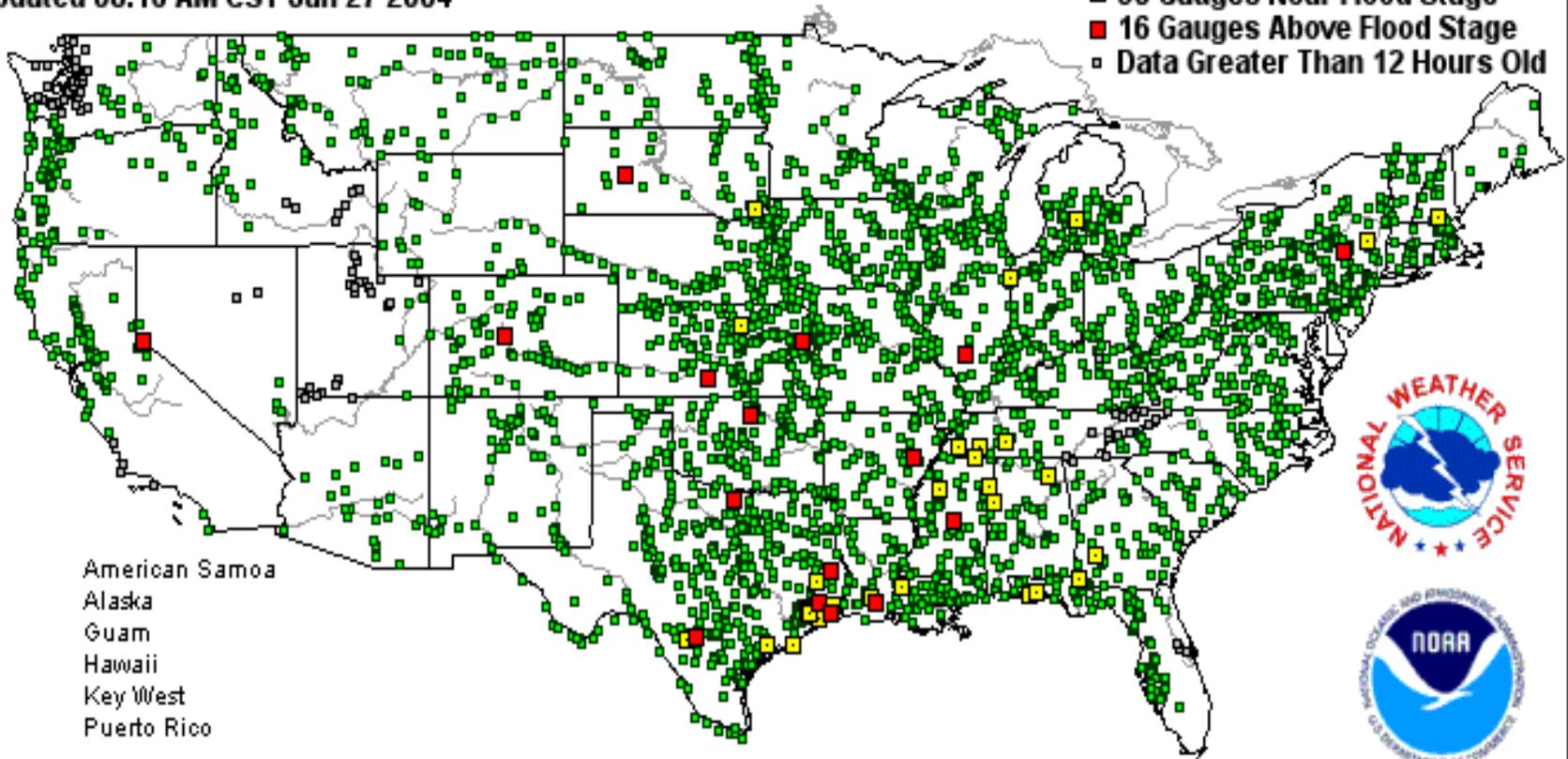
# Advanced Hydrologic Prediction Service



<http://www.crh.noaa.gov/ahps/>

Advanced Hydrologic Prediction Service  
Updated 08:10 AM CST Jan 27 2004

- 2589 Gauges Below Flood Stage
- 30 Gauges Near Flood Stage
- 16 Gauges Above Flood Stage
- Data Greater Than 12 Hours Old



American Samoa  
Alaska  
Guam  
Hawaii  
Key West  
Puerto Rico







# Flood Forecast Inundation Graphics

## Hurricane Floyd

### September 1999



09/16/1999 12:00 PM

#### Legend

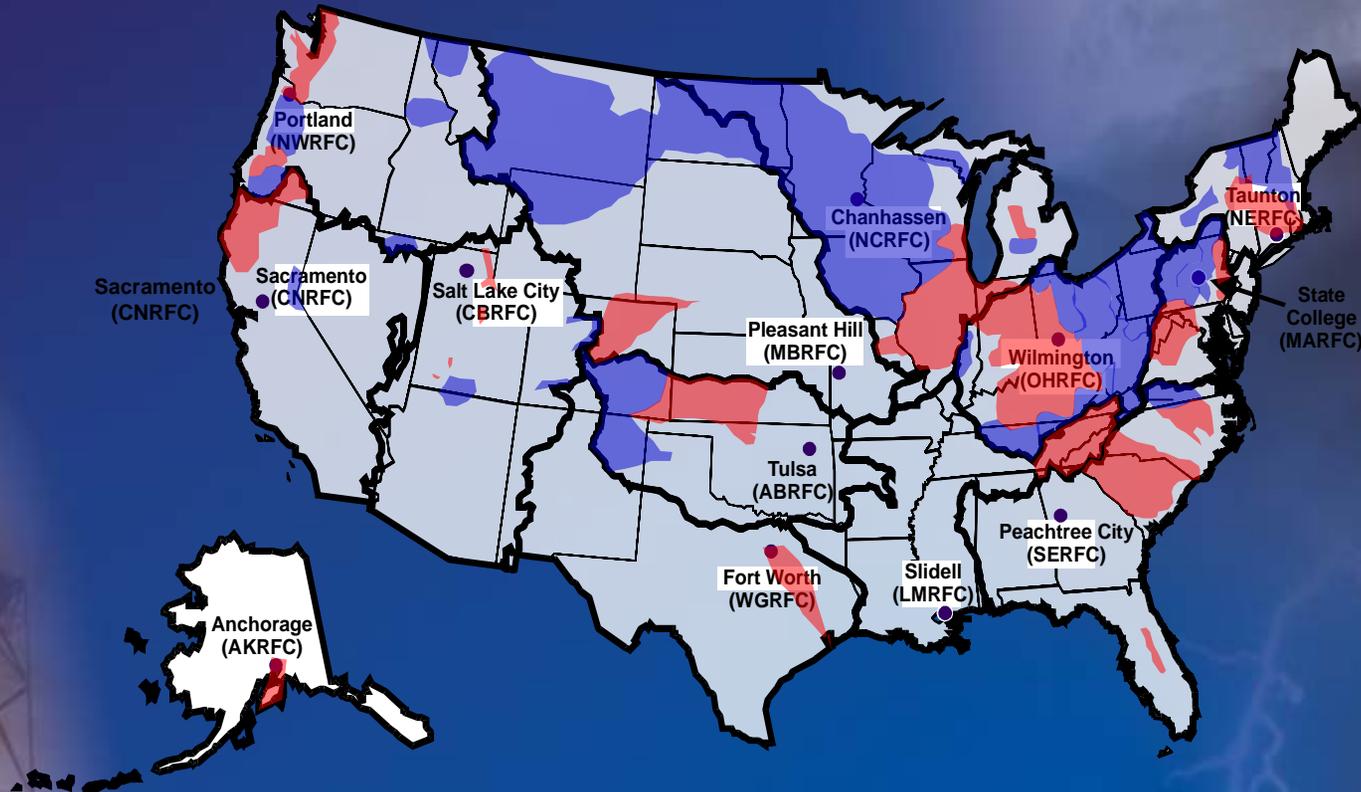
|            |           |         |          |               |                 |                |                |
|------------|-----------|---------|----------|---------------|-----------------|----------------|----------------|
| USGS Gages | Hospitals | Schools | Airports | Primary Roads | Secondary Roads | Stream Network | Municipalities |
|            |           |         |          |               |                 |                |                |



# Implementation Status



## Base Expansion Areas



**Blue** Areas Completed Through FY 2003 (750 Forecast Points)  
**Red** Areas Covered by FY 2004 National AHPS (478 New Forecast Points)



# Weather Forecast Office Tools



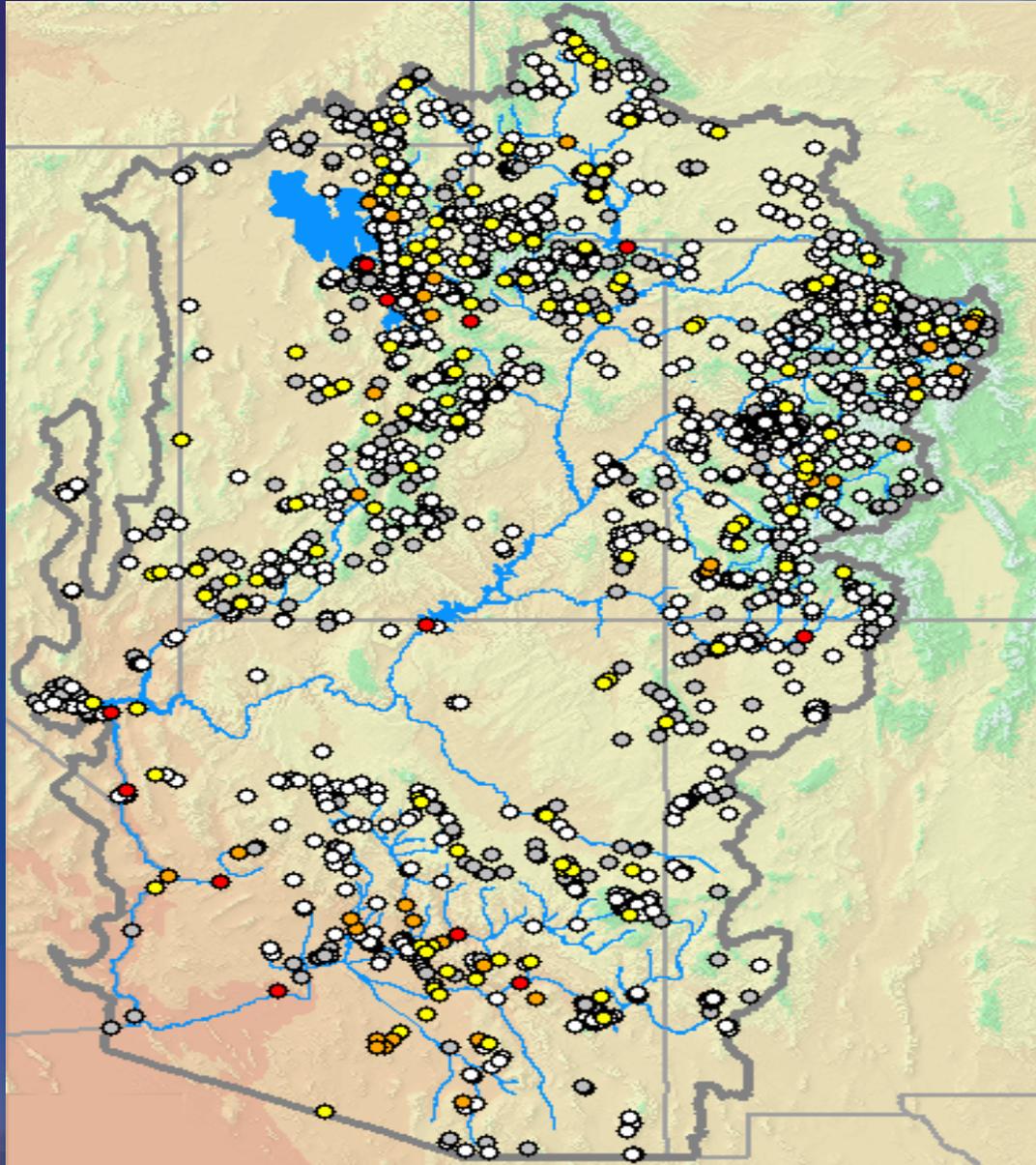
- **AWIPS – Advanced Weather Interactive Processing System**
- **IFPS – Interactive Forecast Preparation System**
- **WHFS – WFO Hydrologic Forecast System**
- **Doppler Radar**
- **Satellite**
- **Dam Break Model**

# Dam Catalog and Dam Break Model



- **Catalog of Dams available to all NWS offices**
- **Colorado Basin River Forecast Center developed the new program**
  - ***Web Based Application which includes dam architecture***
- **Topographic maps, aerial photos, soils, etc., are available for most dams on the web**
- **Will eventually hold over 75,000 dams in national database**

# Dam Break Information



Web GUI  
for CBRFC





# Primary Partners in Dam Safety



- **FERC**
- **USBR**
- **COE**
- **FEMA**
- **State and Local Emergency Management**
- **Public Safety**



# Communicating Dam Safety



- **Participation in Table Top Exercises**
- **Outreach efforts (WFOs and RFCs)**
  - **EMs**
  - **Power/Utility Companies**
- **EAP Notification**
  - **Awareness of calling tree or flowchart**
  - **Needs to be well maintained so roles are understood**
- **AHPS web pages (where implemented)**
- **Frequent Product updates when life or property may be threatened**
- **Dam Break templates in warning generation software**



# Dam Break Product Example for Flood Watch



This is an example of a Flood Watch issued by the NWS

MIC081-182100-

BULLETIN - IMMEDIATE BROADCAST REQUESTED  
FLOOD WATCH  
NATIONAL WEATHER SERVICE GRAND RAPIDS MI  
1104 AM EDT FRI OCT 18 2002

THE NATIONAL WEATHER SERVICE IN GRAND RAPIDS HAS ISSUED A

- \* FLOOD WATCH FOR THE THORNAPPLE RIVER BELOW THE ADA DAM IN KENT COUNTY
- \* UNTIL 500 PM EDT
- \* AT 1101 AM EDT COUNTY DISPATCH REPORTED THAT THE ADA DAM ON THE THORNAPPLE RIVER WAS APPROACHING CAPACITY DUE TO HIGH WATER FLOWS.
- \* THE NEAREST DOWNSTREAM TOWN IS ADA...LOCATED 1/4 MILE FROM THE DAM. PEOPLE IN THE LOW LYING AREAS BELOW ADA DAM SHOULD KEEP ABREAST OF THE SITUATION AND STAY ALERT TO CHANGING CONDITIONS, INCLUDING POSSIBLE EVACUATIONS.

DAM SAFETY EXPERTS WITH STATE AND LOCAL EMERGENCY SERVICES...ARE MONITORING THE DAM AND WILL ISSUE A PUBLIC STATEMENT AS CONDITIONS WARRANT.

PLAN NOW SO YOU WILL KNOW WHAT TO DO IN AN EMERGENCY. KEEP INFORMED BY LISTENING TO LOCAL RADIO AND TELEVISION FOR STATEMENTS AND POSSIBLE WARNINGS. FOLLOW THE ADVICE OF PUBLIC SAFETY OFFICIALS.

A FLOOD WATCH MEANS RAPIDLY RISING WATER OR FLASH FLOODING IS POSSIBLE BUT NOT IMMINENT IN THE WATCH AREA.



# Dam Break Product Example for Flash Flood Warning



**This is an example of a Flash Flood Warning issued by the NWS**

**MIC005-182145-**

**BULLETIN - EAS ACTIVATION REQUESTED  
FLASH FLOOD WARNING  
NATIONAL WEATHER SERVICE GRAND RAPIDS MI  
349 PM EDT FRI OCT 18 2002**

**THE NATIONAL WEATHER SERVICE IN GRAND RAPIDS HAS ISSUED A**

**\* FLASH FLOOD WARNING FOR A DAM FAILURE ON THE KALAMAZOO RIVER BELOW THE ALLEGAN DAM IN ALLEGAN COUNTY IN SOUTHWEST MICHIGAN**

**\* UNTIL 545 PM EDT**

**\* AT 347 PM EDT THE FAILURE OF THE ALLEGAN DAM ON THE KALAMAZOO RIVER WAS REPORTED BY COUNTY DISPATCH.**

**\* IF YOU LIVE IN THE LOW LYING AREAS BELOW THE ALLEGAN DAM ON THE KALAMAZOO RIVER, INCLUDING PERSONS IN THE ALLEGAN STATE GAME AREA AND NEW RICHMOND, YOU SHOULD MOVE TO HIGHER GROUND IMMEDIATELY.**

**FOLLOW INSTRUCTIONS PROVIDED BY YOUR LOCAL EMERGENCY OFFICIALS. DO NOT ATTEMPT TO CROSS FLOODED ROADWAYS. FURTHER STATEMENTS WILL BE ISSUED AS ADDITIONAL INFORMATION BECOMES AVAILABLE.**



# NWS Hydrologic Products



- **Hydrologic Outlook**
- **Flood Watch (for flash flooding)**
- **Flash Flood Warning**
- **Flash Flood Statement**
- **River Statement**
- **Ready, Set, Go approach**



# Improvements to NWS Hydrologic Text Products



- **Flood Watches (FFA) are used to follow-up or cancel previously issued flood watch products, instead of Flood Statement (FLS)**
- **Standardize the Flood Watch format**
- **Latitude/Longitude polygon coordinates for all Flash Flood Warnings (FFW)**



# Communicating Information When It Matters the Most

## Questions?

**NWS Hydrologic Services**  
**<http://www.nws.noaa.gov/om/water/index.shtml>**

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