AUG Meeting

External Partner Data Display on AHPS

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What is AHPS?

AHPS (Advanced Hydrologic Prediction Services) :

- Incorporates new science and technology improvements;
- Provides more accurate water forecasts and flood warnings;
- Generates visually oriented, commercially valuable products to satisfy diverse customer needs such as emergency response, river commerce, flood control, water supply, hydropower, irrigation and recreation; and,
- Provides better information for decision making, especially with regard to the prevalent challenge with energy production and water resource stewardship.

Advanced Hydrologic Prediction Service (AHPS)

- Provide enhanced water availability and flood warning information by leveraging NOAA's infrastructure and expertise
- Modernize services through infusion of new science and technology
  - *Flash-flood to seasonal freshwater forecasts*
  - *Quantification of forecast certainty*
  - *More accurate and timely forecasts and warnings*
  - *Partnered flood-forecast area mapping*
  - *Visually-oriented products*

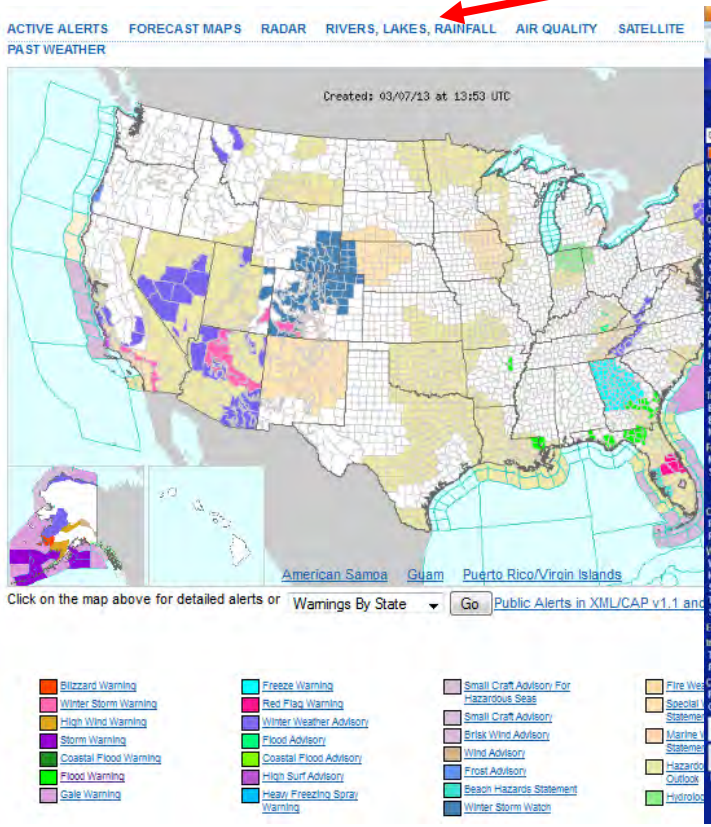
- Provide consistent access to standardized graphics via web interface

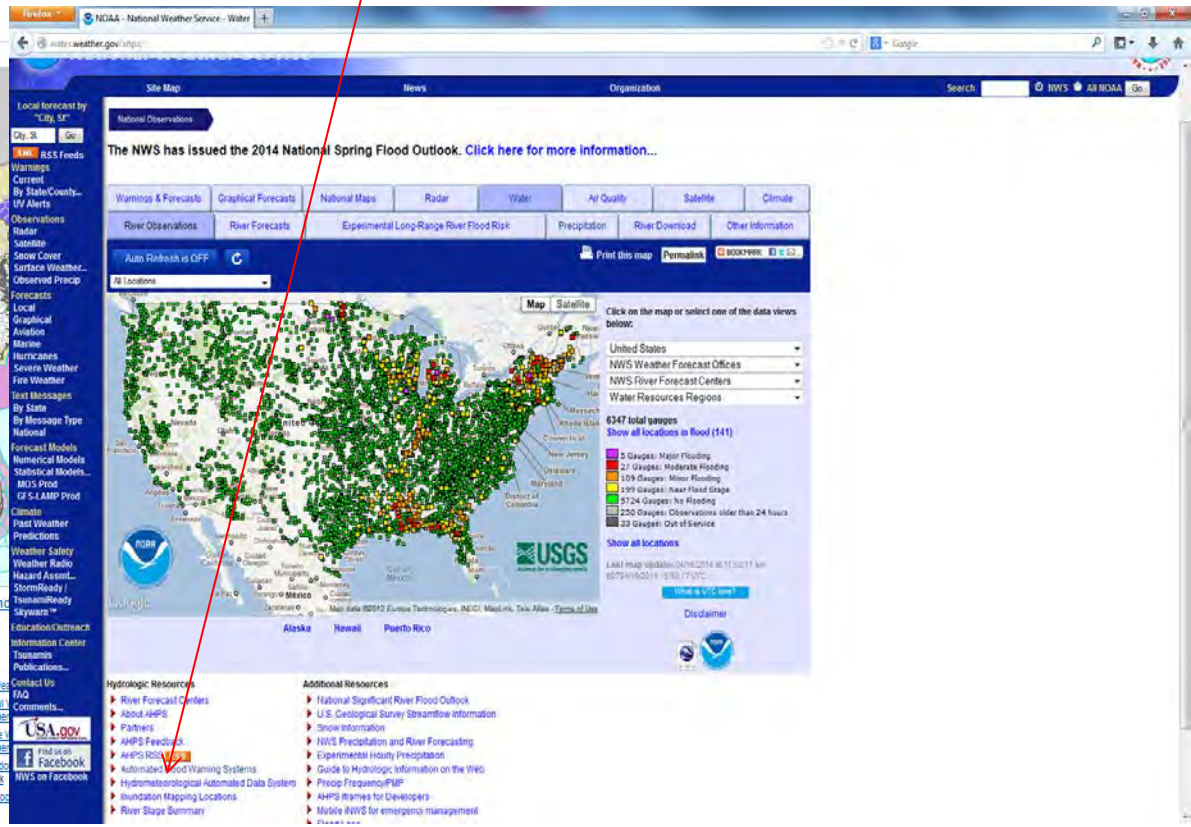
Accessing AFWS Information from AHPS

Accessing AFWS Information

http://weather.gov/

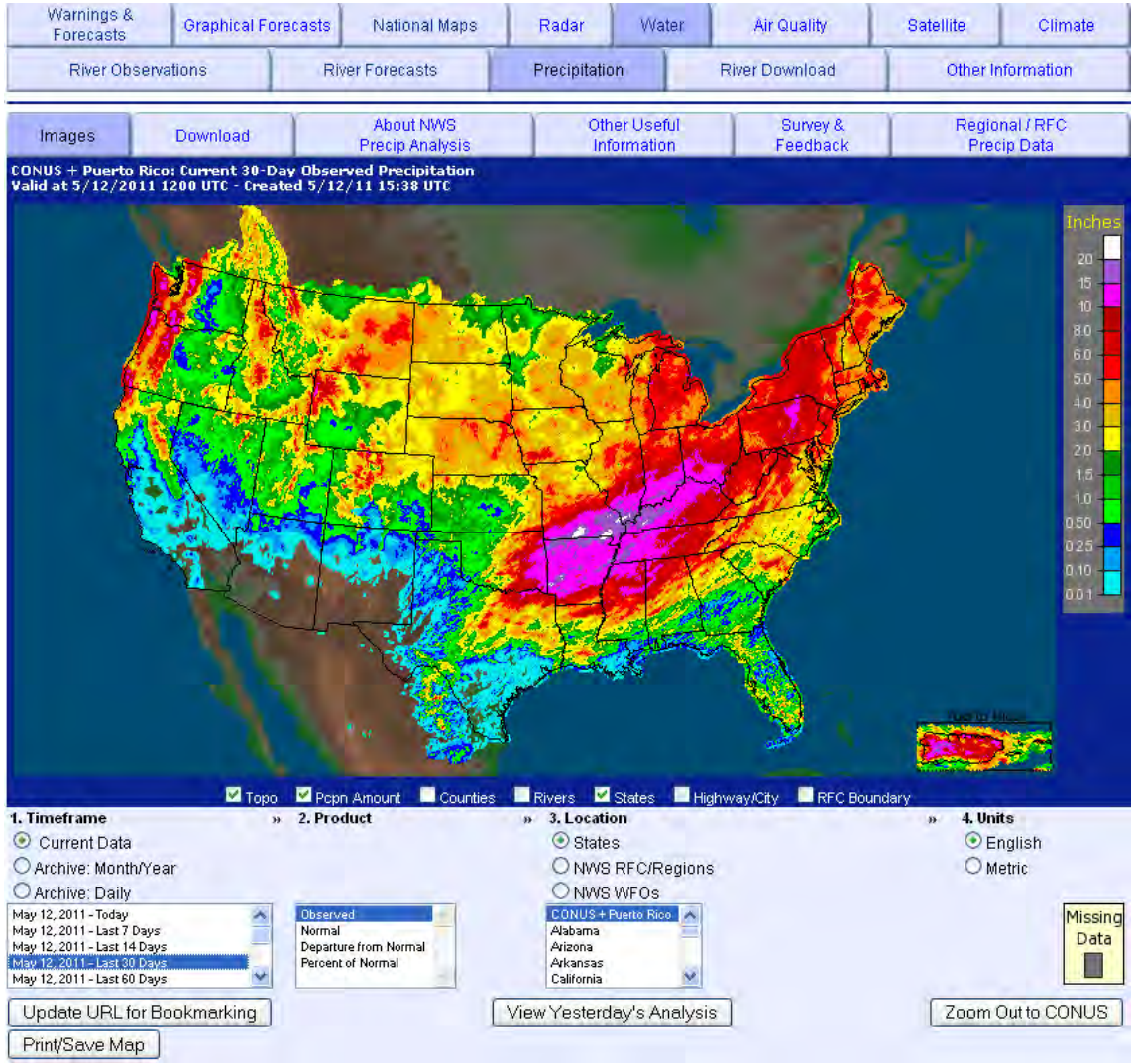
"click on" AFWS link





AHPS Precipitation

- ***Multi-sensor:***
  - **Includes gage, radar, and satellite**
- ***Precipitation Durations:***
  - ***Daily***
  - ***Past 7, 14, 30 and 60 days***
  - ***Year and Water Year-to-date***
  - ***Historical Monthly totals***
- ***Analysis:***
  - ***Period Normal***
  - ***Departure from Normal***
  - ***Percent of Normal***



http://www.water.weather.gov/precip/

Partner Approach To AFWS

The benefit to the data partners of sharing their observations with the NWS:

- Community Rating System (CRS)
  - Credit for warning and response per 612 Flood Threat Recognition (FTR)

External Partner Data Display on AHPS

Additional Benefits:

- The partner data/local flood warning system (LFWS) is a vital dataset that bridges gaps in Federal observation services.
- The NWS will collect and disseminate point precipitation values in a timely, consistent, and uniform manner.
- The data partners will have their data displayed on a public facing website.
- The data is displayed along with data from other cooperating data partners.
- The data will have added value through color-coding based on a comparison against Flash Flood Guidance (FFG).

External Partner Data Display on AHPS

Integration of AFWS within AHPS:

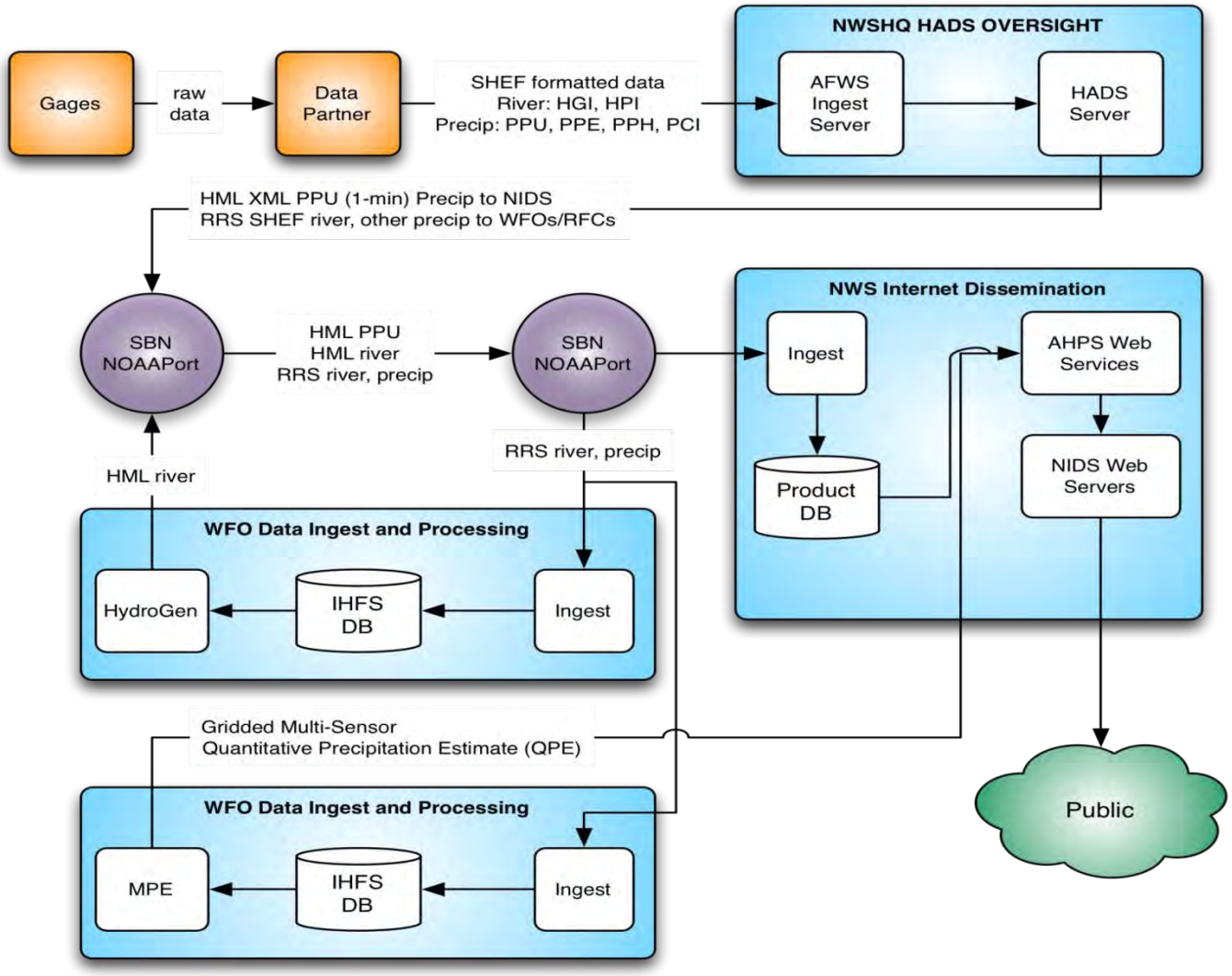
- The NWS desires to collect and disseminate in a single, consistent, and uniform manner the point precipitation values from external data partners.

External Partner Data Display on AHPS

Methodology:

- A data partner sends quality controlled, quality assured SHEF-encoded messages via FTPS to a central site managed by the NWS.
- The NWS forwards the SHEF-encoded messages to local offices for use in their local operations and forecasts.
- The NWS encodes the data in HML for display on AHPS through the NIDS.

AFWS Data Flow From the Partners To the NWS



External Partner Data Display on AHPS; Expanding Partner Participation

Methodology:

- The NWS provides guidance to the data partners on what the NWS needs are.
- The NWS provides instructions to the data partners on how to send the data to the NWS.
- The NWS provides guidance to the data partners on what the NWS will be displaying.

External Partner Data Display on AHPS: Stage

- For the stage data, the words say the five minute value and the SHEF code is for a one-minute value. The NWS requires the most current one-minute value of stage within that five-minute window.

- For the precipitation example, the first NWS request is for the non-zero, one-minute Precipitation (includes liquid amount of new snowfall), actual increment or 'PP' value. The NWS plans to update the public facing web display using these one-minute values. The next request is for a five-minute PP value. This is the value the NWS offices will receive for incorporation in their quantitative precipitation estimate (QPE) data that is critical to hydrologic modeling.

External Partner Data Display on AHPS: Precipitation

- For the precipitation reports, the 1-minute and 5-minute SHEF messages are desired only when there is precipitation. The only exception is for the "heartbeat" reports. For the 1-hour SHEF messages, a zero report is desired. The zero precipitation reports contained in the 1-hour SHEF message will help the RFC with the QPE products. Also, receiving the 1-hour SHEF message will help with the monitoring of the ftp connection.

- For the stage reports, the 5-minute SHEF messages are desired when there is a change in the thresholds that have been set or the "heartbeat" reports.

- The 5-minute and 1-hour precipitation SHEF messages, as well as the 5-minute stage SHEF messages, are used in NWS operations. The 1-minute precipitation SHEF messages are used to update the public facing web pages (AHPS).

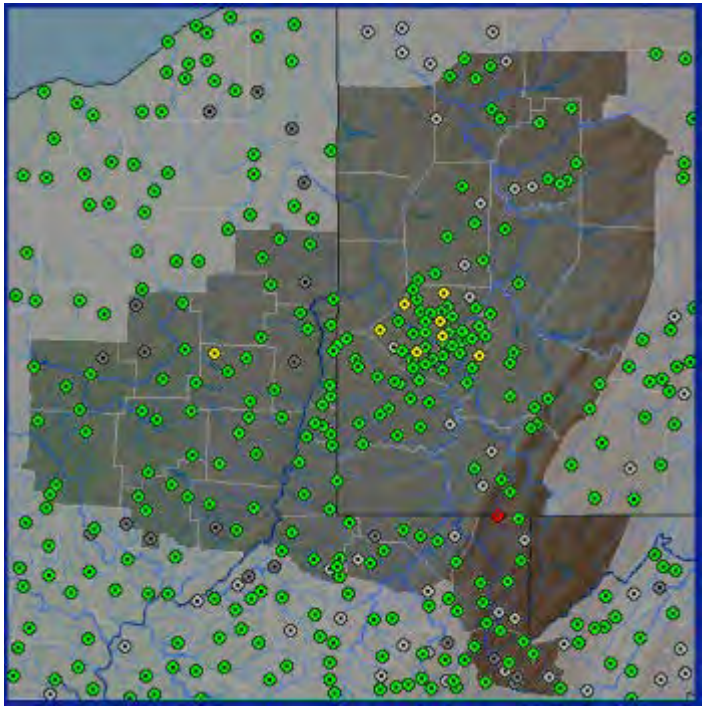
External Partner Data Display on AHPS

FUTURE:

- Use of gridded Flash Flood Guidance (gFFG).
- Web page nationally supported by the NWS.
  - Wider access to the public and users.
- Uniform data collection across the nation.
- Consistent data picture across the nation.
- Supports IWRSS “common operating picture” for water resources.
- NWS converting to ESRI.

You can now choose how you want to view AFWS observations.

Old
http://afws.erh.noaa.gov/afws/



New
http://water.weather.gov/afws/

PBZ — Pittsburgh, PA

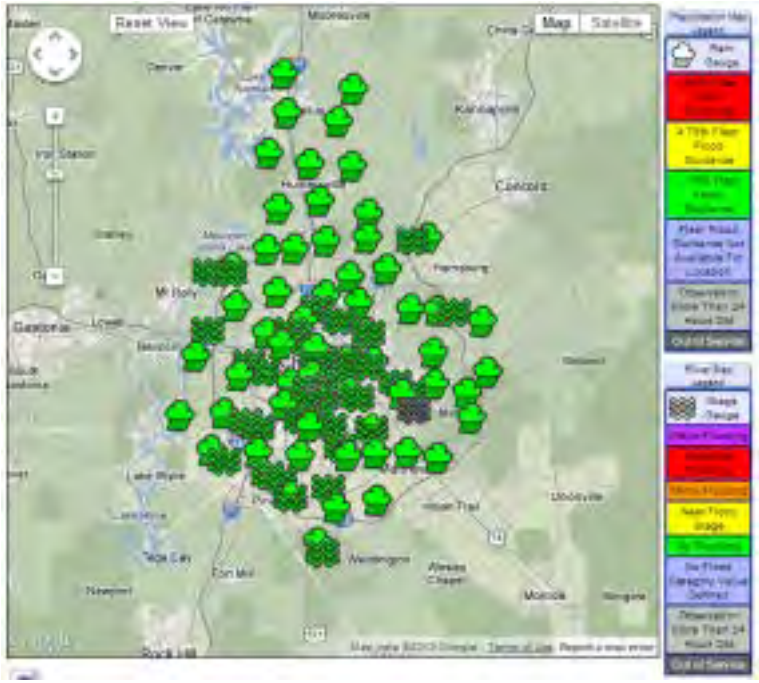
Pennsylvania

Ohio River Forecast Center

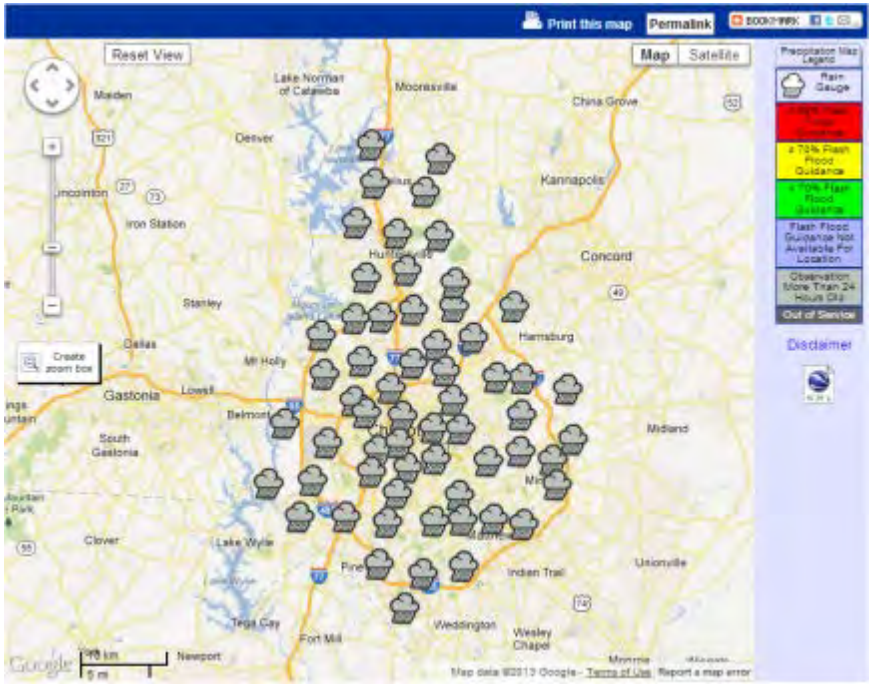
Ohio Region

When drilling down to the county level, there is a difference in the type of data appearing on the maps.

Old
http://afws.erh.noaa.gov/afws/



New
http://water.weather.gov/afws/



External Partner Data Display on AHPS

To set up the user account, please provide the following information for each point of contact:

- Name
- E-mail address
- Telephone number
- The transmitting static IP address (Data Partner) from which your SHEF messages will be sent.

We will create the user account and send you the following information:

- Username
- Password
- The receiving static IP address (NWS) to which you will send the SHEF messages.
- Unique 5-character ID to be used in the SHEF message.

When you are ready, please call John Bradley at 301.713/0624 x154 and/or write him at john.bradley@noaa.gov. He will coordinate among the several parties to affect the transition.

QUESTIONS?

BACKGROUND SLIDES

External Partner Data Display on AHPS; Expanding Partner Participation

The NWS is requesting each data partner create a file containing their sites and its associated National Weather Service Location Identifier (NWSLIs) with the data values encoded in SHEF in the .E format. The data partner will send the SHEF-encoded file to a central server operated by the NWS.

The data partner will send these types of SHEF files:

PPURR (One-minute precipitation value)

Example - .E LMIW2 120504 Z DH132300 /PPURR/ DIN1 / 0.04:

PPERR (5-minute precipitation value which is the sum of what occurred during the five-minute period)

Example - .E SFKW2 120504 Z DH112500 /PPERR/ DIN5 / 0.16:

PPHRR (One-hour precipitation value which is the sum of what occurred during the 60-minute or 1-hour period)

Example - .E SFKW2 120504 Z DH112500 /PPHRR/ DIH1 / 0.08:

HGIRR (5-minute stage reading)

Example - .E SFKW2 120504 Z DH114700 /HGIRR/ DIN1 / 3.41:

File naming format

$xxxxx_PEDTS.YY.MM.DD.HH.MM.txt

File naming examples

WVDEM_PPURR.12.05.04.07.18.txt

WVDEM_PPERR.12.05.04.07.20.txt

WVDEM_PPHRR.12.05.04.08.00.txt

WVDEM_HGIRR.12.05.04.07.45.txt

External Partner Data Display on AHPS; Expanding Partner Participation

$xxxxx	Five letter data partner identification. To be assigned to data partner by NWS HADS
_	Underscore symbol
PEDTS	PE - Physical Element D - Duration T - Type S - Source
.	Period symbol
YY	Two digit year
.	Period symbol
MM	Two digit month
.	Period symbol
DD	Two digit day
.	Period symbol
HH	Two digit hour
.	Period symbol
MM	Two digit minute
.	Period symbol
txt	File type and extension - Plain text file