**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**HYDRO APPLICATIONS GUIDE**

**Questions**

**for the**

**WES-2 Bridge Hydro Simulation Capability**

**WARNING DECISION TRAINING DIVISION (WDTD)**

**Complete and return to your local training facilitator.**

Use the **Hydro Applications Guide** to answer the following questions.

**Multiple Choice Questions:**

**1).** Select the correct procedure on how to display multiple forecasts in one hydrograph window (for a single point) from the **Hydro Time Series** application.

 a). Right-click once.

 b). Left-click twice and drag the cursor over the trend line.

 c). Middle-click in the Hydro Perspective window.

 d). Ctrl + Left-click once.

 e). None of the above.

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2).** Which of the following is the correct name of the window that controls the data displays in the **Hydro Perspective**?

 a). Data Perspective Control

 b). Point Data Control

 c). Hydro Point Data

 d). Hydro Perspective Control

 e). None of the above

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3).** Select the AWIPS 2 Hydro Applications that display river point information, including forecasts and current levels.

 a). MPE Perspective

 b). PrecipMonitor

 c). RiverMonitor

 d). Hydro Perspective

 e). None of the above

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4).** Which of the following data formats is used by the Hydro Applications?

 a). EZ-SHEF

 b). Hydro Point Data

 c). SREF Code

 d). SHEF Code

 e). Hydro Format Code

 f). None of the above

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

For this site in the image to the right (**DFMI4**), answer the following questions:

**5).** What does the color of the point icon mean?

 a). This point was recently in flood.

 b). The forecast calls for the point to be in flood but isn’t currently.

 c). In flood currently.

 d). None of the above

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**6).** ***Select one:*** Is this site a **River Forecast Point** or a **Reservoir Data Point**?

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7).** ***Select one:*** Is the “12.98” value a **forecast crest** or **current** value for **DFMI4**?

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**True or False Questions:**

**8).** **True | False.** Flash Flood Guidance is only available in county-based form, with one value per county for each of the types of guidance.

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9).** **True | False.** All river points have an assigned “action stage” level (the stage below “flood stage”).

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10).** **True | False.** NWS text products are available through an internal module/window found within the **Hydro Perspective**?

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**11).** **True | False.** Flash Flood Guidance can only be displayed and utilized through FFMP for flash flooding scenarios.

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**12).** **True | False.** River Forecast Centers (RFCs) issue routine forecasts for all river forecast points within the Hydrologic Service Area (HAS) and also issue updates for specific points as necessary.

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Open-Ended Questions:**

**13).** Under what circumstances would an operational NWS forecaster call their representative RFC to speak with an operational HAS forecaster?

Answer the following question using the **Standardized Anomalies Analysis** section of the **Hydro Applications Guide**.

Navigate to: [**http://ssd.wrh.noaa.gov/satable/archive/**](http://ssd.wrh.noaa.gov/satable/archive/)

Keep the focus on the area of the domain in the red square:

**14).** Click on **Historic Cases**, use the calendar to navigate to **June 26 at 12Z**, select **Northcentral U.S.** and use the **NAEFS Standardized Anomaly**. Click through all of the elements in the table at 1800 UTC on June 30th. Look through all of the images (and levels) for those elements and briefly describe any and all potential mechanisms that may trigger heavy rain and over central Iowa at this time:

Answer the next question using the following hypothetical tabular river level forecast by an RFC for a river forecast point and the established flood categories for this point. This forecast was issued just after 1300 UTC on this particular day 0506 (May 6th).



:Stage Fcst/ 00Z / 06Z / 12Z / 18Z

.E1 :0506: / 7.0

.E2 :0507:/ 6.9 / 6.9 / 6.9 / 6.9

.E3 :0508:/ 7.2 / 8.6 / 16.1 / 24.0

.E4 :0509:/ 25.7 / 23.2 / 18.4 / 14.3

.E5 :0510:/ 12.2 / 11.3 / 10.6 / 10.0

.E6 :0511:/ 9.6 / 9.2 / 8.8 / 8.5

**15).** Based on this forecast:

a). What is the highest stage the river is expected to reach? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b). What is the expected highest river level height? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c). Which day of this forecast will the river reach flood stage? \_\_\_\_\_\_\_\_\_

d). Approximately how many days is the river expected to be in flood? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

e). Approximately what time will the river go back below flood stage (between what 2 six-hourly periods)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**16).** One day later, on May 7th, you are viewing the most recent RFC forecast for this same point. Now, the expected time of the crest has not changed but now the forecast shows that the river is expected to crest at 24.9’ (down from 25.7’ when the forecast was issued at this time yesterday).

Does this change warrant a phone call from you, the on-duty WFO forecaster, to the on-duty RFC forecaster who issued the forecast for this point?

Select one: **YES** or **NO. \_\_\_\_\_\_\_\_\_\_\_\_**

Briefly explain your answer (even if it is “NO”).

**17).** ***Fill in the blanks.*** Now that you’ve seen this forecast, you want to find what impacts may occur for the affected area, i.e. if any roads, buildings, or other structures would experience flooding. How would you find this information?

Open \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_