

***NATIONAL WEATHER SERVICE MANUAL 10-913
MAY 24, 2022***

***Operations and Services
Water Resources Services Program, NWSPD 10-9
RIVER FORECAST CENTER PRODUCT EXAMPLES***

NOTICE: This publication is available at: <https://www.weather.gov/directives/>.

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SUMMARY OF REVISIONS: This directive supersedes NWS Manual 10-913, “*River Forecast Center Product Examples*,” dated March 12, 2020. This is an administrative update made only to fix a broken link in section 1. No content changes were made with this update, and the effective date was not affected.

Allison Allen
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Date

River Forecast Center Product Examples

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1. Introduction.

This document provides examples of River Forecast Center (RFC) products described in the [NWS Instruction 10-912, River Forecast Center Products Specification](#). Although RFC products have become more standardized, more than one format is provided for several of the following products. These examples cover the more common types of formats used and should not be taken as the only prescribed formats.

2. Deterministic Hydrologic Forecast (RVF).

2.1 Example #1 - In Standard Hydrologic Exchange Format (SHEF) with Crest Forecast.

```
FGUS52 KALR 011326
RVFTAE
RIVER FORECAST
NATIONAL WEATHER SERVICE
```

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NWS SOUTHEAST RIVER FORECAST CENTER; PEACHTREE CITY GA
925 AM EDT MON NOV 01 2021

THIS IS A NWS GUIDANCE PRODUCT FROM THE SOUTHEAST RIVER FORECAST CENTER. PUBLIC
FORECASTS AND WARNINGS ARE ISSUED BY NWS WEATHER FORECAST OFFICES.

: FORECAST GROUP IS Apalachicola
:
: FORECASTS INCLUDE 48-HOUR FUTURE RAINFALL IN 6 HOUR INCREMENTS
:

:*****

:W.F. GEORGE, GA - CHATTAHOOCHEE RIVER

:

:LATEST INFLOW DISCHARGE M CMS M

.ER FOGG1 1101 E DC202111010925/DH14/QIIFZZ/DIH6

:FLOW FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 2.86 / 3.40 / 4.53

.E2 : 1102 : / 5.09 / 5.11 / 5.13 / 5.15

.E3 : 1103 : / 5.17 / 5.19 / 5.22 / 5.27

.E4 : 1104 : / 5.34 / 5.43 / 5.62 / 5.92

.E5 : 1105 : / 6.26 / 6.54 / 6.73 / 6.85

.E6 : 1106 : / 6.93

:

:

:*****

:ALBANY, GA - FLINT RIVER

:ACTION STAGE 16.0 FT MINOR STAGE 26.0 FT

:MODERATE STAGE 31.0 FT MAJOR STAGE 42.0 FT

:

:LATEST RIVER STAGE 3.6 M AT 0900 AM EDT ON NOV 01

.ER ABNG1 1101 E DC202111010925/DH14/HGIFFZZ/DIH6

:RIVER FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 4.1 / 4.8 / 5.5

.E2 : 1102 : / 5.3 / 5.3 / 5.2 / 5.1

.E3 : 1103 : / 5.1 / 5.0 / 5.0 / 4.9

.E4 : 1104 : / 4.9 / 4.9 / 4.8 / 4.8

.E5 : 1105 : / 4.8 / 4.8 / 4.8 / 4.7

.E6 : 1106 : / 4.7

.ER ABNG1 1101 E DC202111010925/DH14/PPQFZ/DIH6

:QPF FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 0.00 / 0.00 / 0.00

.E2 : 1102 : / 0.00 / 0.00 / 0.00 / 0.00

.E3 : 1103 : / 0.00

.AR ABNG1 1101 E DC202111010925/DH14/PPVFZ/DVH48/0.00

:

:FORECASTER COMMENTS...

:

:*****

:WOODRUFF DAM, FL - APALACHICOLA RIVER

:

:LATEST INFLOW DISCHARGE M CMS M

.AR :CREST: WDRF1 1102 E DC202111010925/DH14/QIIFFXZ 17.56

: Crest near 17.56 CMS around 2PM EDT on Tue, Nov 2

.ER WDRF1 1101 E DC202111010925/DH14/QIIFZZ/DIH6

:FLOW FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 16.79 / 17.10 / 17.25

.E2 : 1102 : / 17.43 / 17.56 / 17.51 / 17.50
 .E3 : 1103 : / 17.36 / 16.91 / 16.41 / 16.15
 .E4 : 1104 : / 15.98 / 15.80 / 15.62 / 15.43
 .E5 : 1105 : / 15.23 / 15.04 / 14.84 / 14.67
 .E6 : 1106 : / 14.51

:
 :

:*****

:WOODRUFF DAM, FL - APALACHICOLA RIVER

:ACTION STAGE 56.0 FT MINOR STAGE 63.0 FT

:MODERATE STAGE 69.0 FT MAJOR STAGE 74.0 FT

:

:LATEST TAILWATER ELEV 44.2 M AT 0845 AM EDT ON NOV 01

.ER WDRF1 1101 E DC202111010925/DH14/HTIFFZZ/DIH6

:RIVER FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 44.1 / 43.9 / 43.6

.E2 : 1102 : / 43.5 / 43.5 / 43.4 / 43.4

.E3 : 1103 : / 43.4 / 43.3 / 43.3 / 43.3

.E4 : 1104 : / 43.3 / 43.2 / 43.2 / 43.2

.E5 : 1105 : / 43.2 / 43.2 / 43.1 / 43.0

.E6 : 1106 : / 43.0

.ER WDRF1 1101 E DC202111010925/DH14/PPQFZ/DIH6

:QPF FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 0.00 / 0.00 / 0.00

.E2 : 1102 : / 0.00 / 0.00 / 0.00 / 0.00

.E3 : 1103 : / 0.00

.AR WDRF1 1101 E DC202111010925/DH14/PPVFZ/DVH48/0.00

:

:FORECASTER COMMENTS...

:

:*****

:BLOUNTSTOWN, FL - APALACHICOLA RIVER

:ACTION STAGE 13.0 FT MINOR STAGE 17.0 FT

:MODERATE STAGE 23.5 FT MAJOR STAGE 26.0 FT

:

:LATEST RIVER STAGE 7.4 M AT 0815 AM EDT ON NOV 01

.ER BLOF1 1101 E DC202111010925/DH14/HGIFZZ/DIH6

:RIVER FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 7.3 / 7.2 / 7.1

.E2 : 1102 : / 6.9 / 6.8 / 6.6 / 6.5

.E3 : 1103 : / 6.4 / 6.4 / 6.3 / 6.3

.E4 : 1104 : / 6.2 / 6.2 / 6.2 / 6.1

.E5 : 1105 : / 6.1 / 6.1 / 6.0 / 6.0

.E6 : 1106 : / 5.9

.ER BLOF1 1101 E DC202111010925/DH14/PPQFZ/DIH6

:QPF FORECAST / 8AM / 2PM / 8PM / 2AM

.E1 : 1101 : / 0.00 / 0.00 / 0.00

.E2 : 1102 : / 0.00 / 0.00 / 0.00 / 0.00

.E3 : 1103 : / 0.00

.AR BLOF1 1101 E DC202111010925/DH14/PPVFZ/DVH48/0.00

:

:FORECASTER COMMENTS...

:

:

:*****

.AR ALR 1101 E DT202111010925/YIIRZ 15 : JD

:
 \$\$
 :
 :...END of MESSAGE...

2.2 Example #2 - In Text Followed by SHEF.

FGUS56 KRSA 311502
 RVFCC

CENTRAL COAST FORECAST
 NATIONAL WEATHER SERVICE / CALIFORNIA NEVADA RFC / SACRAMENTO CA
 CALIFORNIA DEPARTMENT OF WATER RESOURCES / SACRAMENTO CA
 801 AM PDT SUN OCT 31 2021

NEXT ISSUANCE: MONDAY, NOVEMBER 01, 2021 AT 9AM PDT

FORECASTS THROUGH: FRIDAY, NOVEMBER 05, 2021 AT 5AM PDT

ALL LOCATIONS ARE EXPECTED TO REMAIN BELOW CRITICAL LEVELS

 SPECIAL NOTES-

RIVER

LOCATION (NWSLI)		STAGE (FT)	FLOW (CFS)	TIME (PT)	DATE (MM/DD/YY)	LEAD TIME
PAJARO RIVER	OBS	1.9	5 AT	7AM	10/31/21	(24)
CHITTENDEN	>MS	25.0	NOT	EXPECTED		
(AROC1)	>FS	32.0	NOT	EXPECTED		
	MAX	1.9	5 AT	CURRENT TIME		
SALINAS RIVER	OBS	12.3	0 AT	7AM	10/31/21	(18)
PASO ROBLES	>MS	23.0	NOT	EXPECTED		
(PRBC1)	>FS	29.0	NOT	EXPECTED		
	MAX	12.3	0 AT	CURRENT TIME		
SALINAS RIVER	OBS	2.7	79 AT	7AM	10/31/21	(24)
BRADLEY	>MS	12.0	NOT	EXPECTED		
(BRDC1)	>FS	14.0	NOT	EXPECTED		
	MAX	2.7	79 AT	CURRENT TIME		
SALINAS RIVER	OBS	4.1	0 AT	7AM	10/31/21	(24)
SPRECKLES	>MS	20.0	NOT	EXPECTED		
(SPRC1)	>FS	23.0	NOT	EXPECTED		
	MAX	4.1	0 AT	CURRENT TIME		
CARMEL RIVER	OBS	2.4	11 AT	7AM	10/31/21	(18)
ROBLES DEL RIO	>MS	7.5	NOT	EXPECTED		
(RDRC1)	>FS	8.5	NOT	EXPECTED		
	MAX	2.4	11 AT	CURRENT TIME		
GUADALUPE RIVER	OBS	1.0	0 AT	7AM	10/31/21	(24)
ALMADEN EXPRWY	>MS	7.5	NOT	EXPECTED		
(GUDC1)	>FS	9.5	NOT	EXPECTED		
	MAX	1.6	15 AT	7PM	11/01/21 IN	35 HRS

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COYOTE CREEK OBS 2.1 13 AT 7AM 10/31/21 (18)
 MADRONE >MS 6.0 NOT EXPECTED
 (CYTC1) >FS 7.0 NOT EXPECTED
 MAX 2.1 14 AT 9AM 11/04/21 IN 97 HRS

DEFINITIONS:

OBS MOST RECENT OBSERVATION (MAY BE ESTIMATED)
 MS MONITOR STAGE
 FS FLOOD STAGE
 MAX MAXIMUM FORECAST WITHIN PERIOD
 LEAD TIME FORECASTS WITHIN THIS PERIOD (HOURS) ARE CONSIDERED RELIABLE ENOUGH
 TO INITIATE PHYSICAL MITIGATION EFFORTS.
 * EVENT EXCEEDS MS/FS/DS WITHIN LEAD TIME PERIOD

SIM 10/31/2021 @ 1453 UTC

NOTE: ALL TIMES IN SHEF ENCODED MESSAGES BELOW ARE UTC

.A AROC1 20211031 Z DH14/HG 1.9
 .ER AROC1 20211031 Z DH16/DC202110311453/DUE/HGIFE/DIH01
 .ER1 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER2 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER3 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER4 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER5 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER6 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER7 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER8 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER9 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER10 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/
 .ER11 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.9/ 1.8/ 1.8/ 1.8/
 .ER12 1.8/ 1.8/ 1.8/ 1.8/ 1.8/ 1.8/ 1.8/ 1.8/ 1.8/ 1.8/

.A PRBC1 20211031 Z DH14/HG 12.3
 .ER PRBC1 20211031 Z DH16/DC202110311453/DUE/HGIFE/DIH01
 .ER1 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER2 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER3 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER4 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER5 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER6 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER7 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER8 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER9 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER10 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER11 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/
 .ER12 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/ 12.3/

.A BRDC1 20211031 Z DH14/HG 2.7
 .ER BRDC1 20211031 Z DH16/DC202110311453/DUE/HGIFE/DIH01
 .ER1 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/
 .ER2 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.7/ 2.6/
 .ER3 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/
 .ER4 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/
 .ER5 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/
 .ER6 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/
 .ER7 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/
 .ER8 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/ 2.6/

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.ER9	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/
.ER10	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/
.ER11	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/
.ER12	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/	2.6/			

.A SPRC1 20211031 Z DH14/HG 4.1

.ER SPRC1 20211031 Z DH16/DC202110311453/DUE/HGIFE/DIH01

.ER1	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER2	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER3	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER4	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER5	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER6	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER7	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER8	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER9	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER10	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER11	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/
.ER12	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/	4.1/			

.A RDRC1 20211031 Z DH14/HG 2.4

.ER RDRC1 20211031 Z DH16/DC202110311453/DUE/HGIFE/DIH01

.ER1	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/
.ER2	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/
.ER3	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/
.ER4	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/
.ER5	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/
.ER6	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/	2.4/
.ER7	2.4/	2.4/	2.4/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/
.ER8	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/
.ER9	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/
.ER10	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/
.ER11	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/
.ER12	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/	2.3/			

.A GUDC1 20211031 Z DH14/HG 1.0

.ER GUDC1 20211031 Z DH16/DC202110311453/DUE/HGIFE/DIH01

.ER1	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER2	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER3	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.1/	1.2/
.ER4	1.3/	1.4/	1.5/	1.6/	1.6/	1.6/	1.5/	1.4/	1.4/	1.3/
.ER5	1.3/	1.3/	1.3/	1.2/	1.1/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER6	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER7	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER8	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER9	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER10	1.0/	1.1/	1.2/	1.2/	1.3/	1.3/	1.3/	1.4/	1.5/	1.5/
.ER11	1.5/	1.5/	1.4/	1.3/	1.1/	1.0/	1.0/	1.0/	1.0/	1.0/
.ER12	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/	1.0/			

.A CYTC1 20211031 Z DH14/HG 2.1

.ER CYTC1 20211031 Z DH16/DC202110311453/DUE/HGIFE/DIH01

.ER1	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/
.ER2	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/
.ER3	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/
.ER4	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/
.ER5	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/
.ER6	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/
.ER7	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/	2.1/

```
.ER8      2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/
.ER9      2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/
.ER10     2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/
.ER11     2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/
.ER12     2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/   2.1/
```

END

3. Contingency River Forecast (CRF).

3.1 Example #1 - Product with Extended Time Window for Quantitative Precipitation Forecast (QPF).

FGUS53 KKRF 081643
CRFELK

CONTINGENCY RIVER FORECAST

NWS MISSOURI BASIN RIVER FORECAST CENTER PLEASANT HILL MO
1637Z Mon Apr 8 2019

:

: THIS PRODUCT HAS PRELIMINARY DATA THAT MAY BE SUBJECT TO REVISION.
: REFER TO YOUR LOCAL WFO FOR THE LATEST OFFICIAL RIVER FORECAST.

: FORECAST GROUP IS ELPLAT

: *****CONTINGENCY FORECAST USING 120 HOURS OF QPF*****

: *****

: *** THESE FORECASTS ARE SIGNIFICANTLY AFFECTED BY QPF ***

: *****

: ==> This forecast includes obsd precip & 120 hours of QPF <==

RIVER/STATION	FS	TDY	F O R E C A S T
N FK ELKHORN RIVER			
PIERCE NE 2SE	12.0	6.8E	CREST NEAR 10.8 FT 04/12 PM 2nd CREST NEAR 10.7 FT 04/16 AM
ELKHORN RIVER			
WINSLOW NE 2E	17.0	11.3	CREST NEAR 14.2 FT 04/12 PM

:

:PIERCE NE 2SE - N FK ELKHORN RIVER HSA - OAX
:FLOOD STAGE 12.0 FT FCST ISSUANCE STAGE 10.0 FT
:MODERATE FLOOD STAGE 14.0 FT MAJOR FLOOD STAGE 16.0 FT
:LATEST ESTIMATED RIVER STAGE 6.8 FT AT 1200Z ON 0408

:Obs Stage / 00Z / 06Z / 12Z / 18Z
: 0407 / 6.9
: 0408 / M / M / M

.AR : CREST : PRCN1 20190413 Z DC201904081637/DH00/HGIC1X 10.8
.AR : CREST : PRCN1 20190416 Z DC201904081637/DH12/HGIC1X 10.7
.AR PRCN1 20190408 DH1200/HGIPX 6.80E
.ER PRCN1 20190408 Z DC201904081637/DH18/HGIC1/DIH6
:Stage Fcst/ 00Z / 06Z / 12Z / 18Z
.E1 :0408: / 6.7

```
.E2 :0409:/ 6.7 / 6.6 / 6.6 / 6.5
.E3 :0410:/ 6.5 / 6.4 / 6.5 / 6.5
.E4 :0411:/ 6.5 / 6.5 / 6.6 / 7.2
.E5 :0412:/ 8.2 / 9.1 / 10.1 / 10.7
.E6 :0413:/ 10.8 / 10.5 / 9.9 / 9.1
.E7 :0414:/ 8.4 / 7.8 / 7.5 / 7.4
.E8 :0415:/ 7.6 / 8.2 / 8.9 / 9.6
.E9 :0416:/ 10.2 / 10.6 / 10.7 / 10.6
.E10 :0417:/ 10.3 / 9.7 / 9.2 / 8.7
.E11 :0418:/ 8.2 / 7.8 / 7.4 / 7.2
.E12 :0419:/ 7.0 / 6.8 / 6.7 / 6.6
.E13 :0420:/ 6.5 / 6.4 / 6.4 / 6.3
.E14 :0421:/ 6.2 / 6.2 / 6.1 / 6.0
```

:Local observed 6-hr basin-averaged precip (inches) (PAST 24 hours):

```
:      / 00Z / 06Z / 12Z / 18Z
: 0407 /      /      /      / 0.00
: 0408 / 0.00 / 0.00 / 0.00
```

:Local observed 24-hr basin-averaged precip total

: QPE Total Ending Apr 08: 0.00 inches

:Local forecast 6-hr basin-averaged precip (inches) (NEXT 120 hours):

```
:      / 00Z / 06Z / 12Z / 18Z
: 0408 /      /      /      / 0.00
: 0409 / 0.00 / 0.00 / 0.00 / 0.00
: 0410 / 0.00 / 0.05 / 0.13 / 0.01
: 0411 / 0.15 / 0.81 / 0.35 / 0.36
: 0412 / 0.24 / 0.10 / 0.05 / 0.02
: 0413 / 0.01 / 0.00 / 0.00
```

:Local forecast 120-hr basin-averaged precip total

: QPF Total Ending Apr 13: 2.28 inches

```
:WINSLOW NE 2E - ELKHORN RIVER      HSA - OAX
:FLOOD STAGE 17.0 FT  FCST ISSUANCE STAGE 14.0 FT
:MODERATE FLOOD STAGE 20.0 FT  MAJOR FLOOD STAGE 24.0 FT
:LATEST RIVER STAGE 11.3 FT AT 1545Z ON 0408
```

```
:Obs Stage / 00Z / 06Z / 12Z / 18Z
: 0408 /      /      /      / 11.2
: 0408 / 11.3 / 11.2 / 11.2
```

.AR : CREST : WLON1 20190413 Z DC201904081637/DH00/HGIC1X 14.2

.ER WLON1 20190408 Z DC201904081637/DH18/HGIC1/DIH6

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

```
.E1 :0408: / 11.1
.E2 :0409:/ 11.1 / 11.1 / 11.0 / 10.9
.E3 :0410:/ 10.8 / 10.7 / 10.6 / 10.6
.E4 :0411:/ 10.5 / 10.4 / 10.6 / 11.0
.E5 :0412:/ 11.9 / 13.0 / 13.9 / 14.2
.E6 :0413:/ 14.2 / 14.1 / 13.8 / 13.4
.E7 :0414:/ 13.1 / 12.7 / 12.4 / 12.2
.E8 :0415:/ 12.1 / 12.0 / 11.9 / 11.9
.E9 :0416:/ 11.9 / 11.9 / 11.9 / 11.8
.E10 :0417:/ 11.8 / 11.9 / 11.9 / 11.9
.E11 :0418:/ 12.0 / 11.9 / 11.9 / 11.8
.E12 :0419:/ 11.8 / 11.8 / 11.7 / 11.7
```

```
.E13 :0420:/ 11.7 / 11.7 / 11.7 / 11.7
.E14 :0421:/ 11.7 / 11.7 / 11.6 / 11.6

:Local observed 6-hr basin-averaged precip (inches) (PAST 24 hours):
:      / 00Z / 06Z / 12Z / 18Z
: 0407 /      /      /      / 0.00
: 0408 / 0.00 / 0.00 / 0.00
:
:Local observed 24-hr basin-averaged precip total
: QPE Total Ending Apr 08: 0.00 inches
:
:Local forecast 6-hr basin-averaged precip (inches) (NEXT 120 hours):
:      / 00Z / 06Z / 12Z / 18Z
: 0408 /      /      /      / 0.00
: 0409 / 0.00 / 0.00 / 0.00 / 0.00
: 0410 / 0.00 / 0.00 / 0.08 / 0.00
: 0411 / 0.08 / 0.54 / 0.38 / 0.25
: 0412 / 0.19 / 0.07 / 0.03 / 0.01
: 0413 / 0.00 / 0.00 / 0.00
:
:Local forecast 120-hr basin-averaged precip total
: QPF Total Ending Apr 13: 1.63 inches

:*****
:COMMENT
:
:
:HSA -      Hydrologic Service Area
:LBF -      NWS Weather Forecast Office North Platte, Nebraska
:OAX -      NWS Weather Forecast Office Omaha, Nebraska
:GID -      NWS Weather Forecast Office Hastings, Nebraska
:OBS -      Observed
:EST -      Estimated
:M -        Missing
:Stage Fcst - River Stage forecast including future precipitation
:Flow Fcst - River Flow forecast including future precipitation
:Precip -    Precipitation
:QPE -      Observed radar estimated precipitation
:QPF -      Forecasted mean areal precipitation for local basin
:
:
:$
: rlw
:...END of MESSAGE...
```

4. Streamflow Guidance (ESG).

4.1 Example #1 - Spring Flood Potential Outlook.

FGUS61 KTAR 142102 CCA
ESGTAR

Winter/Spring Flood Potential Outlook
National Weather Service
Northeast River Forecast Center Norton MA
500 PM EDT Wed Apr 14 2021

...For Official National Weather Service Use Only...

Winter/Spring Flood Potential for the northeastern U.S. /8/

The Winter/Spring Flood Potential for the northeastern United States is below normal across most of the region...except locally near normal across portions of the Catskills...southern Adirondacks...Berkshires...Litchfield Hills...southern Green Mountains and White Mountains.

The potential for flooding due to ice jams has passed for the season.

...CLIMATE GUIDANCE...

Above normal average temperatures and below normal precipitation characterized the beginning of April across most of the Northeast.

Average temperatures from April 1-11 ranged from +3 to +9 degrees above normal with the greatest departure at Buffalo NY and lowest departure at Bridgeport CT.

Precipitation total departures from April 1-11 ranged up to 1.50 inches below normal with the greatest departures found in southern New England. Slight above normal departures were found at Rochester NY and Caribou ME. Precipitation total departures for the year to date were ranging from 1.50 to 5 inches below normal...except close to normal at Caribou ME.

Snow totals to date in mid-April were slightly above normal at Caribou ME.

The El Nino Southern Oscillation (ENSO) remains in La Nina phase. Usually the Pacific jet stream or northern branch prevails during this phase...occasionally varying in its strength and location. The three month Oceanic Nino Index decreased to -0.9 Celsius from January through March 2021. The weekly Oceanic Nino Index value as of April 12 was -0.5 Celsius in the Nino 3.4 region. The Climate Prediction Center discussion indicates a transition to ENSO neutral phase is likely in the next month or so.

A significant shift in the jet stream pattern recently occurred across the northeastern United States. The northern Atlantic oscillation (NAO) teleconnection switched to negative phase allowing for a blocking pattern to develop. Although this did occur...colder air that arrived was either short lived or modified. Meanwhile the Pacific North American (PNA) teleconnection in its negative phase had encouraged ridging across the southeastern U.S. and a lack of east coast cyclogenesis. Precipitation totals have generally been below normal so far in April. However a cutoff low system April 10-12 helped enhance precipitation totals in portions of western and southern New York State. A change to near normal temperatures occurred due to a backdoor cool front and weak surface high pressure. Below normal temperatures are forecast in the short term due to another cutoff low pressure system...but temperatures should rebound again for a time early next week.

A change in the shorter term teleconnection phases is forecast. The Climate Prediction Center ensemble NAO forecasts indicate a switch from strongly negative to near neutral or slightly positive phase during the third week of April...with ensemble PNA forecasts near neutral or slightly positive. Less certainty is noted heading towards the end of April. There is some signal that cooler than normal temperatures may return again later in the month.

A frontal system and coastal low pressure is expected to develop during the transition 4/15-17. Some beneficial QPF amounts 1-2+ inches are anticipated along with some significant interior high elevation snow accumulation possible

in eastern New York and New England. A frontal system and another coastal low is forecast to develop around April 20 to April 21. At this time it appears any significant precipitation may spare the region with this system.

Heading into week two there will be additional chances for precipitation as frontal systems approach the region. Timing and phasing of these low systems becomes more uncertain during week two. Currently there is no strong signal for additional significant precipitation in the long term but this will be examined as the jet stream pattern remains active.

The 6 to 14 day outlook from the Climate Prediction Center 20-28 April 2021 generally indicates likely chances for cooler than normal temperatures in the west...near equal chances of below...near normal or above normal temperatures across the east...and chances for some above normal precipitation.

...OBSERVED SNOW DEPTHS AND WATER EQUIVALENTS...

The ground is bare across most of the Northeast at the time of this report. The exception is the elevations at or above 2000 feet which still have some snow cover...across the Adirondacks of New York...Green and White Mountains of New Hampshire and Vermont and into western and northern Maine. Otherwise areal coverage is rather limited at this time. A heavy wet snow is forecast near term across some of these same high terrain areas. Even the valley areas of eastern New York and New England may receive some snow accumulation.

...New York State...

The ground was bare across most of the region at the time of this report. Some light snow cover is located across wooded areas of the summits in the northern Adirondacks. Snow water is hydrologically insignificant in this region.

...Southern New England...

The ground was bare across the region at the time of this report.

...Northern New England...

Snow cover is mostly confined to the high peaks in the region at the time of this report. Snow water equivalents range from 1 to locally 3+ inches in these areas.

...Vermont...

The ground is mostly bare. Most of any snow cover is located across the high peaks and summits. Mount Mansfield elevation 4400 ft reported a snow depth of 16 inches as of 13 April 2021. This is well below the long term average of 69 inches for the date.

...New Hampshire and Maine...

The ground is mostly bare. Most of any snow cover is currently located across the high peaks and summits of northern New Hampshire and western and northern Maine. From WFO Gray Maine...Gray Knob elevation approximately 4379 ft reported a 19 inch snow depth and Hermit Lake elevation 3742 ft reported a 30 inch snow depth on 12 April 2021.

...SOIL MOISTURE AND GROUNDWATER CONDITIONS...

During late March and start of April...rain and significant snowmelt moistened

soils across the Tug Hill plateau and Adirondack mountain regions of northern New York state and northern New England. However over the long term...some dry antecedent conditions continue.

The latest Palmer Drought Severity Index (PDSI) examines antecedent moisture states from past weeks to months. The latest PDSI from 10 April 2021 indicates moderate drought conditions across northern New Hampshire...much of Vermont west of the green mountain spine as well as southern Vermont. In addition moderate drought conditions were found across the Champlain Valley regions of New York and Vermont...near the Adirondacks...and the upper Genesee valley in western New York. A more persistent area of severe drought continues to be indicated across the Saint Lawrence River Valley in far northern portions of New York State. Some short term improvement had occurred due to snowmelt and precipitation at the end of March and beginning of April.

Taking a look at groundwater monitoring wells across the region courtesy of the United States Geological Survey (USGS)...

Groundwater levels across New England are generally near normal and in some cases above normal. Some above normal groundwater levels were found in Maine.

Groundwater levels in New York State are averaging near normal to below normal. Below normal groundwater levels were particularly found in western New York and the Saint Lawrence valley of northern New York where some concerns remain heading through spring.

...New York State...

Near normal to below normal groundwater levels were found across most of the state.

Hyde Park in the lower Hudson valley and Upton on Long Island were reporting between the 25th and 50th percentile levels for the time of year as of 11 April 2021. SUNY Albany was reporting close to the 50th percentile level for the time of year.

Gainesville in the Genesee valley region of western New York was near lowest median levels as of 12 April 2021 but was experiencing some recharge due recent runoff from precipitation.

Louisville and Brasher Falls in the Saint Lawrence Valley region were reporting between 10th and 25th percentile groundwater levels as of 12 April 2021.

...Southern New England...

Groundwater levels were running near normal to below normal across most of the region. Pockets of above normal groundwater levels were reported mainly in Rhode Island.

In Connecticut...groundwater levels are averaging between 25th to 50th percentiles for this time of year.

In Rhode Island...groundwater levels are averaging between 25th to 50th percentiles for this time of year. The exception is that Exeter and Richmond are reporting 75th to 90th percentile levels as of 12 April 2021.

In Massachusetts...groundwater levels are averaging between 25th to 50th percentiles for this time of year in western and central portions of the state. Pittsfield in the Berkshires was reporting 10th to 25th percentile levels as of

12 April 2021. Groundwater levels in east portions of the state are a bit closer to normal.

...Northern New England...

Groundwater levels vary from near normal to below normal in Vermont and New Hampshire...near to above normal across most of Maine except below normal in southern Maine.

In Vermont...Groundwater levels were near normal at Pittsford in the southwestern part of the state. Glover and Hartland were reporting below normal groundwater levels in the eastern and northern parts of the state.

In New Hampshire...Groundwater levels are currently below normal and generally close to the 25th percentile range for the time of year at a few of the available reporting locations.

In Maine...Groundwater levels vary and are currently below normal in the 25th percentile range from the time of year across the south and near to slightly above normal in the 50th to near 75th percentile range across portions of the foothills and western parts of the state. Groundwater levels are above normal in the 75th to 90th percentile range for the time of year in the north from Calais to Fort Kent...thanks to recharge from snowmelt and closer to normal precipitation totals.

...RESERVOIR LEVELS AND WATER SUPPLY...

In general...reservoir levels have benefited due to runoff from snowmelt across the northern basins...otherwise elsewhere from some recent precipitation.

In northern New York state...Indian Lake is running a foot below normal. Great Sacandaga Lake is about 1 foot higher than normal. Hinckley Reservoir is now running about 3.5 feet above normal mostly due to runoff from snowmelt. Stillwater reservoir currently running close to normal for mid-April. Lake Champlain is close to 2 feet below normal for mid-April. In central New York state...Owasco Lake is currently 0.6 foot below its normal pool level for this time of year.

In southeastern New York State...the New York City Water Supply system...comprised of 7 large reservoirs...was at 98.5 percent of capacity as of 14 April 2021 which was 1.0 percent below normal. One of the seven large reservoirs...Schoharie was above capacity and releasing water uncontrolled over the spillway.

In Northern New England...reservoir systems in the Kennebec river basin in Maine were 71.3 percent full as of 12 April 2021 which was 52.8 percent above normal. The nearby Androscoggin river storage was 62.9 percent full or 54.9 percent above normal. New Hampshire's largest lake...lake Winnepesaukee was running almost precisely at its normal level for mid-April. In northern Vermont... Lake Memphremagog in Newport Vermont was running about 0.4 foot below normal as of 13 April 2021.

In Southern New England...Quabbin reservoir...the main water supply reservoir for the Boston Metropolitan area...was at 93.4 percent capacity on 1 April 2021...and the smaller Wachusett reservoir was at 89.1 percent of capacity. Both of these reservoirs are in the normal operating range for early Spring. Scituate Reservoir...the main water supply reservoir for northern Rhode Island including the city of Providence...was at 285.21 feet as of 14 April 2021...which was 104.8 percent of capacity. Water was flowing uncontrolled over

the spillway into the mainstem Pawtuxet river basin.

We do not currently anticipate large scale water supply issues this spring as snowmelt runoff has generally been enough to recharge lake and reservoir systems. We are somewhat concerned across portions of western New York state and the Saint Lawrence valley region of New York where groundwater levels are still low and the near term forecast indicates no significant precipitation.

If precipitation doesn't increase more across portions of western and far northern New York state...we may begin to notice smaller scale water supply issues develop later this spring.

...RIVER AND ICE CONDITIONS...

Below normal 7 day average streamflows are observed across most of the northeast. Current streamflows are also below normal in many areas...but have increased due to recent rainfall across the Buffalo creeks of western NY...the Finger Lakes region of western and central NY...the southern and eastern Catskills and the New York city metropolitan area and Long Island.

Near to above normal 7 day average river flows are observed across the Adirondacks of northern New York state...also northern New Hampshire and northern and western Maine due to recent snowmelt and past precipitation.

Flows are highest across northern Maine where the Allagash River at Allagash and the Fish River at Fort Kent were within the top 10 percent for mid-April.

Flows were lowest across interior southern New England...southern New Hampshire and southeastern Vermont...including the lower Merrimack basin...and mid to lower Connecticut river basin...the Finger Lakes of central and western New York and across portions of the Saint Lawrence valley region of New York. Many of these locations were within the lowest 10 percent of historical values for mid-April.

River ice is mostly gone and has either rotted or been flushed out of northern Maine rivers in late March and early April. Webcam images...photos and information from WFO Caribou Maine generally confirm this. Some leftover but insignificant shore ice remains along portions of river banks...primarily the Saint John River and western Maine lakes.

...IN CONCLUSION...

The Winter Spring flood potential is below normal across most of the Northeast except somewhat near normal across local portions of the Catskills...southern Adirondacks...Berkshires...Litchfield Hills...southern Green Mountains and White Mountains.

Most of any snow cover of hydrologic significance was located across some of the northern high terrain peaks and summits...encompassing a very small portion of the Northeast at the time of this report.

Antecedent conditions are drier than normal in many areas...particularly across portions of far western and northern basins. Streamflows are mostly below normal except near to above normal in northern New Hampshire and northern Maine...western New York and southern New York. Greenup is gradually getting underway adding to absorption and evapotranspiration of moisture. In most areas...even if significant precipitation occurs most rivers should be able to accommodate the runoff. At this time there is no strong signal for significant precipitation mostly longer term. A below normal outlook is forecast across

most of the region.

In the near term...one to two plus inches of QPF is expected across portions of the central and southern basins with some significant high elevation snow possible. The snow although high in water content should melt fairly quickly due to the high April sun angle. The multi-model ensemble forecasts indicate within bankfull action river rises possible due to the runoff from melt and lower elevation rain and snow. An increase in streamflow levels is anticipated in these areas and some above normal precipitation is possible in the longer term but will depend on timing and phasing of systems. If that occurs we could see the possibility of some elevated streamflow levels in this region. A near normal outlook is forecast locally across portions of the Catskills...southern Adirondacks...Berkshires...Litchfield Hills...southern Green Mountains and White Mountains.

In far northern Maine...most of the snow cover has melted except across the high peaks and summits. As mentioned...some elevated streamflows remain due to runoff from snowmelt. Chances for some above normal precipitation exist but no strong signals for significant precipitation longer term at this time. Some of the precipitation will fall as snow across high terrain areas and most rivers should be able to handle the additional runoff. Thus a below normal outlook is forecast.

River ice has been flushed or rotted out and the ice jam threat is over for the 2020-2021 season.

It is important to remember that very heavy rainfall can result in flooding at any time of year...even in areas that have little or no snow on the ground.

A graphic depicting the flood potential across the NERFC service area is available on the NERFC web site at

*** www.weather.gov/nerfc/springfloodpotential ***

all in lower case.

Unless hydrometeorological conditions warrant...this is expected to be the last winter/spring flood potential outlook issuance for the season.

End/Strauss
\$\$

4.2 Example #2 - Long-Range Probabilistic Outlook.

FGUS63 KMSR 211529
ESGDEV

DEVILS LAKE BASIN
LONG-RANGE PROBABILISTIC OUTLOOK
NATIONAL WEATHER SERVICE
NORTH CENTRAL RIVER FORECAST CENTER TWIN CITIES/CHANHASSEN MN
929 AM CST TUE DEC 21 2021

IN TABLE 2 BELOW...THE 95 THROUGH 5 PERCENT COLUMNS INDICATE THE PROBABILITY OF EXCEEDING THE LISTED STAGE LEVELS (FT) FOR THE VALID TIME PERIOD.

:...TABLE 2--EXCEEDANCE PROBABILITIES...

```
.B MSR 1220 Z DH12 /DC2112211529/DVD97/HGVFZXT/HGVFZX9/HGVFZXH
.B1 /HGVFZX5/HGVFZXG/HGVFZX1/HGVFZXF
:
:      Chance of Exceeding Stages (ft) at Specific Locations
:      Valid Period: 12/20/2021 - 03/27/2022
:
:      95%      90%      75%      50%      25%      10%      5%
:      ---      ---      ---      ---      ---      ---      ---
:Devils Lake
DCBN8   1447.2/ 1447.3/ 1447.3/ 1447.4/ 1447.7/ 1448.1/ 1448.3
:Eastern Stump Lake
ESLN8   1447.2/ 1447.3/ 1447.3/ 1447.4/ 1447.7/ 1448.1/ 1448.3
.END
```

IN TABLE 3 BELOW...THE 95 THROUGH 5 PERCENT COLUMNS INDICATE THE PROBABILITY OF FALLING BELOW THE LISTED STAGE LEVELS (FT) FOR THE VALID TIME PERIOD.

:...TABLE 3--NONEXCEEDANCE PROBABILITIES...

```
.B MSR 1220 Z DH12 /DC2112211529/DVD97/HGVFZNT/HGVFZN9/HGVFZNH
.B1 /HGVFZN5/HGVFZNG/HGVFZN1/HGVFZNF
:
:      Chance of Falling Below Stages (ft) at Specific Locations
:      Valid Period: 12/20/2021 - 03/27/2022
:
:      95%      90%      75%      50%      25%      10%      5%
:      ---      ---      ---      ---      ---      ---      ---
:Devils Lake
DCBN8   1447.1/ 1447.1/ 1447.1/ 1447.1/ 1447.1/ 1447.1/ 1447.1
:Eastern Stump Lake
ESLN8   1447.1/ 1447.1/ 1447.1/ 1447.1/ 1447.1/ 1447.1/ 1447.1
.END
```

:Long-range probabilistic outlooks are issued near the end of the month
:throughout the year.

\$\$

5. Extended-Range Streamflow Prediction (ESP).

5.1 Example #1 - Water Supply Forecast.

FGUS63 KKRF 021323
ESPKRF
WATER SUPPLY FORECAST
NWS MISSOURI BASIN RIVER FORECAST CENTER
PLEASANT HILL MISSOURI

0216 PM CST MONDAY MARCH 01, 2021

DATA CURRENT AS OF: MARCH 01, 2021

MISSOURI/YELLOWSTONE/PLATTE RIVER BASIN FORECASTS

FORECAST POINT	PERIOD	50% (KAF)	% AVG	10% (KAF)	90% (KAF)	AVG (KAF)
----------------	--------	--------------	----------	--------------	--------------	--------------

NWSM 10-913 MAY 24, 2022

Boysen Resvr Inflow SBDW4N	Apr-Sep	676	59	1177	416	1140
Bighorn R at Kane LVEW4N	Apr-Sep	1051	62	1768	660	1690
Greybull R at Meeteetse MEEW4N	Apr-Sep	116	65	211	58	177
Buffalo Bill Resvr Inflow CDYW4N	Apr-Sep	533	70	733	408	765
St. Mary R nr Babb SMYM8N	Apr-Sep	420	79	482	357	535
St. Mary R at Intl Boundary SMBM8N	Apr-Sep	492	75	578	413	660
Milk R nr Western Crossing PDBM8N	Apr-Sep	27	67	58	14	41
Milk R nr Eastern Crossing ERNM8N	Apr-Sep	44	55	109	22	81
Lima Resvr Inflow LRRM8N	Apr-Sep	45	58	72	27	78
Clark Canyon Resvr Inflow CLKM8N	Apr-Sep	91	58	141	58	159
Beaverhead R at Barretts BARM8N	Apr-Sep	121	62	177	85	194
Ruby R Resvr Inflow ALRM8N	Apr-Sep	82	84	100	61	97
Big Hole R nr Melrose MLRM8	Apr-Sep	517	92	787	390	560
Big Hole R nr Melrose MLRM8N	Apr-Sep	576	101	844	448	570
Hebgen Resvr Inflow HBDM8N	Apr-Sep	426	99	499	364	430
Ennis Resvr Inflow ELMM8N	Apr-Sep	778	104	890	635	745
Gallatin R nr Gateway GLGM8	Apr-Sep	260	57	347	206	455
Gallatin R nr Gateway GLGM8N	Apr-Sep	260	57	347	206	455
Gallatin R at Logan LOGM8	Apr-Sep	276	55	420	190	505

NWSM 10-913 MAY 24, 2022

Gallatin R at Logan LOGM8N	Apr-Sep	408	69	540	316	595
Missouri R at Toston TOSM8N	Apr-Sep	2206	88	2969	1842	2510
Missouri R at Fort Benton FBNM8N	Apr-Sep	3466	94	4637	2790	3690
Missouri R nr Virgelle VRGM8N	Apr-Sep	3975	93	5354	3188	4280
Missouri R nr Landusky LDKM8N	Apr-Sep	4240	94	5686	3384	4490
Missouri R below Fort Peck Dam FPKM8N	Apr-Sep	4391	93	5891	3479	4730
Gibson Resvr Inflow AGSM8N	Apr-Sep	468	117	640	387	400
Marias R nr Shelby SHLM8N	Apr-Sep	415	92	611	325	450
Musselshell R at Harlowton HLWM8N	Apr-Sep	64	61	112	37	104
Yellowstone R at Yellowstone Lk YLOW4	Apr-Sep	592	74	747	476	795
Yellowstone R at Yellowstone Lk YLOW4N	Apr-Sep	781	93	961	650	840
Yellowstone R at Corwin Sprgs CORM8	Apr-Sep	1478	79	1823	1239	1880
Yellowstone R at Corwin Sprgs CORM8N	Apr-Sep	1784	90	2135	1487	1980
Yellowstone R at Livingston LIVM8	Apr-Sep	1809	85	2210	1523	2130
Yellowstone R at Livingston LIVM8N	Apr-Sep	2176	94	2582	1805	2310
Yellowstone R at Billings BILM8	Apr-Sep	2766	74	3463	2162	3730
Yellowstone R at Billings BILM8N	Apr-Sep	3784	89	4446	3097	4260
Yellowstone R at Miles City MILM8N	Apr-Sep	5643	78	7303	4462	7250
Yellowstone R at Sidney SIDM8N	Apr-Sep	5799	77	7562	4585	7540
Boulder R at Big Timber BTMM8	Apr-Sep	211	70	256	155	300

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Boulder R at Big Timber BTMM8N	Apr-Sep	252	78	297	195	325
Stillwater R nr Absarokee SRAM8	Apr-Sep	334	66	420	267	505
Stillwater R nr Absarokee SRAM8N	Apr-Sep	392	71	477	325	550
Clks Fk Yellowstone R nr Belfry BFYM8	Apr-Sep	415	75	533	324	550
Clks Fk Yellowstone R nr Belfry BFYM8N	Apr-Sep	486	81	602	398	600
Bighorn R nr St. Xavier STXM8N	Apr-Sep	1660	65	2512	1160	2550
Little Bighorn R nr Hardin HRDM8N	Apr-Sep	68	66	100	42	103
Tongue R nr Dayton DAYW4N	Apr-Sep	65	78	83	47	83
Tongue R nr Decker DSL8N	Apr-Sep	146	68	216	98	215
Tongue R Resvr Inflow DKRM8N	Apr-Sep	148	69	223	99	215
Powder R at Moorhead MHDM8N	Apr-Sep	130	59	257	72	220
Powder R nr Locate LOCM8N	Apr-Sep	139	57	318	77	245

Locations with an 'N' suffix indicate natural flows excluding stream augmentations.

KAF: Thousands of Acre-feet

%AVG: Current 50%/AVG

AVG: Average (50%) seasonal runoff volume as simulated by the river forecast model considering a continuous simulation of the basin response to historic climate data (observed precipitation and temperatures) over the period of 1981-2010.

The 50%, 10% and 90% columns indicate the probability that the actual volume will exceed the forecast for the valid time period.

For more information, please visit: www.weather.gov/mbrfc/water

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5.2 Example #2 - Probabilistic Forecast Information.

FGUS65 KSTR 162016
 ESPCO
 National Weather Service
 Colorado Basin River Forecast Center
 Salt Lake City, Utah
 March 16, 2021

San Juan Basin Special Forecast Group

March mid-month Forecasts

Seasonal and Monthly forecasts
 Forecast volumes in thousands of acre-feet (KAF)

Rio Blanco	FORECAST			
	90%	50%	10%	
Apr-Jul	30.0	41.0	55.0	

Navajo-Chromo	FORECAST			
	90%	50%	10%	
Apr-Jul	33.0	47.0	62.0	

Little Navajo-Chromo	FORECAST			
	90%	50%	10%	
Apr-Jul	2.4	4.3	6.3	
Mar	0.2	0.25	0.3	
Apr	0.5	0.8	1.0	
May	1.5	2.5	3.2	

Vallecito Reservoir	FORECAST			
	90%	50%	10%	
Apr-Jul	60.0	105.0	160.0	
Mar	3.2	3.7	4.5	
Apr	6.0	10.0	14.0	
May	21.0	35.0	50.0	

Navajo Reservoir	FORECAST			
	90%	50%	10%	
Apr-Jul	245.0	395.0	605.0	
Mar	23.0	27.0	35.0	
Apr	52.0	70.0	100.0	
May	101.0	150.0	205.0	

Animas-Durango	FORECAST			
	90%	50%	10%	
Apr-Jul	125.0	220.0	315.0	
Mar	7.5	8.0	11.0	
Apr	17.0	23.0	27.0	
May	43.0	75.0	85.0	

Lemon Reservoir	FORECAST			
	90%	50%	10%	
Apr-Jul	13.0	27.0	42.0	
Mar	0.5	0.6	0.9	
Apr	1.3	2.0	3.5	
May	5.7	10.0	13.0	

6. Flash Flood Guidance (FFG).

6.1 Example #1 - Zone Name.

FOUS62 KALR 011938
 FFGSJU
 ZONE FLASH FLOOD GUIDANCE...PUERTO RICO
 NATIONAL WEATHER SERVICE
 SOUTHEAST RIVER FORECAST CENTER...ATLANTA GA
 337 PM EDT MON NOV 1 2021

INCHES OF RAINFALL FOR SPECIFIED DURATIONS REQUIRED TO PRODUCE FLASH FLOODING IN
 FORECAST ZONES. LOWER AMOUNTS MAY CAUSE FLASH FLOODING IN URBAN OR MOUNTAINOUS
 AREAS.

.B ALR 20211101 Z DH18/DC202111011937 /DUE/PPHCF/PPTCF/PPQCF
 :IDENTIFIERS ARE 2-LETTER STATE, Z FOR ZONE, 3-DIGIT ZONE NUMBER

```

:
:IDENT      1HR      3HR      6HR      ZONE NAME
:=====
PRZ001      0.9/     1.5/     2.1
PRZ002      0.9/     1.5/     2.1
PRZ003      0.9/     1.5/     2.1
PRZ004      0.9/     1.5/     2.1
PRZ005      1.7/     2.2/     2.7
PRZ006      1.6/     2.2/     2.6
PRZ007      1.5/     2.2/     2.6
PRZ008      1.7/     2.2/     2.7
PRZ009      1.6/     2.2/     2.6
PRZ010      1.7/     2.2/     2.7
PRZ011      1.7/     2.2/     2.7
PRZ012      1.6/     2.5/     3.5
PRZ013      1.6/     2.5/     3.5
VIZ001      1.6/     2.6/     3.6
VIZ002      1.7/     2.6/     3.7

```

.END
 \$\$
 S.E.R.F.C. 770-486-0028 or 770-282-2112
 Regular Hours 6am-10pm Eastern Time
 After Hours Please Follow Callback Instructions

7. Headwater Flash Flood Guidance (FFH).

7.1 Example #1 - With 1, 3, and 6 Hourly Values.

FOUS73 KKRF 090146
 FFHMO

M I S S O U R I H Y D R O L O G I C S E R V I C E A R E A S

HEADWATER FLASH FLOOD GUIDANCE
 NWS MISSOURI BASIN RIVER FORECAST CENTER PLEASANT HILL MO
 745 PM CST MON NOV 8 2021

.B KRF 211109 Z DH00/DC2111090145 /DUE/PPHCF/PPTCF/PPQCF

```

:IDENT      1HR      3HR      6HR      HEADWATER NAME      STREAM
:=====
:

```

```

: ***** PLEASANT HILL HSA
:
AGYM7      2.1/  2.4/  2.8 :AGENCY MO 4NE          PLATTE R
BLRM7      1.0/  1.2/  1.4 :BLAIRSTOWN MO        BIG CR
BLVM7      1.6/  1.9/  2.2 :BLUE LICK MO          BLACKWATER R
BONM7      1.3/  1.5/  1.8 :BOONVILLE MO         PETITE SALINE CR
BRLM7      2.4/  2.8/  3.2 :BURLINGTON JCT MO     NODAWAY R
CAXM7      1.3/  1.5/  1.8 :CARROLLTON MO         WAKENDA CR
CHZM7      2.8/  3.2/  3.7 :CHILLICTHE MO 2S      GRAND R
FFXM7      1.5/  1.7/  2.1 :FAIRFAX MO            TARKIO R
FYTM7      1.4/  1.6/  1.9 :FAYETTE MO            MONITEAU CR
KBNM7      2.2/  2.8/  3.5 :KNOBTOWN MO           LITTLE BLUE R
KBRM7      2.2/  2.5/  2.9 :KC MO - BLUERIDGE     BLUE R
KCCM7      3.2/  3.6/  4.2 :KC MO BANNISTER RD    BLUE R
KWPM7      4.2/  4.7/  5.3 :WARD PARKWAY          BRUSH CREEK
LKCM7      1.7/  2.0/  2.3 :LAKE CITY MO          LITTLE BLUE R
LRLM7      1.6/  1.9/  2.2 :LEES SUMMIT RD        LITTLE BLUE R
MBYM7      1.3/  1.5/  1.8 :MOSBY MO              FISHING R
MYVM7      1.9/  2.2/  2.6 :MARYVILLE MO         102 R
NVZM7      2.0/  2.3/  2.7 :NOVINGER MO           CHARITON R
OTTM7      1.3/  1.5/  1.8 :OTTERVILLE MO        LAMINE R
RICM7      1.4/  1.6/  1.9 :RICHMOND MO           CROOKED R
SMHM7      2.1/  2.4/  2.8 :SMITHVILLE MO       LITTLE PLATTE R
TTZM7      2.1/  2.4/  2.8 :TRENTON MO            THOMPSON R
URHM7      1.5/  1.7/  2.1 :URICH MO 3NW          SOUTH GRAND R
VLYM7      1.2/  1.4/  1.7 :VALLEY CITY MO        BLACKWATER R
:
: ***** ST LOUIS HSA *****
:
JCMM7      1.4/  1.6/  1.9 :JEFFERSON CITY MO     MOREAU R
TGRM7      1.7/  2.0/  2.3 :COLUMBIA MO           HINKSON CR
WPHM7      1.7/  2.0/  2.3 :WESTPHALIA MO         MARIES R
:
: ***** SPRINGFIELD HSA *****
:
CMZM7      1.6/  1.9/  2.2 :CAPLINGER MILLS MO    SAC R
BIGM7      1.5/  1.7/  2.1 :BELOW FT WOOD MO      BIG PINEY R
.END

$$

```

7.2 Example #2 - With 1, 3, 6, 12, and 24 Hourly Values.

```

FOUS72 KALR 090106
FFHAKQ
HEADWATER FLASH FLOOD GUIDANCE...WAKEFIELD CWA
NATIONAL WEATHER SERVICE
SOUTHEAST RIVER FORECAST CENTER...ATLANTA GA
804 PM EST MON NOV 8 2021

```

INCHES OF RAINFALL FOR SPECIFIED DURATIONS REQUIRED TO PRODUCE FLASH FLOODING IN HEADWATERS. LOWER AMOUNTS MAY CAUSE FLASH FLOODING IN URBAN OR MOUNTAINOUS AREAS.

```

.B ALR 20211109 Z DH00/DC202111090104 /DUE/PPHCF/PPTCF/PPQCF/PPKCF/PPDCF
:
:IDENT      1HR      3HR      6HR      12HR      24HR
:=====

```

LAWV2 2.9/ 3.5/ 4.0/ 4.6/ 5.8
 :
 : TO USE HEADWATER ADVISORY TABLES TAKE THE THREE HOUR VALUE ABOVE FOR
 : THAT LOCATION AND USE THE FOLLOWING RELATIONS...
 : TABLE 1 / 0 TO 2.4 IN TABLE 4 / 4.1 TO 4.5 IN
 : 2 / 2.5 TO 3.3 IN 5 / 4.6 TO 4.9 IN
 : 3 / 3.4 TO 4.0 IN 6 / 5.0 IN
 :
 .END
 \$\$
 S.E.R.F.C. 770-486-0028 or 770-282-2112
 Regular Hours 6am-10pm Eastern Time
 After Hours Please Follow Callback Instructions

8. Hydrometeorological Discussion (HMD).

8.1 Example #1 - North Central RFC.

AGUS73 KMSR 091655
 HMDMSR

Hydrometeorological Forecast Discussion
 NWS North Central River Forecast Center Twin Cities/Chanhassen MN
 1055 AM CST Tue Nov 9 2021

Rivers around the region are in recession with only the slow-responding Illinois and Elkhart rivers remaining above flood stage after recent rises.

The next weather system will arrive tomorrow afternoon into Thursday with a focus for the rain band from Iowa to Minnesota and Wisconsin, particularly in the border region of those two states. Models have backed off on the wintry mix, and also backed off on the expected moisture with this system, so at this time flooding is not likely.

River forecasts routinely incorporate 24 hours of QPF from April 1 to September 30 and 48 hours from October 1 to March 31. See http://www.weather.gov/ncrfc/LMI_QPF_NcrfcCurrentQpf

...Forecast Activity...
 RVF forecasts issued today. Issue times are in UTC.
 Subtract 6 hrs for CST, 5 hrs for CDT/EST, 4 hrs for EDT.

RVF Forecast Group description	Issue Time
GND Grand, Muskegon/White Basins, MI	2021-11-09 14:20 UTC
ILO Mainstem Illinois R	2021-11-09 14:37 UTC
KSJ Kalamazoo/St Joseph Bsns-MI & IN	2021-11-09 14:25 UTC
M10 Miss. R - Lake City, MN-L&D 10	2021-11-09 16:09 UTC
M19 Miss. R - L&D 11-Gregory Landing	2021-11-09 16:27 UTC
NLM Northern Lower Michigan rivers	2021-11-09 14:54 UTC
RDW Mississippi R abv Red Wing, MN	2021-11-09 15:10 UTC

=====

Sites with forecasts above flood stage (FS):

RVF NWSLI	Station name/river	FS	MAX FCST
-----------	--------------------	----	-------------

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ILO HAVI2 Havana - Illinois R	14.0	16.3
ILO BEAI2 Beardstown - Illinois R	14.0	17.0
KSJ CPEI3 Cosperville - N Br Elkhart R	6.0	6.1

Sites with forecasts below flood stage but above a user-defined threshold (FS=Flood Stage):

RVF NWSLI	Station name/river	FS	MAX FCST
ILO NLGI2	La Grange - L&D 8 - Illinois R	23.0	21.3
ILO MROI2	Meredosia - Pwr Plant - Illinois R	17.0	15.4
ILO VALI2	Valley City - Illinois R	14.0	13.5
KSJ NILM4	Niles - WWTP - St Joseph R	11.0	7.8

=====
...Past Precipitation...

Observation times are in UTC.

Subtract 6 hrs for CST, 5 hrs for CDT/EST, 4 hrs for EDT.

=====
No measurable precipitation reported within the NCRFC area of Iowa during the last 24 hours.

Top daily precipitation reports greater than zero from Illinois:

LID	OBTIME/SHEF	VALUE	NAME / DETAIL	STATE
EMQI2	DH1200/PPDRG	0.02	: Elmhurst 1W - Quarry Diversion	IL
ILKN104	DH1200/PPDRZ	0.01	: Geneva 4WSW	IL

No measurable precipitation reported within the NCRFC area of Indiana during the last 24 hours.

Top daily precipitation reports greater than zero from Michigan:

LID	OBTIME/SHEF	VALUE	NAME / DETAIL	STATE
VSSM4	DH1200/PPDRZ	0.03	: Vassar WWTP	MI

Top daily precipitation reports greater than zero from Minnesota:

LID	OBTIME/SHEF	VALUE	NAME / DETAIL	STATE
WLKM5	DH1300/PPDRZ	0.01	: Walker	MN
POPM5	DH1200/PPDRG	0.01	: Lutsen 2WSW	MN
WHRM5	DH1400/PPDRZ	0.01	: White Rock Dam (Wheaton 5NW)/Mud Lk	MN
MNHN148	DH1140/PPDRZ	0.001	: Maple Grove 4SW	MN
RST	DH1154/PPDRZ	0.001	: Rochester International Airport	MN

No measurable precipitation reported within the NCRFC area of Missouri during the last 24 hours.

No measurable precipitation reported within the NCRFC area of North Dakota during the last 24 hours.

No measurable precipitation reported within the NCRFC area of South Dakota during the last 24 hours.

Top daily precipitation reports greater than zero from Wisconsin:

LID	OBTIME/SHEF	VALUE	NAME / DETAIL	STATE
OVS	DH1153/PPDRZ	0.001	: Boscobel Arpt	WI

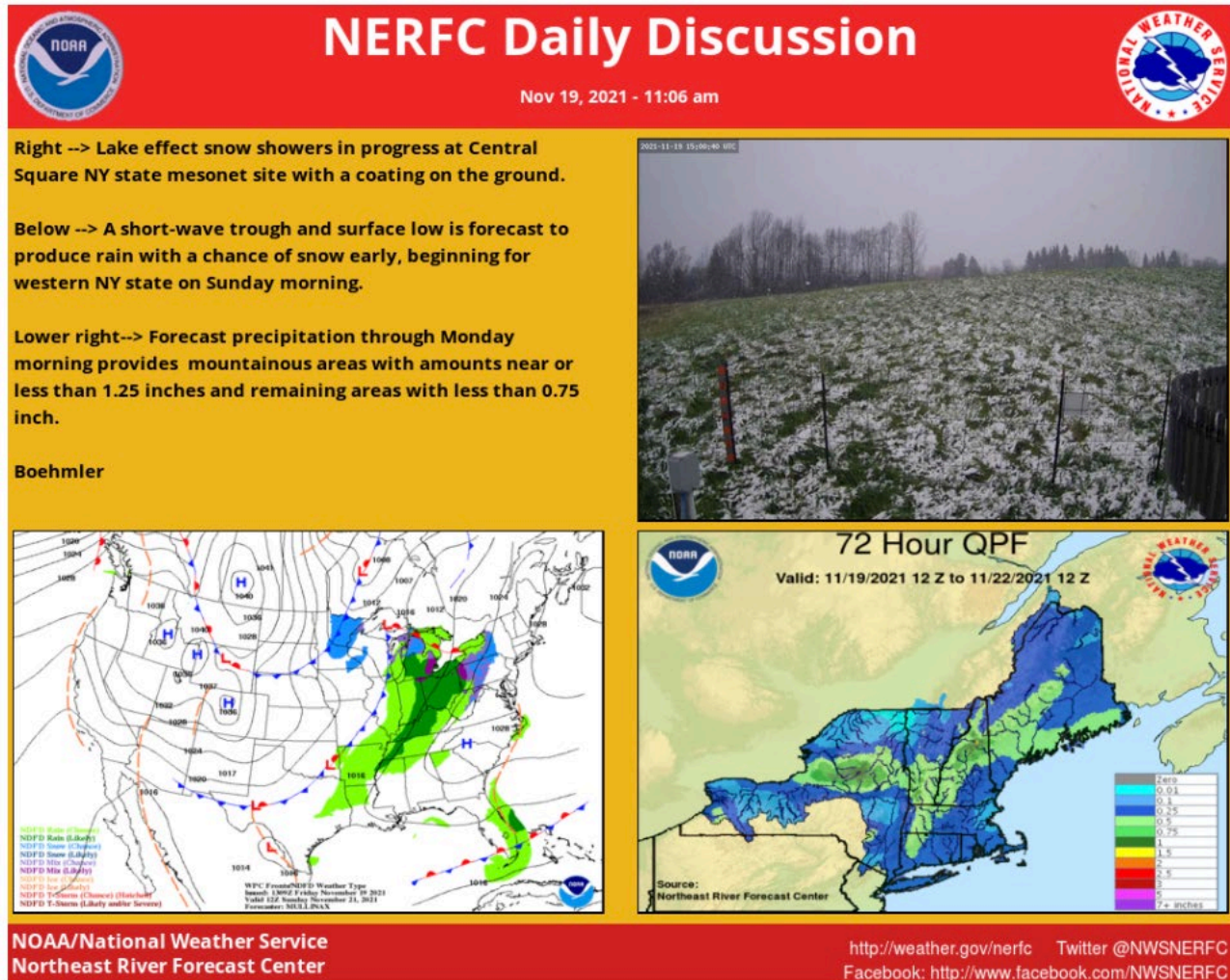
=====
See http://www.weather.gov/ncrfc/LMI_QCPCPN for all reports.

For additional and more in-depth information concerning river forecasts, precipitation and all hydrometeorological information in the NCRFC area of responsibility, please refer to the NCRFC web page at:
<http://www.weather.gov/ncrfc>

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8.2 Example #2 – Northeast RFC.

NERFC Graphical Hydrometeorological Discussion



9. Hydrometeorological Coordination Message (HCM).

9.1 Example #1 - Coordinating Extension in Hours of Operations.

NGUS84 KORN 181653
 HCMORN

HYDROMETEOROLOGICAL COORDINATION MESSAGE
 NATIONAL WEATHER SERVICE LMRFC...SLIDELL LA
 1200 PM CDT FRI JUN 18 2021

...LMRFC STARTING 24HR OPERATIONS...

To all WFOs in the LMRFC area:

LMRFC will begin 24-hour operations tonight due to heavy rainfall occurring across portions of our forecast area.

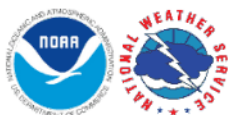
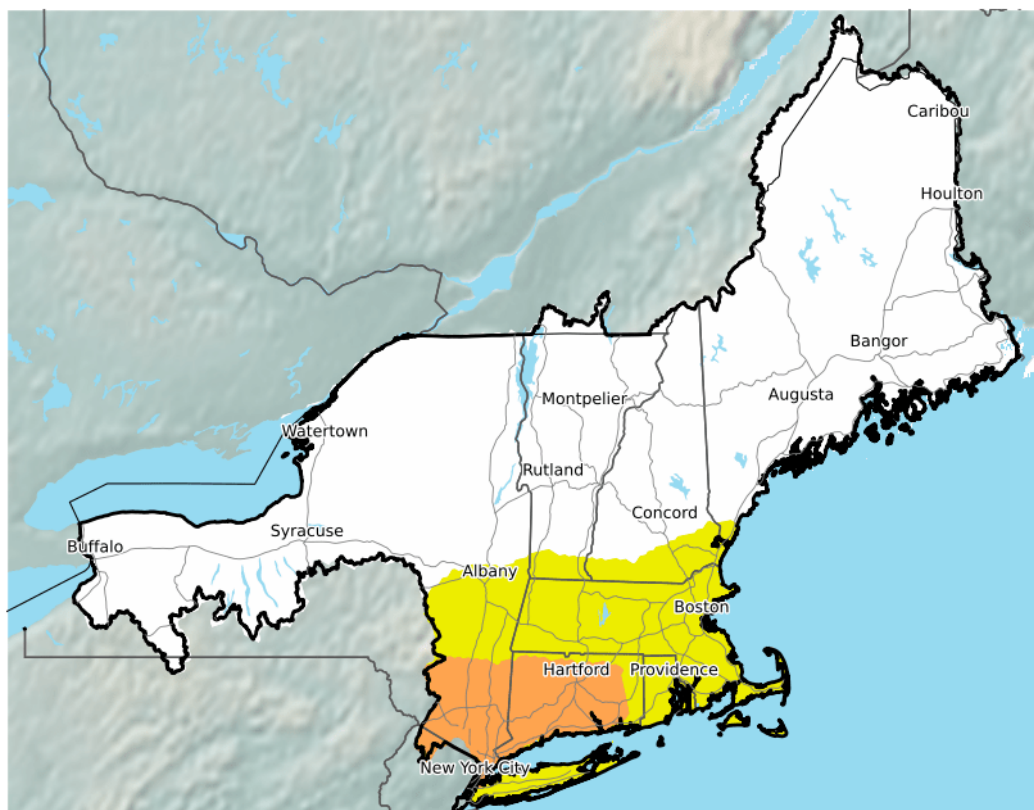
For hydrometeorological assistance and support during the overnight hours, call the LMRFC operations line at 985-641-4343.

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10. Significant River Flood Outlook Product.

10.1 Example #1 - Northeast RFC.

5-Day Significant River Flood Outlook
Valid: 09/01/2021 08:00 AM - 09/06/2021 08:00 AM EDT



National Weather Service
Northeast RFC
09/01/2021 11:55 AM EDT

Follow Us:   
weather.gov/nerfc

Significant River Flooding impacts include road hazards and damage to residential, commercial, and/or agricultural areas. Evacuation may be required. Flash flooding or Minor river flooding are NOT included in this outlook. Check your local weather forecast frequently for the most up-to-date information for your area.

Shaded areas are the forecast region of the Northeast River Forecast Center



Significant River Flooding Not Expected



Significant River Flooding Possible
Weather conditions indicate, without certainty that significant river flooding could occur



Significant River Flooding Likely
Weather conditions indicate that significant river flood conditions can be expected



Significant River Flooding Occurring
Significant river flooding is occurring at this time

11. Hydrometeorological Data Summary Products (HYx).

11.1 Daily Data Summary Example (HYD).

SXUS52 KALR 101749
HYDALR
24 HOUR RAINFALL COLLECTIVE ENDING AT 12Z
SOUTHEAST RIVER FORECAST CENTER - ATLANTA, GA
1249 PM EST WED NOV 10 2021

.BR SJU 20211110 DH12/PPDRW
:

NWSM 10-913 MAY 24, 2022

:ID	OBTIME	VALUE	LOCATION		LAT	LON
:						
FAEP4	DH1200/	0.34 :	FAJARDO	PR	18.28	65.7
REGP4	DH1200/	0.31 :	MORA	PR	18.46	67.03
NGIP4	DH1200/	0.23 :	NAGUABO	PR	18.28	65.79
SEBP4	DH1200/	0.20 :	SAN SEBASTIAN	PR	18.28	67.05
MOCP4	DH1200/	0.16 :	MOCA	PR	18.36	67.09
GUVP4	DH1200/	0.15 :	JUNCOS	PR	18.2	65.84
ADAP4	DH1200/	0.12 :	AGUADA	PR	18.38	67.16
PCXP4	DH1200/	0.11 :	PONCE	PR	18.08	66.58
CAIP4	DH1200/	0.10 :	CAGUAS	PR	18.14	66.05
VAMP4	DH1200/	0.04 :	JUNCOS	PR	18.16	65.91
IANP4	DH1200/	0.04 :	PONCE	PR	18.09	66.56
GUSP4	DH1200/	0.04 :	JUNCOS	PR	18.25	65.83
UTHP4	DH1200/	0.03 :	UTUADO	PR	18.3	66.78
TOAP4	DH1200/	0.03 :	TOA ALTA	PR	18.41	66.26
JSJ	DH1200/	0.03 :	SAN JUAN	PR	18.44	66.0
BAYP4	DH1200/	0.03 :	BAYAMON	PR	18.33	66.14
VALP4	DH1200/	0.01 :	JUNCOS	PR	18.22	65.93
SLMP4	DH1200/	0.01 :	SAN LORENZO	PR	18.11	65.95
SLKP4	DH1200/	0.01 :	SAN LORENZO	PR	18.15	65.96
PAXP4	DH1200/	0.01 :	GUAYAMA	PR	17.98	66.1
YBUP4	DH1200/	0.00 :	YABUCOA	PR	18.06	65.9
VIVP4	DH1200/	0.00 :	UTUADO	PR	18.23	66.68
VINP4	DH1200/	0.00 :	VILLALBA	PR	18.16	66.46
VILP4	DH1200/	0.00 :	VILLALBA	PR	18.16	66.53
VERP4	DH1200/	0.00 :	RIO GRANDE	PR	18.35	65.84
VEDP4	DH1200/	0.00 :	RIO GRANDE	PR	18.36	65.81
USAP4	DH1200/	0.00 :	BARRAN	PR	18.16	66.31
TRUP4	DH1200/	0.00 :	TRUJILLO ALTO	PR	18.34	66.01
TOXP4	DH1200/	0.00 :	VILLALBA	PR	18.1	66.49
PRTP4	DH1200/	0.00 :	PONCE	PR	18.1	66.64
PATP4	DH1200/	0.00 :	PATILLAS	PR	18.03	66.03
PASP4	DH1200/	0.00 :	PATILLAS	PR	18.02	66.02
OROP4	DH1200/	0.00 :	OROCOVIS	PR	18.21	66.48
MELP4	DH1200/	0.00 :	GUAYAMA	PR	17.98	66.15
MAYP4	DH1200/	0.00 :	MAYAGUEZ	PR	18.16	67.09
LLYP4	DH1200/	0.00 :	YAUCO	PR	18.05	66.84
LLUP4	DH1200/	0.00 :	YAUCO	PR	18.09	66.86
LARP4	DH1200/	0.00 :	LADES	PR	18.3	66.87
JUBP4	DH1200/	0.00 :	JUANA DIAZ	PR	18.09	66.5
JUAP4	DH1200/	0.00 :	JUANA DIAZ	PR	18.05	66.51
JOXP4	DH1200/	0.00 :	AGUIRRE	PR	17.96	66.22
HORP4	DH1200/	0.00 :	HORMIGUEROS	PR	18.14	67.15
GYAP4	DH1200/	0.00 :	GUAYANILLA	PR	18.04	66.8
GMNP4	DH1200/	0.00 :	GUAYAMA	PR	18.0	66.12
GCAP4	DH1200/	0.00 :	GUANICA	PR	17.95	66.88
GARP4	DH1200/	0.00 :	GURABO	PR	18.27	65.91
CSAP4	DH1200/	0.00 :	SALINAS	PR	18.0	66.29
CRRP4	DH1200/	0.00 :	LAS ARENAS	PR	17.97	67.16
CORP4	DH1200/	0.00 :	COROZAL	PR	18.35	66.34
COMP4	DH1200/	0.00 :	COMERIO	PR	18.22	66.22
COAP4	DH1200/	0.00 :	COAMO	PR	18.08	66.35
CNAP4	DH1200/	0.00 :	CAMPO RICO	PR	18.32	65.89
CMAP4	DH1200/	0.00 :	CAMUY	PR	18.4	66.82
CIFP4	DH1200/	0.00 :	CIDRA	PR	18.17	66.12
CIAP4	DH1200/	0.00 :	CIALES	PR	18.32	66.46
CAMP4	DH1200/	0.00 :	CAGUAS	PR	18.25	66.03
CAHP4	DH1200/	0.00 :	CAGUAS	PR	18.21	66.11

BZBP4	DH1200/	0.00	:	CAGUAS	PR	18.27	66.1
ARHP4	DH1200/	0.00	:	DOS BOCAS	PR	18.33	66.62
.END							

\$\$

12. Hydrometeorological Data Products (RRx).

12.1 RFC Data QC Changes (RR9).

SRUS84 KTUA 081845
RR9TUA
:
: Values that RFC has changed for QC reasons
:OUN HSA AREA
:AR OKMJ05 20211104 DH130000/PPDRAZ M : Orig 0.62
:PUB HSA AREA
:AR PTAC2 20211104 DH120000/PPDRGZ 0.00 Orig 0.04
:AR UQCC2 20211104 DH120000/PPDRGZ 0.00 Orig 0.04
:AR UWAC2 20211104 DH120000/PPDRGZ 0.00 Orig 0.12

\$\$