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Flood Potential Outlook
National Weather Service, ABRFC, Tulsa, Oklahoma
1055 AM CST, Wednesday, March 10, 2021

COLORADO
-- ARKANSAS RIVER BASIN--

The Rocky Mountains

The potential for flood conditions will be below normal this spring along the Upper Arkansas River above Pueblo Reservoir due to a slightly decreased snowpack and dry antecedent conditions. The potential will be near normal along the Arkansas River below Pueblo, and at the headwaters of its tributaries. Flooding here is usually caused by rapid snowmelt along
with heavy, individual precipitation events.

As measured at high altitude SNOTEL monitoring stations, the mountains of the Arkansas River Basin have received approximately 84 percent-of-median precipitation and have accumulated 90 percent-of-median snowpack this water year. (A more detailed table is included below.) At the end of February, mountain reservoirs in the Arkansas River
basin (Turquoise, Twin Lakes, Pueblo) were at 54 percent-of-capacity. This
represents 93 percent-of-average storage and 84 percent of last year's storage.

S N O W - P R E C I P I T A T I O N U P D A T E

Based on Mountain Data from NRCS SNOTEL Sites
As of Tuesday: March 9, 2021

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT Current	Median	% Median	TOTAL PRECIPITATION Current	Median	% Median
ARKANSAS RIVER BASIN							
APISHAPA	10000	6.9	6.6	105	8.7	10.2	85
BRUMLEY	10600	8.3	8.1	102	9.7	10.9	89
FREMONT PASS	11400	10.5	12.7	83	11.7	12.6	93
PORPHYRY CREEK	10760	10.0	12.9	78	9.6	12.7	76
SOUTH COLONY	10800	17.2	16.4	105	18.6	17.7	105
WHISKEY CK	10220	9.4	9.6	98	10.2	13.3	77
Basin wide percent-of-average				90			84

Units = inches for the Current and Average Snow Water Equivalent

and Total Precipitation values

The Climate Prediction Center (CPC) Seasonal Outlook for Spring (MAR-APR-MAY) indicates an increased chance for above normal temperatures across the mointains of Colorado. The precipitation outlook for the same period indicates an increased chance for below median precipitation in the Arkansas River Basin of Colorado.

The U.S. Drought Monitor of March 4, 2021 indicates that the mountain headwaters of the Arkansas River are currently experiencing Moderate Drought (D1) and Severe Drought (D2). The CPC Seasonal Drought Outlook of February 18, 2021 shows that drought conditions are expected to persist for
the next three months across Colorado.

Current estimates from the CPC indicate that soil moisture across the mountains of Colorado is generally below the 10th percentile.

The Ensemble Streamflow Prediction (ESP) model does not indicate a greater than 50 percent chance of flooding at any forecast point. The table below contains a summary of some potential maximum stages from the model output.

Colorado Ensemble Streamflow Prediction
As of Wednesday: March 10, 2021
Mar 10 - Jul 8 50% Exceedence

Station	Flood Stage(ft)	50% exceedence Maximum Stage (ft)	Weekly 50% exceedence Maximum Stage (ft)
Leadville	9.0	6.7	6.4
Salida	8.0	3.8	3.6
Wellsville	9.0	5.0	4.7
Parkdale	9.0	4.0	3.7
Canon City	10.0	7.1	6.8
Portland	9.0	3.8	3.5
Pueblo	8.0	6.7	6.4

The Southeastern Plains

The potential for flood conditions will be near normal this spring. Normal conditions for southeastern Colorado reflect a low probability of flooding.

Estimates from the National Operational Hydrologic Remote Sensing Center (NOHRSC) indicate there is no snowpack in the plains of southeast Colorado. According to the CPC, soil moisture estimates in the plains of the Arkansas River Basin in Colorado are well below normal (less than 5th percentile).

According to the USGS stream gauges, flows along Fountain Creek in central Colorado are generally below seasonal normals. The mainstem of the

Arkansas River is flowing at near to below normal levels, also. These flows continue all the way to the Kansas border. At the end of February, reservoirs affecting the Arkansas River below Pueblo (Meredith, Trinidad, and John Martin) were at 10 percent-of-capacity. This represents 41 percent-of-average storage and 48 percent of last year's.

The ESP model indicates a probability of flooding near 60 percent at La Junta (LXHC2) on the Arkansas River. This is near normal for this location. The table below shows the probability of flooding during the next 120 days at four forecast points in the plains of southeast Colorado.

Colorado Ensemble Streamflow Prediction
As of Wednesday: March 10, 2021

Fcst Point Station ID	% Probability Minor Flooding	% Probability Moderate Flooding	% Probability Major Flooding
ARCC2	Not Expected	Not Expected	Not Expected
LXHC2	60	19	4
LAPC2	19	9	4
LMAC2	6	4	3

Precipitation during the last 90 days has been below average across much of southeast Colorado, with anomalies in some areas below 75% of average. An exception to this is in the plains between Pueblo and La Junta, where the last 90 days have seen precipitation upwards of 150% of normal with a couple of good snow storms.

The high plains of eastern Colorado are experiencing Moderate (D1) to Extreme Drought (D3) conditions, especially with southeastward extent. The CPC Seasonal Drought Outlook of February 18, 2021 shows that drought conditions are expected to persist during the next three months across Southeast Colorado.

NEW MEXICO

--CANADIAN RIVER BASIN--

The potential for spring flooding in northeastern New Mexico is near normal. Normal conditions in northeast New Mexico reflect a low probability of flooding. Flooding in New Mexico is generally driven by rapid snow melt runoff or high-intensity rainfall.

The Sangre de Cristo Mountains mark the headwaters of the Canadian River in New Mexico. These mountains have experienced about 81 percent-of-median precipitation this water year and have accumulated 86 percent-of-median snowpack.

S N O W - P R E C I P I T A T I O N U P D A T E
Based on Mountain Data from NRCS SNOTEL Sites
As of Wednesday: March 10, 2021

BASIN Data Site Name	ELEV. (Ft)	SNOW WATER EQUIVALENT Current	Median	% Median	TOTAL PRECIPITATION Current	Median	% Median
SANGRE DE CRISTO MOUNTAIN RANGE BASINS							
CULEBRA #2	10500	14.3	11.4	125	10.1	11.0	92
GALLEGOS PEAK	9800	7.5	10.4	72	9.6	12.4	77
NORTH COSTILLA	10600	5.7	6.2	92	9.7	10.7	91
RED RVR PASS #2	9850	6.4	7.6	84	7.9	8.6	92
TOLBY	10180	6.9	7.3	95	8.9	10.9	82
TRINCHERA	10860	10.8	8.9	121	11.4	9.7	118
WESNER SPGS	11120	6.2	13.1	47	7.8	15.8	49
Basin wide percent-of-average				86			81

The Climate Prediction Center (CPC) Seasonal Outlooks (MAR-APR-MAY) for northeastern New Mexico indicate there are increased chances for above normal temperatures during the next three months. Precipitation outlooks for the same period indicate increased chances of below median precipitation.

Snow cover models from National Operational Hydrologic Remote Sensing Center (NOHRSC) show some snowpack in higher elevations of the Sangre De Cristo Mountains, but none in the plains. Soil moisture in northeastern
New Mexico is well below normal at this time (below 10th percentile).

Many stream gages on the Upper Canadian River and its tributaries are affected by ice at this time of year. A generalized statement of current streamflow is therefore, difficult to make. However, the Canadian River at Sanchez is currently running well below normal, while further downstream, the Canadian River at Logan is showing below normal flow.
At the end of February, the contents of Conchas Reservoir constituted 6 percent of the reservoir capacity and 7 percent-of-average contents at this date. Contents of Eagle Nest Reservoir were at 45 percent-of-capacity
and 66 percent of average.

The U.S. Drought Monitor of March 4, 2021 indicates the headwaters of the Canadian River in the mountains of northern New Mexico are in Severe Drought (D2) to Exceptional Drought (D4). This part of the region is in the middle of a multi-year drought. The CPC's US Seasonal Drought Outlook of
February 18, 2021 calls for drought conditions to persist in New Mexico during the next three months.

A summary of some potential maximum stages from the ESP model output are presented in the table below.

New Mexico Ensemble Streamflow Prediction
As of Wednesday: March 10, 2021
Mar 10 - Jun 8 50% Exceedence

Station	Flood Stage(ft)	50% exceedence Maximum Stage (ft)	Weekly 50% exceedence Maximum Stage(ft)
Vermejo R @Dawson	9.0	4.6	4.1
Cimarron R @Cimarron	5.0	1.9	1.5
Mora R @Golondrinas	5.5	1.8	1.4

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SOUTHERN KANSAS

The potential for flood conditions in southern Kansas will be near normal this spring. Most flooding in Kansas is directly related to specific precipitation events.

Precipitation during the last 90 days has been below normal across most of southwest Kansas. Precipitation has been slightly above normal from the Wichita area northeastward through Emporia, along the I-35 corridor. Further east across southeast Kansas, the last 90 days have seen below normal precipitation.

Snowpack estimates from the National Operational Hydrologic Remote Sensing Center (NOHRSC) indicate no snowpack in southern Kansas.

Current estimates from the CPC indicate that soil moisture across most of

Kansas is near normal, except a small area near the Colorado border, which
is below normal.

Streamflows across Kansas are generally near to above seasonal normals.

Reservoir storage in southern Kansas is near design conditions. U.S. Army Corps of Engineers data indicate that Corps reservoirs currently have all of their flood control storage available across southern Kansas.

The Climate Prediction Center's (CPC) Seasonal Outlook (MAR-APR-MAY) indicates there are increased chances for above normal temperatures across
Kansas. The outlook indicates increased chances of below median precipitation
across Kansas, as well, during the same time period.

The U.S. Drought Monitor of March 4, 2021 indicates no drought across much of Kansas, except near the Colorado border. In this area, Moderate (D1)
to Severe (D2) Drought prevails. The US Seasonal Drought Outlook of February 18, 2021 indicates these drought conditions are likely to persist.

The table below displays the probability of flooding for selected Dodge City forecast points during the next 3 months.

Select Points in Western Kansas
Kansas Ensemble Streamflow Prediction
As of Wednesday: March 10, 2021

Fcst. Point ID	Station	% Probability Minor Flooding	% Probability Moderate Flooding	% Probability Major Flooding
COOK1		6	Not Expected	Not Expected
ENWK1		9	6	3
FRGO2		4	3	Not Expected
KIOK1		8	5	3
ZENK1		7	3	Not Expected

The table below presents some south-central and southeast Kansas forecast points where the ESP model indicates a greater than 10 percent chance of minor flooding during the next 90 days.

Select Points in South-central and Southeast Kansas
Kansas Ensemble Streamflow Prediction
As of Wednesday: March 10, 2021

Fcst. Point ID	Station	% Probability Minor Flooding	% Probability Moderate Flooding	% Probability Major Flooding
AGAK1		13	2	Not Expected

AGSK1	12	6	3
ALMK1	20	16	5
ARCK1	50	12	4
ARKK1	22	4	Not Expected
ATOK1	45	10	Not Expected
BLPK1	10	6	4
CBNK1	53	Not Expected	Not Expected
CNUK1	58	30	5
COWK1	19	Not Expected	Not Expected
CFVK1	36	10	Not Expected
CTWK1	29	24	Not Expected
DRBK1	17	7	4
EDWK1	17	14	11
EREK1	60	50	31
FLRK1	28	8	Not Expected
FRNK1	50	18	Not Expected
HAVK1	12	9	3
HTCK1	71	47	3
HTDK1	19	8	Not Expected
IDPK1	44	Not Expected	Not Expected
IOLK1	42	Not Expected	Not Expected
LYNK1	10	Not Expected	Not Expected
MDKK1	28	6	Not Expected
MULK1	18	9	4
OSWK1	74	64	18
OXFK1	29	12	3
PECK1	16	3	Not Expected
PPFK1	70	61	Not Expected
PLYK1	29	12	Not Expected
SEDK1	19	12	9
TOWK1	21	18	3
WFDK1	40	30	9
AMCK1	10	8	Not Expected
EMPK1	34	27	Not Expected
EPRK1	25	22	Not Expected
LRYK1	22	22	Not Expected
NEOK1	40	35	Not Expected

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*   This, and additional Water Supply Information,       *
*         can be found on our Web Page at:               *
*                                                        *
*        www.weather.gov/abrfc/water_supply              *
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SOUTHWEST MISSOURI

The potential for flood conditions in southwestern Missouri will be near normal this spring. Most flooding in southwestern Missouri is related to specific heavy rainfall events.

Precipitation during the last 90 days has been near to slightly below average across Southwest Missouri. Anomalies range from 75% to 110% of normal.

Current estimates from the CPC indicate that soil moisture across Southwest Missouri is near normal.

USGS stream gauges indicate streamflow in Southwest Missouri is near normal
for this time of year.

The Climate Prediction Center's (CPC) Seasonal Outlook (MAR-APR-MAY) indicates there are increased chances of above normal temperatures across Southwest Missouri. The outlook indicates equal chances for above, near, or
below median precipitation during the same time period.

The U.S. Drought Monitor of March 4, 2021 indicates no drought in Southwest
Missouri. CPC's US Seasonal Drought Outlook of February 18, 2021 indicates
Southwest Missouri should remain drought-free during the next three months.

The table below presents some southwestern Missouri forecast points where the ESP model indicated a greater than 10 percent chance of minor flooding over the next 90 days.

Select Points in Southwest Missouri
Ensemble Streamflow Prediction
As of Wednesday: March 10, 2021

Fcst. Point Station ID	% Probability Minor Flooding	% Probability Moderate Flooding	% Probability Major Flooding
CHTM7	54	20	Not Expected
JOPM7	16	8	4
TIFM7	31	3	Not Expected
WCOM7	59	Not Expected	Not Expected
BXTK1	61	15	3

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Thanks to the USGS for streamflow condition data, the U.S. Army Corps of Engineers for reservoir condition data, the Natural Resource Conservation Service for SNOTEL data, and the Climate Prediction

Center for the precipitation and temperature outlooks, the soil moisture deficits, and the Drought Outlook.

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