

Illinois River near Watts was within 1 foot of major flood stage. The Verdigris, Grand-Neosho, Lower Arkansas, and Lower Red River Basins all experienced flooding. The only basin in the HSA that did not experience flooding was the White River Basin in northwest AR, though the Kings River near Berryville was within a foot and a half of reaching flood stage.

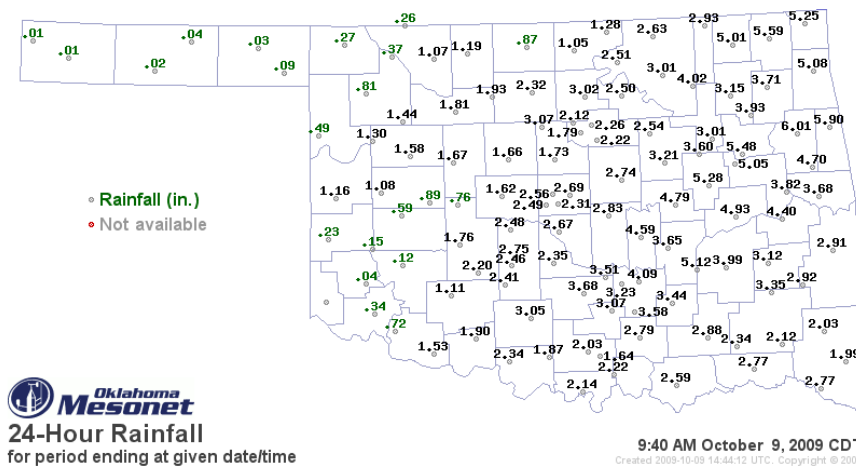


Fig. 1. 24-hr rainfall ending at 9:40am 10/09. (Courtesy of the Oklahoma Climatological Survey)

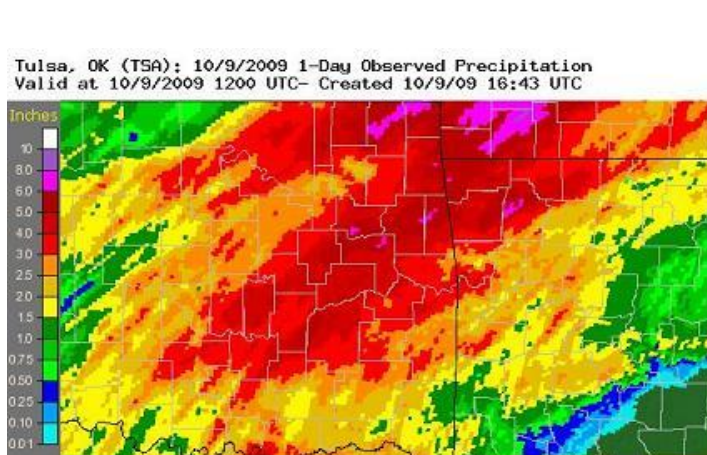


Fig. 2. 24-hr estimated rainfall from RFC ending 7am 10/09

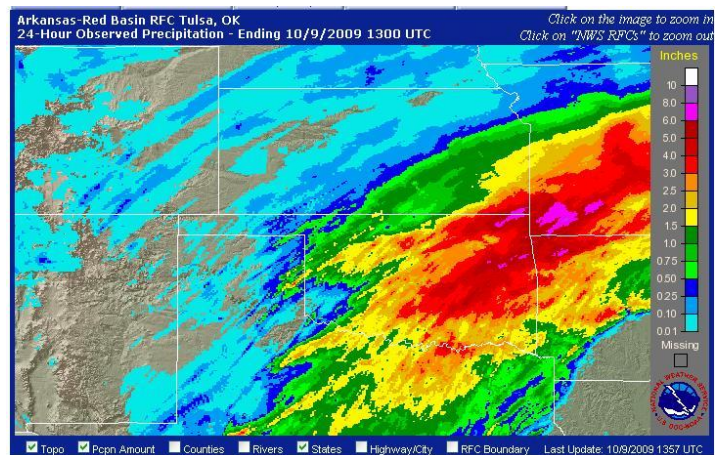


Fig. 3. 24-hr estimated rainfall from RFC ending 8am 10/09

Light rain lingered into the morning of the 9th, with a brief reprieve from the precipitation on the 10th. Widespread light rain affected the entire HSA on the 11th, with around one half inch of rain southeast of a McAlester to Fort Smith line where enough instability was present for some elevated thunderstorms. A shallow cold front moved into the region on Columbus Day (Oct. 12th), with showers and thunderstorms continuing across the area. The heaviest rainfall of 0.5 to around 1.5 inches fell east of an Antlers to Sallisaw to Bentonville line, while the remainder of the region received only very light amounts.

A warm front over Texas moved further north on the 13th, continuing to provide lift over the HSA. Fortunately, most of the heavy rainfall remained just south and east of the HSA. The highest rainfall totals of around half an inch affected far eastern OK and west central AR, while low clouds and heavy mist became entrenched elsewhere. However, showers and thunderstorms were able to develop south of I-40 in southeast OK on the evening of the 14th north of the warm front as the low-level jet increased. Rainfall amounts from this activity were around 1 inch or less. Overcast skies and heavy drizzle continued elsewhere.

October 15-22:

The weather turned cold and dry for the 15th-18th, with a brief warm-up on the 19th-21st. A broad area of light to moderate showers developed ahead of a cold front on the 21st, with additional showers and isolated thunderstorms developing as the front moved through the region. South and west of a Claremore to Muskogee to Poteau line, rainfall totals on the 21st ranged from 1 to around 2.5 inches, while elsewhere, totals were generally 1 inch or less. Rain continued along the front across far eastern OK and western AR during the first part of the day on the 22nd, bringing an additional 0.10 inches to around 0.50 inches.

October 23-31:

As a cold front moved through the region on the 25th, showers and thunderstorms developed near the surface low across southeast OK. This activity continued into western AR during the overnight hours. Rainfall totals south of a McAlester to Mountainburg line ranged from 0.5 to near 2 inches. The highest totals of 2.0-2.5 inches were estimated across Choctaw, Pushmataha, and Le Flore Counties. Scattered, post-frontal showers continued across the southeastern half of the HSA on the 26th, bringing widespread 0.25 to 0.75 inches of rain and areas of 1 to 1.5 inches in southeast OK. The two days of rain across southeast OK lead to minor flooding along the Poteau River near Panama on the 27th-28th (see E3 report for details).

A cold front moving through the HSA on Oct. 29th brought rain, damaging winds, and even a tornado. Most of the area received from around 0.5 to around 1.5 inches of rain. However, heavier rainfall amounts of 1.5 to 3 inches from training storms affected locations along and northwest of an Okema to Tulsa to Talala line. The Oklahoma Mesonet station at Pawnee recorded 2.84 inches on the 29th. Flash flooding occurred in Pawnee and Tulsa Counties due to this rainfall. More isolated rainfall totals of over 2 inches occurred in northwest AR, where the Hindsville 10N Cooperative Observer measuring 2.55 inches. Due to the amount of rain already this month, a lot of this precipitation became runoff, causing rises along area creeks, streams, and rivers. Moderate flooding occurred along the Polecat Creek near Sapulpa, with minor flooding along the Illinois River near Watts and near Tahlequah (see E3 report for details).

Monthly Summary

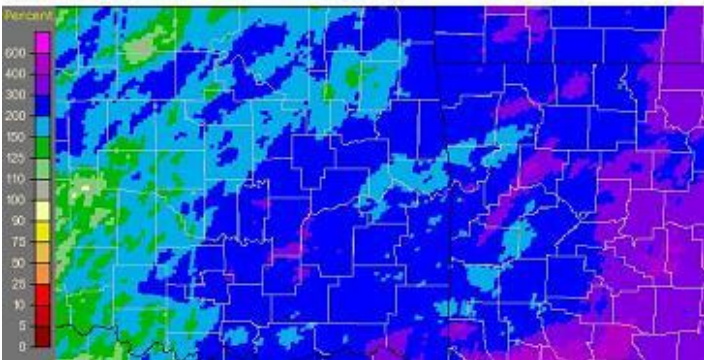
Using the radar-derived estimated observed precipitation from the RFCs (Fig. 4a.), rainfall totals for October 2009 ranged from 5 to 10 inches across the northwest portion of the HSA to 8 to 15 inches elsewhere. Almost all of the HSA received between 150% and 300% of the normal October precipitation, with a few areas of southeast OK and northwest AR receiving 300% to 400% (see Fig. 4b).

Tulsa, OK (TSA): October, 2009 Monthly Observed Precipitation
Valid at 11/1/2009 1200 UTC- Created 11/1/09 23:44 UTC



Fig. 4a. Estimated Observed Precip. for Oct. 2009

Tulsa, OK (TSA): October, 2009 Monthly Percent of Normal
Precipitation
Valid at 11/1/2009 1200 UTC- Created 11/1/09 23:49 UTC



4b. Estimated % of Normal Precip. for Oct. 2009

According to the Oklahoma Climatological Survey, all of eastern OK ranked in the top 6 for the wettest October, last 60 days, last 90 days, and last 120 days. For October 2009, southeast OK was the second wettest October on record, and the wettest since July 4, 2009. The table below has additional details.

October 2009 ranked as the 3rd wettest October at Fort Smith, AR, and additionally, was the 7th coldest. Tulsa, OK recorded its coldest October on record this month, and had its 21st wettest October on record. For additional details, please see the Public Information Statement (issued Nov. 1, 2009) at the end of this report. Fayetteville, AR recorded its wettest October since records began in 1949 (note: data missing from 1982-1999) with 10.71 inches. This October was also the 3rd coldest on record for Fayetteville. McAlester, OK ranked as the 4th wettest October this year (since 1953) and also ranked as the 2nd coldest October. Finally, Bartlesville, OK ranked as the 6th wettest October (since 1920) with 7.02 inches of rain and was the 2nd coldest October on record.

Some of the larger precipitation reports (in inches) for October 2009 included:

Ashland, AR (coop)	13.03	Clayton, OK (meso)	12.48	Antlers, OK (meso)	12.13
McAlester, OK (ASOS)	11.68	Okemah, OK (coop)	11.45	Muskogee, OK (coop)	11.40
McAlester, OK (meso)	11.97	Wilburton, OK (meso)	11.73	Hugo, OK (meso)	11.33
Clayton, OK (meso)	11.33				

According to statistics from the Oklahoma Climatological Survey (OCS):

Rank since 1921 ("Last XX days" ending Oct. 31, 2009)	October 2009	Last 60 days	Last 90 days & Last 120 days	Last 365 days (Nov. 1, 2008 – Oct. 31, 2009)	Year-to-Date (Jan. 1 – Oct. 31)
Northeast OK	6th wettest	6th wettest	6th wettest	18 th wettest	13 th wettest
East Central OK	4th wettest	3rd wettest	2nd wettest	19 th wettest	10th wettest
Southeast OK	2nd wettest	1st wettest	1st wettest	6th wettest	5th wettest
Statewide	4th wettest	5th wettest	6th (last 90) 5th (last 120) wettest		

According to the U.S. Drought Monitor (USDM) from October 27, 2009, drought conditions did not exist across northeast OK and northwest AR.

Most of the major reservoirs in the Tulsa HSA reported levels within 10% of their flood pools by November 2, 2009. However, several reservoirs were well into their flood pools: Wister Lake (58% of flood pool), Sardis Lake (36% of flood pool), Hugo Lake (35% of flood pool), Lake Eufaula (32% of flood pool), Pensacola Lake (26% of flood pool), Oologah Lake (16% of flood pool), and Tenkiller Lake (16% of flood pool).

The Climate Prediction Center (CPC) outlook for November 2009 (issued October 31, 2009) indicates a slightly enhanced chance for above normal temperatures and equal chances for above, near, and below normal precipitation. For the 3-month period Nov-Dec-Jan 2009-10, CPC is forecasting a slightly enhanced chance for above normal temperatures northwest of I-44, with equal chances for above, near, and below normal temperatures elsewhere. The forecast also calls for equal changes for above, near, and below normal precipitation during the upcoming winter (outlook issued October 15, 2009). Sea-surface temperatures in the equatorial Pacific indicate that moderate El Niño conditions currently exist. These conditions are expected to strengthen this fall and winter, with at least a moderate El Niño continuing through this coming winter. An El Niño Advisory remains in effect.

Written by:
Nicole M^cGavock,
Service Hydrologist
WFO Tulsa

Products issued:

- 21 River Flood Warnings
- 105 River Flood Statements
- 0 River Flood Advisories
- 0 River Flood Watches
- 12 River Statements
- 0 Hydrologic Outlooks
- 0 Drought Information Statements

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE TULSA OK
750 AM CST SUN NOV 1 2009

...COLDEST OCTOBER ON RECORD AT TULSA INTERNATIONAL AIRPORT...

THE AVERAGE MONTHLY TEMPERATURE AT THE TULSA INTERNATIONAL AIRPORT FOR OCTOBER 2009 WAS 55.9 DEGREES WHICH WAS 6.7 DEGREES BELOW NORMAL. THIS TIES WITH OCTOBER 1925 FOR THE COLDEST OCTOBER ON RECORD. THE DAILY HIGH TEMPERATURES WERE THE PRIMARY FACTOR IN THIS RECORD SETTING EVENT. THE OBSERVED AVERAGE DAILY MAXIMUM TEMPERATURE OF 64.5 DEGREES WAS 9.5 DEGREES BELOW NORMAL...WHILE THE DAILY AVERAGE MINIMUM OF 47.2 DEGREES FELL SHORT BY 3.9 DEGREES. THERE WERE 8 DAYS IN THE MONTH WHERE THE AVERAGE DAILY TEMPERATURE WAS AT OR ABOVE NORMAL...WITH THE REMAINING 23 DAYS FALLING BELOW NORMAL BY -5 TO -18 DEGREES. THE WARMEST TEMPERATURE WAS 84 DEGREES OCCURRED ON THE FIRST DAY OF THE MONTH...WITH THE COLDEST READING OF 35 DEGREES OBSERVED ON THE 18TH OF OCTOBER. THERE WERE 284 HEATING DEGREES DAYS DURING THE MONTH WHICH WAS ABOVE NORMAL BY 132 DEGREES.

OCTOBER 2009 WAS ALSO WETTER THAN NORMAL FOR TULSA BY 2.09 INCHES. THOUGH REMARKABLE...THIS ONLY RANKED AS THE 21ST WETTEST OCTOBER ON RECORD. THERE WERE 20 DAYS DURING THE MONTH WITH A TRACE OR MORE OF PRECIPITATION AND 14 DAYS WITH .01 OR MORE. THE AVERAGE NUMBER OF RAIN DAYS FOR OCTOBER IS 7.3. THE MAXIMUM 24 HOUR RAINFALL OF 2.85 INCHES OCCURRED BETWEEN THE 8 AND 9TH OF THE MONTH.

...3RD WETTEST AND 7TH COLDEST OCTOBER FOR FORT SMITH...

OCTOBER 2009 WAS ALSO A RECORD MONTH AT THE FORT SMITH REGIONAL AIRPORT. THE MONTHLY RAINFALL OF 10.26 INCHES PUTS OCTOBER 2009 AT THE 3RD WETTEST ON RECORD...SURPASSING THE MONTHLY NORMAL RAINFALL BY 6.32 INCHES. PRECIPITATION OCCURRED ON 19 OF THE 31 DAYS...WHILE THE AVERAGE NUMBER OF RAIN DAYS FOR OCTOBER IS 8. THERE WERE 12 DAYS WITH A TENTH OF AN INCH OR MORE...7 DAYS WITH A HALF INCH OR MORE...AND 5 DAYS WITH OBSERVED RAINFALL OF ONE INCH OR MORE. THE MAXIMUM 24 HOUR RAINFALL WAS 3.70 INCHES OCCURRING BETWEEN THE 8TH AND 9TH DAYS OF THE MONTH. THE WETTEST OCTOBER ON RECORD IS 12.05 INCHES OCCURRING IN 1951...AND OCTOBER 1984 THE SECOND WETTEST WITH 11.80 INCHES.

OCTOBER 2009 WAS ALSO THE 7TH COLDEST ON RECORD AT FORT SMITH WITH AN AVERAGE DAILY TEMPERATURE OF 58.4 DEGREES WHICH WAS 4.4 DEGREES BELOW NORMAL. THE AVERAGE DAILY MAXIMUM TEMPERATURE OF 67.1 DEGREES WAS 7.9 DEGREES BELOW NORMAL...WHILE THE AVERAGE DAILY MINIMUM FELL SHORT BY ONLY 0.8 DEGREES. THERE WERE ONLY 7 DAYS DURING THE MONTH WHERE THE AVERAGE DAILY TEMPERATURE WAS AT OR ABOVE NORMAL...WHILE THE RANGE OF BELOW NORMAL FOR THE REMAINING 24 DAYS WAS BETWEEN -1 AND -14. THE WARMEST READING FOR THE MONTH WAS 88 DEGREES WHICH OCCURRED ON THE 8TH...WITH THE COLDEST READING OF 38 DEGREES OBSERVED ON THE 18TH OF OCTOBER. THERE WERE 216 HEATING DEGREE DAYS WHICH WAS ABOVE THE MONTHLY NORMAL BY 71 DEGREES.

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