



K-STATE
Research and Extension

Extension Agronomy

eUpdate

12/19/2024

These e-Updates are a regular weekly item from K-State Extension Agronomy and Kathy Gehl, Agronomy eUpdate Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Kathy Gehl, 785-532-3354 kgehl@ksu.edu, or Dalas Peterson, Extension Agronomy State Leader and Weed Management Specialist 785-532-0405 dpeterso@ksu.edu.

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1. The 2025 K-State Chemical Weed Control Guide is now available online

One of the most popular K-State Research and Extension publications is here! The 2025 K-State Chemical Weed Control Guide includes suggestions and guidelines for chemical weed control for field crops, pastures, rangeland, and noncropland, including product application rates and approximate prices. Please consult your local K-State Research and Extension agricultural agent for crops not listed.

How can I access the online version?

The online version of the 2025 K-State Chemical Weed Control Guide is available at:

<https://bookstore.ksre.ksu.edu/pubs/SRP1190.pdf>

You can also use the camera app on a mobile device and scan the QR code below to be directed to the 2025 Weed Control Guide.

When viewing the file in a web browser or in Adobe, bookmarks can be accessed to guide you to the first page of every section (options vary per program settings and device type).



How can I order copies?

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www.agronomy.ksu.edu | www.facebook.com/KState.Agron | www.twitter.com/KStateAgron

Online orders for the 2025 Chemical Weed Control guide will be accepted and processed in mid-January after the books are printed. Orders can be placed using this link:

https://bookstore.ksre.ksu.edu/item/2025-chemical-weed-control-for-field-crops-pastures-rangeland-and-noncropland_SRP1190



2025 Chemical Weed Control

*for Field Crops, Pastures,
Rangeland, and
Noncropland*

K·STATE
Research and Extension

Kansas State University Agricultural Experiment
Station and Cooperative Extension Service

Sarah Lancaster, Extension Weed Science Specialist
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2. Will Kansas see a white Christmas this year?

A white Christmas, by meteorological definition, occurs if there is at least 1 inch of snow on the ground on Christmas morning, December 25, at 7 AM local time. The National Centers for Environmental Information (NCEI, www.ncei.noaa.gov) has produced an official map with the probabilities of a white Christmas across the lower 48 states. The map is based on 30-year climatological normals that are updated by NCEI every 10 years. The most recent edition is based on data for the latest set of normals, spanning the years 1991-2020 (Figure 1).

There are only a few areas of the country where a white Christmas is a near certainty: northern Minnesota, northern New England, and the highest terrain of the western United States, such as the Rockies, the Sierra Nevadas, and the Cascades.

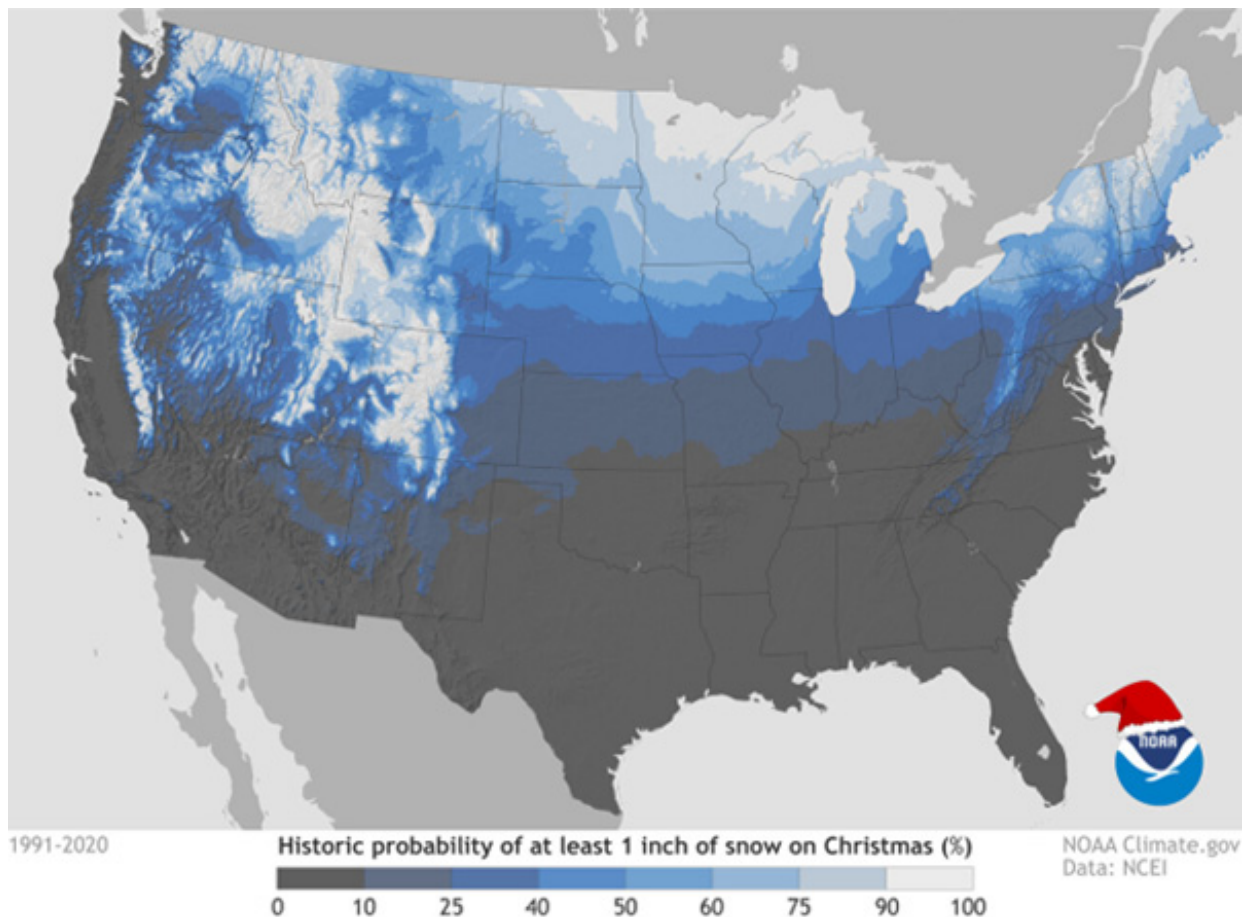


Figure 1. The probability of a white Christmas across the lower 48 states. Source: noaaclimate.gov

In Kansas, the probabilities are highest in the north along the Nebraska border and lowest in the southeast. The highest probability in the state is in Mankato (Jewell County), with a 33% chance of a white Christmas. Table 1 lists the probabilities of a white Christmas at selected locations around Kansas.

Table 1. White Christmas probability (1991-2020), average snowfall, and record temperatures for selected Kansas locations.

City	White Christmas probability	Most recent (depth)	Deepest 12/25 snow cover	Avg. Dec. Snowfall	Avg. High/Low on 12/25	Record High/Low on 12/25
Manhattan	22%	2022 (1")	7" (2013)	4.8"	41° / 20°	70° (1889) -13° (1983)
Topeka	18%	2022 (1")	6" (1983)	4.1"	41° / 22°	68° (1922,2016) -11° (1983)
Wichita	12%	2022 (2")	4" (1962, 2007)	3.1"	44° / 24°	68° (2019) -6° (1983)
Dodge City	17%	2013 (3")	12" (1997)	4.0"	44° / 21°	74° (1950) -13° (1879)
Goodland	22%	2023 (2")	13" (1941)	5.2"	43° / 17°	74° (1950) -9° (2012)
Hays	21%	2011 (7")	11" (1945)	3.3"	42° / 17°	73° (1955) -11° (1983)
Concordia	23%	2017 (1")	10" (1983)	4.5"	39° / 20°	64° (2016) -8° (1983)

Looking back at 2023

Parts of northern Kansas had a white Christmas in 2023, where as much as 6 inches of snow was on the ground in Belleville on Christmas morning, thanks to a departing storm system that initially brought heavy rain to eastern Kansas on Christmas Eve. As the low pressure moved away, colder air was drawn in to the state and combined with lingering moisture to generate the snowfall. Other locations that had a White Christmas in 2023 include Beloit (5"), Saint Francis (3"), Goodland (2") and Salina (1"). Snow fell on Christmas Day in a number of locations, but after the 7 AM deadline, so while it wasn't officially a white Christmas, there was accumulating snow to admire during the day. Totals were significant in some areas; Scandia in Republic County picked up 8 inches of snow by the morning of the 26th. Other areas with snow on Christmas Day include Clay Center (3"), Topeka (1.3") and Manhattan (1.1").

Will 2024 be a white Christmas?

Is there any chance of a repeat performance this year? The Climate Prediction Center's 6 to 10-day temperature outlook favors above-normal temperatures, with probabilities at or above 80%

statewide (Figure 2). But the entire state has elevated chances of above normal precipitation (Figure 3). With above-normal temperatures expected, it's more likely that if we get precipitation during this time frame, it will fall as rain rather than as snow. The other challenge is timing: would the precipitation occur on or just before the 25th? The forecast could change between now and Christmas Day, but as of now, a white Christmas looks unlikely. While a disappointment for some, above-normal temperatures and no snow would be welcome for those with travel plans. Have a happy and safe holiday season!

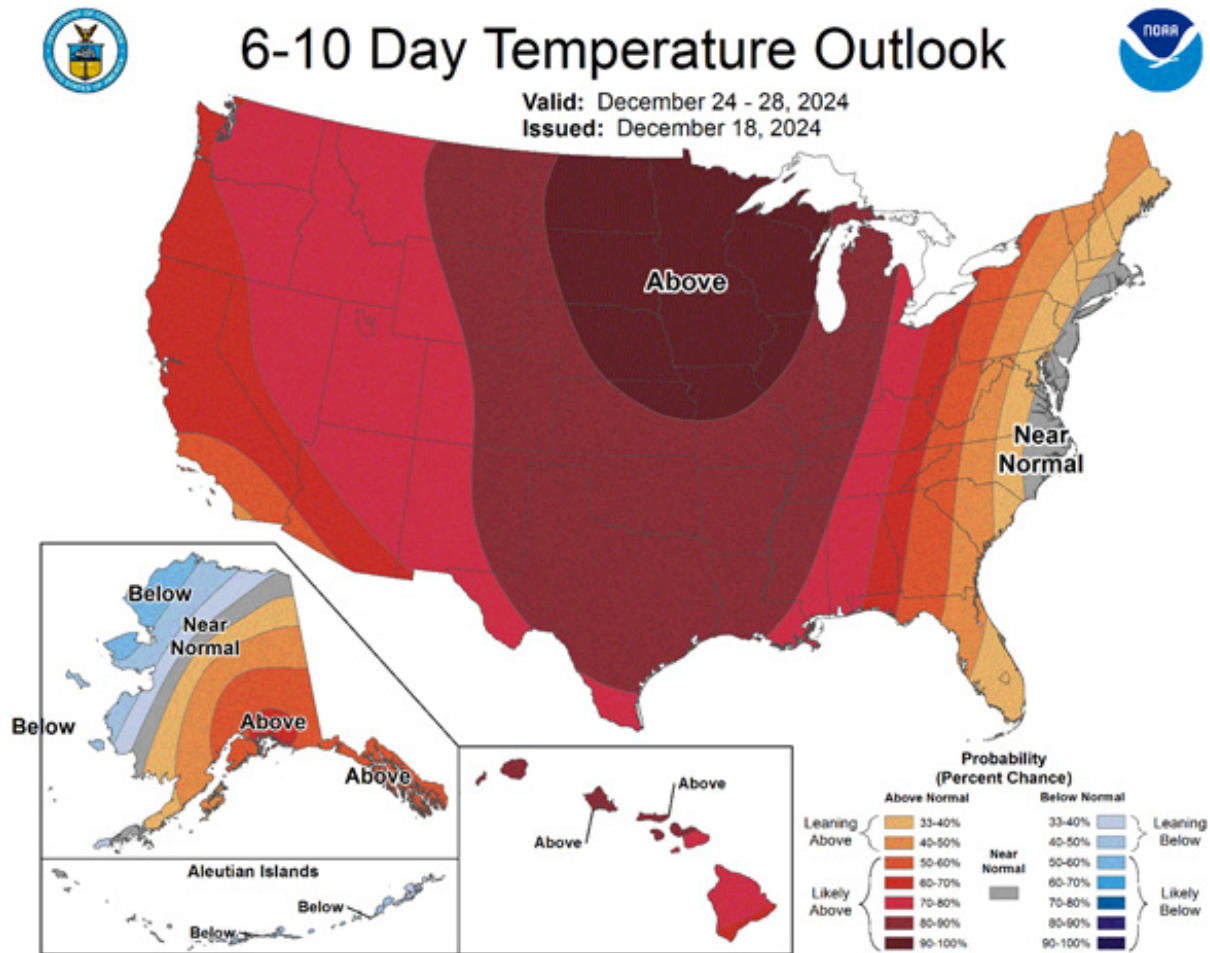


Figure 2. The Climate Prediction Center’s 8 to 14-day outlook for temperatures.



6-10 Day Precipitation Outlook



Valid: December 24 - 28, 2024
Issued: December 18, 2024

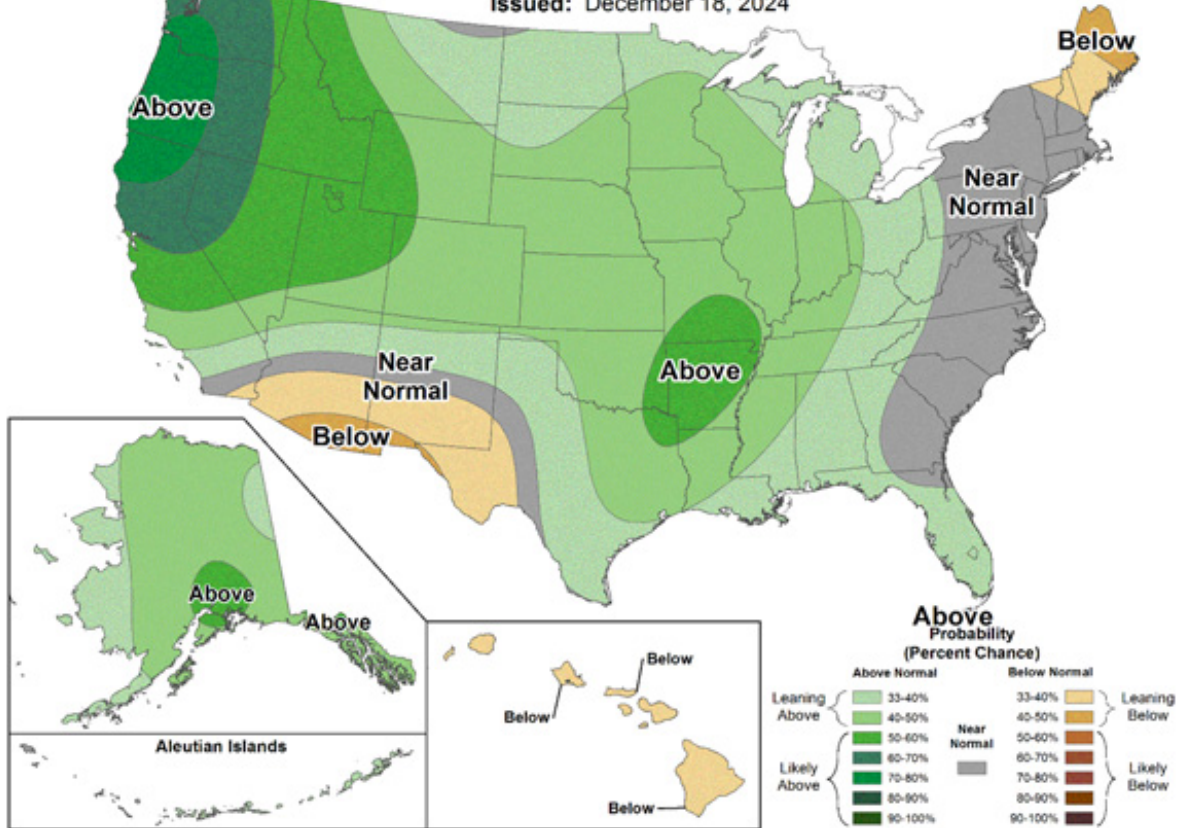


Figure 3. The Climate Prediction Center’s 8 to 14-day outlook for precipitation.

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3. Kansas Drought Update and Climate Report: December 11-17, 2024

Temperature summary

Temperatures at the start of the period were close to seasonal values, but a warming trend in the latter half of the period returned temperatures to above-normal readings. Average temperatures across the Kansas Mesonet were around 1 degree below normal for the 11th through the 13th but averaged a little over 9 degrees above normal from the 14th through the 17th. The warmest day was the 15th when the statewide average high was 62°, or 18 degrees above normal. Southwestern Kansas was the warmest area, with a couple of highs in the low 70s, including at Richfield in Morton County, where the co-operative observer recorded a high of 73°, the state's warmest reading for the period. Low temperatures averaged below normal on all 7 days, with lows on the 12th and 13th averaging in the upper teens. The Mesonet site 6 miles northeast of Tribune in Greeley County fell to 9° on the morning of the 13th, which ties for the coldest temperature recorded in the state so far this late fall and early winter.

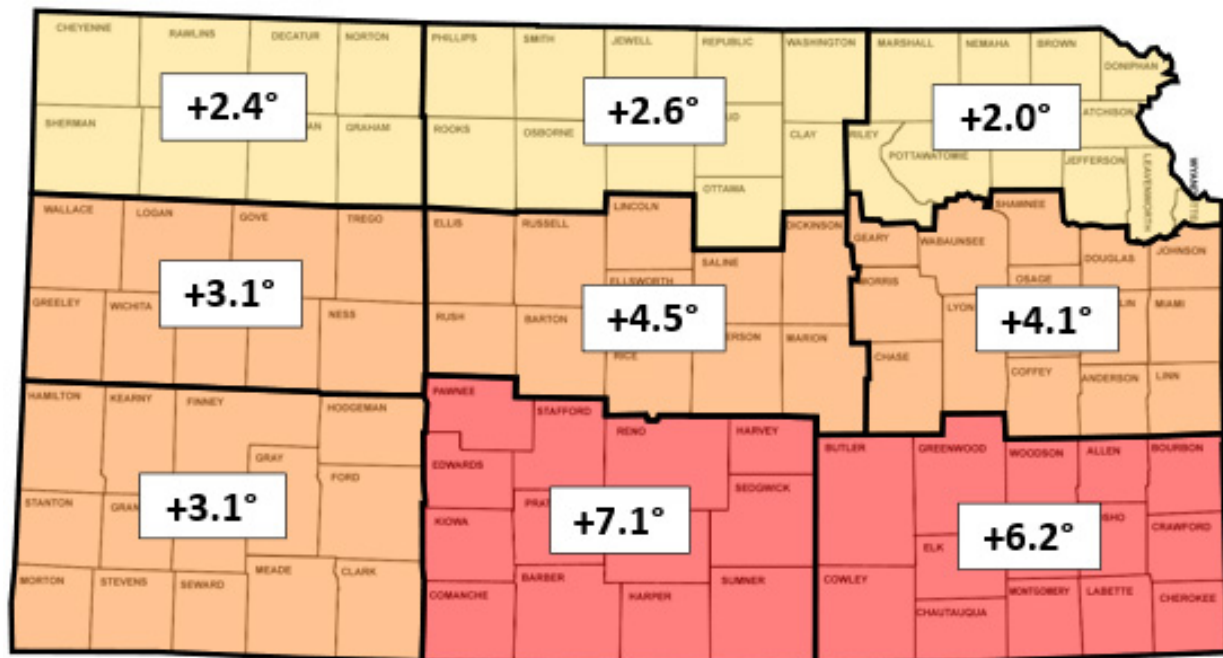
The 7-day average temperature was 36.8°, or 3.8° above normal (Figure 1). All nine divisions were above normal for the week; departures ranged from +2.4° in northwest to +7.1° in south central Kansas. The month to date is running 2.7 degrees above normal for December, based on Kansas Mesonet data for the first 17 days of the month. December is likely to be the fifth consecutive month with above-normal temperatures and the tenth month of 2024 with an average monthly temperature above normal. The year is currently projected to finish as the 3rd warmest of the last 130 years but could reach the second warmest if above-normal conditions linger through the rest of the month.

Precipitation summary

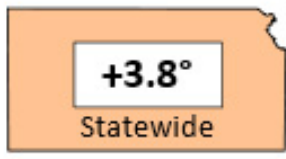
A few events brought precipitation to roughly the state's eastern half during the past 7 days. Late on the 10th, a band of light snow brought a dusting to parts of north central and northeast Kansas. The cooperative observer near Milford Lake in Geary County measured 0.5" of snow, the highest snow total for the week. A rain event occurred on the 14th, and out of all the areas that picked up rainfall, the highest totals were in north central Kansas. Concordia picked up 1.27", but just south of town, the co-op observer measured 1.51" for the event, the week's highest total. Other notable totals include 0.76" at Beloit, 0.74" at the Washington County Mesonet site, and 0.42" at Russell. Far southeastern Kansas was grazed by isolated showers and thunderstorms late on the 15th into the pre-dawn hours of the 16th. The Tulsa radar's storm total map suggests southeastern Cherokee County received over an inch of rain near the Missouri and Oklahoma borders, but there are no reporters in this part of the county to verify that estimate. The CoCoRaHS observer in southeast Labette County reported 0.70" of rain from this event, while the northern parts of the county missed out entirely on moisture.

The statewide average precipitation for the 7-day period was 0.15", or 54% of the normal amount of 0.28" (Figure 1). Two divisions were above normal: north central (0.40") and northeast (0.34") Kansas. Northwest and southwest Kansas averaged zero for the week, with 0.01" in west central and 0.02" in south central Kansas. Despite the continued prevalence of drier-than-normal conditions this month, precipitation totals remain above normal for the water year. The average statewide total since October 1st is 6.02", or 1.44" above the normal of 4.58". All nine divisions are above normal, with percent of normal ranging from 112% in both northeast and east central Kansas to 188% in southwest Kansas. Departures range from +0.63" in northeast to +2.68" in southeast Kansas. Around 87% of the state is above normal for the water year. For the year to date, the statewide average

precipitation is 27.69", or 2.71" below normal. Two divisions are above normal for the year: southwest (112%) and west central (105%). The north central and central divisions share honors for the lowest percent of normal (86%). Central Kansas has the largest departure for the year (-3.95"), slightly less than that for north central Kansas (-3.87"). Around 61 percent of the state's most reliable observing sites (numbering roughly 400 sites, all with very few or no missing data for the year) are below normal.



-9.0° or less	-8.9° to -6.0°	-5.9° to -3.0°	-2.9° to -0.1°	0.0°	+0.1° to +2.9°	+3.0° to +5.9°	+6.0° to +8.9°	+9.0° or more
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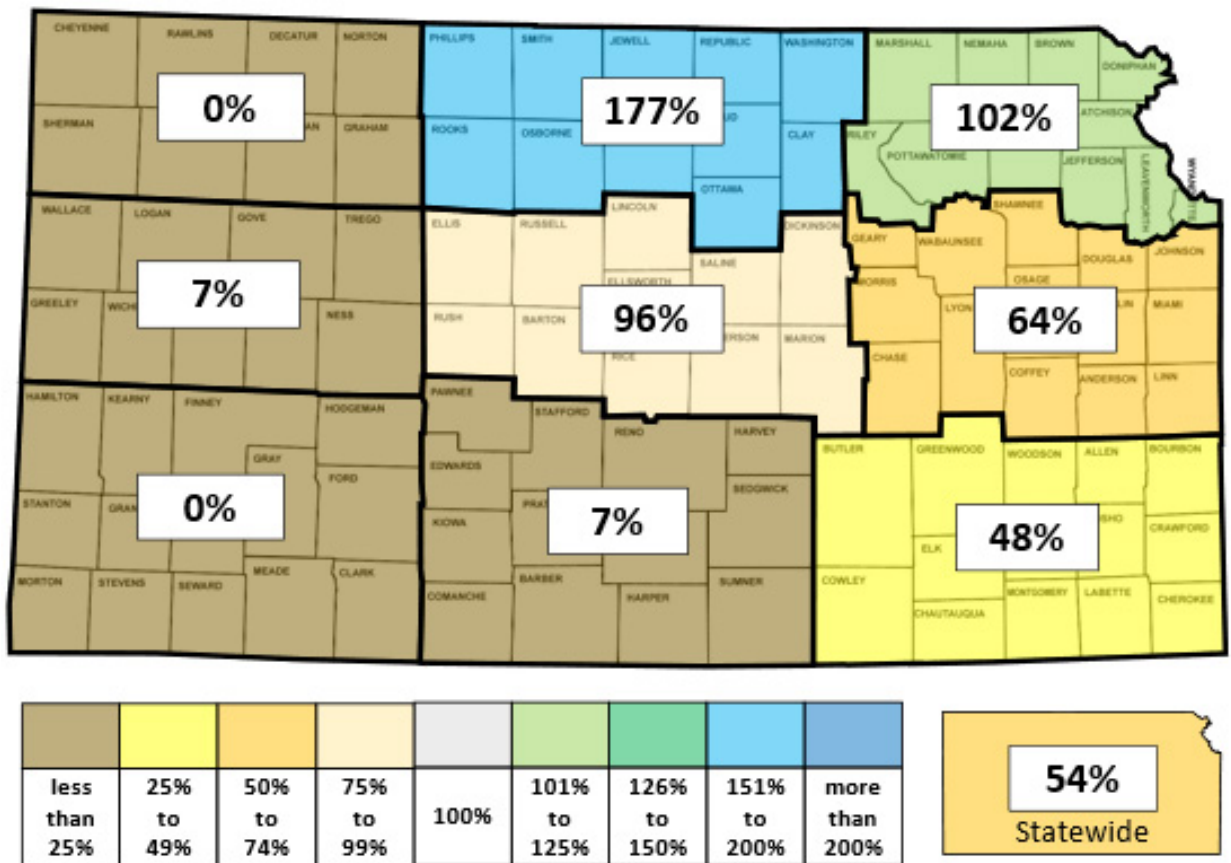


Figure 1. This week's departure from normal temperature (°F, top) and percent of normal precipitation (bottom) by Kansas climate division. Source: MRCC.

Drought update

In this week's US Drought Monitor map, one-category improvements were made to parts of nine counties. In the southwest, an area of D0 that covered parts of Grant, Haskell, Stevens, Seward, and Meade Counties was changed to drought-free status. In southeast Kansas, the improvements include portions of Montgomery, Labette, Cherokee, and Crawford Counties. This adjustment added new drought-free areas in Montgomery and Labette Counties. Overall, an additional 1.8% of the state was moved to drought-free status. A total of 35.2% of the state is currently drought-free (Figure 2). The statewide Drought Severity and Coverage Index (DSCI) fell 3 points and now stands at 93.

U.S. Drought Monitor
Kansas

December 17, 2024
(Released Thursday, Dec. 19, 2024)
Valid 7 a.m. EST

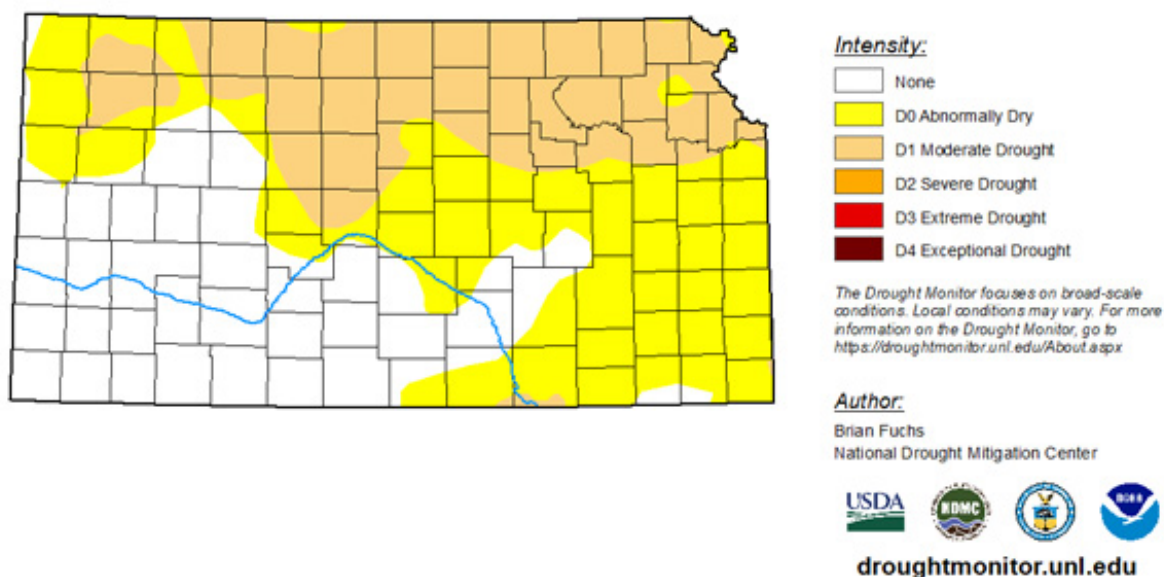


Figure 2. Current weekly drought status (top) and change in drought category over the past week (bottom). Source: UNL Drought Monitor.

Weather outlooks

The Weather Prediction Center's 7-day precipitation forecast, valid for December 18th through the 24th, calls for light precipitation in east central and southeast Kansas (Figure 3). Totals are expected to be below normal in all areas. The highest forecast amount is in far southeastern Kansas, where one-quarter to one-half inch is possible. Average temperatures are expected to run from 5 to 13 above normal degrees during the period. Christmas Eve is expected to be the warmest day of the period, with highs in the 50s and lows near or slightly above freezing. The average daily high and low across Kansas for this period are 43° and 20°. Average 7-day precipitation is 0.15" in western, 0.25" in central, and 0.35" in eastern Kansas.

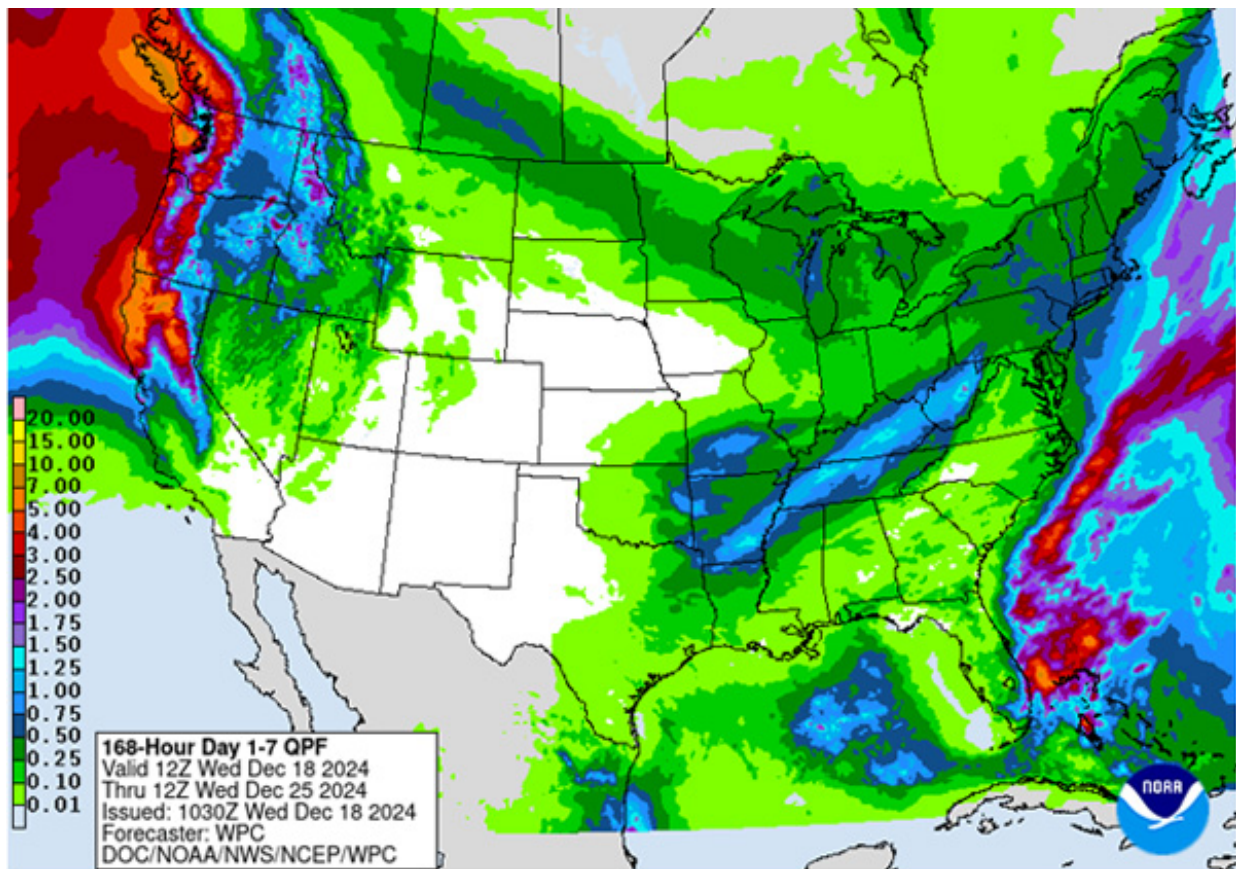


Figure 3. The National Weather Service Weather Prediction Center’s (NWS-WPC) 7-day precipitation forecast (Dec. 18 to Dec. 24, 2024).

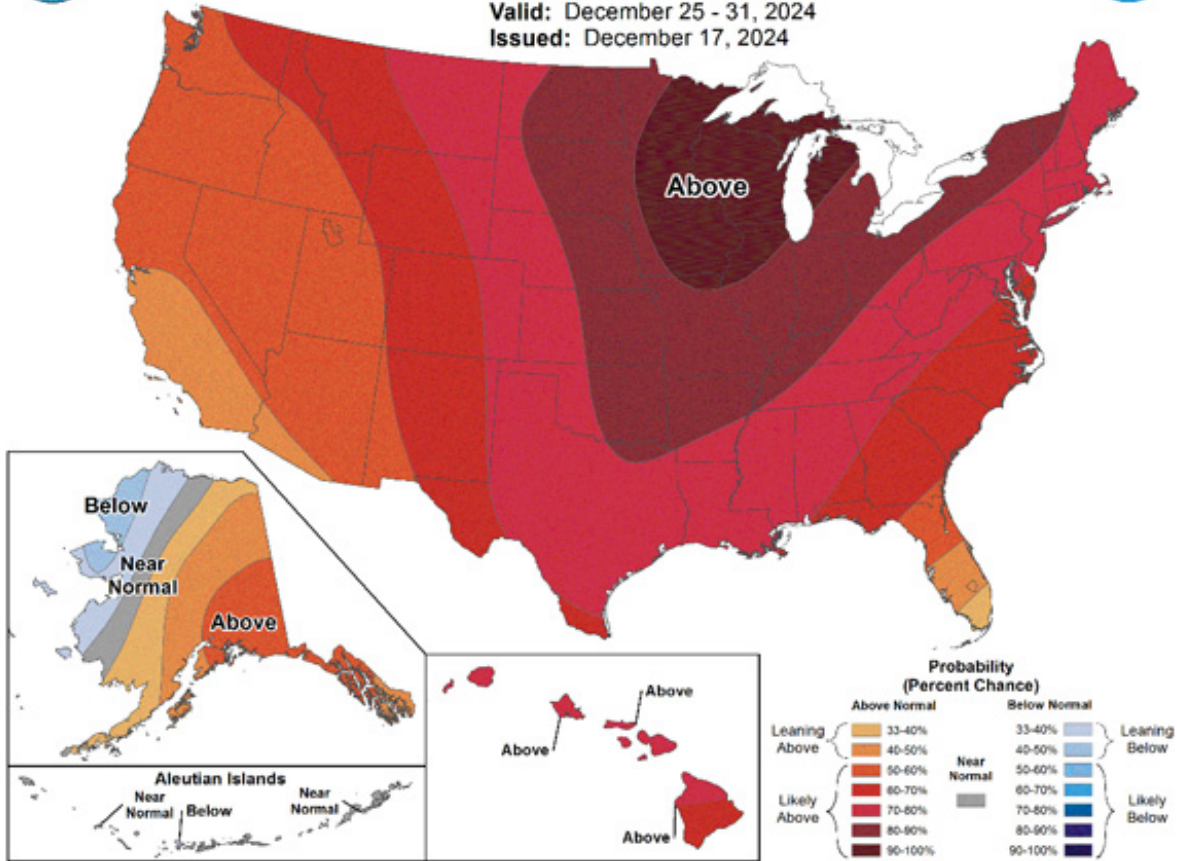
In the longer term, the 8 to 14-day outlook (Figure 4), valid for the period December 25 to 31, including both Christmas Day as well as New Year’s Eve, strongly favors above-normal temperatures statewide, with probabilities ranging from 73% in the far southwest to 88% in the far northeast. Above-normal precipitation is slightly favored statewide, with probabilities ranging from 39% in the southeast to 41% in the northwest. At this time, a white Christmas looks unlikely for the state. For more about the chances of a white Christmas, check out the companion article in this eUpdate issue.



8-14 Day Temperature Outlook



Valid: December 25 - 31, 2024
Issued: December 17, 2024



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8-14 Day Precipitation Outlook



Valid: December 25 - 31, 2024
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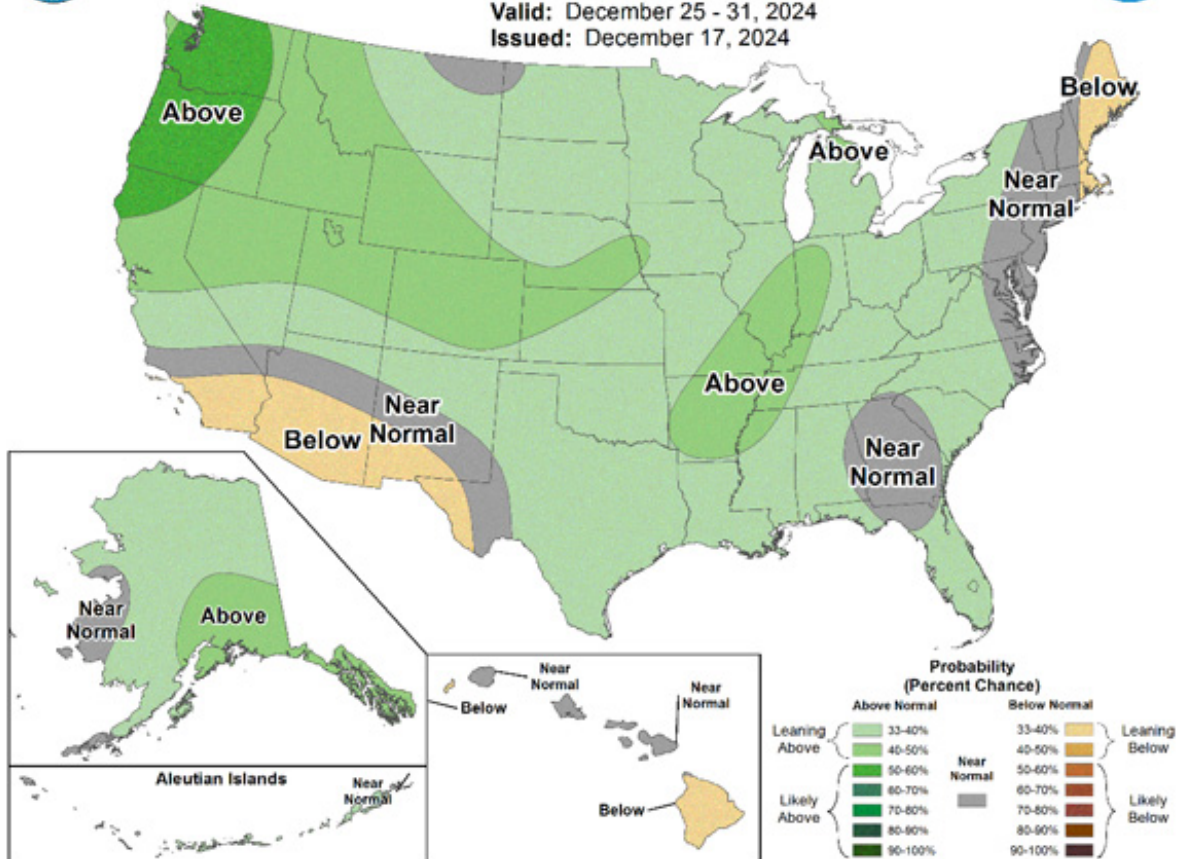


Figure 4. The National Weather Service Climate Prediction Center’s (NWS-CPC) 8 to 14-day temperature (top) and precipitation (bottom) outlooks.

Taking a look even further ahead into the new year, the Climate Prediction Center’s weeks 3 and 4 outlook, valid for the 14-day period from December 28 through January 10, calls for above-normal temperatures statewide, with probabilities ranging from 55 to 65 percent (Figure 5). The entire state also has equal chances of above and below precipitation.

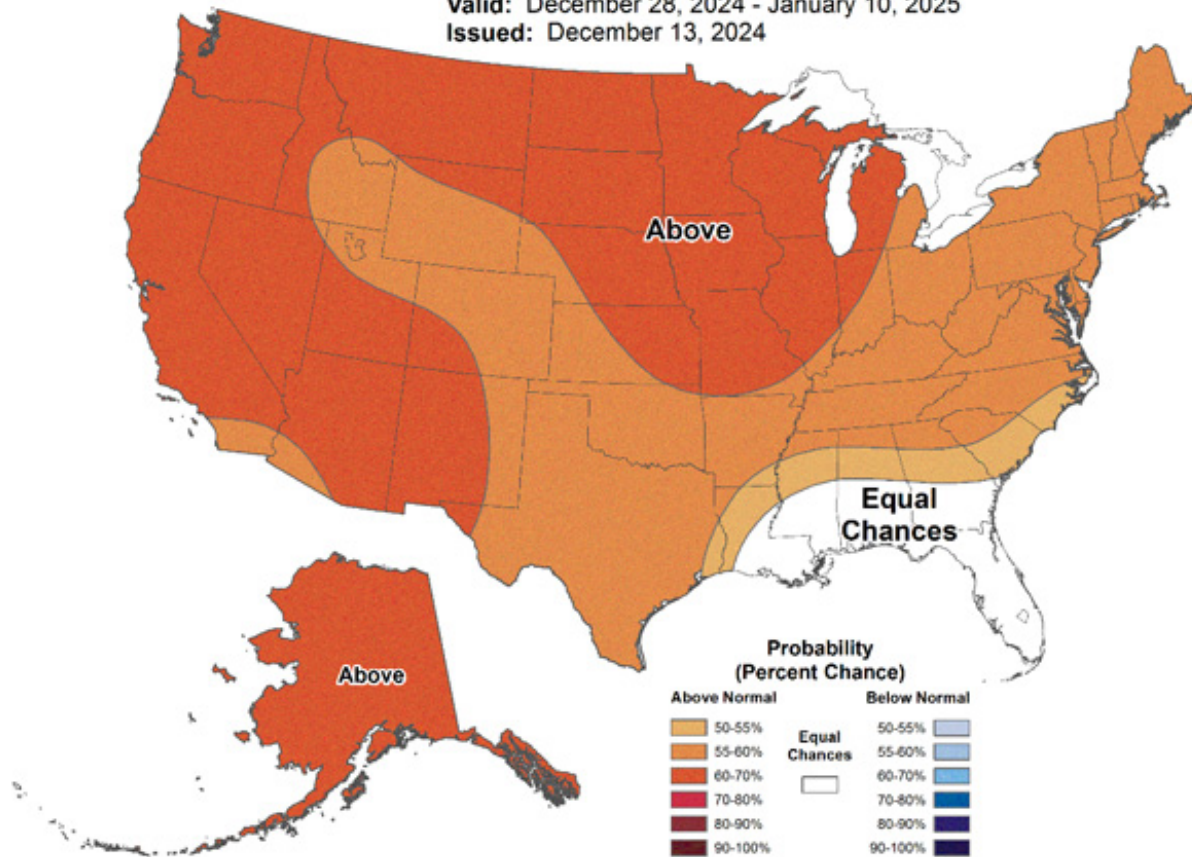


Weeks 3-4 Temperature Outlook



Valid: December 28, 2024 - January 10, 2025

Issued: December 13, 2024



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Weeks 3-4 Precipitation Outlook



Valid: December 28, 2024 - January 10, 2025
Issued: December 13, 2024

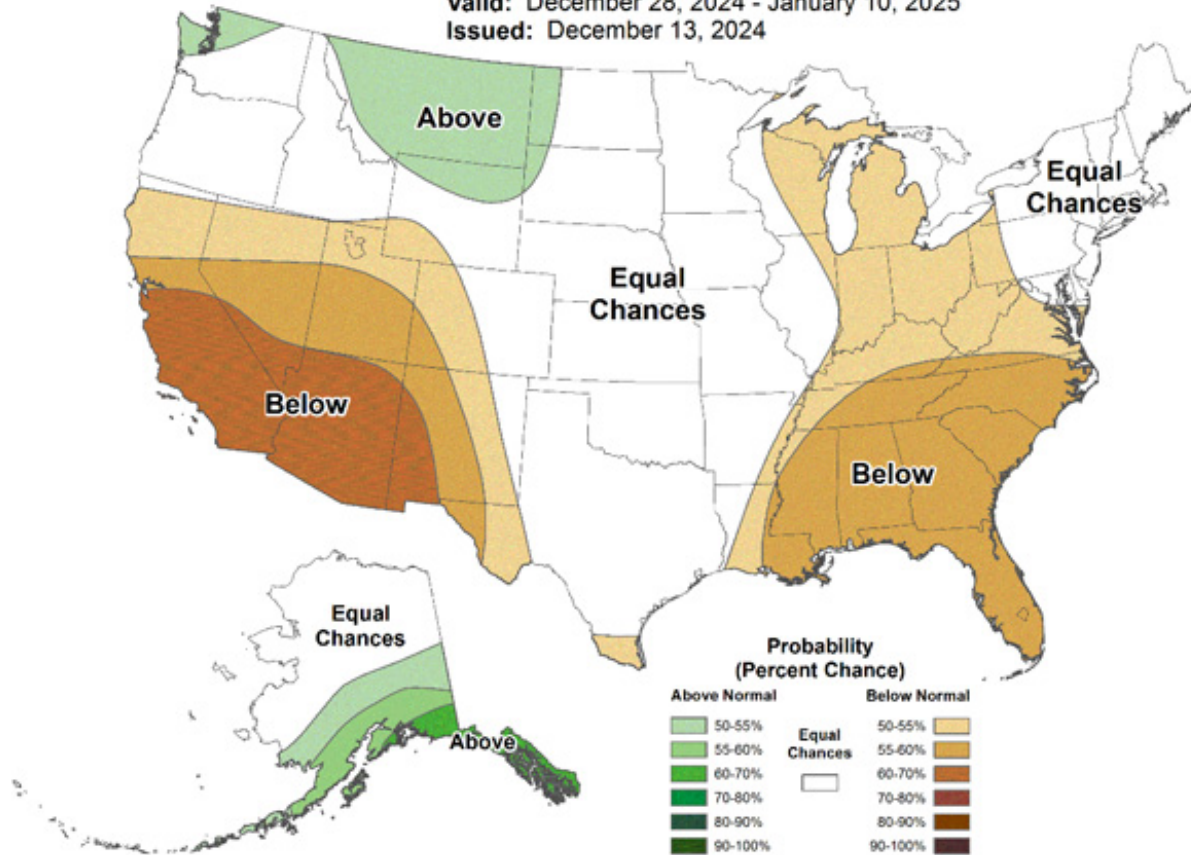


Figure 5. The Climate Prediction Center’s weeks 3 and 4 outlooks for temperature (left) and precipitation (right).

This article is a shortened version of the weekly Kansas Drought Update and Climate Report. If you would like to receive the full report delivered to your email each week, please send a request to Matt at msittel@ksu.edu. He will add you to his distribution list.

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4. Cover Your Acres Winter Conference, January 21-22 in Oberlin

K-State Research and Extension will host the 22nd annual [Cover Your Acres Winter Conference](#) for crop producers and consultants on January 21 and 22. The conference will take place in the traditional in-person format at the Gateway Civic Center in Oberlin, KS.

Cover Your Acres is a producer-driven meeting focused on new ideas and research-based updates in crop production in northwest Kansas and the Central High Plains region.

The conference, which typically draws more than 400 attendees from Kansas and other states, highlights the latest technology, methods, and conservation practices to improve crop production in the region. This year's conference will feature university specialists and industry representatives discussing what's driving profitability in northwest Kansas farms.

Session topics and speakers

- **Determining equitable lease arrangements** – Mark Wood and Glenn Conover
- **Dryland rotation agronomics and economics** – Lucas Haag
- **Make your plan: Weed Management 2025** – Jeanne Falk Jones
- **The best bets to place your fertilizer dollars**– Dorivar Ruiz Diaz
- **Improving dryland cropland with manure** – Dave Poss
- **Ogallala Aquifer – Facts, folklore, and what is Q-stable** – Brownie Wilson
- **Evolution of wheat viruses/End user-focused wheat production** – Allan Fritz
- **Machinery economics – When to keep, when to trade** – Brady Brewer
- **Forage production management and economics** – John Holman

The same programs will be offered on both days of the conference. Participants attending both days will find catching most or all programs easier. On Tuesday evening, the sessions are followed by a social where attendees can visit with industry representatives and conference speakers while enjoying hor d'oeuvres.

Online registration is open. The fee is \$60 for Tuesday, January 21, \$55 for Wednesday, January 22, or \$80 for both days. **After January 15th**, and for walk-ins, the cost is \$80 per day. The conference fee includes lunch, morning and afternoon refreshments and educational materials. The program will offer several continuing education unit (CEU) credits for Certified Crop Advisors and 1A for Commercial Applicators credit.

To view the conference details, lodging accommodations, and online registration, visit www.northwest.ksu.edu/coveryouracres. For questions, call 785-462-6281.

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5. Register for the 2025 Kansas Corn and Soybean Schools

For the second year, Kansas Corn and Kansas Soybean are partnering with K-State Research and Extension to offer the [Kansas Corn and Soybean Crop Schools](#). These full-day winter learning sessions will feature informative presentations for both crops.

The schools will cover several issues and opportunities for growers and are tailored to each region. Topics include weed control, insect resistance, fertility management, disease management, late-planting seasons, economics, and farm policy. Full agendas for each location are included below. Morning refreshments and a hot lunch are provided at these in-person schools. CCA and Commercial Pesticide Applicator credits have been applied for.

Each program will start at 9:00 AM (check-in at 8:30 AM) and conclude at 3:00 PM.

January 14 (Tuesday)

Geiger Ag, 1758 Coronado Rd., Highland, KS 66035

- 8:30 a.m. Registration opens
- 9:00 a.m. Welcome - Kansas Corn & Kansas Soybeans
- 9:10 a.m. Agronomics for corn & soybean - Dr. Rachel Cott and Luiz Felipe Almeida, K-State
- 10:00 a.m. Summary on disease updates – Dr. Rodrigo Onofre, K-State
- 10:50 a.m. Break
- 11:10 a.m. Summary on fertility – Dr. Dorivar Ruiz Diaz, K-State
- 12:00 p.m. Lunch (updates from both KS Corn & Soybeans)
- 1:10 p.m. Herbicide strategies – Dr. Sarah Lancaster, K-State
- 2:00 p.m. Ag Economics - Tim Strunk, Tyner Insurance Group
- 3:00 p.m. Wrap up

January 15 (Wednesday)

Southeast Extension and Research Center, 25092 Ness Rd., Parsons, KS 67357

- 8:30 a.m. Registration opens
- 9:00 a.m. Welcome - Kansas Corn & Kansas Soybeans
- 9:10 a.m. Soil health and crop agronomics - Dr. Gretchen Sassenrath, K-State
- 10:00 a.m. Summary on fertility – Dr. Dorivar Ruiz Diaz, K-State
- 10:50 a.m. Break

- 11:10 a.m. Herbicide strategies – Dr. Sarah Lancaster, K-State
- 12:00 p.m. Lunch (updates from both KS Corn & Soybeans)
- 1:10 p.m. Summary on disease updates – Dr. Rodrigo Onofre, K-State
- 2:00 p.m. Southeast Kansas Farm Profitability & Tax Strategies – Dillon Rapp, KFMA
- 3:00 p.m. Wrap up

January 16 (Thursday)

AGCO, W. Lincoln Blvd. #8807, Hesston, KS 67062

- 8:30 a.m. Registration opens
- 9:00 a.m. Welcome - Kansas Corn & Kansas Soybeans
- 9:10 a.m. Agronomics for corn & soybean - Dr. Rachel Cott and Luiz Felipe Almeida, K-State
- 10:00 a.m. Summary on fertility – Dr. Dorivar Ruiz Diaz, K-State
- 10:50 a.m. Break
- 11:10 a.m. Herbicide strategies – Dr. Sarah Lancaster, K-State
- 12:00 p.m. Lunch (updates from both KS Corn & Soybeans)
- 1:10 p.m. Summary on disease updates – Dr. Rodrigo Onofre, K-State
- 2:00 p.m. Wrapping arms around Corn & Soybean Markets - Ted Nelson, StoneX
- 3:00 p.m. Wrap up

January 17 (Friday)

Buffalo Bill Cultural Center, 3083 US-83, Oakley, KS 67748

- 8:30 a.m. Registration opens
- 9:00 a.m. Welcome - Kansas Corn & Kansas Soybeans
- 9:10 a.m. Agronomic focus with on-farm profitability - Dr. Chad Godsey, Godsey Precision Ag
- 10:00 a.m. Summary on fertility – Dr. Dorivar Ruiz Diaz, K-State
- 10:50 a.m. Break
- 11:10 a.m. Herbicide strategies – Dr. Sarah Lancaster, K-State
- 12:00 p.m. Lunch (updates from both KS Corn & Soybeans)

1:10 p.m. Summary on disease updates – Dr. Rodrigo Onofre, K-State

2:00 p.m. Corn and Soybean markets - Dr. Dan O'Brien, K-State

3:00 p.m. Wrap up

Registration for all locations is open at <https://kscorn.com/Schools/>. These are free events, but please register by January 9 if possible.



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Emily Koop, Kansas Corn

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