WEEKLY CORNBELT UPDATE

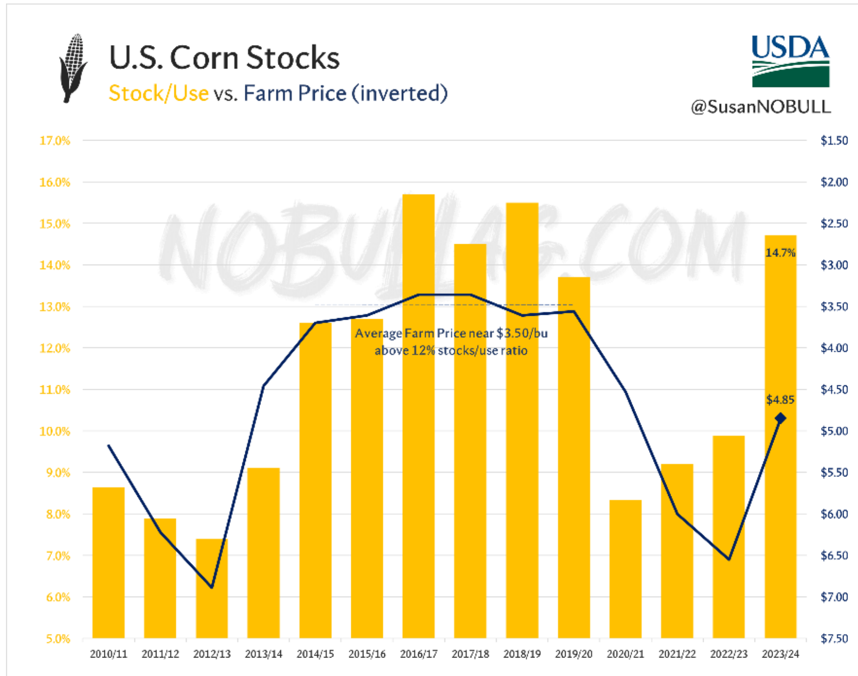
PRESENTED BY FLANAGAN State Bank

A weekly Cornbelt digest of marketing, economic, agronomic, and management information.

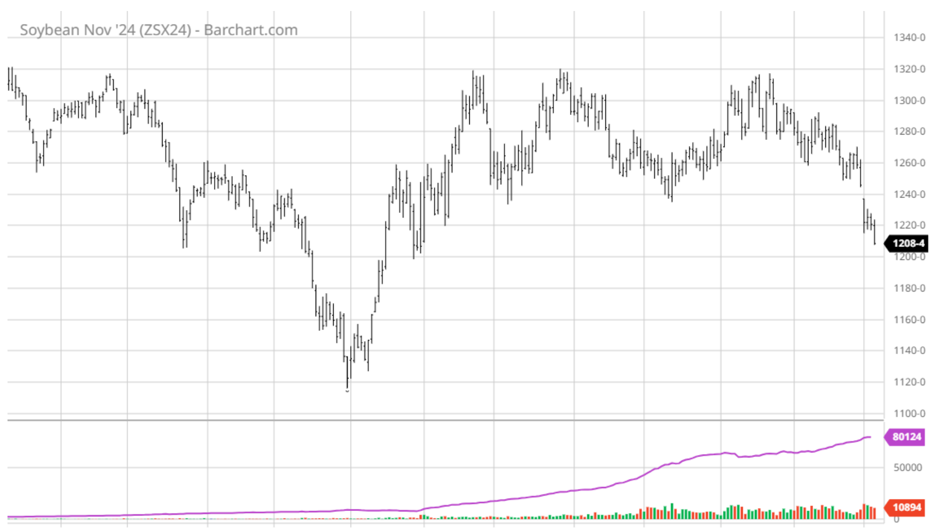
Commodity market price drivers—

- **Grain futures ended 2023** significantly in the red, with corn futures suffering their biggest yearly drop in a decade of 31%. Wheat and soybeans also posted steep declines in 2023 following bumper harvests in Brazil and resilient Black Sea trade. The most active corn contract was down 31% in 2023, while wheat was down 21%, and soybeans were down 15%. Mike Zuzolo, president of Global Commodity Analytics, says, "In 2024, producers are going to be a lot more concerned about their input costs, and that is where beans play a much better role for them." The USDA also expects soybean acres to increase in 2024, with the November World Agricultural Supply and Demand Estimates report predicting that U.S. farmers will plant 87 mil. acres of soybeans in 2024, an increase of 3.4 mil. acres. Corn acres are expected to be 91 mil. acres, a decrease of 3.9 mil. acres, according to the USDA. USDA will be taking a new look at that estimate on Friday when the January WASDE is released on the 12th. The report this Friday will be voluminous as the USDA gives the final numbers for 2023 yields and updates the balance-sheet, as well as releasing Grain Stocks and Wheat seedings. Commodity advisor Sid Love says, "In the case of corn, funds have 2nd largest short positions for this time of year. Trade estimates for the report will be out Monday night. A surprise or 2 is always possible when USDA "dumps" a large list of numbers. Historically, the surprises have been in stocks more often."
- **At midweek, Brazilian acreage estimates will be released** by that nation's ag agency. What is the size of the Brazilian soybean crop, (if it makes any difference)? The top estimate in past USDA reports was 6.06 bil. bu. USDA's latest estimate is at 5.915 bil. StoneX in Brazil is at 5.613 bil. bu. Safras Mercado consultancy in Brazil is at 5.560 bil. bu. Dr. Michael Cordonnier is at 5.547 bil. AgResource is at 5.537 bil. bu. The next USDA estimate will be released on Friday. Despite estimates of Brazilian crop size continuing to drop, soybean prices also continue to fall, and are down over $1.50 the past month and a half.

- **Are you like most other farmers** with unbooked corn in the bin or the elevator, and wondering when and how to sell it? You are likely afraid it is a "bite the bullet" call, suggests Susan Stroud of NoBullAg.com. She says, "Corn saw new contract lows to close out an abysmal first week of the new year. No one wants the reminder but unfortunately, this is our reality. US corn ending stocks remain above 2.1 bil. bu., a 14.7% stocks/use ratio, up from 9.9% last year. That ~5% increase year-on-year is the difference between $4.50 corn and the $6.50 corn we grew accustomed to in recent years. And unfortunately, even after a sizable whack to corn acres this spring, it looks like we will see that near-15% stocks/use ratio climb even higher in 2024 barring a major weather event. Producers are undersold and have that deer in the headlights look right now as corn continues to grind into new lows. What I see as a producers' biggest challenge in 2024 will be **having the courage to actually make a sale.** One year ago, Dec 23 futures were almost $1 higher than where Dec 24 sits today." Traders are estimating farmers are only 30-35% sold on corn, compared to 65-70% sold on soybeans.

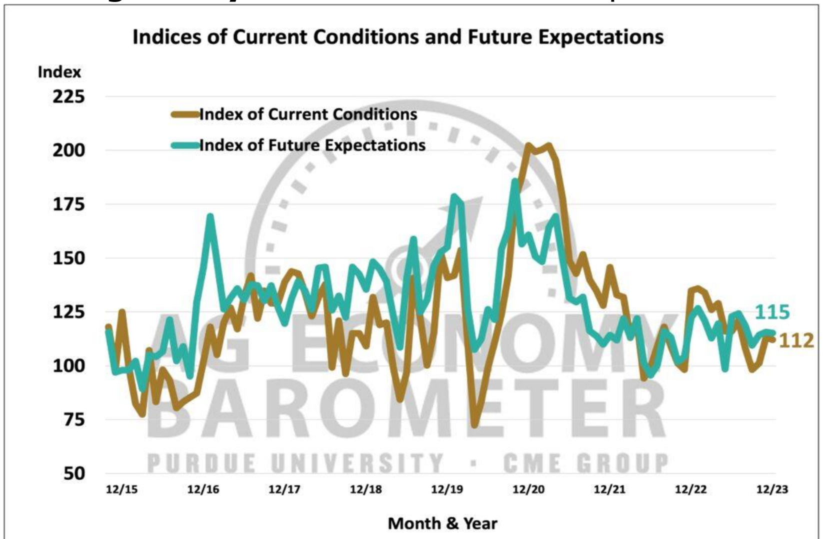


- **New crop beans started the new year** with their largest one-day drop since July, says Susan Stroud of NoBullAg.com Down 24 cents on Tuesday, followed by a weenie 3-cent bounce Wednesday and then two days in the red to end the week, SX24 hasn't been this low since June 30th. Again - change is never easy, especially when SX23 was trading within spitting distance of $14 one year ago. If near-$5 new crop corn is a difficult sale then new crop beans, grinding lower at nearly $2 less year-on-year, is anything but palatable.



Ag Economy—

- **U.S. farmers' economic sentiment changed very little in December** compared to the preceding month, says the [Purdue Ag Barometer](). Both sub-indices of the barometer, the *Index of Current Conditions* and the *Index of Future Expectations,* also fell 1 point below their respective November readings. Additionally, the current and future indices were 17% and 6%, respectively, below last year. Looking ahead to 2024, U.S. farmers inflation expectations are markedly lower than they were at the start of 2023.

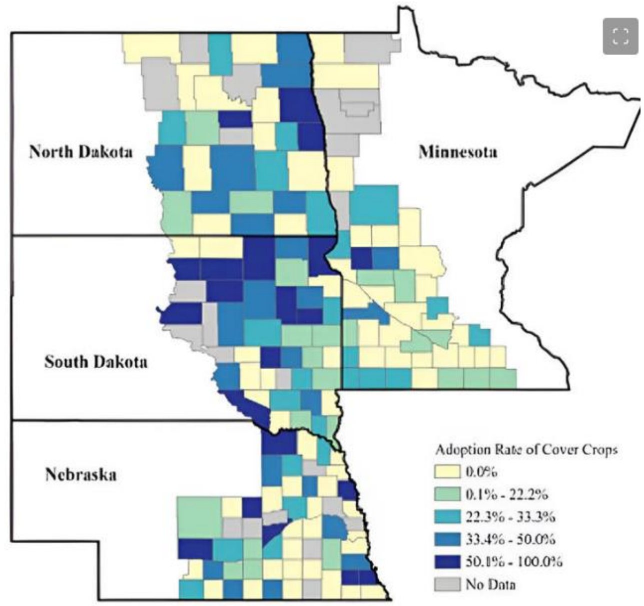


Source: Purdue University Center for Commercial Agriculture, Producer Survey, December 2023

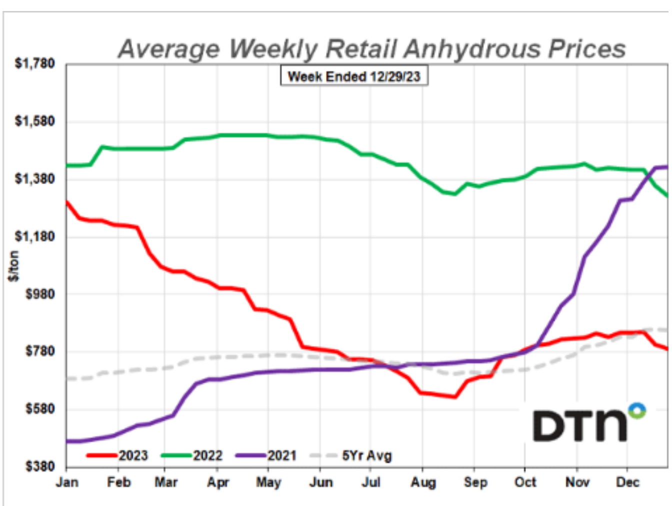
  - ✓ Since late summer, the index has climbed 11 points and was 21 points higher than in May when the index reached its low point for the year. This month's improvement in the financial performance index coincided with USDA's upward revision in late November of their forecast for 2023 net farm income. Although USDA still forecasts a sharp drop in net farm income from 2022's record high level, the November estimate for 2023's inflation-adjusted net farm income was $10 bil. higher than the forecast USDA issued on August 31.
  - ✓ Although the percentage of respondents choosing "strong cash flows" as a reason to invest rebounded from last month, it remained less popular than in July and August. On the other hand, the percentage of producers in December citing "higher dealer inventories" as a primary reason to invest was more than double the percentage who felt that way in July.
  - ✓ High input costs continue to be the primary source of concern for U.S. farmers. However, over the course of the year, there was a marked shift regarding producers' apprehensions. The other major concern for the upcoming year cited by producers was "rising interest rates," chosen this month by 24% of survey respondents.
  - ✓ In this year's survey, 13% of producers said they expect inflation in the upcoming year to be 6% or higher with 70% of respondents looking for inflation in 2024 to be less than 4%. Concerning interest rates, 34% of respondents said they look for interest rates to decline in the upcoming year, with 22% expecting the prime rate to remain unchanged.
  - ✓ Both the long and short-run farmland value indices experienced moderate declines in December. The moderation in producers' interest rate expectations since late 2022 could help explain the relative improvement in the long-term farmland value index.

Seed, Fertilizer, Fuel, Chemical Inputs—

- **If the fertilizer price is high,** do you cut back on your application rate? [SD ag economists] looked at farmers' responses to fertilizer application in 2022, when fertilizer prices reached record high levels due to the Russia-Ukraine war and supply chain disruptions from the COVID-19 pandemic. This has created a financial strain on farmers as nitrogen, phosphorus and potassium—elements found in most synthetic fertilizers—are essential for crop growth and make up a significant portion of a farm's operating cost. They looked at fertilizer application rates upstream on the Mississippi, in SD, ND, MN, and NE. "The results of our work fill in the gaps on producers' short- and medium-term responses to increased synthetic fertilizer prices." They "found that 78% of producers had taken on some form of adaption strategy due to the costs. The most common adaption was the use of variable-rate fertilizer application, a tool that aims to enhance fertilizer use efficiency, followed by manure/compost. A smaller percentage of farmers chose to adopt cover crops, and some decided to change their crop rotation."

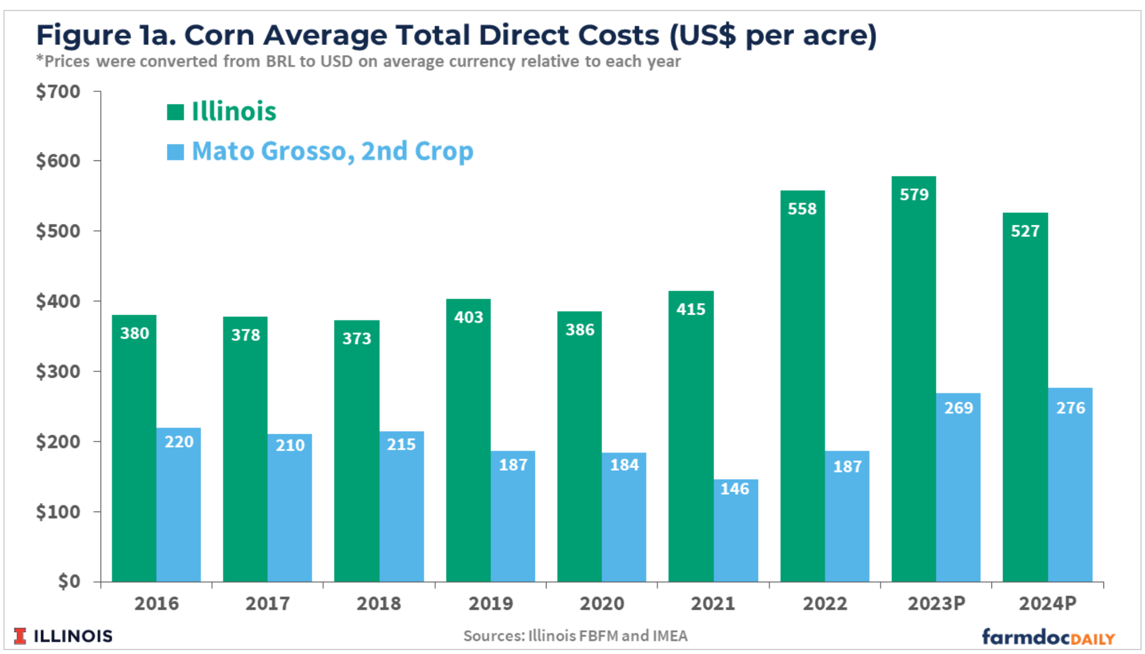


- **Average retail fertilizer prices closed out 2023 mixed**, according to [fertilizer specialist Russ Quinn.] Prices for six of the eight major fertilizers were lower in the fourth week of December compared to last month, while prices for the remaining two fertilizers were slightly higher. Anhydrous was down 7% compared to last month with an average price of $792 per ton. The remaining five fertilizers were down just slightly down. MAP had an average price of $812 per ton, potash $514/ton, urea $536/ton, UAN28 $340/ton and UAN32 $394/ton. UAN32 dropped below the $400-per-ton level for the first time since the second week of September 2023. That week UAN32 had an average price of $389/ton. Two fertilizers, meanwhile, were just slightly higher in price compared to last month. DAP had an average price of $721/ton and 10-34-0 $599/ton. On a price per pound of nitrogen basis, the average urea price was at $0.58/lb. N, anhydrous $0.48/lb. N, UAN28 $0.61/lb. N and UAN32 $0.62/lb. N.



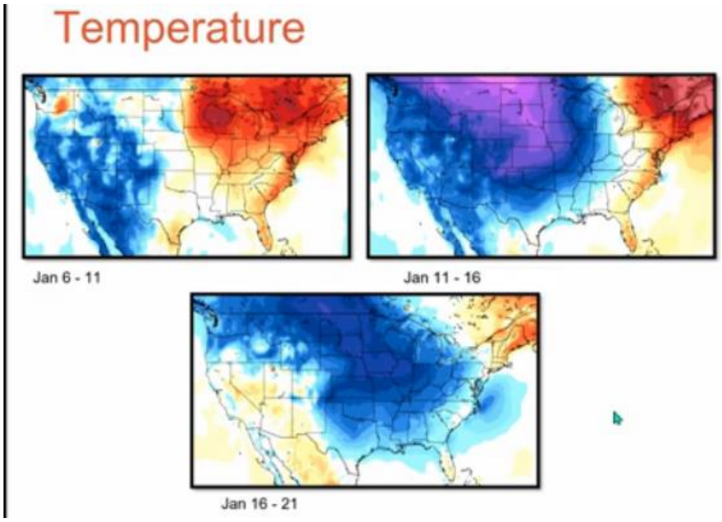
Farm Management and Finance—

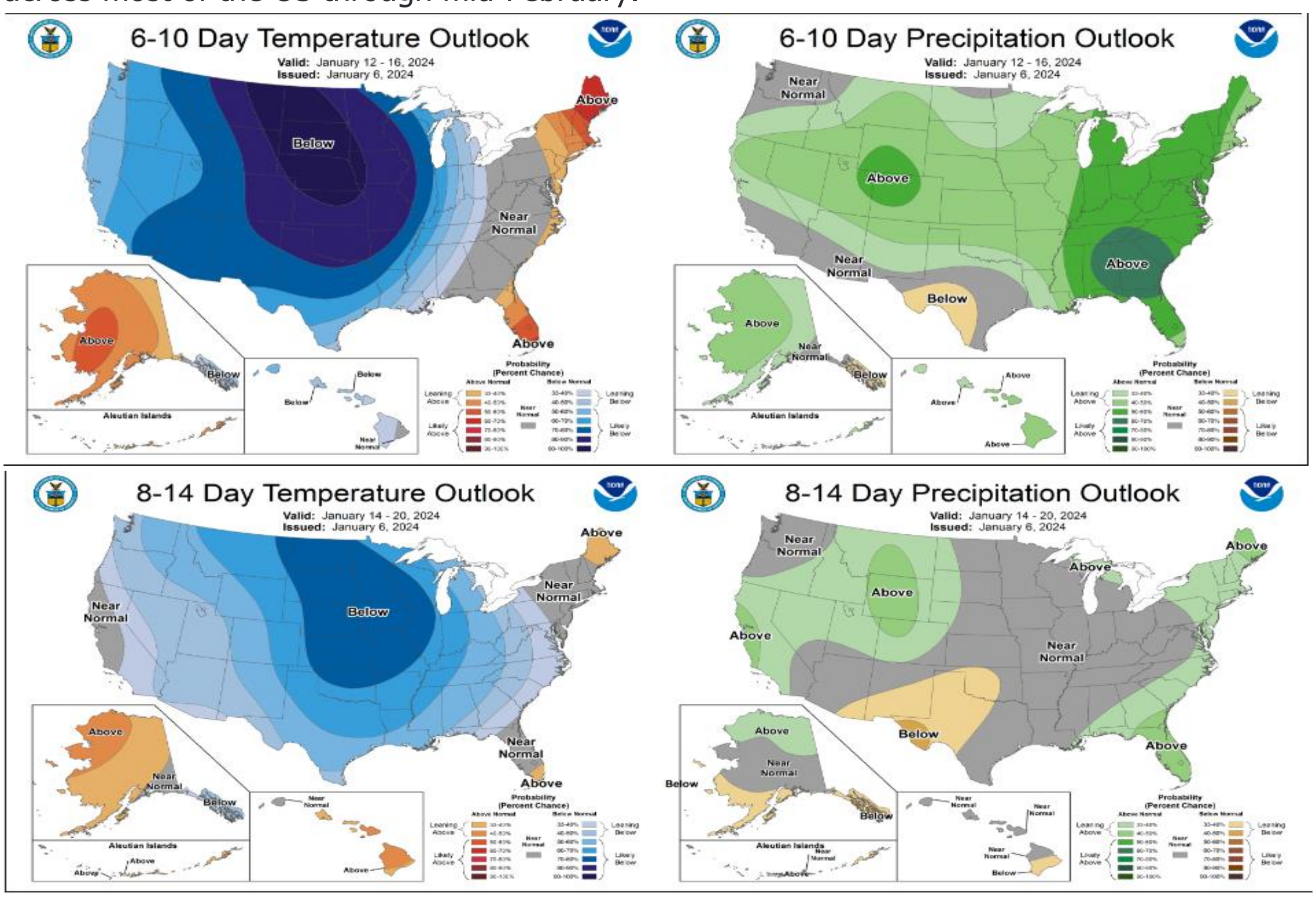
- **It's probably no surprise,** but the cost of growing corn in Brazil and IL goes up and down, at about the same rates, and at about the same time. [But IL Farmdoc ag economists] calculated the relationships. "On a per acre basis, direct costs for corn have been higher in the US relative to Brazil. However, adjusting for differences in corn yields by examining costs on a per bushel basis illustrates a cost advantage for IL producers that has been primarily driven by higher fertilizer costs in Mato Grosso. Total direct costs for the second crop in Mato Grosso have increased from $220 in 2016 to $269 per acre in 2023, an average annual growth rate of 2.9%. Meanwhile, from 2016 to 2023, total direct costs for corn production in central IL have increased from $380 to $579 per acre, an average annual growth rate of 6.2% (see Figure 1a). Total direct costs are projected to decline in central IL for the 2024 crop year, led by projected declines in fertilizer costs from 2023. In contrast, total direct costs are projected to increase by 3% for the 2024 corn crop in Mato Grosso. Overall, the direct costs to produce corn in Mato Gross have been lower on a per acre basis than in IL since 2016. However, Brazil does not achieve the same corn yields as the US. For example, the average corn yields from 2016 to 2022 in Mato Grosso and central IL were 93 and 224 bu. per acre, respectively. On a per acre basis, total direct costs and the costs associated with fertilizer, seed, and pesticide inputs have been consistently lower in Mato Grosso compared with central IL. However, a significant yield differential exists with central IL achieving corn yields that are often more than double those of the second crop corn produced in Mato Grosso. When comparing direct costs on a per bushel of production basis, an average cost advantage exists for central IL compared with Mato Grosso since 2016. This cost advantage is driven by higher per bushel fertilizer costs in Mato Grosso, as well as higher post-harvest costs of drying and storage. In contrast, both seed and pesticide costs have been much more similar for central IL and Mato Grosso over the past 9 crop years."



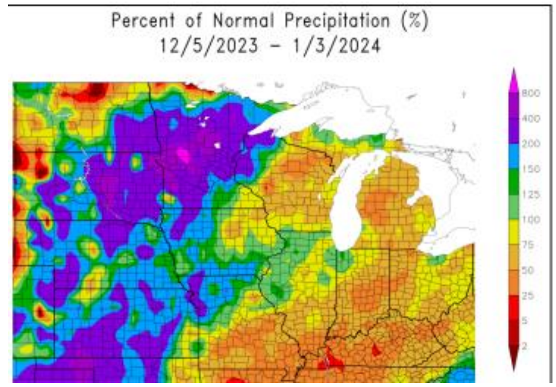
Weather—

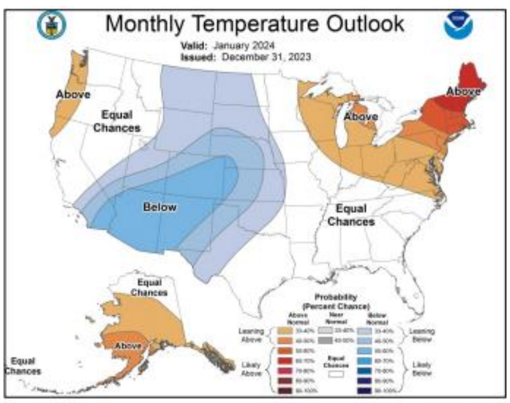
- **The Jet stream sagged south** and allowed colder Canadian air to cover most of the central part of the US in the past several days, says [Blue Water Outlook](). Technically it is called a "Greenland High." But the major factor across the US will be a freight train of storms with snow and wintry weather. There will be several more following the one that moved into IL on Friday night and Saturday morning. Tuesday brings a "heavy impact" storm, so keep the kerosene heaters full, and the snow blade handy. Toward the end of the week, colder weather will settle in with below normal temperatures extending well into Mexico and the Gulf. The mid-week storm system will carry moisture. The northwestern half of IL could get upwards of 8-9 inches of snow. The southeastern half of IL will get part of the 3-4 inches of heavy precipitation that will cover most of the eastern Cornbelt. The US Climate Prediction Center has issued a warning related to the "[Bitter Cold and Heavy Precipitation]()." The European weather model keeps cold air across most of the US through mid-February.

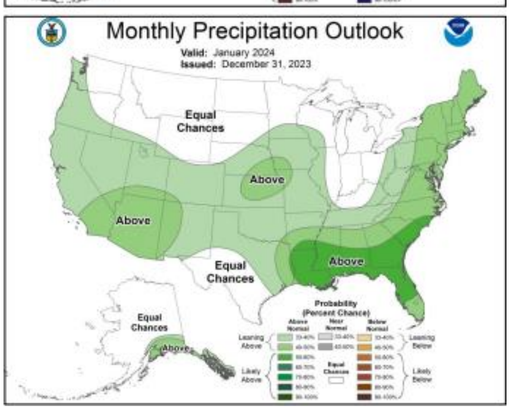




- **The whole region saw temperatures above normal** the last 30 days, which is likely a result of El Niño and climate change as the frigid winter air masses were locked up in Canada, according to [USDA's Midwest Climate Hub](). Some of the daily low temperatures were 6-10°a higher than any other low temperature on record. Much of the region has seen few-to-no days in December where the daily maximum temperature fell below freezing, and climatologists are trying to determine if this is a first on record. Some ag implications are that colder air temperatures bring colder soils, aid in crop dormancy, accumulation of chilling hours, and maintenance of snow cover (if snow falls). December was slightly wetter than previous months, but there is still widespread dryness, and the impacts are starting to show (impacts discussed below). Nearly the entire eastern half of the Corn Belt saw less than 100% of normal precipitation, with widespread areas of 50% or below. There were even a few targeted areas of less than 5% of normal precipitation, namely in the Dakotas and Nebraska. Kansas and Minnesota are two outliers in precipitation recently. Over the last 30 days, most of Minnesota saw greater than 100% of normal precipitation, with a small area at 800% of normal. In all the precipitation that fell, almost all of it fell as rain due to the lack of cold air. Over the next 2 weeks, temperatures look to lean below normal to the west whereas the eastern half of the region may potentially see above normal temperatures in the 6–10-day outlook and near normal temperatures in the 8–14-day outlook. Over the next 6-10 days, precipitation chances are leaning above normal in the upper Midwest and likely above normal to the east and south. Similarly, most of the Midwest has the chance to see above normal precipitation between days 8-14, with the exception southern Illinois, Missouri, and the eastern half of Kansas seeing near normal conditions. In January, temperatures may be above normal to the east and below normal to the west, with equal chances for above, near, or below normal temperatures from Minnesota down to Missouri and Kentucky. Precipitation is generally leaning above normal to the south with equal chances to the north. The next three months follow a typical El Niño pattern overall, where temperatures lean warmer to the north and conditions lean drier (wetter) around the Great Lakes and Ohio Valley (central Plains). Confidence is high that El Niño will stick around through April, and potentially transition to the Neutral phase for the summer.







Environment, climate, carbon, COP-28, etc.—

- **Crop nutrient content in streams** and the IL nutrient loss reduction strategy will be front and center on January 25th at the IL Dept. of Agriculture. Those will be up for discussion at a joint meeting of agriculture interests and environmental regulators who will focus on the Nutrient Loss Reduction Strategy that was initially set in 2015. Water sample testing reveals one key achievement highlighted in the latest report is a statewide reduction of 6.2 mil. lbs. of phosphorus from 2011 to 2022, a 34% reduction, exceeding the 25% reduction goal set for 2025. It is believed that by the end of the decade, the point source sector is expected to achieve the long-term goal of reducing phosphorus by 45% and possibly exceeding that goal. It is also noted that an 11.6% reduction was made in total nitrogen state-wide from 2011 to 2022. Urban stormwater runoff, municipal wastewater treatment, and cropland are all in the mix of sources of nitrogen and phosphorus and farmers should inform themselves about potential regulations that may be imposed on crop nutrient application should targets not be achieved. Strategy Perspectives Other viewpoints:
  - ✓ Lauren Lurkins of Lurkins Strategies. "If people weren't implementing these practices that we know based on science are effective at reducing nutrient loss, we would get nowhere. In fact, things would likely be far worse than we've ever seen."
  - ✓ Jeff Kirwan, Mercer Co. farmer, says he's been pleasantly surprised by increased farmer adoption of conservation practices like cover crops, saturated buffers, border strips, reduced tillage and manure management. "We're not going to solve this problem overnight," he says. "Farmers are very cognizant of stewardship and land preservation. We're doing things differently today than 5, 10, 20 or 50 years ago, and as we go forward, we're going to see better results."
- **The White House climate agenda** has hit some turbulence amid record U.S. oil production and push-back from some in agriculture. You won't hear the president boast about it, the Washington Post reports, but the U.S. is producing more than 13 mil. barrels of oil a day—a record, even as his climate spending soars. But gas prices have eased, key to Biden's reelection chances, with oil project approvals in Alaska and West Virginia as Biden tries to walk a political tightrope between consumers and environmentalists. Meantime, lawmakers like rural Rep. Doug LaMalfa, R-CA, are pushing back on the president's climate agenda, "In planting crops, in transporting anything. If you've got it, a truck brought it. It's probably a diesel-powered truck, as you see so many efforts, failed efforts of electrifying vehicles, cars, trucks, etc. Oh, there's a few out there, getting around, yes, but not on a dependable basis, to keep our supply chain going." And after COP 28 in Dubai, "You have elites over at conferences like this, saying 'we need to cut back on meat, we need to cut out agriculture.' They want us to cut 30 % of our agriculture. Well, there's already a food shortage in much of the world, and even in some of our urban areas in this country, as we call them, food 'deserts.' You want to depend on it coming from somewhere else? That works really great. Wait until they have a food embargo, like the fuel embargoes we had in the Seventies." (NAFB News Service)

- **Wolf Carbon Solutions** has withdrawn its application for a CO-2 pipeline from IA to central IL to convey carbon dioxide away from ADM ethanol plants at Cedar Rapids and Clinton, IA. Wolf had encountered adversity from landowners, but apparently still plans to move forward with the project sometime in the future. Property owners and other opponents had cited safety concerns, and Wolf says it will re-file its permit application after new federal pipeline standards are approved in Washington which is what the IL Commerce Commission staff had recommended. The pipeline was designed to cross the Mississippi River north of Rock Island and run through Henry, Stark, Peoria, Tazewell, Logan, Dewitt, and Macon Counties before its termination north of Decatur adjacent to the site of the Farm Progress Show where the Decatur ADM plant injects its CO-2 into the ground.

Trade and International Issues--

- **For the third time in 5 years**, agricultural trade in the United States will be at a deficit — meaning it imports more than it exports. For some farmers, the year's big deficit is a sign that trade has taken a hit and that other countries may be outtrading the U.S. However, some economists argue there are logical explanations behind what has created such an eye-popping deficit — including rising imports, a strong American dollar and basic supply and demand. "Trade deficits aren't something we should be inherently worried about," said Bill Ridley, an IL trade economist, who studies international trade. "The U.S. is very much still the breadbasket to the world," said Doug McKalip, chief agricultural negotiator for the office of the U.S. Trade Representative, the government agency responsible for promoting trade. "We're growing things and successfully exporting them around the globe. So, there's certainly a lot more to it than what might meet the eye initially." Farmers who are not happy with the status quo point to, Examples include China pulling out of buying U.S. agricultural products in 2019 or Mexico announcing this year it intends to ban genetically modified corn. The political nature of those disputes cost farmers." For some farmers, checking a small box when they sell their products — called the commodity checkoff program — is a good place to start. Those provide small funds to certain commodity groups that could help advocate for expanded trade opportunities. To Ridley, the IL professor, analyzing all agricultural trade markets in one lump can be misleading. While there are similarities, looking at individual commodities paints a more accurate picture, he said. Economists have a variety of answers as to why agricultural imports will far outpace exports this year. Simply put, Ridley said, it boils down to one reason: more imports. "It seems to be purely and almost entirely a story about imports rising," Ridley said. "And, of course, the more you import, holding your exports mostly constant, that's going to shrink your trade surplus or create a trade deficit." The strength of the American dollar also plays a factor with the deficit, said Tanner Ehmke, an economist with CoBank, one of the biggest lenders to rural America. "A strong dollar makes our exports noncompetitive overseas, and it makes imports more competitive," Ehmke said. "Our stronger dollar gives us more purchasing power. Therefore, we can afford to bring in more imports." Economists expect that agriculture trade may eventually swing in the other direction and could be in surplus again. If and exactly when are harder questions to answer.

The U.S. Grains Council's office in Beijing, China, recently hit the road to present the 2023-2024 Corn Harvest Quality Report, discuss sorghum opportunities, and protect market share for U.S. coarse grains. The Council conducted a corn quality roadshow and seminar in 2 of China's most populated provinces. "More than 60 traders and end-users from all over China attended our seminar to learn about the harvest quality of our 2023-2024 U.S. corn crop and other critical topics affecting the global coarse-grain market," says Manuel Sanchez, USGC Director in China. "As one of the primary destinations for American corn and sorghum, it's vital that the Council engage with customers in China to share the latest market information." In addition to reviewing the report, the seminars welcomed speakers who discussed the challenges and opportunities for corn globally, the current drought hitting the Panama Canal, and a 2023 U.S. sorghum harvest and market outlook. Not just grain is exported, but also processed products, like ethanol. The Grains Council is responsible for global promotion of ethanol and reports Canada, the European Union, Britain, South Korea, and India were the top markets in 2022.