Issue #1 - April 23, 2025

🚜 From South to North: Tracking Indiana's Planting Progress

(Jeferson Pimentel, Dan Quinn, and Betsy Bower)

After patiently waiting all winter for a warm and sunny break, we're thrilled to finally have the chance to get back in the field! The 2025 planting season has already begun for several growers in Indiana, and it's an exciting time ahead for crops, including our favorite plant: corn. 🌽

Farmers have begun planting throughout Indiana, from the southernmost areas of the state, to central, and all the way up to northwest Indiana. This has largely been dictated by recent rainfall events and total precipitation amounts throughout the state, with some areas receiving less rainfall than others. The USDA-NASS report for April 21, 2025, showed that for the last week (ending on April 20), an average of 3.7 total days were suitable for field work, which is up from 1.5 days for the previous week.

The USDA-NASS also reported planted corn acres at 2% planted (Figure 1), which is 3 percentage points behind the 5-year average and 1 percentage point behind soybean planting progress. In Indiana, the optimum planting "window" for maximum corn yield potential occurs between April 20 and May 10 of each year. For the southern counties in the state, this "window" may be shifted one week earlier, and for the northern counties in the state, this "window" may be shifted one week later. Overall, when examining the previous year's planting progress for Indiana from USDA-NASS crop reports, planting progress typically begins to increase around the 20th of April, with the majority of planting finishing toward the end of May. Previous research has shown that corn yield potential begins to decrease approximately 0.3% per day once planting is delayed beyond May 1st and

approximately 1% per day if corn planting is delayed until the end of May. These decreases in corn yield potential are often contributed to a shortened growing season, elevated pest pressure, and increased potential for high heat and dry conditions during pollination. However, it is important to understand that delayed planting may only impact potential yield and not actual yield in a specific year. Just because corn was planted late, doesn't mean high yields won't be achieved.

➡️ Let us know if we can help.

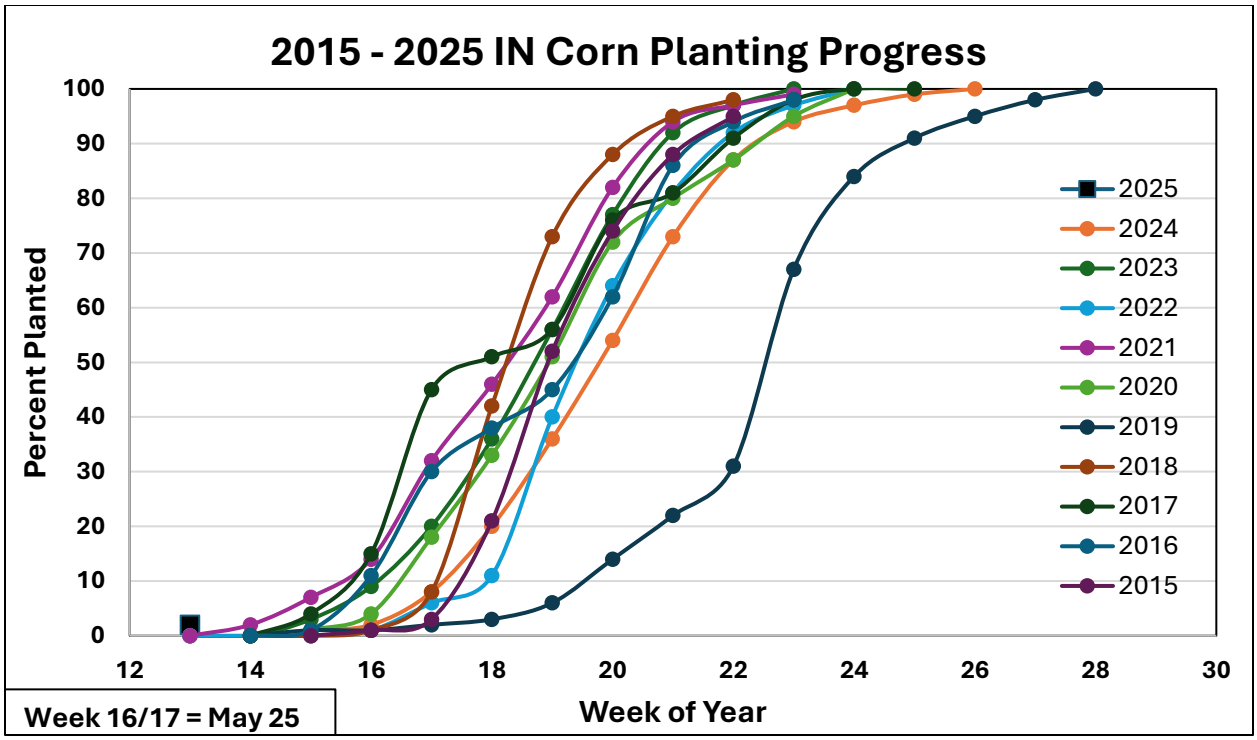

Figure 1. 2015-2025 Indiana corn planting progress by week (USDA-NASS)

🌽 2025 U.S. Farmers' Prospective Plantings

(Jeferson Pimentel)

Big news: Corn acres are making a comeback! According to the USDA, U.S. farmers plan to plant **95.3 million** acres of corn this year, up **5%** from 2024 (Table 1).

In 2025, the area dedicated to corn for all purposes is estimated to reach an impressive 95.3 million acres, showing an increase of 5 percent, which is around **4.73 million** acres

more than last year. Compared to the previous year, we anticipate that the planted acreage will remain steady or grow in 40 out of the 48 states we're considering!

In 2025, soybean growers are planning to plant about 83.5 million acres, a small decrease of 4% compared to last year. It looks like we might see reductions of 300,000 acres or more in states like **Illinois, Iowa, Minnesota, Nebraska, North Dakota, and South Dakota**. On a brighter note, we're expecting record-high soybean acreage in New York and Ohio!

Table 1. U.S. Corn Intended Plant Area (thousands of acres; USDA-NASS)

	2024	**2025**	Difference (%)
Arkansas	500	**710**	42.0%
Colorado	1460	**1460**	0.0%
Illinois	10800	**11100**	2.8%
Indiana	5200	**5400**	3.8%
Iowa	12900	**13500**	4.7%
Kansas	6300	**6400**	1.6%
Kentucky	1370	**1600**	16.8%
Michigan	2250	**2300**	2.2%
Minnesota	8200	**8600**	4.9%
Mississippi	490	**690**	40.8%
Missouri	3450	**3800**	10.1%
Nebraska	10050	**10600**	5.5%
North Carolina	890	**910**	2.2%
Ohio	3400	**3250**	-4.4%
Pennsylvania	990	**970**	-2.0%
South Dakota	5900	**6300**	6.8%
Tennessee	700	**900**	28.6%
Texas	2150	**2450**	14.0%
Wisconsin	3750	**3950**	5.3%
U.S. Total	90594	**95326**	5.2%

🌽 Inside the Belt: What the 2025 Battle-for-the-Belt Trials Aim to Uncover

(Dan Quinn)

The first seed for the Purdue Corn Team was planted on April 16. This is the first planting date treatment for the 2025 **Indiana Battle-for-the-Belt** project. This project is led by faculty at The Ohio State University and works to examine which crop, corn or soybean, should be planted first in the spring. Dr. Quinn and Dr. Shaun Casteel have participated in this project since 2024 and this research trial encompasses different planting date, variety, and management strategies. Preliminary data from 2024 indicates that soybeans responded most favorably to the earlier planting dates, with highest yields achieved with the mid-April planting. In contrast, corn yields peaked with early May planting, which outperformed the mid-April planting treatment. These findings align with a broader trend observed in Indiana over the past 5 to 10 years, where soybean planting has increasingly occurred before corn.

Figure 2. First research trial treatment being planted by the Purdue Corn Agronomy Team at the Agronomy Center for Research and Education in West Lafayette, IN.

🌽 The Prime Planting “window” and Soil Moisture Tips

(Jeferson Pimentel, Dan Quinn, and Betsy Bower)

In Indiana, the **prime planting window for corn is from April 20 to May 10**. In **northern counties**, this starts a week later, while **southern counties** can begin a week earlier.

Corn planting generally occurs from **late April to late May or early June**, with about **half planted after mid-May** over the past two decades.

- ***Watch Your Seeding Depth***

During planting, growers often **overlook seeding depth**, especially in busy seasons, defaulting to previous years' settings. While a depth of **1.5 to 2 inches** usually works, varying conditions like **soil moisture** require attention and may require seeding depth adjustments to be made.

- ***Moisture***

Consistent moisture at the seeding depth ensures rapid, even germination. **Check soil moisture on planting day** — if it's lacking, consider planting deeper for better moisture availability.

- ***Tips for Dry Weeks***

In dry weeks, checking moisture in **each field** is crucial. A **2-inch depth might not provide enough moisture** for uniform germination and emergence. Planting deeper can help with consistency and ensure seeds are placed in the soil with adequate moisture

If you have irrigation, lightly water the **top 6 inches** of soil after planting. If needed, water should be applied to maintain ideal conditions during early nodal root growth.

- ***Soil Temperature***

It is important to remember that corn typically needs 115 growing degree days to emerge, and if the soil temperature is at 50°F and continues to average only 50°F for a length of time, corn can take upwards of 35 days to emerge. Whereas, if corn is planted into a soil with a daily average temperature of 65°F, emergence can occur in 7 days or less. The overall goal is to achieve rapid emergence of corn plants to shorten the period an emerging plant is exposed to certain stresses, limit the potential for uneven emergence, and also achieve more stress-tolerant plants.

🌾 Field Crop Disease Monitoring Resources for Indiana in 2025

(Darcy Telenko)

The Purdue Field Crop Pathology Team actively monitors field crop diseases across Indiana in 2025. Updates on disease tracking will be shared through the Pest & Crop newsletter. National programs are also in place to track economically significant diseases such as Fusarium head blight, wheat stripe rust, southern rust of corn, and tar spot (Figure 2). The Crop Protection Network also offers valuable resources, including fungicide efficacy tables for corn, soybean, and wheat.

Key resources include:

- **Purdue Field Crop Pathology Extension Site**: Applied research updates, disease maps, and in-season reports.
- **Crop Protection Network**: Collaborative tools like fungicide efficacy tables, disease cycle information, and severity estimation tools.

Indiana growers can submit corn and soybean disease samples to the Purdue Plant Pest Diagnostic Lab free of charge, thanks to funding from the Indiana Corn Marketing Council and Indiana Soybean Alliance.

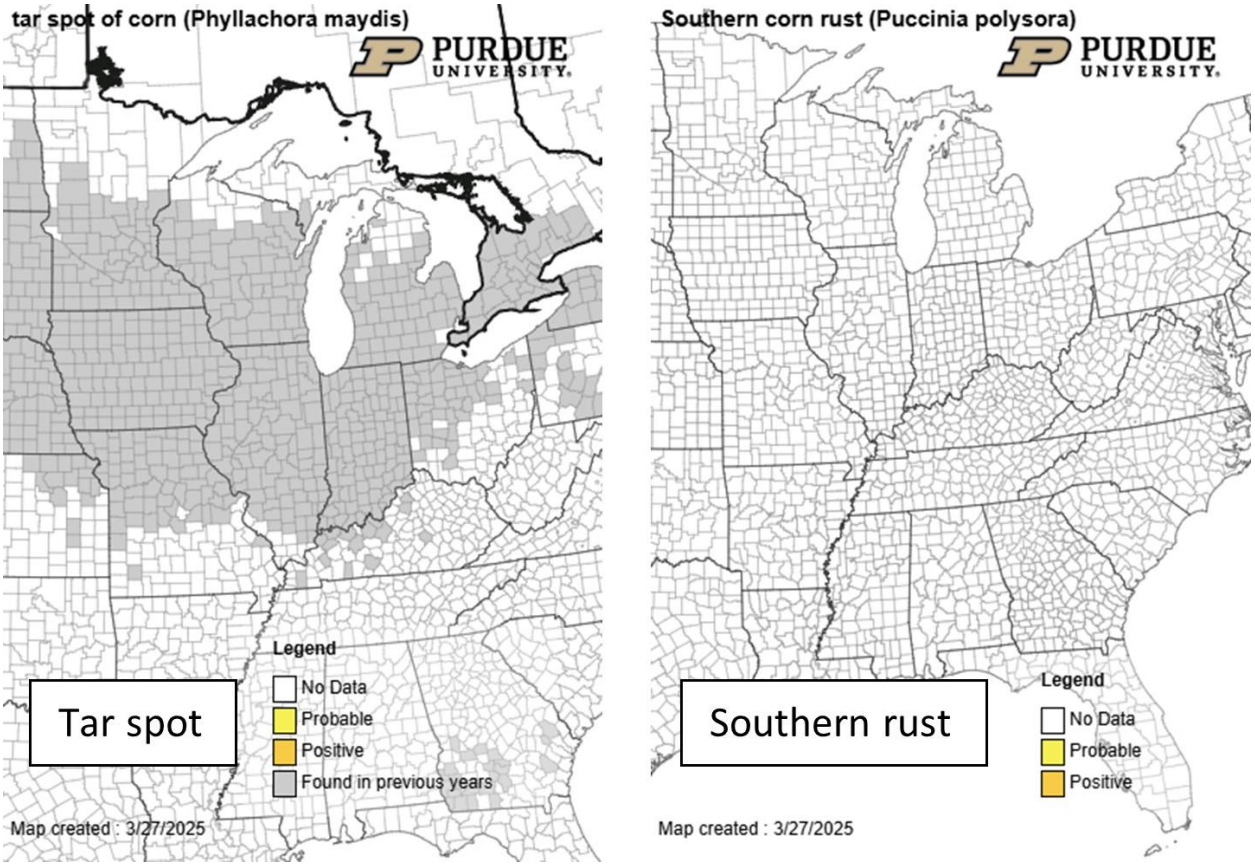

Figure 2. Corn: National corn tar spot and southern rust tracking

Wet pattern to return

(Austin Pearson, Climatologist, Indiana State Climate Office)

Despite the wet start to the month, the entire state saw less than 50 percent of normal rainfall from April 10 to 16, and in some cases, less than 10 percent of normal rainfall (Figure 3). This was helpful, especially as some locations still deal with river flood warnings and ponded and saturated fields. This has severely limited most field activity this month.

Overnight temperatures have been cold enough for the National Weather Service (NWS) to issue freeze warnings and frost advisories because vegetation is actively growing and vulnerable to freeze damage. As a reminder, we won't escape the risk of frost until mid-May, so you may need to keep covering your perennials. Pay attention to the latest alerts from your local NWS office.

As of April 16, the seven-day average 2-inch soil temperatures under sod have risen above 50°F in southern Indiana over the past week. Posey County has the warmest 2-inch soil temperature at 54.1°F, while LaPorte County has the coolest at 45.8°F (Figure 4), which is on track for the climatologically expected dates for this to occur. March temperatures were 5.7°F above normal, making it the 11th warmest March on record, which helped soil temperatures warm. However, temperatures have averaged 1-3°F below normal for the first 15 days of April, slowing the progress of soil temperature warming. The same can be said for the impact on modified growing degree days (50F, 86F) as accumulations are more than 25 units below normal for the entire state (Figure 5).

Shifting to the outlook, temperatures are expected to bounce back, and so will precipitation. Over the next seven days, warmer temperatures will remove the threat of a hard freeze, with highs in the 60s and 70s across the state. Forecast precipitation totals from April 17-24 look to be heaviest in west-central Indiana, with totals ranging from 1 to 4 inches (Figure 6). This will fall on saturated topsoil and thus create a continued concern for flooding and delayed field progress. Hopefully, we can kick the current abnormally dry conditions across north-central Indiana to the curb. The Climate Prediction Center is confident that above-normal temperatures and above-normal precipitation will continue until the month's end, so fieldwork windows will be short and minimal (Figure 7).

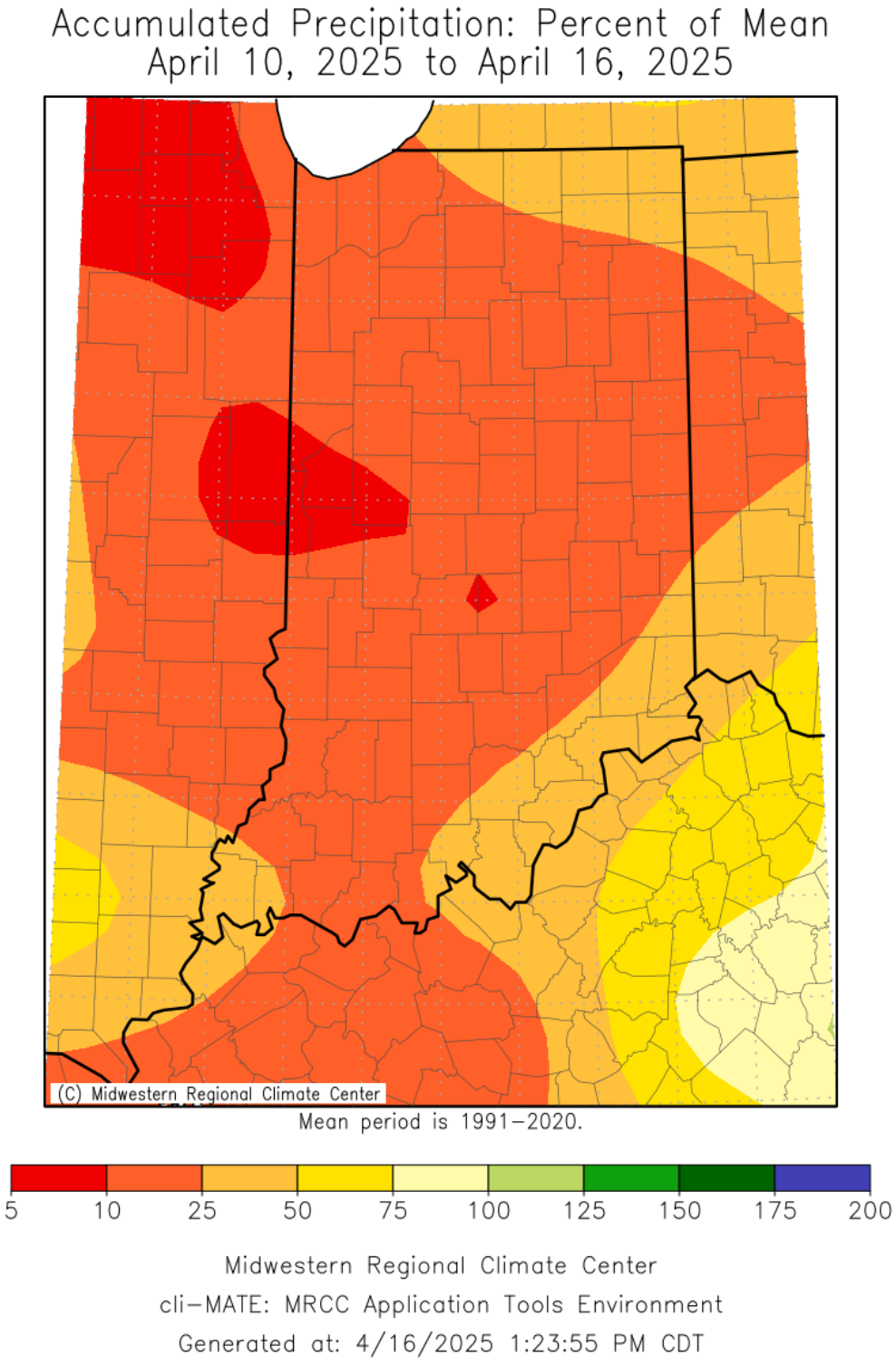

Figure 3. April 10-16, 2025, accumulated precipitation represented as the percent of the 1991-2020 climatological normal.

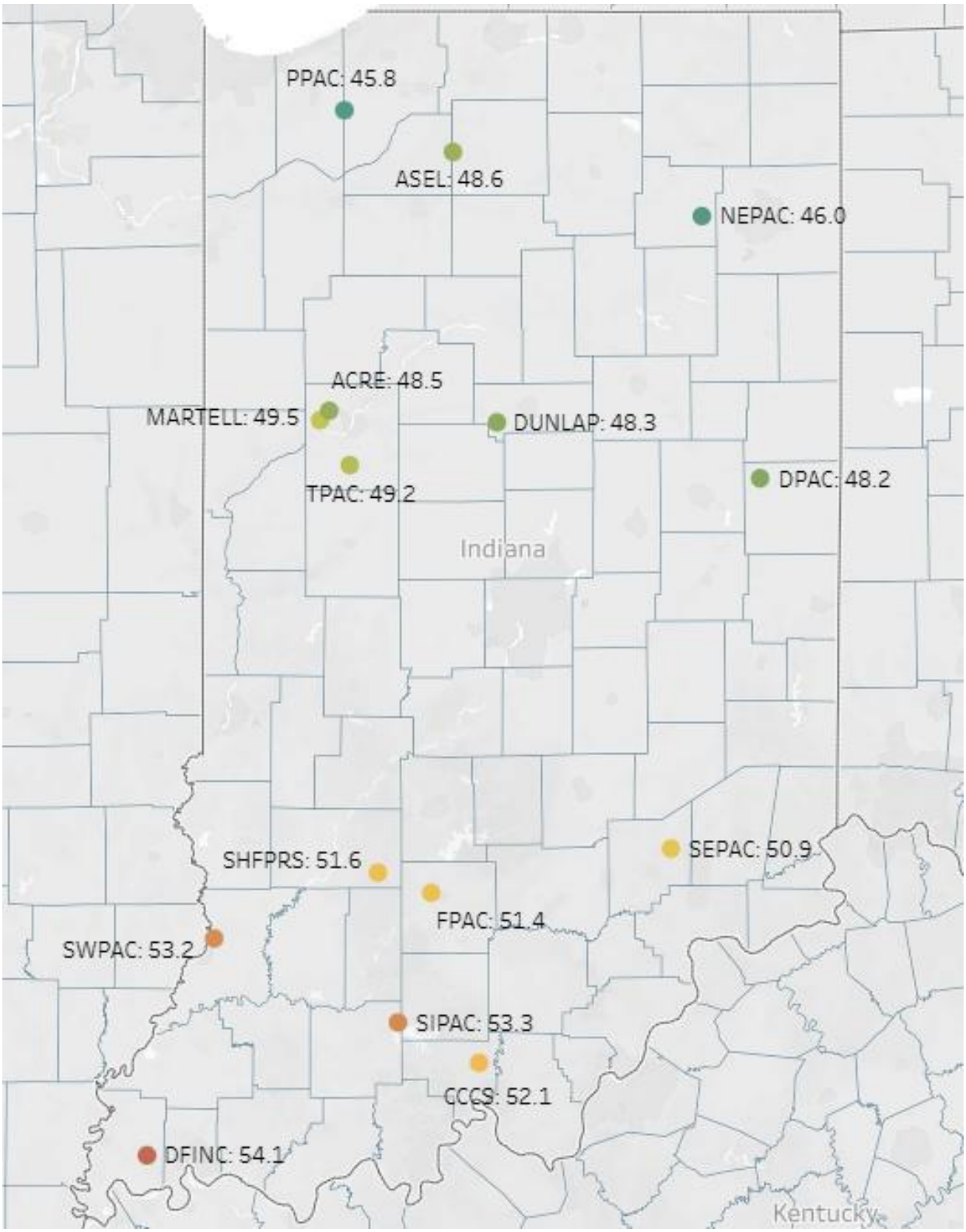

Figure 4. April 16, 2025, 7-day average 2-inch soil temperature under sod.

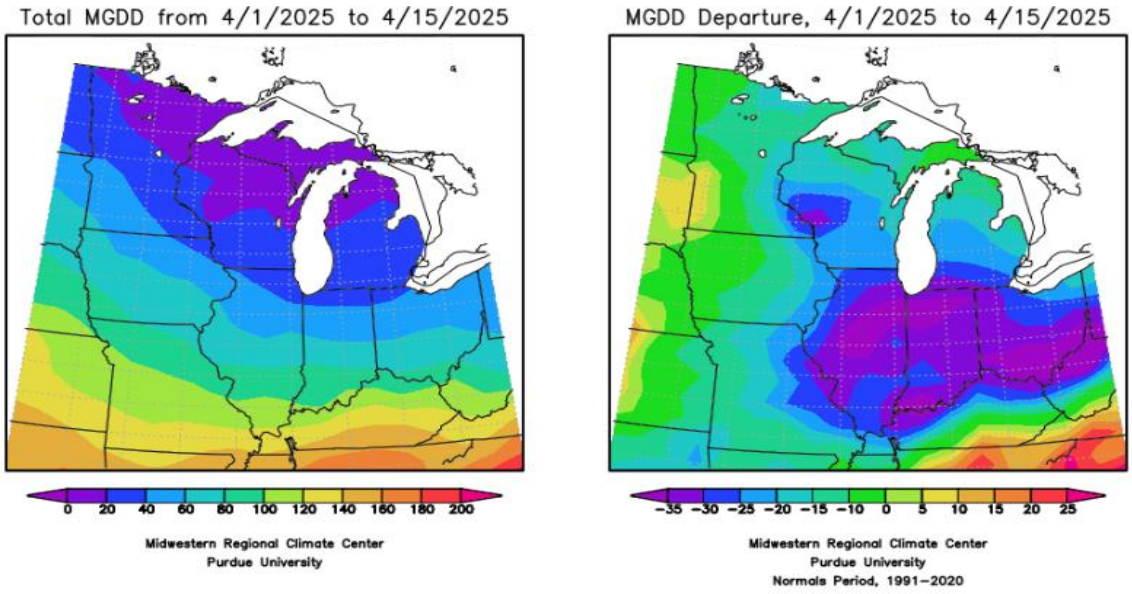

Figure 5. Left – Accumulated modified growing degree days from April 1-15, 2025. Right – Accumulated modified growing degree days from April 1-15, 2025, represented as the departure from the 1991-2020 climatological normal.

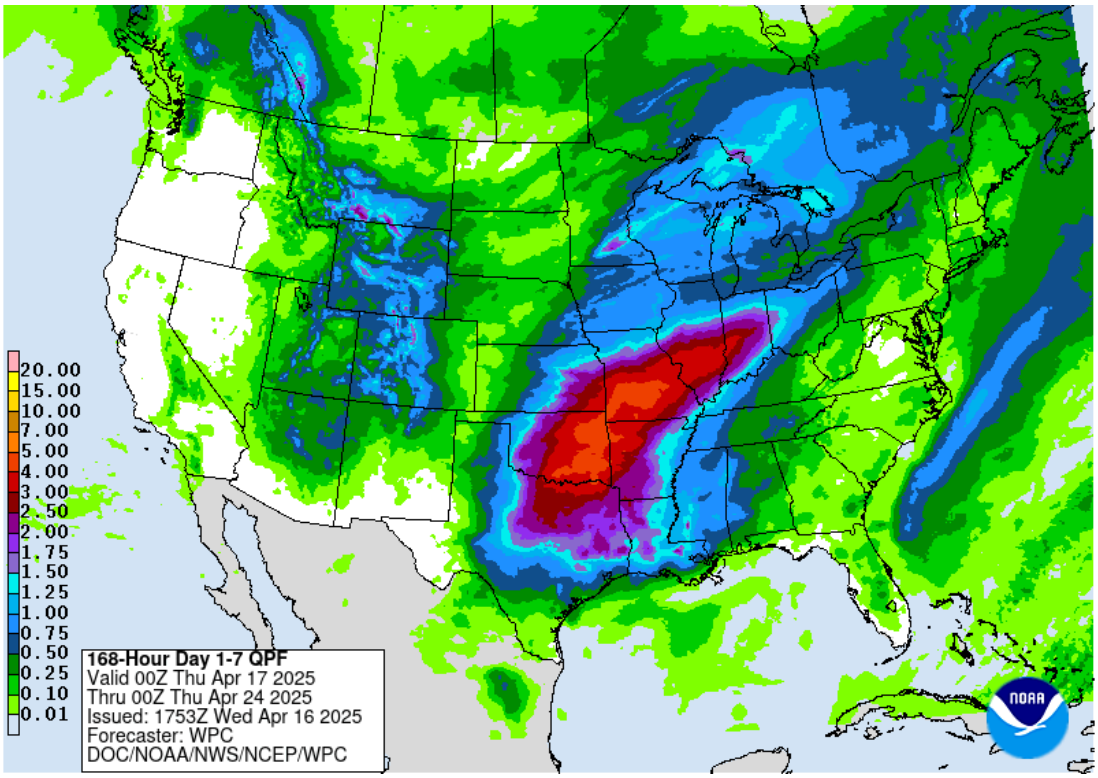

Figure 6. The Weather Prediction Center's 7-day quantitative precipitation forecast from April 17-24, 2025.

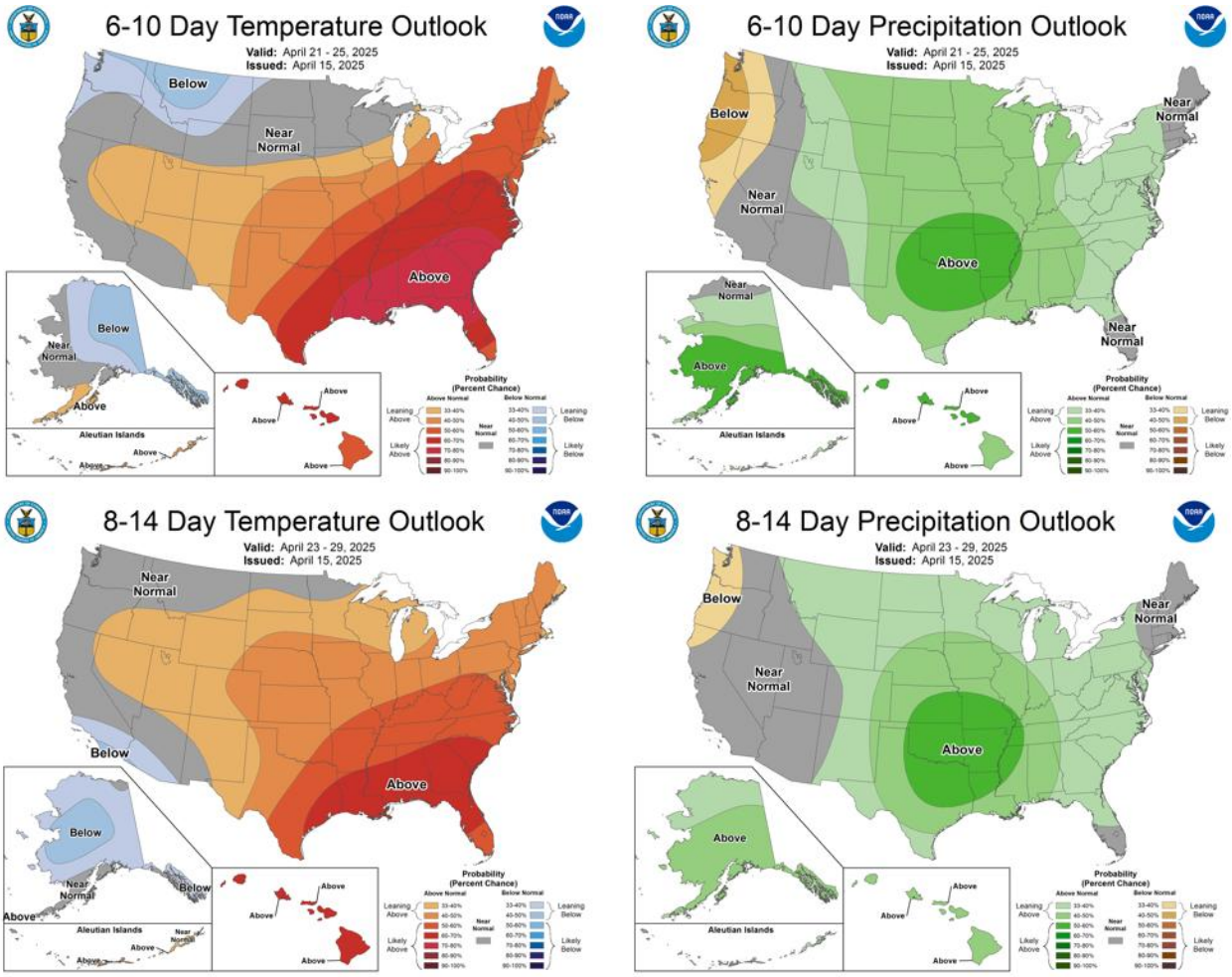

Figure 7. The Climate Prediction Center's 6-10 and 8-14 temperature and precipitation outlooks were released on April 15, 2025.

Acknowledgments

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