Updated USDA Plant Hardiness Zones released in November

2024

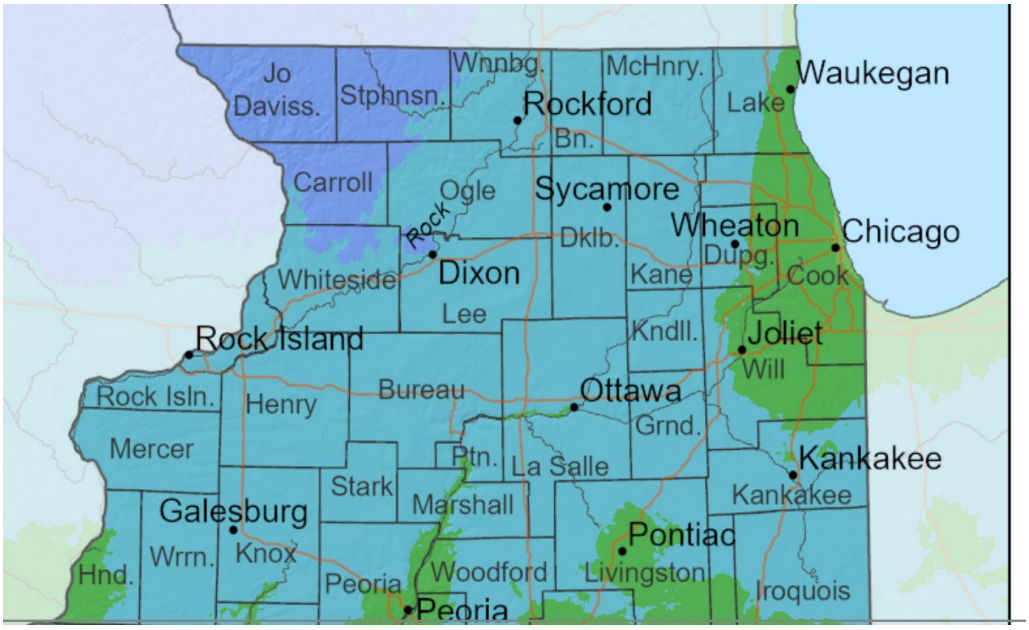
Plant hardiness zones represent the best estimate of the average annual extreme minimum temperature at any location. Gardeners depend on hardiness zones to determine how cold it may get in their area and to assess which plants may be able to tolerate the extreme low temperatures that can be expected. The 13 defined hardiness zones within the United States are widely communicated and included in everything from plant tags in nurseries to guidebooks or online resources.

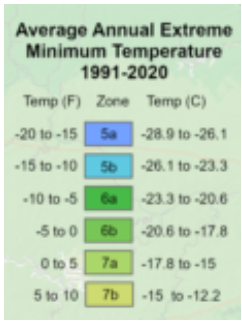
Generally, plants are hardy across a range of zones, so understanding the potential change to our hardiness zones in northeast Illinois is important when visiting local nurseries. As always, when choosing plants, do consider those years that happen once every 5-10 years, where the temperatures can be far from the norm for a given area. A plant that is only hardy in Zone 6-8 may struggle if a winter extreme temperature tips below the expected average as a result of year to year variability.

The zones are changing

However, the geographic range of the defined zones is shifting as the effects of our changing climate impact our temperatures, and as gardeners, we need to adjust to a new wave of potential plants for our area. In November 2023, the USDA released an updated map reflecting information from more recent weather data collected across the country between 2012-2021. Based on that data, there is a clear shift in the growing zones in northeastern Illinois. "The magnitude of change in the new maps really surprised me since it just reflects the last 30 years," says Illinois State Climatologist Dr. Trent Ford. This update reflects an isolated and expanding area of zone 6a around the major population center in northeastern counties, from Lake Michigan westward.

New USDA Hardiness Zone Map for Illinois

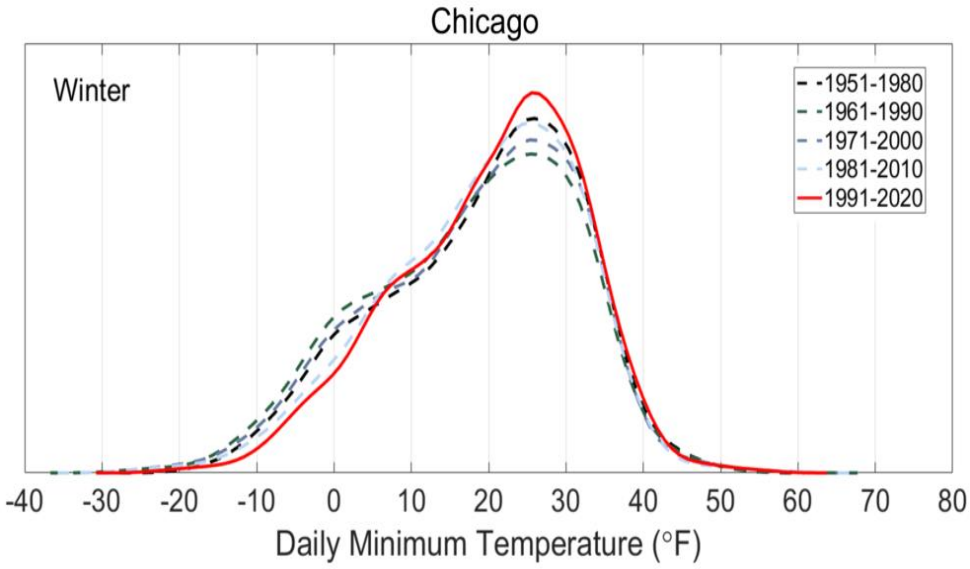




Focusing on Chicago – zone 6a has extended from Chicago proper, to our western suburbs

This update reflects an isolated and expanding area of zone 6a around the major population center in northeastern counties, from Lake Michigan westward. Dr. Ford notes, "The 6a expansion in northeast Illinois is likely due to a combination of long-term winter warming and urban sprawl and development in the region."

“One of the most consistent changes in Illinois’ climate that is directly linked to human-caused global warming, is warming winters,” explains Dr. Trent Ford, a climatologist at Illinois State University. “In fact, the average temperatures for climatological **winter** (December – February) have increased **faster than any other season** over the past century.



The above graph shows the distribution of daily nighttime low temperatures in winter in Chicago, divided by 30-year periods since 1951. In the newest data (red line), there are far fewer nights of below 0 degrees, and significantly more nights of 20-30 degrees

Warming winters can reduce stress on plant populations, helping some landscape plants thrive, but also bring negative impacts, such as expanding invasive species populations from the south, introducing new pest pressures on plants or ecological competition in natural areas.

From a state perspective, in the newly released plant hardiness zone-map, the most obvious change between the new hardiness zone map for Illinois and the 2012 map is a northward progression of zones 6a-6b and 7a. The boundary between zones 5b and 6a, representing an average annual extreme minimum temperature of -10°F, migrated 60 to 70 miles north, from around Springfield to around Peoria in the 2023 map. The boundary between zones 6b and 7a, representing an average annual extreme minimum temperature of 0°F, migrated 40 to 50 miles north from Cairo to the St. Louis Metro East area. And for the first time we see a small sliver of zone 7b in the southern tip of Illinois.

The future

Dr. Ford concludes, saying, “Overall, winter climate change in Illinois is messy and will continue to challenge farmers, gardeners, conservation professionals, and anyone else working hard to grow plants in the prairie state.”

So the next time you are looking at some exotic new plants at your local nursery, consider the fact that zone 6a plants may well survive our warmer Chicago winters, but keep in mind that they could still perish should we get an extremely cold winter in the future. Proper siting of those plants could be the difference of surviving or not. Placing more tender plants close to the house, or in very sunny spot in the garden could help them weather an unusually cold winter in the future.