Precipitation has increased, with major droughts in the first two decades of the 21st century. The growing season is 11 days longer. These changes are expected to continue. Summer drought and winter flooding will become more frequent.

Weather by U.S. Region

**NORTHWEST**: Higher temps, warmer winters, more frequent and intense heatwaves, more drought and more frequent wildfires are key climate change effects. Precipitation is more variable, especially in winter. Warming winters have increased rainfall, reduced snowpack, increased risk of flooding and soil saturation, advanced the timing of spring melt and reduced summer flow in river basins fed by snowmelt. The growing season is 11 days longer. These changes are expected to continue. Summer drought and winter flooding will become more frequent.

**SOUTHWEST**: Average temps have increased in each season, most rapidly in winter. Heat waves have increased in frequency. Variability in precipitation has increased, with major droughts in the first two decades of the 21st century. The growing season is 14 days longer. Rising temperatures and shifting precipitation patterns, especially in the southern part of the region, are expected to alter crop productivity, crop-water requirements, crop-water availability, and costs of water access.

**SOUTHERN GREAT PLAINS**: Average annual temp has increased. Hot periods are hotter and cold periods are warmer. The growing season is six days longer. Winters and springs are wetter; summers are drier; and snowfall amounts have decreased, particularly in the eastern part of the region. Drought and extreme precipitation events are more frequent. These trends are expected to continue. The number of days over 100 degrees and nights over 80 degrees will quadruple. Heavy rains, flooding, drought and severe storms will become more frequent and intense.

**NORTHERN GREAT PLAINS**: Temps have risen annually and in all seasons. Northern areas warmed at the fastest rate in the nation over the 20th century. The growing season is six days longer. Winters and springs are wetter and summers drier. Snowfall has decreased, particularly in the east. Drought and extreme precipitation events are more frequent. Rising temperatures and shifting precipitation patterns, especially in the southern part of the region, are expected to alter crop productivity, crop-water requirements, crop-water availability, and costs of water access.

**MIDWEST**: Higher annual temps, warmer winters and springs, and more extreme precipitation events during the growing season are key climate change effects. Annual temps have increased, with warmer winters and springs, and cooler summers. The growing season is nine days longer. Precipitation has increased, especially in spring, summer and fall. Snowfall has decreased in the south and west but has increased in the north, in Indiana and along the Great Lakes shorelines. These trends are expected to continue annually and in most seasons.

**NORTHEAST**: Temps have increased annually and in each season, and total precipitation has increased, especially in fall. Rainfall intensity has increased notably, particularly in the north. More intense heavy rainfall, milder winters, earlier spring melt and sea-level rise have increased the risk of flooding. There are more hot days, fewer cold days and more intense rain. The growing season is nine days longer. These changes are expected to continue and will vary by location and season. The frequency and intensity of flooding will increase, especially in winter and spring.

**SOUTHEAST**: Annual and seasonal temps have steadily increased since the 1970s, particularly in summer in coastal regions, while winter temps have generally cooled over the same areas. The length of the growing season is unchanged. Seasonal precipitation patterns are changing, with the greatest changes in fall (increase) and summer (decrease). Average annual snowfall has declined. Average temps and precipitation are expected to increase; however, the rate of change will vary with location and season.
Definitions of terms: growing season—the period between the last occurrence of 32° in the spring and first occurrence of 32° in the fall; hot days—annual average of days with max temp exceeding 95°; hot spells—max number of consecutive days with max temps over 95°; cold days—average annual number of days with min temp below 10°; freeze days—days with a min temp below 32°, wet days—average annual number of days with precipitation over 1 inch; dry spells—max number of consecutive days with less than 0.1 inch of precipitation; heat and cold wave—a four-day period that is hotter and colder, respectively, than the threshold for a one-in-five-year recurrence for the region; extreme precipitation—the occurrence of one-day, one-in-five-year extreme precipitation for the region.