



# Condition Monitoring Reporting Guide: Midwest

## Regional Background

The climate of the Midwest is much more diverse than many people might realize. From north to south, the region's climate transitions from humid continental to humid subtropical. There is typically no specific "wet" or "dry" season, but summers tend to be hot and humid. The northern Midwest is known for its bitterly cold winters, but conditions are usually milder farther south. Areas downwind of the Great Lakes are prone to very heavy snowfalls. CoCoRaHS reporting is critical in spring and early summer when tornadoes and hail are common.

## Reporting Reminders

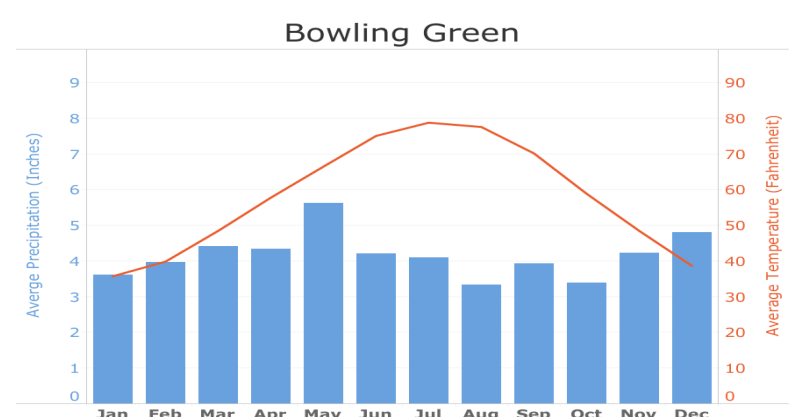
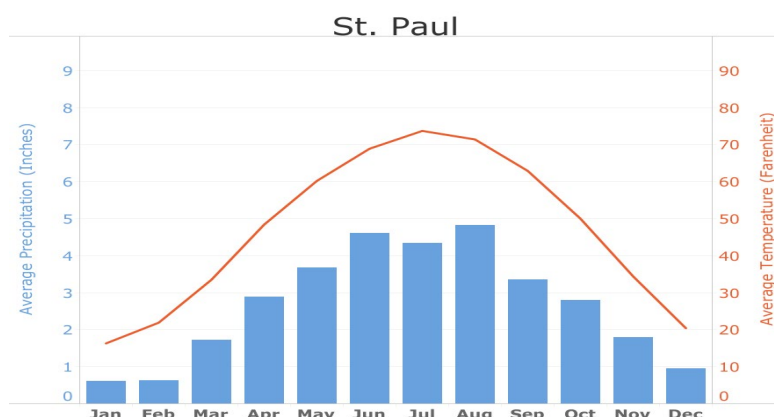
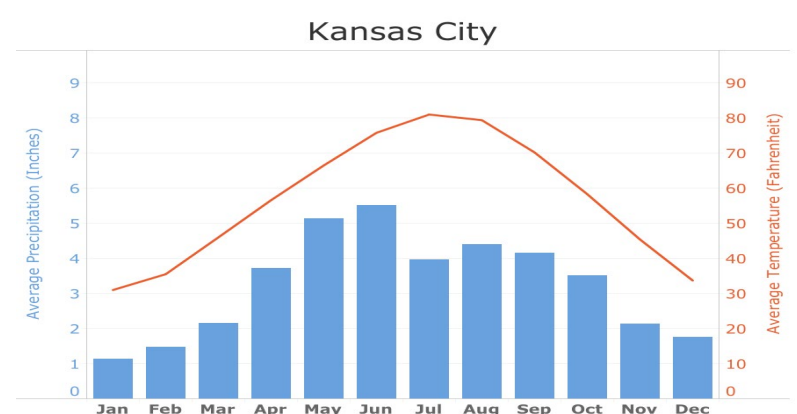
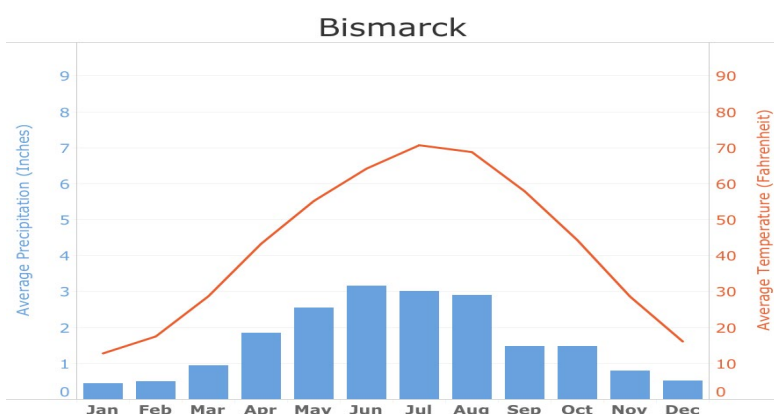
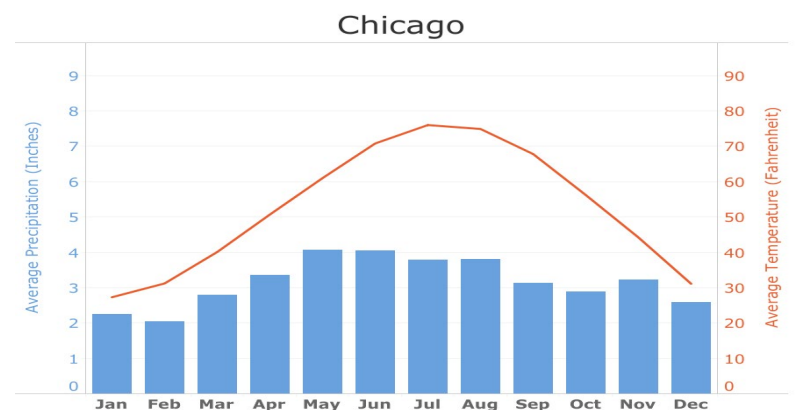
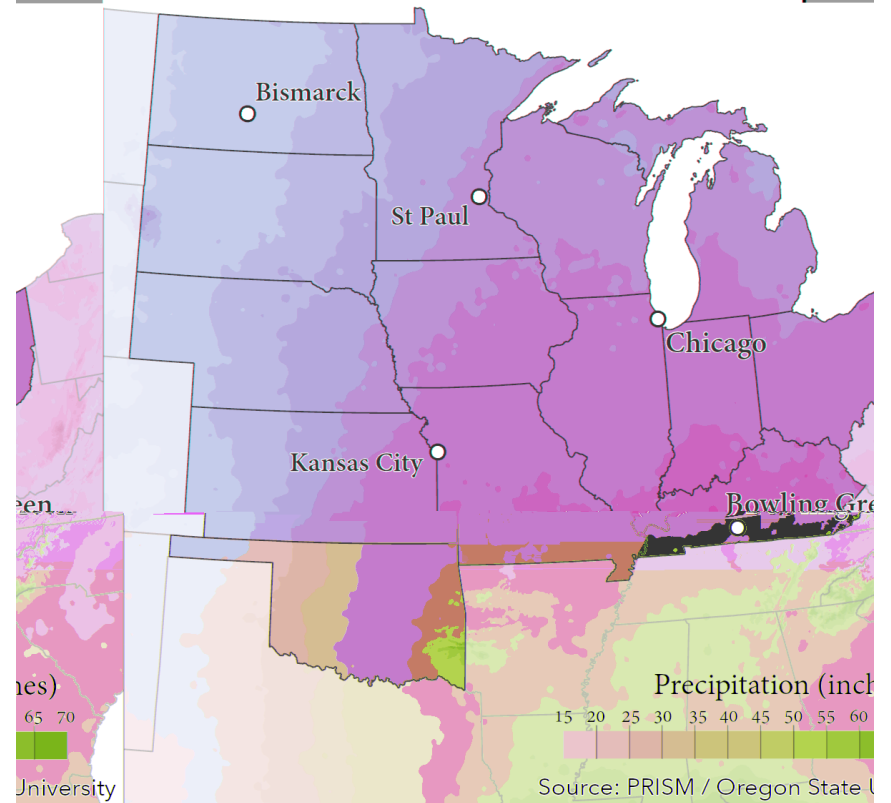
- Use "Severe" categories sparingly: overuse of these labels can make it hard for researchers to identify the hardest hit areas.
- Sometimes, minor events may still have major human impacts, or vice versa. Don't worry if your precipitation measurements seem to conflict with the severity reflected in your reports: differentiating between magnitude and human impact is valuable to researchers and decision makers!
- While heat and drought often go together, be careful to note that impacts of heat (e.g., wilting plants) are not necessarily indicative of drought conditions.
- Droughts don't end instantly. Rain after long droughts may mean *less dry* conditions, but not necessarily a reset to "Near Normal" conditions. Think *long term*.
- In addition to rain measurements, notes on a storm's duration, power outages, road closures, and other such impacts are helpful to include.

## Average Monthly Climate Data

These sample climate charts represent normal monthly precipitation and temperature in your region. Pick a city near you and use the data as a baseline for your "near normal" conditions. Explore these resources for climate data in other locations:

- [National Drought Mitigation Center](#)
- [NOAA National Centers for Environmental Information](#)
- [NOAA Regional Climate Centers](#)
- [American Association of State Climatologists](#)

1981 - 2010 Mean Annual Precipitation



Data Source: NOAA National Centers for Environmental Information



# What to Look For

The following tables provide examples of the types of conditions you might observe during different wet or dry periods. **These lists are designed as an aid.** The first table shows the condition monitoring scale bar categories and the types of conditions that correspond to those categories. The second table organizes different types of conditions and impacts by sectors and areas of interest. Be sure to note any other observations that you think may relate to dry or wet conditions.

SEVERELY WET	MODERATELY WET	MILDLY WET	NEAR NORMAL	MILDLY DRY	MODERATELY DRY	SEVERELY DRY
<ul style="list-style-type: none"> <li>Use this category sparingly</li> <li>Wet conditions have persisted for several weeks</li> <li>Major flooding</li> <li>Soil is saturated</li> </ul>	<ul style="list-style-type: none"> <li>Wet conditions have persisted for a few weeks, or there has been a major rainfall event</li> <li>Standing water and minor flooding</li> <li>Soil is very damp</li> </ul>	<ul style="list-style-type: none"> <li>Frequent precipitation for several days</li> <li>Standing water is common</li> <li>Soil moisture is above normal</li> </ul>	<ul style="list-style-type: none"> <li>Observed conditions normal for this time of year</li> <li><b>This should be your default entry</b></li> </ul>	<ul style="list-style-type: none"> <li>Dry conditions have persisted for a few weeks</li> <li>Soil is somewhat dry</li> </ul>	<ul style="list-style-type: none"> <li>Dry conditions have persisted for several weeks</li> <li>Lakes and rivers are low</li> <li>Water use restrictions start</li> <li>Soil is very dry</li> </ul>	<ul style="list-style-type: none"> <li><b>Use this category sparingly</b></li> <li>Dry conditions have persisted for months</li> <li>Soil is completely dry</li> <li>Water is scarce</li> <li>State of Emergency</li> </ul>

	WET	DRY
Agriculture	Many crops may perform well in wet conditions. With more intense or prolonged precipitation, mud and standing water may delay or impede planting and harvesting. Very wet soil may damage or kill crops.	Without enough water, crops may develop late, show stunted growth, or yield smaller harvests. Impacts include corn leaves curling, soybean pods aborting, and wheat being baled for supplemental silage. Livestock may be lighter or require supplemental water and feed. In severe cases, farmers may pursue reserve land for emergency haying and grazing. Ranchers may reduce their herds via auctioning or culling.
Business	Rainy and muddy conditions may delay construction and infrastructure projects. Flooding or snow may impede commutes and cause lost business hours. Flooding will complicate the navigation and management of cargo barge traffic.	Economic anxiety is likely in the Midwestern agricultural communities during drought conditions. Prices of meat, produce, and water may increase. Sectors likely to be adversely impacted include ethanol and fertilizer. Increased pressure on crop insurers is likely prior to the growing season. Barge traffic may be impeded by lowered river levels.
Energy	Periods of heavy precipitation, especially in winter, may increase the danger of power outages as a result of snow, ice, and downed branches.	Heat and dying tree branches may damage powerlines. Utility bills may increase as the efficiency of energy production is harmed by the scarcity of water.
Fire	U.S. Forest Service fire danger ratings at or near minimum. Fire crews performing controlled prairie burns will often wait for wet weather to minimize danger.	Forest and prairie fires will be larger, more intense, and more common, as reflected by increases in Fire Danger ratings from the U.S. Forest Service. Fires will become more difficult and expensive to contain, straining fire crews in more severe cases.
Plant & Wildlife	Vegetation becomes lush and green, with larger leaves than normal. Frogs, earthworms, and insects may become more active. In severe cases, heavy precipitation and saturated soil may cause trees to be easily uprooted.	Scarcity of water and food may push animals to scavenge in residential areas. Game animals may be prone to disease and visibly less healthy. Populations of prairie birds (quails and pheasants) may suffer sharp declines during drought. Changes in water level and temperature may result in fish kills. Mature, native trees will likely show signs of browning and drying if conditions are severe.
Relief & Response	Rain, snow, or fog may contribute to road closures. Emergency declarations or school closures for heavy rain or snowfall are an indicator of wet conditions. Along major river systems, neighborhoods protected by levees may be evacuated if conditions become severe.	Restrictions on outdoor burning and the use of fireworks are common, even at low levels of drought. Governments and other agencies may issue statements encouraging voluntary conservation of water. Lands under the Conservation Reserve Program may be opened for emergency grazing and haying. Emergency declarations, the opening of agricultural hotlines, and increased staffing of farm service agencies are indicators of more severe droughts.
Safety & Health	Road safety impacts of wet conditions include fog, hydroplaning, flooding, and ice. Increased time spent indoors may lend itself to faster spread of infectious disease. Standing water following wet periods may cause an increase in mosquito populations. Mold and mildew may pose a health threat as wet conditions persist.	Dry conditions in the Midwest may reduce air quality and increase dust and pollen in the air. Where high heat is also present, working conditions may become dangerous for outdoor workers. Dry soil may subside, causing cracks in roadbeds and home foundations. Drought can also harm community morale and mental health, especially in small agrarian communities.
Tourism & Recreation	High water levels may close boat ramps and render some rivers unusable for recreational purposes. Prolonged periods of frequent rain may result in the cancellation of outdoor activities like festivals and sporting events.	Closed boat ramps, shallow waters, and diminished water quality may limit water recreation. Hunting is likely to decline with reductions in the number of permits issued. Winter recreation in the northern Midwest may suffer as a result of decreased snowfall.
Water	Lakes, rivers, and wells will be at higher levels. Very wet conditions can threaten water quality due to increased runoff pollution, algal blooms, and overflows of sewer and septic systems.	Water bodies and wells will be lower. Ponds, small streams, and wells dry completely in severe conditions, and demand for irrigation will likely increase. Water quality will typically decrease due to increased temperature and decreased volume. There may be less snow accumulation in the northern Midwest.