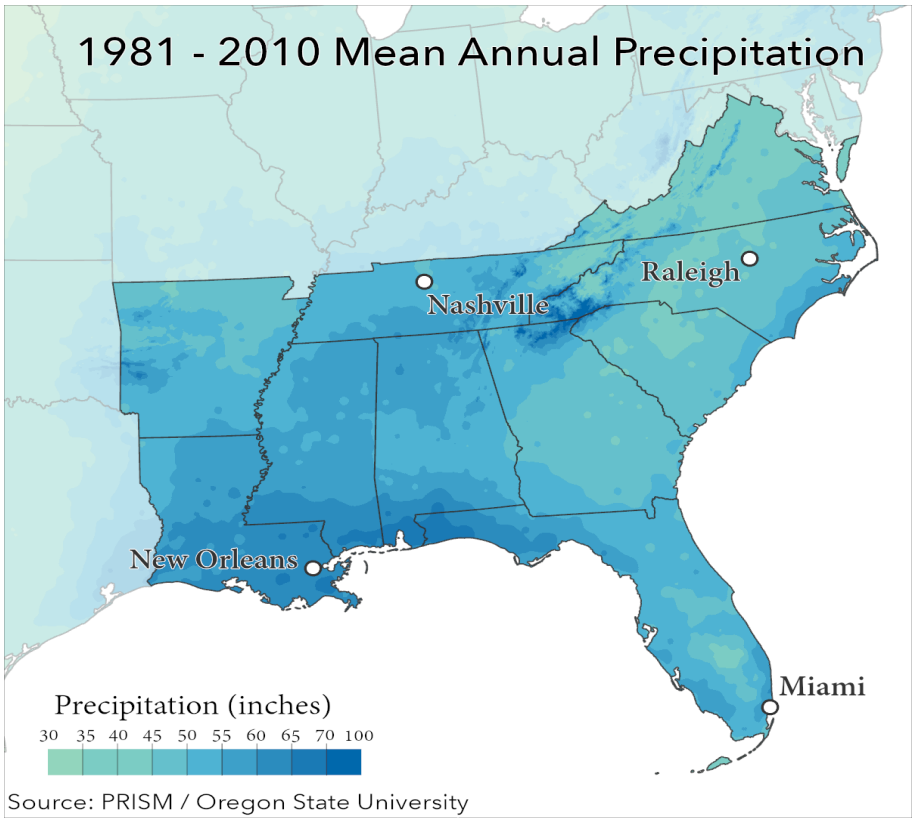
Condition Monitoring Reporting Guide: Southeast

Regional Background

The Southeast is host to a wide range of weather patterns and events. With a humid subtropical climate across most of the region, relatively warm and wet conditions are typical year-round. Despite this, droughts are common in the Southeast. Precipitation is frequent for most of the year, but CoCoRaHS observers can expect the driest time of year to be mid-to-late fall. Summer and early fall can be quite variable due to the hurricane season. Proximity to the coasts has a moderating effect on temperatures and will usually mean more precipitation. The driest parts of the region can be found in the Piedmont, between the Appalachian Mountains and the Atlantic. The high Appalachians may see frequent precipitation year-round.

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

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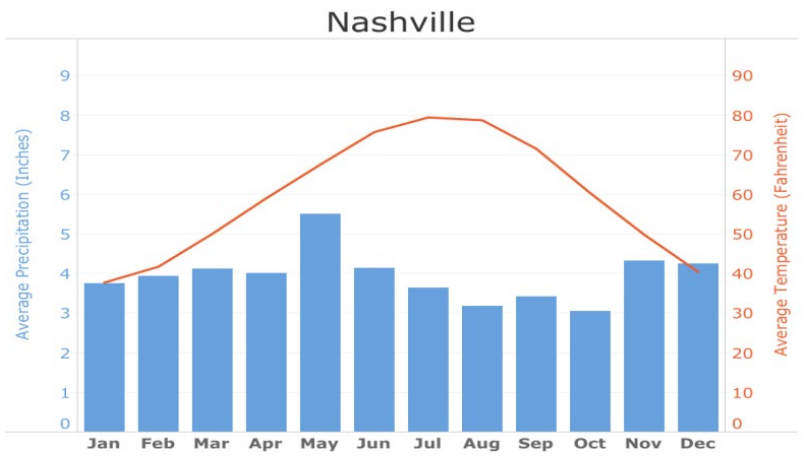
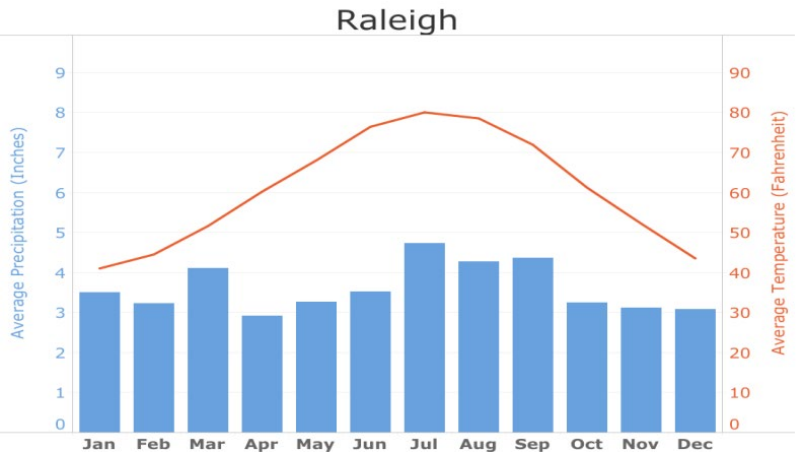
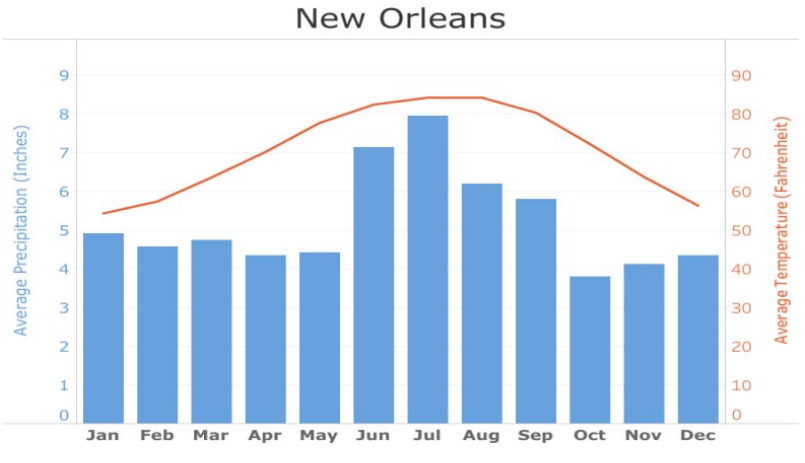
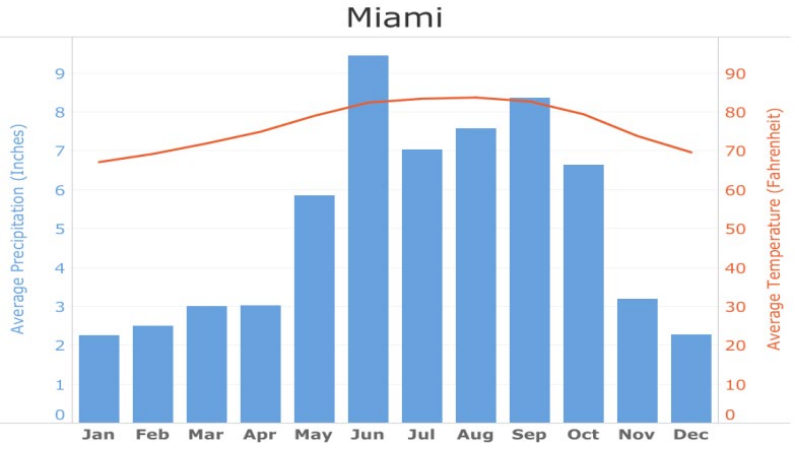








What to Look For

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.

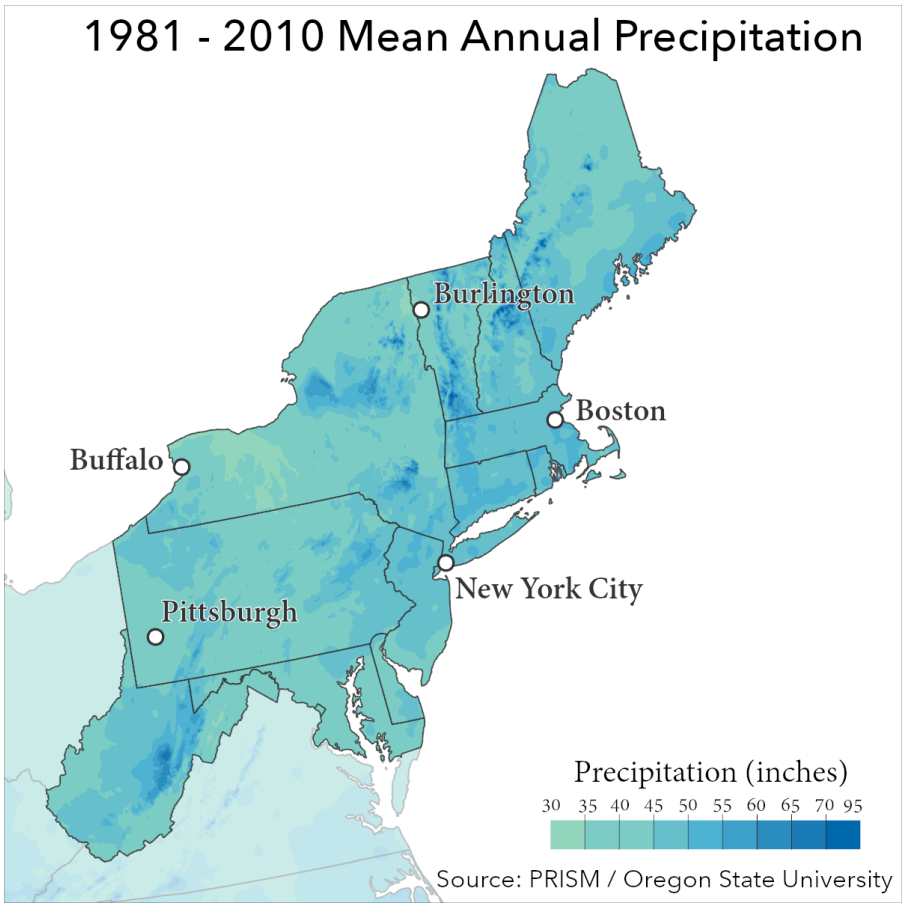
SEVERELY WET	MODERATELY WET	MILDLY WET	NEAR NORMAL	MILDLY DRY	MODERATELY DRY	SEVERELY DRY
• **Use this category sparingly** • Wet conditions have persisted for several weeks • Major flooding • Soil is saturated	• Wet conditions have persisted for a few weeks, or there has been a major rainfall event • Standing water and minor flooding • Soil is very damp	• Frequent precipitation for several days • Standing water is common • Soil moisture is above normal	• Observed conditions normal for this time of year • **This should be your default entry**	• Dry conditions have persisted for a few weeks • Soil is somewhat dry	• Dry conditions have persisted for several weeks • Lakes and rivers are low • Water use restrictions start • Soil is very dry	• **Use this category sparingly** • Dy conditions have persisted for months • Soil is completely dry • Water is scarce • State of Emergency

	WET	DRY
Agriculture	Though crops may perform well in mildly or moderately wet conditions, flooding may damage crops under more severe conditions. Wet conditions may delay planting or harvesting, and mud may impede farm machinery.	Without enough water, crops may develop late, show stunted growth, or yield smaller harvests. Plantings and harvests may be delayed as a result. Fruits and vegetables may be smaller in size. Impacts include corn leaves curling and soybean pods aborting. Livestock may be smaller or require supplemental water and feed. If conditions worsen, farmers may decrease herd sizes.
Business	Construction and infrastructure projects may be delayed. Decreased revenue from outdoor tourism is likely. Business may be adversely impacted if flooding or precipitation make commuting difficult.	Decreased demand may adversely affect sectors such as agriculture, tourism, and landscaping. Increased consumer prices, particularly for food and water, may result in economic stress during prolonged droughts. Some sectors, such as well-drilling and foundation repair, may see benefits.
Energy	Extended periods of high precipitation may boost hydropower output and decrease solar energy production. Severe weather or flooding may result in power outages.	Utility bills may increase, especially in areas reliant on hydroelectric, coal, or nuclear plants. Dying tree limbs, heat, and subsiding soil are threats to electrical infrastructure and may increase the likelihood of power outages. Solar power output may benefit from prolonged dry conditions.
Fire	The number, size, and intensity of wildfires is likely to decrease as weather becomes wetter. Fire Danger ratings from the U.S. Forest Service are likely to be minimal. Prescribed burns may become more common during mildly wet conditions.	Wildfires will be larger and more common, as reflected in increases in Fire Danger ratings from the U.S. Forest Service. Fire season may begin earlier in the year (mid- to early Spring).
Plant &Wildlife	Vegetation becomes lush and green, with larger leaves than normal. Frogs, earthworms, and insects may become more active. Stocked fish populations may be harmed by increased turbidity or washed downstream. In severe cases, heavy precipitation and saturated soil may cause trees to be easily uprooted.	Scarcity of water and food may push animals (such as bears or racoons) to scavenge in residential areas. Changes in water level, temperature, and salinity may result in fish kills, algal blooms, and the presence of saltwater species farther upstream. Sharp fluctuations in mosquito presence are common as water bodies become warmer and shallower. Mature, native trees will likely show signs of browning and drying if conditions are severe.
Relief & Response	Warnings may be in effect for storms, flooding, winter weather, or fog. School closures will be more likely due to some heavy precipitation or flooding events. Emergency declarations are indicative of severely wet conditions.	Regulations 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 and energy. These will often become mandatory if drought worsens. Emergency declarations indicate more severe conditions.
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. An increase in standing water can result in higher mosquito counts following wet periods.	Irritation of the eyes, sinuses, throat, lungs, and skin may result as smoke and dry conditions exacerbate air pollution and pollen. Especially when high heat is present, conditions may become particularly dangerous for homeless persons, the elderly, and those who work outdoors. Prevalence of mosquito-borne illness may increase during prolonged drought. Economic anxiety and mental health are also a concern as conditions worsen.
Tourism & Recreation	Mildly wet conditions may work in favor of freshwater recreation, but tourism in general is likely to see decreased revenue in the Southeast during more severely wet periods. Outdoor events are more likely to be cancelled due to rain.	Freshwater recreation is likely to decrease as lower water levels close boat ramps and uncover submerged boating hazards. Beaches may also experience closures due to decreased water quality. Burn bans and wildlife impacts may influence outdoor activities like hunting and camping.
Water	Lakes, rivers, and wells will be at higher levels. Periods of flash flooding may cause abrupt changes in the courses of small streams. Very wet conditions can threaten water quality by causing overflows of sewer and septic systems.	Water bodies and wells will be lower. Ponds, small streams, and wells dry completely in severe conditions. Water quality will typically decrease due to increased temperature and decreased volume. Abrupt changes in home water pressure or quality may be symptomatic of severe drought. Severe conditions will also often result in municipal water shortages.

Condition Monitoring Reporting Guide: Northeast

Regional Background

While the climate of the Northeast is mostly humid continental, with warm summers and no specific "dry season" or "wet season," coastal areas will generally have greater annual precipitation. Southern areas are generally milder than northern areas. Proximity to the coast and the Great Lakes is a critical factor in local weather; these bodies of water typically moderate temperatures of nearby locations. Areas downwind of the Great Lakes commonly receive high winter snowfalls. Elevation also plays an important role in temperature and precipitation patterns.



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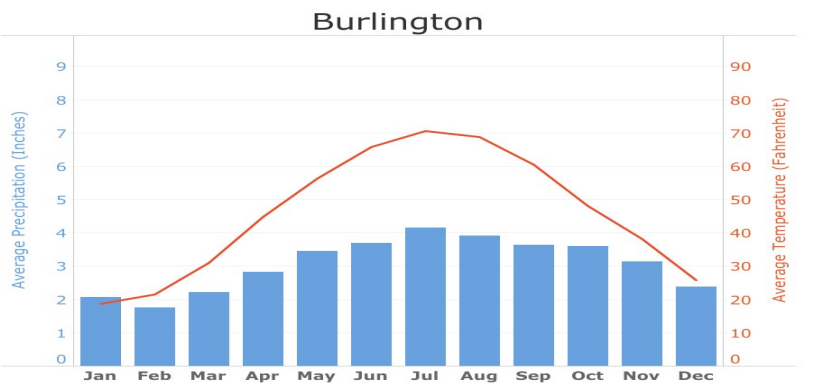

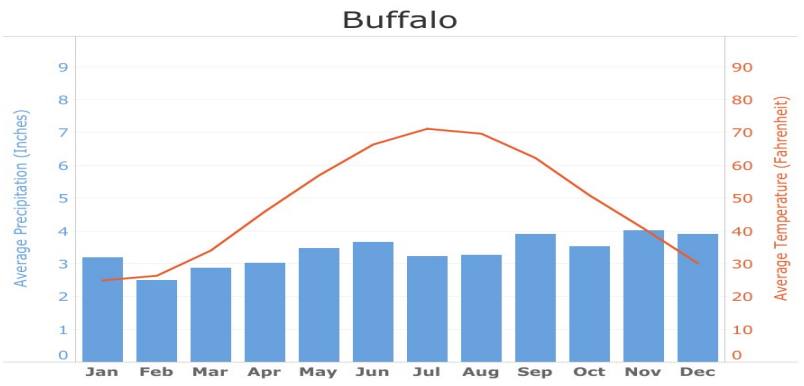

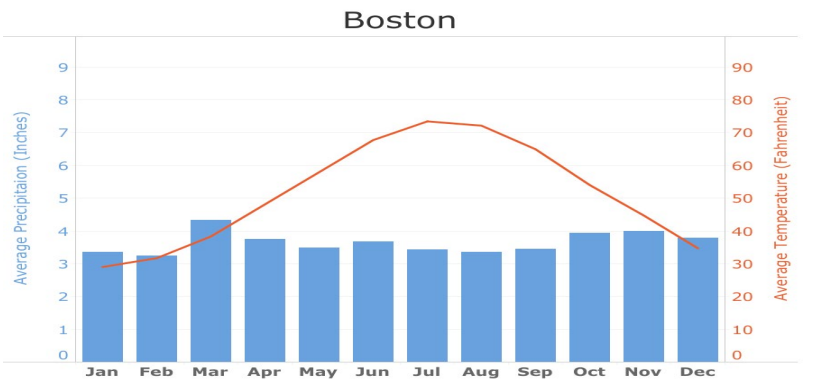

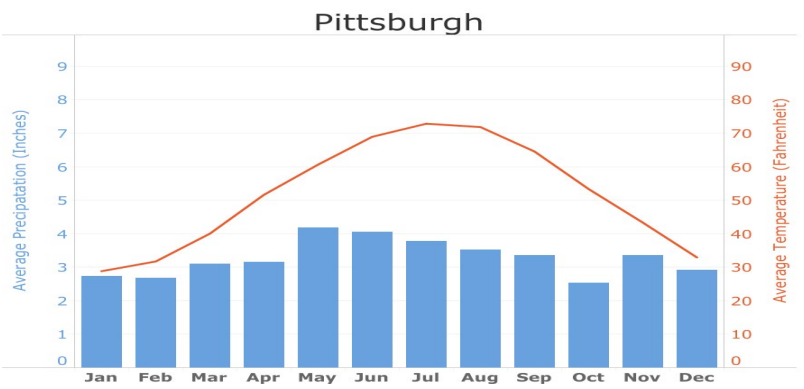

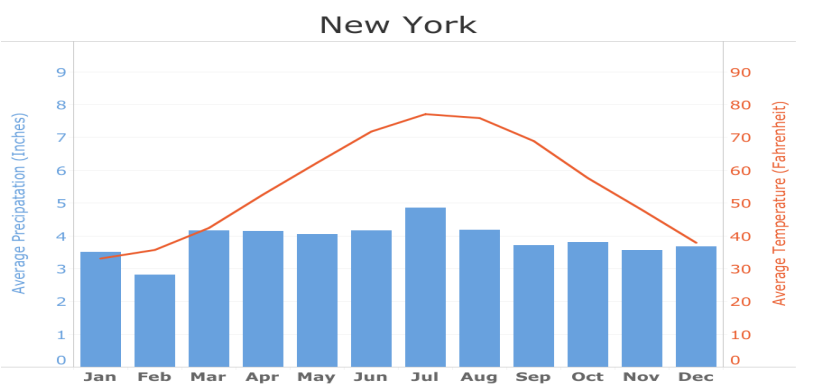

CISA A NOAA RISA TEAM

RISA Regional Integrated Sciences and Assessments

NIDIS

NDMC National Drought Mitigation Center University of Nebraska

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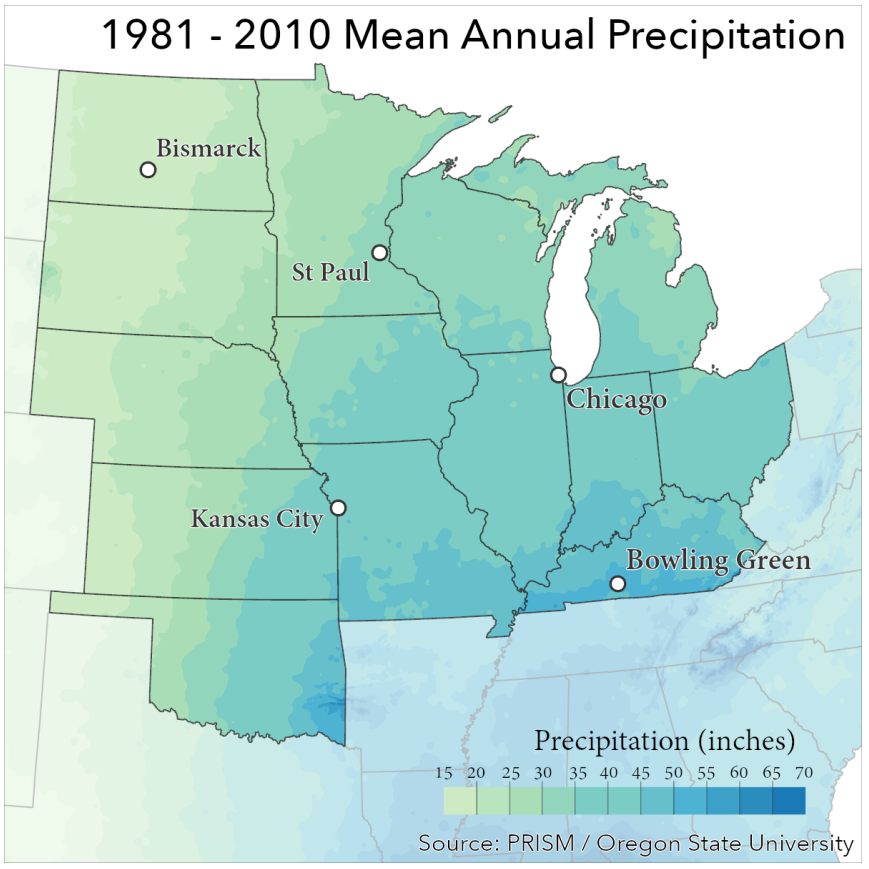
	WET	DRY
Agriculture	Orchard fruit and berry yields perform well in wet conditions. Certain pests and mold issues will become more frequent. During intense or prolonged wet conditions, mud and standing water may delay or impede planting and harvesting processes. Crop yields may be reduced.	Crops may develop late, show stunted growth, or yield smaller harvests. Plantings and harvests may be delayed as a result Orchard fruits and berries may be smaller in size. Honey and dairy outputs may be lower. New wells and irrigation equipment may need to be purchased. Livestock may be smaller or require supplemental water and feed. In the Northeast, Christmas tree shortages are common in dry years.
Business	Rainy and muddy conditions may delay construction and infrastructure projects. Flooding or snow may impede commutes, particularly in remote areas. Costs for transportation departments may increase due to snow removal and road salting. Urban areas with high densities of asphalt and concrete may flood easily, resulting in lost business hours.	Decreased demand may adversely affect tourism communities, local farms, and landscaping companies. Some sectors, such as well-drilling, may see benefits.
Energy	Hydropower output is likely to increase in prolonged rainy weather. Very intense precipitation, especially in winter, may increase the danger of power outages.	Dying tree limbs, heat, and subsiding soil are threats to electrical infrastructure and may increase the likelihood of power outages. Utility bills are likely to increase, especially in areas reliant on hydroelectric, coal, or nuclear plants.
Fire	U.S Forest Service fire danger ratings can be expected to be at or near minimum. It is common for prescribed burns to take place during wet conditions because they will be easier to contain.	Wildfires will be larger and more common, as reflected in increases in Fire Danger ratings from the U.S. Forest Service. Firefighting groups may release public statements or increase crew sizes. Fire season may begin earlier in the year (mid- to early Spring).
Plant &Wildlife	Heavy precipitation and saturated soil may cause trees to be easily uprooted. Wildlife likely to be more prevalent in wet conditions include wildflowers, mushrooms, mosses, mosquitoes, and ticks. Autumn colors and "leaf-peeper" season are likely to occur later in the season.	Scarcity of water and food may push animals to scavenge in residential areas. Deer may be scrawnier or more prone to disease. Changes in water level and temperature may result in fish kills. Lawns may start to brown or die. Mature, native trees will likely show signs of browning and drying if conditions are severe, possibly becoming more susceptible to pine beetles and other pests.
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.	Regulations 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 and energy. These will often become mandatory if drought worsens.
Safety & Health	Runoff from heavy rainfall may lead to harmful algal blooms. Road safety impacts of very wet conditions include fog, hydroplaning, flooding, ice, and landslides. Increased time spent indoors may lend itself to faster spread of infectious disease. Mold and mildew may pose a health threat as wet conditions persist. Increased standing water can lend itself to an increase in mosquito populations.	Particularly in urban areas, dry conditions may exacerbate air pollution, lending itself to asthma symptoms and irritation of the sinuses. More widely, pollen conditions may also become worse. Falling water levels can create more standing water, potentially increasing the number of mosquitoes.
Tourism & Recreation	Trails may require more maintenance due to mud and fallen limbs; some trails may be closed. Amusement park operation seasons may be delayed due to weather. High water in lakes, streams, and rivers may reduce fishing activity. Mildly wet (snowy) conditions may benefit some communities, including ski resorts.	Recreation on lakes and rivers may decline if surface levels decline. Decreases in water quality may impede freshwater and beach recreation. Hunting seasons and permitting policies may be adjusted in severe conditions, and CoCoRaHS reporters in the Northeast have suggested that hunting tourism may decline during drought. A lack of snow may delay or shorten the season for ski resorts and other winter recreation.
Water	Lakes, rivers, and wells will be at higher levels. Periods of flash flooding may cause abrupt changes in the courses of small streams; this will also often result in muddy water and lots of debris in rivers and lakes. Very wet conditions can threaten water quality by causing overflows of sewer, septic, or wastewater treatment systems.	Water bodies and wells will be lower. Ponds, small streams, and wells dry completely in severe conditions. Water quality will typically decrease due to increased temperature and decreased volume.

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.



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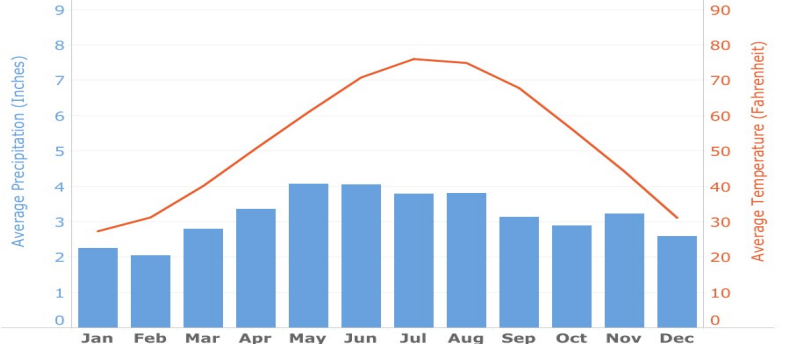

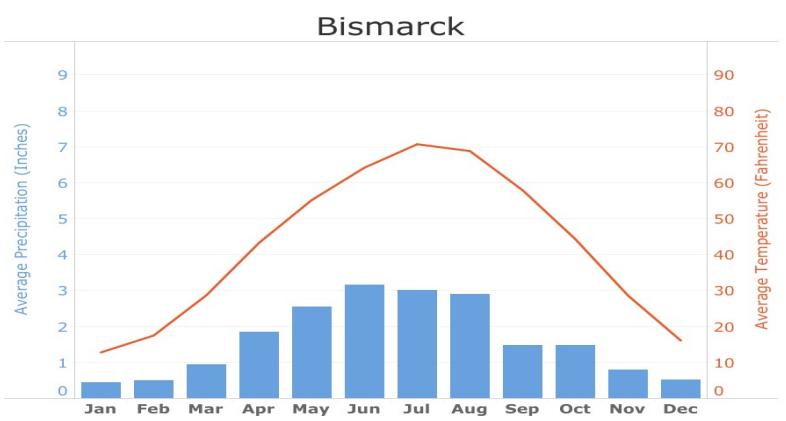

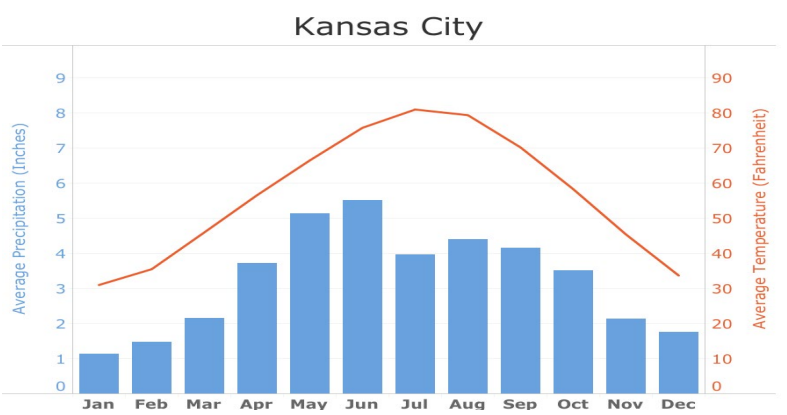

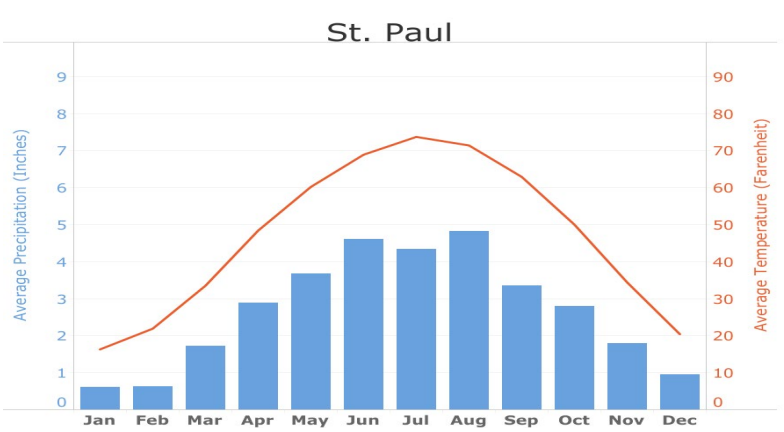

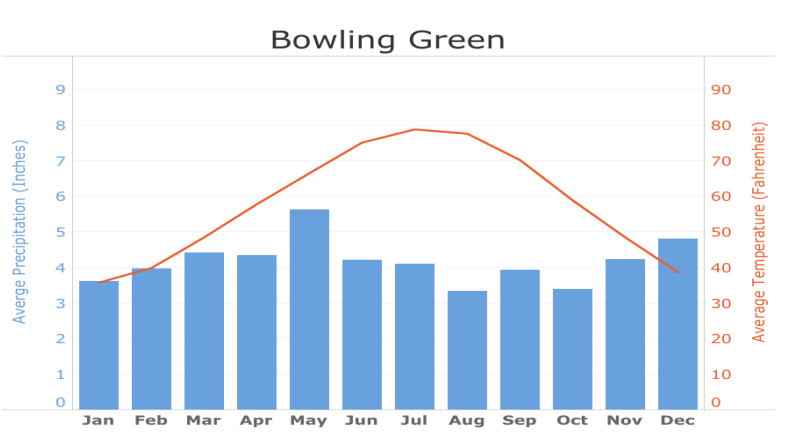

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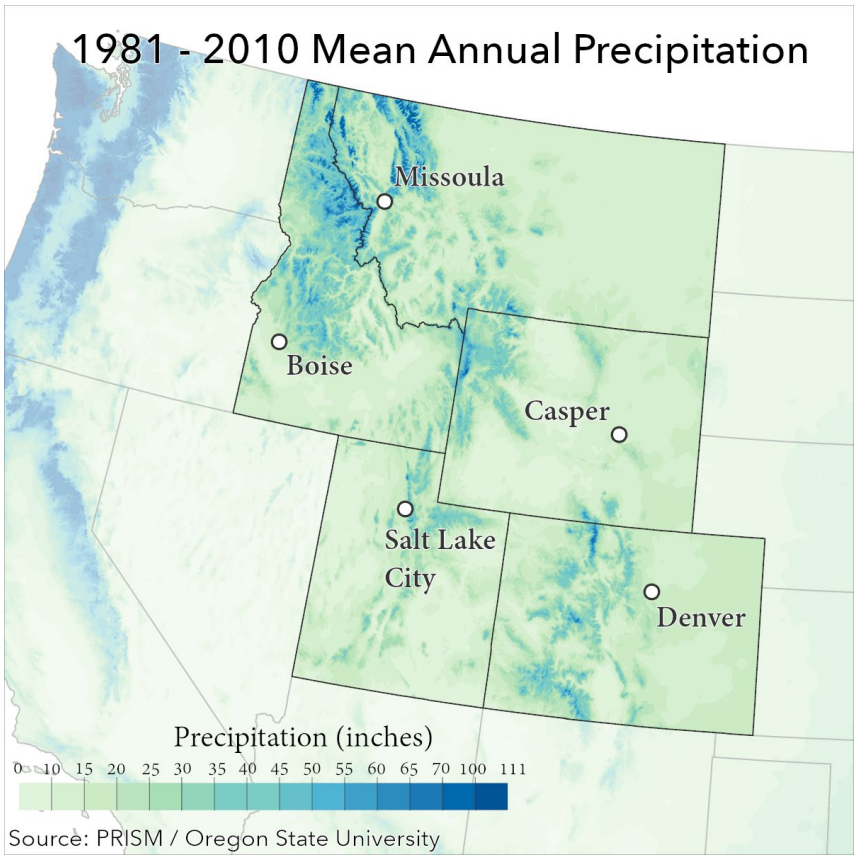
	WET	DRY
Agriculture	Many crops may perform well in wet conditions. With more intense or prolonged precipitation, mud and standing water may delay or impede planting and harvesting. Very wet soil may damage or kill crops.	Without enough water, crops may develop late, show stunted growth, or yield smaller 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.

Condition Monitoring Reporting Guide: Mountain West

Regional Background

Dry conditions are the norm in the Mountain West. Across the Great Plains, summers are intensely hot during the day, but cool at night due to the lack of humidity. In these same areas, winters can be expected to be quite cold. High elevations in the Rocky Mountains will be relatively cool year-round. Because of this cooler air, communities at higher altitudes will receive more precipitation on average than surrounding areas.



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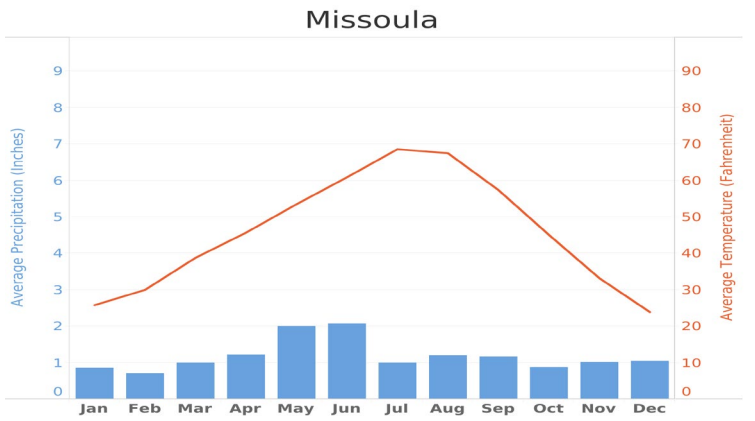
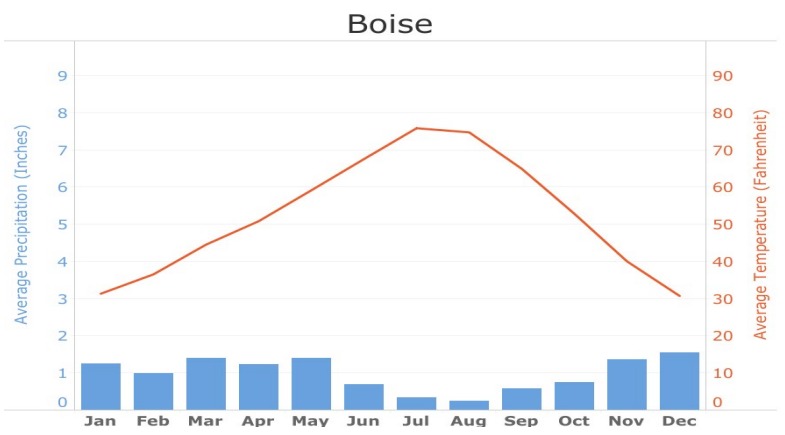
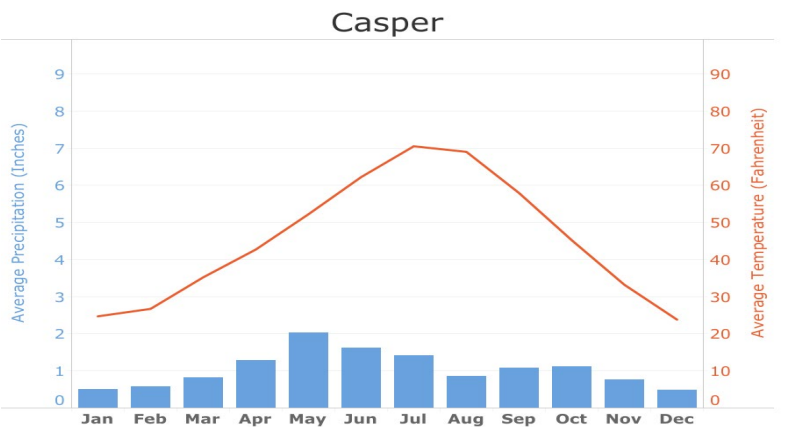
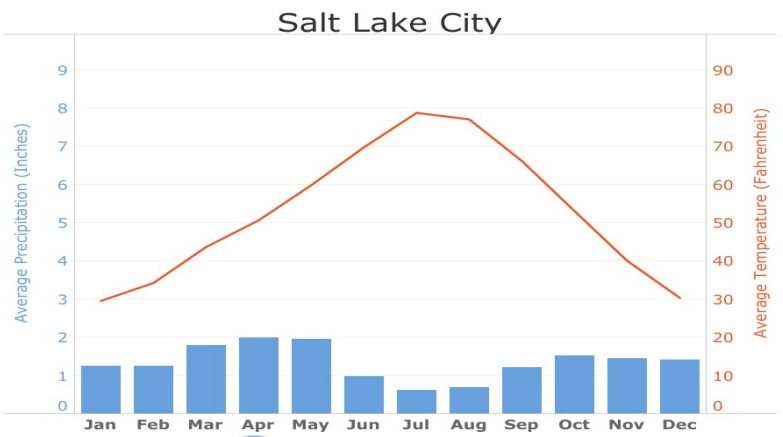
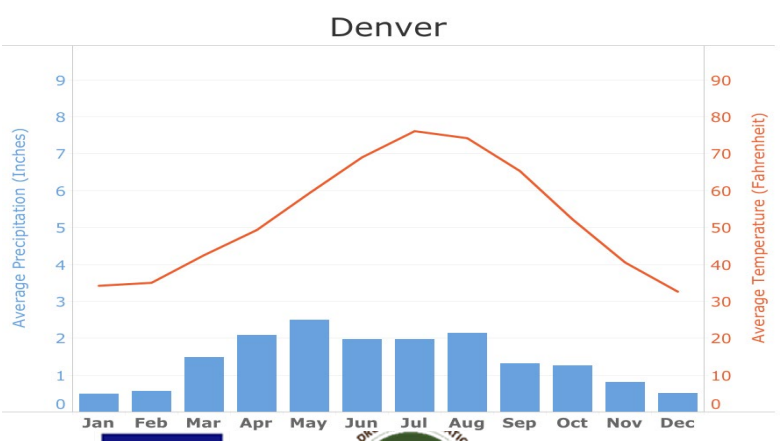










CISA A NOAA RISA TEAM

RISA Regional Integrated Sciences and Assessments

NIDIS

NDMC National Drought Mitigation Center University of Nebraska

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.

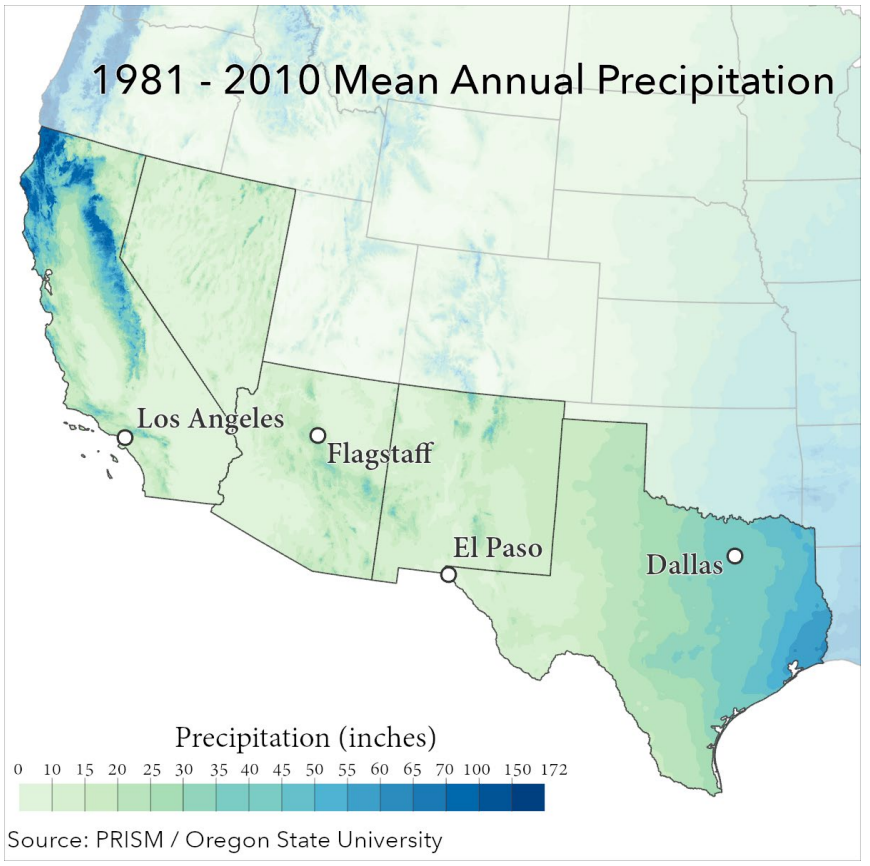
SEVERELY WET	MODERATELY WET	MILDLY WET	NEAR NORMAL	MILDLY DRY	MODERATELY DRY	SEVERELY DRY
• **Use this category sparingly** • Wet conditions have persisted for several weeks • Major flooding	• Wet conditions have persisted for a few weeks, or there has been a major rainfall event • Standing water and minor flooding	• Frequent precipitation for several days • Standing water is common	• Observed conditions normal for this time of year • **This should be your default entry**	• Dry conditions have persisted for a few weeks	• Dry conditions have persisted for several weeks • Lakes and rivers are low • Water use restrictions start	• **Use this category sparingly** • Dy conditions have persisted for months • Water is scarce • State of Emergency

	WET	DRY
Agriculture	Mud or pooling water in fields may delay planting or harvesting. Very wet or muddy conditions can reduce yields for potatoes and other root vegetables. Wet seasons may help to restore rangelands that have been overgrazed by ranchers.	Without enough water, crops may develop late, show stunted growth, or yield smaller harvests. Livestock may be smaller or require supplemental water and feed, especially where the growth of pastureland is stunted. In severe cases, farmers may pursue reserve land for emergency haying and grazing. Ranchers may reduce their herd sizes.
Business	Rainy and muddy conditions may delay construction and infrastructure projects. Because many mountain communities may depend on tourism revenue, years with high snowfall will likely experience economic benefits from increased tourism.	Communities that are dependent on agriculture or mountain tourism may suffer significant economic impacts. Landscaping and similar businesses are likely to lose revenue as urban areas are pressured to reduce their water consumption.
Energy	Hydropower output may benefit from increased snowmelt. Solar energy facilities at lower elevations may suffer decreased production due to an increase in overcast days.	Utility bills are likely to increase, especially in areas reliant on hydroelectric, coal, or nuclear plants. Dying tree limbs and heat are threats to electrical infrastructure and may increase the likelihood of power outages. Increases in solar energy production are possible.
Fire	U.S. Forest Service fire danger ratings at or near minimum. Fire crews may wait until conditions are wet to hold prescribed burns to have easier control fire conditions.	Wildfires will be larger and more common, as reflected in increases in Fire Danger ratings from the US Forest Service. Firefighting groups may release public statements or increase crew sizes. Fire season may begin earlier or last longer.
Plant & Wildlife	Heavier-than-usual snowfall at high elevations may push animal populations farther down the mountain to forage, potentially resulting in increased encounters with humans. Autumn colors will likely occur later in the season during wet years.	Scarcity of water and food may push animals to scavenge in residential areas. Deer and elk may be visibly less healthy. Changes in water level and temperature may result in fish kills. Mature trees will likely show signs of browning and drying if conditions are severe. Damage to native tree populations may also increase the risk for outbreaks of spruce beetles.
Relief & Response	Officials may close roads in anticipation of flash floods, landslides, or volatile weather, especially at higher elevations. Restrictions on water use and outdoor burning are likely to be lifted or relaxed as weather shifts from dry to wet. Emergency declarations or school closures for heavy snowfall are an indicator of wet conditions.	In the West, state and municipal restrictions on water use and burn bans are common, even when drought conditions are not severe. Water use restrictions, particularly in the Colorado River Basin, will range from voluntary to mandatory as conditions worsen. Rangelands under the Conservation Reserve Program may be opened for emergency grazing.
Safety & Health	At high elevations, severe weather conditions can develop very quickly, making roads dangerous. Trails and high elevation roads may be closed if there is risk of heavy rain or snow.	Dry topsoil can be picked up by the wind, creating the potential for dust storms and low visibility. A sharp decline in air quality around urban areas is also likely. Where heat is also present, working conditions may become dangerous for outdoor workers. Drought can also harm community morale and mental health, especially in agricultural communities.
Tourism & Recreation	Mildly wet seasons may work to the benefit of ski resorts and whitewater rafting communities. Due to the risk of flash flooding, certain trails and campgrounds may be closed during inclement weather.	Ski resorts and other mountain tourism communities may delay their seasons or invest in alternative activities if there is insufficient snow. A lack of snowmelt may similarly impact communities built around rafting tourism. As fire risk increases and animal populations decline, campgrounds may close and interest in camping or hunting may decline.
Water	Wetter years may experience greater alpine snowpack that lasts later into the season. Mountain streams fed by snowmelt may be at higher levels throughout the spring.	Ponds, small streams, and wells dry completely in severe conditions. Allotments to irrigators and municipalities may be strained during severe droughts. Water quality will typically decrease due to increased temperature and decreased volume. There may be less snowpack at higher elevations, in turn resulting in lower springtime stream levels.

Condition Monitoring Reporting Guide: Southwest

Regional Background

Though most of the region is known for its desert heat throughout much of the year, elevation and dry air means cooler summer nights and cold winters in many areas. Despite being extremely arid, what little rainfall the region does receive often comes in short, intense bursts. Higher elevations have slightly more moderate summer temperatures and will often accumulate snow in the winter. The coast of Southern California is kept dry and relatively warm year-round because of the moderating effect of the ocean. East Texas has a humid subtropical climate more like that of the Southeast, whereas northern California's climate is quite rainy. CoCoRaHS observers in those areas should consider consulting the Reporting Guides for the Southeast and Pacific Northwest, respectively.



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 below as a baseline for your "near normal" conditions. Explore these resources for climate data in other locations:

- National Drought Mitigation Center
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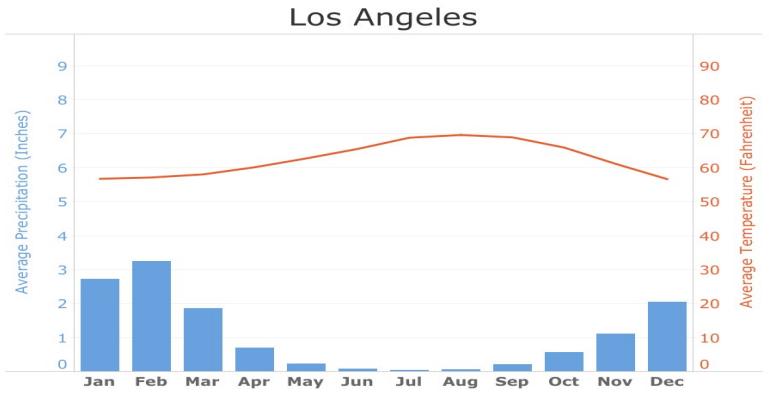

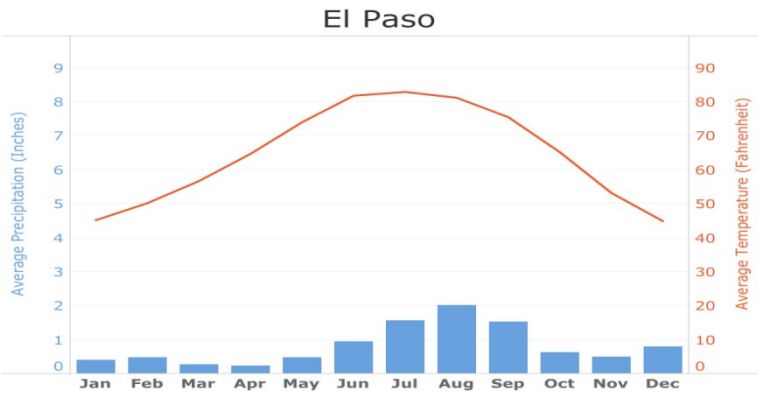

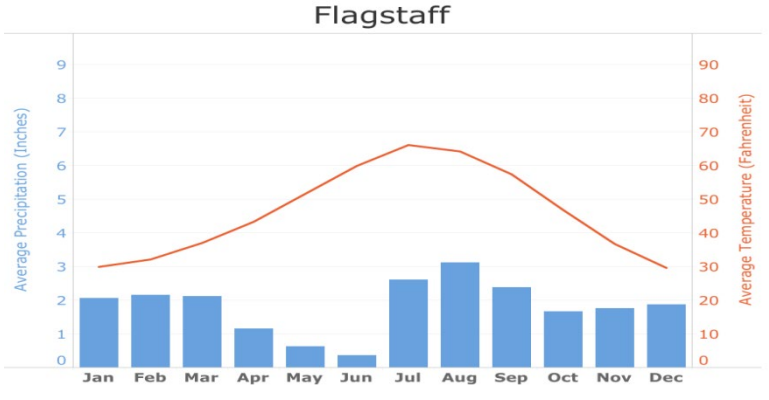

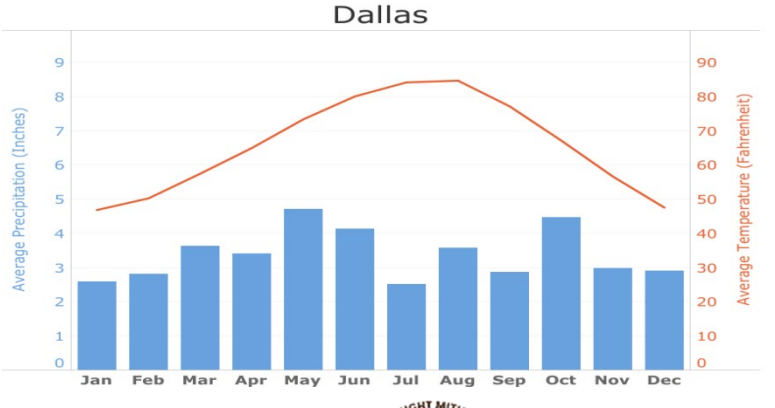

What to Look For

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.

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	WET	DRY
Agriculture	Crops and grazing pastures will likely be green and in healthy conditions. Sudden growth of weeds is often reported in the area. Even with moderately wet conditions, need for irrigation may drop off noticeably. Orchard crops like avocados yield larger and more plentiful fruit.	Ranching operations may provide supplemental water or feed if pasture lands become depleted. In dire conditions, ranchers may reduce herd sizes. Fruit and vegetable production in California and Arizona is likely to see lower yields with smaller, lower quality produce. Due to the history of water rights conflicts in the region, drought is particularly likely to put strain on irrigation systems.
Business	Communities dependent on tourism revenue will likely experience economic benefits with more comfortable temperatures. Wet seasons may temporarily alleviate agricultural unemployment in the region.	Drought in the Southwest is likely to have significant economic consequences across many sectors. High agricultural unemployment and increased consumer prices for water and produce often have severe economic consequences and have ripple effects beyond the region. Mountain communities built around ski resorts and river tourism are likely to suffer from lost revenue.
Energy	Hydropower output may benefit from increased snowmelt. Solar energy facilities may experience dips in output due to overcast periods.	Utility bills are likely to increase, especially in areas reliant on hydroelectric, coal, or nuclear plants. Dying tree limbs, heat, and subsiding soil are threats to electrical infrastructure and may increase the likelihood of power outages. Increases in solar energy production are possible.
Fire	Fire danger declarations at or near minimum. Fire crews will often wait for wet conditions to perform prescribed burns to minimize the risk of spread.	Fire is characteristic of Southwestern landscapes, even in non-drought years. Drought conditions will increase the number, size, and speed of wildfires. Fires will be more costly and challenging to contain, and additional crewmembers and resources may be redirected to support firefighting efforts. This problems will be exacerbated by the scarcity of water available to firefighting crews.
Plant &Wildlife	Greener desert flora and larger wildflower blooms are signs of wetter seasons. Birds and insects may be more active as more water is available.	Scarcity of resources may push bears and coyotes into residential areas. Bird migration patterns may shift to avoid waterless areas. Damage to native tree populations may increase risk for outbreaks of pine beetles. Desert flora will initiate survival mechanisms as drought worsens; if desert plants show visible stress, drought is likely very severe.
Relief & Response	The abundance of arroyos (seasonal streambeds) in the Great Basin creates a risk of dangerous flash floods during periods of intense rainfall. Restrictions on water use and outdoor burning lifted or relaxed. Road safety precautions possible at high elevations or near streambeds prone to flash floods.	In the West, state and municipal restrictions on water use and burn bans are common, even when drought conditions are not severe. Water use restrictions, particularly in the Colorado River Basin, will range from voluntary to mandatory as conditions worsen. Severe droughts will often result in increased participation in food aid programs.
Safety & Health	Rainfall on dry, impermeable soils can result in flash floods on arroyos and narrow canyons. Short bursts in vegetation growth can result in spikes in pollen levels.	Soil subsidence may cause cracking in roadbeds and the foundations of homes. Dust storms are likely in rural areas, while air quality may become dangerously low in urban areas. Food insecurity is a concern during droughts, particularly among low-income agricultural workers.
Tourism & Recreation	Observers in the region often note increases in outdoor recreation due to more comfortable conditions. Wet seasons may work to the benefit of ski resorts and rafting businesses.	Lower levels on major rivers and reservoirs will impede boating and whitewater rafting. Ski seasons in the region will likely be delayed or shortened due to lower snowpack.
Water	Wetter years may experience greater alpine snowpack that lasts later into the season. Mountain streams fed by snowmelt may be at higher levels throughout the spring. Streams and springs that are normally dry may become active out of season.	Ponds, small streams, and wells dry completely in severe conditions. There may be less snowpack at higher elevations, resulting in lower springtime stream levels. Irrigation contracts may result in water conflict. Increased temperature and decreased flow will often significantly reduce water quality.

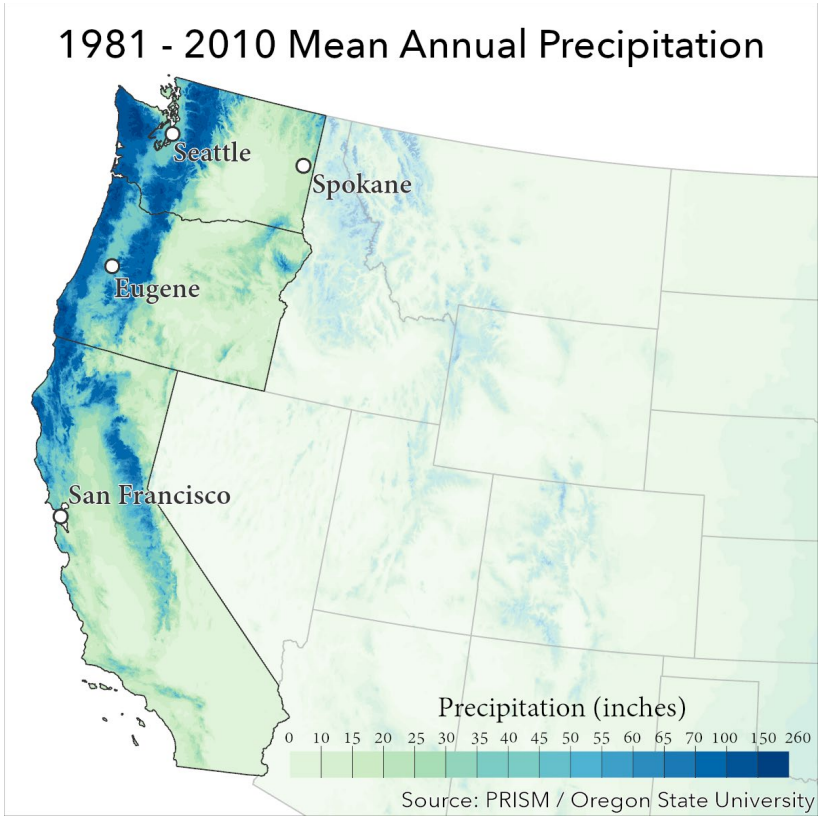
Condition Monitoring Reporting Guide: Pacific Northwest

Regional Background

Along the coast, the Pacific Northwest is famously rainy. Summer is relatively dry, but rainfall is frequent throughout the rest of the year. Temperatures are relatively moderate along the coast in all seasons, meaning that most winter precipitation at lower elevations falls as rain rather than snow. The eastern interior of the region is a rain shadow with very little precipitation. The interior is characterized by hot summers and cold winters, though the lack of humidity keeps night-time temperatures cool all year. (CoCoRaHS observers in Southern California should consult the Southwest Reporting Guide.)

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

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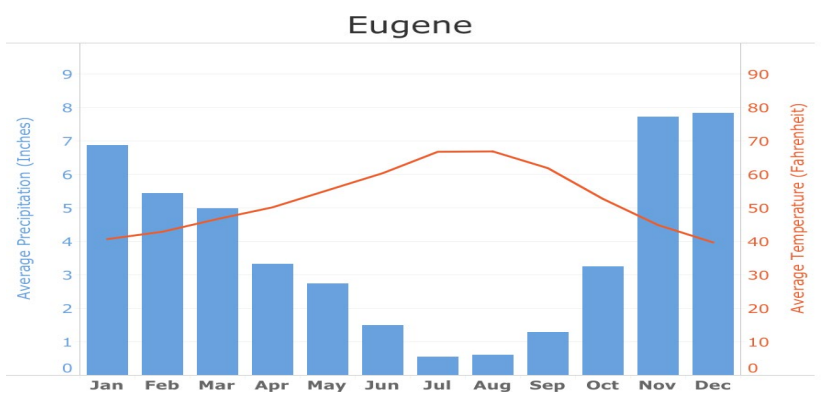
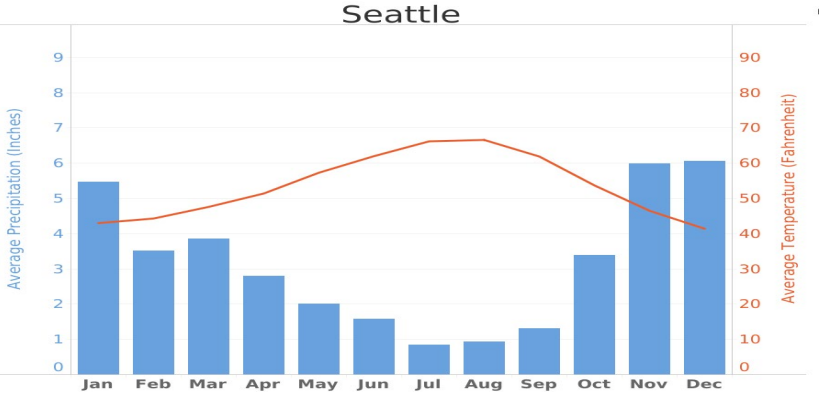
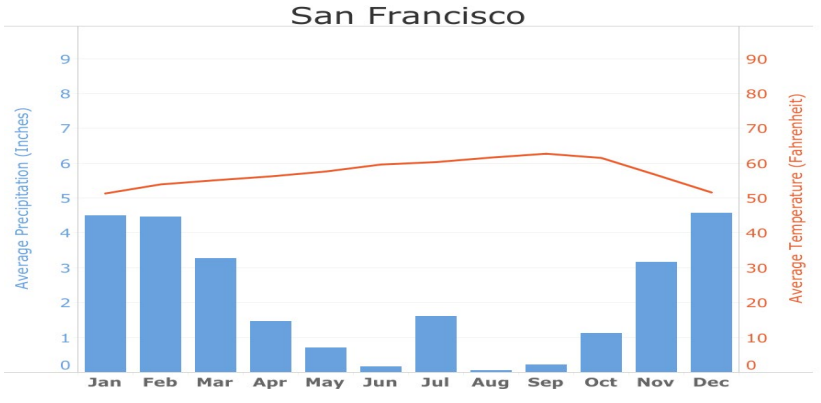
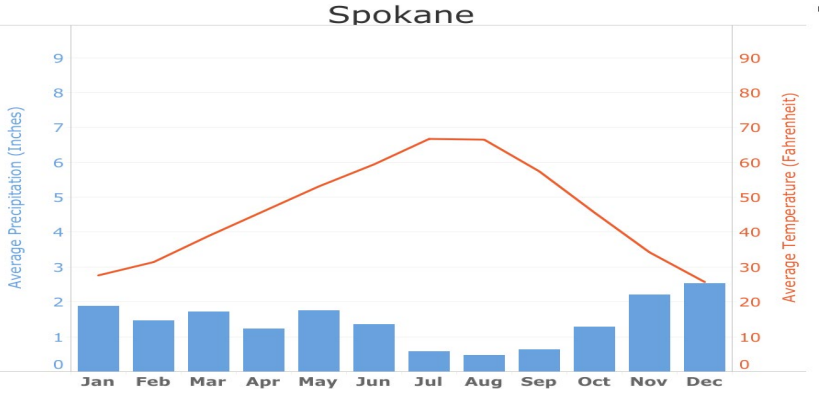
- NOAA National Centers for Environmental Information
- NOAA Regional Climate Centers
- American Association of State Climatologists









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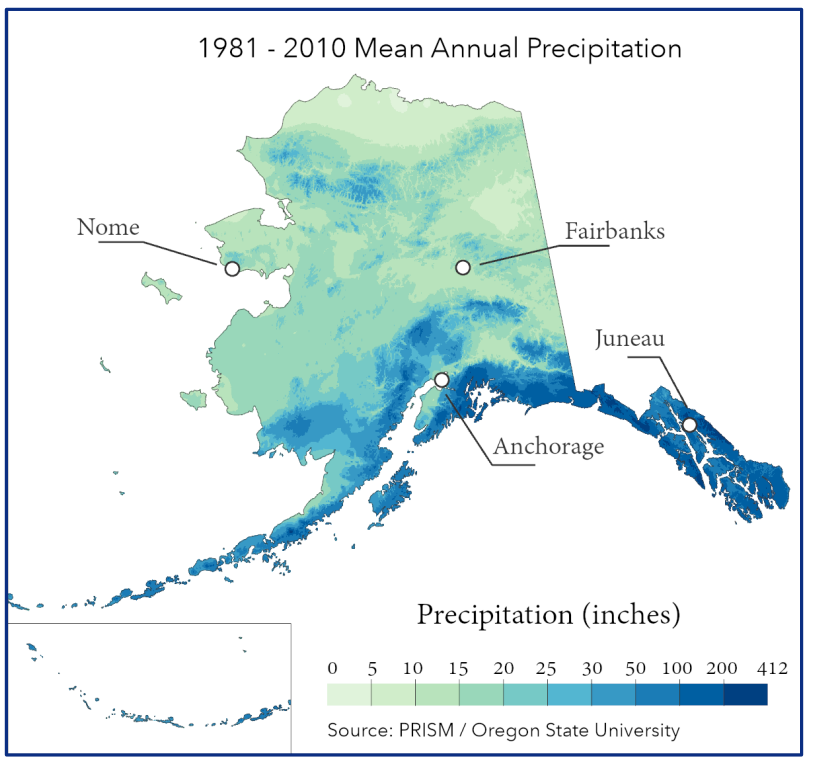
	WET	DRY
Agriculture	Crops and grazing pastures will likely be green and in healthy conditions. Even with moderately wet conditions, need for irrigation may drop off noticeably. Orchard fruits and berries will likely yield larger and more plentiful fruit.	Without enough water, crops may develop late, show stunted growth, or yield smaller harvests. Irrigation systems in the interior may be strained. Livestock may be smaller or require supplemental water and feed, especially where the growth of pastureland is stunted. Ranchers may reduce their herd sizes.
Business	Rainy and muddy conditions may delay construction and infrastructure projects. Flooding or snow may result in school closures or lost work hours, particularly in rural areas where alternative routes may not be available.	Landscaping and similar businesses are likely to lose revenue as urban areas are pressured to reduce their water consumption. Algal blooms and diminished water quality may contribute to a decline in shellfish harvests.
Energy	Hydropower output may benefit from increased snowmelt. Periods of heavy rain or snow may create the risk of power outages due to wind, ice, or falling limbs.	Dying tree limbs, heat, and subsiding soil are threats to electrical infrastructure and may increase the likelihood of power outages. Utility bills may increase, especially in areas reliant on hydroelectric, coal, or nuclear plants. Increases in solar energy production are possible.
Fire	Fire danger declarations at or near minimum. Fire crews will often wait for wet conditions to perform prescribed burns to minimize the danger of unwanted spreading.	Wildfires will be larger and more common, as reflected by increases in Fire Danger ratings from the U.S. Forest Service. Firefighting groups may be strained and put out calls for volunteer firefighters. Fire season may begin earlier or last later into the season with dry conditions.
Plant & Wildlife	Rainy seasons may improve conditions for fish and shellfish. Increased growth of mosses can also be expected. Heavier-than-usual snowfall at high elevations may push animal populations farther down the mountain to forage, potentially resulting in more encounters with humans.	Scarcity of resources may push bears into residential areas. Fish migration may be impeded by low flows and populations of fish and shellfish may show signs of stress. Fish hatcheries may be forced to close. Damage to native tree populations may increase risk for outbreaks of pine beetles. Visible signs of disease may appear in bird populations.
Relief & Response	Restrictions on water use and outdoor burning are likely to be lifted or relaxed as weather shifts from dry to wet. Highway safety measures are possible on routes likely to be affected by fog, flooding, ice, or landslides.	Governments and other agencies may issue statements encouraging voluntary conservation of water and energy. These will often become mandatory if drought worsens. Regulations on outdoor burning and the use of fireworks are common, even at low levels of drought. Rangelands under the Conservation Reserve Program may be opened for emergency grazing.
Safety & Health	Heavy, saturated soil creates a risk of landslides and flooding in the region. In mountainous areas, weather can be highly variable throughout the year, making driving conditions dangerous. Pooling water can cause increases in mosquito populations following wet periods.	Areas of the Northwest's interior may experience dust storms as topsoil dries out. The shallowing of wetlands may increase the presence of stagnant water and contribute to higher mosquito levels. Pollen and diminished air quality may exacerbate allergies and asthma symptoms.
Tourism & Recreation	Relatively wet seasons may often work to the benefit of ski and rafting seasons. While the region is characterized by frequent rain, extended wet periods may still discourage hiking, camping, and other outdoor activities.	Ski seasons may be delayed or postponed, and there is likely to be decreased turnout to resorts. Boating and fishing may be harmed by warmer, shallower waters.
Water	Rivers and reservoirs may be at normal or above normal levels. Wetter years may experience greater alpine snowpack that lasts later into the season. Mountain streams fed by snowmelt may be at higher levels throughout the spring.	Ponds, small streams, and wells dry completely in severe conditions. Water quality will typically decrease due to increased temperature and decreased volume. There may be less snowpack at higher elevations, in turn resulting in lower springtime stream levels.

Condition Monitoring Reporting Guide: Alaska

Regional Background

Alaska is home to an incredibly diverse climate. The Southern portion through the Panhandle and the Aleutian Islands sports an oceanic climate typified by heavy rainfall and extratropical storms, where average monthly precipitation is greatest in the fall. The remainder of the state is host to mainly a subarctic or tundra climate, with long winters and short, cool summers. Average monthly precipitation is greatest in the summer here, with a rain shadow from the various mountains which results in the central portions of Alaska receiving less precipitation than coastal areas. The Brooks Range further restricts precipitation to the arctic regions. While the term drought was not historically used in Alaska's rainforest area, it is now an accepted climate term due to the severe drought event in 2019.



Reporting Reminders

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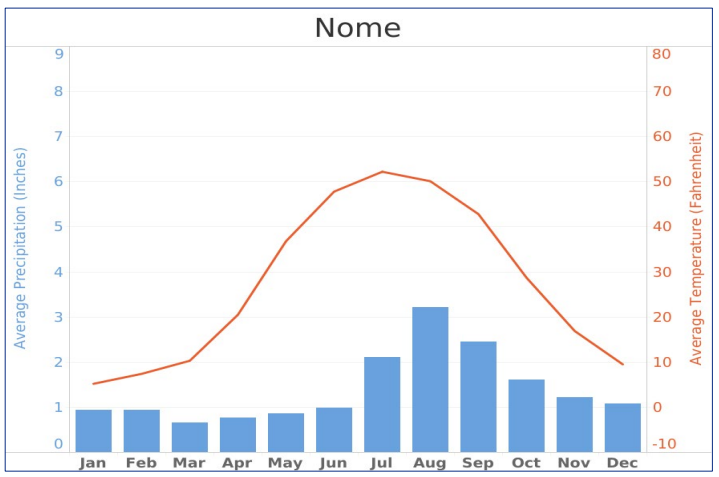
- Sometimes, minor events may still have major human impacts, or vice versa. Do not worry if your precipitation measurements seem to conflict with the severity reflected in your reports: differentiating between magnitude and human impact is valuable to researchers and decision makers!
- While heat and drought often go together, be careful to note that impacts of heat (e.g., plants shedding leaves) are not necessarily indicative of drought conditions.
- Droughts do not 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.

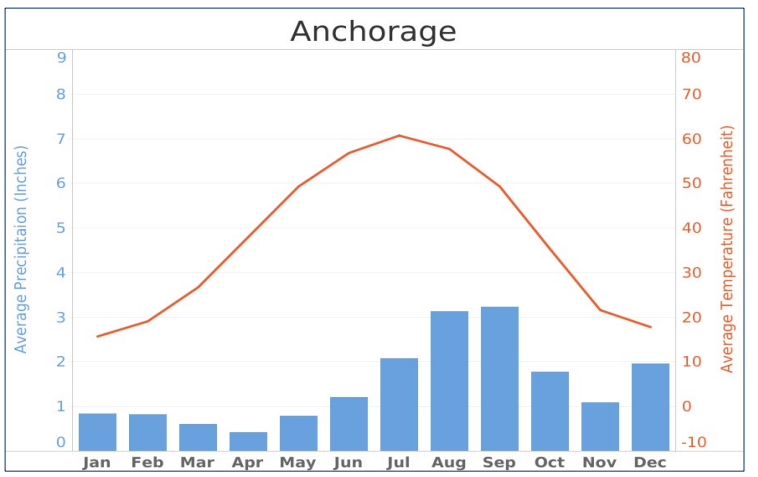
Average Monthly Climate Data

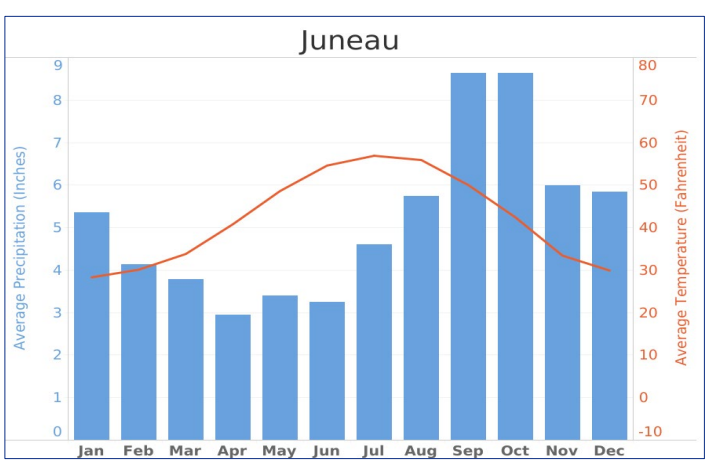
These climate charts represent normal monthly precipitation and temperature at select locations. Pick a city near you and use the data as a baseline for your "near normal" conditions. Explore these resources for more climate and drought information:

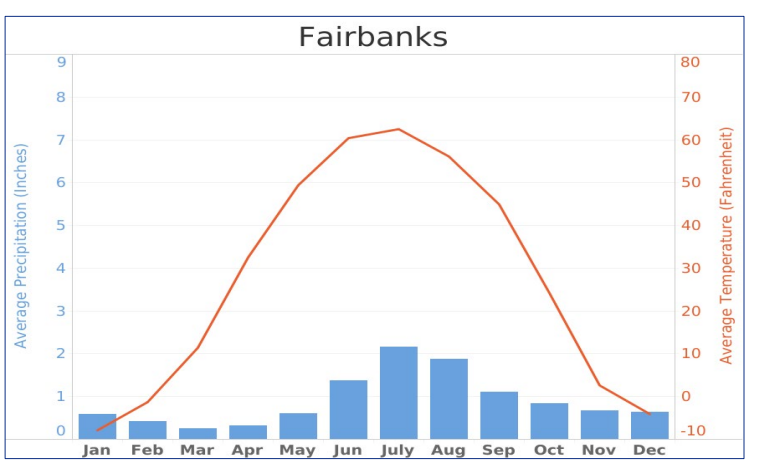
- National Drought Mitigation Center - Alaska
- NOAA National Centers for Environmental Information
- Western Regional Climate Center – Alaska Summary
- Alaska Climate Research Center

Data Source: NOAA National Centers for Environmental Information









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	WET	DRY
Agriculture	Crops and grazing pastures will likely be green and in healthy conditions. With moderately wet conditions, the need for individual irrigation may drop off noticeably. Berries will likely yield larger and more plentiful fruit, as long as temperature conditions are also conducive to growth. Too much precipitation during the growing season may inhibit plant growth and production.	Without enough rainfall and streamflow, crops may develop late, show stunted growth, or yield smaller harvests. Individual irrigation systems in the interior may be strained. The forestry industry may be significantly impacted by prolonged dry conditions. Water is used for both irrigation and electricity in many municipalities, so agriculture may suffer due to the need for electricity.
Business	Rainy and muddy conditions may delay construction and infrastructure projects. Flooding or snow may result in school closures or lost work hours, particularly in rural areas where alternative routes may not be available and back road conditions are too slippery and dangerous.	Fish hatcheries and other water-dependent businesses may struggle with low water-levels. Low rainfall reduces stream flow and dissolved oxygen amounts, creating concern for these sectors. Energy industries such as hydropower and natural gas may struggle in dry conditions, causing citizens to rely on diesel generation, which is expensive and has negative air quality and health implications.
Energy	Hydropower output may benefit from increased snowmelt. Periods of heavy rain or snow may create the risk of power outages due to wind, ice, or falling limbs.	Alaska's demand for energy is among the 10 lowest in the nation due to its small population, but its per capita energy consumption is the fourth highest in the US thanks to the harsh winters. In 2018, Alaska's hydropower accounted for 27% of its electricity generation. This is especially crucial to the Alaska panhandle, where hydropower is especially important. In dry conditions, hydropower production would be impacted.
Fire	A saturated landscape causes fire danger declarations to be at or near minimum. Fire crews will often wait for wet conditions to perform prescribed burns to minimize the danger of unwanted spreading.	Wildfires will be larger and more common, as reflected in reports from the Interagency Alaska Wildland Fire Coordinating Group. Drought conditions both heighten the risk of wildfire ignition and promote fast spreading of ignited fires due to lack of moisture. Heat fuels fires, so hot and dry conditions are especially dangerous.
Plants & Wildlife	Rainy seasons may improve conditions for aquatic wildlife. Increased growth of mosses can also be expected. Heavier-than-usual snowfall at high elevations may push animal populations farther down the mountain to forage, potentially resulting in more encounters with humans.	Plants and wildlife will experience greater stress and may show signs through shedding leaves or being sparsely populated. When conditions are hot and dry, salmon and other important fisheries found in shallow waters may experience greater die-off as the fish encounter less oxygenated waters. Moose won't be easy to spot, mosquito populations will decline, and most other wildlife populations will be unseen or unheard.
Relief & Response	Restrictions on water use and outdoor burning are likely to be lifted or relaxed as weather shifts from dry to wet. Highway safety measures are possible on routes likely to be affected by fog, flooding, ice, or landslides.	Governments and other agencies may issue statements encouraging voluntary water and energy conservation. These will often become mandatory if drought worsens. Regulations on outdoor burning and the use of fireworks are common, even at low levels of drought. Rangelands under the Conservation Reserve Program may be opened for emergency grazing.
Safety & Health	Heavy rain or prolonged moisture conditions can cause the ground to be saturated with pools of water and mud. This can lead to difficulty driving on back roads, causing travel and commuting dangers. These conditions can also support higher mosquito populations, depending on the season.	The Alaskan tundra may experience dust storms in the fall, when river levels are at their lowest. The shallowing of wetlands may increase the presence of stagnant water and contribute to higher mosquito levels. Pollen and diminished air quality may exacerbate allergies and asthma symptoms. Thawing permafrost can potentially increase landslide activity by creating unstable slopes. Adverse effects to crops and subsistence materials may affect food security and human well-being.
Tourism & Recreation	Relatively snowy seasons often work to the benefit of winter tourism seasons. Recreation industries such as skiing depend heavily on snowfall, not necessarily "wet" conditions. While parts of the region are characterized by frequent rain, extended wet periods may discourage hiking, camping, and other outdoor activities.	Ski seasons may be delayed or postponed, and there is likely to be decreased turnout to resorts. Boating and fishing may be harmed by warmer, shallower waters. Fireworks may be banned during dry conditions for fear of wildfire ignition.
Water	Rivers and reservoirs may be at normal or above-normal levels. Wetter years may experience greater alpine snowpack that lasts later into the season. Mountain streams fed by snowmelt may be at higher levels throughout the spring.	Lower-than-average snowpack amounts can result in struggling stream and river levels. Ponds, small streams, and wells may dry completely in severe conditions. Water quality will typically decrease due to increased temperature and decreased volume. Heat-induced permafrost thawing increases water infiltration, which prevents runoff and surface water recharging. Household rainwater catchment systems will struggle to adequately provide for the home.

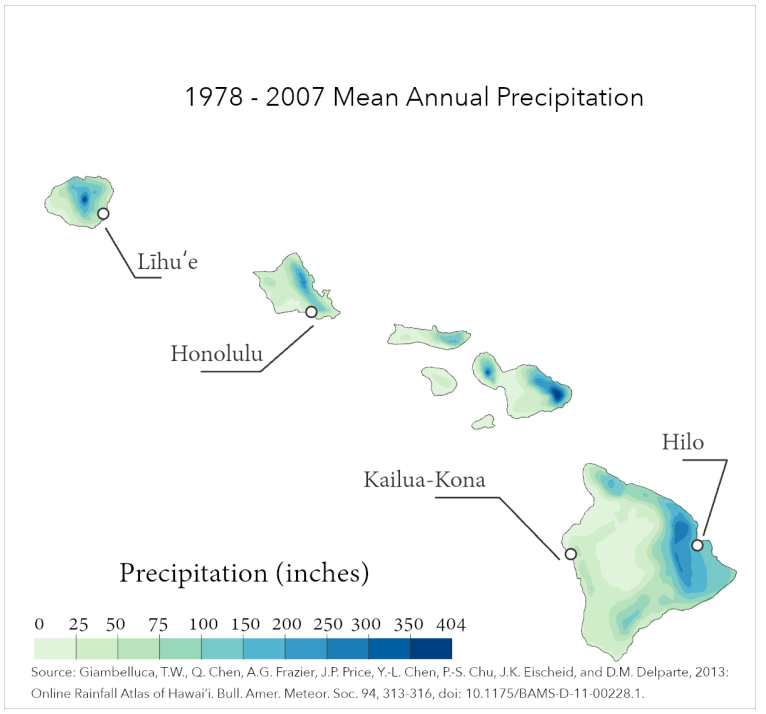
Condition Monitoring Reporting Guide: Hawai‘i

Regional Background

Hawai‘i is known for having an enjoyable climate throughout the year. Most of the state experiences only summer and winter seasons, with winter significantly wetter than summer. Hawai‘i is climatologically diverse, boasting 11 climate classifications, ranging from arid to humid tropical. Rainfall is heavily influenced by the location on an island: the Eastern (or windward) side is typically cooler and wetter, while the Western (or leeward) side is warmer and drier. Mean annual precipitation for Hawai‘i ranges from 8 to 404 inches a year, and the average annual temperature ranges from 38.5 to 75 degrees Fahrenheit. Daily and annual temperatures vary depending on elevation.

Reporting Reminders

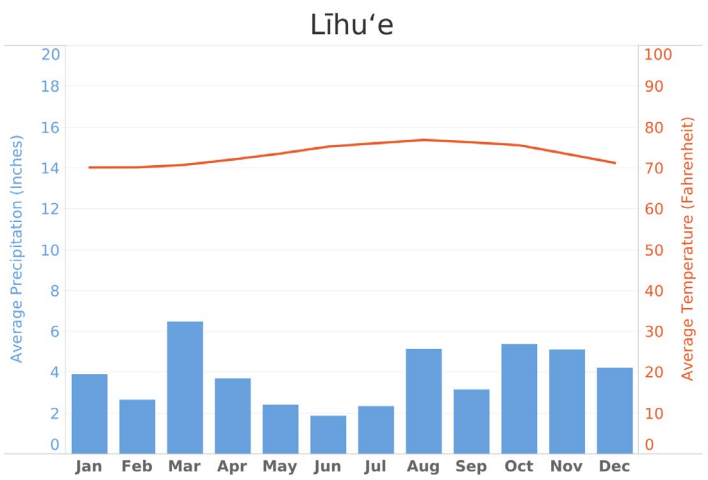
- Use “Severe” categories sparingly: overuse of these labels can make it hard for researchers to identify the hardest hit areas.
- Sometimes, minor events may still have major human impacts, or vice versa. Don’t worry if your precipitation measurements seem to conflict with the severity reflected in your reports: differentiating between magnitude and human impact is valuable to researchers and decision makers!
- Droughts do not 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.
- It is crucial to consider what “normal” means for your area. Eastern and Western sides of the island likely report significantly different normal conditions.

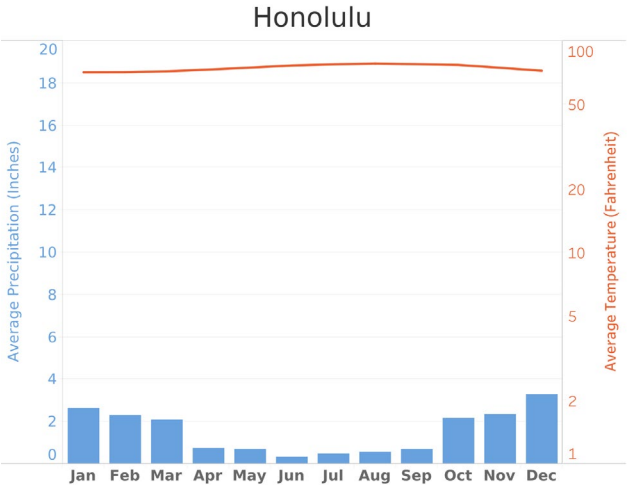


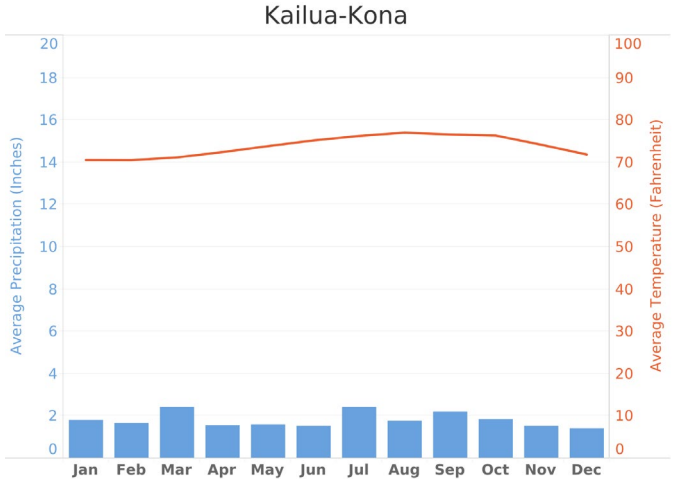
Average Monthly Climate Data

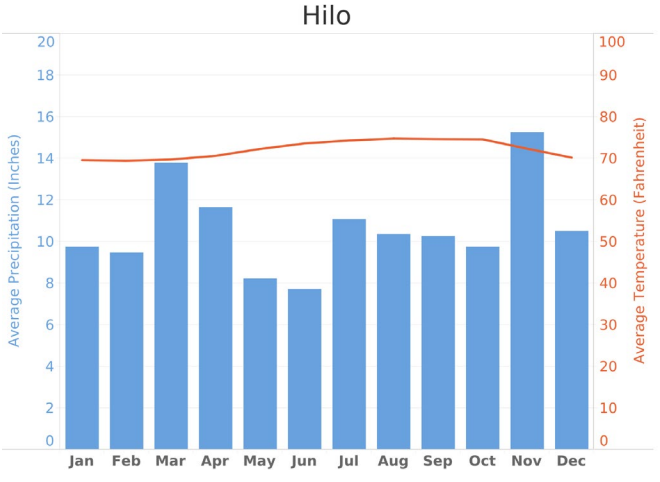
These sample climate charts, created with data from the Climate Atlas of Hawai‘i, represent normal monthly precipitation and temperature in your region. Pick a city near you and use the data below as a baseline for your “near normal” conditions. Explore these resources for other climate and drought data:

- Climate Atlas of Hawai‘i
- U.S. Drought Monitor - Hawai‘i
- NOAA National Centers for Environmental Information
- NOAA Western Regional Climate Center – Hawai‘i Narrative









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
• **Use this category sparingly** • Wet conditions have persisted for several weeks • Major flooding • Soil is saturated	• Wet conditions have persisted for a few weeks, or there has been a major rainfall event • Standing water and minor flooding • Soil is very damp	• Frequent precipitation for several days • Standing water is common • Soil moisture is above normal	• Observed conditions normal for this time of year • **This should be your default entry**	• Dry conditions have persisted for a few weeks • Soil is somewhat dry	• Dry conditions have persisted for several weeks • Lakes and rivers are low • Water use restrictions start • Soil is very dry	• **Use this category sparingly** • Dy conditions have persisted for months • Soil is completely dry • Water is scarce • State of Emergency

	WET	DRY
Agriculture	Crops and grazing pastures will likely be green and in healthy conditions. Even with moderately wet conditions, need for irrigation may drop off noticeably. Oversaturated soil could result in runoff, making agricultural products such as fertilizer less effective. Moisture dependent commodities such as macadamia and coffee will likely experience larger yields during the growing season.	Without enough water, crops may develop late, show stunted growth, or yield smaller harvests. Irrigation systems in the interior may be strained. The ranching industry may experience widespread (and costly) livestock loss if the conditions are prolonged and severe. Macadamia and coffee can potentially see severe and costly impacts.
Business	Rainy and muddy conditions may delay construction and infrastructure projects. Flooding may result in school closures or lost work hours, particularly in rural areas where alternative routes may not be available.	Landscaping and similar businesses are likely to lose revenue as urban areas are pressured to reduce their water consumption. Diminished water supply and quality may negatively affect aquaculture operations.
Energy	Periods of heavy rain may create the risk of power outages due to wind or falling tree limbs.	Hawai'i is among the five states with the lowest total energy use due to its mild climate, permitting lower energy use than states with harsher environments. Utility bills may increase due to industry strain, but solar power, which makes up over 50% of the state's power, may see increased outputs.
Fire	Expect fire danger declarations to be at or near minimum levels. Fire crews will often wait for wet conditions to perform prescribed burns to minimize the danger of unwanted spreading.	Wildfires will be larger and more common, as reflected by increases in Fire Danger ratings from the U.S. Forest Service. Drought conditions both heighten the risk of wildfire ignition and promote fast spreading of ignited fires due to lack of moisture. Wildfires can be especially dangerous with strong wind, which occurs frequently on the Hawaiian Islands.
Plants &Wildlife	Rainy seasons may improve conditions for native plants and wildlife to flourish. Regions that experience wetter conditions will appear more green, lush, and healthy, and will most likely be light limited. Wildlife, such as bird populations, may be more active in wet conditions.	Ecosystems will struggle under dry conditions. Many native plant and wildlife species struggle under drought conditions, making room for invasive species to take control of the drought-stricken regions.
Relief & Response	Restrictions on water use and outdoor burning are likely to be lifted or relaxed as weather shifts from dry to wet. Road safety measures are possible on routes likely to be affected by fog, flooding, or landslides.	Governments and other agencies may issue statements encouraging voluntary conservation of water and energy. These will often become mandatory if drought worsens. Regulations on outdoor burning and the use of fireworks are common, even at low levels of drought.
Safety & Health	Heavy, saturated soil creates a risk of landslides and flooding in the region. Pooling water can cause increases in mosquito populations following wet periods, which can lead to mosquito-borne disease outbreaks such as dengue fever.	The drying of streams and wetlands may increase the presence of stagnant water and contribute to higher mosquito levels. Pollen and diminished air quality may exacerbate allergies and asthma symptoms. Smoke from wildfires may diminish air quality. Wildfires may require evacuations or damage homes and businesses.
Tourism & Recreation	Relatively wet seasons may often work to the benefit of specific recreational activities, such as viewing waterfalls. While many regions of Hawai'i are characterized by frequent rain, extended wet periods may discourage hiking, camping, and other outdoor activities.	Dry conditions may cause a hazy dust in the air, which can decrease outdoor recreation and tourism. Mild drought conditions will do little to affect the tourism industry, as a large portion of the island chain's infrastructure tailors to the tourism industry.
Water	Rivers and reservoirs may be at normal or above normal levels. While conserving water is always suggested, restrictions won't be announced during wet conditions.	In severe drought conditions, water shortages are common and water restrictions will likely be imposed. Water quality will typically decrease due to increased temperature and decreased volume.

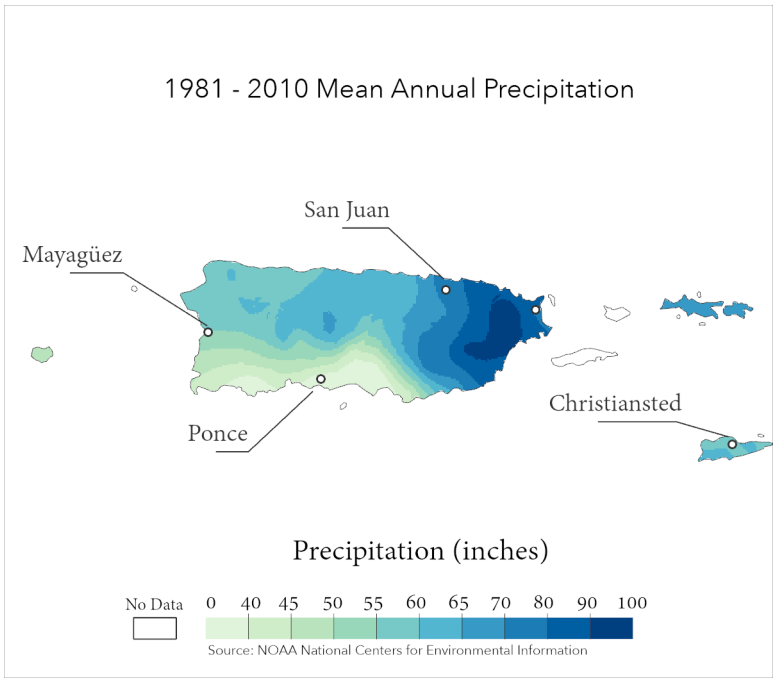
Condition Monitoring Reporting Guide: Puerto Rico & USVI

Regional Background

Puerto Rico and the US Virgin Islands (USVI) boast a tropical climate, experiencing mostly warm temperatures throughout the year and a rainy season from April through November. In Puerto Rico, rainfall varies across the island due to varied topography, but generally the Southern portion of the island receives less rainfall than the inland portion. The region can be heavily influenced by the Atlantic hurricane season, leading to extreme rainfall events.

Reporting Reminders

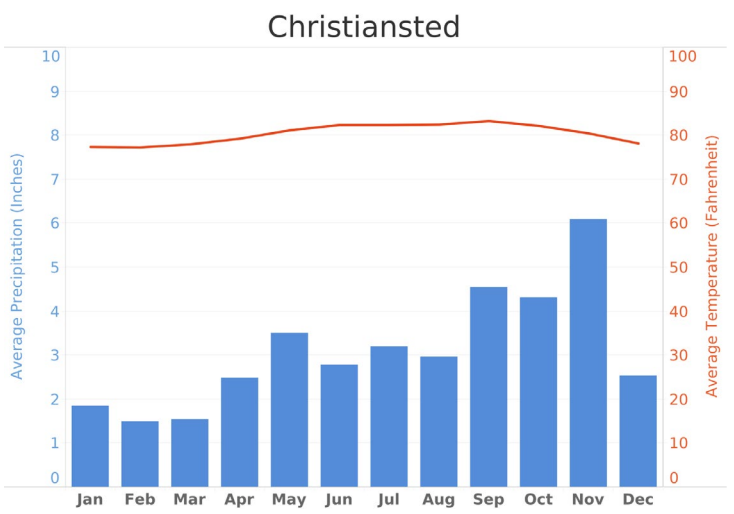
- Use "Severe" categories sparingly: overuse of these labels can make it hard for researchers to identify the hardest hit areas.
- While heat and drought often go together, be careful to note that impacts of heat (e.g., wilting plants) are not necessarily indicative of drought conditions.
- Droughts do not 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.
- Tropical cyclones heavily influence the annual rainfall, so it's important to note events influenced by tropical activity in Condition Monitoring reports.
- If a region typically receives frequent rainfall, this will be considered "Near Normal" for the area, not "Severely Wet".

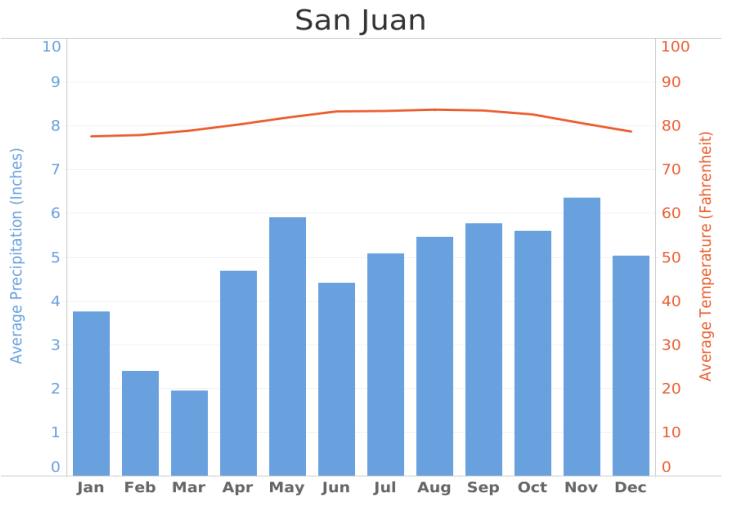


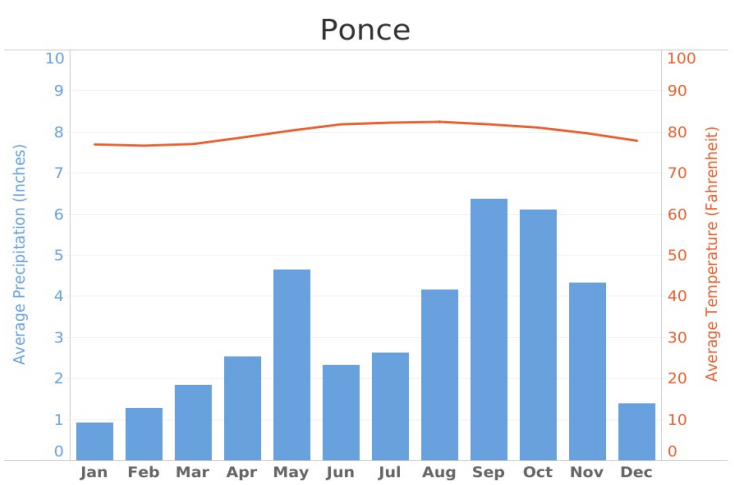
Average Monthly Climate Data

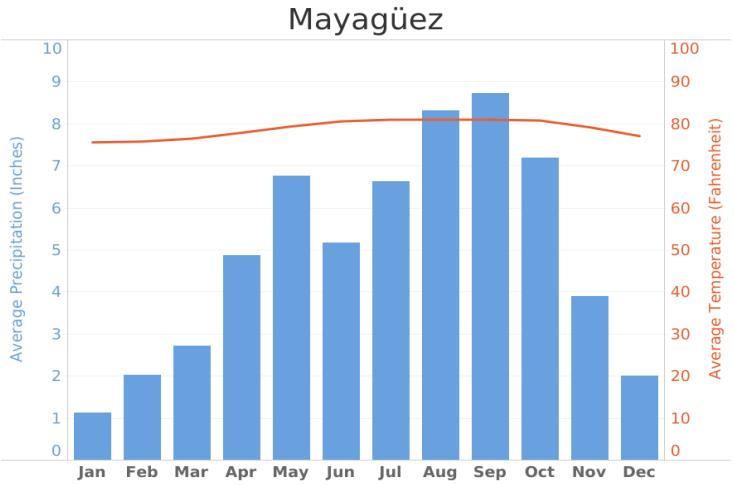
These sample climate charts represent normal monthly precipitation and temperature in your region. Pick a city near you and use the data below as a baseline for your "near normal" conditions. Explore these resources for climate and drought data:

- National Drought Mitigation Center - Puerto Rico
- NOAA National Centers for Environmental Information
- Southeast Regional Climate Center
- National Weather Service - San Juan: Climate and Drought
- Caribbean – Florida Water Science Center – Reservoir Levels









Data Source: NOAA National Centers for Environmental Information

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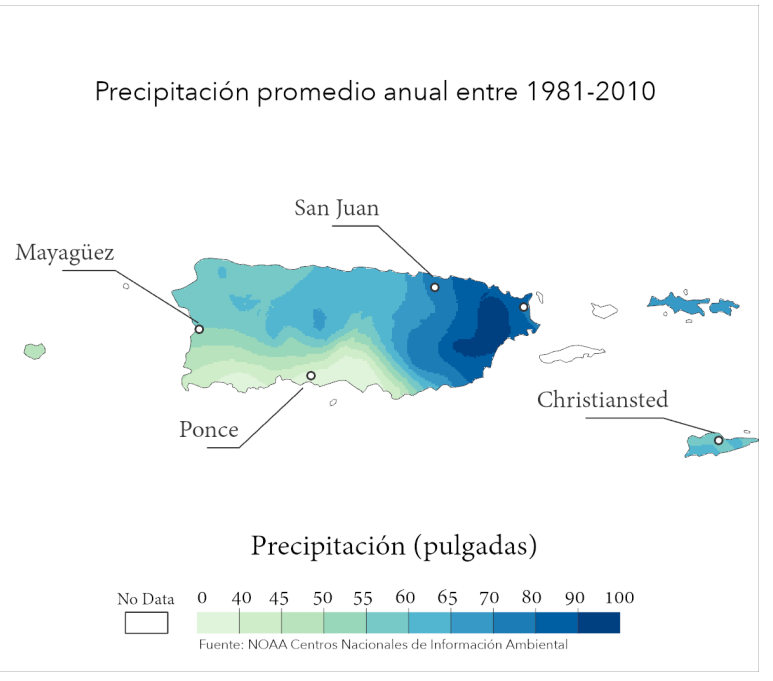
	WET	DRY
Agriculture	Crops and grazing pastures will likely be green and in healthy conditions. Even with moderately wet conditions, needs for irrigation may drop off noticeably. Yields for important commodities such as coffee, pineapple, and bananas are not likely to suffer from lack of precipitation.	Without enough water, soil quality degradation, plant desiccation, fruit damages, and decreased yields may be seen. Coffee can experience yield decreases of up to 80% under drought conditions, and other important crops such as pineapple, bananas, and livestock also heavily depend on rainfall.
Business	Rainy and muddy conditions may delay construction and infrastructure projects. Flooding may result in power outages, school closures, or lost work hours, particularly in rural areas where alternative routes may not be available.	Landscaping and similar businesses are likely to lose revenue as residents are pressured to reduce their water consumption. Manufacturers that use large amounts of energy and water may have difficulty operating at full capacity.
Energy	Hydropower output may benefit from increased precipitation. Periods of heavy rain may create the risk of power outages due to wind, hail, or falling tree limbs.	The islands may experience an increase in utility bills due to difficulty in producing energy output, especially in areas reliant on hydroelectric or coal plants.
Fire	Expect fire danger declarations to be at or near minimum levels. Fire crews will often wait for wet conditions to perform prescribed burns to minimize the danger of unwanted spreading.	Drought conditions both heighten the risk of wildfire ignition and promote fast spreading of ignited fires due to lack of moisture. Wildfires will be larger and more common, as reflected in the Fire Weather Outlook forecasts released by San Juan's National Weather Service and by USDA's Inciweb reporting tool.
Plants & Wildlife	Rainy seasons may boost growth in rainforest regions. Plants and wildlife will have more nutrients to flourish. The dry southwestern region of Puerto Rico will likely see healthier grasses. Mosquito populations will likely succeed. During periods without drought, it is expected that native island species will find more success than non-natives.	Plants and wildlife will experience greater stress and may show signs through shedding leaves or being sparsely populated. Drought has also contributed to declines in insect populations. Invasive species are expected to be more dominant during drought periods.
Relief & Response	Restrictions on water use and outdoor burning are likely to be lifted or relaxed as weather shifts from dry to wet. Highway safety measures are possible on routes likely to be affected by fog, flooding, or landslides.	Governments and other agencies may issue statements encouraging voluntary water and energy conservation. These will often become mandatory if drought worsens. Regulations on outdoor burning and the use of fireworks are common, even at low levels of drought.
Safety & Health	Heavy, saturated soil creates a risk of landslides and flooding in the region. In mountainous areas, weather can be highly variable throughout the year, making driving conditions dangerous. Pooling water can cause increases in mosquito populations following wet periods.	Note excessive haze and heat, as both pose a danger to human health. Drought can potentially impact the safety of drinking water and cause air pollution, especially with the occurrence of wildfires. Many households in USVI use rainwater harvesting programs in order to manage water in their homes, so a lack of precipitation has the potential to affect health and water supply in both urban and rural households.
Tourism & Recreation	While the region is characterized by frequent rain, extended wet periods may discourage hiking, camping, and other outdoor activities, which works to the detriment of the area's rainforest tourism. If flash floods or other dangerous conditions are likely, tourism and recreation can be significantly stalled.	Tourism infrastructure is crucial to the success of Puerto Rico. Many tourist areas will not feel the impacts of milder drought because tankers in the rainforest ensure that water is available for tourists. Boating and fishing activities may be harmed by warmer, shallower waters. Wildlife tourism activities may be limited by stress on wildlife during drought conditions.
Water	Rivers and reservoirs may be at normal or above-normal levels. Wet conditions will allow for an increase in water use, and a likely improvement in water quality. Rainwater harvesting and recycling programs will operate smoothly and safely.	Island droughts often cause water shortages. In Puerto Rico and the USVI, potable water quality may significantly decrease. When reservoir storage decreases due to lack of rainfall, sedimentation frequently affects water quality and yield for municipal areas. The government will likely set daily water use limits; past restrictions have limited household water use to one day every two to four days.

Guía de Reporte y Monitoreo de Condiciones Climatológicas: Puerto Rico e Isla Vírgenes de los Estados Unidos

Información Regional

Puerto Rico y las Islas Vírgenes de los Estados Unidos (USVI, por sus siglas en inglés) cuentan con un clima tropical, experimentan mayormente temperaturas cálidas durante todo el año y una temporada lluviosa entre abril y noviembre. En Puerto Rico, la cantidad de lluvia varía debido a su topografía, pero generalmente el área sur recibe menos lluvia que la parte interior. Esta región caribeña es influenciada por la época de huracanes del Atlántico, que puede ocasionar eventos de lluvia extremos.



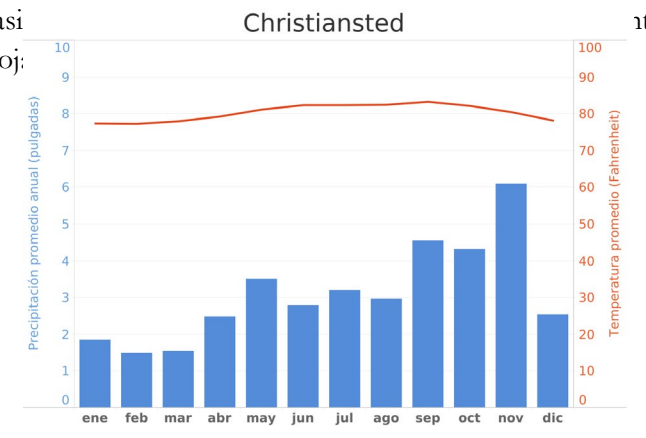
Consideraciones a tomar al momento de reportar

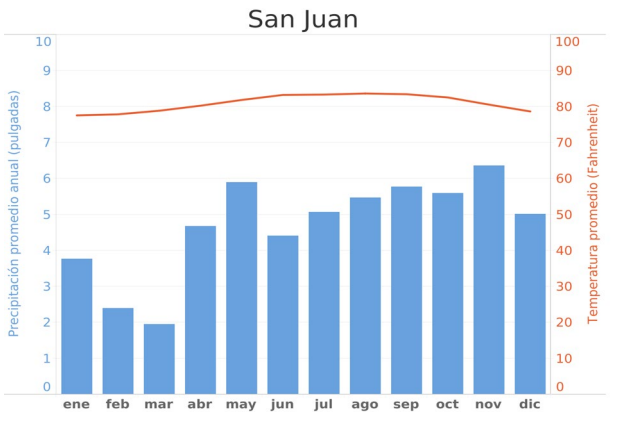
- No utilice la categoría "Severo" con mucha frecuencia: el sobreuso de esta categoría puede impactar la manera que los científicos y/o investigadores identifican las áreas más afectadas.
- Aunque las temperaturas altas y la sequía usualmente ocurren al mismo tiempo, sea cuidadoso al reportar impactos de las altas temperaturas (ej., plantas marchitas) que no son necesariamente indicativos de condiciones de sequía.
- Las sequías no terminan de manera inmediata. Eventos de lluvia después de períodos largos de sequía puede significar condiciones *menos secas*, pero no necesariamente se convierten en condiciones "Cerca de lo Normal" inmediatamente. Piense a *largo plazo*.
- Además de medir la cantidad de lluvia, tome nota de la duración de la tormenta, apagones eléctricos, cierre de carreteras y otros impactos relacionados a tormentas u otros eventos extremos.
- Las tormentas tropicales pueden afectar significativamente los valores de lluvia anual, así que es importante que tome nota de eventos influenciados por los ciclones tropicales en los reportes de Monitoreo de Condiciones Climatológicas.
- Una región que típicamente recibe mucha lluvia deberá ser clasi ıte Moj

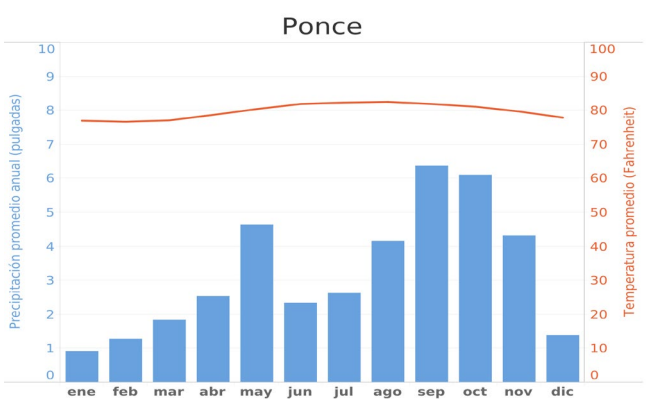
Promedio de climatología mensual

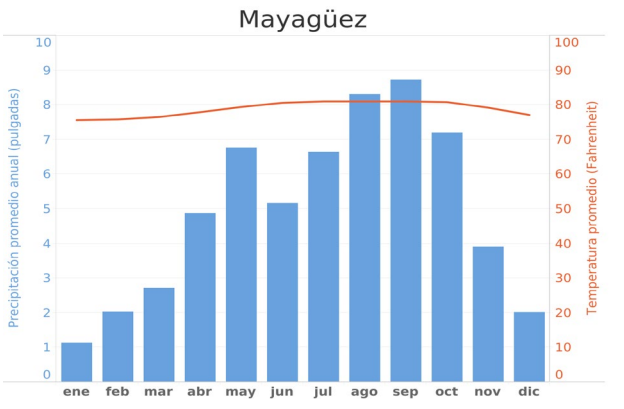
Estos ejemplos de gráficas climatológicas representan la precipitación y temperatura mensual normal en su región. Escoja una ciudad cercana a usted y utilice la información que se encuentra abajo para determinar sus condiciones "Cerca de lo Normal". También puede explorar estos recursos de datos climatológicos y de sequías:

- Centro Nacional de Mitigación de Sequía – Puerto Rico
- NOAA Centros Nacionales de Información Ambiental
- Centro Regional de Clima del Suroeste
- Servicio Nacional de Meteorología – San Juan, Puerto Rico
- Centro de las Ciencias del Agua Región Caribe-Florida – Niveles en las Reservas









Fuente: NOAA Centros Nacionales de Información Ambiental

¿Qué debemos buscar?

Las siguientes tablas proveen ejemplos de los tipos de condiciones que usted puede observar durante diferentes períodos mojados o secos. Estas listas están diseñadas para ayudar con la identificación de las condiciones atmosféricas. La primera tabla muestra una escala de las categorías de las condiciones de monitoreo y las características de las condiciones correspondientes a cada categoría. La segunda tabla organiza los diferentes tipos de condiciones e impactos por sectores y áreas de interés. Esté seguro de anotar cualquier otra observación que considere que se pueda relacionar con períodos de condiciones mojados o secos.

SEVERAMENTE MOJADO	MODERADAMENTE MOJADO	LEVEMENTE MOJADO	CERCA DE LO NORMAL	LEVEMENTE SECO	MODERADAMENTE SECO	SEVERAMENTE SECO
• Utilice esta categoría con poca frecuencia. • Las condiciones mojadas han persistido por varias semanas. • Se reportan inundaciones mayores • El suelo está saturado.	• Las condiciones mojadas han persistido por una o dos semanas, o se ha reportado un evento de lluvia significativo. • Se observa acumulación de agua o inundaciones menores. • El suelo está muy mojado.	• Precipitación frecuente por varios días. • Es común observar acumulación de agua. • La humedad del suelo está más alta de lo normal.	**• Las condiciones que observa son normales para la época del año. • Esta debe ser su observación por defecto.**	• Las condiciones secas han persistido por una o dos semanas. • El suelo está un poco seco.	• Las condiciones secas han persistido por varias semanas. • Los niveles de los lagos y ríos están bajos. • Comienzan las restricciones en el uso de agua. • El suelo está muy seco.	**Utilice esta categoría con poca frecuencia.** • **Las condiciones secas han persistido por meses.** • **El suelo está completamente esco.** • **El agua está escasa.** • **Estado de emergencia.**

	MOJADO	SECO
Agricultura	Los cultivos y pastos van a estar verdes y en condiciones saludables. Aún con condiciones moderadamente mojadas, no habrá necesidad de riego. La producción de cultivos como el café, la piña, los guineos y plátanos no se verán afectados por falta de precipitación.	Sin suficiente agua disponible, la calidad del suelo disminuirá, las plantas se secarán, habrá daños en los frutos y la producción de cultivos disminuirá. La producción de café puede sufrir una disminución de hasta un 80% en condiciones de sequía. Otros productos importantes como la piña, los guineos, los plátanos dependen mucho de la lluvia. También el ganado.
Comercio	Las condiciones lluviosas y fangosas podrían atrasar la construcción y desarrollo de proyectos de infraestructura. Las inundaciones podrían resultar en apagones eléctricos, cancelación de clases en escuelas, o pérdida de horas de trabajo, particularmente en zonas rurales donde no existan rutas alternas.	Los negocios de paisajismo, jardinería y otros similares probablemente pierdan ganancias cuando las islas se vean obligadas a reducir su consumo de agua. Los manufactureros que usan gran cantidad de energía y agua pueden enfrentar dificultades para operar a máxima capacidad.
Energía	La producción de energía hidroeléctrica se puede beneficiar del aumento de precipitación. Los períodos de lluvia intensa pueden ocasionar apagones eléctricos debido al viento, granizo o la caída de ramas de árboles.	La población podría experimentar un aumento en las facturas eléctricas debido a la dificultad de producir energía, especialmente en áreas que dependan de plantas hidroeléctricas o de carbón.
Fuegos	Presuma que las declaraciones de peligro de incendios van a estar en o cerca del mínimo. Los equipos de bomberos usualmente esperan a tener condiciones mojadas para realizar quemas prescritas y así minimizar la propagación de incendios.	Las condiciones de sequía aumentan el riesgo de iniciación de fuegos forestales y promueven la propagación rápida de incendios por la falta de humedad. Los fuegos forestales pueden ser más grandes y comunes, como lo refleja el Pronóstico de Fuegos distribuido por la Servicio Nacional de Meteorología en San Juan y reportados a través de la herramienta Inciweb del USDA.
Plantas y Vida Silvestre	La temporada de lluvia puede aumentar el crecimiento de plantas en regiones con bosques lluviosos. Las plantas y la vida silvestre van a tener más nutrientes para prosperar. En la región suroeste de Puerto Rico se podrían observar pastos y gramas más saludables. La población de mosquitos probablemente aumentará. Durante períodos sin sequía, se espera que las especies nativas en esta región prosperen más que las no-nativas.	Las plantas y la vida silvestre experimentarán mucho estrés y pueden presentar signos tales como la pérdida de hojas o disminución de sus poblaciones. La sequía también podría contribuir a la disminución de la población de insectos. Se espera que especies invasoras sean más dominantes durante períodos de sequía.
Alivio y Respuesta	Las restricciones en el uso de agua y quemas se pueden eliminar o flexibilizar cuando el tiempo cambia de seco a mojado. En las autopistas y carreteras se podrían observar más medidas de seguridad ya que podrían ser afectadas por neblina, inundaciones o derrumbes.	El gobierno y otras agencias pueden emitir declaraciones urgiendo a la población a conservar agua y energía de manera voluntaria. Estas órdenes se pueden convertir en obligatorias si la sequía empeora. Las regulaciones de quema y uso de pirotecnia son comunes aún en niveles leves de sequía.
Seguridad y Salud	Los suelos pesados y saturados crean riesgo de derrumbes e inundaciones en la región. En las áreas montañosas, el tiempo puede ser altamente variable durante todo el año, ocasionando que las condiciones del tránsito se tornen peligrosas. La acumulación de agua podría ocasionar un aumento en la población de mosquitos luego de períodos de lluviosos.	Tome nota cuando haya bruma y calor excesivo, ya que ambos son peligrosos para la salud de la población. La sequía puede impactar potencialmente la habilidad de consumo de agua potable y puede causar contaminación del aire, especialmente si hay incendios forestales reportados. Muchos hogares en USVI utilizan programas de colección de agua de lluvia para manejar el consumo de agua en sus hogares. Por lo tanto, la falta de precipitación tiene el potencial de afectar la salud y el suministro de agua en hogares en zonas urbanas y rurales.
Turismo y Recreación	Aunque esta región se caracteriza por lluvia frecuente, períodos extendidos de lluvia pueden disuadir a las personas de acampar, practicar senderismo o hacer cualquier otra actividad al aire libre. Esto puede ser perjudicial para actividades turísticas en los bosques lluviosos. Si hay posibilidad de inundaciones repentinas u otras condiciones peligrosas, las actividades turísticas y de recreación pueden ser canceladas temporeramente.	La infraestructura de turismo es crucial para Puerto Rico. Muchas áreas turísticas no verán impactos por condiciones moderadas de sequía porque las reservas de agua de los bosques lluviosos sustentan la industria. Las actividades en botes o la pesca se pueden ver afectadas por aguas más cálidas y menos profundas. Las actividades turísticas relacionadas a la vida silvestre pueden ser limitadas por el estrés que enfrentan estas especies durante las sequías.
Agua	Los ríos y reservas de agua pueden estar a niveles normales o más altos de lo normal. Las condiciones mojadas pueden permitir un aumento en el uso de agua, y probablemente, una mejoría en la calidad de agua. Programas de colección y reciclaje de agua de lluvia funcionarán con normalidad.	Las sequías en islas usualmente ocasionan escasez de agua. En Puerto Rico y en las Islas Vírgenes, la calidad del agua potable puede disminuir significativamente. Cuando hay escasez de agua en las reservas o lagos debido a la disminución de lluvia, el aumento en sedimentación que ocurre como resultado impacta la calidad y producción de agua. El gobierno probablemente establezca límites a los usos diarios de agua. Las restricciones pasadas han limitado el uso de agua en los hogares. La han racionado a razón de un día de uso de dos a tres veces por semana.