



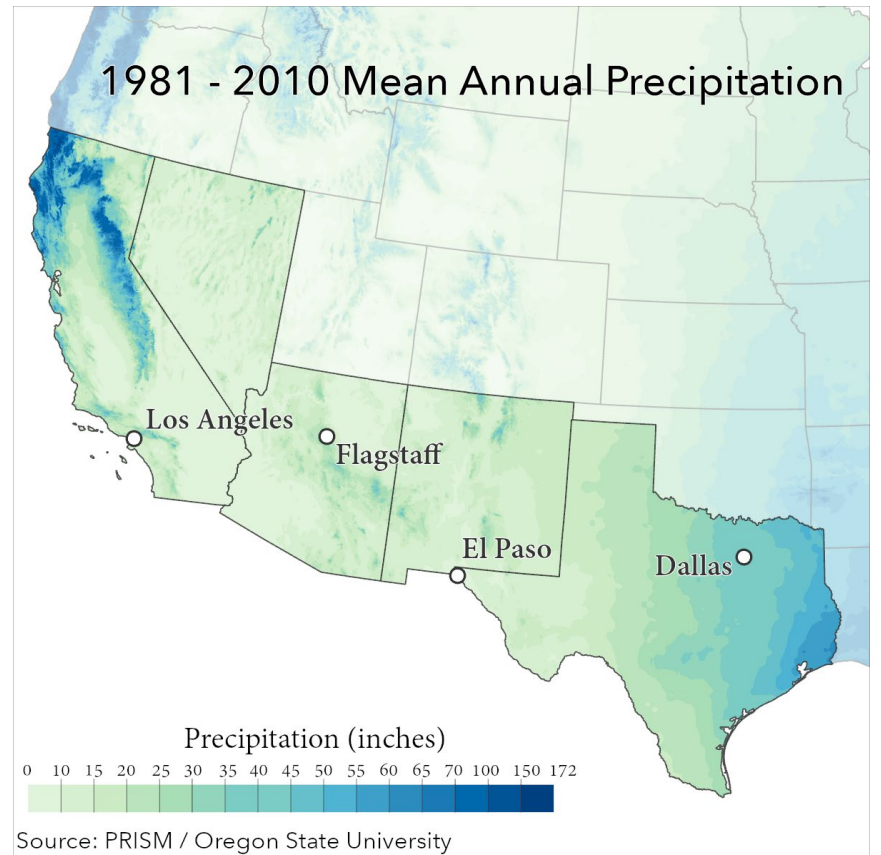
Condition Monitoring Reporting Guide: Southwest

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

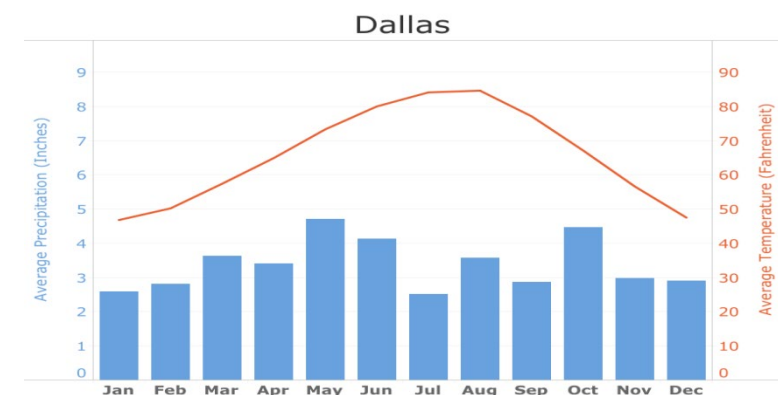
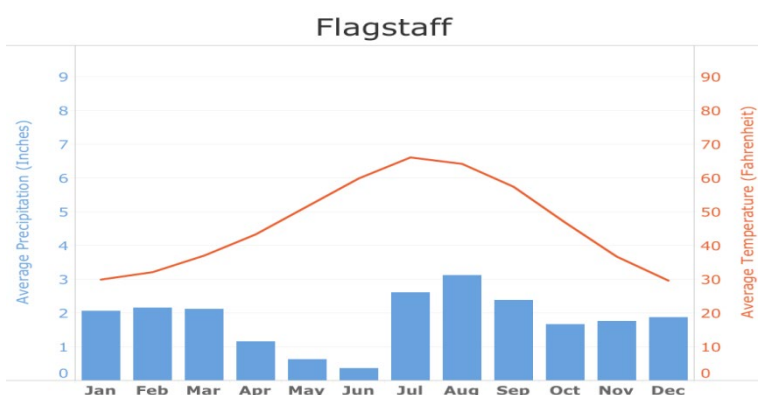
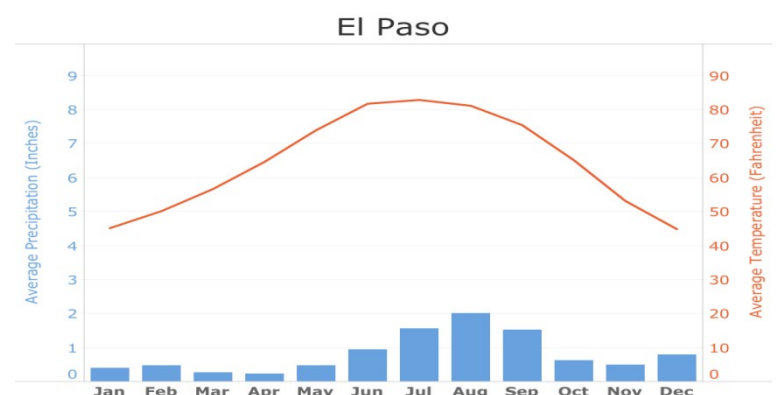
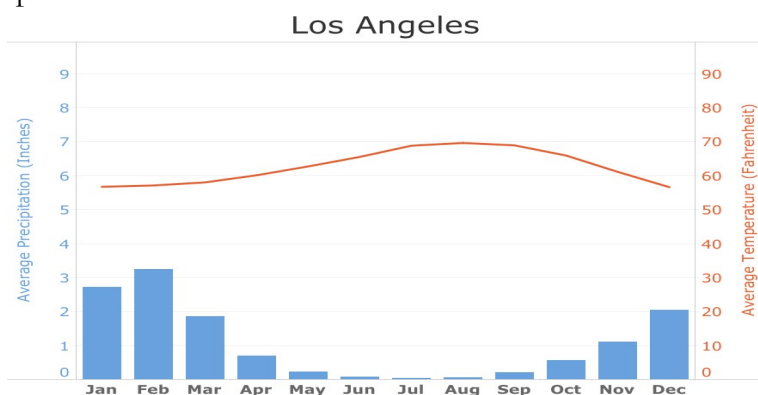
- Use “Severe” categories sparingly: overuse of these labels can make it hard for researchers to identify the hardest hit areas.
- Sometimes, minor events may still have major human impacts, or vice versa. Don't worry if your precipitation measurements seem to conflict with the severity reflected in 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](#)
- [NOAA National Centers for Environmental Information](#)
- [NOAA Regional Climate Centers](#)
- [American Association of State Climatologists](#)



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"> • Use this category sparingly • Wet conditions have persisted for several weeks • Major flooding | <ul style="list-style-type: none"> • Wet conditions have persisted for a few weeks, or there has been a major rainfall event • Standing water and minor flooding | <ul style="list-style-type: none"> • Frequent precipitation for several days • Standing water is common | <ul style="list-style-type: none"> • Observed conditions normal for this time of year • This should be your default entry | <ul style="list-style-type: none"> • Dry conditions have persisted for a few weeks | <ul style="list-style-type: none"> • Dry conditions have persisted for several weeks • Lakes and rivers are low • Water use restrictions start | <ul style="list-style-type: none"> • Use this category sparingly • Dry conditions have persisted for months • Water is scarce • State of Emergency |

| | 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. |