

Droughts throughout time



Tips from the Posse

By Mark Rackay

The year 1935 was interesting, weather wise, to say the least. It was the year of the worst hurricane to ever hit the Florida Keys. The Labor Day storm is famous for a 20-foot storm surge that leveled the Upper Keys and Islamorada. Considering there isn't any ground on most Keys that exceeds eight to ten feet, and those coral islands don't float, there was a serious problem. The storm derailed a train, washed all structures off the island, and carried some 400 people out to sea.

Because of the storm surge, rainfall totals were not accurately recorded. However, as the storm moved up the East Coast, the highest recorded rainfall was 16.7 inches in Easton, Maryland. For Colorado folks that is about how much precipitation falls in a year and double the amount for most of the Western Slope. But as Grace Kelly once said, "Never say never and never say always."

Colorado spans a climatic history of weather extremes. Because short-



Colorado is in the midst of a drought of biblical proportions and fires like the Gold Mountain are a direct result. (Photo/Mark Rackay)

term dryness occurs in nearly nine out of every ten years, comparing years highlights severe, multi-year megadroughts versus normal or wet years. Sometimes we might have several months of a drought, then a series of storms pushes us back to normal.

Prior to the 21st century, Colorado faced five documented long duration droughts: 1893-1905, 1931-

1941, 1951-1957, 1963-1965, and 1975-1978. In the last several decades, drought monitor has become a regular word on the nightly weather report. NOAA's National Centers for Environmental Information indicates that the past two decades represent the driest period in the Colorado River Basin in over 1,200 years.

I know, tell you something you don't already

know. We have spent too much time dealing with water shortages, wildfires, low levels in rivers, lakes, and reservoirs, not to mention the stress on all the wildlife. In 2000, the reservoir system in the basin was 95% full, and in 2021, the system was at 39%.

Global warming and climate change seems to catch the rap for everything, including this historical dry cycle we are in. If climate change was a thing when I was a kid, I could have used it as a defense for my poor grades. At the time, teachers blamed it on poor attention span, no homework, and poor attendance.

Droughts are a normal, recurring feature of the Earth's climate. Agricultural dry spells typically happen every three to five years, while severe droughts occur on 10-to-20-year cycles, and the biblical ones like we have now, occur about once every 100 years. These drought periods are based on probability rather than exact periodicity. Simply stated, if you are unlucky enough, you can get back-to-back 100-year droughts of Biblical extremes.

Droughts throughout history have altered human settlements, from driving people out of Africa, to contributing to the fall of the pharaohs in Egypt and the Mayan empire, to the Dust Bowl in the United States.

Sediment cores extracted from Lake Malawi, one of the largest and deepest lakes on Earth, have shown the area experienced a series of mega-droughts from 135,000 to 90,000 years ago. Rainfall was so scarce that the lakes water level fell some 2,000 feet, and forests turned into deserts.

During WWII, one of China's worst droughts in decades hit the Henan Province, part of the country's breadbasket region. Throw in wind, locusts, and hailstorms to make matters worse. Harvests in certain areas fell to a quarter of their regular output, with most of that going to feed soldiers. Forced to eat roots and bark, as many a three million Chinese died of starvation and millions

more became refugees.

In the U. S., we had the Great Depression already making life a challenge, and then a drought struck the Great Plains in 1931 to add to the fun. The drought lasted the rest of the decade, and combined with poor agricultural practices, caused huge clouds of dust that turned skies dark, filled residents' lungs, and caused a major migration to other places where there wasn't a drought. The apex occurred in 1934, which NASA called the worst drought year of the last millennium in North America. Finishing in second place was 1936, when amid dust storms, a devastating summer heat wave killed over 5,000 Americans.

And while Florida was having a hurricane over Memorial Day weekend in 1935, Colorado was in the midst of the same Dust Bowl drought as the rest of the Plains states. To add to the misery, a massively destructive flood hit Colorado Springs, on Memorial Day, as a thunderstorm pushed from the northeast against the Rampart Range and dropped seven inches of rain, killing at least 21 people.

The longest ongoing drought in recorded history is in the Atacama Desert in Chile. Hyper-arid conditions have persisted for over 400 years there, and in several regions of Atacama, such as Yungay and Maria Elena regions, rain is virtually nonexistent, as several weather stations never having recorded a single drop of rain in human history.

One historical place that should be on your "must see" list is Cliff Palace and the surrounding Mesa Verde region, which was home to the Ancestral Puebloans, historically referred to as the Anasazi, for over 100 years. The residents were managing a nice farm until the Great Drought struck, from 1276 to 1299 A.D. By 1300 AD, the people abandoned Cliff Palace and migrated south toward Arizona, New Mexico, and the Rio Grande Valley, obviously seeking water and a more moderate climate.

I have been on the other side of the spectrum, where the old lady, Mother Nature, decides it is time to refill the lakes with a vengeance. There was Hurricane Charlie, which brought us 20 inches of rain in a nine-hour period. Far away from the Gulf waters, we had standing water at our house up to the middle of my thighs of my six foot plus frame. Normal hurricanes deliver a foot or more of rainfall as a matter of course, but usually over a slightly longer period of time.

As I stated in the beginning, never say never, as it can and does happen here too. The most catastrophic event occurred in September of 2013, when unprecedented rainfall triggered severe flooding all along the Colorado Front Range. Over a single week, some areas in the foothills received up to 20 inches of rain, exceeding the yearly averages in a matter of days.

Some of us can remember being here, me included, in July of 1976 when an intense thunderstorm was over the Big Thompson Canyon. The storm dumped 10 to 14 inches of rain in just a few hours, resulting in a devastating flash flood. There were 144 deaths, more than 250 injuries, and five folks still missing.

The bottom line is we have no idea what to expect. Promises of El Nino, and pattern changes bounce around everywhere. It is still not up to us. It shall be interesting, to say the least, what the weather gods have in store for us next.

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