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## **Field Guide to Austin**

Discover (or rediscover) what makes Austin stand out.

# Austin, where the weather gives 'a little bit of everything' and a lot of triple-digit days

**KUT 90.5 | By Mose Buchele** 

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Amaya Austin, Deborah Cannon, Julia Reihs / KUT News

The four seasons in Austin.

#### Lee esta historia en español

Look at Austin on a map of Texas. It's not *exactly* in the middle of the state, but it's not far off. That location can tell you a lot about what to expect from the weather

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That's because it can feel, at times, like Austin does not have its own weather, but instead borrows weather from neighboring regions.

Then, when the summer arrives, it gets really, really hot. It is Texas, after all. That heat is not on loan. It is here to stay and is getting hotter.

### **Prevailing fronts**

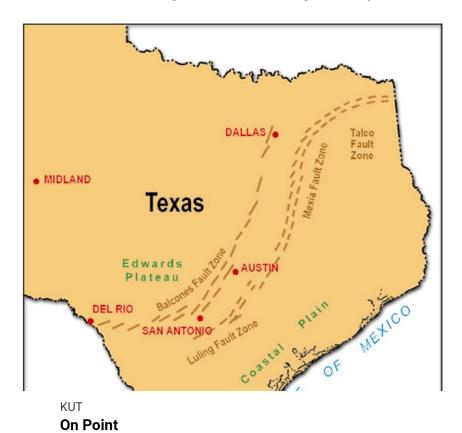
I write that Austin "borrows" weather due to its central location.

The city sits on a geological fault zone called the Balcones Escarpment. This is the border between the arid southwest and the rainier coastal plains to the east.

Because Austin straddles these two regions, we can feel the humid tropical winds of the Gulf Coast blowing through one morning and the dry heat of the West Texas desert the next.

We get northern cold fronts, too, usually in the fall, winter and spring.

"We're kind of at a three-point access where we get a little bit of everything here in Central Texas," longtime meteorologist Mary Wasson said.





Bureau Of Economic Geology

Austin sits on a geological fault zone called the Balcones Escarpment.

Wasson said living at an intersection where different prevailing systems meet leads to some dramatic weather.

In the spring and fall, the collision of humid air with hot dry air, known as dry lines, brings severe storms throughout the region. When those systems make it to Austin they can mean lightning, damaging hail and heavy rains.

If it often seems like these storms hit Austin later in the day or at night. That could have to do with the time it takes the dry line to push across the state and reach us here.

In the summer and fall, we can also contend with the impacts of hurricanes or tropical storms from the Gulf, if they are strong enough to push into Central Texas.

Less dramatically, "sea breeze" from the Gulf of Mexico can sometimes reach us with a little coastal rain.

During late fall, winter and spring, the temperatures in Austin tend to be mild and are often downright pleasant.

There's even a running joke among locals that people visiting for South by Southwest in early March are tricked into moving to Austin by the consistently nice weather at that time of year.

January is the city's coldest month, with an average high of 62 and an average low of 42.

"My favorite time of year in Austin is December, because that's when we see most of the sunshine, and our average temperature is 70 degrees," Wasson said. "It's really nice."

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3 of 25

But let's not forget those cold fronts from the north.

We usually get at least one strong cold front every winter, Wasson said. Sometimes they are very strong, plunging us into freezing temperatures for days at a time.

In 2021, a weeklong freezing spell gripped all of Texas and crippled the state's energy system, leading to the most destructive blackout in U.S. history.

In 2023, a far more localized ice storm knocked trees onto power lines, and hundreds of thousands of people around Austin lost power for days.



Michael Minasi / KUT News

An ice storm at the beginning of February 2023 left residents dealing with the loss of power, debris from fallen branches and trees, and iced-over roads.

If you lose power in Austin, you can check out Austin Energy's power outage map to report problems, see where outages are happening and how long they may take to fix.

You can also keep an eye on the state's power grid using the conditions dashboard from the Electric Reliability Council of Texas.

Global warming means every season in Austin is getting hotter on average, but it does not mean these cold fronts are going away.

Research is ongoing as to whether climate change is also bringing more frequent

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#### How this part of Texas got the nickname Flash Flood Alley

It may surprise you to learn Austin gets almost as much rainfall every year as Seattle, Washington. (35.5 inches in Austin versus around 37 inches in Seattle.)

Thanks to the storm systems described above, the rain tends to happen here in big bad bursts.

Those heavy, sudden storms pass over a land sculpted by creeks and gullies that may remain dry for years, only to fill up dramatically when water falls in the right place.

This interplay between heavy rainstorms and flood-prone geography has earned this part of Texas the nickname "flash flood alley."

It's also why Texas is home to the motto "Turn around don't down."



Gabriel C. Pérez / KUT News

It may surprise you to learn Austin gets almost as much rainfall every year as Seattle, Washington.

"I felt like we needed to have something catchy," Hector Guerrero, the father of the phrase, told me.

Texas leads the country in the number of flood deaths most years. So, Guerrero coined the term while working for the National Weather Service, to remind people that

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According to the National Weather Service, 6 inches of fast-moving water can push over an adult. Twelve inches can carry away most cars.

Guerrero, himself a native of Central Texas, said basic flood safety skills are essential for anyone who lives here.

He advises keeping a flashlight and a hammer in your vehicle in case you get swept into flood waters.

"You hit the corner of that windshield, and you can break out if it has to come to that," he said. "But we hope that never happens."

If you live in Austin you can visit the website ATXfloods.com to see where low water crossings have been flooded out in a storm.

You can also access city floodplain maps online to see if you live in an area especially prone to flooding.

Those maps have shown an increasing likelihood of floods in recent decades.

Our rainiest times of year in Austin are in the spring and the fall. May is typically our rainiest month, followed by October, then June.

In these months, flooding storms are so common that the region has experienced two separate devastating "Halloween floods" (2013 and 2015) and two separate devastating "Memorial Day floods" (1981 and 2015).

Unfortunately, flooding will likely get worse as the global climate crisis continues because warmer air holds more water, resulting in heavier storms.

## Dangerous heat is the 'new normal'

It's really true what they say: Austin used to be cooler.

I'm not talking about live music or cheap rent. I'm talking about the weather.

Take the 1990s. Back then you could bail on your part-time job to catch a Daniel

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comfort, even in the summer. At least compared to what it's like today.

That's because for much of the 1990s Austinites could expect only around nine days of triple-digit heat a year.

Currently, the city averages about 33 triple-digit days a year.

"It's almost quadrupled," said Victor Murphy, climate program manager with the National Weather Service in Fort Worth. Murphy supplied KUT with the triple-digit statistics. "That's the new normal if you will."

In fact, that 33 triple-digit-day count may be misleadingly small. Because the average is calculated using 30 years of data, it still includes some years from the late 1990s and early 2000s in which summers were significantly milder than more recent years.

Of the top 10 years with the most triple-digit days in Austin, eight of them have happened since 2008.

In the last 20 years, it has been common to experience years with 50 to 70 days of triple-digit heat.

The year 2011 remains our all-time record holder with 90 days in the hundreds. Though many say 2023 was worse.

"We're in the era of global warming. Having a season that's in the below-normal range is very rare."

Victor Murphy, National Weather Service

2023 topped out with 80 days of triple-digit heat but boasted 45 days straight with highs in the hundreds.

That kind of extreme heat is often linked to Austin's rainfall.

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in the soil from spring rains.

Once that soil is dry, solar energy has nothing left to do but heat the Earth up. That leads to hotter nights, as the Earth's surface radiates heat back into the air even after the sun has set.

That hot, dry earth can even create a climate feedback loop, state climatologist John Nielsen-Gammon said.

"With less water available to evaporate, there's less water in the air to form clouds and precipitation," he explained in 2023. "That means that the water in the ground is not replenished, and so if things get on the dry side, they tend to dry out even more."

That increase in heat and drought threatens Austin's long-term water security, by decreasing levels in the city's reservoirs. It also increases the risk of wildfires, like the devastating Bastrop County Complex Fire in 2011.

To top it off, warmer weather is starting earlier and lasting longer in Austin.

While the urban heat island effect in Austin may contribute to some of the sudden increase in heat, experts are confident the main culprit is global warming caused by the burning of fossil fuels.

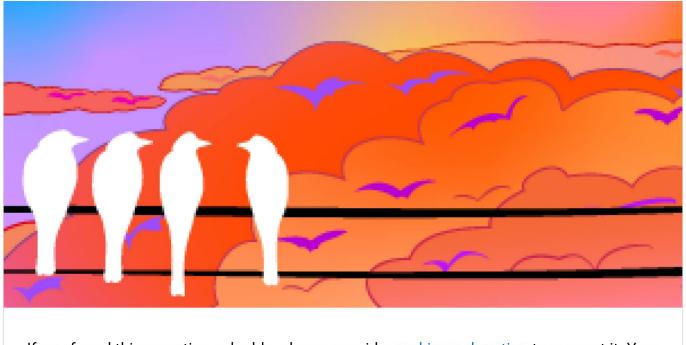
"We're in the era of global warming," Murphy said. "Having a season that's in the below-normal range is very rare."

That means that for almost every year, you can expect the weather to be hotter in Austin than what is considered historically average. And you can expect that historic "average" to keep getting hotter into the future.

Emergency calls and heat-related illnesses have also been on the rise. So, if you're new to town, or even if you're not, make sure you stay hydrated and cool as summer sets in.

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