Hello, Darkness

A total eclipse of the sun comes to the U.S. in August

BY DAVID SWANSON

A crowd of a few thousand congregated for the event of a lifetime—a celestial pas de deux. From our vantage point, a hilltop park in the town of Sivas, Turkey, skies were clear. Then the midday light began to fade.

It was August 11, 1999, about an hour before a total solar eclipse. People circulated cardboard glasses so that we could watch the moon slink in front of the sun. Meanwhile, the shadow created by this celestial encounter, the umbra, was racing across Europe toward us at a speed of 1,600 miles per hour. The total eclipse would transpire when the umbra engulfed Sivas.

A minute before totality, the horizon to the west darkened abruptly and the crowd of amateur astronomers began to roar as the shadow approached. Then the moon slipped in front of the sun and the city erupted in cheers as a ghostly white halo emerged from the moon's perimeter.

It was now safe to remove our cardboard spectacles and behold the vista. The sky was a deep, dark blue, and stars and planets came out for a bow. The horizon was aglow in every direction. The air had chilled and, with the color drained from flowers and faces, the lighting was mystical.

A total solar eclipse transpires somewhere on the planet about seven times each decade. On August 21, 2017, it's America's turn, as a solar eclipse traces a path across 12 states, from Oregon to South Carolina. It will be the first time since 1979 that the moon's shadow will touch the lower 48, according to predictions by Fred Espenak, scientist emeritus at NASA's Goddard Space Flight Center in Maryland. And the last to be visible from here for seven years.

While many of us have seen a partial eclipse, witnessing a *total* solar eclipse is rare and usually requires some effort. Southern Californians will be able to see a partial eclipse in August. But a position inside the narrow path of totality will yield a dramatically different experience that you can safely view with the naked eye—and for that, you'll need to travel.

"It is one of the most startling and exquisitely beautiful sights in all of nature," suggests Espenak. "It is only during a total eclipse that the sun's entire brilliantly bright disk is hidden from view, revealing the faint and glorious corona that surrounds the sun."

The umbra will come ashore on the Oregon coast, west of Salem, at 10:15 a.m. (PDT). Here, those sitting at the centerline of the shadow will experience 1 minute, 59 seconds of totality. The length of the eclipse gets longer as the 68-mile-wide umbra speeds across the heartland, with the greatest duration occurring in southern Illinois, where, Espenak says, totality will last 2 minutes, 40 seconds.

Viewers should also consider weather statistics. Sighting odds decrease for the eastern U.S., according to Jay Anderson, a retired meteorologist at Environment Canada with nearly 40 years' experience in studying eclipse weather.

"The farther east you go, the cloudier it gets," says Anderson.

Following several eclipses with less-than-ideal circumstances, the relative accessibility and favorable weather forecasts for August have pushed this year's event to the top of eclipse chasers' lists. It's no accident that the Astronomical League, an organization of more than 240 amateur astronomy clubs, is holding its annual conference in Casper, Wyoming, days before the eclipse.

With hotel rooms and campsites at a premium, many of us may find ourselves reconnecting with long-lost relatives from Idaho or Nebraska, among the states with the best viewing prospects.

The next total solar eclipse will occur in 2019 and will be visible in Chile and Argentina. The next eclipse visible from the continental U.S. won't happen until 2024, but weather odds are not as favorable as for the event this August, according to Anderson. "The great advantage of this eclipse is you can just get in your car and drive to it," he says.

David Swanson writes for National Geographic Traveler, *the* Chicago Tribune, *the* Dallas Morning News, *and the* Miami Herald.

DIMITAR TODOROV/ALAMY STOCK PHOTO