

2024 Solar Eclipse

Kaely Monahan [00:00:02] There are these moments where your existence suddenly seems so small. Humanity is just a fleck on a speck. Spinning through the universe.

Star Trek: William Shatner [00:00:22] Space. A final frontier.

Kaely Monahan [00:00:34] It has been said so many times and I will say it here. Since the first humans walked on the planet, they have looked up to the stars in wonder. Oh my God.

Eclipse reaction [00:00:52] There it is. Wow.

Eclipse reaction [00:00:55] You can see the stars.

Eclipse reaction [00:00:57] You can see the planets. Oh my.

Eclipse reaction [00:00:59] God. You guys, I'm actually crying.

Eclipse reaction [00:01:01] This is the most incredible thing I've ever seen in my entire life.

Kaely Monahan [00:01:05] That's a recording from the last total solar eclipse to cross the United States in 2017. And it's happening again today. Welcome to Valley 101, an Arizona Republic podcast about Metro, Phenix and beyond. I'm producer Caitlin Monahan, and today I'm going to be sharing some tips on when, where and how to view today's solar eclipse. I'm sitting down with Tiffany Acosta, the Republic's ultimate Arizona reporter. And yes, that's actually her title.

Tiffany Acosta [00:02:07] My title is Ultimate Arizona Reporter, but I've just been kind of like the go to person for all things space and bugs specifically. Like, I feel like that's the majority of the work. I do either weird things in Arizona, and that just has been what I've been working on, especially during the past few months, especially space because of the eclipse and different meteor showers that are happening and stuff like that. So yeah.

Kaely Monahan [00:02:31] That's so cool. I mean, the fact that you have the title The Ultimate Arizona Reporter, I'm kind of jealous. I wish I was the ultimate podcast.

Tiffany Acosta [00:02:40] I mean, you could self-title, you know.

Kaely Monahan [00:02:48] Most important question, the one that's on top of everybody's mind today. Can Phoenicians actually see the eclipse from the valley?

Tiffany Acosta [00:02:56] Yes and no. Even though we're not in the path of totality, we will see a partial eclipse. So that means that we're only going to see kind of like if you bite into a cookie, that's what we're going to see. Like that bit in part of the cookie or the moon I guess you can say.

Kaely Monahan [00:03:11] Or kind of like the Apple logo.

Tiffany Acosta [00:03:13] Exactly. The Apple logo. But yeah, Arizona won't necessarily be total darkness, but there will be some type of darkness. It'll be a partial eclipse.

Kaely Monahan [00:03:23] Well, what about other parts of Arizona? If you were in northern Arizona or maybe southern Arizona, would it be better viewing or would it look fairly the same?

Tiffany Acosta [00:03:33] It would actually be better if you go east. So the farther east as you can go. I'm not saying go take a road trip to Texas or anything, but if you want to stay within the state, take a little road trip, go east and you'll be able to see the eclipse more clearly, more defined. But if you're kind of lazy, you don't want to take the road over there. There's going to be a lot of different observatories. There's going to be a lot of different places. You can go see it. The Arizona Science Center will have a viewing party in Flagstaff. Lowell Observatory will have a viewing party as well, even in Tucson. So it's always going to have one. And even at the University of Arizona, they're going to have a viewing party. And then if you don't want to go that far, your local public libraries will have viewing parties. There's been a lot of different public libraries. I think about maybe more than 20 libraries across Metro Phenix. So if there's a library near you, check it out. I would look online to see if they are going to do it. But most likely a lot of these libraries or Phenix Public libraries will have a free viewing party.

Kaely Monahan [00:04:33] That's so cool. Well, I will say from the last eclipse, I don't believe we were actually under the totality of it. But you could pull it up online to like there's all these watch parties online. I found one on Twitter. So I would also add that like if you just google eclipse today's date you should probably find something there just in case you, you know, can't make it to the observatory.

Tiffany Acosta [00:04:58] Yeah, NASA will have a live stream going on in Texas, and they're going to be showing the the eclipse livestream via their.

Kaely Monahan [00:05:05] That's so cool. So what time is it happening here in Arizona?

Tiffany Acosta [00:05:12] So it's going to be the same time anywhere you are if you're in Tucson, if you're in Flagstaff, you're in downtown Phenix. The eclipse starts at 1008 in the morning. The peak will happen around 1120, 1130 ish. And then it's going to end, 1230 in the afternoon. The total eclipse will be a partial eclipse for us. It'll be around three hours, but the peak will be at 11 ish around 1120, 1130.

Kaely Monahan [00:05:40] In general, how long do eclipses take? Is there like an average or something?

Tiffany Acosta [00:05:46] Yeah. So the eclipse is a couple hours. It's a process. So it's going to start at a certain time depending where you are in the US depending where you are in the world. Right. So the eclipse it's a couple hours depending on the eclipse. But the main important thing is the peak. The peak can last between 2 to 4 minutes to five minutes, depending how the type of the eclipse it is, the type of location it's going to be. That's what scientists really want to focus on, like how long it's going to last. But overall, you're just going to see kind of like a moving motion of the moon and the sun.

Kaely Monahan [00:06:23] Well, that makes sense. Celestial bodies don't stop for nobody. We've talked about this a little bit already, but the path of totality. First of all, let's define the term in case anybody doesn't know. When we say totality, what does that mean?

Tiffany Acosta [00:06:47] It means basically the area where the eclipse is going to pass by. So if you're in the path of totality, it's going to be complete darkness in that area or that city, that state, that town, that wherever you may be. So it starts in Mazatlan, and then it's going to slowly kind of curve up towards Texas and then Illinois, New York, and then land over to Canada. So it's kind of like this curve motion. You can easily Google like paddle totality like map. And you'll see this kind of like a curve. It's not like a straight line.

Kaely Monahan [00:07:19] It's like, well, yes. Contrary to some people's beliefs, the Earth is in fact round. So is there anything special about this eclipse? I think it's fair to say that all eclipses are special when you get to witness one. But is there something unique, maybe from the scientific angle or.

Tiffany Acosta [00:07:44] Yeah. Of course. So as I mentioned before, well, what makes us eclipse very unique is because it's going to last four minutes and 20 something seconds, I think four minutes, 23, 28 seconds. And it's been like one of the longest peak eclipse recorded as of late. And the reason why it's garnered so much attention, it's because it's in the US. And it's going to even though it does start in Mexico and it ends in Canada. The majority of that eclipse you will see in the US. And if you want to see like the perfect viewing experience, you can head over in Texas. If you're in Texas, anywhere in Texas, you will see a perfect total eclipse.

Kaely Monahan [00:08:25] How rare are solar eclipses?

Tiffany Acosta [00:08:28] So there's three types of total eclipse total partial and annular. And the total eclipse happens every 18 months depending on the moon cycle. The sun cycle. It gets very technical, very scientific. But a total eclipse is pretty rare because it's not going to happen like every other year or every year or every month. Like a full moon. We get to see a full moon every single month, and that's not rare. You know, with Total Eclipse, it's going to happen every few years, depending where you are. The last time we had an eclipse was here in the US was in 2017. It's 2024, so you can see how kind of that the hype there. You may ask, is there any solar eclipse happening later this year? Yes, actually there's a partial eclipse, which is what we're going to see here in Arizona. We typically see them like once or twice a year. And same with annual eclipse. So with the annual eclipse it's leading up to a total eclipse. So an annual eclipse is basically like a like a younger version of a total eclipse.

Kaely Monahan [00:09:46] I'm going to jump in here really quick. An annular eclipse is where you can see the edge of the sun around the moon. The ring of fire, if you will. This differs from a total eclipse in that you still get some sunlight during an annular eclipse. And for the science nerds like me, an annular eclipse happens when the moon is very close to its furthest point or at its furthest point from the Earth. And because the moon is so far away from our planet, it appears smaller than the sun and doesn't completely cover it. Hence the ring of fire. You might also hear chatter about a hybrid solar eclipse, and this refers to how an eclipse can appear to change or shift between a total and an annular eclipse. And this is because of the curvature of the Earth. Okay. Back to Tiffany. When will Arizonans get to witness a full solar eclipse again?

Tiffany Acosta [00:10:48] A full solar eclipse in Arizona. I will say the rare thing because it's like what happened in 2017, Arizona wasn't necessarily in the path of totality. And even now, today, Arizona is still not in the path of totality. Sadly, in 2044, that's when the US will have another total solar eclipse. But if you want to see another total solar eclipse sooner, it will be on August 12th, 2026. But it will be visible in Europe. So Spain and Portugal, that

area kind of like the Mediterranean side. And you can also see it in Iceland and Greenland. But for the US sadly we have to wait many, many years.

Kaely Monahan [00:11:38] Let's talk about eclipse safety. I feel like every schoolchild should know, but it never hurts to refresh. Pretty standard knowledge though. Do not look directly at the sun even if there's an eclipse. So how can you view this amazing event safely?

Tiffany Acosta [00:11:56] Yeah, 100%. So it's so funny because the other day I was talking about my brother and he was like, I'm just going to look up and like, no, do not look up. He was like, I'm just going to wear sunglasses. No, do not wear just regular old sunglasses. You have to wear solar eclipse glasses. And the reason why is they have these filters. So if you put them on just regular ladies like solar eclipse glasses, they are dark. You cannot see anything unless it's like really bright lights. And that's what it's intended to do. It's going to protect your eyes. So looking directly at the solar eclipse, even a partial one like we're having today in Arizona can cause serious damage for your eyes. And the reason is, the intense light of the sun can damage the cells in your retina. And that could leave two planets. And no one wants to be blind. During an eclipse, the sun emits like harmful ultraviolet radiation that can burn several tissues in your eyes.

Cartoon clip [00:12:54] Oh -- My eyes! The pain!

Tiffany Acosta [00:12:59] That sounds horrible. It sounds like something straight out of a horror movie, but it's true, and it causes a lot of pain and it's very dangerous. So using the eclipse glasses, they have the filters that block out the harmful radiation, and it allows you to look directly at the sun. But even then, even if you have the glasses, make sure you're not staring forever at the sun. Here in Arizona we're going to see it for three hours. Don't stare at the sun for three hours. It's still going to cause some harm. So just like, stare every few minutes. Especially during, like, the peak, which is at 11 ish.

Kaely Monahan [00:13:34] Gotcha. Well, when you are looking for, like those solar eclipse glasses, how do you know you got legitimate ones that you don't like? Buy knockoffs and lenses or something.

Tiffany Acosta [00:13:56] So yeah, depending where you go or where you are, if you were to go to a viewing party, they're obviously going to give you some free ones, and it's going to be like those cardboard ones, like the 3D glasses you used to get, like back then in the movies.

Cartoon clip [00:14:09] Cool glasses.

Cartoon clip [00:14:11] I can't even see through the lenses.

Cartoon clip [00:14:14] But you look really cool.

Tiffany Acosta [00:14:18] If you want to look it up on Amazon. There's a lot of actually businesses that sell the solar eclipse glasses, and you have to look specifically in the description wherever you're buying it. If it does have those specific UV filters and it helps you with the glasses.

Kaely Monahan [00:14:36] Because all the good stuff, all the.

Tiffany Acosta [00:14:37] Good stuff.

Kaely Monahan [00:14:38] You know, look for that, maybe NASA approved.

Tiffany Acosta [00:14:40] Yeah, NASA.

Kaely Monahan [00:14:41] Approved, just, you know, just throwing it out there -- Hi. Me again. I did a bit of digging and there is actually a rise in counterfeit solar eclipse glasses. So the thing to look for is a label that says ISO12312-2, and it should have an authentic ISO certification label as well. Your solar eclipse glasses should also state the following authentic solar filters proper fit and full coverage. If any of those aspects are missing, you might want to reconsider using those glasses. Also, I want to add that you can get a special lens filter for your camera or camera phone. I did a quick Google search for solar filters for smartphones specifically, and there are a ton out there. But again, make sure that they are authentic. Very cool. Well, is there anything else people should know about the eclipse? Or maybe some other celestial events on the horizon?

Tiffany Acosta [00:15:51] Yes, actually. So on the topic of the eclipse. Careful with your pets. So as humans, very, very curious. And we look around and obviously we're going to be wanting to look up at the eclipse, but pets like dogs and cats and any other pets that you have don't know better. So some dogs actually could also go blind because they look at the eclipse. I don't know how that looks. I don't know, I've I've read it online, but if I were you, just keep your pets in your house indoors, like far away from outdoors or any window so they don't carefully look up. And upcoming celestial events are going to be. Lots of meteor showers are happening in the month of April, so keep an eye out for that.

Kaely Monahan [00:16:33] All right. Eyes on the skies. Prayers for clear skies. For good viewing. Awesome. Well, Tiffany, thank you so much for coming on here. If people want to follow up on this, read your work. Aside from is essential Dicom, how can they follow you?

Tiffany Acosta [00:16:50] Of course they can follow me on my Instagram. It's tiffsario, t-i-f-f-s-a-r-i-o. Send me a DM. I always post all my latest articles on there.

Kaely Monahan [00:17:00] Thanks, Tiffany.

Tiffany Acosta [00:17:01] Thank you.

Kaely Monahan [00:17:40] Thank you so much for listening to Valley 101. I hope you are. Or if you're listening after 11:20 that you did get to enjoy the solar eclipse. As Tiffany said, there are numerous celestial delights for this month, so make sure to check her out on AZCentral.com to see which celestial events to put on your calendar. I have a question for you. Did you like today's episode? Did you learn something new? Why not share this episode with your friends and make sure to rate and review us? It really does help us reach more listeners like you than hey, why not give us five celestial orbs? I mean stars. We are also on social media at A-Z C podcast and can be found wherever fine podcasts are stationed. This episode was written and produced by me, Kaely Monahan, with help from Tiffany Acosta. My fellow producers Amanda Luberto and Katrina Michalak lent their ears to make sure this story sounded great. Kara Edgerson is our starfleet commander. Our soundtrack is provided by the amazing composers at Universal Production Music. Got a question about the Valley, Arizona or the great beyond? Send it to us at Valley 101.azcentral.com. Your question just might be featured in a future episode for Valley 101. I'm Kaely Monahan. Keep curious and we'll see you next week.

