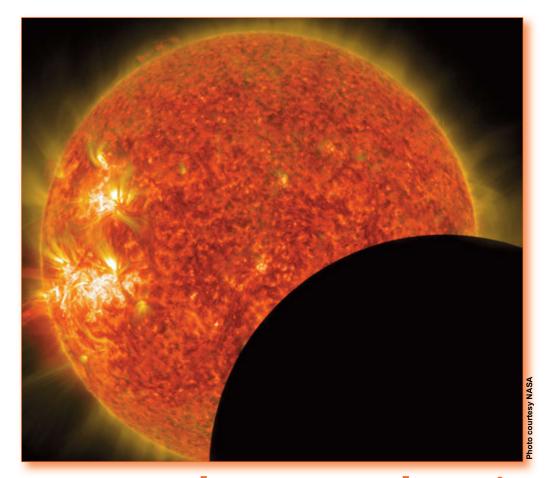
ECLIPSE SOUVENIR EDITION



2017

AUGUST 21
Columbia River Gorge



'Here comes the sun' ... there it goes

Remember: 'Where-were-you-when?' events may be once-in-a-lifetime

Gorge Solar Eclipse

Monday, August 21 9 a.m. to noon

Totality Begins At Lincoln Beach Oregon at 10:16 a.m. eave it to America. So says John Farmer, marketing and communication manager for the Oregon Museum of Science and Industry, about the hype of the August 21 eclipse.

And it is a big deal. "We're calling it 'the Great American Eclipse," Farmer quips. For the first time in 99 years, a total solar eclipse will traverse this continent from coast to coast.

While anyone in the country can glimpse a partial eclipse on this phenomenal day, select cities in Oregon will join a scattering of cities across America lined up to witness the moon fully blot out the sun. Experts predict this will be history's most watched eclipse, which will take nine to 10 minutes to cross the state of Oregon.

"For people who do this sort of thing, it's a big deal," Farmer said. "This is like the World Cup. It only comes so often.

"It's prime viewing time," he said. "It's not happening super late or super early. The huge tourism boost from Oregon — Oregon's expecting 1 million visitors."

Anyone who views the eclipse from outside of totality will need to wear eye protection the entire time – and 99 percent to-

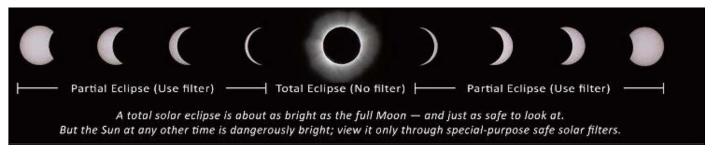
tality is not 99 percent of the fun. Part of the excitement is what you will be able to see while the sun's surface is blocked, said Jim Todd, OMSI

director of space science education. "When the

When the shadow is right over you during totality, you can see Mercury, Mars and Venus

shadow's right over you during totality, you can look up and you can see Mercury, Mars and Venus," he said. "You'll see the bright stars, and maybe — if we're lucky — we'll see a Persoid meteor."

Eclipse Souvenir Edition 2017



Don't be the one 'blinded by the light'

Cool Shades;

Safe Shades

Cascade Eye Center, in

Hood River and The Dalles,

has a limited supply of

protective glasses to safely

view the eclipse.

The 2017 solar eclipse and protecting your precious eyesight

By Bentley Barbour

The buzz is building for the upcoming solar eclipse. During the morning of August 21, the moon will be in the

right position between the earth and sun to create this special

peaking out behind the

It's always dangerous to look directly at the sun. The rays from the sun include damaging UV radiation and infrared light. Even brief direct viewing of the sun can cause solar retinopathy, or injury to retina cells in the back of your eyes. The retina does not have pain receptors so this damage can occur without any discomfort. And, this type of damage cannot be corrected by your eye doctor.

During the eclipse, it will appear that the moon is blocking enough of the harmful rays. However, it's still quite possible to do damage if you look directly at the eclipse. Viewing direct, unfiltered rays of the sun can cause permanent eye damage even if only a tiny portion of the solar disk is visible.

Dr. Chris Barbour, of Cascade Eye Center, says, "Your vision is precious. We

> want to help you safely view the eclipse without damaging your eyesight."

> > One way to safely view the eclipse is indirectly. You can reflect the image of the eclipse onto a piece of paper using a mirror. Or, you can make a "pinhole projector" using standard household supplies using instructions readily

found on the internet. With these indirect methods you will be watching an image of the eclipse

rather than looking toward the sun itself. If you want to look directly at the any part of the disk of the sun certified eclipse glasses will provide proper protection for your eyes.

Eclipse glasses have special lenses that filter out both the ultraviolet and infrared light. If you use eclipse glasses, make sure they are

See EYESIGHT, next page



Totality Tips

Concentrate on the sky Totality will be the shortest two and a half minutes of your life.

Watch moon's shadow You may see the moon's shadow approaching along the ground from the northwest to the southeast.

Get a filter in advance Cardboard eclipse "glasses" with lenses of optical Mylar cost less than \$2. Such a device will let you safely look directly at the sun anytime.

Pee before totality Make a preemptive strike 45 minutes prior.

Bring a chair

You don't want to stand that whole time, do you?

Don't forget sunscreen Remember, you'll be standing around or sitting outside for hours. This is

true solar safety. Stay flexible

Unless you're certain Aug. 21 will be clear, don't do anything you can't undo in a short time. Be ready to move.

Source: NASA

visual phenomenon. In the Columbia River Gorge we will experience a 99 percent eclipse, with almost all of the sun being blocked by the moon when at the point of maximum eclipse. At around 10:21 a.m., a tiny

sliver of the sun will be

moon. We want you to enjoy this very rare visual event, but please take care to protect your eyesight.



ISO-Certified "Eclipse Glasses," if undamaged and worn according to instructions, are safe to view the eclipse.

Eyesight

Continued from previous page

Standard or polarized

sunglasses, even if very dark or labeled

"100 percent UVA/UVB

protection," should not be

ISO certified, undamaged, and use them according to all instructions. Cascade Eye Cen-

ter will be giving away ISO-certified eclipse glasses to the first

> 400 visitors at each of its locations.

> > They are also available from a number of area eye care clinics, stores, and online vendors.

"Please rememused to view the eclipse. ber that there are many things that

> might seem to be safe to use to view the eclipse, but are not," Dr. Barbour said.

"For example, it is not safe to use regular or polarized sunglasses, even if they are very darkly tinted and have 100 percent UV protection. Some people believe that looking through a silver space blanket or Mylar balloon will allow you to safely view an eclipse, but this is not true. Likewise,



it's not safe to look through camera or telescope filters, CDs or DVDs, smoked glass, medical x-ray film, or exposed camera film. And, please don't try stacking one pair of sunglasses on top of another. Stacking sunglasses or other materials simply will not provide the proper filtering of sun-

"Please enjoy this rare event. But, please use safety precautions and avoid damaging your precious eyesight," he said





Brush up to get some eclipse 'street cred'



Don't be by yourself, 'talkin' to the moon'

Baily's Beads – (above) The effect of sunlight shining on the moon's terrain just before and after totality in a total solar eclipse, creating bright points of light at the edge of the moon's disk.

Corona - (right) The outer atmosphere of the sun that is visible during a total eclipse as a white ring around the sun.

Diamond ring - A burst of sunlight that shines like a diamond on a ring, seen right before totality begins and as it ends.

First contact - When the partial phase of the eclipse begins.

Penumbra - (below) The lighter part of the moon's shadow. We stand in the moon's penumbral shadow during the partial phases of a solar eclipse.

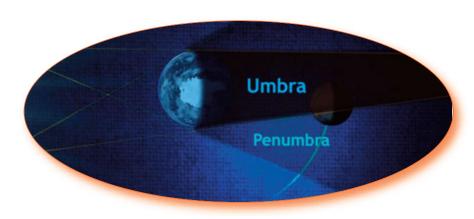
Shadow bands - Faint, wavy bands caused by the bending of light in the Earth's atmosphere that move across the ground right before and after

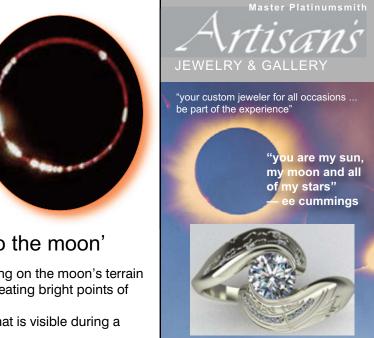
Totality – When the moon completely blocks the sun from view and casts a shadow on the Earth.

Umbra – (below) The darkest part of the moon's shadow, seen when the moon completely obscures the sun during a total eclipse.

Umbraphile - A person who loves eclipses and will travel almost anywhere to see them.

> Source: "The Big Eclipse" by Nancy Coffelt Photos courtesy NASA







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'Back at it again'

Feb. 26, 1979, brings back memories, some good, others not so much

ruids enhanced Nick Liepins' viewing experience of the 1979 solar eclipse. The Salem man watched and took photos of the event at the Stonehenge replica in Washington, just across the Columbia River from Biggs.

Liepins was with a smattering of people, including a pagan group. It was cloudy there just moments before the eclipse. Whether it be coincidence or spiritual intervention, Liepins said the sky cleared as the groups' chants got louder and he could see and photograph the eclipse without cloud cover.

Schools opened late throughout the

From the 1979 The Dalles Chronicle: "Restaurants went into a state of shock after the crowds poured in" after the eclipse.

Gorge, as educators thought it best to keep children home that morning, rather risk

having them damage their eyesight looking at the eclipse on the playground.

Gorge traffic jams before and after the eclipse disrupted the February day. The Hood River News reported that the former VIP's restaurant had a post-eclipse line outside its door for six hours.

The 1979 eclipse was visible in total in Northern Oregon, Southern Washington and parts of Idaho, Montana, North Dakota and Canada.

Nancy Coffelt watched the eclipse in a field next to her house in Portland. Coffelt describes herself as a "kind of a science geek," so the rare event held a fascination for her.

"I was awestruck," she said. "It changed how I looked at the world around me — the universe around me," Coffelt said. "It sparked a love of space science that included writing about space."

Coffelt is the author and illustrator of children's space-themed books "Dogs in

Space," published in 1993, and the 1999 follow-up "Dogs in Space, the Great Space Doghouse."

Coffelt teamed with Elaine Cuyler, the "chief eclipse officer" who is educating and promoting the upcoming eclipse in the regions of the country on the path of totality. They published Coffelt's third children's science book, "The Big Eclipse."

Coffelt is looking forward to seeing the August eclipse from a hilltop in her hometown of Baker City, which is on the path of totality.

Liepins will be watching and taking pictures and video on Aug. 21 from his backyard observatory and said he may call on the Druids to make sure the skies are clear, once again.



The Feb. 26, 1979, eclipse was preceded with a lot of hype and amazement — similar to the Aug. 21 event.



Remember When:



Barbara McNab Gresham via The Dalles

"(It was) absolutely incredible ... I still get goosebumps remembering. I was fortunate enough to view it from my mom's restaurant on Underwood Mountain and watch the Hood River street lights go on and off. The dark was soooo dark. It was eerily quiet, no birds, no dogs barking ... even the crowd of people were silent, including all the children who were bused in from White Salmon Elementary School. Mom then served coffee, cocoa and coffee cake to all who gathered at the Partridge Inn. There were no crowds and traffic did not require the National Guard to help ... a normal day, with the exception of a moment of utter amazement."



Mildred Lykens Lyle

"I lived through the last one and plan ... God willing ... to live past this one. ... I feel very sorry for those who feel that this is the most exciting thing to happen in their lifetime. I remember when the talk was how the world would come crashing down around us when the clock struck midnight escorting in the new millennium (Y2K) ... My optometrist was very adamant about the danger of looking bare eyed (or even with sunglasses) during this time. He told me that it will make irreparable damage, causing blindness to the center of the eye. And, in my opinion, any reputable optometrist will have the safe glasses free to their

patients."



Karyn Bustos **Schofield** The Dalles

"I was in grade school at St. Mary's Academy, second grade. We all made pinhole viewers to watch the eclipse. I still vividly remember seeing the shadow of it on St. Peter's Church. My little child brain thought it was God, and I was a little scared because I had fought with my sister that morning."

'And life was changed, disassembled, rearranged'



Joey Lacock **Dallesport**

"I was five years old; I remember it! My dad made me stay inside, and I got scared when it got dark. I just very vividly remember my dad standing outside on the sidewalk and me crying, watching him out of the window because I didn't like the dark. Not sure why he made me stay inside."



Greg **Borton** Odell

"There's a lot of concern now and it kind of reminds me of Y2K (in 1999-2000). I don't remember just how if felt to see (the eclipse) but I remember a very distinct dark dot in the sky. I was working for an electrician and we had some welding hoods available and we used them to look at it."



Jan **Behrmann Hood River**

"The Goldendale observatory was clouded over so a lot of people came down to our place, which was a high open spot two miles south of Goldendale. We were able to look through their professional telescopes and and I put out an urn of coffee and served donuts and it was a wonderful experience."

Eclipse Songs

Sun Has Got His Hat On - Me And My Gal Sound of Silence - Simon & Garfunkel Let The Sunshine In - Hair

Ain't No Sunshine - Bill Withers Standing in the Dark - Lawson Space Jam - Quad City DJ's Man on the Moon - R.E.M. Walking On the Moon - Police When The Lights Go Out - Five There's a Moon in the Sky - B-52s

Fly Me to the Moon - Frank Sinatra

You Are My Sunshine - Jimmie Davis Steal My Sunshine - Len Don't Look Back Into The Sun - Libertines The Killing Moon - Echo & the Bunnymen I Can See Clearly Now - Johnny Nash Total Eclipse of the Heart - Bonnie Tyler Eclipse - Pink Floyd

Beware of Darkness -George Harrison

Moon Shadow -

Cat Stevens Day and Night - Kid Cudi Mr Blue Sky - ELO Dancing in the Dark -

Bruce Springsteen Don't Let The Sun Go Down On Me -**Elton John**

Fast Fact:

There is no scientific evidence that solar eclipses on your birthday are a sign of impending bad health.

Fast Fact:

During a total solar eclipse, a 10- to 15-degree drop in temperature wouldn't be unusual. Breezes may kick up, and birds will likely quiet.

Don't 'call me on my cell phone'

At least not during the eclipse. Here's how to use your smartphone safely to take photos

> ost of the "beauty shots" you will see related to this eclipse will be taken with professional digital cameras on tripods, or shot through a telescope. But the most common photos you will probably see will be taken by the millions of smartphones used by ordinary

> > people to

capture

this

event.

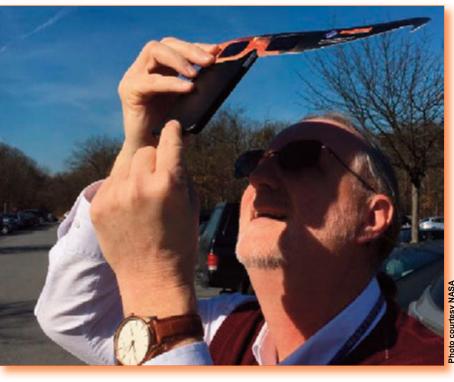
These

Live video stream from **NASA Television and** locations across the country, will be available at www.nasa.gov/eclipselive will gen-

erally not look very good with the typical smartphone system, but with a bit of preparation, you will be able to create some stunning pictures. Here are

some general guidelines for taking successful smartphone images: 1. Practice photographing the full moon to get an idea of how large the sun-in-eclipse will appear with your smartphone's lens,

or with a telephoto attachment. 2. If you are using a smartphone,



you need to make sure the image is properly focused. Don't count on your auto-focus to do this. You have to do it manually, and this is as simple as tapping the screen and holding your finger on the moon to lock the focus.

- 3. Rather than trying to photograph the eclipse itself, concentrate on what people around you are doing, but perhaps with the eclipsing sun in the field of view too. Take a time-lapse photo series of the scenery.
- 4. Consider using the **delay** timer set at 5 seconds so that once you press the exposure button, the camera waits 5 seconds before taking the shot.
- 5. **Zoom out** for a wide-angle view to lessen a pixilated image.
- 6. When manually focusing your smartphone make sure that you center the focus spot on the edge of the moon
- 7. Make sure that you stop your photography to actually view the eclipse with your own eyes!

Source: NASA

Safety First

There is quite a lot of discussion online about whether you can damage your smartphone camera by pointing it directly at the sun. The basic argument in favor of it being safe for the camera is that the lenses are generally very small and do not admit enough light. The argument for it not being safe is that some of the more recent smartphones use larger and faster lenses to get better resolution, and that can be a problem.

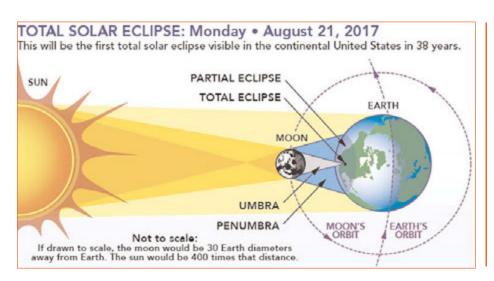
If you do shoot with your digital phone, you will need to point the camera at the sun, and you will no doubt accidently glimpse the full-on solar disk — that could damage your eyes if you prolong it.

There is no reason why you would want to photograph the unfiltered solar disk because you will see nothing but sensor blooming. Cover the camera lens with a solar filter during the moments before (and after) totality when the sunlight is still blinding. This will eliminate sun blooming and give you a clear image. Do not use sunglasses.

Source: NASA

Fast Fact:

NASA has all kinds of stuff online on how to safely view the eclipse. Find it at eclipse2017.nasa.gov/smartphone-photography-eclips.





Point a camera that records video at a digital thermometer and a watch — both of which you previously attached to a white piece of cardboard. Start recording video 15 or so minutes before totality and keep shooting until 15 minutes afterward. The results may surprise you.

'Tell me, what can I do?'

These activities will get you up close and personal to the eclipse

Try this



A tennis ball and a beach ball are different sizes. Can you make them appear to be the same size?



Hand the beach ball to a friend. What happens to the apparent size of the beach ball if your friend walks away?



Now, hold up the tennis ball. Can you make the tennis ball and the beach ball appear to be the same size? How far are you and your friend apart?

Did you know this?

During a total solar eclipse, a 10- to 15-degree drop in temperature wouldn't be unusual. And, birds will likely quiet.

Or this



View it safely: Indirectly, use a "pinhole projector" or other method to reflect the image onto a surface. Don't start a fire.



Bake this

Cook Your Smores In A Solar Oven (pizza box). The Lawrence Hall of Science will show you how at lawrencehallofscience.org.

This is where you can get a lot of solar eclipse activities?

NASA has prepared a cool activity guide. You can access it online at: eclipse2017.nasa.gov/sites/default/files/NASA Eclipse Activity Guide.pdf.

Fast Fact:

Baily's Beads were named for the astronomer who vividly accounted for the spots of sunlight breaking through the cratered surface of the Moon.

'Wait just one minute'

Something is just not right with this picture

umans have watched eclipses since before the dawn of written history, and during this long span of time scientific understanding of the physical world has grown enormously. Many of the older ideas we had about the causes and effects of total solar eclipses have

been replaced by detailed physical explanations. Nevertheless, some

ideas are remarkably resistant:

Total solar eclipses produce harmful rays and blindness.

Damage yes, but there is nothing in the coronal light that could cross 150 million kilometers of space, penetrate our dense atmosphere, and cause blindness. However, if you watched the sun before totality, you will catch a glimpse of

the brilliant solar surface and this can cause retinal damage.

Eclipses are harbingers of something very bad.

A classic case of what psychologists call Confirmation Bias is that we tend to remember all the occasions when two things happened together, but forget all of the other times when they did not.

Pregnant women should not watch an eclipse.

This is related to the previous false idea that harmful radiations are emitted during a total solar eclipse.

There are no total solar eclipses at the poles.

In fact, there is nothing especially unique about these locations from an astronomical standpoint. The last total solar eclipse viewed from the North Pole area was on March 20, 2015; the last total solar eclipse viewed from the South Pole area was on Nov. 23, 2003.

The moon turns completely black during an eclipse.

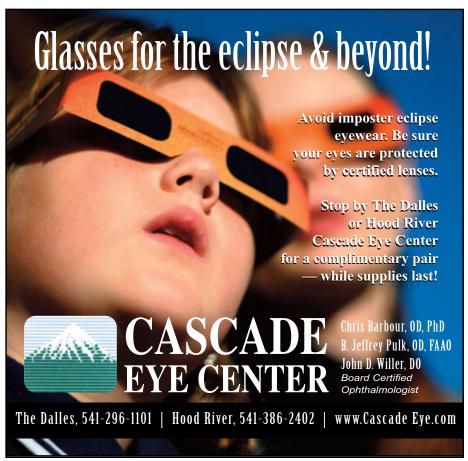
Although it is difficult to see the New Moon and check out this idea, we don't actually have to to make this difficult observation. During a total solar eclipse, the lunar surface will be dimly seen due to earthshine, surrounded by the much more brilliant corona of the sun.

Solar Eclipses foretell major life changes and events.

This is a common interpretation found in astrological forecasts, based upon coincidences and non-scientific beliefs. There is nothing other than human psychology that connects eclipses with future events in your life.

Source: NASA

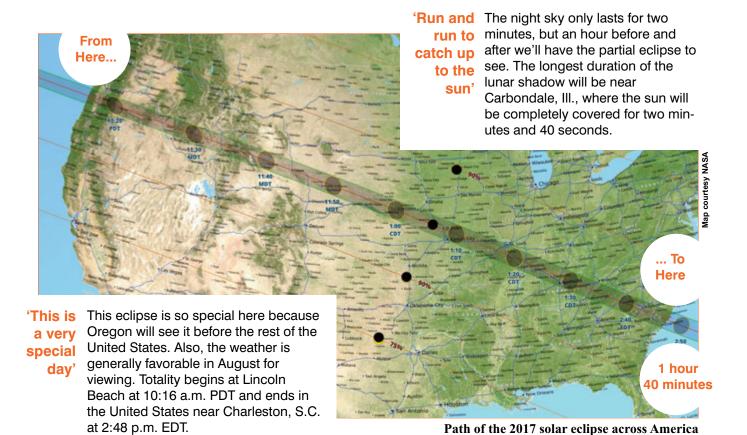














QUICK TIPS

DRIVING

- 1 million eclipse visitors + prime tourism season
- Travel delays likely on I-84, Highways 35 and 26, bridges
- Accidents + 1 million people = freeways stop statewide
- Road backups in town
- Plan ahead allow extra time be patient – avoid unnecessary travel

SUPPLIES

- Fuel & Supply shortage expected. Stock up by 8/17.

COMMUNICATIONS

- Cellular network impacts likely
- Text, don't call
- IPad/cell/point of sale impacts
- Have a backup communication plans
- Get Hood River County Citizen Alerts: www.HoodRiverSheriff.com/events/ emergency-alerts

COMMUNITY RISKS

- Peak wildfire season + tourism season + extra visitors = greater risk
- Have family evacuation plans
- Practice family emergency plans

MORE TIPS

http://www.hoodriversheriff.com/ events/ solar-eclipse-planning http://bit.ly/2vxUTQ0





Hood River County Sheriff's Office of Emergency Management



Heading to the sun? 'You ain't the only one'

It's best to prepare, before 'things get too crazy' out there

The total solar eclipse Aug. 21, 2017, is a special day in the history of Oregon. Eclipse chasers from around the country and world are coming to experience it. ODOT is estimating 1 million extra visitors to our state for this event, driving to communi-

Call service may be interrupted, which impacts your cell phone calls and texts. Texting may be more reliable than calls.

ties from western Oregon to our eastern state boundary.

Expect significantly increased traffic on Interstate 84 and highways 14,

97, 197, 35 and 26 from Thursday, Aug. 17 to Tuesday, Aug. 22. Tourism surveys indicate the vast majority of these travelers are coming from two to 12 hours away, meaning roads across the state will be impacted as tourists visit Madras, Baker City, Bend, Prineville, Lincoln

City, and communities in between. The eclipse will be visible from about 10:15 - 10:25 a.m.

August 21 is already peak summer tourism season in the Gorge — the significant increase in travelers will likely mean longer wait time at gas stations and stores — and longer travel times.

In the event of car accidents or other emergencies, travel will be more challenging. People may pull off the road to camp, run out of gas and our risks increase during peak wildfire season.

Traffic will be especially heavy and if emergencies occur, freeways and highways may be further impacted.

Anticipate possible cellular service disruptions due to the increased demand. Visitors may have urgent requests to use your landline business phone if cell service is limited.

Prepare a backup plan with neighbors, friends and family.

Getting Around

- Plan important appointments outside the peak impact days.
- Allow for extra time to get where you need to go.
- For road conditions, call 511 or visit Tripcheck.com
- Expect longer lines for fuel, restaurants and stores.
- · Stock up early!
- Gas up all of your vehicles by Thursday, Aug. 17.
- Travel with friends.
- Limit your trips in the days immediately around the eclipse to help keep roads clear.
- Be prepared. Plan for basic needs such as food, water and bathroom breaks.
- Expect traffic changes, especially around large events.

Fast Fact:

Twelve million people live within the totality path — about 68 miles in width and stretching for 2,500 miles. Nearly two-thirds of the total population of the U.S. live within a one day's drive (roughly 500 miles) from the path.

If you are 'asking some secret voice' to lead you into darkness, then perhaps eclipse chasing is for you

Then the Great American Eclipse hits Oregon in August, don't be surprised to see people from around the country — and the world.

Dan McGlaun, owner and operator of the website www.eclipse2017.org, has seen 12 total eclipses around the world. Each time another total eclipse nears, the excitement returns.

"It's absolutely amazing," McGlaun said. "It's one of the most spectacular sights you'll have in your life. It's hard to qualify what you'll experience. It'll affect you emotionally and physically. It's one of the coolest moments."

With the path of totality stretching across

Here's How

To Do It Right

Continental Capers,

which leads "astro-

nomical adventures."

booked all 72 rooms

at a hotel in Madras

more than four years

in advance

the country, eclipse chasers are choosing spots close to their region — so expect to see people from many western states, McGlaun said.

True eclipse chasers are flexible — ready to move to a different part of the path of totality if their first choice has bad weather. McGlaun has even seen people have planes

ready to take them to other parts of the path of totality on a moment's notice. The truly dedicated eclipse chasers are willing to travel around the world to see a total eclipse. McGlaun should know — he's one

He's confident that once someone experiences a total eclipse something changes inside of them.



This NASA photo was taken from the Mir space station during a solar eclipse, Aug. 11, 1999. The moon's shadow was projected onto earth.

"It's like a drug — you just want more," McGlaun said. "It's so stimulating and so unbelievably cool. You know what it's going to kind of look like, but they're all slightly

different. You can also see what the animals are doing. What the

other people are doing. People who video tape themselves, the first timers almost always do things they are embarrassed about later." There's something about seeing the sun become to-

tally eclipsed, feeling the temperature drop about 10 degrees and to stand there in awe with a group of people that a

photo can never capture. "It's more than what it looks like,"

McGlaun said. "If it was only about that, you could look at it on TV or a photo. There's something that the camera can't totally catch. You see it in person and then you see a picture, you can't believe it's the same thing."

'Chase Away The Dark'

Next solar eclipse opportunities:

Inside North America:

April 8, 2024 Texas to Maine 2033 North Alaska 2044 in Montana 2045 N. California to Florida

Outside North America:

2019 Southern South America 2020 Southern South America 2021 Antarctica 2026 Greenland to Spain 2027 Spain to Egypt 2028 Australia 2030 South Africa to Australia 2034 Africa to China 2034 China to Japan

2037 Australia to New Zealand

The U.S. Postal Service revealed a hot new stamp June 20. It's the first to utilize thermochromic **Fast Fact:** ink so that a secret image of the moon can be uncovered using heat from a finger.

of them.



A Time Capsule **Makes It Personal**

Other than watching the eclipse with your family and friends, you may want to create a time capsule (like the above one found in The Dalles in 2014), which you would open on April 8, 2024, when the next total solar eclipse occurs over the continental United States. You might want to write a letter to your older self and describe what you think you might be doing in 2024, or include some of your favorite items, or a copy of your daily newspaper.



Going To Goldendale?

Observatory Hill will be closed to traffic during this event and overnight parking is not permitted. Advance reservations are not being taken and facility access will be gained on a first come, first serve basis via shuttle buses staging at Goldendale High School, starting around 7 a.m.

2017 Solar Eclipse Tips/ **Resources From A to Z**

American Astronomical Society at eclipse.aas.org/resources/websites.

Big crowd safety bit.ly/2eZXOZa

Camping health and safety bit.ly/2eq3dNl

Disease, Source: Center for Disease

Control, www.cdc.gov

Extreme heat safety bit.ly/28LXx6e

Food and drink safety bit.ly/1gh22Bu

Gorge hiking tips bit.ly/2eg14Bf

Hazard prep bit.ly/1K9LC2u

Impared driving bit.ly/2eBRdp0

Just relax.

Keep roads clear by riding your bicycle. Leave early to get there and leave late to get home; so you don't cram the roads.

Make a family preparedness kit: bit.ly/2weqIPh

NASA at eclipse2017.nasa.gov

Optic protection: NASA

eclipse2017.nasa.gov/

Professional astronomers — See how the pros do it at the Goldendale Observatory.

www.goldendaleobservatory.com/ solar-eclipse.html

Quit stressing and enjoy the ride.

Road conditions call 511 or visit Tripcheck.com

Sun safety bit.ly/1hz2dsF

Travel tips: Oregon Department of Transportation at www.ODOT.org

Under a tree you will find shade and cool shadowing.

Vehicle safety bit.ly/2eZZstP

Www.drivelessconnect.com has carpool

eXpect traffic changes.

Your best bet may be to stay home.

Zinc will help your eyesight and help you see the eclipse.

Why Do **Eclipses Occur?**

Eclipses occur due to the special coincidence of the moon and the sun being the same anaular size.

The sun is 400 times wider than the moon, but it is also 400 times farther away, so they coincidentally appear to be the same size in our sky — thus, the phenomenal beauty of the

total solar eclipse.



In the past it was thought eclipses always occurred at noon. But the geometry required for a total solar eclipse has

nothing to do with local noon. It has to do with when the lunar shadow sweeps across a location during the time when the sun is above the horizon.

One of the more famous eclipses was in 1133, when England's King Henry I, the son of William the Conqueror, died. This event coincided with a total solar eclipse that lasted over four minutes on Aug. 2.

Sources: NASA; history.com (Henry photo)

We defer to Sir Isaac

Solar eclipses are a reaffirmation that there is a sublime clock-work regularity to the universe as Sir Isaac Newton admired more than 300 years ago.

A couple of times during totality, take a few seconds to tear your eyes away from the sky and scan Fast Fact: the horizon. You'll see sunset colors all around.

For the next 55 years, there will be 24 partial eclipses visible from Oregon, including two annular Fast Fact: eclipses — in 2023 and 2077 — but no totality eclipses.



