
Solar eclipse to darken skies over Asia, Pacific

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While they are in different parts of the world, both men are motivated by the same desire – to catch a glimpse of Tuesday's solar eclipse.

It is set to occur from 8:38 p.m. to 8:42 p.m. A total eclipse will be witnessed in parts of Southeast Asia including Indonesia and the Pacific Ocean and a partial eclipse upwards of 70 percent will be visible in parts of Alaska, Hawaii, Guam, and American Samoa.

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"Each time is like going to the seventh game of the World Series with the score tied in the ninth inning," said Pasachoff, the chairman of the International Astronomical Union Working Group on Solar Eclipses who was leading a tour group that will watch the eclipse from the island of Ternate, an island where Wallace penned his famous 1858 essay on evolution by natural selection.

Much of the excitement around the eclipse is in Indonesia, where many islands will go dark. Hotels have been booked since 2014, eclipse watchers Sam Huang, and local festivals are being organized across the sprawling island nation to celebrate the occasion.

"I look forward to watching the moon slowly cover the sun and seeing the sky grow darker and darker until I am able to see the stars and planets," Huang, who is traveling to the island of Palu from the Philippines to watch the eclipse, told FoxNews.com. "I've heard it's almost a supernatural experience, and of course hearing the reactions of everyone around me will be fun to experience."

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Kentrianakis, who is the solar eclipse project manager for the American Astronomical Society, has booked seat 6F

on Alaska Airlines Flight 870 to watch the solar eclipse at about 36,000 feet. After hearing from intrepid “eclipse-chaser” Joseph Rao last fall that flight 870 would be in the right place at the wrong time for the eclipse, the airline said it agreed to reschedule the flight so it would depart 25 minutes later.

“I must say being a veteran eclipse chaser I’m a little nervous about this one. Why? I’ve never viewed a total solar eclipse from an airplane,” said Kentrianakis, who says he and his fellow passenger will be the only Americans not leaving the United States to view the eclipse.

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“Having seen nine total solar eclipses on the ground all across the world, I don’t know what to expect,” he told FoxNews.com. “From what I hear it’s quite spectacular seeing the entire shadow of the Moon sweep across the skyscape and envelope the plane into darkness. I can’t imagine it getting more dramatic than that.”

And if you can’t see the eclipse first hand, there will be plenty of options to see it live on the web. [NASA TV](#) will broadcast it live while the [Slooh Community Observatory](#) is streaming the eclipse.

An eclipse occurs when the moon passes directly between Earth and the sun.

When the moon’s shadow falls on Earth, observers within that shadow see the moon block a portion of the sun’s light. During totality, the sun appears to have a wispy white halo, offering ground observers a rare direct view of its atmosphere or corona, normally kept out of sight by the intense brightness of the solar disc.

This one is considered especially significant because it is lasting for several minutes. Eclipse range from zero to seven minutes and the next one, which takes place across the United States on Aug. 21, 2017, is expected to last about 2 minutes and 41 seconds.

For scientists like Pasachoff, a total eclipse offers a rare chance to directly observe the interactions between different layers of the sun’s atmosphere, known as the photosphere, chromosphere and the solar corona.

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“It’s shape changes all the time so we only get these high resolution glimpses for two or three minutes every year or two,” Pasachoff said of the corona.

“If you were a heart surgeon and somebody told you that you had to go to Indonesia to look into a human heart for two minutes and then somebody told you two years later you had to go Africa for another two minutes, there would be no question,” he said. “You wouldn’t be asking why bother going back.”

An eclipse also gives scientists the opportunity to study coronal mass ejections, where bubbles of gas burst forth from the sun’s corona and sometimes head to Earth. In the worst case scenarios, they can spark solar storms which can knock out communication networks and disable satellites.

“Every eclipse is different because the Sun goes through an 11 year sunspot cycle and there are big eruptions that come out of the sun – some of which hit the earth and can zap billion dollar satellites,” Pasachoff said, who will be observing this eclipse with a series of telephoto lens and a small telescope. “We want to know about these eruptions and how fast they go and how to predict them.”