

Sun-Earth Day Highlights (06-20-08)

Eclipse 2008: China

Interview with Fred Espenak on Passion

[Troy Cline]

"Some people see a partial eclipse and wonder why others talk so much about a total eclipse. Seeing a partial eclipse and saying that you have seen an eclipse is like standing outside an opera house and saying that you have seen the opera; in both cases, you have missed the main event."

Jay M. Pasachoff in (1983)

Field Memorial Professor of Astronomy

Director of Hopkins Observatory

(refer to <http://www.mreclipse.com/Totality2/TotalityCh01.html>)

Although that quote was made in 1983 by the Director of Hopkins Observatory, Jay M. Pasachoff, similar comments have been made thousands of people who have had the opportunity to witness total solar eclipses ...yours truly included.

My name is Troy Cline and welcome to another Sun-Earth Day Highlights podcast. In our last podcast we talked with one of the world's foremost experts on eclipses, Fred Espenak. He filled us on the different types of eclipses and gave us some information about an upcoming eclipse that will occur on August 01, 2008, and will be visible from within a narrow corridor that will traverse half the Earth. The path of the Moon's umbral shadow will actually begin in Canada and extend across northern Greenland, the Arctic, central Russia, Mongolia, and China.

In today's podcast we'll continue our chat with Fred. Since he has witnessed many eclipses, I asked him to explain 'what it feels like' when you're 'in the path' of a total solar eclipse.

[Fred Espenak]

It transforms the scenery, the landscape, from bright sunlight to this very eerie unearthly twilight in just a handful of seconds. It's very dramatic. It's unlike anything that anybody ever sees in their normal daily life because you get plunged into twilight about as dark as the sky perhaps 45 minutes after sunset. You can start to pick out the brightest stars. The dramatic thing about it is you are plunged into this twilight in 30 seconds from bright sunlight. It's a very scary event to see day turned into this eerie twilight. Even with cultures that saw it 2000 years ago, you can understand and relate to how this terrified them. Even today when we understand the mechanisms for how eclipses take place it still sends a chill down your spine when you see one of these events.

[Troy Cline]

Since Fred has witnessed many types of eclipses, I asked him to tell us which type of eclipse he enjoys the most: Solar or Lunar?

[Fred Espenak]

It's hard to say whether I enjoy Solar or Lunar eclipses more. Certainly from the viewpoint of a spectacle in the sky, nothing can compare to a total solar eclipse. However, you're putting all of your eggs in one basket because you've only got 2 or 3 or 4 precious minutes when you've got that opportunity to see the Sun's corona. All of the equipment has to be working perfectly. There can be no slip-ups. The weather has to cooperate and you have to be at the right place at the right time. And it is very stressful. After the eclipse is over there is a great release and exuberation even if it's cloudy. The pressure is off and you can relax. So it's stressful leading up to the eclipse but a great exhilaration afterwards.

On the other hand, with a Lunar eclipse, it's a very beautiful event but it doesn't have that excitement like a shuttle launch or a solar eclipse where you've just got those two minutes. With a lunar eclipse the total phase usually lasts for an hour or more. So it's much more of a leisurely event. You can sit back and watch it and relax. So I like Solar and Lunar eclipses for different reasons.

[Troy Cline]

I asked Fred to tell how long he has been 'eclipse chasing' and why?

[Fred Espenak]

This year will mark the thirty-eighth year that I've been chasing eclipses. The first eclipse that I witnessed was back in 1970. At the time I was a high school student. I was an amateur astronomer and I knew about this eclipse several years in advance. And it was unique in that it passed through the eastern United States. It was only 600 miles from where I lived. Relatively close, so this was a great opportunity. I think I had only had my driver's license for about three or four months; convinced my parents to let me take my car, un-chaperoned, 600 miles south to North Carolina to get into this path of the eclipse. I thought I was really ready for this eclipse. I had read a lot of information about it. The magazines had a lot of stories about it. I had a small telescope with a camera and I was going to take some pictures. And the experience of seeing that total solar eclipse changed my life. I was so captivated by those brief two and a half minutes that I knew could not possibly be a once in a lifetime event for me. I had to see another one.

I knew there was one 21 years in the future at that point, in Mexico in 1991, which was relatively close by because it was the same continent. But even that was too long of a wait. Two years later there was one up in Canada and unfortunately I was clouded out. The next one was tougher to get to. That was in North Africa in the Sahara desert. By then I was in college. So I approached the alumni organization and worked out a deal where I would give some lectures in the planetarium if they helped financed my expedition to North Africa for that eclipse.

So that started me on my road to traveling the world for observing these eclipses and I've been to every continent now to see and photograph an eclipse, including Antarctica.

[Troy Cline]

During our conversation I soon found out the words 'eclipse chasing' might not be the most accurate terminology. In Fred's experience you don't actually chase an eclipse...you kind of 'intercept' them.

[Fred Espenak]

Well I'll tell you one little story about eclipses. Sometimes people refer to those of us who pursue eclipses as eclipse chasers. That's not actually accurate because we go to where the eclipse will be, before the eclipse arrives. So we are more eclipse waiters than chasers. But never-the-less, I was in Africa about 28 years ago in for an eclipse. It was a clear day at the beginning of the partial phases and it quickly changed to completely clear to 95% overcast. We saw holes of sunlight and shadows moving across the valley in front of us. So five minutes before totality, we were cloudy where we were and jumped into this van. Tore down these roads and got into a point where we were back in view of the Sun just as totality began. The vehicle was still moving. We jammed on the brakes, everyone jumped out and we got to watch about half of totality before the edge of the clouds caught up to the sun and covered up again. At that point I grabbed my binoculars and ran down the road. The clouds were moving so slowly I caught up the edge of the clouds and saw the moon and the Sun move back into the hole and I watched third contact on the run.

[Troy Cline]

Often during these interviews I like to throw in a question about an experience that was unexpected or just flat out funny. With a slight grin on his face, Fred jumped right in.

[Fred Espenak]

A couple of odd things that have happened during eclipses; actually this happens fairly regularly at eclipses, but one time in particular that I remember was in central Africa in 2001. About five or ten minutes before totality the sky is just starting to look dusky. There is still bright sunlight but the colors are getting odd, and the shadows are getting odd. Right about that time the crickets started coming out. They came out with a thunderous roar that was amazing. They chirped right through totality and as soon as the Sun started coming back out again they quieted back down again.

In upcoming podcasts we'll talk further with Fred about his experience as an eclipse photographer. Lou Mayo will fill us in on the latest Sun-Earth Day supported eclipse activity for Amateur Astronomers. We'll also hear from the chief editor of Sun-Earth Day's Technology Through Time series, Sten Oderwald, about the latest eclipse additions.

I hope you enjoyed this Sun-Earth Day Highlights podcast. We are very interested in hearing your questions and comments. If you have something to say, just send an email to sunearthday@gmail.com . If selected we'll share it on one of our upcoming podcasts!

For all other details about the Sun-Earth Day program including information about our past SED themes be sure to visit our website at sunearthday.nasa.gov.