

total **Eclipse**
AUGUST 21, 2017



Jefferson City, MO



Madras, OR

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00:00:00,240 --> 00:00:03,270

Ok thanks a lot yeah we are live in Jefferson City Missouri.

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00:00:03,270 --> 00:00:07,399

Jefferson City is actually the state capitol and as you can see behind me there's a lot

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00:00:07,399 --> 00:00:08,620

of people that are here.

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00:00:08,620 --> 00:00:10,969

It's been a whole weekend type of thing.

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00:00:10,969 --> 00:00:15,469

Saturday, Sunday and of course here on Monday - lots of family friendly things..there's

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00:00:15,469 --> 00:00:19,510

been corn mazes, 5k runs there's a lot of good food.

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00:00:19,510 --> 00:00:23,740

Too bad you can't smell the food but there's a lot of good food here as well and just a

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00:00:23,740 --> 00:00:24,820

very nice weekend.

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00:00:24,820 --> 00:00:26,340

The weather has been perfect.

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00:00:26,340 --> 00:00:29,789

We've had some showers and thunderstorms off to the west all morning, we've had a few high

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00:00:29,789 --> 00:00:33,870

clouds kinda stream on in but certainly things are looking really good.

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00:00:33,870 --> 00:00:38,130

I'm lucky to be joined here by two special people that are going to be talking about

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00:00:38,130 --> 00:00:40,890

space, weather and just how things work in space.

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00:00:40,890 --> 00:00:48,570

Dr. Janet Kavandi thank you so much..you are the director of the NASA Glenn Research Center

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00:00:48,570 --> 00:00:49,570

in Cleveland.

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00:00:49,570 --> 00:00:54,220

You are also a three time shuttle astronaut..that's right.. and your actually from Springfield

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00:00:54,220 --> 00:00:56,420

Missouri so welcome home.

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00:00:56,420 --> 00:00:58,590

Thank you it's great to be back.

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00:00:58,590 --> 00:01:02,300

So now we've been talking about a lot about safety and obviously you don't want to look

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00:01:02,300 --> 00:01:03,590

right up at the sun.

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00:01:03,590 --> 00:01:07,549

Not without these that's right ..and so we all have some that's good.

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00:01:07,549 --> 00:01:12,610

But what about the astronauts that are up

in space what is there to help keep the astronauts

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00:01:12,610 --> 00:01:16,430

safe from the solar radiation and so on and so forth.

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00:01:16,430 --> 00:01:20,159

Well for their eyes we know that they know certain windows they should not look out of

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00:01:20,159 --> 00:01:24,100

because there' s no protection and other windows have protection on them that help shield their

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00:01:24,100 --> 00:01:29,110

eyes but also there's other kinds of radiation like protons that come from the sun heavier

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00:01:29,110 --> 00:01:34,219

particles that can cause damage to our cells and we try to shield the astronauts as best

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00:01:34,219 --> 00:01:38,270

we can because they're above the atmosphere we're shielded here by that atmosphere quite

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00:01:38,270 --> 00:01:43,810

a bit but above that you don't have that natural shielding so we have to do it with metal in

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00:01:43,810 --> 00:01:48,210

the vehicle and then some water bags around the sleeping station so they can sleep surrounded

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00:01:48,210 --> 00:01:51,090

by water and that also helps absorb some of that radiation.

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00:01:51,090 --> 00:01:56,700

Ok now you know we also are kinda excited

about space communications and that's certainly

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00:01:56,700 --> 00:02:02,549

another special research area and uhm so also
with me here today is Dr. Tamatha Scofe and

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00:02:02,549 --> 00:02:06,920

you're from the Aerospace Corp. in Los Angeles
so welcome to central Missouri.

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00:02:06,920 --> 00:02:07,920

thank you.

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00:02:07,920 --> 00:02:13,100

Now you're also a space meteorologist and
you also referred to a the space weather woman

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00:02:13,100 --> 00:02:18,610

...I am .. so I've intrigued by this what
exactly does a space weather woman do?

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00:02:18,610 --> 00:02:22,820

Well most people don't realize that the sun
actually has its own unique weather that comes

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00:02:22,820 --> 00:02:31,094

from it and those solar eruptions that come
from the sun they actually hit earth and cause

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00:02:31,094 --> 00:02:34,180

issues for us so I actually do a weekly broadcast
weather predictions just like you do like

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00:02:34,180 --> 00:02:38,430

a meteorologist that talks about when these
events hit earth and the types of issues that

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00:02:38,430 --> 00:02:41,740

they cause for things like communications
like GPS and other systems.

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00:02:41,740 --> 00:02:44,280
OK we're just about 15 seconds actually away
I believe from totality so we're going to

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00:02:44,280 --> 00:02:45,280
put our glasses on and you can hear the crowd
cheering in the background and it is getting

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00:02:45,280 --> 00:02:46,280
dark.

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00:02:46,280 --> 00:02:47,280
We're getting close to Baily's Beads cause
here we go we're almost at totality and you

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00:02:47,280 --> 00:02:48,280
can see the Baily pictures almost the diamond
ring right there and there we go I think we're

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00:02:48,280 --> 00:02:49,280
at totality.

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00:02:49,280 --> 00:02:50,280
So now you can take your glasses off and it
is amazing you can actually see the corona

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00:02:50,280 --> 00:02:59,680
a lit bit through the clouds.

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00:02:59,680 --> 00:03:07,590
That is incredible.

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00:03:07,590 --> 00:03:21,270
Now Dr. Kavandi you've been in space you've
numerous sunrises and sunsets from the space

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00:03:21,270 --> 00:03:23,090
shuttle how does this event compare?

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00:03:23,090 --> 00:03:27,010

Oh this is completely different than anything
I've seen before I've never I never saw an

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00:03:27,010 --> 00:03:32,230

eclipse, I mean I've seen a partial but nothing
like this this is really unique and nothing

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00:03:32,230 --> 00:03:33,230

like I saw in space.

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00:03:33,230 --> 00:03:35,340

Space has it's really cool visuals but this
is really amazing.

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00:03:35,340 --> 00:03:38,950

You know I'm starting to hear the crickets
they're starting to come out obviously the

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00:03:38,950 --> 00:03:41,540

street lamps uhm this is just amazing.

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00:03:41,540 --> 00:03:45,570

Now I'm also looking up to try and find the
big dipper and some of the other stars..yeah

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00:03:45,570 --> 00:03:47,060

not through the clouds likely.

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00:03:47,060 --> 00:03:48,060

Right.

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00:03:48,060 --> 00:03:53,580

And I'm like almost I'm really mesmerized
by this this is a spectacular event we've

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00:03:53,580 --> 00:03:57,430

had several solar storms that have been launched

and some of them have been launched from the

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00:03:57,430 --> 00:04:01,870
left side of the sun so we're actually seeing
a difference from what the corona would look

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00:04:01,870 --> 00:04:04,240
like in our predictions to what it looks like
now.

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00:04:04,240 --> 00:04:09,380
And on top of that we have Ham radio operators
all over the state right now who are making

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00:04:09,380 --> 00:04:14,630
contacts that they haven't been able to make
because the upper atmosphere is just all turbulent

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00:04:14,630 --> 00:04:15,630
right now.

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00:04:15,630 --> 00:04:19,560
It affects the communications signals so we've
got GPS operators and Ham radio operators

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00:04:19,560 --> 00:04:21,062
doing a ton of science right now.

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00:04:21,062 --> 00:04:22,970
So its just so overwhelming.

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00:04:22,970 --> 00:04:23,970
This is amazing.

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00:04:23,970 --> 00:04:28,749
Now my team of atmospheric science researchers
from the University of Missouri they are actually

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00:04:28,749 --> 00:04:33,580

sending up weather balloons here this afternoon
to try to figure out how the weather is changing

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00:04:33,580 --> 00:04:37,310

at certain height levels and actually here's
a map of the solar radiation throughout the

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00:04:37,310 --> 00:04:41,479

state of Missouri and you can kinda see how
much solar radiation is hitting the surface

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00:04:41,479 --> 00:04:45,740

of the earth here in Missouri.

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00:04:45,740 --> 00:04:47,870

Ah just interesting.

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00:04:47,870 --> 00:04:49,139

This is amazing.

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00:04:49,139 --> 00:04:54,139

It is and you can tell the crowd is just mesmerized
this is so cool and you can even see the dips

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00:04:54,139 --> 00:04:57,900

and the valleys as you can see little areas
of the sun where it is shining though more.

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00:04:57,900 --> 00:05:02,120

Right and those create the Baily Beads so
we'll see as we get out of totality which

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00:05:02,120 --> 00:05:03,900

is coming up here pretty soon.

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00:05:03,900 --> 00:05:10,419

Right ah yeah I think we come out of totality
at 1:15:35 local time so we just have a few

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00:05:10,419 --> 00:05:15,960

more seconds of that ah absolutely an amazing event and again we're so lucky that some of

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00:05:15,960 --> 00:05:21,729

these high clouds were able to kinda fall apart yeah for a little bit so we could experience

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00:05:21,729 --> 00:05:22,729

this.

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00:05:22,729 --> 00:05:26,169

And I can't believe we can actually see the corona through the clouds..ok that's the air

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00:05:26,169 --> 00:05:31,939

horn we're coming out of totality we're gonna have to have end up so need to put our safety

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00:05:31,939 --> 00:05:38,279

glasses back on ..there we go Baily Beads we gotta put the glasses back on.

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00:05:38,279 --> 00:05:39,550

Oh my goodness!

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00:05:39,550 --> 00:05:43,699

so you can see we're coming out of totality here in Jefferson City, Missouri ladies thank

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00:05:43,699 --> 00:05:46,110

you so much for experiencing this with me.

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00:05:46,110 --> 00:05:47,240

You're very welcome.

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00:05:47,240 --> 00:05:49,069

It's quite an experience thank you very much.

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00:05:49,069 --> 00:05:53,169

So everyone's excited here in Jefferson City
Missouri the sun's starting to come out a