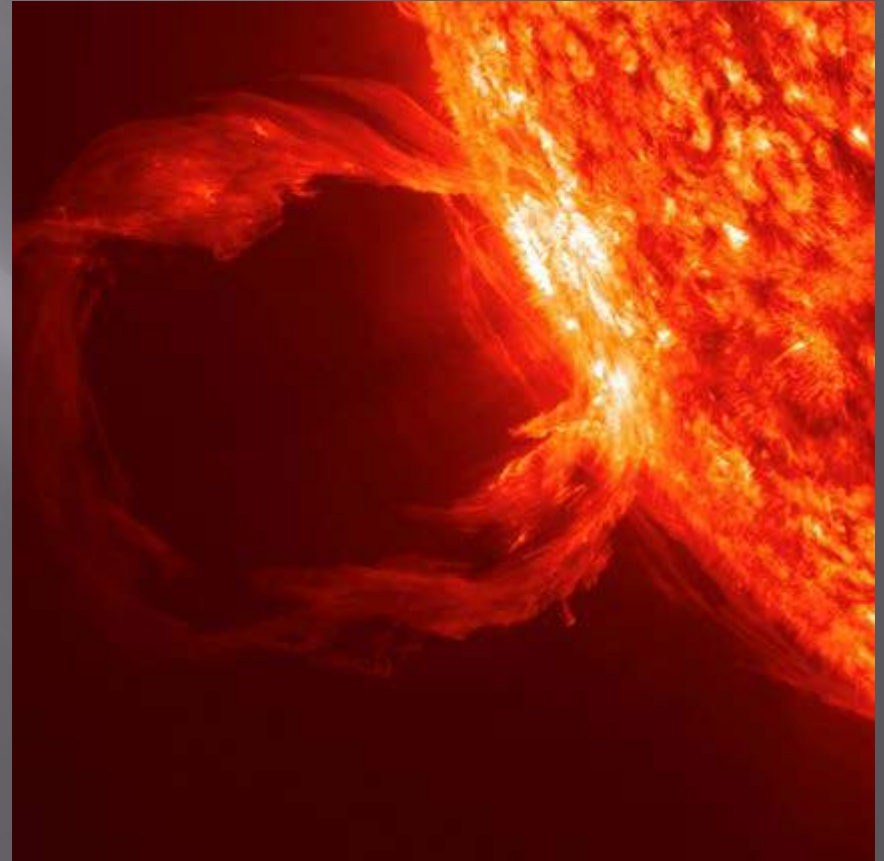


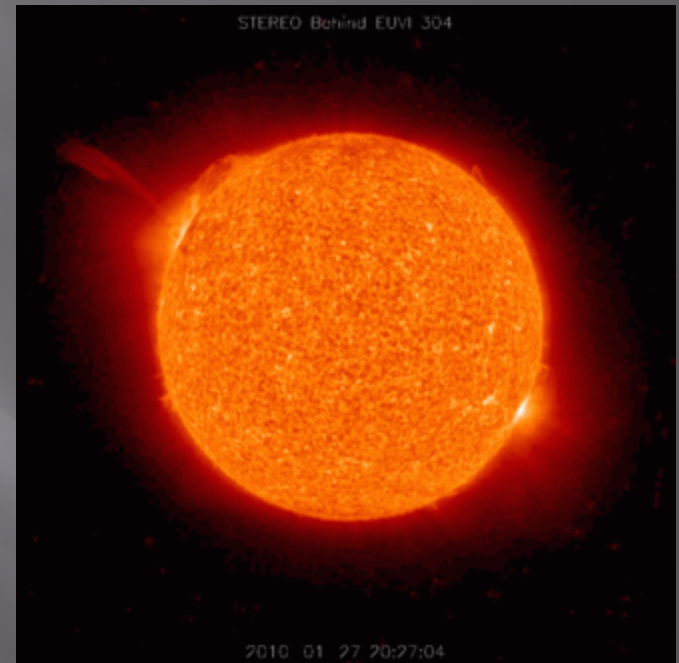
What are Solar Flares

- ▣ They are explosions of hot gases that creates a flareup (Prominence) of intense light waves, along with x-ray, U.V. IR and gamma radiation.



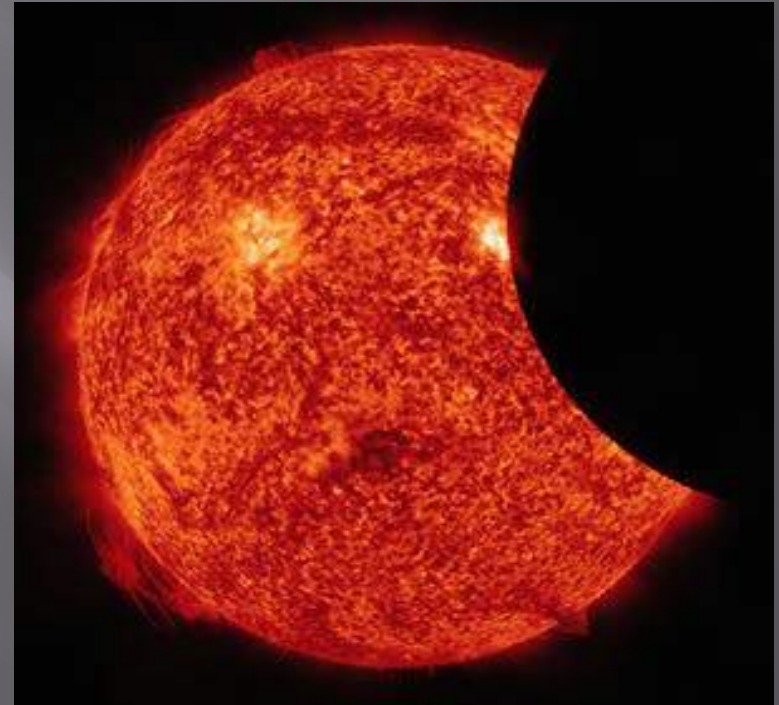
Coronal Mass Ejections

- ▣ CME's eject huge quantities of matter and electromagnetic radiation into space. Also called Solar Wind.
- ▣ It can cause radio and electrical disturbances on the Earth.



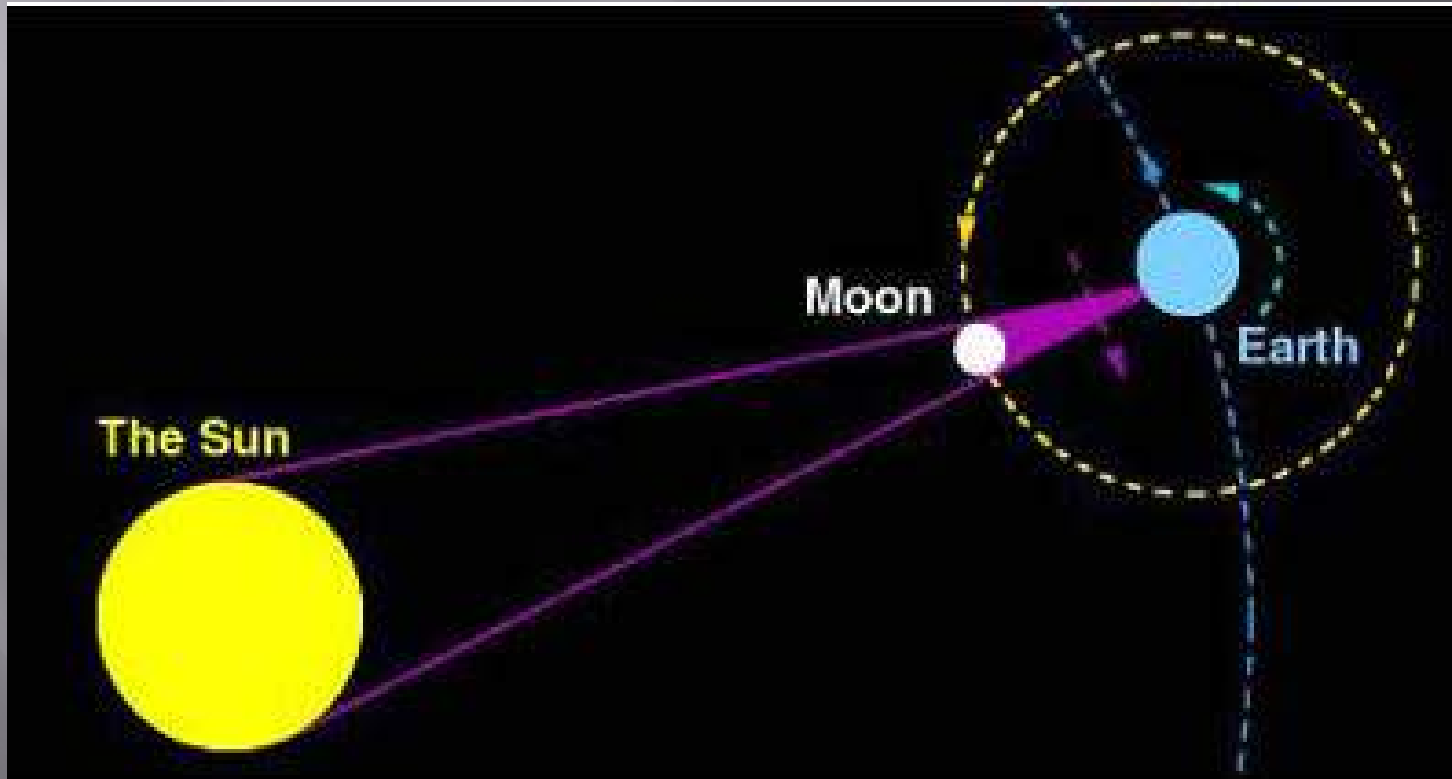
More Sun Facts

- ▣ It is roughly 400 times larger than our Moon and 400 times further away than our Moon.
- ▣ This conveniently makes the Moon about the same apparent size as the Sun which allows occasional Total Solar eclipses.



What is a Solar Eclipse?

- ▣ A Solar Eclipse occurs when a new moon passes directly between the Earth and the Sun



Types of Solar Eclipses

- ▣ The first type of Solar Eclipse is a Partial Eclipse which occurs when the Moon passes between the Earth and the Sun, but not directly centered.

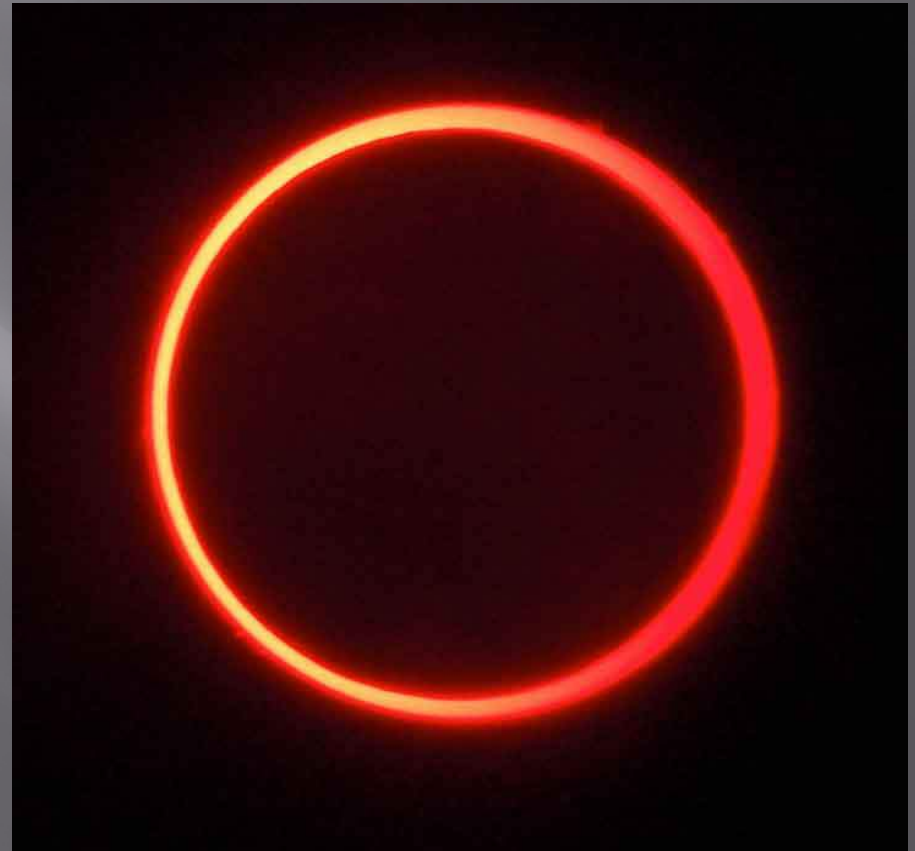


▣

June 10, 2002

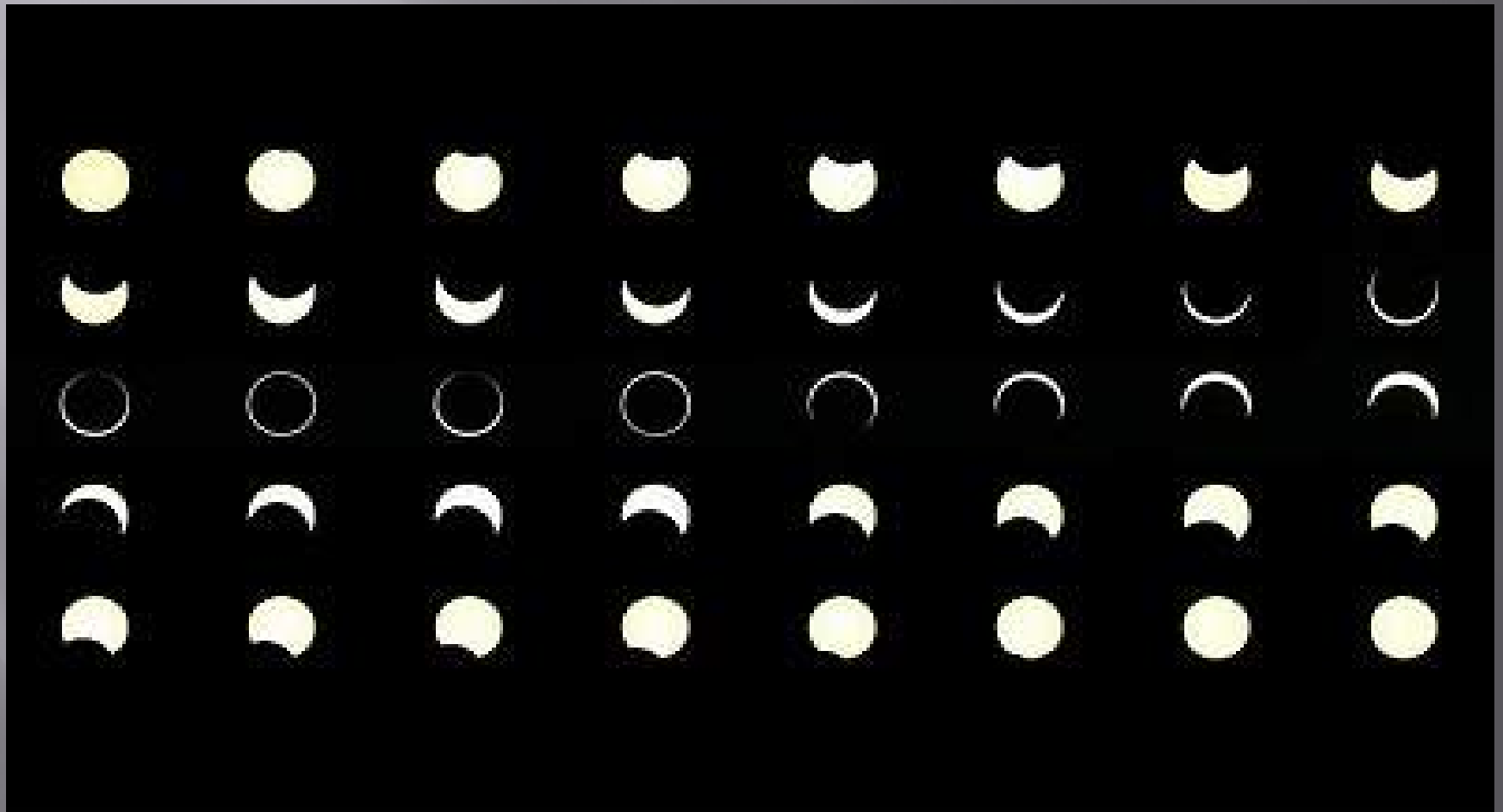
Annular Eclipse “Ring of Fire”

- ▣ The second type of Solar Eclipse occurs when the Moon passes directly between the Earth and the Sun, but is close to apogee, and therefore not large enough to block out the entire sun.



2012 Susanville
California

Progression of an Annular Eclipse



Total Solar Eclipse

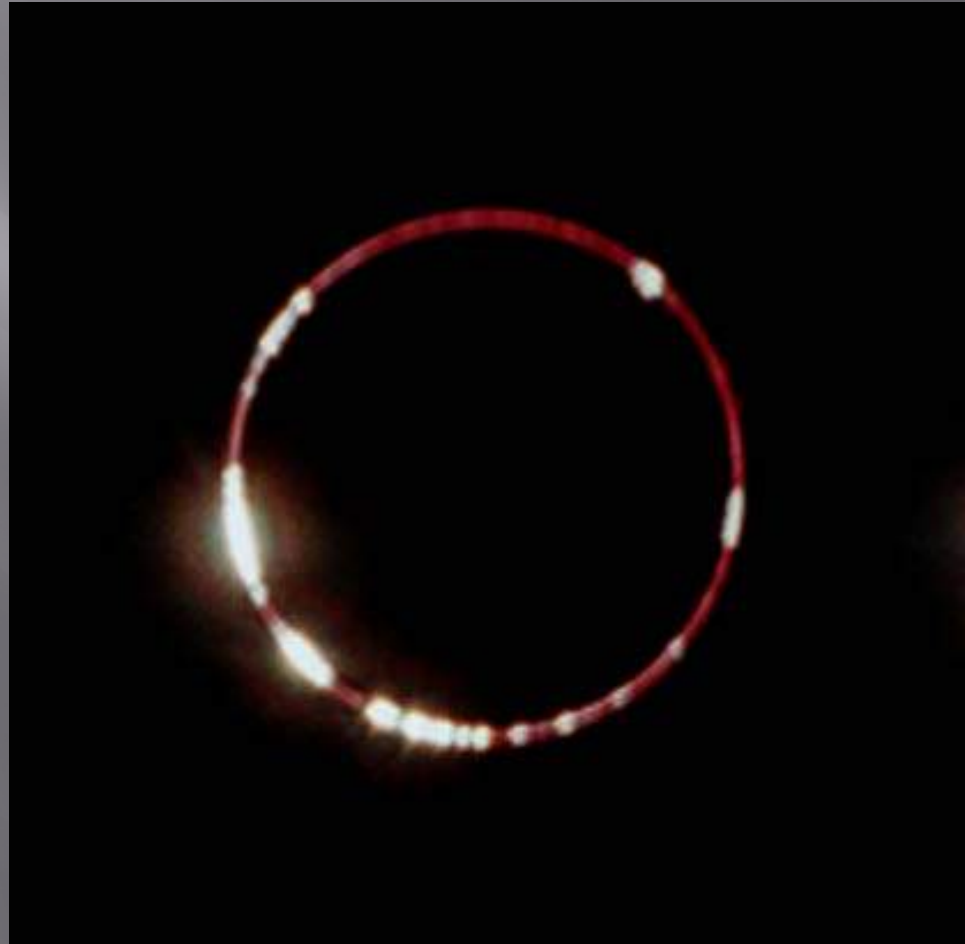
- ▣ The Total Solar Eclipse occurs when the moon is at or near perigee and is large enough to block out the entire disc of the sun, but the Sun's Corona and Solar Flares can still be seen.



Baily's Beads

- ▣ Baily's Beads occur during a total or almost complete total eclipse when the sun shines through the moons valleys.

- ▣ .



The Diamond Ring Effect

- ▣ Just prior to full totality and just after totality ends, is when a small corner of the Sun can be seen. This causes the famous “Diamond Ring” effect.



2017 Total Solar Eclipse

- ▣ There was a total Solar Eclipse on August 21, 2017 when the path of totality passed from Oregon all the way to South Carolina.



2017 Solar Eclipse

- ▣ This was
- ▣ “First Contact” when the limb of the moon first started to enter the sun's face
- ▣ Taken from Canyon City Oregon



2017 Last of partial phase

- ▣ This was taken just before the moon covered the entire surface of the face of the sun



2017 Total Phase (Full Corona)

- ▣ This was taken during the total phase of the Eclipse and clearly shows the tendrils and spicules of the Sun's Corona.



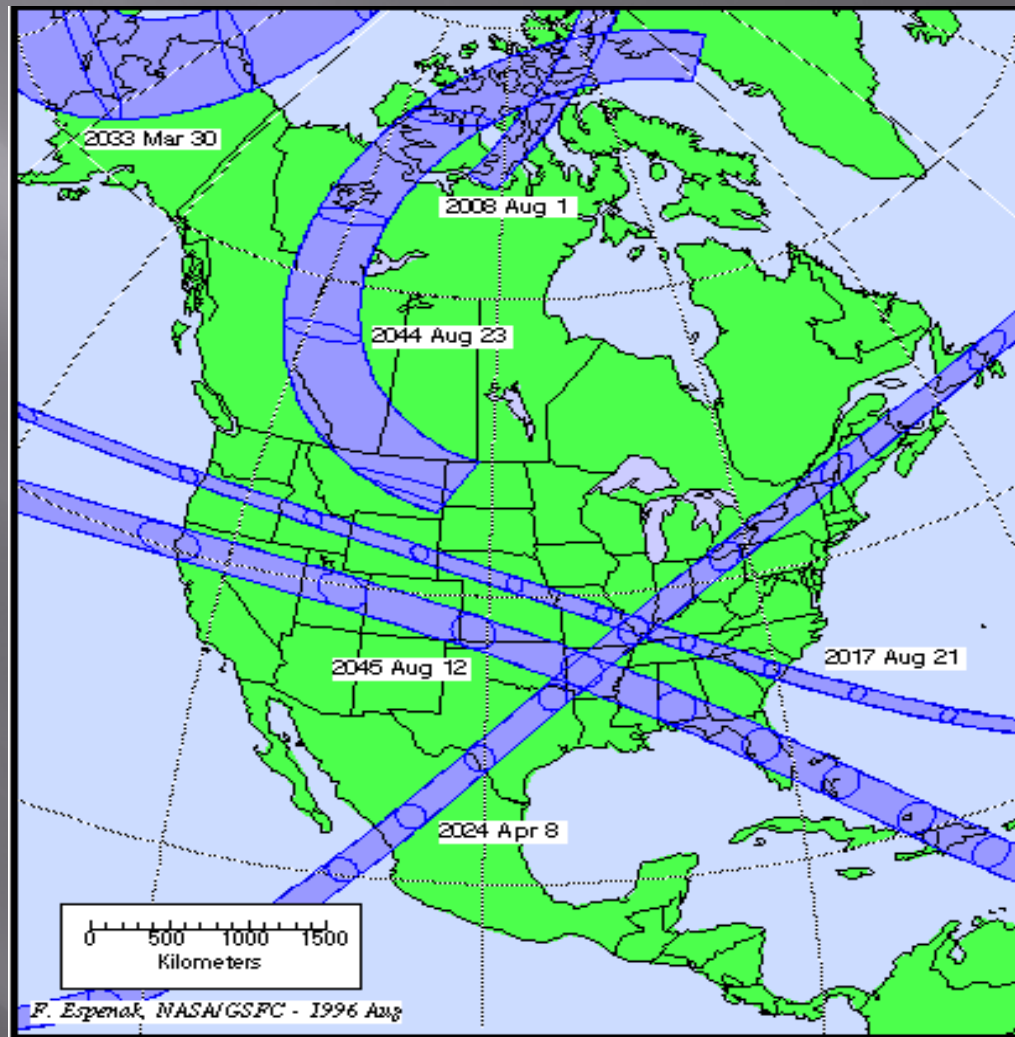
2017 End of Total Phase

- ▣ This was taken just seconds after the moon uncovered the edge of the sun which caused the “Diamond Ring Effect”



Total Solar Eclipses are Rare

- ▣ The next Total Solar Eclipse Visible From the U.S. will not be until 2024.
- ▣ It will travel from Texas to Maine.



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