



FROM I.T. DEPT and EMO: Solar Eclipse!!

The solar eclipse on 8/21/17 was visible, in partiality, to most of North America. The path of totality- or the band of where the moon’s shadow would fall on Earth– extended from the northwest in Oregon diagonally across to South Carolina. Locations offset from that path experienced a partial eclipse. The Bishop Reservation’s location was in a path of roughly 70% coverage. Viewing began at about 10 am, as the moon first moved between the sun and Earth. The partial eclipse in Bishop peaked at roughly 10:20 am PST. At the Tribal Main Offices, many people were viewing the eclipse with various devices and methods (and yes, some of us were guilty of trying to look right at it). Cloud cover had threatened to obscure the eclipse, and though it persisted, didn’t actually eliminate visibility for the whole eclipse duration. EMO staff gathered on the air monitoring platform in attempt to observe and video the eclipse.

We learned some things about the methods we used in the viewing “experiment”: 1. The cardboard box/pinholes projectors were not precise enough to reflect the crescent shape of the sun, though we could see a glowing ball of light the whole time! 2. attempts to video the eclipse were compromised by the steady stream of sunlight “entering” the “aperture” of the digital phone camera and again we had the glowing ball of light. 3. Viewing was best when there was just enough cloud cover to shield the eyes and allow near-direct viewing, which we accomplished by double-sunglasses or even better, EMO staff Gaylene Kinzy’s welding goggles and glasses. 4. Staring into the sky with multiple pairs of eyewear is a good way to look ridiculous! As evidenced by the photo of Air



The eclipse landscape in Oregon,

Quality Specialist below.

Meanwhile, Phil Fowler from Tribal IT had travelled to Oregon to view the eclipse in a more advanced fashion, and upon his return, had some interesting photos and best of all—*data*— to share with EMO. Phil had captured radio wave signal from the sun over the period of the eclipse. The Tribal weather station records continuous solar radiation levels. What can be learned from comparing them? As pictured, the radio wave logging



equipment Phil deployed at the eclipse viewing location included the radio antenna (at left) secured with guy lines, and the monitor and its data logging software on a laptop pc. Below are graphs of his radio wave data (left), and the Tribe’s solar radiation values for roughly the same period– 9:05 to 10:50 am PST. Now for the big **question**: Can YOU spot the eclipse in the graphs?! **Hint**: you don’t need to know the units, just look for highs and lows....

Answers: YES in Phil’s graph, you can see the lowest values occurring between about 15:00 to 15:25 UTC, which is 10 to 10:25 PST. (The source of the spikes is undetermined.) But note that in the graph of solar radiation intensity, the lowest values don’t occur then, though there is a dip. **Why?** Well, the answer is mentioned a few times in this article!!

