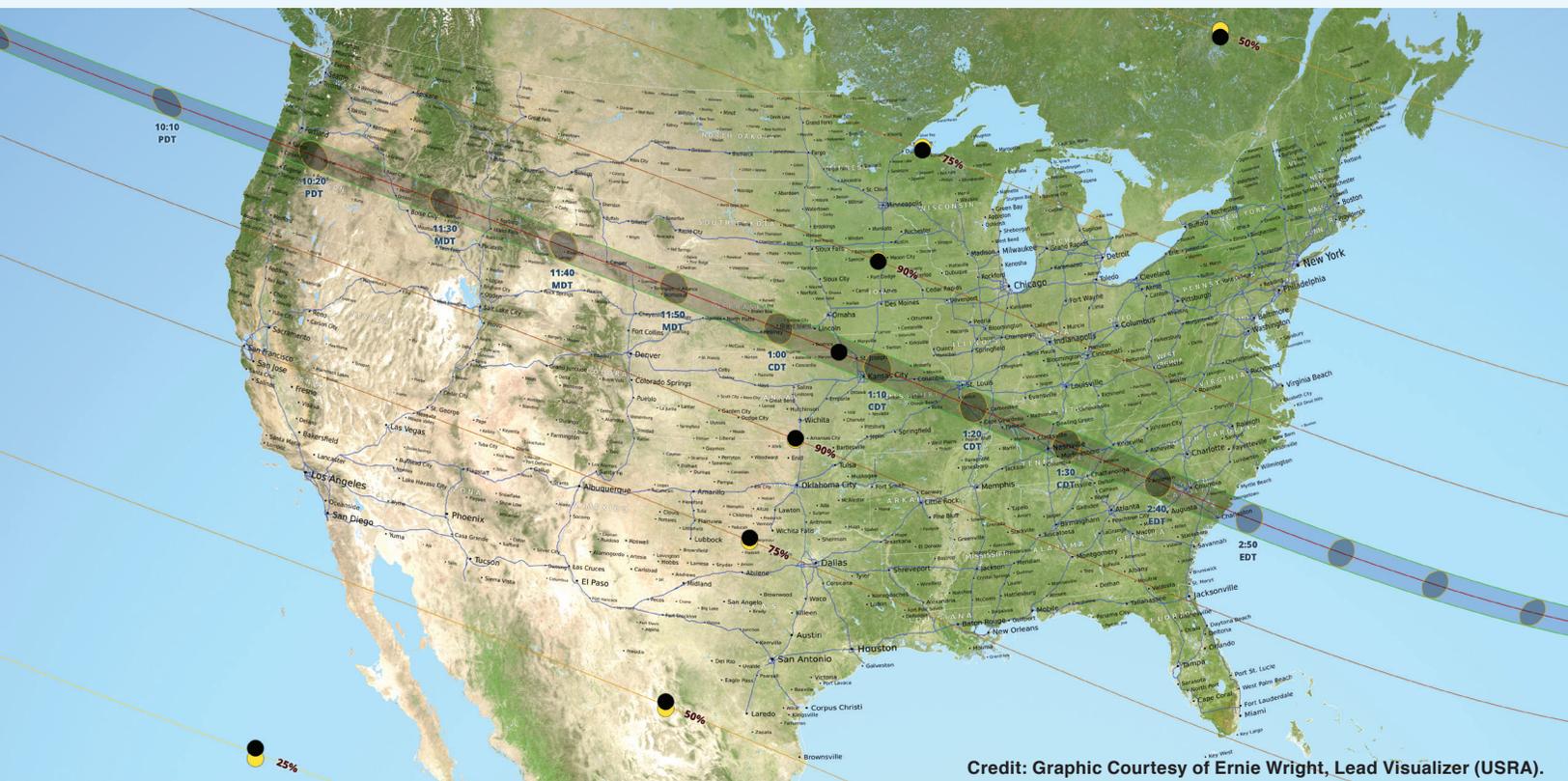


THE ATMOSPHERIC RESERVOIR

Examining the Atmosphere and Atmospheric Resource Management



Credit: Graphic Courtesy of Ernie Wright, Lead Visualizer (USRA).

A Total Solar Eclipse

By Mark D. Schneider

Prepare for some midday shade this August 21 as the moon's orbit takes it right in between the Earth and Sun. If you're willing to drive south to Wyoming, Nebraska, or Kansas then you could witness a total solar eclipse. In this limited region (see graphic), with a width of only about 70 miles, eye protection isn't necessary during the brief time (approximately two minutes) that the moon is blocking the entire disk of the sun. Eye protection is absolutely necessary for North Dakotans though. Due to our location, there will still be part of the sun that our eyes are exposed to. An arc welding helmet with glass tint certified between 12 to 14 (shade) is required to look directly at the partial eclipse, or you can order eclipse glasses online which are only a few dollars. If you don't have eye protection and wish to see the eclipse there is another alternative. Create a projection of the eclipse by holding a piece of paper with a small pinhole in its center up towards the sun and then hold another piece

of paper with your other hand down lower where you can view the shape of the partially blocked sun's image.

This total solar eclipse is already being called "The Great American Eclipse" because you would have to go all the way back to the year 1257 to experience an eclipse that touched only American soil. Usually the paths of total eclipses bring them through Canada or Mexico in addition to a sliver of America. As you can see from the graphic though, this eclipse makes landfall in Oregon and cuts right through America's heartland before exiting off the coast of South Carolina.

If you wish to partake in the totality of the eclipse there are many online resources such as one from NASA at: <https://eclipse2017.nasa.gov/eclipse-who-what-where-when-and-how> that are useful for planning your trip to see it.

Atmospheric Resource Board | North Dakota State Water Commission | 900 East Boulevard, Bismarck, ND 58505
(701) 328-2788 | <http://swc.nd.gov>

ND Weather Modification Association | PO Box 2599 | Bismarck, ND 58502 | (701) 223-4232