THE STARRY SIDE The amazing sun

BY GREELEY WELLS

My screen saver, called EarthDesk, shows a big chunk of the earth with Oregon in the middle and the sun at the bottom, slowly moving along during the day. When I see that image on, say, the tip of Baja, I know that when I look at the sun (or near it—never really look at the sun), I'm looking as far away as Baja. When it's near Hawaii, I'm seeing that far around our planet to a parallel line up from the earth to the sun in Hawaii. I'm looking at Hawaii's sun! I sense the curvature of the earth and the distances. I'm an artist, and all things visual attract me, but the sun is pretty amazing to anyone.

The sun is 99.8 percent of the whole mass of the solar system! (We're just a tiny .0 something.) Without the sun there would be nothing but empty space here. The sun's huge furnace of nuclear fusion creates tremendous outward forces, while its colossal inward-pulling gravity keeps all of us and the planets (and more!) in place.

The sun is the trigger for photosynthesis, which makes the whole plant kingdom possible and directly or indirectly feeds all the rest of us.

Interestingly, the sun and moon may look the same size in our sky, but they are far from equal! Their sizes differ by 400 times, but their distances from us are 400 times different, so they balance out perfectly. (The moon, however, is slowly retreating from us by over a

off any minute! No, no, just kidding.)

Our distance to the sun couldn't be more fortuitous-it keeps earth from suffering the too hot or too cold temperatures of most other planets.

The sun puts off more than heat and light. Charged particles from its invisible solar winds, filled with electrons and protons when they hit our atmosphere, cause the aurora borealis at the poles—another amazing artistic attraction. These solar winds also cause the tails on comets.

Other effects of the sun appeal to my artistic leanings. A total solar eclipse—which blocks the sun more notably, dramatically, and rarely than do houses, a hand, nighttime, clouds, or storms-allows me to experience the sun's chromosphere, the corona. And

quarter of an inch a year. It could fly I'm a big fan of sunrises and sunsets, grandkids, too, with all their colors and shapes and sometimes crepuscular rays coming off clouds.

> Also, the sun pours down more than enough potential solar electric power to satisfy all our needs a couple of times over, I understand. So it's a great gift awaiting exploration.

> Our whole sense of time comes from the steady, dependable, constant, and faithful rise and fall of the sun. But our seasons come from our off-center rotation (about 23 degrees) as we go around the sun. Actually, the sun doesn't move across our sky at all-we rotate, and it just looks as if it does. We are the ones moving through all that sky and everything in it.

Hopefully the sun will last for the foreseeable future (like for our great-

Crepuscular rays from the sun (pexels.com).





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right?). The sun is 4.5 billion years old and has burned only about half its fuel, so another four or so billion years should be plenty for us, even into our unforeseen or unimaginable future.

Is that enough to say about the sun? Is it amazing enough for you?

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Greeley's Sky Calendar

Mars was at its brightest in August, but it's about to fade, so get outside. Look south just below Sagittarius or the teapot. On September 1, that's Saturn above Sagittarius and Mars below it, very close to the horizon line. If you've got mountains, like I do, you'll have to find another spot to see low in the south. But it will be worth it, especially for you nutcases like me!

Venus still graces the sunset. It's dropping, but still the brightest in the sky after the moon.

The Equinox is on September 23.

The summer triangle (Vega, Deneb, and Altair), with the Milky Way going through it north to south, still dominates the sky as we fade into fall, starting overhead and making its way west. Even in winter some of it, like the Northern Cross, shows up on the western horizon.

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