

Autumn relief is in sight

By Vernon Whetstone

Amateur Astronomer

For those of us who have grown weary of the 100+ degree temperatures of late August and early September, relief is in sight.

Summer ends and autumn begins for the northern hemisphere on Sunday, Sept. 22, at 2:44 a.m., when the sun crosses the celestial equator heading south. The date is called the “Autumnal Equinox” generally so because the length of day and night will be equal.

That means the full moon on Sept. 19 will be the “Harvest Moon” as it is the full moon nearest to the autumnal equinox.

Normally the moon rises, on average, about 50-minutes later each day. However, during September, the ecliptic—the path the sun, moon, and planets follow across the sky—is at a very shallow angle to the horizon which allows the moon to rise each evening only 30-minutes later each night.

Thus, in days of yore, farmers could use the brightness of the full moon each evening for about three or four days to allow more time to harvest.

But, with the advent of modern mechanized farming of today, such light is not needed. The behemoth machines farmers use to harvest their crops come equipped with their own sources of artificial lighting and do not need moonlight to finish their harvesting chores.

The Harvest Moon isn't necessarily larger or brighter than a normal full moon, it is just the length of time the light is available each evening that gives it a distinction.

It is always fun to watch a full moon rise. It appears on the eastern horizon as a large orange sphere that seems to dwarf anything else near it looking like a giant pumpkin. As the evening progresses it takes on the bright white of reflected sunlight.

In fact, the disc of the moon is the same size as the disc of the sun, so when you are looking at a full moon you will know how large the sun is. This is possible because the sun is 400 times as large as the moon, but it is 400 times as far away, thus they appear to be the same size.

That is why it is possible to have a total solar eclipse when the total disc of the moon covers the total disc of the sun.

Comet ISON continues to brighten the closer it comes to the sun. It is still too dim to see without a moderately large telescope; however, in mid-October it should attain enough brightness to be seen using binoculars.

The discovery of another comet was announced last week; Comet C2013 R1 Lovejoy was discovered by Australian astronomer Terry Lovejoy. This makes his fourth cometary discovery. The good news is although it won't come anywhere near the brightness of ISON, they will be very close in the early morning sky in December, perhaps even being in the same binocular field of view on Dec. 25.

I have found a super website that gives a terrific 3-D display of ISON's orbit. The creator of the

site sent me an e-mail after reading one of my columns. Point your favorite browser to: <http://www.solarsystemscope.com/ison/> and enjoy the view for yourself. It is even interactive so you can play with it.

SKY WATCH: Full moon, Thursday, Sept. 19. Bright Venus has passed below the dimmer Saturn in the western sky. Both are still visible about a half-hour after local sunset but are sinking toward the horizon and Saturn will be gone from view by early October. The moon will be near the Pleiades star cluster in the early morning hours of Sept. 24, and Aldebaran on the 25th.

NEXT WEEK: More astronomical blathering.