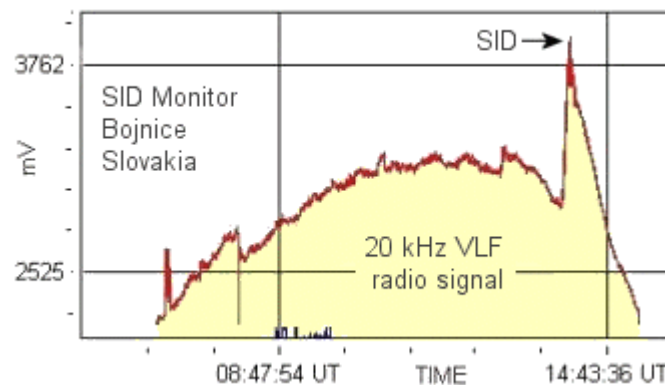


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### SUDDEN IONOSPHERIC DISTURBANCE:

Yesterday at 1415 UT, a C2-class solar flare erupted from sunspot 958. [C-class](#) flares are generally considered weak, but solar flares are so powerful, even a "weak" one can directly affect our planet. Here's proof:



When the flare erupted, amateur radio astronomer [Rudolf Slosiar](#) of Bojnice, Slovakia, was monitoring a distant 20 kHz terrestrial radio transmitter. The flare caused the signal to surge; note the spike in the plot, above. How do flares do this? X-rays from solar flares knock electrons off molecules in Earth's upper atmosphere, boosting the density of electrons in [the ionosphere](#). This, in turn, improves the propagation of very low frequency (VLF) radio waves around Earth. Such events are called "sudden ionospheric disturbances" or SIDs.

If you would like to [buy a receiver](#) and observe SIDs yourself, visit the American Association of Variable Star Observer's website for [instructions](#).

**BACKWARD SHADOWS:** "Is it the end of the world?" asks photographer [Nick King](#) of Harrow, UK. "I was in the garden at home when I saw this cloud silhouetted by the sun. It looked like a mushroom cloud to me!"



Photo details: [Canon 300D](#), 18-35mm lens

In fact, it's just an ordinary [cumulous cloud](#)--a billowing tower of moist air rising to the heavens where the water will eventually fall back to the ground as rain.

The cloud may be ordinary, but the shadows it cast are quite interesting, says atmospheric optics expert Les Cowley. Note the dark shadows at the top of the cloud; while the sun is shining down, those shadows seem to be going up. He explains: "The cloud top is actually casting shadows downwards onto two thin haze layers below it. [Perspective effects](#) make the shadows appear larger and the sunbeams appear to radiate outwards."

Backward shadows? The end of the world? You see, it's all an illusion....