

Newsletter 3: Don't Just Look Up

When the moment comes, it's more than just darkness. This part of our newsletter takes you through the final hours: the changing light, the silence, the stars, the corona — and that once-in-a-lifetime chill when day briefly turns to night. Let's walk you through what to expect.

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The "Pretty Cool" Phase - The Moon Moves in Front of the Sun

□ Time in Saldana: 19:32:59 to about 20:15
Sun Altitude: 19° above the western horizon

The Moon takes almost an hour to cover the entire solar disc. Especially during the first half hour, it's mainly about checking every few minutes with your eclipse glasses on (NEVER without glasses) or looking at the photographers' cameras. Maybe someone with a telescope will project the Sun onto a large sheet of white paper and we'll count sunspots. Even with more than half the Sun covered, it's still daylight. But at some point, the weather starts to change. The temperature begins to drop and the wind picks up. Clouds may start to form or just dissolve.

Just Before Totality – The World Changes

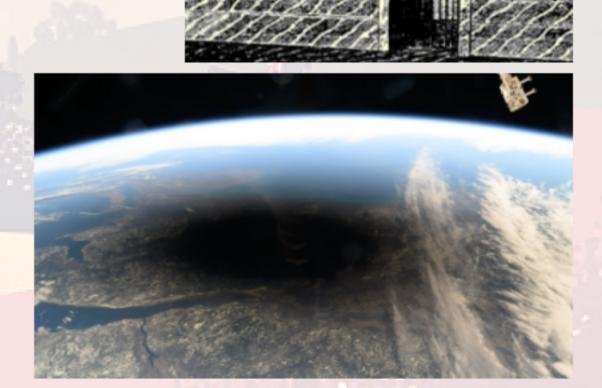
Time in Saldana: about 20:15 to 20:28:19
Sun Altitude: 9° above the western horizon

In the last 10 to 15 minutes there's plenty to experience. Not yet in the sky (although daylight dims). Even that small piece of Sun we still see is too dangerous to look at without eclipse glasses. The changes happen around us. The light takes on a strange glow. Animals and people fall silent. Birds return to their nests. The Sun slowly turns into an extremely bright star. Anyone with a colander will now see the "crescent Sun" projected through the holes – the camera obscura effect. If you don't have a colander but sit under a leafy tree, you can see the same effect.

A rarer phenomenon is shadow bands. This also happens because the Sun is no more than a point in the sky and disturbances in the atmosphere are no longer smoothed out. A white towel on the ground increases the chance of seeing this phenomenon.

If we're on higher ground, we also have a chance to see the Moon's shadow rushing towards us at at least 1700 kilometers per hour. And although the path of the eclipse is fairly wide, we can then see to the southwest and northeast those areas just outside the shadow zone. A solar eclipse always remains a local phenomenon.





Totality – 107 Seconds of Darkness

Fime in Lerma: 20:28:19 – 20:30:06, 1 minute and 47 seconds

Sun Altitude: 9° above the west-northwest horizon

During the last 30 seconds up to 20:28:19 we watch the Sun with our eclipse glasses on, but we're ready to take them off. At 20:28:19 the sunlight goes out and then we want to look with the naked eye or with binoculars. Fortunately, our eyes adapt to the darkness extremely quickly – much faster than a video camera. The precise moment to remove the eclipse glasses is when **the diamond ring** effect appears. This happens because the Moon also has mountains and valleys. The very last rays of the Sun reach us grazing through



the Moon's valleys. The diamond ring effect is naturally very brief, so you must take off the glasses in time. If you miss it, you'll have another chance at the end of totality.

Now the eclipse is total. The **stars appear**, but above all three bright planets become visible: Venus up to the left of the Sun, and just below – right above the horizon – Jupiter and Mercury. Maybe someone will point them out with a green laser pointer (illegal but indispensable).



Coronal

But of course, the main focus is on the Sun. The disc is now invisible, but precisely because of that we see the Sun's atmosphere, **the corona**, for the first time. This extended atmosphere of glowing hot hydrogen gas (much hotter than the Sun itself) looks different with every eclipse but is always spectacular.

At the edge of the covered solar disc we can sometimes, with a bit of luck and helped by binoculars, see spectacular eruptions and fountains of glowing gas: solar flares and prominences.

The photographers among us will of course focus mainly on these phenomena and therefore miss other things. Even during the 107 seconds of darkness, don't just look at the Sun but also at the night sky, the illuminated horizon, and your immediate surroundings. Don't waste time on constellations, not even if your zodiac sign is Leo (the eclipsed Sun is in that constellation). It's night, but not pitch dark. Feel the cold and experience the emotion that many people feel.

The total eclipse ends just like it started: with the diamond ring. Because we no longer have the eclipse glasses on, we may see it better now, but watch your eyes – do not look longer than necessary.

Afterparty – The Sun Slowly Returns

☐ Time in Saldana: 20:30:06 – 21:25:00 sunset

If we're not too overwhelmed, we'll try to experience the phenomena of the last 10 minutes before darkness in reverse order: the retreating Moon's shadow, the camera obscura effects, the birds flying out again. But of course, it's also time for Cava.

Actually seeing the eclipse usually works out fine, but for all sorts of reasons it's always a bit tense. Because, of course, videos are made with mobile phones on little tripods, the experience can be relived. But photos and videos are limited aids that can't really capture the emotions or the light phenomena properly. Nothing beats the human eye and human memories.

Oh, yes. The solar eclipse ends with sunset. If everything works out, we plan to organize a picnic or barbecue on location to make the experience even more memorable. If we need to, we'll pack up and head back to our accommodation afterwards. Fortunately, having dinner at 10:30 p.m. in Spain is the most normal thing in the world.

Marjan, René & Timi

Together we eclipse time, light, and distance