

## A Proton Flare Triggered the Mw 8.1 Chiapos Mexican Earthquake

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### Abstract

In a 2015 Cairo University MSc thesis by Sarah Khodairy, very strong earthquakes were found to be highly correlated with proton flares. Strange blue and green bright flashes of light across Mexico accompanied the September 2017 Mw 8.2 earthquake. Those lights were contemporary with a solar proton flare. Those green and blue lights are indicative of the arrival of proton streams over Mexico and their interaction with atmospheric Oxygen and Nitrogen respectively in analogy with aurora lights.

The proton streams attacked the weak spots of tectonic plates where the Cocos plate is being subducted below the North American plate. It is suggested that they induce telluric electric currents in the ground and in the magma thus caused motion and more subduction in the tectonic plates. Such motion immediately triggered the Chiapas earthquake in the near vicinity.

The Bz component of the interplanetary magnetic field was highly negative, a door was opened in the magnetosphere and the proton stream easily leaked inside and targeted Mexico. The proton flare was accompanied by coronal mass ejection and extremely strong X-9.3 class X-ray flare as well as magnetic storms.

On the other hand, the 19<sup>th</sup> of September Mw 7.1 Puebla central Mexico earthquake was initiated by fast solar wind coronal hole stream.

Such streams if they hit the ground they cause earthquakes, if they hit narrow seas like the Red Sea they cause flash floods. However, if they target Oceans they initiate hurricanes.

### 8.1 CHIAPAS EARTHQUAKE

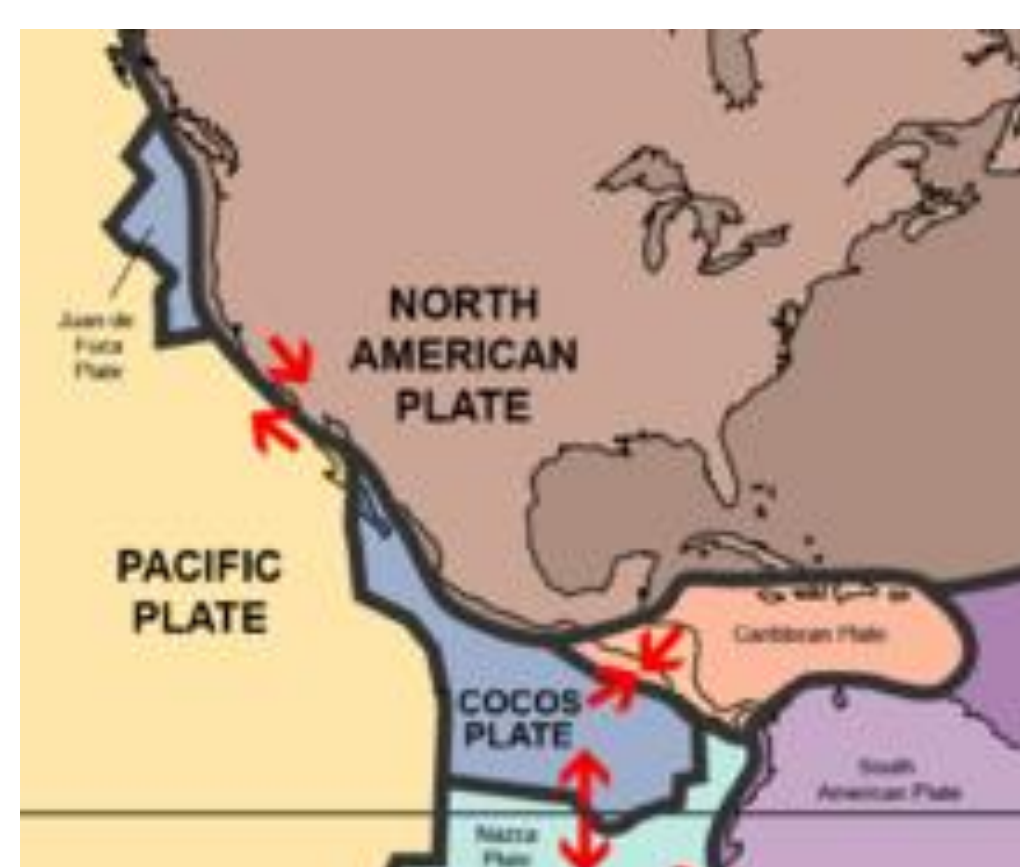


Fig 1. On September the 7th 2017 a 8.2 Mw severe earthquake struck Mexico at 23:49:21 CDT. It also generated a tsunami with waves of 1.75 meters above tide level;

To the right are the tectonic plates of Mexico. Notice the Cocos plate. .

### Blue and Green Flashes of Light indicate the Arrival of Protons



Fig 2. Flashes of Green and Blue lights appeared all over Mexico. A solar proton stream was in progress at the time. We can attribute such flashes to the arrival of the proton stream to Mexico exiting Oxygen and Nitrogen atoms in the atmosphere.

### On the Solar Stimuli

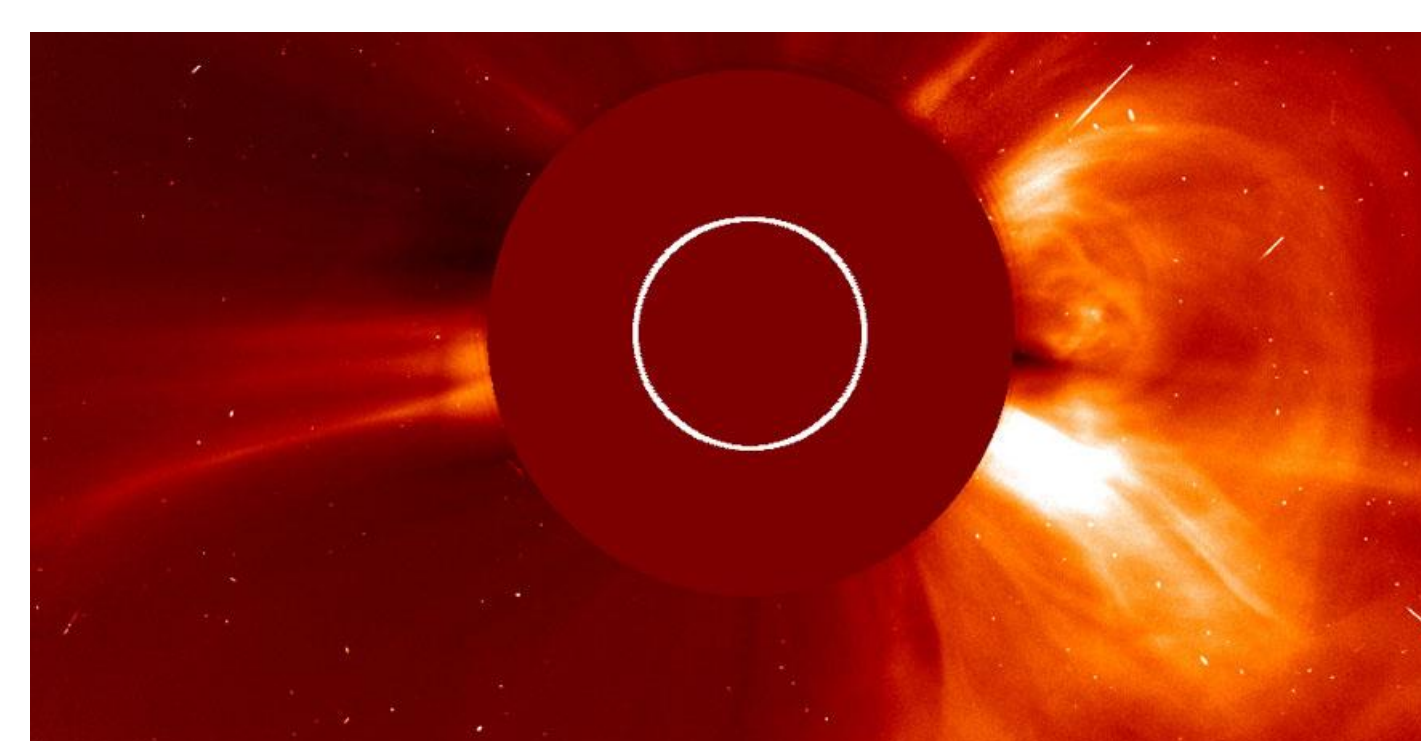
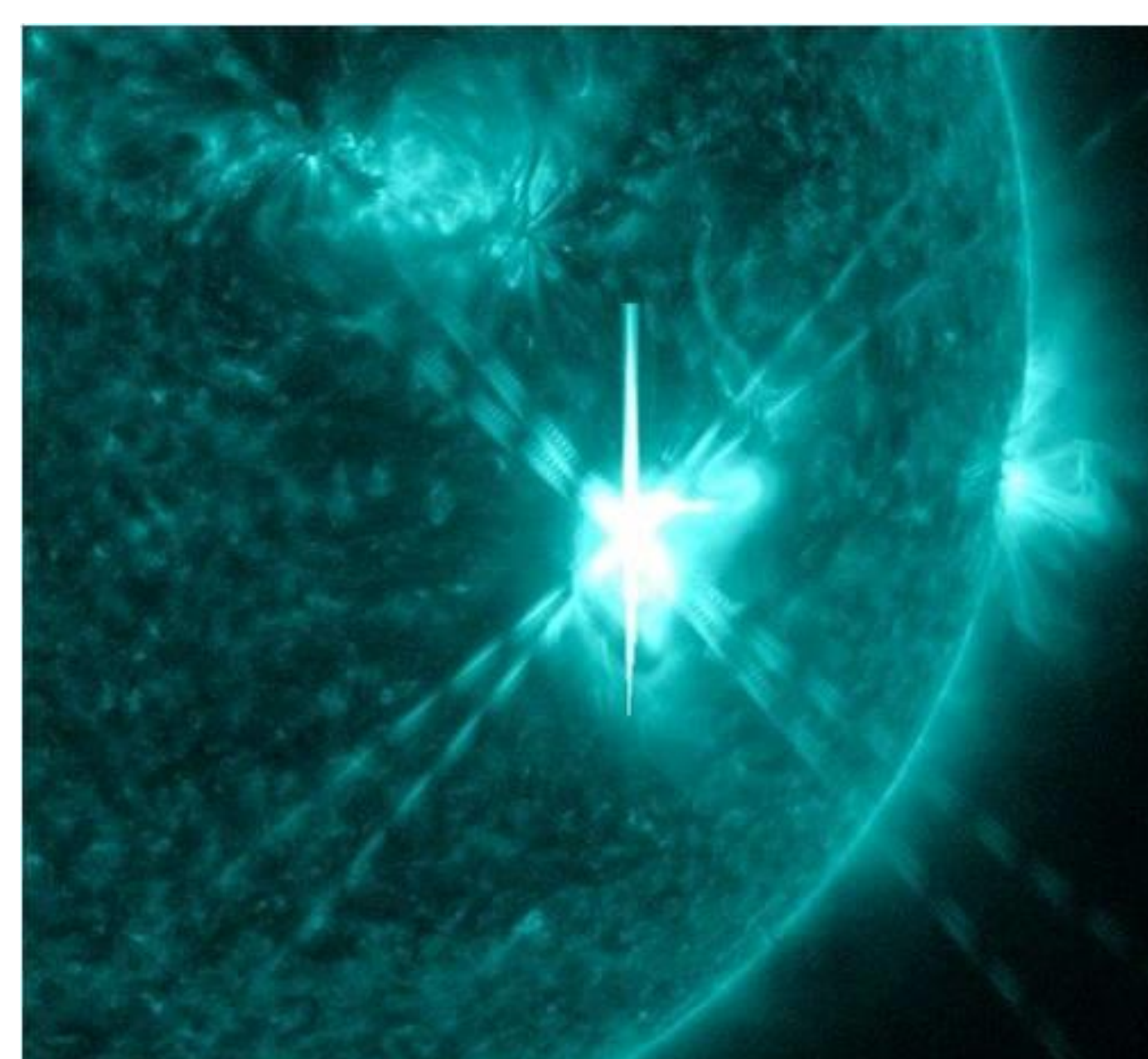


Fig 2. The X-9.3 very strong solar X-ray flare] at 1202 UT. Also shown at bottom is the earth directed coronal mass ejection released with this flare. A proton flare accompanied this coronal mass ejection..

### Solar Forcing on Chiapos Earthquake

A halo coronal mass ejection (CME) is a magnetized huge mass of the solar corona ejected from the sun and directed towards the earth. It is accompanied by a proton flare. On the 4<sup>th</sup> of September, a halo CME was ejected from the sun and arrived earth on 6 and 7 of Sept as predicted.

In addition, on the 6<sup>th</sup> of Sept at 1202UT sun spot AR2673 released the strongest X-ray flare for a decade of class X9.3 shown in Fig 3. the extensive X-ray and UV radiation which strongly ionized the upper earth's atmosphere causing a strong short wave radio black out over Europe, Africa and the Atlantic Ocean. It was accompanied by an earth directed CME and a proton flare.

On the 7<sup>th</sup> of September, the Bz component of the interplanetary magnetic field became strongly negative thus opened a door in the magnetosphere allowing the proton stream to go through and thus reached the surface and below the Mexican ground.

### CONCLUSIONS

In an earlier work, we found that very strong earthquakes are correlated with proton flares. Indeed the Mw 8.2 Chiapas earthquake was triggered by a proton stream as manifested by the wide spread green and blue lights across Mexico exiting Nitrogen and Oxygen. This stream

attacked the weak point of the tectonic setting subducting the Cocos plate. Intense Sub surface Telluric currents are induced during magnetic storms resulting from solar wind streams. We suggest that such telluric currents in the magma caused the earth's plates to move particularly around the ring of fire causing the plates to interact thus trigger earthquakes.

Very important is that hurricane Max made landfall in Guerrero state on 14 September near the earthquake stricken region. It was initiated as a low pressure area near the southwestern coast of Mexico on September the 9<sup>th</sup>. It was also initiated by proton stream. This confirms that when proton streams hits the Ocean they form low pressure areas as they heat the atmosphere by dissipating their energy there. As the air gets heated it expands thus form low depression area. This process accelerate evaporation that develop to hurricane. In case of a proton stream target the ground, an earthquake is triggered.

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Shahinaz Yousef and Hashim Elfaki Published the unique book ' Solar Forcing of Weak Solar Cycles on Equatorial African Plateau Lakes.' published in Germany in 2016 and available at Amazon.com

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