

Fast Facts on the New Zealand Radar Outage During the Late June 2015 Solar Storms

By Ben Davidson - June 28, 2015

TIMELINE:

Multiple Solar Flares and CMEs are Released in Earth's Direction
6/18-6/22

The 3rd and Strongest CME Impacts Earth's Magnetosphere
6/22 at 1730UTC

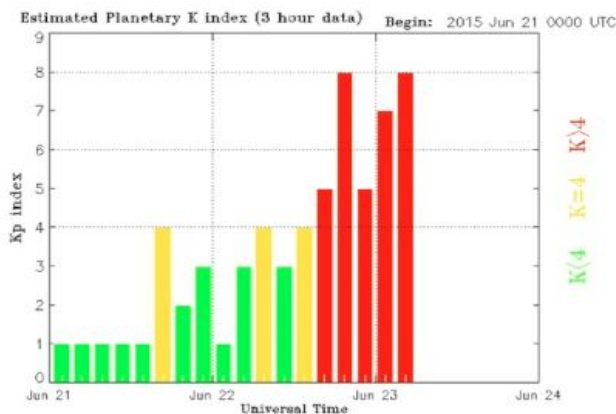
NZ Aviation Radar Goes Down
6/23 at 0148UTC

Magnetic Storm Continues at Severe Levels
6/24 until at least 0500UTC



Getty Images

KP Index hits 8; SEVERE Magnetic Field Disruption
6/22 by 2000UTC



FAST FACTS:

- All commercial flights were grounded.
- Primary radar and comm systems affected.
- Outage has been called an "internal network failure" and there is no explanation or cause identified.
- Experts say it is lucky weather was clear.
- "Today's fault was potentially quite serious."
~ Lisa Williams, NZAPA
- Outage occurred at during the severe storm seen on the left.

This was the most extreme space weather disruption since I began actively monitoring the sun in 2011. Normally the

KP index would have to hit 9 to see satellite or earthly disruptions. Also, normally you would need to see X class flares or 1000km/sec impacts. This eruption was dense but only 750km/sec, which is usually too slow to create major disruptions. However with earth's magnetic field weakening we may be seeing weaker and weaker events cause disruption to our electronic way of life. There was a final CME that actually arrived at nearly 900km/sec, but which was extremely sparse in density and caused no geomagnetic disruptions. It was a solid affirmation of the importance of both speed and density in judging the intensity of solar storms.

The confidence of a solar genesis to these disruptive events is enhanced by the occurrence of a simultaneous FNB digital system failure in South Africa. Large-scale issues like these occur from time to time, but their rarity makes having two in one day during a solar storm of this magnitude a bit more coincidence than I am willing to ignore.