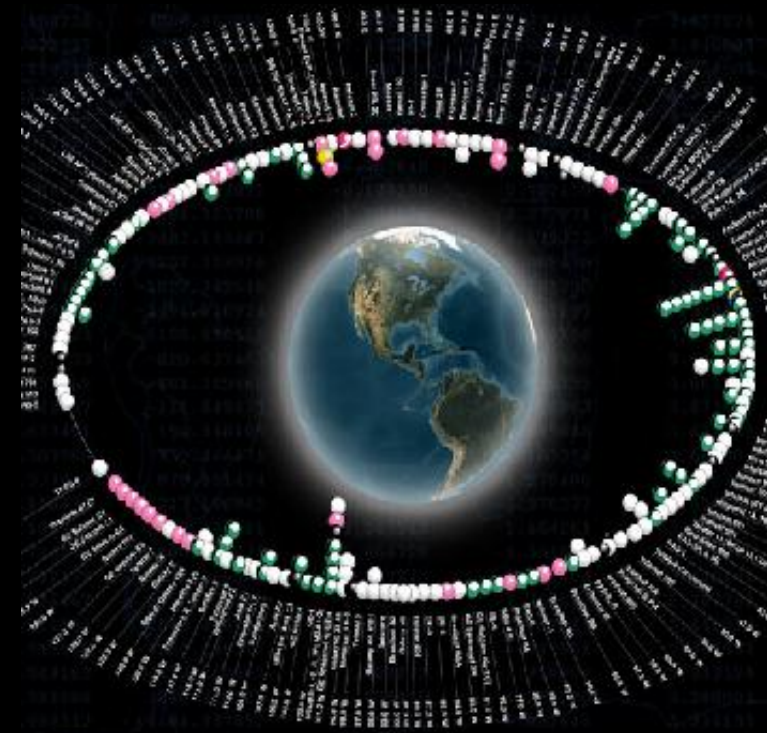


A photograph of the aurora borealis (Northern Lights) in a dark night sky. The aurora is visible as a vibrant green and purple glow, with a prominent green arc curving across the upper half of the frame. The lower portion of the sky is a deep orange and red, suggesting a sunset or sunrise. In the foreground, the dark silhouette of a forest is visible on the left, and a body of water reflects the light from the sky. The text "The K Index" is centered in the middle of the image.

The K Index

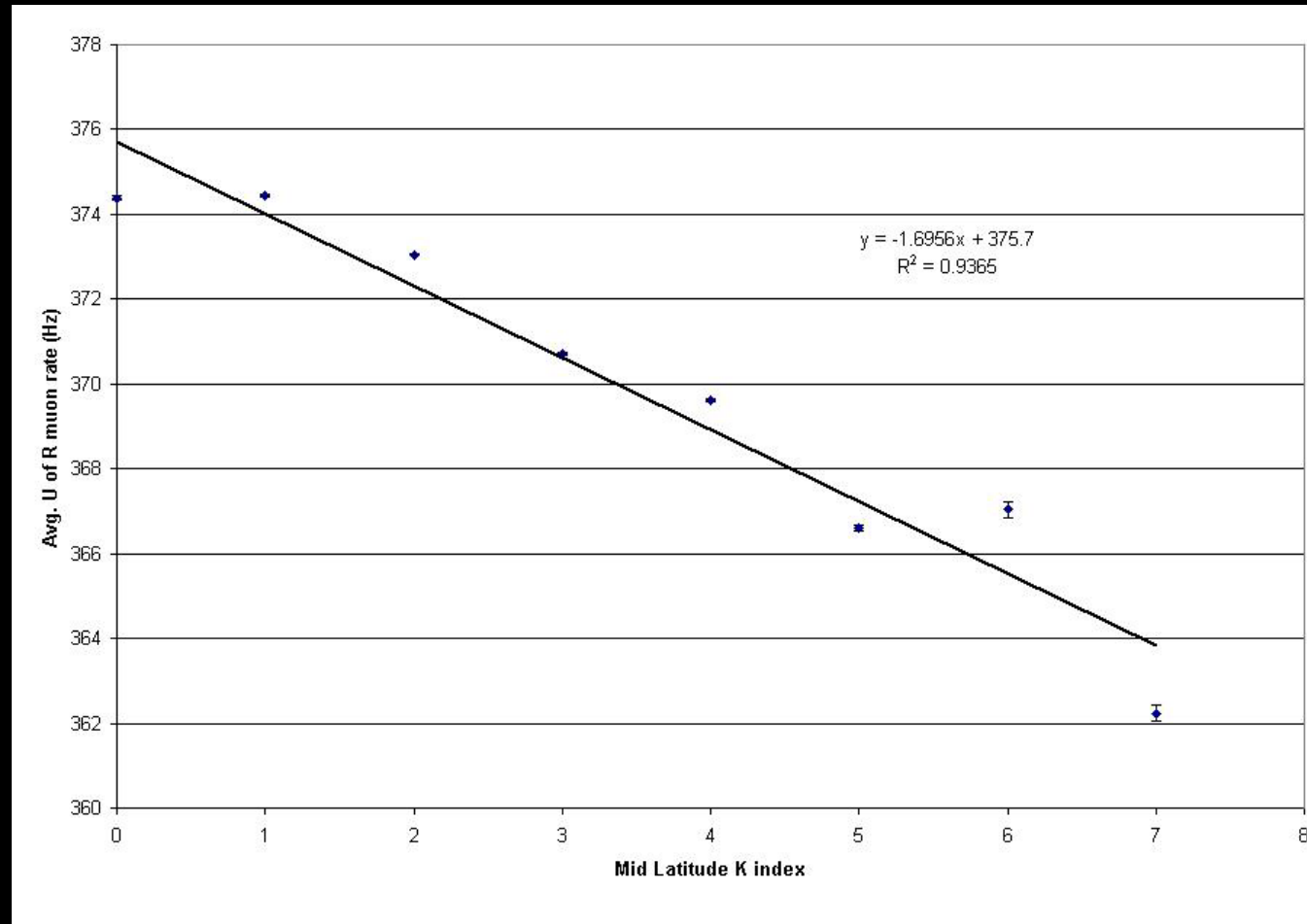
What is the K index?

- It's a scale from 1 to 9 that indicates the fluctuations in the horizontal components of the magnetometer, which is basically measuring the movements, how fast and how much of the Earth's electric field
- When the K index exceeds 4, a warning is sent out so that electrical devices in geosynchronous orbit can be put in safe mode or turned away to prevent the disruption of communications and power or other damages from the solar storms

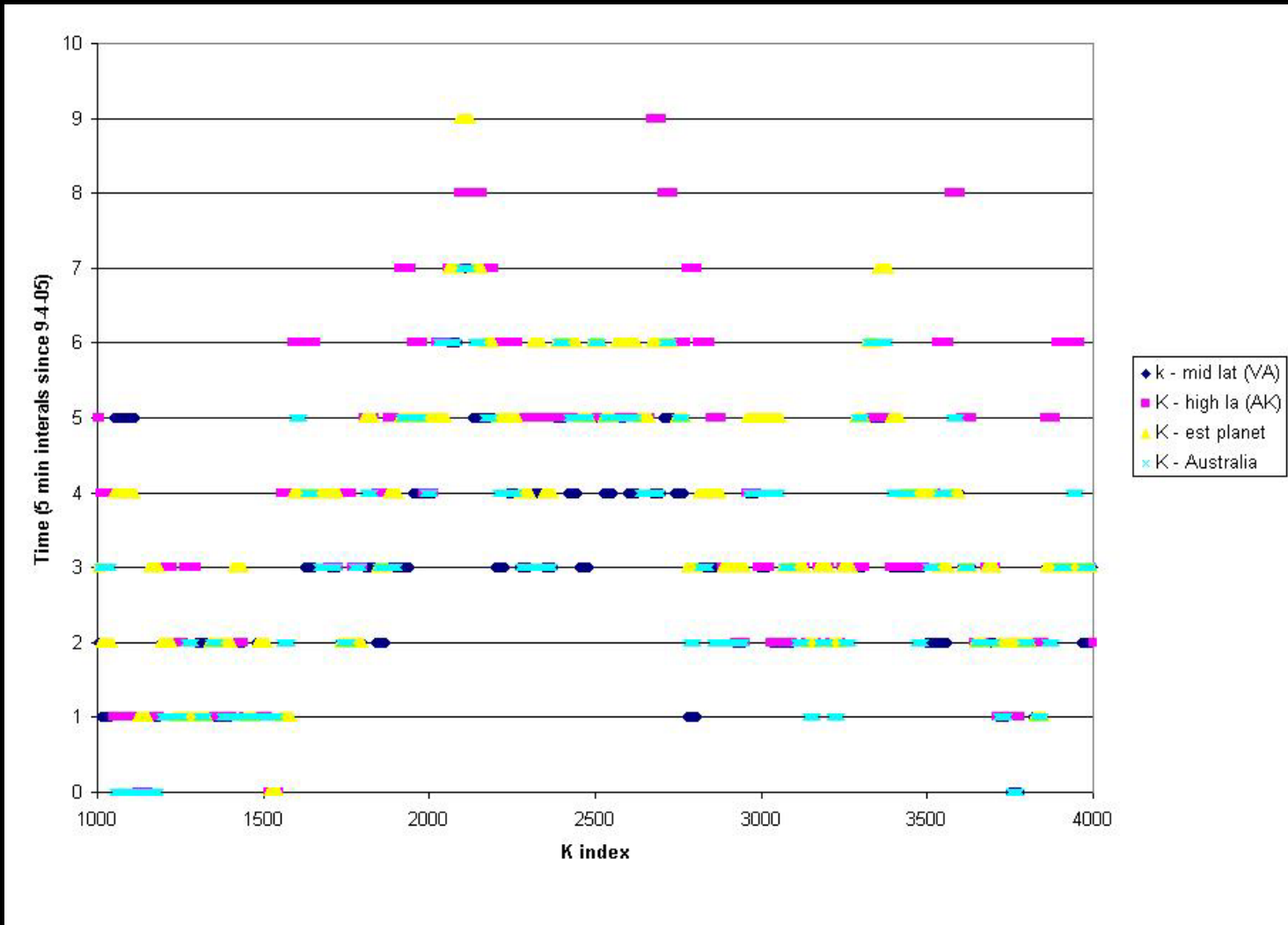


This means....

- When the k index is high, there is a lot of magnetic activity, it slows down the muons, and fewer are able to make their way to the earth's surface. We see this as a decrease in the muon rate.



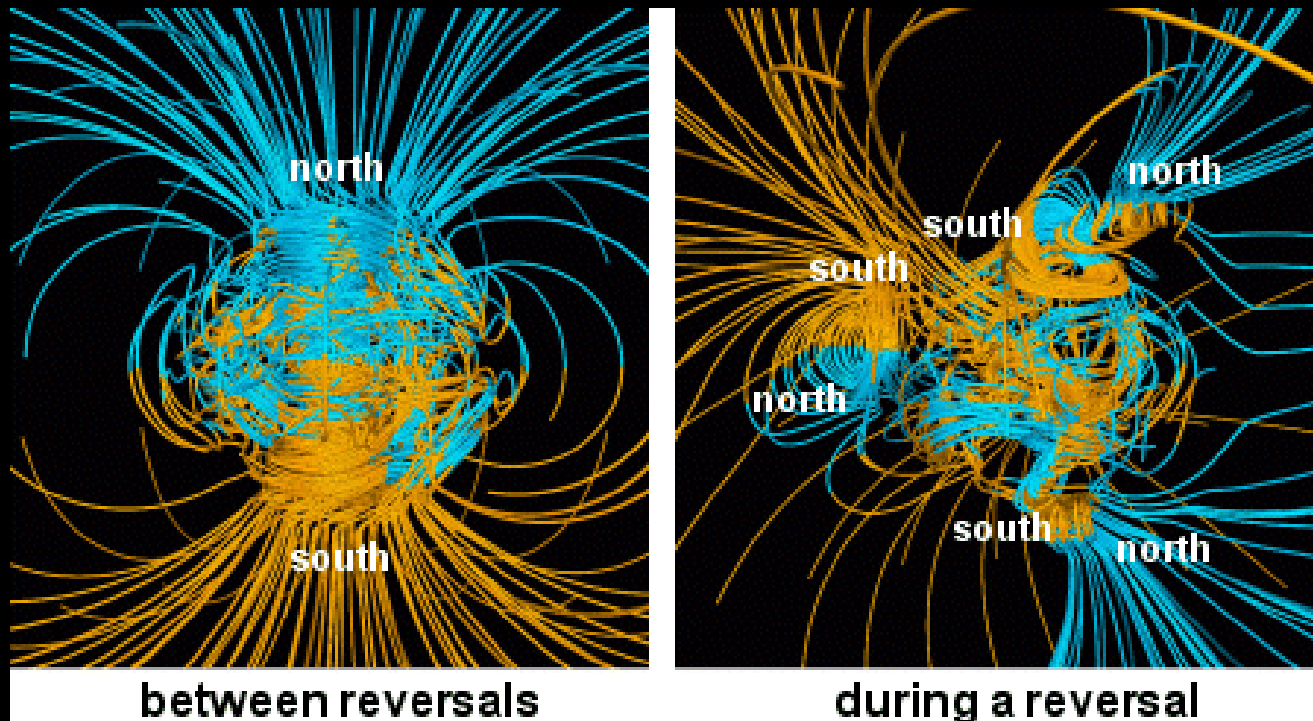
Global K Index



The K index around the globe is pretty uniform following a solar flare

Geomagnetic Field Variance

- The magnetic field surrounding the earth varies by location and changes over time



- BUT! Solar flares and magnetic storms tend to effect the earth as a whole