The Effect of Geomagnetic Activity in the Ionosphere on GPS Signal

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Many devices use GPS and depend on the accuracy and reliability of the signal, but how accurate really is it, and what affects the change? This project tests WAAS signals, a GPS correcting system, and GPS signals without WAAS against solar activity. Two times a day, the coordinates and elevation of a single location are taken with and without the WAAS system and the difference between the readings are compared to a solar activity value. Solar activity is said to disrupt GPS signal and interfere with satellites and the WAAS system was made to correct the changes solar activity can make. The hypothesis is that if the geomagnetic activity increases then the differences in GPS signal will also increase.

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