

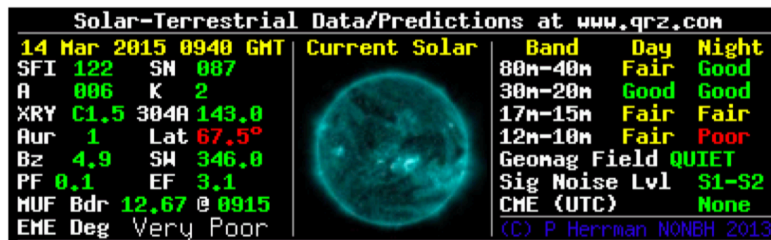
Beginners Guide to Propagation Forecasting

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Solar activity drives HF, (high frequency) propagation as it “heat-up” the ionosphere electrically, bending our radio waves and allowing us to paste colorful QSL cards on our walls. There are some general rules for predicting at what time you might find band openings and in what direction.

- **Pre-dawn:** 40 and 80 meters (*for the insomniacs among us*)
- **Sunrise:** 20 meters opens to Europe (*if the east coast stations give you a chance*)
- **Late Morning:** 10 and 15 meters opens (*or not*)
- **Afternoon:** 20 meters opens to Africa (*if anyone is on*)
- **Evenings:** 40 meters (*this can be a real opportunity for DX*)
- **Late Evenings:** 80 meters (*openings can last awhile allowing for rag chewing*)
- **160 meters** opens even later for those with large yards for those 160 meter antennas

On the **QRZ.com** website, there is a graphic that is reasonably accurate at predicting propagation. Understanding the forecast on the right side is rather straight forward. But what do those other numbers mean? Let’s go through some of them.



SFI (Solar Flux Index) as they relate to propagation

- < 70: generally poor
- 80-90: generally low
- 90-100: average
- 100-150: good conditions exist
- >150: ideal conditions exist, or you have time traveled back to the mid to late 1950s

SN (Sun Spots) These are electro-magnetic storms on the surface of the sun.

The higher the better for 10 and 20 meters , 50 bad, >100 good, >150 ideal

“A” Index (Relative Geomagnetic Activity of the Earth as it relates to the Sun)

- From 1 to 5: Best conditions for the 10, 15 and 20 meter bands
- From 6-9: Average conditions exist
- 10 and above: Poor conditions on 10-20 meters

“K” Index (A Value of Geomagnetic Activity Compared to a Quiet Day)

- 0 to 1: Best Conditions for contacts exist on 10, 15 & 20 meters
- 2 to 3: Good Conditions
- 4 to 5: Average Conditions
- 5 to 9: Operating Conditions are not so “hotsey totsey”

Geomagnetic Field

This value indicates how quiet or active the earth’s magnetic field is based on the “K” values.

- Reports are listed as: Very Quiet, Quiet, Unsettled, Active, Minor Storm, Major Storm, Severe Storms, or Extreme Storms.
- Higher levels of storm activity can cause blackouts on the HF frequencies.

Sig Noise Level (S1-S2 is shown)

This value shows how much noise, in S Units, is being generated by the interaction between the solar wind and the earth’s geomagnetic activity. The higher the numbers, the greater the noise.