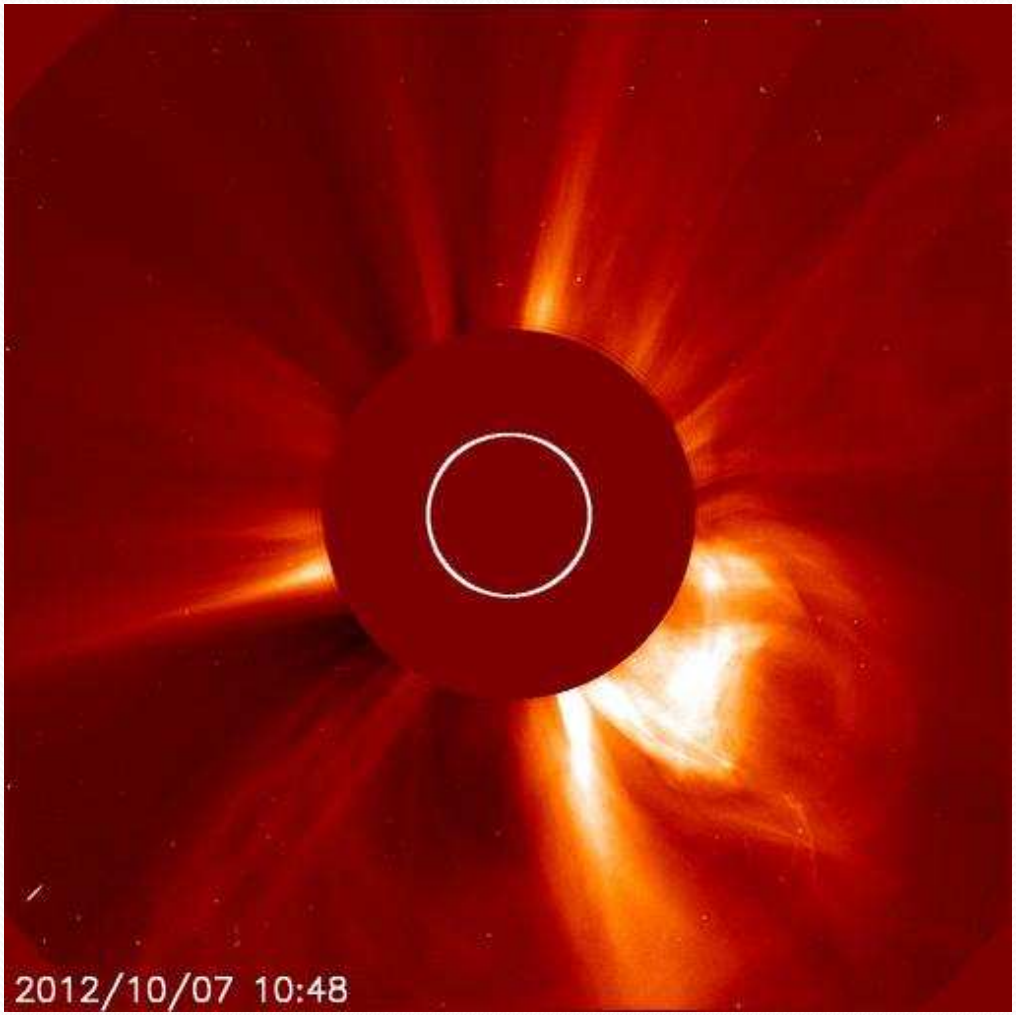
SPACE WEATHER

- WE NEED TO REVIEW HOW PROPAGATION OCCURS ON THE EARTH AT HF FREQUENCIES.
- THIS PORTION COMES FROM THE US NAVY TRAINING FOR THEIR RADIO OPERATORS.

- HERE IS A PICTURE OF THE RECENT CME THAT LEFT THE SUN 10/7 AND ARRIVED 10/8/12.



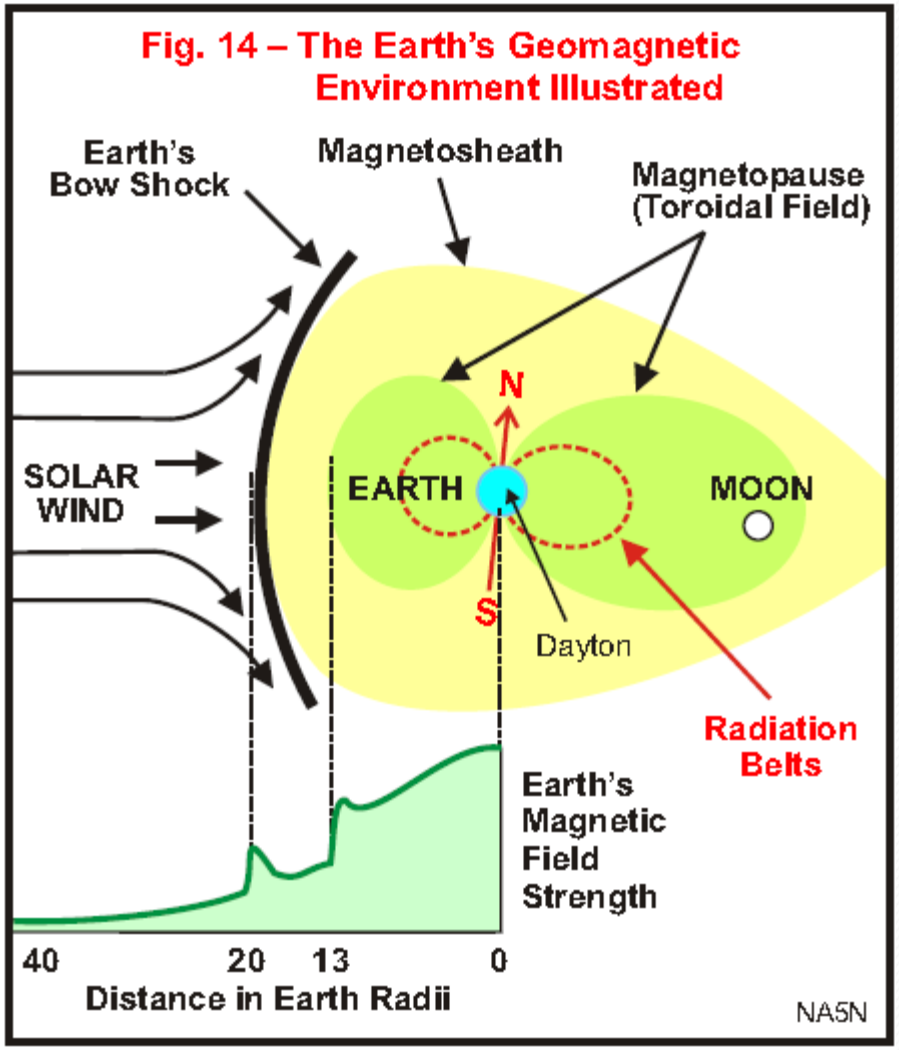
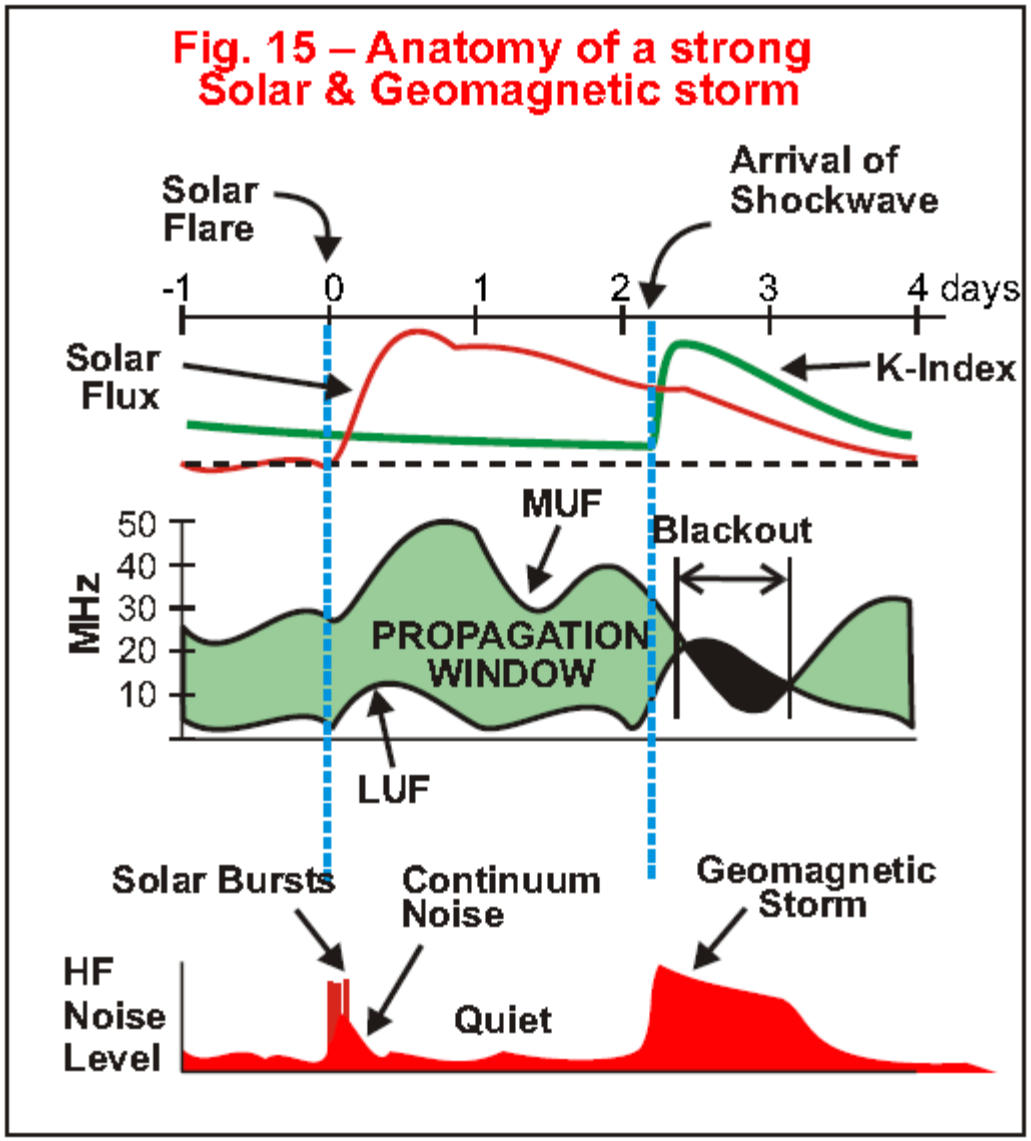


Fig. 14 – The Earth's Geomagnetic Environment Illustrated
Earth's Bow Shock
Magnetosheath
Magnetopause (Toroidal Field)
SOLAR WIND
N
EARTH
MOON
S
Dayton
Radiation Belts
Earth's Magnetic Field Strength
40
20
13
0
Distance in Earth Radii
NASN

- HERE IS THE MONEY SHOT:



	K Index	Ap Index	Geomagnetic Conditions	HF Noise	Aurora
NORMAL	0	0–2	Very Quiet	S1–S2	None
	1	3–5	Quiet	S1–S2	None
	2	6–9	Quiet	S1–S2	Very low
	3	12–19	Unsettled	S2–S3	Very low
	4	22–32	Active	S2–S3	Low
STORM	5	39–56	MINOR storm	S4–S6	High
	6	67–94	MAJOR storm	S6–S9	Very high
	7	111–154	SEVERE storm	S9+	Very high
	8	179–236	SEVERE STORM	Blackout	Extreme
	9	300–400	EXTREME storm	Blackout	Extreme

Fig. 17 – Solar Flare Classifications

Flare Class	Type of Flare	HF Radio Effects (30M to 10M)	Geomagnetic storm (<20M)
A	Very small	None	None
B	Small	None	None
C	Moderate	† Low absorption	† Active to Minor
M	Large	† High absorption	† Minor to Major
X	Extreme	† Poss. blackout	† Major to Severe

- HERE IS THE LINK TO NASA SOHO OBSERVATORY
- HERE IS THE LINK TO PROPLAB REAL TIME PROPAGATION PREDITION MAP.