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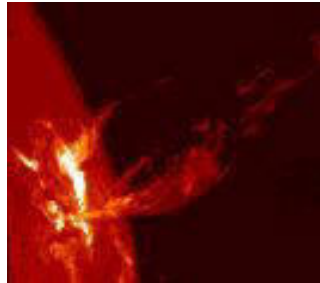
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Hagelin.

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NOTE! On January 1, 2000 I retired from "for profit" space weather forecasting. As of Thursday April 28, 2005 I've decided to retire from "not for profit" space weather forecasting too. Therefore I will no longer maintain and update this website. However I will leave it up as an archive reference.



**2005
KN4LF DAILY
SOLAR SPACE WEATHER
& GEOMAGNETIC DATA ARCHIVE**

Formerly
Thomas Giella Space & Atmospheric Weather Consulting Services
&
Florida Space & Atmospheric Weather Institute

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[2005 KN4LF DAILY LF/MF/HF FREQUENCY RADIO PROPAGATION OUTLOOK](#)

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[2002 KN4LF DAILY MF/HF FREQUENCY RADIO PROPAGATION OUTLOOK ARCHIVE](#)

[2001 KN4LF DAILY MF/HF FREQUENCY RADIO PROPAGATION OUTLOOK ARCHIVE](#)

Current Time:

18:27:04 UTC 06:27:04 PM EDT

INTRODUCTION

Welcome to my "not for profit" daily solar, space weather and geomagnetic data archive website. My education is in the physical sciences; i.e., Meteorology, Paleoclimatology, Physical Oceanography and Space Plasma Physics. Though recently retired, during the past 31 years I worked in the space and atmospheric research, consulting and forecasting field, both in the private sector and for the U.S. Government. I also recently retired from business e-commerce website design after 7+ years. I'm also a 17 year advanced class licensed amateur radio operator and 40 year SWL.

Though this solar, space weather and geomagnetic data archive website may not be the best on the Internet, it's probably unique in that it covers all aspects of the science. I think I'm the only Space Weather Physicist with a website. I hope you find this site both useful and educational.

Note! For those that would like to chat with me about solar, space weather and geomagnetic goings on I'm on Yahoo IM and my ID is thomasgiella.

Also I would very much appreciate feedback via my guestbook or directly via my email address below on this website.



[View My Guestbook](#)
[Please Sign My Guestbook](#)

Also this "not for profit" website conglomeration requires 300 megs of costly web server space and also requires many man hours of labor to maintain, including the daily LF/MF/HF radio propagation outlook and the LF/MF/HF radio propagation theory notes. Therefore if you find this website useful I accept donations to keep it up and running. You can donate \$\$\$ if you would like at Paypal.com by clicking on the credit card button link below.



Contact Info:

kn4lf@arrl.net



[KN4LF AMATEUR AND SWL RADIO AUTOBIOGRAPHY](#)

[MY SPACE AND ATMOSPHERIC WEATHER CONSULTING RESUME](#)



[SOLAR SPACE WEATHER & GEOMAGNETIC RAW FORECAST DATA LINKS](#)

FL & U.S. RAW TERRESTRIAL WEATHER FORECASTING PRODUCT LINKS

PLANT CITY, FLORIDA DAILY CLIMATOLOGICAL WEATHER OBSERVATIONS

KN4LF LOW MEDIUM & HIGH FREQUENCY RADIO PROPAGATION THEORY NOTES
Layman Level Explanations Of Seemingly Mysterious LF/MF/HF Propagation Occurrences

RECENT MAJOR SOLAR SPACE WEATHER & GEOMAGNETIC EVENTS

Just a few words posted here on Saturday 01/22/2005 concerning sunspot group #10720 that is rotating around the west limb of the Sun today.

#1.) During #10720's transit across the visible face of the Sun it produced 99 C class, 24 M class and 5 X class solar flares, quite prolific.

#2.) It produced at least six geoeffective (Earth facing) coronal mass ejections. The last CME that arrived on Friday 01/21/05 was so intense that it was followed by partial magnetopause crossing. In simpler terms Earth's magnetic field was compressed in the opposite direction of the Sun such that orbiting satellites including the space station were exposed to nearly the full wrath of the Sun.

#3.) It produced an energetic excessive proton storm that reached 5040 pfu, the strongest of cycle 23. At one point protons actually penetrated to ground level in the polar regions!

#4.) Last but not least it produced at least 38 hours of geomagnetic storming.

On 12/27/2004 more than a dozen spacecraft recorded the brightest event from outside the solar system ever observed in the history of astronomy. This gamma and X-ray producing super flare was emitted by a Magnetar star named SGR 1806-20. This star is an estimated 50,000 light years distant in the constellation Sagittarius on the far side of the Milky Way galaxy and obscured behind dense interstellar clouds.

Upon arrival at Earth the X-rays were powerful enough to increase absorption in the D layer of our ionosphere and create a dayside Sudden Ionospheric Disturbance (SID) and a blackout of radio signals, amazing!!! To read more about this rare event check out this link at: http://skyandtelescope.com/news/article_1464_1.asp

Occurrences of visible Aurora in Florida is more common then most believe.

On October 29th, 2003 during one of the most Kp-9 extreme geomagnetic storms in years Paul Gardener photographed visible Aurora over Orlando, Florida.

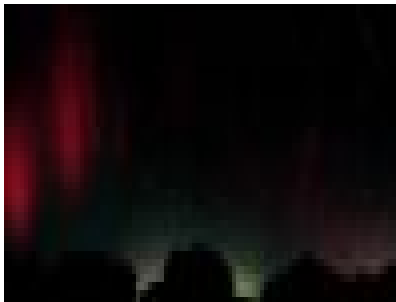


[Click To Enlarge](#)

On November 20th, 2003 during another Kp-9 extreme geomagnetic storm more visible Aurora was observed and photographed in the Chiefland area by Mike Cressy and Gary Honis. I also observed the visible Aurora here in Plant City, FL at 28 deg. N latitude.



[November 20, 2003 Florida Aurora Images By Mike Cressy](#)

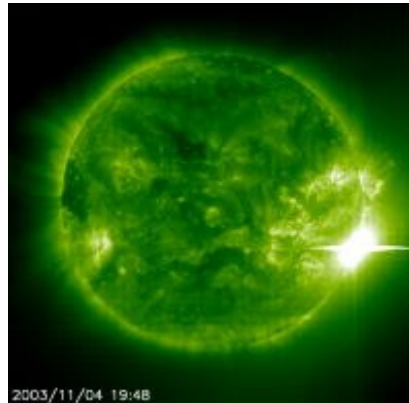


[November 20, 2003 Florida Aurora Images By Gary Honis](#)

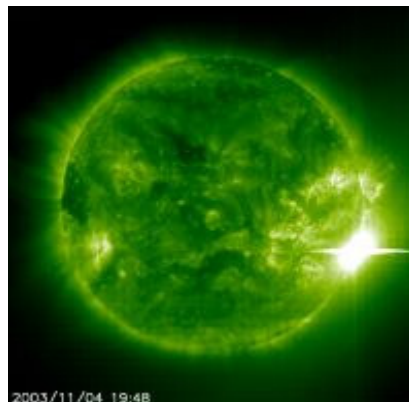
Between 1929-2007 UTC on 11/03/04 giant sunspot group #10486, a prolific solar flare producer, which had already set around the western limb of our Sun expelled what appeared to be the largest solar flare ever recorded by humans. The super solar flare was officially rated as an X28 by the SEC. But by my professional estimate, using the duration of saturation of x-ray flux monitoring sensors and other data this solar flare was probably an approximate X45, a truly historic event. Upon submitting my observation data to the SEC they upgraded the solar flare to X45!

Though I received sharp criticism due to my original estimate, it turns out to be more accurate than most! By the way "WE ARE VERY FORTUNATE" that the X45 solar flare was not geo-effective (Earth directed). The associated Coronal Mass Ejection (CME) would have been so intense that we would have experienced total magnetopause crossing. Put in simpler terms Earth's protective magnetic field would have been

compressed in the opposite direction of the Sun such that orbiting satellites including the space station were exposed to the full wrath of the Sun, very unhealthy to microprocessors and human DNA. The end result would have



[Click To Enlarge](#)



[Click for X45 Super Solar Flare Movie](#)

Here are some general guidelines concerning correlation of propagation indices to actual expected HF/MF propagation conditions.

- 1.) Dropping indices numbers are better.
- 2.) For medium frequencies a solar flux under 150, under 100 better, 70 is best for E layer multi hop.

Keep in mind though that the 10.7 cm (2800 mhz) solar flux index is not a "reliable" gauge of ionization in our atmosphere for F layer HF frequency refractions, as the energy of photons at this frequency is to low on the order of one million times. However most are used to solar flux and sunspot number and it's a hard habit to break. A better indicator is the background x-ray flux. See #7 below.

- 3.) Solar flux of at least 100 for E valley-F layer ducting mechanism.
- 4.) Previous 24 hour Ap index under 10, under 7 for several days consecutively is best.

- 5.) Previous 3 hour Kp index under 3 for mid latitude paths, under 2 for high latitude paths, 0-1 for several days consecutively is best.
- 6.) Energetic protons no greater then 10 MeV (10+0) for 160/120 meters and no greater then (10-1) on MF broadcast band.
- 7.) Background x-ray flux levels less than C1 for several days consecutively for 160/120 meters and less then B9 for MF broadcast band but A9 or less best.
- 8.) No current STRATWARM alert.
- 9.) IMF Bz with a (positive number) sign, indicates a lesser chance of high latitude path auroral absorption/unpredictable refraction or scattering of MF RF signals, when the Kp is above 3.
- 10.) A -50 or better towards a positive number Dst index during the recovery time after a geomagnetic storm, as related to the Equatorial Ring Current.

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SOLAR SPACE WEATHER & GEOMAGNETIC LINKS



[SOLAR SPACE WEATHER & GEOMAGNETIC RAW FORECAST DATA LINKS](#)

DEFINITIONS & TERMINOLOGY-

[NOAA/SEC NEW SPACE WEATHER SCALES FORMAT AS BCST ON WWV](#)

[NOAA/SEC SPACE ENVIRONMENT CENTER TERMINOLOGY AND DEFINITIONS GLOSSARY](#)

[NOAA/SEC SPACE WEATHER MAGNETIC CLASS TERMINOLOGY AND DEFINITIONS](#)

[NOAA/SEC SPACE WEATHER SOLAR FLARE TERMINOLOGY AND DEFINITIONS](#)

[NOAA/SEC SPACE WEATHER SCALES](#)

EDUCATIONAL SITES-

[AMERICAN GEOPHYSICAL UNION SPACE WEATHER JOURNAL](#)

[PDF ARTICLE VIA IPS AUSTRALIA ABOUT THE RECENTLY DISCOVERED F3 IONOSPHERIC LAYER](#)

[NORTHERN LIGHTS AURORA INFO](#)

[NOAA NGDC GEOMAGNETISM DATA](#)

[PROPAGATION STUDIES COMMITTEE OF THE RSGB](#)

[OULU SPACE WEATHER PHYSICS](#)

[GLOBAL THUNDERSTORM ACTIVITY & IT'S EFFECTS ON THE RADIATION BELTS & LOWER](#)

IONOSPHERE

DIRECT COUPLING BETWEEN LIGHTNING & THE LOWER IONOSPHERE

RED SPRITES, BLUE JETS, ELVES AND THE IONOSPHERE ARTICLE FROM NEW MEXICO TECH & KSC

RED SPRITES, BLUE JETS AND THE IONOSPHERE ARTICLE FROM U OF ALASKA

MEDIUM FREQUENCY RELATED RADIO PROPAGATION INFO FROM STD

INSTITUTE OF SOLAR TERRESTRIAL PHYSICS IRKUTSK RUSSIA

SKEWED PATHS TO EUROPE ON THE LOW BANDS BY CARL LUETZELSCHWAB K9LA

DOWNLOAD THE MF/HF PROPAGATION TUTORIAL PROP 101, 202, 303 BY BOB BROWN NM7M (Excellent)

KN4LF LF/MF & HF FREQUENCY RADIO PROPAGATION THEORY NOTES (Excellent)
Layman Level Explanations Of Seemingly Mysterious LF/MF/HF Propagation Occurrences

W3ASK GEORGE JACOBS AND ASSOCIATES

THE BASICS OF HF RADIO WAVE PROPAGATION BY AE4TM

AE4TM PROPAGATION STUDIES

AE4TM HF PROPAGATION PRIMER

VE1DX PROPAGATION PRIMER

CQ MAGAZINE 160 METER PROPAGATION ARTICLES FROM CARY OLER & N4XX DR THEODORE COHEN (Excellent)

VK3ACA PROPAGATION OF LONG RADIO WAVES ARTICLE

IONOSPHERE CHIRP SOUNDERS EGROUPE

E LAYER EGROUPE

GREYLINE PROPAGATION EGROUPE

HF PROPAGATION CATCHES EGROUPE

PROPNET HF PROPAGATION BEACON ONLINE EGROUPE

EXCELLENT AMATEUR RADIO & SWL DATA SITES-

ARRL PROPAGATION BULLETINS

NCDXF HF PROPAGATION BEACONS

K3WWP PROPAGATION INFORMATION

VE6WZ GEOMAGNETIC INDICES LINKS

LF/VLF PROPAGATION INFO BY ALAN G3NYK OF THE PSC

AC6V PROPAGATION LINKS

[CQ MAGAZINE'S NW7US THOMAS HOOD HFRADIO.ORG \(The Best On The Internet\)](#)

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[NB6Z SOLAR ACTIVITY](#)

[WM7D SOLAR RESOURCE PAGE](#)

[DXLC DAILY SOLAR NUMBERS](#)

[ON5AU ANTENNAS AND PROPAGATION](#)

[ON4BAA ONLINE PROPAGATION PREDICTION](#)

[N6GCE HF PROPAGATION LINKS](#)

[W3DF DAILY SOLAR FLUX VALUES 1947-PRESENT](#)

[ON4SKY LINKS](#)

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[DX AID BY PETER OLDFIELD \(160\)](#)

[SOLAR TERRESTRIAL DISPATCH PROPLAB PRO SOFTWARE \(160\)](#)

[W6EL PROPAGATION SOFTWARE \(80-10\)](#)

[DXLABS PROPVIEW PROPAGATION SOFTWARE \(80-10\)](#)

[ION PROBE SPACE WEATHER MONITOR BY VE3NEA OF AFREET SOFTWARE INC](#)

[DX ATLAS WITH IONOSPHERIC MAPS BY VE3NEA OF AFREET SOFTWARE INC](#)

[HF PROP SOFTWARE WITH LUF BY G4ILO \(160-10\)](#)

[NTIA/ITS VOACAP ICEPAC REC533 HF PROPAGATION SOFTWARE \(80-10\)](#)

[DX PROP V1.0A \(160-10\)](#)

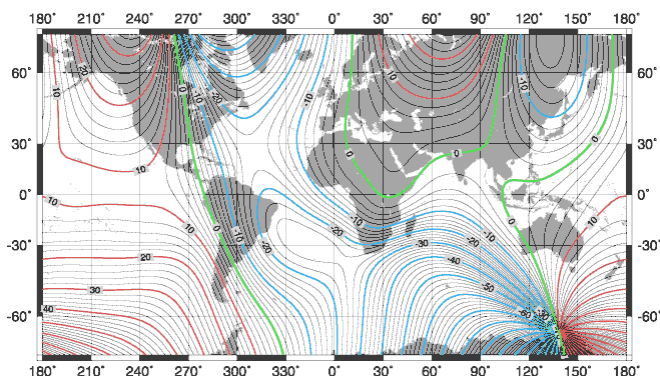


[Visit DX Zone For Great Propagation Links & More](#)

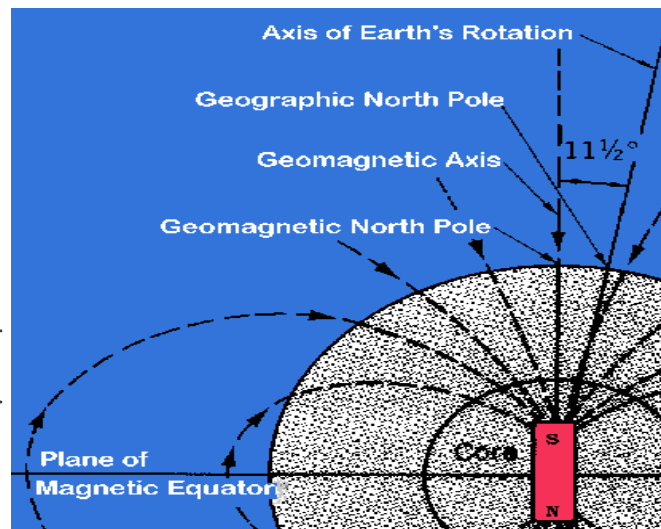
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VISUALIZATIONS OF SOLAR SPACE WEATHER AND GEOMAGNETIC PHENOMENA

US/UK World Magnetic Chart -- Epoch 2000
Declination - Main Field (D)

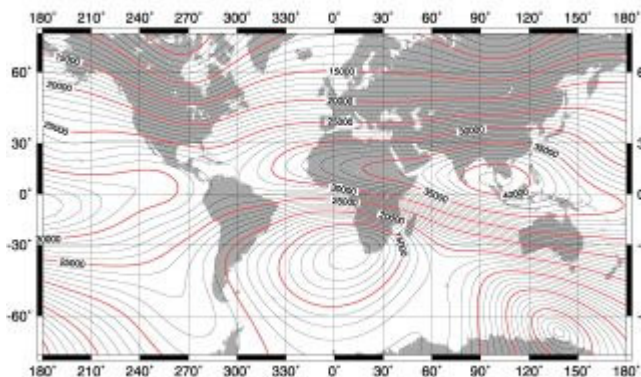


Units (Declination) : degrees
Contour Interval : 2 degrees
Map Projection : Mercator



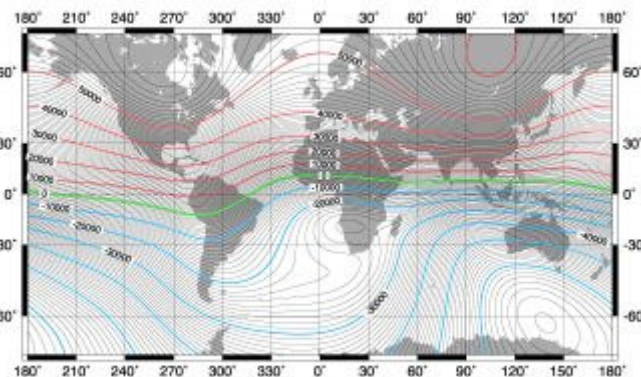
Earth's Magnetic Field
Click To Enlarge

US/UK World Magnetic Chart -- Epoch 2000
Horizontal Intensity - Main Field (H)



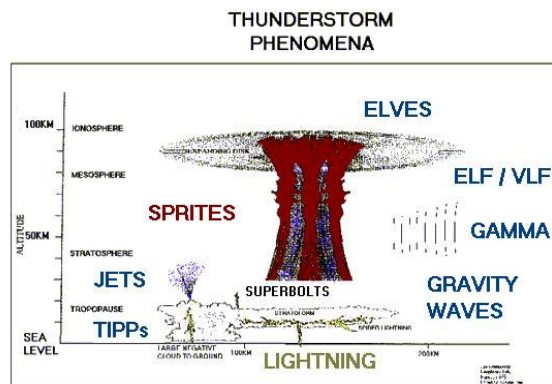
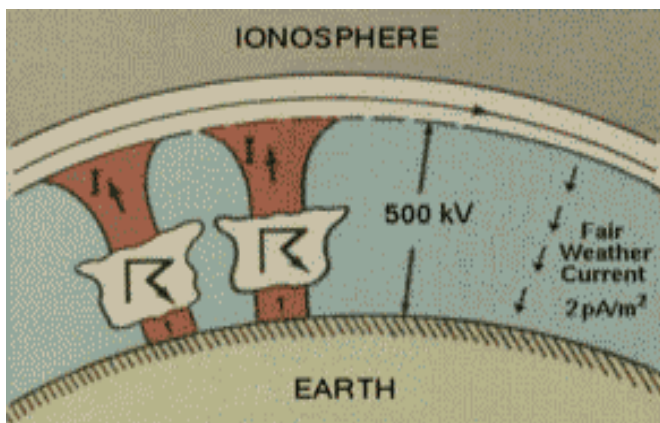
Units : nanoTeslas
Contour Interval : 1000 nanoTeslas
Map Projection : Mercator

US/UK World Magnetic Chart -- Epoch 2000
Vertical Component - Main Field (Z)

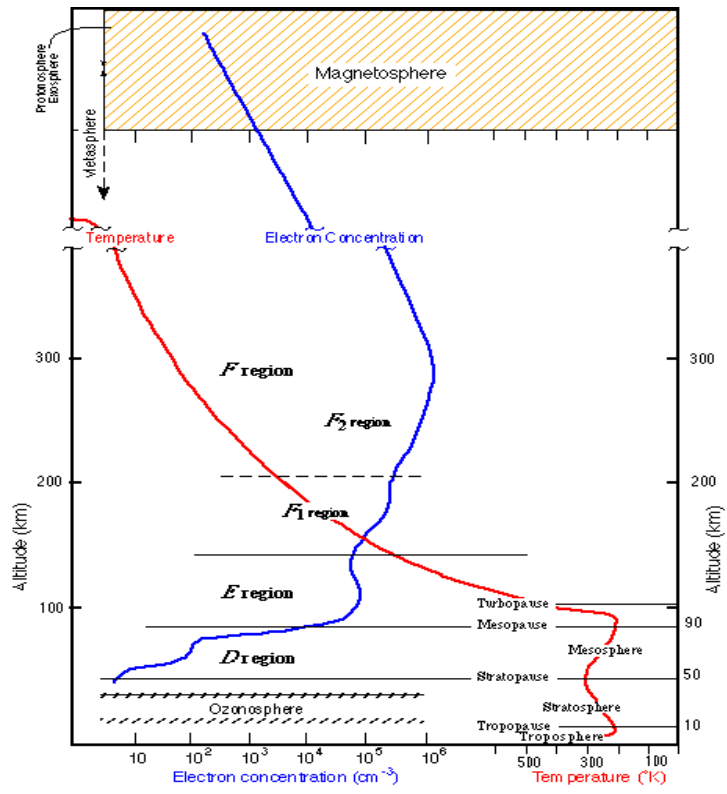


Units : nanoTeslas
Contour Interval : 1000 nanoTeslas
Map Projection : Mercator

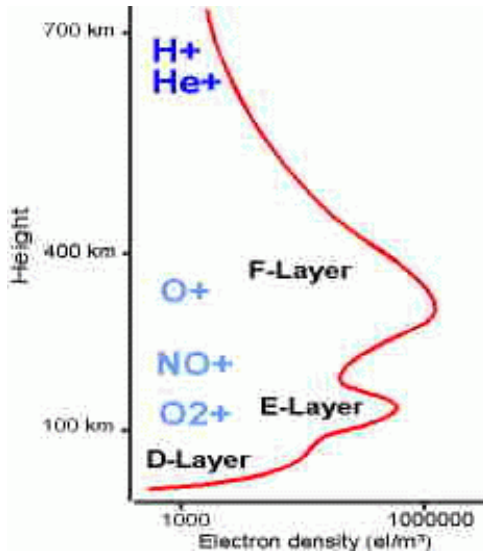
Horizontal & Vertical Components Of Earth's Magnetic Field
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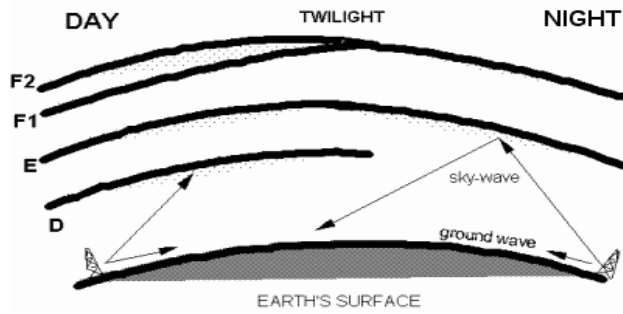
Lightning/Thunderstorms And It's Interaction With The Ionosphere



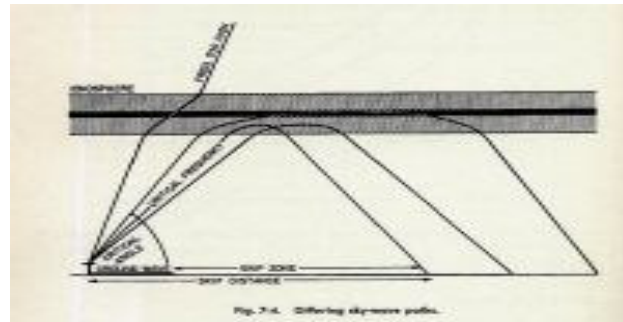
Ionosphere Profile
[Click To Enlarge](#)



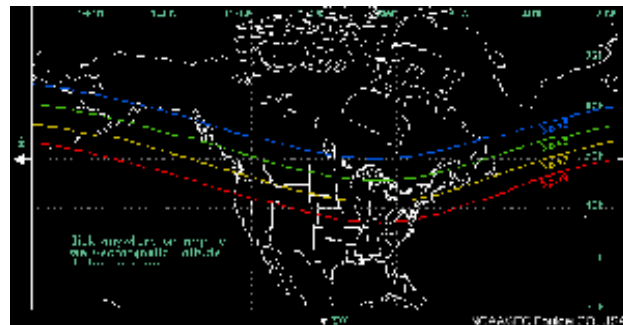
Ionosphere Ion Types



The 300-3000 KC Medium Frequency Ionosphere
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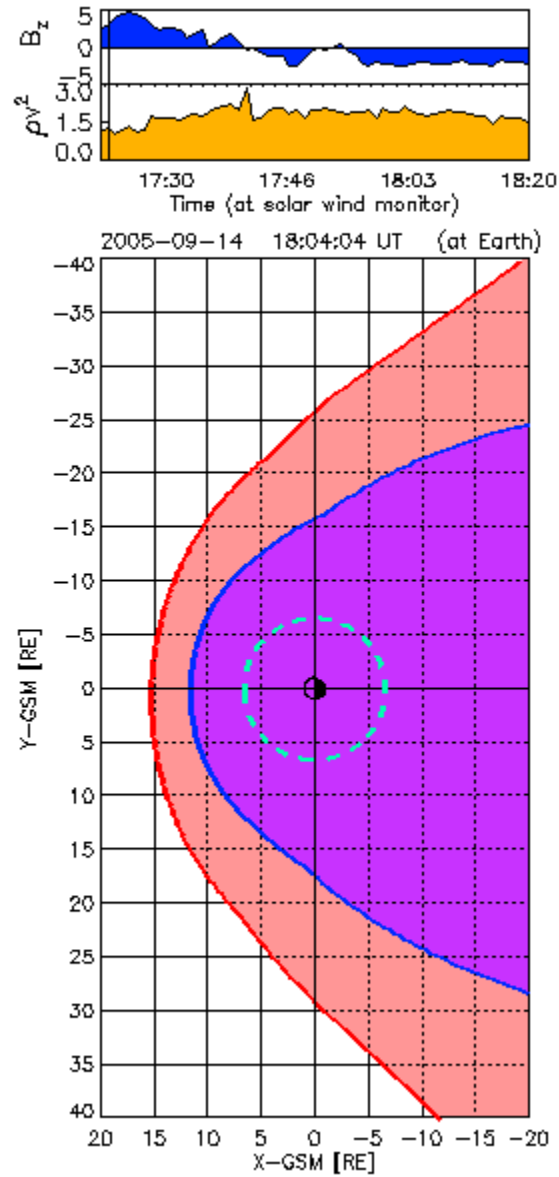
E Valley-F Layer Ducting Mechanism
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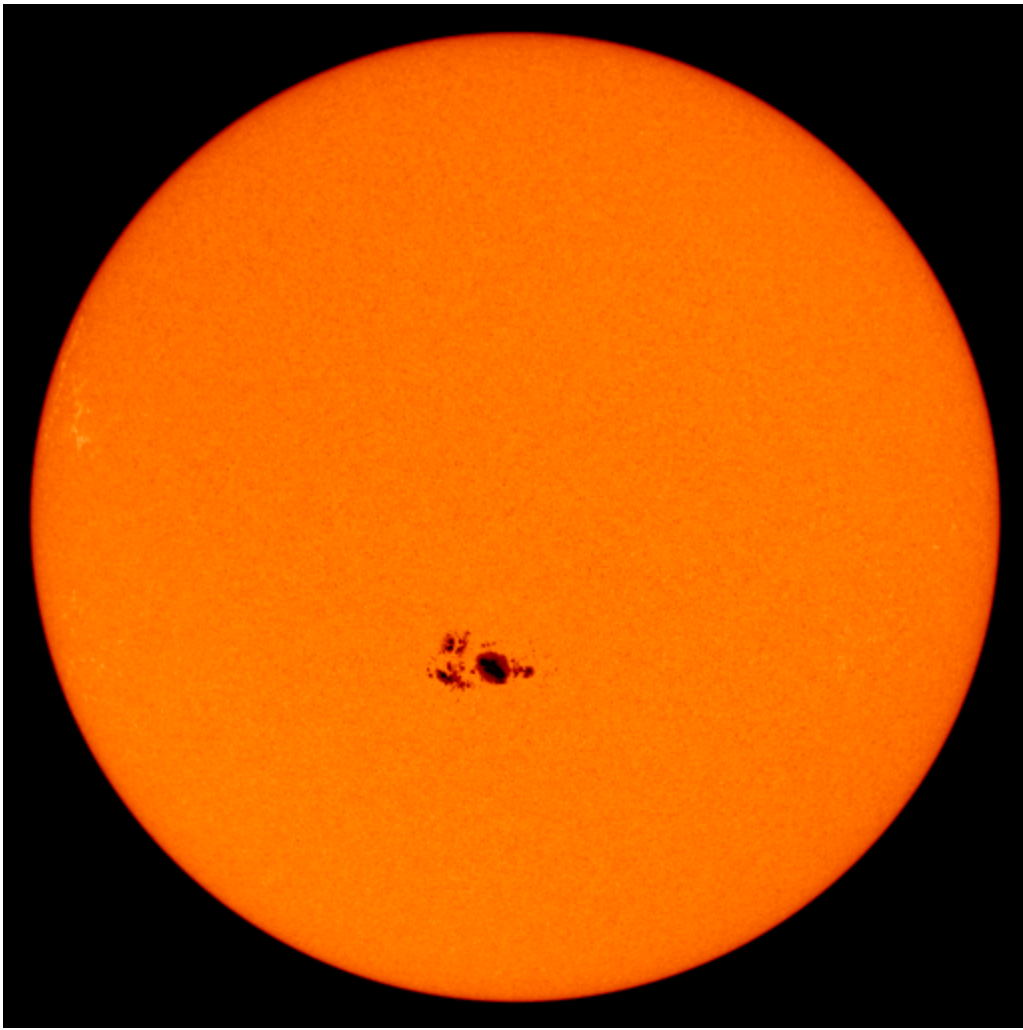
Kp Value Versus Aurora Latitude
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[CURRENT SOLAR SPACE WEATHER AND GEOMAGNETIC DATA](#)



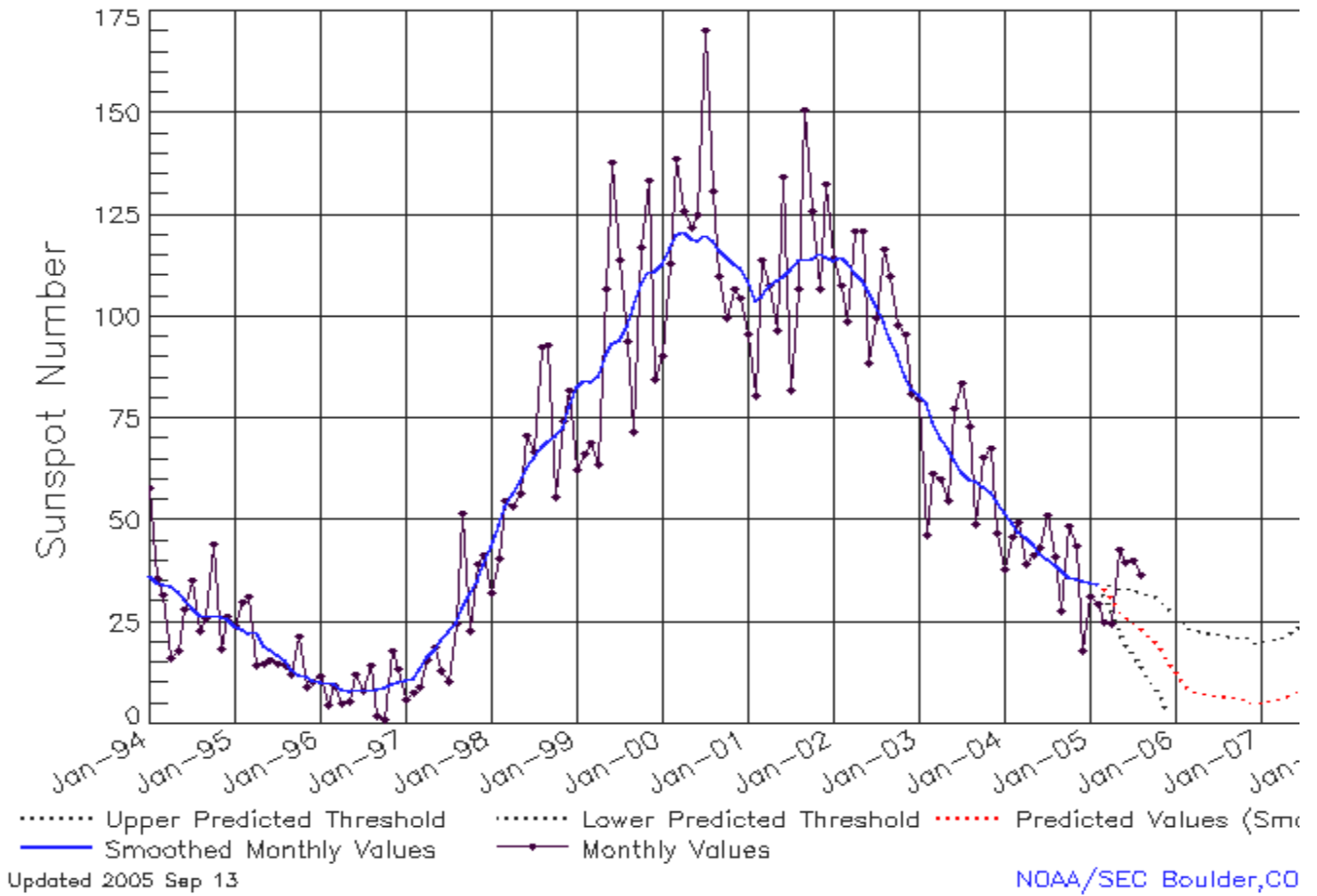
Profile Of Earth's Bow Shock & Magnetopause



NASA Current Solar Image

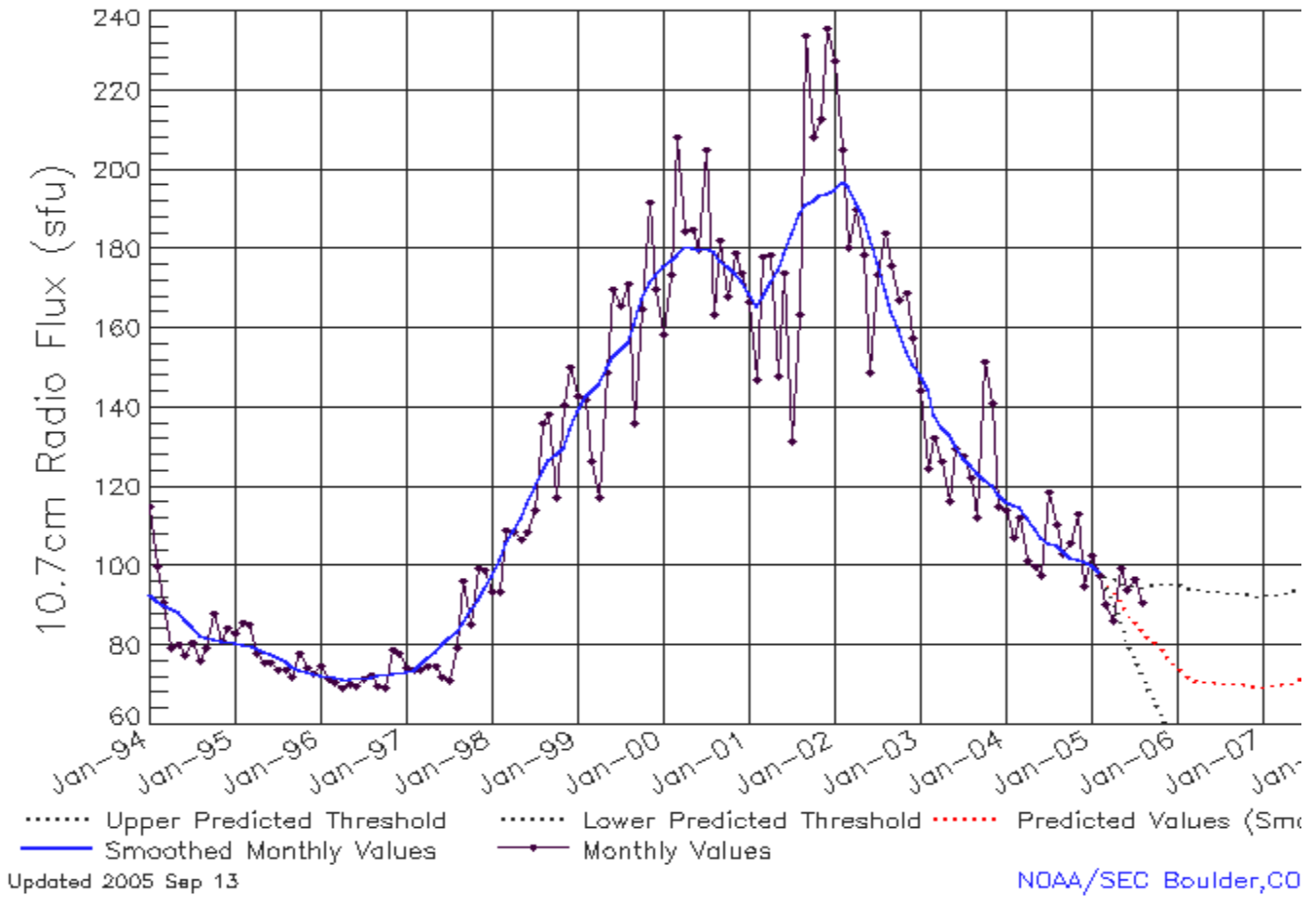
ISES Solar Cycle Sunspot Number Progression

Data Through 31 Aug 05

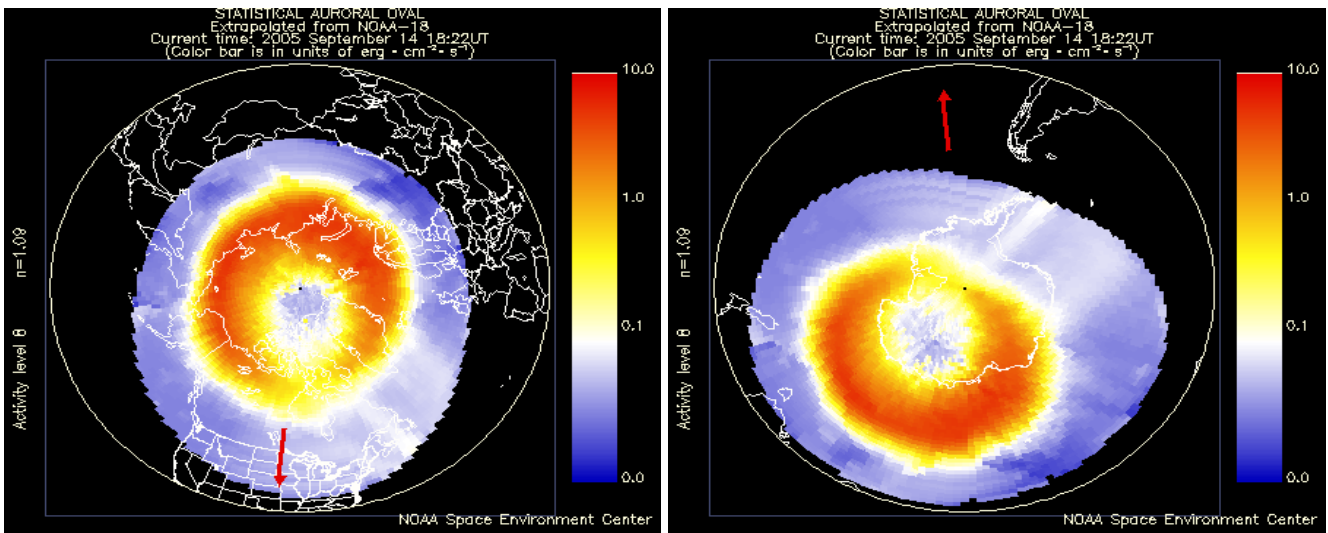


SEC Cycle 23 Sunspot Progression


ISES Solar Cycle F10.7cm Radio Flux Progression Data Through 31 Aug 05



SEC Cycle 23 2800 Mhz Solar Flux Progression

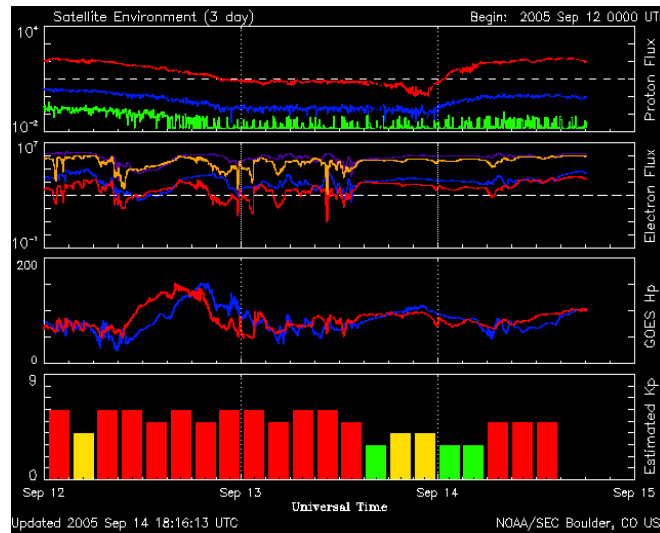


SEC Current North And South Polar Aurora Oval Positions
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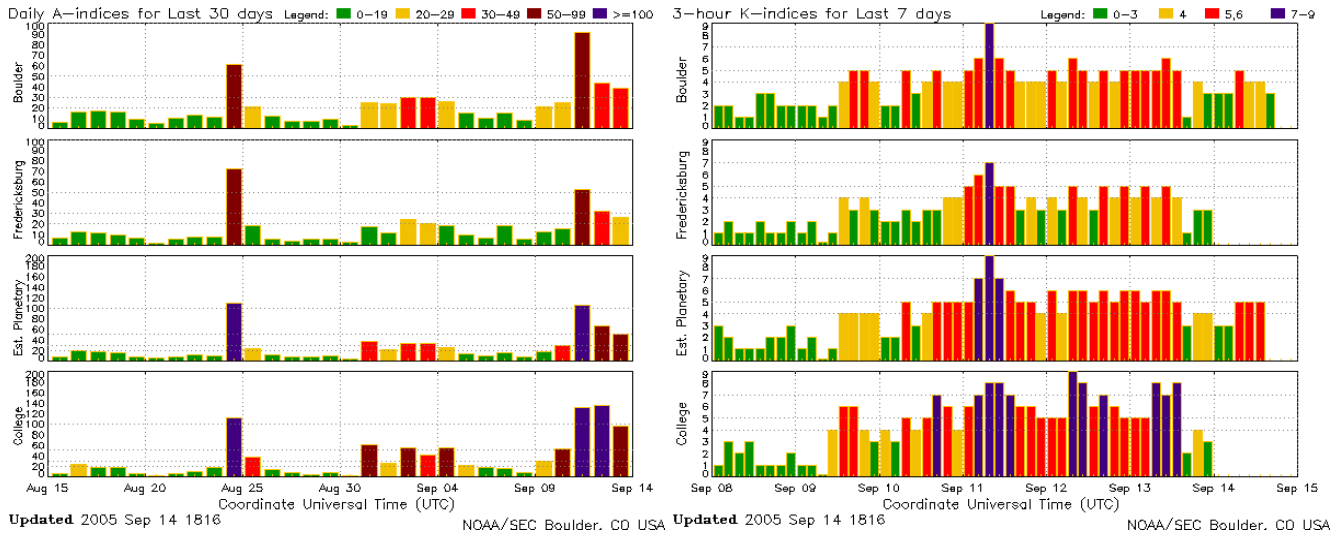
 Near-Real-Time MUF Map (with SSN & A-index)



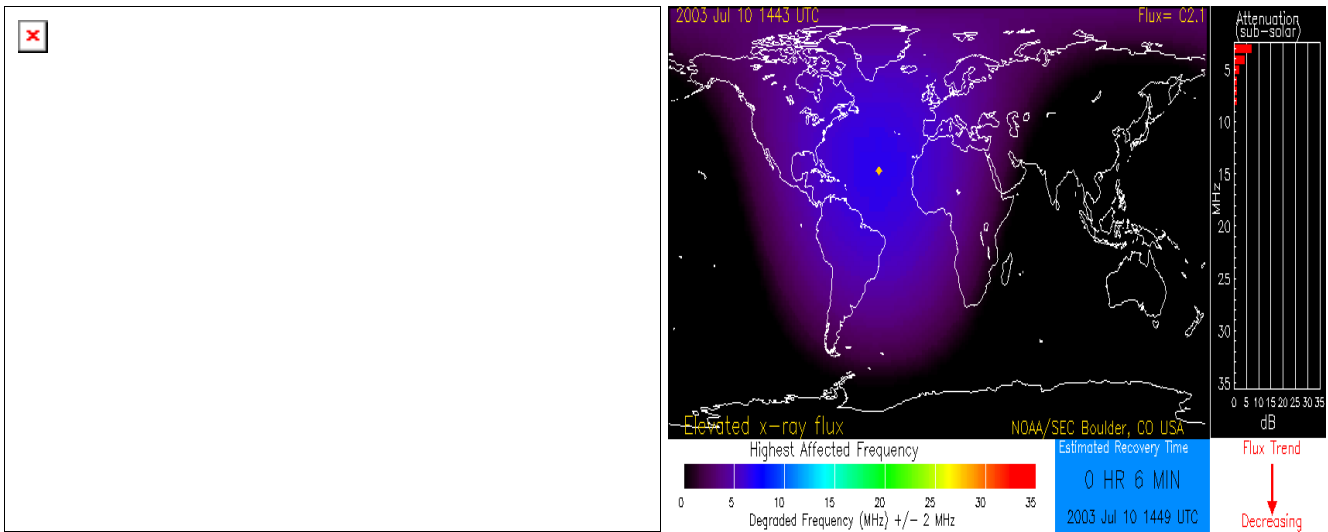
STD F2 Layer MUF Map



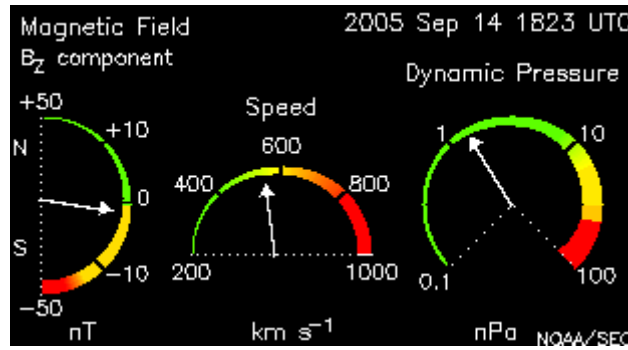
N3KL Latest Space Weather Indices
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7 Day History Of A & K Indices At Boulder, CO, Fredericksburg, VA, College, AK
[Click To Enlarge](#)

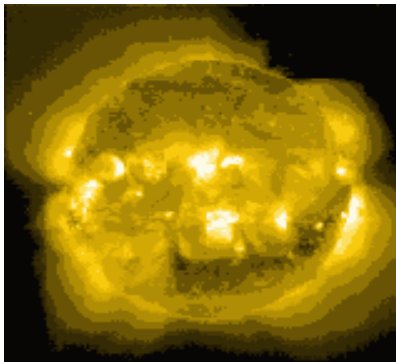


STD 5 MHz Ionospheric Absorption Map And SEC D Region Absorption Map
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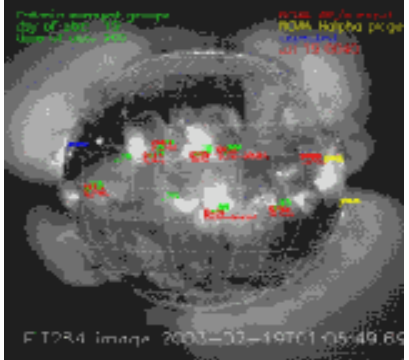


Current SEC ACE Solar Wind Data Etc.

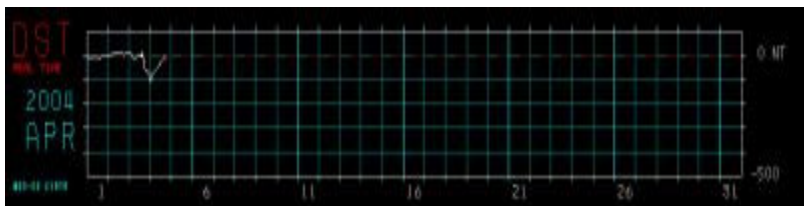
Solar X-Rays: **X CLASS FLARE!**
 Geo. Field: **STORM!**
 From n3kl.org



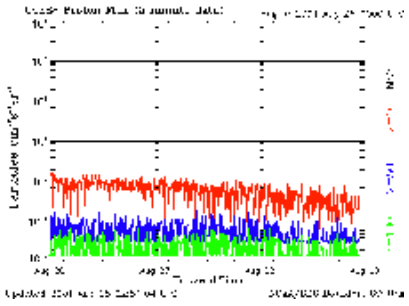
Latest EIT 284 Coronal Hole Region Location
A Cause Of Many Of Our Ionospheric Storms
 Click To Enlarge



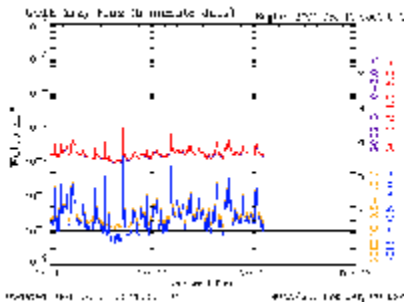
More Sunspot Region Location & Type
[Click To Enlarge](#)



A -50 or better towards a positive number Dst index during the recovery time after a geomagnetic storm, as related to the Equatorial Ring Current. -50 nt Or More Negative DST Creates Increased D Layer Lower Latitude Signal Absorption On The MF AM Broadcast Band, 160 and 120 Meters
[Click To Enlarge](#)



>(10+0) Energetic Proton Flux Creates Increased D Layer Signal Absorption On 160, 120 Meters And >(10-1) On MF Bands
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>C1 Or Greater Background X-Ray Flux Creates Increased D Layer Signal Absorption On 160, 120 Meters And B9 Or Greater On The MF Band, A9 Or Less Is Best
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[Back To The Top](#)**DAILY SOLAR SPACE WEATHER AND GEOMAGNETIC INFORMATION ARCHIVE**

As Follows Are Monthly Observed Maximum And Minimum Solar Flux Index Levels For Cycle 23 From 1996 Through 2004, As Measured From Penticton, BC, Canada Using "Highest" Of Three Daily Values, Not 2000 UTC Value Only, Like Most Propagation Websites. This site also archives the daily minimum, average and maximum A index.

Initially NOAA SEC predicted cycle 23 to peak in August 2000. NOAA then predicted a peak between December 2000 and March 2001.

The peak as measured by the (SFI) Solar Flux Index occurred in December 2001 with an average of 235. The peak as measured by the (ISS) International Sunspot Index occurred in July 2000 with an average of 170.

*- Beginning Of Cycle 23

#- Highest Daily Solar Flux Index So Far For Cycle 23

+ - Second Highest Daily Solar Flux Index So Far For Cycle 23

@- Highest Monthly Average Solar Flux Index For Cycle 23

	96	97	98	99	00
•					
• JAN	086/069	078/067	102/081	178/110	211/130
• FEB	076/068	081/069	107/083	208/099	227/138
• MAR	074/067	077/069	133/090	157/102	236/178
• APR	074/067	081/068	141/088	145/097	223/158
• MAY	078/066	085/070	133/087	183/137	262/126
• JUN	074/067	078/068	122/096	210/139	202/148
• JUL	087/065	082/067	129/099	206/129	262/148
• AUG	081/067	097/070	179/109	264/129	193/131
• SEP	074/066	119/085	177/117	163/105	232/133
• OCT	*073/066	091/079	135/103	200/122	203/140
• NOV	106/068	118/089	168/115	249/143	204/144
• DEC	088/066	117/085	184/129	217/130	201/135

	01	02	03	04	05
•					
• JAN	184/152	261/188	189/112	135/087	181/085
• FEB	170/130	257/188	150/101	124/095	122/075
• MAR	+294/130	209/165	161/089	134/090	115/074
• APR	258/123	226/147	166/098	117/087	
• MAY	210/129	193/157	218/091	118/085	
• JUN	221/133	179/131	200/106	119/082	
• JUL	150/115	275/129	162/099	197/077	
• AUG	205/120	244/135	137/104	156/083	
• SEP	285/183	221/136	141/094	222/088	
• OCT	263/171	191/136	#318/092	148/086	
• NOV	271/170	204/138	237/091	141/095	

• DEC@ 285/207 245/111 143/084 113/081

[Raw Data For Below Info Can Be Found At This Link NOAA/SEC](#)

[2004 DAILY SOLAR SPACE WEATHER AND GEOMAGNETIC INFORMATION ARCHIVE](#)

[2003 DAILY SOLAR SPACE WEATHER AND GEOMAGNETIC INFORMATION ARCHIVE](#)

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[2001 DAILY SOLAR SPACE WEATHER AND GEOMAGNETIC INFORMATION ARCHIVE](#)

2005 DAILY SOLAR SPACE WEATHER AND GEOMAGNETIC INFORMATION

+= Influenced By Intense Solar Flaring

Date	Solar Flux	SEC SSN	Ap Index Min Ave Max	K Indices		X Ray Flares	Optical Flares
				Planetary	Boulder	C M X	S 1 2 3 4
20050426	88.4 90.9 90.0	20	02 05 07	10112221	11012121	4 0 0	4 0 0 0
20050425	84.1 86.0 87.1	25	05 11 27	34322112	23323332	0 0 0	0 0 0 0
20050424	81.7 82.3 82.5	0	06 10 22	34222222	33222322	0 0 0	0 0 0 0
20050423	78.5 79.3 80.1	35	03 06 09	11222222	11222432	0 0 0	0 0 0 0
20050422	76.9 77.2 77.3	34	03 09 15	22113232	23013232	0 0 0	0 0 0 0
20050421	77.3 77.1 77.1	22	02 04 07	20111211	30112212	0 0 0	0 0 0 0
20050420	77.2 77.0 77.1	39	09 21 48	25444322	25444223	0 0 0	0 0 0 0
20050419	78.5 78.2 82.4	43	04 08 22	22412222	23412223	0 0 0	0 1 0 0
20050418	82.4 81.3 81.1	44	05 08 15	13212222	23313432	0 0 0	1 0 0 0
20050417	84.1 83.6 83.4	54	03 05 09	12211111	23202321	3 0 0	1 0 0 0
20050416	81.2 82.9 83.1	52	03 07 15	32112222	32112322	0 0 0	0 0 0 0
20050415	85.4 84.9 84.7	61	07 13 22	34223323	34222323	0 0 0	0 0 0 0
20050414	85.3 85.4 86.2	63	09 19 48	45333232	45443332	0 0 0	0 0 0 0
20050413	83.4 83.5 84.5	45	09 26 39	24445544	24444544	0 0 0	0 0 0 0
20050412	85.2 84.9 83.7	32	12 30 67	65344344	55435244	1 0 0	1 0 0 0
20050411	86.2 87.5 88.3	17	00 10 22	11012343	22012433	1 0 0	0 0 0 0
20050410	88.7 88.3 87.6	42	00 04 07	10012211	10002111	0 0 0	0 0 0 0
20050409	87.8 88.4 88.0	43	00 04 06	21011221	12112322	0 0 0	0 0 0 0
20050408	87.4 87.7 87.5	56	02 04 07	20111121	21212221	0 0 0	0 0 0 0
20050407	87.5 87.8 87.8	49	04 08 15	22322211	23332211	0 0 0	0 0 0 0
20050406	88.2 88.0 88.6	50	07 11 18	32232333	33233322	2 0 0	0 0 0 0
20050405	87.6 88.3 88.0	50	15 74 132	77533334	66533334	1 0 0	0 0 0 0
20050404	84.3 84.8 84.7	54	04 17 48	12222445	12323444	0 0 0	0 0 0 0
20050403	80.1 81.1 81.9	38	03 06 07	12111222	12211322	0 0 0	0 0 0 0
20050402	79.6 80.2 80.9	30	00 04 07	10111211	10121212	0 0 0	0 0 0 0
20050401	78.3 78.3 78.5	26	03 08 22	13422211	13322112	0 0 0	0 0 0 0

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20050331	76.5 76.7 77.1	22	04 09 12	13321232	13212223	0 0 0	0 0 0 0
20050330	77.5 77.6 77.6	11	04 09 22	23421211	23432110	0 0 0	0 0 0 0
20050329	76.1 78.8 78.8	15	02 05 15	01101223	11102212	0 0 0	0 0 0 0
20050328	79.5 79.7 76.9	15	02 04 06	12101122	22101012	0 0 0	0 0 0 0
20050327	77.3 78.4 77.1	35	07 13 27	21433332	22433322	0 0 0	0 0 0 0
20050326	78.1 77.7 81.6	41	07 16 32	24443222	24443321	0 0 0	0 0 0 0
20050325	83.0 82.1 81.7	65	04 18 39	14533323	14433323	0 0 0	1 0 0 0
20050324	87.5 87.1 86.7	57	02 06 12	01113222	00113211	1 0 0	1 0 0 0
20050323	88.2 87.7 88.4	56	00 04 09	10001122	10112332	0 0 0	1 0 0 0
20050322	87.6 87.3 88.6	49	00 03 06	00101112	10102322	1 0 0	0 0 0 0
20050321	89.1 89.7 90.7	53	03 08 22	11134211	10234322	1 0 0	5 0 0 0
20050320	86.3 89.0 86.5	39	04 05 07	12122111	13122231	3 0 0	1 0 0 0
20050319	90.0 93.0 92.6	41	04 14 39	54222111	54322211	2 0 0	1 0 0 0
20050318	96.7 96.5 95.9	37	03 09 18	11231333	11231333	1 0 0	0 0 0 0
20050317	101.6 101.4 102.3	35	07 12 22	33242322	34241322	0 0 0	2 0 0 0
20050316	103.4 104.6 101.9	45	02 06 12	00113222	11123213	0 0 0	1 0 0 0
20050315	108.8 108.2 108.2	58	03 04 06	21111111	21112112	1 0 0	1 0 0 0
20050314	115.0 112.4 111.1	49	03 21 39	44345322	54344323	1 0 0	1 0 0 0
20050313	114.0 113.9 114.4	77	02 06 15	10012223	10013333	5 0 0	2 0 0 0
20050312	109.9 110.0 112.2	67	02 04 06	11101121	11212322	1 0 0	0 0 0 0
20050311	106.4 105.4 106.3	59	04 06 09	22212111	22313220	1 0 0	0 0 0 0
20050310	101.8 102.2 103.0	70	05 13 18	33333321	33332322	1 0 0	0 0 0 0
20050309	99.0 100.1 102.1	77	12 20 32	34433344	34433444	2 0 0	3 0 0 0
20050308	92.2 94.4 96.4	52	12 26 56	45533334	45433334	0 0 0	1 0 0 0
20050307	87.0 87.3 89.4	43	22 42 94	55644454	54644444	0 0 0	1 0 0 0
20050306	83.3 84.0 85.4	22	15 36 48	53543545	44543534	0 0 0	2 1 0 0
20050305	81.0 81.0 82.1	22	04 10 18	13222233	13322223	1 0 0	0 0 0 0
20050304	78.8 79.3 80.0	13	02 03 05	10001110	10101111	0 0 0	0 0 0 0
20050303	78.1 78.0 77.9	24	00 04 06	11011221	11112112	0 0 0	0 0 0 0
20050302	75.0 74.5 74.8	11	04 12 15	33333311	33333311	0 0 0	0 0 0 0
20050301	73.8 74.1 74.0	11	05 11 22	21332224	22332313	0 0 0	0 0 0 0 Back To The Top
20050228	74.9 75.0 75.2	11	04 12 22	13333314	13333313	0 0 0	0 0 0 0
20050227	75.5 75.9 76.1	12	02 08 18	02313221	13314212	0 0 0	0 0 0 0
20050226	77.0 77.1 76.6	27	07 09 12	22233322	22332332	0 0 0	0 0 0 0
20050225	77.6 78.1 78.0	15	05 09 15	11222332	11233442	0 0 0	0 0 0 0
20050224	80.9 80.0 81.2	17	00 05 15	00113122	00113222	0 0 0	0 0 0 0
20050223	86.0 85.4 85.1	54	03 04 06	11211211	11211232	2 0 0	0 0 0 0
20050222	91.1 92.4 90.9	23	00 04 09	11001221	11012332	0 0 0	0 0 0 0
20050221	93.0 95.1 94.9	33	04 08 15	33121212	33122212	0 0 0	0 0 0 0
20050220	95.0 95.7 96.3	60	02 12 22	43302322	43311322	0 0 0	0 0 0 0
20050219	98.8 98.5 98.9	51	03 14 27	12344332	12343333	1 1 0	0 0 0 0

20050218	104.2 104.2 105.1	46	09 25 48	54434432	53434423	5 0 0	1 0 0 0
20050217	110.8 111.3 109.0	51	02 06 15	12012223	23011323	1 0 0	0 0 0 0
20050216	112.9 112.8 112.9	61	05 13 27	21244333	22234333	2 0 0	1 2 0 0
20050215	120.2 121.7 118.1	69	02 05 07	11201122	11211101	1 0 0	4 0 0 0
20050214	117.5 118.1 117.4	115	02 05 07	02111122	12112122	2 0 0	3 1 0 0
20050213	115.7 115.5 118.0	73	02 04 06	11110121	21111111	2 0 0	3 1 0 0
20050212	116.8 116.4 116.7	72	03 05 07	22111120	22122220	0 0 0	0 0 0 0
20050211	115.5 114.1 115.3	73	04 11 15	23332132	23332232	1 0 0	0 3 2 0
20050210	111.9 114.1 113.7	63	07 17 22	44334232	43343333	1 0 0	3 0 0 0
20050209	108.6 108.6 109.2	60	12 25 56	34544333	24543343	0 0 0	0 1 0 0
20050208	107.8 108.2 110.4	53	15 34 94	46434444	56434444	2 0 0	0 0 0 0
20050207	102.1 103.1 102.9	62	07 23 48	33235455	33225555	4 0 0	1 1 0 0
20050206	100.4 97.0 97.4	47	04 09 22	22411123	23411223	1 0 0	0 0 0 0
20050205	92.7 94.6 95.8	22	02 03 05	11101011	11101001	1 0 0	0 0 0 0
20050204	84.9 82.1 86.5	22	00 03 06	00012111	00011211	4 0 0	0 0 0 0
20050203	83.2 83.0 83.7	23	04 08 22	14311211	24312211	0 0 0	0 0 0 0
20050202	81.8 81.8 82.5	28	03 08 15	11322231	12222331	0 0 0	0 0 0 0
20050201	83.6 83.7 83.9	27	00 06 12	30121222	30112321	0 0 0	0 0 0 0
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20050131	86 86 87	49	05 19 39	32345431	42344431	1 0 0	1 0 0 0
20050130	86 86 86	38	06 16 22	34343222	23242222	0 0 0	0 0 0 0
20050129	85 86 86	30	06 20 32	32343344	23343444	0 0 0	0 0 0 0
20050128	85 85 86	43	02 06 15	22101132	12011332	0 0 0	0 0 0 0
20050127	85 87 87	43	00 03 07	00001211	00111331	0 0 0	0 0 0 0
20050126	90 89 89	46	02 04 05	11011111	11011220	0 0 0	0 1 0 0
20050125	90 94 94	56	02 04 07	10111121	11212232	0 0 0	0 0 0 0
20050124	94 96 95	42	04 06 09	21122221	21222221	0 0 0	0 0 0 0
20050123	96 96 96	40	09 17 27	44333432	43332433	1 1 0	0 0 0 0
20050122	104 102 103	60	12 28 80	56333343	46332233	5 0 0	0 0 0 0
20050121	115 114 114	69	04 61 179	31322886	32322775	9 2 0	2 0 0 0
20050120	123 123 123	61	04 12 32	21124433	21123433	5 0 1	4 0 1 0
20050119	135 133 132	66	12 62 132	66676434	56565533	8 3 1	5 1 2 0
20050118	134 124 131	109	27 72 132	65756645	55646644	12 2 0	7 2 1 0
20050117	139 138 138	107	12 63 132	54377753	44366653	4 2 1	5 0 1 0
20050116	144 145 149	99	07 12 18	22223323	22323423	7 2 0	8 1 0 0
20050115	147 145 +181	100	06 22 67	36433332	35433332	17 7 2	25 4 2 1 0
20050114	128 130 136	65	04 12 27	22211144	23212244	28 5 0	10 3 1 0 0
20050113	113 116 118	77	07 13 27	24223333	24322333	9 0 0	9 0 0 0
20050112	101 102 103	58	15 30 56	45355333	35354333	2 0 0	3 0 0 0
20050111	94 94 96	25	05 14 27	14422323	14422323	2 0 0	1 0 0 0
20050110	89 90 93	40	03 06 09	11112222	01212223	1 0 0	1 1 0 0
20050109	89 88 90	28	00 04 12	11031111	11030221	1 1 0	1 2 0 0

20050108	85 89 87	34	07 30 80	66343322	45343322	1 0 0	0 0 0 0
20050107	83 84 85	22	00 37 132	10016647	10016637	0 0 0	0 0 0 0
20050106	83 84 84	14	00 04 12	20000131	10000121	0 0 0	0 0 0 0
20050105	88 88 87	15	05 21 39	54543312	44443321	0 0 0	0 0 0 0
20050104	87 88 89	30	12 23 32	44344433	44243433	3 0 0	3 0 0 0
20050103	92 94 94	43	06 22 48	44335432	34335422	2 0 0	1 0 0 0
20050102	99 100 99	52	15 33 56	44543535	44533535	1 0 0	0 0 0 0
20050101	97 99 101	51	04 15 27	14323343	14323343	2 0 1	1 0 0 0

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