

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
SOLAR COMMITTEE



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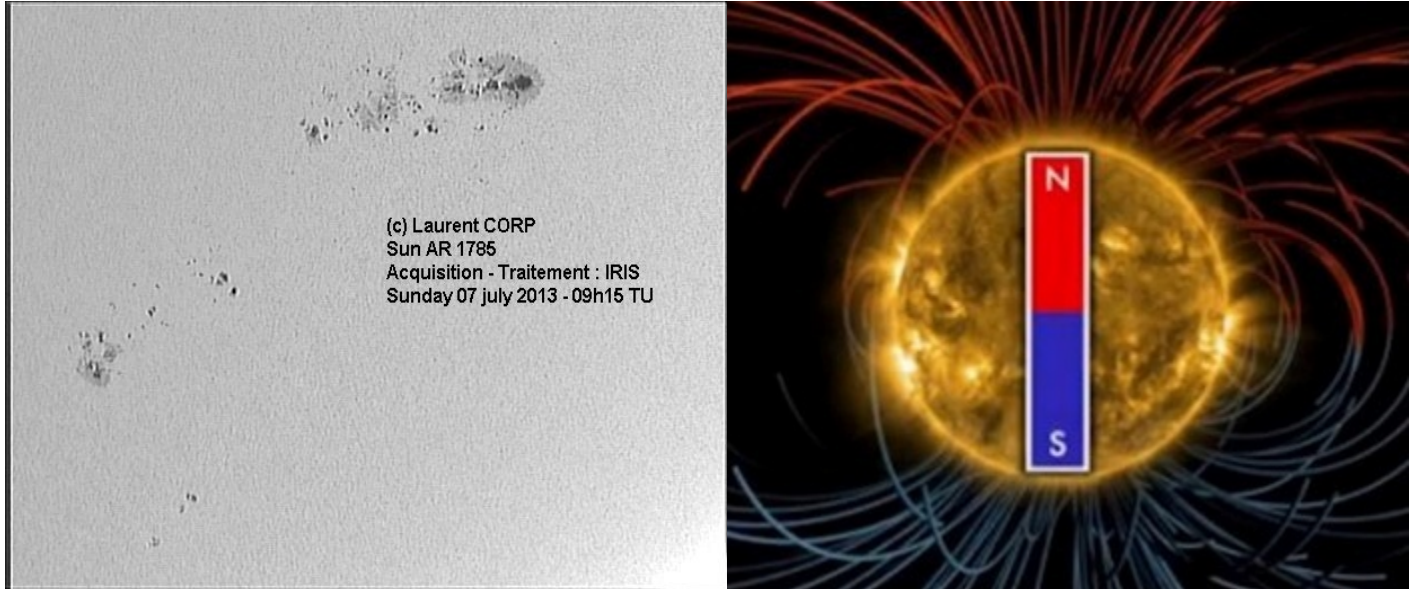
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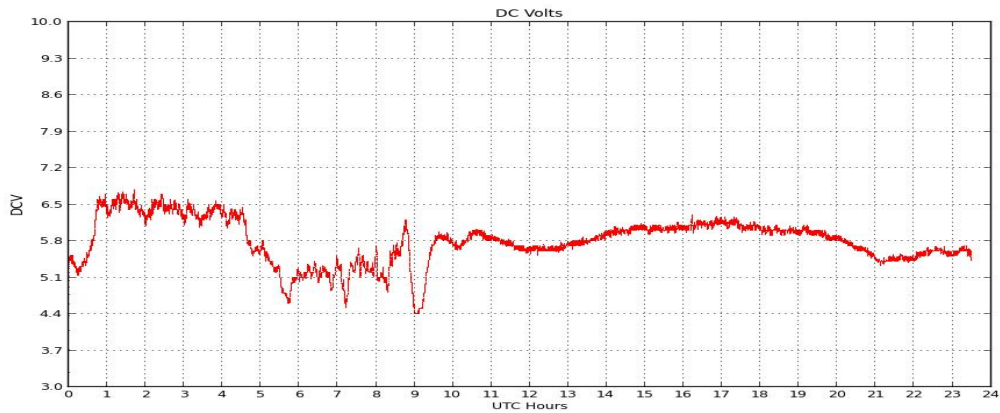


(c) Laurent CORP
Sun AR 1785
Acquisition - Traitement : IRIS
Sunday 07 july 2013 - 09h15 TU

The news was announced August 5th. According to studies and measured by NASA and other agencies of solar observations indicate that the Sun is near the magnetic reversal of the poles, the Sun is apparently very close, possibly within the next 3-4 months to have reversed polarity, ie what is far south magnetic pole is north and which is now north will be south .. This results in the change of polarity of the bipolar sunspot groups and this event indicates that the Sun and activity peaked this solar cycle 24. http://science.nasa.gov/science-news/science-at-nasa/2013/05aug_fieldflip/ On the left, Laurent Corp (CLZ) captures these two large groupings on the Sun's southern hemisphere. And the north/south plot (last graph in the Solar Bulletin) shows that our observers, who capture north/south data, recorded that there was a larger number of active regions in the southern hemisphere during early July.

Sudden Ionospheric Disturbance Report

File: VLFlog201308010002.txt UTC: Thu Aug 1 19:30:01 2013 sun AZ = 310.2 sun EL = -14.5



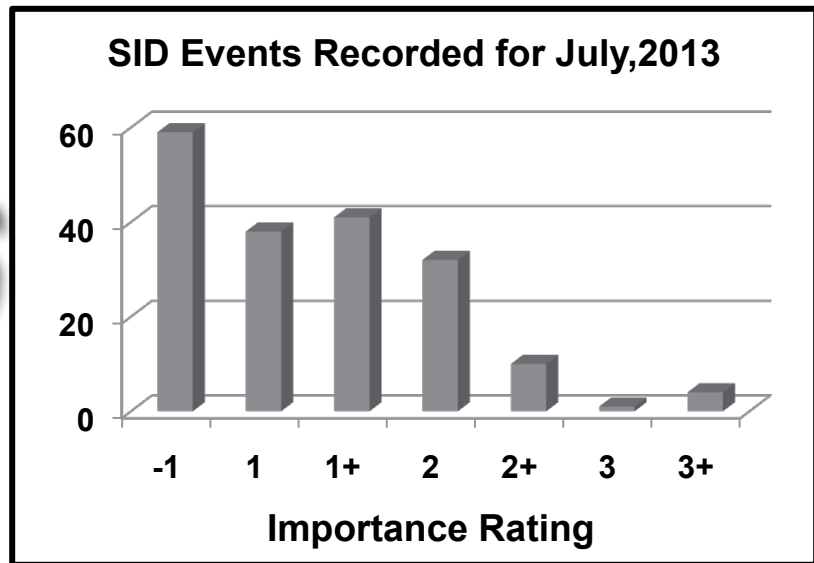
John DuBois' VLF receiver produces a nice clean scan of NAA

Sudden Ionospheric Disturbances (SID) Records During July, 2013

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
130701	0700	1-	130705	0249	1	130707	0402	1-
130701	1240	1	130705	0400	1+	130707	1214	1+
130702	0059	1-	130705	0424	1-	130708	0122	1+
130702	1246	1-	130705	0606	1-	130708	1339	2
130702	1748	1+	130705	0702	1-	130708	1531	2
130702	2356	1-	130705	0709	1	130708	1540	2
130703	0337	1+	130705	0850	1-	130708	2223	2
130703	0709	2+	130705	1128	1+	130709	0245	1+
130703	0906	1+	130705	1202	3	130709	0324	1-
130703	1202	1+	130705	1301	2+	130709	0708	1+
130703	1210	2+	130705	1541	2+	130709	0735	2+
130703	1637	2+	130705	1913	2	130709	1334	1+
130703	1942	3+	130705	2000	2	130710	0052	2
130703	2004	1+	130706	0057	1-	130710	0548	1-
130704	0007	1	130706	0234	1-	130710	0640	2
130704	0201	1-	130706	0245	1+	130710	0647	2
130704	0302	1	130706	0425	1-	130710	2321	1+
130704	0524	1+	130706	0649	2	130710	2359	1-
130704	0809	1+	130706	0713	1+	130711	0001	1
130704	1855	2	130706	0810	1-	130711	0810	1-
130704	1942	2	130707	0056	1	130711	0817	1-
130704	2002	2	130707	0214	1-	130711	1755	2+
130705	0054	1+	130707	0317	1-	130711	1801	1+

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
130712	1737	2+	130715	1105	2+	130721	0850	3+
130713	0547	1+	130716	0104	1	130723	0242	1
130714	1703	1-	130716	0110	1-	130723	0322	1-
130715	0246	1+	130716	1020	1+	130724	0133	1-
130715	0326	2+	130717	0156	1-	130724	0302	1-
130715	0344	2	130717	0859	1+	130725	0608	1+
130715	0742	1+	130717	0917	1-	130725	2129	3
130715	1102	2	130720	0322	2	130726	0431	1-
			130720	0334	1+	130728	0246	1-
			130720	0340	1	130728	0410	1
			130721	0306	1-	130728	0614	2
			130721	0524	1-	130728	1221	1+
			130721	0654	1	130729	1604	2+
			130721	0842	2+	130729	1612	3+
						130729	1620	1+
						130729	1649	2
						130729	1722	1+
						130729	1722	1+
						130729	2318	1
						130730	0114	1-
						130731	0428	2+

Solar Events

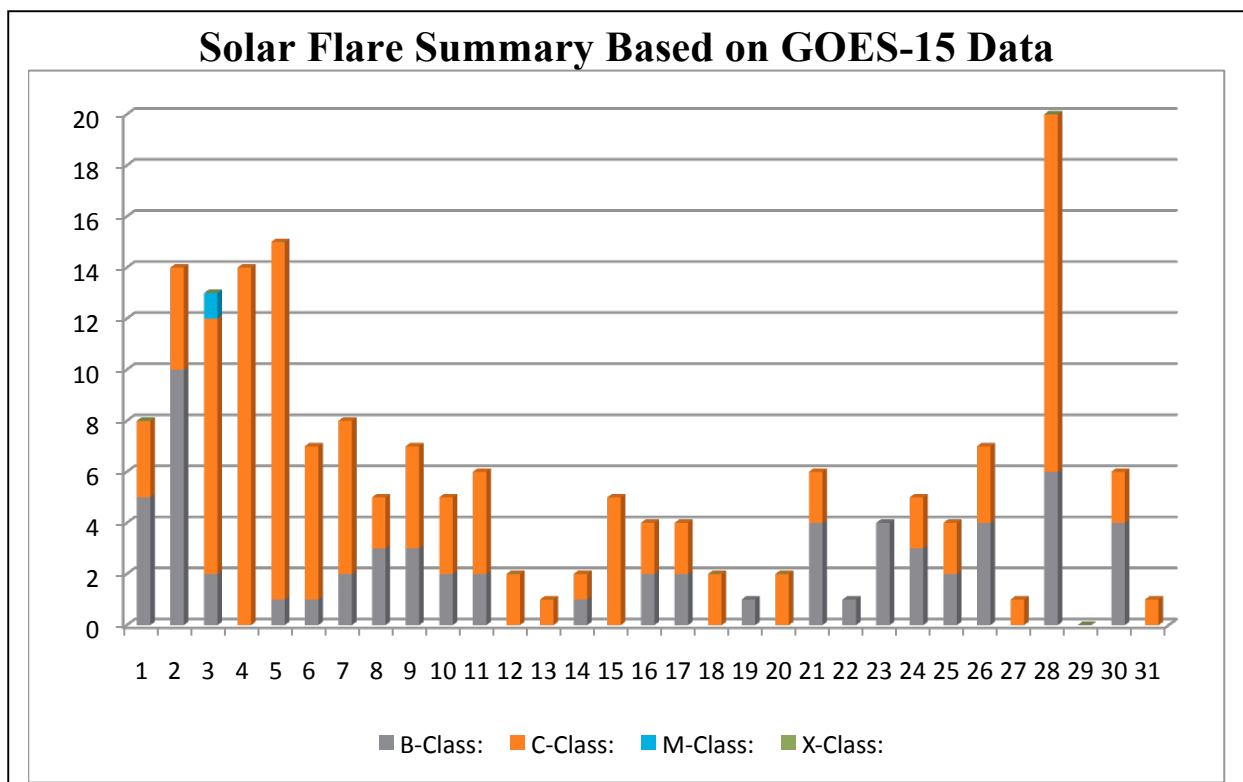


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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Sudden Ionospheric Disturbances (SID) Observers During July, 2013

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A McWilliams	A94	NML	K Cotar	A129	DHO
J Wallace	A97	NAA	J Karlovsky	A131	DHO
F Steyn	A102	NWC	E Soubrouillard	A132	DHO GBZ HWU
L Loudet	A118	DHO GQD NAA	R Green	A134	NWC
J Godet	A119	GQD	R Mrlak	A136	GQD NSY
B Terrill	A120	NWC	D Koawl	A137	NAA
F Adamson	A122	NWC	S Aguirre	A138	NPM
S Oatney	A125	NLK NML	F Francione	A139	HWU NAA
			L Corp	A140	DHO

There were 141 solar flares measured by GOES-15 for July, 2013, one M class, 114 C class and 65 B class flares. The sun had twice the C class flares this month compared to last. There were 17 AAVSO SID observers who submitted reports this month.



American Relative Sunspot Numbers (Ra) for July, 2013 [**boldface** = **maximum, minimum**]

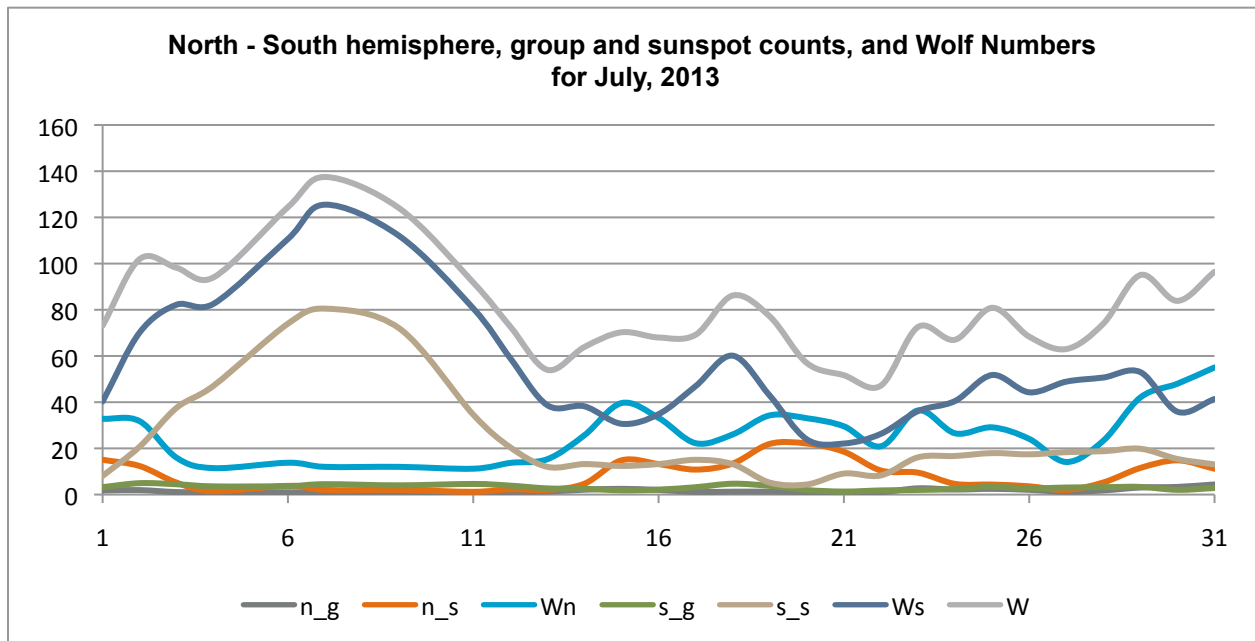
DAY	NumObs	RAW	Ra
1	30	74	54
2	33	101	72
3	28	94	71
4	40	94	71
5	36	99	78
6	42	113	88
7	40	117	91
8	36	105	80
9	33	97	70
10	35	76	53
11	35	71	50
12	37	61	43
13	35	33	24
14	37	58	43
15	45	67	49
16	38	66	47
17	40	67	50
18	41	82	61
19	34	71	53
20	40	59	43
21	42	54	39
22	35	48	34
23	43	69	50
24	39	66	50
25	37	75	55
26	36	66	48
27	37	64	48
28	43	71	52
29	37	94	69
30	43	85	63
31	36	93	67
Average	37.5	77.1	56.9

Obs	#Obs	Name
AAP	5	A. Patrick Abbott
AAX	19	Alexandre Amorim
AJV	23	J. Alonso
ARAG	31	Gema Araujo
ASA	18	Salvador Aguirre
BARH	7	Howard Barnes
BDDA	18	Diego Bastiani
BERJ	12	Jose Alberto Berdejo

BMF	17	Michael Boschat
BRAB	31	Brenda Branchett
BRAF	23	Raffaello Braga
BROB	20	Robert Brown
BXD	21	Alexandru Burda
CHAG	30	German Morales Chavez
CIOA	11	Ioannis Chouinavas
CKB	27	Brian Cudnik
CLZ	4	Laurent Corp
CNT	8	Dean Chantiles
CVJ	13	Jose Carvajal
DGP	25	Gerald Dyck
DJOB	17	Jorge del Rosario
DUBF	28	Franky Dubois
FAM	10	Fabio Mariuzza
FERJ	22	Javier Ruiz Fernandez
FLET	27	Tom Fleming
FLF	18	Fredirico Luiz Funari
FTAA	18	Tadeusz Figiel
FUJK	23	K. Fujimori
HAYK	21	Kim Hay
HOWR	28	Rodney Howe
HRUT	4	Timothy Hrutkay
JASK	23	Krystyna Wirkus
JGE	7	Gerardo Jimenez Lopez
JJK	1	Jerry Klotz
JJMA	13	Jessica M. Johnson
KAND	19	Kandilli Observatory
KAPJ	29	John Kaplan
KNJS	23	James & Shirley Knight
KROL	20	Larry Krozel
LKR	15	Kristine Larsen
MARE	18	Enrico Mariani
MCE	25	Etsuiku Mochizuki
MGAA	2	Gael Mariani
MILJ	9	Jay Miller
MJHA	22	John McCammon
MMI	30	Michael Moeller
MUDG	17	George Mudry
OATS	17	Susan Oatney
OBSO	18	IPS Observatory
RICE	7	E. C. Richardson
RLM	10	Mat Raymonde
SCGL	28	Gerd-Lutz Schott
SIMC	11	Clyde Simpson
SMNA	7	Michael Stephanou
SONA	26	Andries Son

STAB	30	Brian Gordon-States	WRP	5	Russell Wheeler
SUZM	24	Miyoshi Suzuki			
TESD	29	David Teske			
URBP	28	Piotr Urbanski	Total	Observers:	65
VARG	16	A. Gonzalo Vargas	Total	Observations:	1163
VIDD	23	Daniel Vidican			
WAU	2	Artur Wargin			
WILW	28	William M. Wilson			
WKM	2	Michael Wiskirken			

Thirty of our sixty five observers submitted data on the sunspot and group counts for the Sun's north and south hemispheres. It is interesting to note how the Wolf numbers of groups and Sunspots counts cross over on 14, 16, 20, 22 and 30 this month, as the polarities are changing.



Reporting Addresses:

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