

White light MDF, 2000 June

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
G. North	5.8	4.0	9.8	4	171.5	4	-	-
K. Medway	4.6	3.1	7.7	27	-	-	-	-
M. Hendrie	6.5	3.9	10.4	10	143.8	10	-	-
W. Heyes	6.1	2.6	8.8	8	-	-	22.0	8
D. Storey	5.3	4.5	9.8	4	-	-	-	-
A. Ibrahim	-	-	7.8	18	90.8	18	-	-
R. Dryden	4.9	3.4	8.3	10	138.6	10	-	-
J. Shanklin	5.1	3.7	8.9	21	125.0	21	-	-
T. Tanti	5.0	3.8	8.8	29	134.0	29	24.8	29
G. Johnstone	5.9	3.6	9.5	15	-	-	-	-
E. Strach	8.4	6.3	14.7	18	-	-	-	-
L. Smith	4.0	3.4	7.4	11	119.7	11	-	-
P. Meadows	5.3	4.0	9.3	19	145.8	19	28.4	19
MEANS	5.5	3.9	9.2	194	129.0	122	25.6	56

MDF = Mean Daily Frequency of active areas, R = sunspot number, Q = mean quality estimate (JBAA 98,6,pp282-286)

White light activity, 2000 June

Strach notes that there was a steep rise in his observed sunspot activity for June as expressed by the MDF. This is his highest figure for 11 years (he recorded an MDF of 9.60 in 1990 August). He comments that the present rise is entirely due to increased activity in the N hemisphere.

The Eko group at S12/170 seen at the end of May was still the most prominent group on the 1st. Meadows reported that the leading spot was quite asymmetrical with a reasonably large umbra and its total area was 500 millionths. As this group neared the W limb the number of intermediate spots decreased and the following spots decayed such that on the 4th the group consisted of the leading penumbral spot and a few other spots. A single Hsx spot was seen near the limb on the 6th.

Also on the 1st, an Eko group was seen near the E limb. On the 3rd and 4th, Meadows commented that it consisted of a leading irregular penumbral spot and a following symmetrical spot with other smaller penumbral spots between. By the 6th this group, at N21/75, had increased in area to 700 millionths caused by the increase in area of both the leading and following spots. The main spot was still quite irregular with many umbra within. At 1143 on the 6th Strach reported that the group produced a long lasting 3B Flare (see below) as it crossed the CM. On the 7th Medway noted that the group was visible to the naked eye. By the 8th, the main spot had decayed into four smaller penumbral spots with the following spot now being the largest in the group. The total group area had dropped to 370 millionths. As this group progressed towards the W limb, the leading set of penumbral spots reduced in number and size. On the 12th only the following penumbral spot remained. This Hsx spot was seen returning to the visible disk on the 30th.

Another significant group was first seen by Meadows on the 6th and this was again in the N hemisphere. On the 7th, with the group at N23/17, it was classified as of type Eao but on the following day it had extended to become type Fkc with an irregular leading spot. This spot increased in size over the next couple of days to dominate the group when seen on the 10th. On the following day, the leading spot became more symmetrical and numerous other spots, some of which included small penumbral spots, followed it. Meadows estimated the total group area to be 480 millionths. He reported that the leading spot became smaller on the 12th when Heyes measured the position as N21/E27. Just two small penumbral spots were seen on the 17th.

Strach and Medway noted a high-latitude spot group in the S hemisphere. Strach comments that it was first seen near the E limb on the 17th at -38/245, surrounded by marked faculae and (in H α) by bright plages. The group became bipolar on the 18th and faded into invisibility until its revival on the 22nd. It became bipolar again after crossing the CM and developed many small satellite spots. Heyes reported it at S34/W58 on the 26th and it was last seen as a single Axx spot near the W limb on the 27th.

Further moderate groups were seen towards the E limb on the 15th at N21/284 and N20/254. Meadows comments that the first of these reached maximum area on the 16th and 17th at 520 millionths when the group had a classification of Ekc. Its appearance was of an irregularly shaped leading spot and two close following penumbral spots with, especially on the 17th, many spots in between. When the group straddled the CM on the 19th, the leading spot was still dominant while the following spot had decayed. When the group was last seen on the 21st it was of type Dac with an area of 280 millionths. The other E group from the 15th was much more compact and consisted of larger individual

penumbral spots and it was of type Dkc. On the 18th, when the total area was at its greatest at 600 millionths, there were two penumbral spots with the leading being the largest. The following part of this spot had separated when seen on the 19th. On the 20th and 21st, the following spots decayed slightly to leave a group dominated by the still asymmetrical leading spot. Only a single Hsx spot was seen near the W limb on the 27th.

H α activity, 2000 June

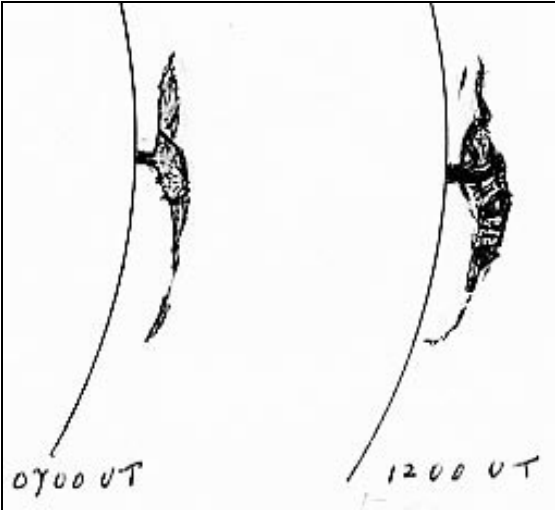
Strach’s prominence count of 14.7 is the highest he has recorded in any month over the past 24 years. Medway also comments that the month was very active. Strach reports that one outstanding event consisted of two prominences seen on the 23rd, one of which was on the E limb at N29 to N41, the other - a mirror image - was on the W limb at N37 to N42. Unfortunately poor weather did not allow him to make any follow-up observations but a brief glimpse on the 25th suggested a massive eruption of the prominence on the E-limb. At 1255 on this date Medway observed an eruptive jet at S30 on the SW limb.

On the 26th there was a low tree-like prominence on the E limb at S7 with low branches spreading widely N and particularly S running parallel to the solar limb (see figure). Also, on the 27th the whole E-limb was heavily populated with prominences (see photo). At 0700 on the same day Strach recorded a small prominence on the west limb at N41 connected to a filament at the same latitude. At 1024 the small prominence had changed into a jet reaching a height of 150,000 km but the attached filament remained unchanged.

Medway comments that filaments were numerous during the month with no less than 20 counted on the 17th.

Prominence MDF, 2000 June

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
K. Medway	5.7	3.6	9.3	21	3.2	2.3	5.6	2.5	1.2	3.7
M. Hendrie	13.0	5.3	18.3	3	8.0	1.7	9.7	5.0	3.7	8.7
E. Strach	8.4	6.3	14.7	18	4.2	3.1	7.3	4.2	3.2	7.4

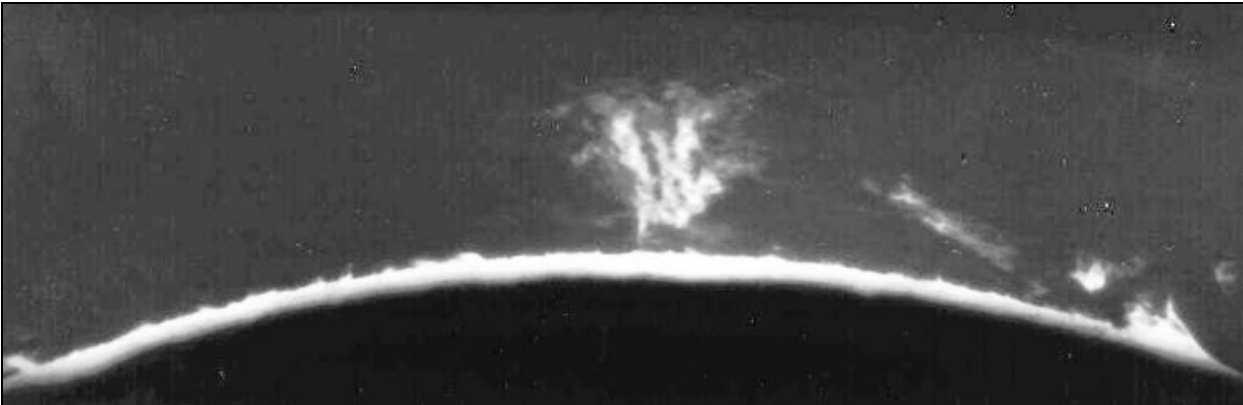


Prominence. 2000 June 26. Eric Strach.

Flares, 2000 June

Strach reports that his highlight of the month was a 3B Flare on the 6th. This was his first observation of the month and at 1143 he noted a flare to the E of the central spot of the Eki group at N19/75. The flare was in the shape of an inverted ‘L’ and of 1B importance. It varied in intensity and extent but from 1410 onwards it had enlarged and became a brilliant ‘Z’ shaped 3B flare. At 1520 the central portion doubled up and later fused into a large mass. This split again at 1555 and these variations continued up to about 1800. Thus the 3B flare lasted about 4 hour.

The brightest flare seen by Medway during the month was a 2B on the 10th. When observations started at 1710 it was already in progress. It lasted until 1805.



2000 June 27, 0901UT. Complex prominence on the E limb. 150 mm Cooke refractor stopped to 100 mm, f/47, EFR 4.5 m . Daystar 0.7 Å H α filter. Exposure 0.25 s on TP2415. Mike Hendrie.