The Sun appears to have produced a large number reports this month so, in order to save space, I have changed the format of the report slightly. The new layout means that long tables (such as the flare activity table) fit in half the space that they used to.

WHITE LIGHT SOLAR ACTIVITY

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
B. Hardie	1.45	1.15	2.60	20	41.45	20	-	-
CUAS	2.00	1.70	3.70	19	58.00	19	-	-
W. Heyes	1.42	1.42	2.83	12	-	-	8.33	12
E.H. Strach	1.71	1.00	2.71	28	41.39	28	8.36	28
J.G. Gissing	0.94	1.24	2.18	17	-	-	6.90	17
K.J. Medway	1.35	1.11	2.46	26	-	-	-	-
P. Meadows	2.35	1.43	3.78	23	63.20	23	-	-
T. Tanti	1.77	1.23	3.00	26	47.20	22	9.30	26
M. Gotz	-	-	2.06	18	49.20	18	-	-
MEANS	1.66	1.26	2.83	189	49.75	130	8.35	83

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

Table 1: Solar activity 1993 June

BAA/TA Comparison, 1993 May

Month	Active areas		Spot numbers	
	BAA	TA	BAA	TA
1993 May	3.16	3.11	52.87	54.8

Sunspot Activity, 1993 May Additional Report

No additional reports for May were received.

Sunspot Activity, 1993 June

The MDF figure for this month was down on May. Strach notes that throughout the month activity varied from moderate to low although Medway points out that June's activity showed a number of interesting facets. The month started with a relatively active Sun which, according to Strach, showed six AAs all but one of them in the N hemisphere. During the rest of the month activity alternated between the N and the S hemispheres.

The most remarkable group at the start of the month was at an average position of N14/074 and it consisted of at least 28 umbrae according to Strach. A *naked eye* spot was seen by Medway on the 1st and the 7th and this is assumed to be the same group.

During the next ten days the spot count in the N hemisphere gradually deminished whilst a lone bi-polar S group was seen at S10/014. This crossed the CM on the 5th when the leader became more substantial and during the following days Strach reports that the group developed and became more active in both white light and Hα. This group rotated over the W limb on the 11th. In the N hemisphere there was a single spot at N22/281 which was situated on the CM on the 12th. This is rather a high latitude for a spot at this time of the cycle.

The high latitude N spot passed over the W limb on the 18th and observers report that the disk was blank on the 19th. Strach observed an active S group at S17/191 on the 20th which had formed rapidly since there was no sign of it on the previous day. The end of the month saw a general revival of activity with the appearence of two, low latitude groups in the N and a spot at S13/059 in the S. Medway again observed a *naked eye* spot on the 30th.

Strach saw *polar facule* on the 15th, 16th, 20th and 28th in both the N and S hemispheres and on the 18th and 20th in the S only. He calculates that the average *spot latitudes* during the month were 10.83° in the N and 14.48° in the S.

MONOCHROMATIC SOLAR ACTIVITY

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
E. H. Strach	2.13	2.54	4.67	24	1.67	2.08	3.75	0.46	0.46	0.92
K. J. Medway	4.55	2.59	7.14	22	3.05	2.13	3.18	1.50	0.46	1.96
B. Hardie			3.40	5						

Despite the reduction of activity observed in white light, activity in Hα seems to have been maintained compared to the previous month. The increase was most apparent in the number of flares observed

Hα Prominence Activity, 1993 June

Both Strach and Medway report that prominences have been very numerous, every type in the classification scale being represented. Most of the prominences were small and insignificant but some of the noteworthy ones are described below.

Figure 1 - An umbrella shaped prominence
1993 June 13, 0905UT
0.6Å Hα filter. E.H. Strach

On the 4th Strach noted a large arc prominence on the W limb extending from S06 to S16. On the same day a broad filament was seen near to the W limb a few degrees further S but not connecting with the prominence. This became visible as a prominence on the 6th between S11 and S22. It formed a low arch and was still visible on the 7th.

On the 13th Strach observed another remarkable prominence, this time on the E limb between N20 and N30. It was mostly detached and had an "umbrella" shape as shown in figure 1.

On the 14th both Medway and Strach observed a row of hedgerow prominences which, by the 15th, merged to form a very large hedgerow type on the NE limb from N9 to N23. Some small remnants were seen on the 16th.

On the 24th at 1310 Strach noted a minor prominence eruption on the E limb at S09. This developed into the best prominence of the month according to Medway (see figure 2). The event was well under way when he started to observe at 1720 when it was seen as a brilliant pyramid shaped structure. Over the next 30 minutes it showed violent changes, at one point (1739) resembling a question mark on the limb. By 1741 it had changed to resemble a tall spire but it declined soon afterwards until, by 1754, only a low loop remained. Medway reports a revival at 1830 when a small "oak tree" (!, Ed.) type prominence formed at the position. All of this activity was associated with the complex spot group which appeared over the E limb on the 24th.

At the end of the month another active display of prominences was noted on the W limb extending from N19 to N23. Strach first saw these on the 28th and both he and Medway saw them on the 29th and 30th. Medway reports seeing several tall hedgerows and low mounds. One of these became a filament passing over the SE limb.

Flares, 1993 June

Medway reports that the most spectacular flare of the month was seen on the 9th and was of class 2B. Another spectacular 2B flare was seen on the 27th. Due to the large number of flares reported any notes now appear after the table. The flare to which notes refer is marked by a superscripted numeral.

Date	Time	Lat	CMD	Type	Obs.
5	0830-0910	N06	E25	1N	EHS[1]
5	1215-1221	N21	W59	SB	KJM
5	1335	S07	E05	Sf	KJM
6	0935-0947	S09	W15	SN	EHS
6	0938-0955	S10	W12	SB	KJM
6	1028	S10	W12	SB	KJM
7	0637	S06	W23	Sf	KJM
7	1400-1500	S10	W28	1N	EHS
7	1828-1845	S11	W25	1B	KJM
8	0632	S08	W40	Sf	KJM
8	1744	S08	W40	SB	KJM
8	1812	S8	W40	SB	KJM
9	1805-1818	S07	W52	SB	KJM
9	1828-1847	?	W55	2B	KJM
18	1040-1100	N09	E80	SF	EHS[2]
19	1130	N09	E68	SF	EHS
20	1045	N08	W18	Sf	KJM
20	1115-1117	S17	W13	Sf	KJM
20	1130-1150	S17	W15	Sf	EHS[3]
21	1846	S14	W18	Sf	KJM
22	1835	S20	W39	Sn	KJM
23	1630	N04	E08	Sf	EHS
24	0730-0812	S12	E64	2B	EHS[4]
26	1835-1854	S14	E37	Sf	KJM
26	1848	S10	E37	Sf	KJM
27	1027	S16	E25	Sf	KJM
27	1120	S11	E49	2B	KJM[5]
27	1135-1155	S12	E53	1f	EHS
27	1354	S11	E51	Sf	KJM
27	1414-1415	S12	E29	Sf	KJM
27	1421	S12	E54	Sf	KJM
27	1446	S11	E45	SB	KJM
29	0755	S12	W02	Sf	EHS

Notes
1. Ribbon type
2. Limb flare
3. Filamentous surge at 1130
4. A most brilliant flare
5. Still in progress at 1135

Radio observations at 151MHz

Strach reports that the flare of the 7th was associated with a radio burst at 151MHz which closely corresponded with the optical duration of the flare. On the following day he reports that there were bursts from 1120-1215, 1315-1450 and from 1545-1615 but that no optical flares were seen at these times. On the 24th a moderate radio storm lasted all day, possibly associated with the brilliant flare which occurred at 0730. A severe radio storm occurred all day on the 29th but only a minor flare was visible. Uncorrelated bursts also occurred on the 30th.

Magnetic Observations

I have received a number of magnetic observations from John Fletcher. These were made using a Hall effect magnetometer attached to a PC. It will be interesting to correlate the magnetic activity that John measures with Solar activity. John is at an early stage of calibrating his magnetometer and has asked whether there are any professional magnetic stations near to his observatory in Gloucester. He has already had some success in comparison with other amateur run magnetometers. If anyone can help please can the write to me.

Figure 2 - A violently eruptive prominence
1993 June 24, various times
0.6Å Hα filter. K.J.Medway