

**White light MDF, 1998 July**

Observer	MDF				R		Q	
	North	South	Total	Days	Total	Days	Total	Days
G. North	1.23	2.15	3.38	13	50.10	13	-	-
Shanklin	1.50	2.60	4.10	19	53.00	19	-	-
P. Meadows	2.27	3.40	5.67	15	83.07	15	14.53	15
M.J. Hendrie	2.40	2.60	5.00	5	68.20	5	-	-
W.F. Heyes	1.67	1.89	3.56	9	-	-	8.44	9
K. Medway	1.64	2.32	3.96	28	-	-	-	-
T. Tanti	2.29	2.90	5.19	31	71.50	31	12.40	31
E.H. Strach	1.82	2.75	4.57	28	63.32	28	12.29	28
MEANS	1.85	2.64	4.48	148	65.18	111	12.32	83

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

**BAA/TA Comparison**

Month	Active areas		Spot numbers	
	BAA	TA	BAA	TA
1998 June	5.06	4.03	70.7	58.3

**Sunspot Activity, 1998 July**

The MDF continued its gradual increase this month and Medway reports that two spots were easily seen with the naked eye between the 26th and the 28th.

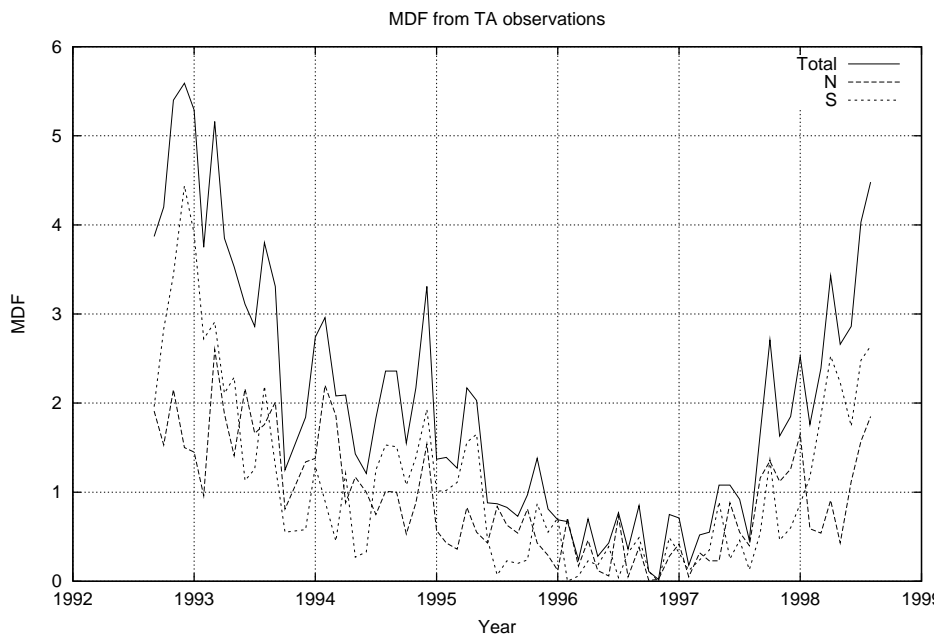
Strach reports that the month started with his highest AA count of 8. On the 1st two medium-sized spots were seen near to the E limb. One was in the S at S20/348 and the other was in the N at N17/338. They both crossed the CM the 6th when they were the only important spots on the disk. They crossed the W limb sometime around the 12th.

On the 13th Meadows reported a small Dai group at S20/215 (area 110 millionths), a Cro group at N17 /215 (area 30 millionths and only seen on the 17th) and two Axx spots. The Dai group reduced in size as it progressed across the disk to become type Bxo on the 18th.

The next significant group appeared on the disk, just to the E of the central meridian, as an Axx group on the 15th at S20/196. By the next day it had developed into a small Dao group with a leading penumbral spot, two following penumbral spots and four intermediate spots. The appearance of this group changed into type Cso on the 21st and then into type Hsx as it progressed towards the eastern limb. Its maximum area was 120 millionths on the 19th.

On the 20th, a Bxo group developed on the disk just to the W of the central meridian at S13/178. By the following day it had developed into a Dso group with an area of 110 millionths. On the 21st two Cso groups were seen at almost the same longitude and at the same latitude N and S of the solar equator at N26/104 and S26/99. Another group was seen on the 22nd at N16/64,

The largest group seen during the month first appeared as a Hsx spot near the eastern limb on the 21st (at S22/59). By the next day following penumbral spots were seen which made the group of type Eho. On the 23rd, the corrected area of the group was 610 millionths. The dominant spot of the group was the leading penumbral spot. The number and size of the following spots reduced as the group progressed across the disk. By the 29th, there was only one small following penumbral spot. The leading spot changed little during this period.



Monthly MDF from TA observations show that the increase in white-light activity is well underway following the minimum in 1996.

### Prominence MDF, 1998 July

Observer	All Latitudes				0-40°			40-90°		
	North	South	Total	Days	North	South	Total	North	South	Total
E.H. Strach	3.82	4.09	7.91	22	1.50	1.82	3.32	2.32	2.27	4.59
K.J. Medway	1.90	3.60	5.50	20	0.90	1.70	2.60	1.00	1.90	2.90

### Prominence activity, 1998 July

Medway reports that prominences were observed frequently during the month but that they were disappointingly small on most days. He reports a tall arch prominence on the 13th on the SE limb and a detached "cloud" on the NW limb on the 19th.

Strach confirms that prominence activity during July was modest. He reports a tree-like prominence seen on the E limb on the 13th between latitudes S37 to S47. This changed its configuration constantly as it rotated on to the disk. It was seen as part filament, part prominence between the 15th and the 17th. After that it remained as a filament on the disk.

Medway reports that filaments were seen on all occasions with no less than 12 seen on the 13th.

### Flares, 1998 July

Date	Time	Lat	CMD	Type	Obs.
1	0805	N26	E38	SF	EHS
5	1815-1830	S26	W60	Sn	KJM
15	1050-1058	S30	E85	1B	EHS
15	1110-1115	S20	E09	SN	EHS
16	0800	S19	W04	SF	EHS
16	1020	S30	E53	1N	EHS
16	1020	S22	E18	SF	EHS
19	1320	S15	W20	SF	KJM
19	1325	S17	W39	Sn	KJM
23	1750	N38	E47	SF	KJM
24	1115	N28	E50	SF	EHS
25	0908-0925	S19	E67	SF	KJM