

Solar Bulletin

Publisher:

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS — SOLAR DIVISION
540 NORTH CENTRAL AVENUE
RAMSEY, NEW JERSEY, U.S.A.



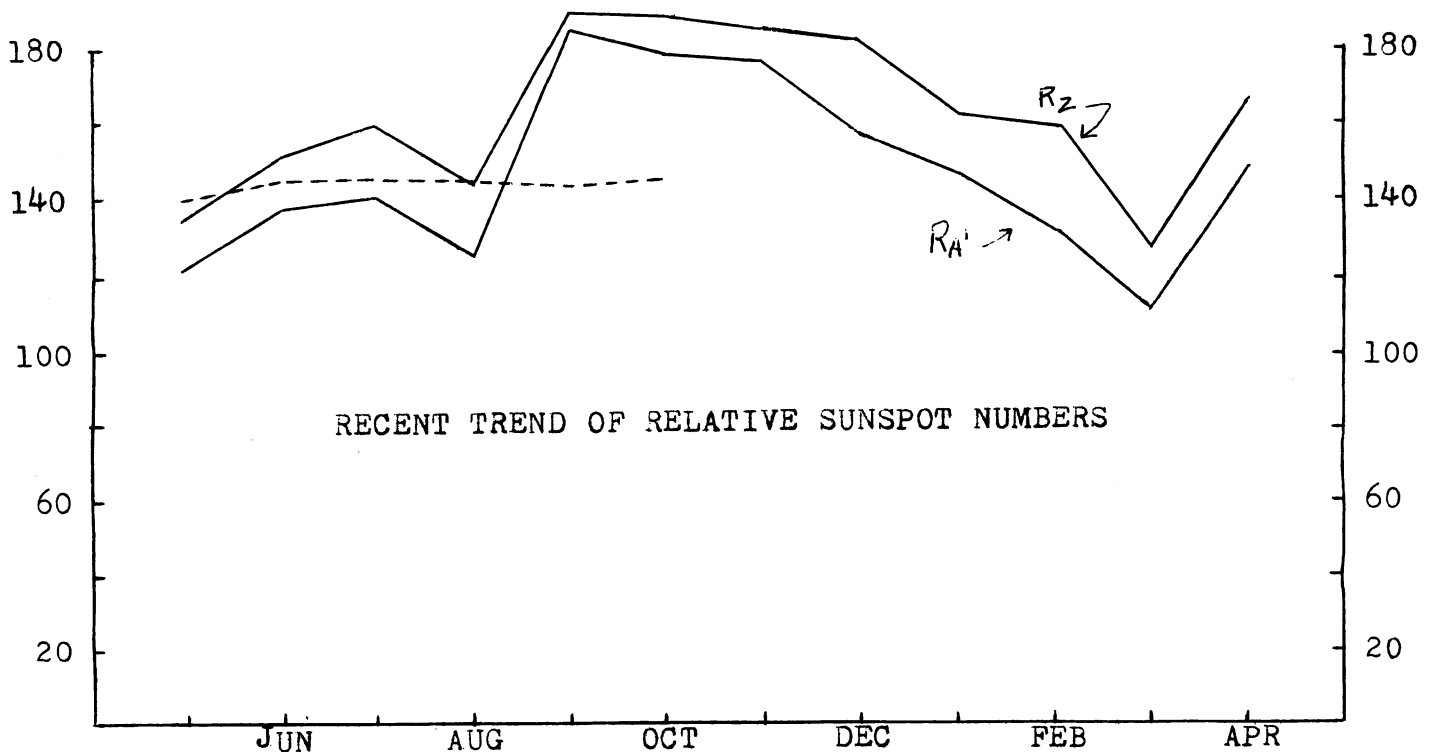
Volume 36 Number 4

April 1980

SOLAR ACTIVITY DURING APRIL

After a steady six-month decline, relative sunspot numbers turned sharply upward in April. The monthly mean of R_A' rose from a low of 111.0 to 148.7, an increase which pulled the 12-month smoothed mean back up to 144.3, very close to the high point of 145.1 in July.

Ionospheric disturbances during April reached an all-time high for cycle 21. Well over 200 events were recorded and the final count may come closer to 300. Most of these however, were small disturbances, many tiny events of less than 30 minutes total duration. Many of these would have remained undetected had not the AAVSO monitored duplicate propagation paths of high sensitivity throughout the month. Small events are thus confirmed by finding them on more than one recording. An example of these cross correlations is shown on page two where three recordings of 11 April are shown at the top of the page. Also shown is a recording made the previous day by A-50, Jerry Winkler, a new observer from Houston, Texas. These additional recordings of 37.2 kHz in California can be used to correlate later UT events for which there was often only one recording previously. The four interesting recordings at the bottom of the page show how approximately 16 hours per day of sensitivity to solar flare effects can be achieved by recording a single distant westerly signal source. Notice how the sunset and sunrise pattern are only about three hours apart. Sensitivity, however, begins to fall off a few hours before sunset and after sunrise as can be seen by comparing three closely spaced events on 6 April with the chart above by A-19.



AMERICAN (R₁) AND ZURICH (R₂) RELATIVE SUNSPOT NUMBERS FOR APRIL 1980

DAY	R ₁	R ₂
1	144	185
2	122	145
3	109	133
4	111	125
5	146	194
6	160	185
7	176	200
8	172	199
9	195	229
10	192	214
11	214	245
12	219	257
13	213	259
14	174	203
15	139	182
16	148	194
17	128	126
18	132	127
19	155	134
20	172	173
21	148	143
22	111	122
23	92	95
24	96	112
25	111	139
26	148	171
27	143	156
28	145	149
29	120	145
30	125	136
MEAN	148.7	166.6

