

4FUS 1 PCU 101041

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SFS NUMBER: 2534

JOINT USAF/NCAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 1300Z 10 SEPT 1981

I.A. ANALYSIS OF SOLAR ACTIVITY REGIONS AND ACTIVITY FROM
09/1200Z TO 10/1200Z:

SOLAR ACTIVITY HAS BEEN MODERATE DURING THE PAST 24 HOURS.
REGION 3317 (N10W00), ALTHOUGH APPARENTLY AT THE PEAK OF ITS
EVOLUTION, PRODUCED M-CLASS FLARES AT 09/1324Z, 2156Z, 10/0810Z
AND 0938Z. THE LARGEST OF THESE WAS THE 0938Z FLARE WHICH
WAS A 37 MINUTE DURATION M-8/2P FLARE ACCCOMPANIED BY MODERATELY
STRONG DISCRETE FREQUENCY RADIO NOISE BURSTS AND MODERATELY
STRONG SHORTWAVE FLARES TO 22 MHZ. IN ADDITION TO THE M-CLASS
ACTIVITY, REGION 3317 PRODUCED HALF A DOZEN C-CLASS SUBFLARES.
THE ONLY OTHER REGION PARTICIPATING TO ANY EXTENT IN THE
FLARE ACTIVITY WAS REGION 3310 (S10W72) WHICH PRODUCED 3 FAIRLY
STRONG C-CLASS SUBFLARES. A NEW SURGING REGION IS REPORTED TO
BE MOVING INTO SIGHT AT (NE00).

I.B. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO OCCASIONALLY HIGH
DURING THE NEXT 72 HOURS. REGION 3317 IS WHERE ALL THE ACTION IS.
ALTHOUGH IT HAS NOW APPARENTLY STOPPED GROWING, AND IT HAS NOT
CHANGED GREATLY IN COMPLEXITY IN THE PAST 24 HOURS, IT CONTAINS
SOME SPOTS WHICH MAY BE THE STRONGEST (2700 GAUSS) SEEN SO
FAR THIS SOLAR CYCLE. EITHER RAPID DECAY OR SUBSTANTIAL
RESTRUCTURING AND NEW GROWTH WOULD PROBABLY RESULT IN IMMEDIATE
X-CLASS FLARE PRODUCTION. IF SUCH MAJOR FLARES OCCUR IN THE
NEXT 3 DAYS, A SOLAR PROTON EVENT IS LIKELY. REGION 3310 IS
EXPECTED TO LEAVE THE DISK WITHOUT CAUSING ANY PROBLEMS. NO
OTHER REGIONS CURRENTLY APPEAR TO HAVE MAJOR FLARE POTENTIAL.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN UNSETLED FOR THE PAST 24 HOURS.
A HIGH SPEED STREAM INDICATED IN INTERPLANETARY SCINTILLATION
DATA SEVERAL DAYS AGO IS STILL EXPECTED TO REACH THE EARTH THIS
UT DAY. THE RECENT CENTRAL MERIDIAN PASSAGE OF A WELL-DEFINED
LOW LATITUDE CORONAL HOLE RAISES PROSPECTS FOR DISTURBED
GEOMAGNETIC CONDITIONS ON 12 AND 13 SEPTEMBER.

III. EVENT PROBABILITIES: 11 - 13 SEP 1981

CLASS M 80/80/80

CLASS X 25/25/25

PROTON 15/20/25

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 09 SEP 253

ESTIMATED 10 SEP 247

PREDICTED 11-13 SEP 234/229/225

90 DAY MEAN 09 SEP 200

V. GEOMAGNETIC A INDICES

OBSERVED AFR 08 SEP 08 AP 09 SEP 11

ESTIMATED AFR 09 SEP 12 APR/AP 10 SEP 14/15

PREDICTED AFR/AP 11-13 SEP 14/18 19/22 17/18

SOLAR/WARN

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HFUS 3 BOU 102200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO
SDF NUMBER 253B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200Z 10 SEPTEMBER 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 10/1200Z TO 10/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE SINCE 10/1200Z DUE TO AN M1/SB FLARE AT 10/1730Z FROM REGION 3317 (N10W07). THIS FLARE WAS ACCCOMPANIED BY A 245MHZ BURST OF 1700 FLUX UNITS, NUMEROUS OTHER BURSTS OF LESSER INTENSITY, AND LOOPS OBSERVED BY HOLLOWMAN OBSERVATORY. REGION 3317 HAS RETAINED SEVERAL DELTAS AND HAS DEVELOPED PHENOMENAL MAGNETIC GRADIENTS ON THE MOUNT WILSON SPOT REPORT. TWO NEW REGIONS WERE NUMBERED TODAY, 3328 (N12E 17) AND 3329 (N18E 74).

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH FOR THE NEXT THREE DAYS DUE TO REGION 3317. THE CHARACTERISTICS OF THIS REGION INDICATE AN X-CLASS FLARE IS PROBABLE DURING THE NEXT THREE DAYS.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN UNSETLED FOR THE PAST 24 HOURS. UNSETLED CONDITIONS WITH OCCASIONAL ACTIVE PERIODS ARE EXPECTED 11 SEPTEMBER, FOLLOWED BY ACTIVE CONDITIONS ON 12-13 SEPTEMBER.

III. EVENT PROBABILITIES 11 SEPTEMBER - 13 SEPTEMBER

CLASS M 85/85/85

CLASS X 25/25/25

PROTON 20/20/25

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 10 SEPTEMBER 244

PREDICTED 11-13 SEPTEMBER 234/229/225

90-DAY MEAN 10 SEPTEMBER 201

V. GEOMAGNETIC INDICES

OBSERVED AFR/AP 09 SEPTEMBER 12/13

ESTIMATED AFR/AP 10 SEPTEMBER 09/10

PREDICTED AFR/AP 11-13 SEPTEMBER 14/18 - 19/22 - 17/18

SOLTERWARN

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