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FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SEE NUMBER 2536

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

IA. 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 M8/2F FLARE ACCOMPANIED BY MODERATELY  
STRONG DISCRETE FREQUENCY RADIO NOISE BURSTS AND MODERATELY  
STRONG SHORTWAVE FADES 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 (NE20).

IB. 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  
Y-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 UNSETTLED 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  
MORNING. 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 SEPT 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 AFR/AP 10 SEP 14/15

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

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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 ACCOMPANIED BY A 245MHZ BURST OF 1700 FLUX UNITS, NUMEROUS OTHER BURSTS OF LESSER INTENSITY, AND LOOPS OBSERVED BY HOLLOWAN 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 (N12E17) AND 3329 (N18E74).

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 UNSETTLED FOR THE PAST 24 HOURS. UNSETTLED 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 A 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

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