

May 25, 1965

National Center for Atmospheric Research
Boulder, Colorado
For further information please call F. William Kroeck, 443-1960, Ext. 541

FOR IMMEDIATE RELEASE

High Altitude Observatory Says Active
Region Headed for Sun's Edge on Eclipse Day

Boulder, Colo. --- A region of intense flare and sunspot activity is moving across the face of the sun, and should reach the sun's west edge by the time of the May 30th eclipse. Scientists studying the solar eclipse that day within a 100-mile-wide path across the South Pacific should therefore have a good chance to see an intensified region in the sun's corona. They also have the small possibility of studying a solar flare in profile, if a flare happens to occur during the 4 to 5 minutes of the eclipse. This prediction was made today by Miss Dorothy Trotter, who is in charge of solar data reporting at the High Altitude Observatory (HAO) here.

The prediction is based on reports from the Sacramento Peak Observatory, Sunspot, New Mexico; the McMath-Hulbert Observatory, Pontiac, Michigan; HAO's Climax, Colorado observing station; and other worldwide stations.

Surge-like prominences were observed on the east edge of the sun about May 16. Such prominences -- which resemble surging fountains of gaseous matter in slow motion -- are typically the first indications of a sunspot region. The active region now being followed is at 23 degrees north solar latitude. Solar rotation will carry it across the face of the sun in about 14 days, so it should be visible on the west limb just at the time of the eclipse. Few such active regions develop during a period of low solar

activity such as the present. That this active region has developed where solar rotation can carry it into profile on eclipse day is a rare coincidence.

Solar physicists identify several interrelated phenomena within active regions. The best known are sunspots, classified on a scale of A through J, depending on their size, complexity, and magnetic polarity. Surrounding the sunspots are plages -- bright, "stormy" regions -- classed on a scale of 1 through 4 depending upon their intensity. Flares are sudden localized violent brightenings of short duration, classed according to size and intensity. Prominences are eruptions of hot gas, principally hydrogen, occurring in the vicinity of sunspots.

The sunspot now moving across the sun was classified as a Type C, unipolar spot. The plage was rated as 3.5 by the Sacramento Peak Observatory, "pretty big for this relatively quiet period in the solar cycle," Miss Trotter noted. Many small flares have been reported in the region, and three large flares were observed early in the passage of the region.

Several eclipse observers have arranged with the HAO solar data center to receive last-minute information on solar activity during the two or three days preceding the eclipse. They include scientists from HAO, the Los Alamos Scientific Laboratory, and the Sandia Corporation.

The High Altitude Observatory was established in Boulder in 1946. In 1961 it became one of the two operating laboratories of the National Center for Atmospheric Research. Its role in solar data reporting has gradually expanded since 1951, when it began to keep records of solar activity beyond that reported by Climax and Sacramento Peak. In 1956, HAO was designated as an official solar data center for the International Geophysical Year, and this function has continued through the present International Years of the Quiet Sun.