

PICTURE OF THE MONTH

Fog Persistence Under a Cirrus Band

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A series of one-half mile resolution, Synchronous Meteorological Satellite I (SMS-1), visible pictures taken on 6 July 1974, provides an excellent example of the effect of cirrus on fog dissipation. Cirrus overlying an area of fog and stratus during the sunlight hours should retard the dissipation of the low clouds by reducing the amount of solar radiation reaching the ground. On 6 July 1974, a long band of cirrus arched from SW to NE across Pennsylvania and remained

over an area of fog and stratus. By 1600 GMT, all the fog had dissipated except that portion directly beneath the narrow cirrus band.

On the 1330 GMT SMS picture (Fig. 1), the northern edge of the cirrus band extends across Pennsylvania (A to B to C). The bright area extending southward from D to E is fog and stratus. Point B lies on the easternmost portion of the fog covered by the cirrus band.

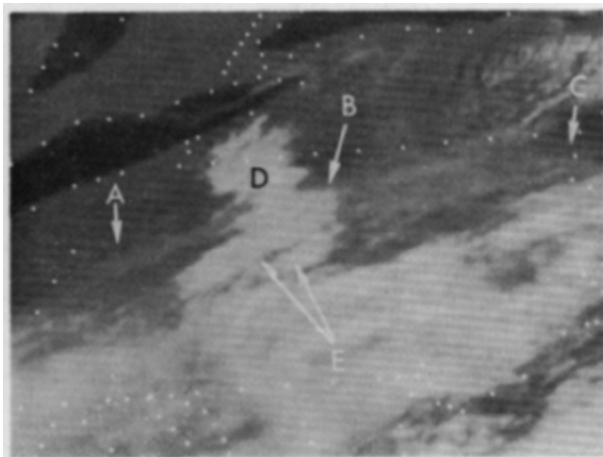


FIG. 1. SMS-1 visible, 1330 GMT (0830 EST) 6 July 1974.



FIG. 3. SMS-1 visible, 1500 GMT (1000 EST) 6 July 1974.

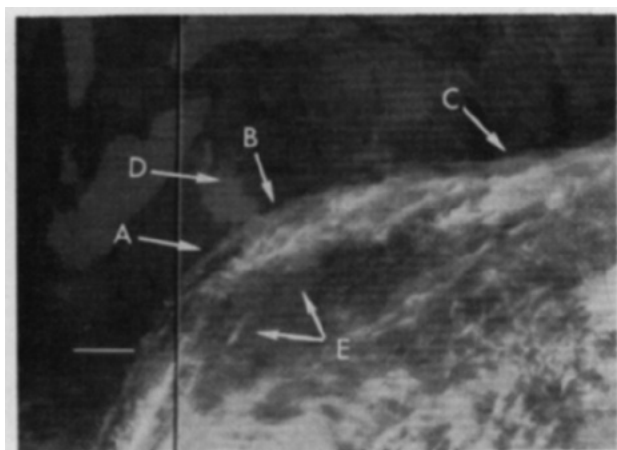


FIG. 2. NOAA-2 VHRR IR (7874-4), 1351 GMT (0851 EST) 6 July 1974.

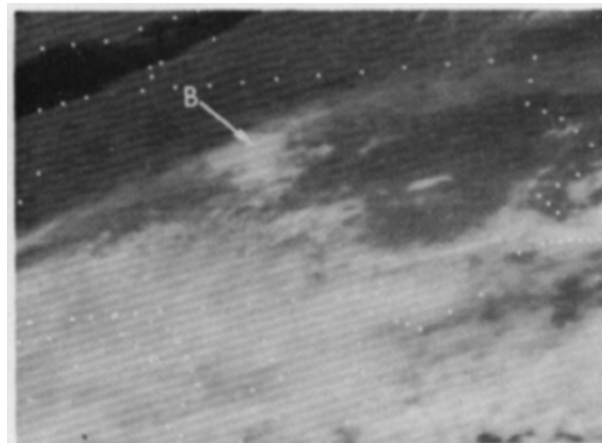


FIG. 4. SMS-1 visible, 1600 GMT (1100 EST) 6 July 1974.

The NOAA-2 one-half mile resolution VHRR infrared image for 1351 GMT (Fig. 2) shows there are no high clouds over D, and that there are a few small patches of cirrus over the low clouds at E.

On the 1500 GMT SMS picture (Fig. 3), the northern edge of the cirrus lies along points A, B, and C. By this time, all low clouds in the area to the north of the cirrus

band have dissipated (compare D in Figs. 1 and 3). There has been considerable erosion of low cloudiness south of the band (E) where there is some patchy cirrus, but very little change in the amount of low clouds beneath the cirrus band.

By 1600 GMT (Fig. 4), almost all of the remaining fog and stratus is directly beneath the cirrus band (B).