

Due to this rainfall, the moisture content had also increased considerably. The rapid clearing of the sky after midnight, that too after a spell of rainy or warm cloudy days perhaps resulted in the radiational cooling of more than the required amount, which made the conditions regarding the temperatures very favourable for fog. However the  $T-\delta$  gram of 0530 IST on 22 March 1960 showed only a feeble inversion layer near the ground.

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#### SUDDEN FOG OVER NAGPUR AIRFIELD

There was a case of sudden development of fog over Nagpur airfield during the early morning of 22 March 1960. Fog at this airfield is unusual during this part of the year. The whole of the airfield and neighbourhood were completely enveloped in this rare fog, the visibility being reduced to less than 500 metres.

At 0500 IST stratus clouds were seen drifting towards the station from a southwesterly direction in a clear sky covering more than 7 oktas in less than 20 minutes. The base of this cloud lowered gradually to 180 metres above ground. The surface wind was either calm or light southwesterly. The cloud was then seen settling down from a southwesterly direction and the horizontal visibility began to deteriorate rapidly from 8 km to 1000 metres. The whole phenomenon developed very rapidly and by about 0600 IST, the entire airfield was covered by fog reducing the visibility to less than 500 metres.

Nagpur and neighbourhood had a few thundershowers some of them accompanied by hail, consecutively during the three days preceding the fog, due to a low pressure area induced over Madhya Pradesh by an active western depression which was moving across the Punjabs. Nagpur recorded 3, 4 and 1 mm of rain on 19, 20 and 21 March 1960 respectively.

Even though the temperatures were quite conducive to the formation of fog, the fog did not start at the ground first. The interesting feature of the stratus clouds appearing from a southwesterly direction with the horizontal visibility still good before the onset of fog, can be explained considering the nature of the terrain which is sloping upward in the southwest direction from the airfield. The fog which might have formed in the elevated ground during the small hours of the morning, subsequent to the clearing of sky, might have lifted towards early morning and started drifting as stratus along with the southwesterly upper winds and appeared over Nagpur airfield. The visibility condition at the airfield showed rapid deterioration during the course of about 40 minutes from about 8 km to 500 metres. Such rapid lowering of visibility is unusual at Nagpur. The fog intensified over the airfield due to the simultaneous combination of radiational cooling of the air layers above the ground with the lowering of the low stratus cloud which were earlier observed to drift towards the airfield from a southwesterly direction.

The fog persisted till 0750 IST and gradually lifted as stratus. The surface wind which was light southwesterly became quite strong and gusty later.

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