

## SHORTER CONTRIBUTIONS

## REPORT ON UNUSUAL FOG AT TOWNSVILLE

by V. P. O'Brien

Aerodrome Met. Office, Garbutt

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Fog occurred in the Townsville area between 11.15 and 12.30 EST (Eastern Standard Time) on 1st September, 1961. The situation was one in which both radiation and advection fogs could occur, but for the city of Townsville to be affected by a sea fog at such a time is very unusual and from all reports is the first time in living memory. Figures 1 to 4 are photographs of the fog, taken by Mr. A.H.R. Condliffe, an observer at this station.

## Weather Conditions from Midnight till 1200 EST 1.9.61

Mist or fog areas with visibility from  $\frac{1}{2}$  to 3 miles were present from midnight until 0720 EST after which time the visibility improved to 15 to 25 miles and the temperature rose rapidly from  $58^{\circ}.0F$  at 0700 to  $78^{\circ}.6F$  at 1100

Fine and cloudless conditions continued until approximately 1115 EST, then, with a freshening of the wind from the northeast to 15 knots, fog areas moved in from the sea and extended inland to  $1\frac{1}{4}$  miles.

At 1200 EST the temperature had fallen to  $74^{\circ}.2$  and the dew point risen from  $61^{\circ}.0$  to  $68^{\circ}.0$ . At this time I proceeded to the sea front and the temperature indicated on a thermometer suspended in the free air, in the shade, was  $70^{\circ}.8$  and the wet bulb read  $69^{\circ}.2F$ .

This fog condition remained until 1230 EST and then gradually dissipated. From this time onwards, without any change in wind speed or direction, the weather, temperature and humidity behaved in a normal manner.

## Synoptic situation

A weak High cell of 1018 mb was centred 200 miles southeast from Willis Island with a shallow, light northerly stream along the coast south of Ingham.

Temperatures at stations exposed to the sea, viz. Willis Island and Cape Cleveland, and a ship near the High centre showed temperatures of  $71^{\circ}.0$  to  $73^{\circ}.0$  and the dewpoint along the coast varied from  $66^{\circ}.0$  to  $68^{\circ}.0$ .

The upper winds at Townsville at 0300 EST were northwesterlies 8 to 10 knots to 4000 feet, with southeasterlies 12 to 15 knots above.

Surface conditions were calm until 0930 EST, then gradually freshened to northeast 10 to 15 knots by 1130 EST.

The relative humidity shown on the upper air sounding for 0900 EST on 31.8.61 was 73 per cent to 1000 feet, above which it fell off rapidly to 21 per cent. On the morning of 1 September 1961 this moist layer was only 490 feet thick with a  $4.5^{\circ}C$  inversion between 490 feet and 1400 feet.

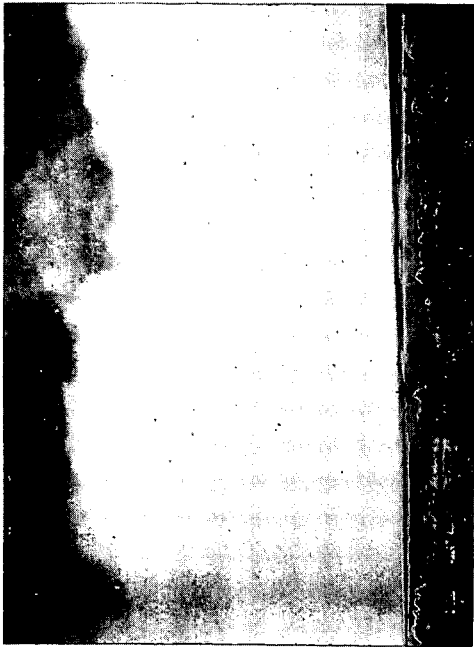


Fig.1 Fog bank to sea looking NNE, 1200 EST [approx] 1st September 1961.

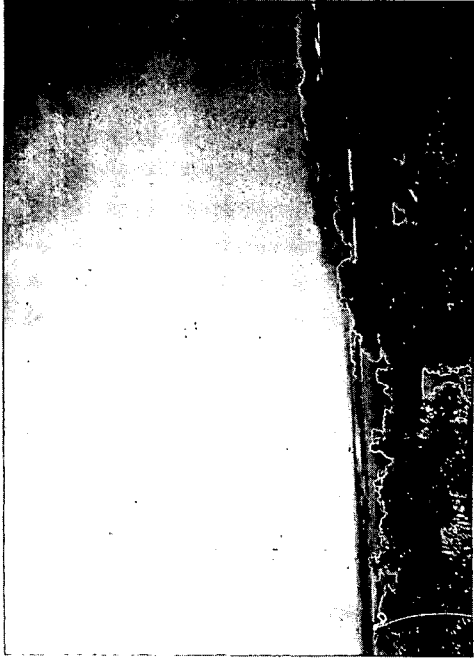


Fig.2 Fog bank to sea looking NE, 1200 EST [approx] 1st September 1961.



Fig.3 Fog spilling over Castle Hill slopes looking NE, 1200 EST [approx] 1st September 1961.



Fig.4 Fog obscuring Castle Hill looking ENE, 1200 EST [approx] 1st September 1961.