ANTICYCLONIC WEATHER AND THE SYNOPTIC CHART

1. Study the first synoptic chart showing a Spring anticyclone over the British Isles paying particular attention to the weather at B (Birmingham). Also look at the temperature height diagram for Birmingham on 29th May at 1800 hrs and the associated 'sky' report.

- Explain, as fully as you can, how the shallow cumulus cloud noted on the sky report will have built up over the course of the day.

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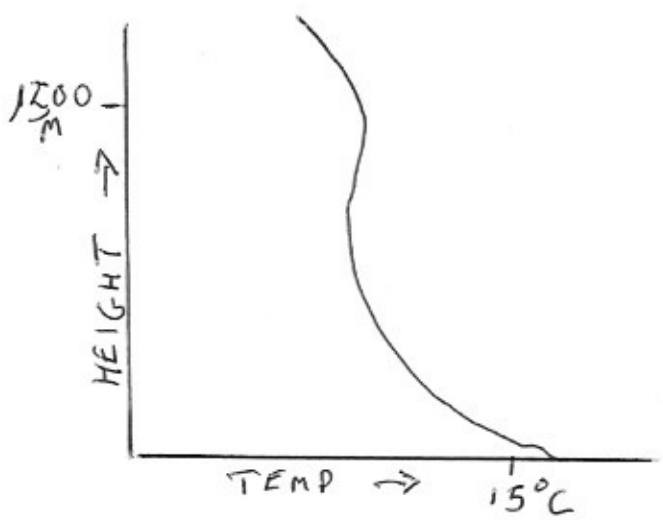
- Annotate the copy of the temperature height diagram for Birmingham on 29th of May (shown below) to show how the cumulus cloud forms.



- Explain how the subsidence inversion forms in the mid-troposphere of the anticyclone and how it limits the height of the cloud.

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- The east coast of England has fog on 29th of May. This will be a sea 'fret' / fog caused by light winds blowing from the North Sea. Explain how this 'advection' fog is formed.

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2. Study the synoptic chart for 0600 hours on the 6th of January, and the associated temperature height diagram and 'sky' report for Birmingham.

- Bearing in mind that the weather map shows a winter anticyclone sitting over the British Isles, explain the early morning 'ground' inversion seen on the temperature height diagram.

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- Explain the formation of the 'radiation' fog found at Birmingham in the centre of England.

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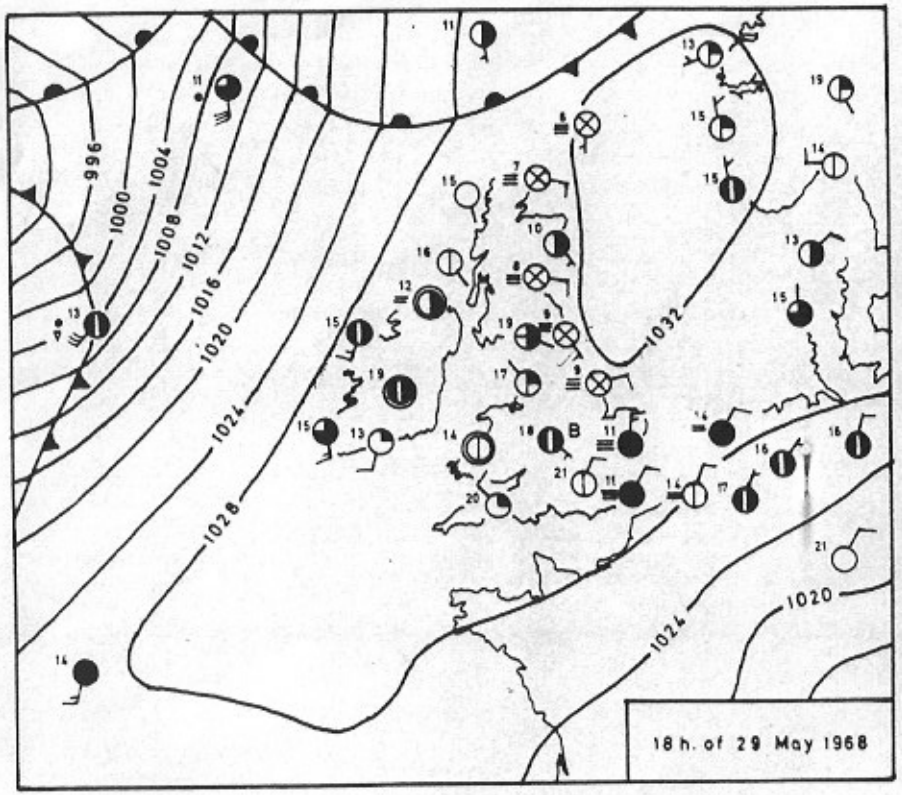

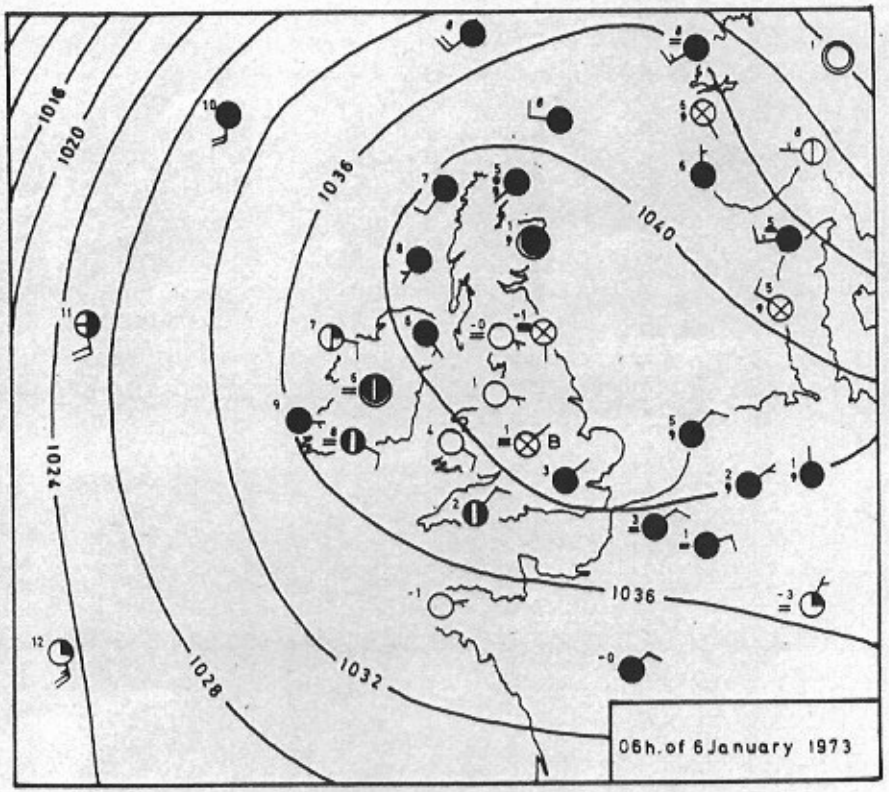

WIND

Symbol	Speed (knots)
	Calm
	1 - 2
	3 - 7
	8 - 12
	13 - 17
	For each additional tail feather, add 5 knots.
	48 - 52

CLOUD

Symbol	Amount (oktas)
	0
	1 or less
	2
	3
	4
	5
	6
	7 or more
	8
	Sky obscured

WEATHER

Symbol	Weather
=	Mist
≡	Fog
,	Drizzle
.	Rain
⡇	Rain shower
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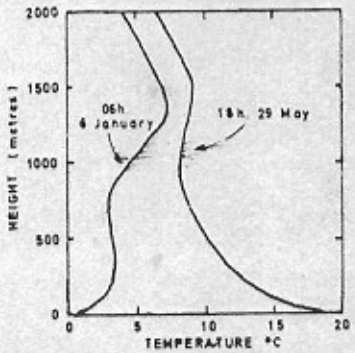
B	Birmingham

SUPPLEMENTARY INFORMATION FOR BIRMINGHAM

A. Temperature / height graphs.



B. 'State of sky' reports.

06h. 6 January 1973

Fog / low stratus cloud. Clear sky above 500 m.

18 h. 29 May 1968

Shallow cumulus cloud from 600 m. to 1200 m., with clear sky above.