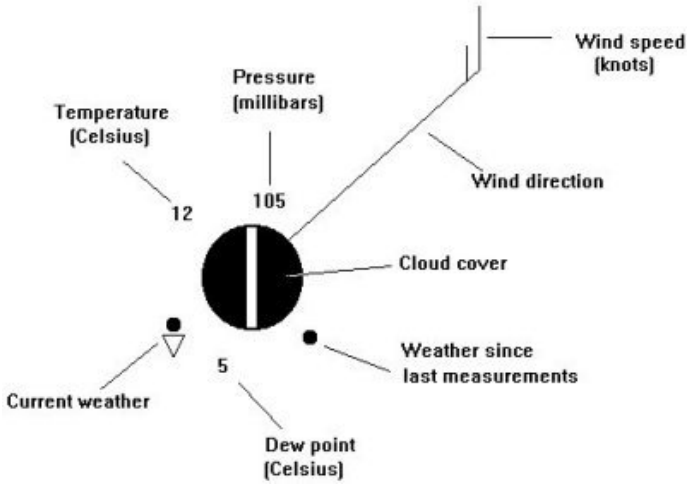
WEATHER DATA COLLECTION AND THE SYNOPTIC CHART

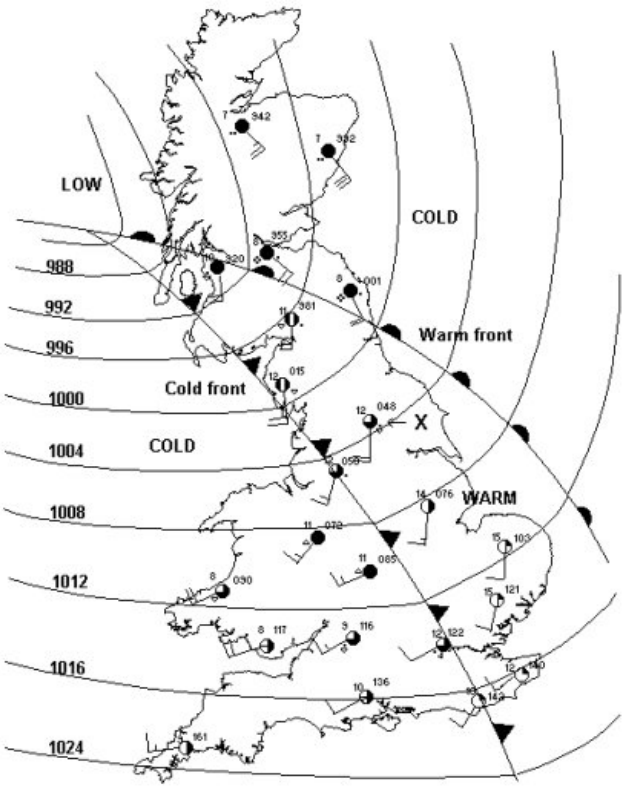
The basis for weather analysis and weather forecasting is the synoptic chart or weather map

SYNOPTIC CHART

This is based on surface weather observations around the British isles and ocean weather ships, automatic buoys and other ships, oil rigs and aeroplanes.
The STATION MODEL is plotted on the weather map or synoptic chart.



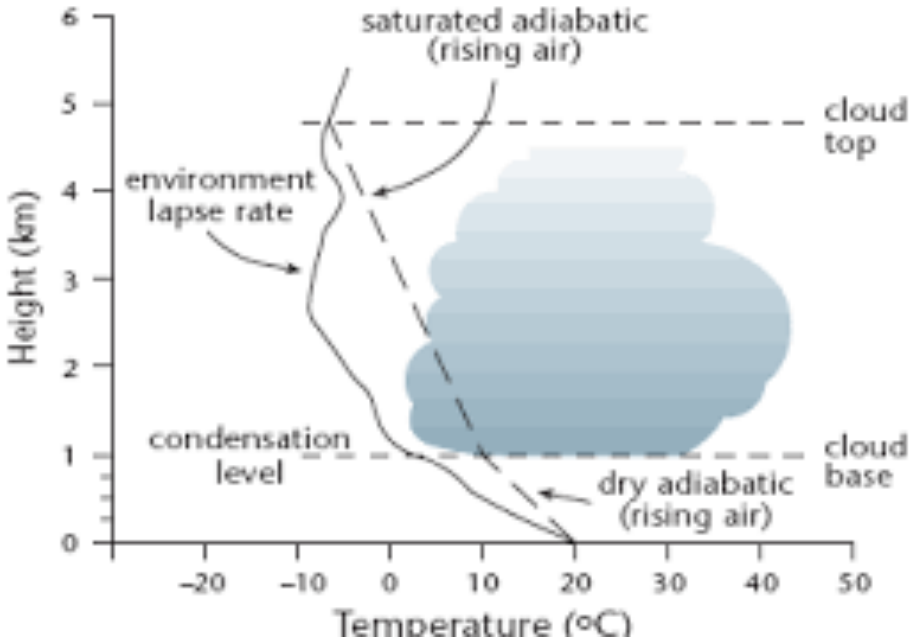
This allows the isobar pressure pattern to be drawn and the position of high (anticyclones), lows (depressions) and fronts to be represented. From this air masses can be recognised and the movements of these air masses and fronts predicted



RADIOSONDE ASCENTS

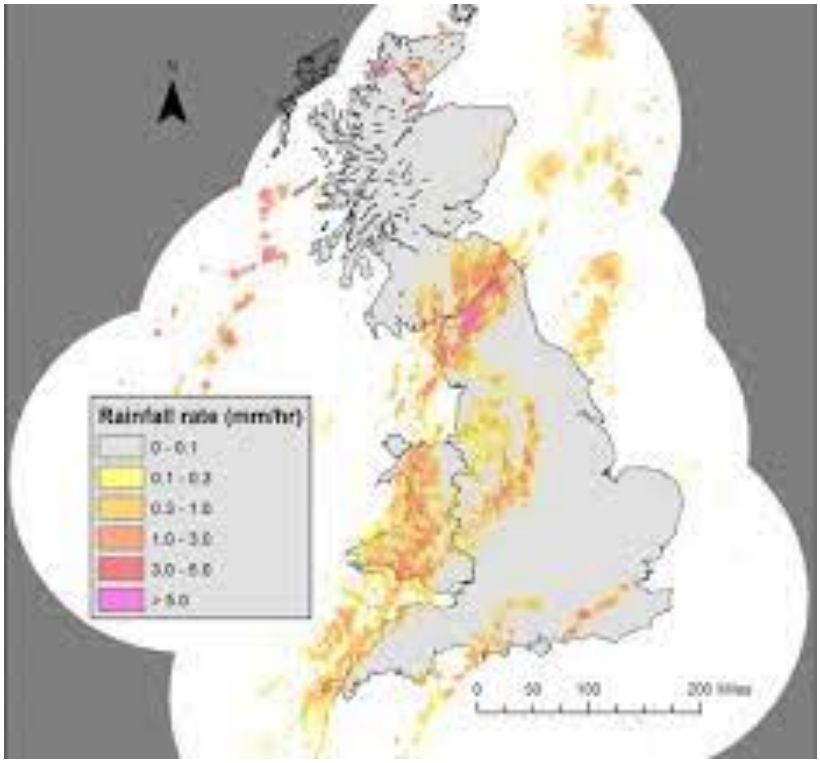
Radiosonde balloons send back upper air data of temperature and pressure which allows forecasters to draw a Tephigram which is the professional version of the Temperature / Height diagram.

This is used to determine the air mass characteristics, the stability characteristics and therefore the chances of cloud and rain.



RADAR

A full radar pattern now covers the whole of the British Isles. This provides the pattern and movement of rainfall.

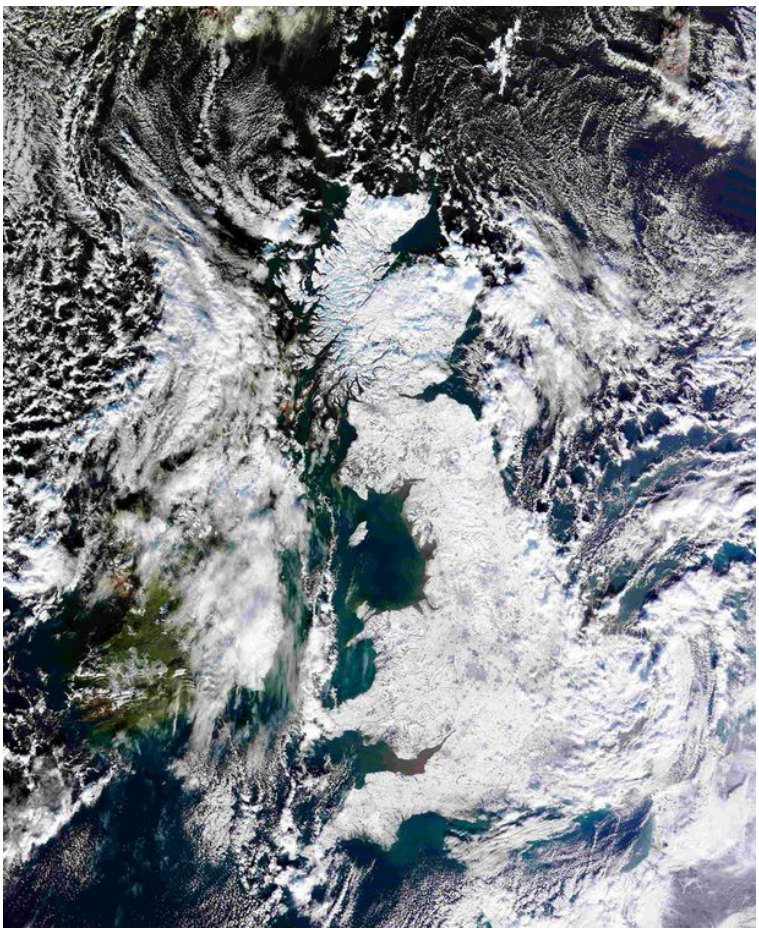


SATELLITES

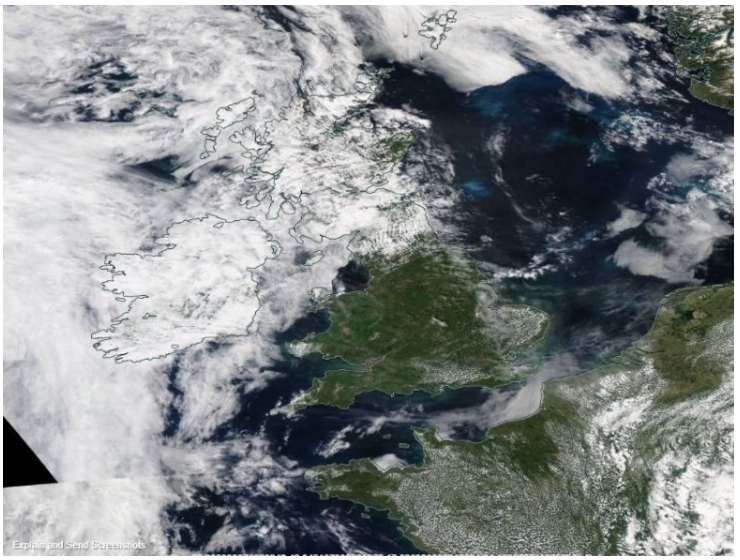
The images from satellites give an excellent view of the movement of cloud and pressure systems. The geostationary satellites are best as they give a continuous view of a particular area.
There are 2 image types

VISIBLE
- Shows cloud patterns and systems
- Bright white is thick cloud which may produce precipitation
- Grey shows fog or thin cloud
- Stratiform cloud can be recognised at fronts and depressions
- Cumuliform cloud of unstable air mass can also be seen

INFRA-RED
- Cold temperatures show up as white, such as cloud tops
- Warmer areas such as the ground or lower cloud are darker
- The infra-red images can be seen at night.



VISIBLE IMAGE



INFRA-RED IMAGE