

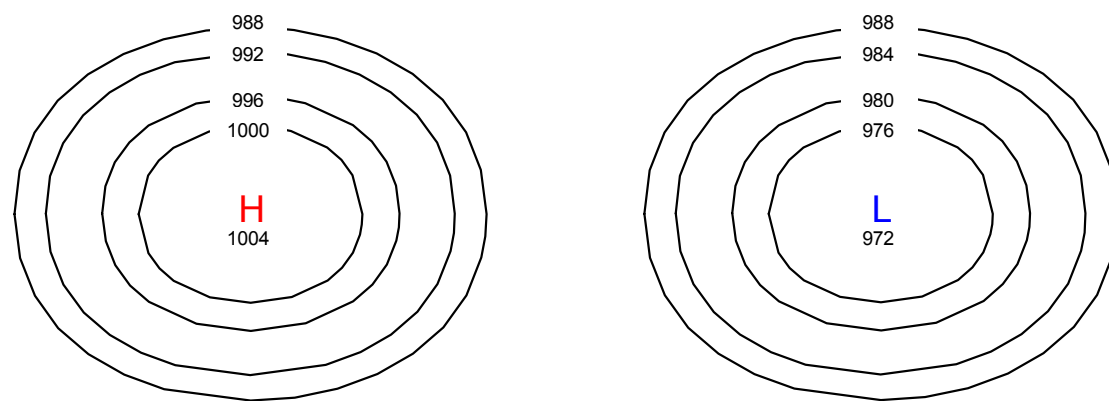
### 3. Weather Symbols

Synoptic weather charts use a range of symbols to denote meteorological features such as fronts and pressure systems. Routine surface meteorological observations (temperature, wind, etc.) from weather stations are also represented on some weather charts by a standard notation of symbols and numbers. In order to correctly interpret the data, it is important to understand what types of data the different numbers and symbols represent. This skill is not only important for reporting weather conditions for a given station, but also for determining the positions of significant meteorological features like fronts, cyclones and anticyclones.

The main features of a synoptic weather chart are:

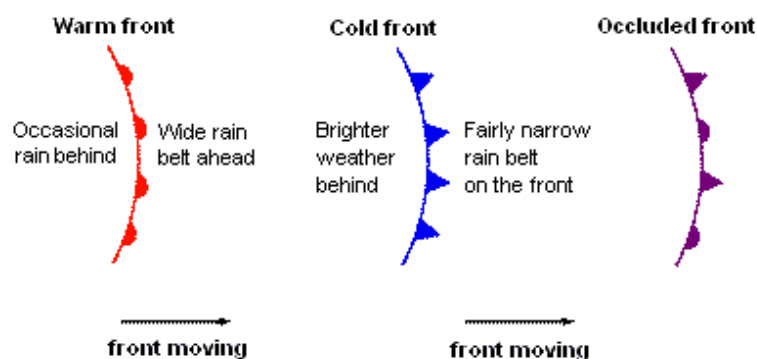
#### **Isobars, Depressions and Anticyclones**

Isobars are lines of equal atmospheric pressure (measured at sea level). Isobars are drawn at intervals of four millibars, unless there is a particularly deep depression where too many isobars would be difficult to read. In this case they are drawn at eight-millibar intervals. Centres of high pressure called anticyclones are marked with an H or labelled *High*. Centres of low pressure called depressions (or cyclones) are marked with an L or labelled *Low*.



#### **Fronts**

A warm front is indicated by a line with semicircles while a cold front is indicated by a line with triangles. An occluded front has both semicircles and triangles. The semicircles and triangles point in the direction the front is moving.



## Weather Station Observations

Surface observation reports from weather stations may also be included on the synoptic chart. A composite symbol using standard notations is used for recording temperature, wind speed and direction, visibility, amount of cloud cover, and prevailing conditions.

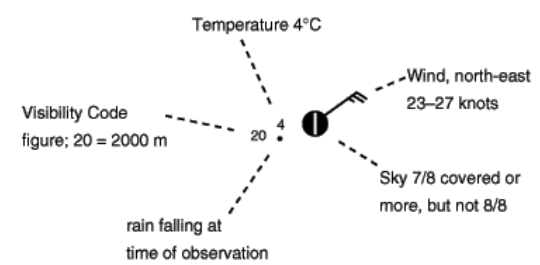
- Temperature - This is given in degrees Celsius. (°C).
- Wind - The arrow indicates the direction from which the wind is blowing. A system of 'feathers' and 'pennants' is used to indicate wind speeds; full feathers indicate 10 knots, half feathers 5 knots and solid pennants 50 knots. (1 knot is approximately 1.15 mph.)
- Visibility - This is indicated by two figures plotted to the left of the station circle, and of any weather symbols. In the range 01 to 50 the figures give the visibility in tenths of kilometres, e.g. 20 = 2,000 m = 2 km. Visibilities of greater than 5 km are recorded in whole kilometres plus 50, e.g. 56 = 6 km, 60 = 10 km, 70 = 20 km.
- Cloud Cover - This is indicated by a circle which is progressively filled according to the amount of the sky, measured in eighths, covered by cloud.
- Prevailing Conditions - These are indicated by a series of shorthand notations such as a dot for steady rain.

	Symbol		Symbol
Rain	●	Fog	≡
Drizzle	●	Thunderstorm	⚡
Shower	▽	Hail	▲
Snow	✱		

combinations of these can be made,  
e.g. rain shower, snow shower

	Symbol		Symbol
Clear sky	○	5/8 covered	⦿
covered 1/8 or less, but not zero	⊖	6/8 covered	⦿
2/8 covered	⦿	7/8 covered	⦿
3/8 covered	⦿	sky completely covered	●
4/8 covered	⦿	sky obscured, e.g. by fog	⊗

Speed (knots)	Symbol	Speed (knots)	Symbol
Less than 1	⊙	33–37	⚡
1–2	—○	38–42	⚡
3–7	—○	43–47	⚡
8–12	—○	48–52	⚡
13–17	—○	53–57	⚡
18–22	—○	58–62	⚡
23–27	—○	98–102	⚡
28–32	—○	103–107	⚡



These are only a few of the many symbols used to record weather on synoptic charts and you should refer to the key on the chart for those not included here.