



# Synoptic Charts

#### WHAT ARE SYNOPTIC CHARTS?

These are the *weather maps* that you see on television and in the newspaper.

#### **WHAT ARE ISOBARS?**

Isobars are the *lines on weather maps*. They join *areas of equal air pressure*. Numbers higher than 1013 hectopascals on an isobar indicate high air pressure. Numbers lower than 1013 hectopascals indicate low air pressure.

## WHAT ARE LOWS AND HIGHS?

Low Air Pressure System - Hot moist air rises. This leaves an area underneath the rising air where there is less air. This area has low air pressure. Low pressure systems indicate *cloudy or rainy periods*.

High Air Pressure System – On the other hand, cool dry air sinks. This forms an area where is more air with high air pressure. High pressure systems indicate *fine cool dry weather*.

#### **HOW DO ISOBARS INDICATE WIND?**

If the isobars are quite close together on the weather map, wind will blow from the higher pressure area to the lower pressure area.

The closer the isobars, the faster will be the wind. The further apart the isobars, the gentler will be the wind.

## WHAT SYMBOLS INDICATE CLOUDS OR RAIN?

Low Pressure Area (L) – Lows indicate clouds or rain.

Troughs( ) – where clouds or rain v	Troughs are elongated areas of low pressure will probably occur.
mass of cold air move	) – A cold front is an area where a es very quickly underneath a mass of warm the warm moist air to suddenly drop its rain. adden thunderstorm.
warm moist air moves	) - A warm front occurs when a mass of s slowly over the top of a mass of cold air. rain that may last a few days.

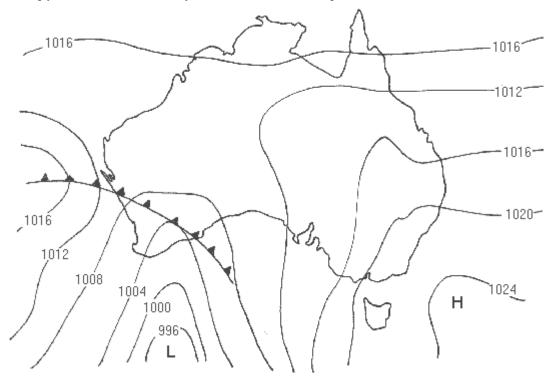
Tropical Cyclone (T.C.) – In summer in tropical areas near the coast, a lot of hot moist air rises rapidly. This can cause an extremely low pressure system (less than 970 hectopascals) which can begin to spiral upwards. This 'sucks' up even more hot moist air to make rain clouds and winds that create fierce damaging storms.

## **QUESTIONS**

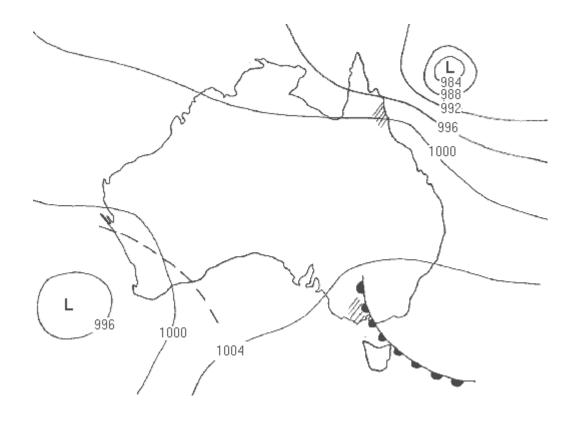
1. In the tables below, describe or draw symbols on weather maps that indicate a particular weather type:

WEATHER TYPE	INDICATORS ON WEATHER MAP
Fine dry weather	1.
Windy weather	1.
	2.
Cloudy weather	1.
	2.
Rainy weather	1.
	2.

2. Look at the two weather maps below. For each map, write the type of weather expected in each city in the table below.



CITY	WEATHER EXPECTED IN MAP 1
Cairns	
Brisbane	
Sydney	
Melbourne	
Adelaide	
Perth	



CITY	WEATHER EXPECTED IN MAP 2
Cairns	
Brisbane	
Sydney	
Melbourne	
Adelaide	
Perth	