### **PRESSURE SYSTEMS**

## **LOW PRESSURE AREA**

## Also known as a cyclone or a depression;

* Wind flows counterclockwise and inward;
* Pressure is lowest in the centre; and
* Expect poor weather.

**SECONDARY LOW**

## Smaller disturbance of cyclone nature; and

## Forms within a main depression.

**TROUGH**

* U-shaped area of low pressure with higher pressure on either side.

**RIDGE**

* Similar to a trough but extends outward from a high with lower pressure on either side.

**COL**

* A neutral area between two highs and two lows.

#### **HIGH PRESSURE AREA**

#### also known as an anticyclone;

* wind flows clockwise and outward;
* pressure highest in centre; and
* expect fine to fair weather.

**WINDS**

* Winds always flow from an area of high pressure to an area of low pressure.

**FORCES AFFECTING HORIZONTAL AIR MOVEMENT**

Pressure Gradient

* The rate of change of pressure over distance measured at right angles to the isobars;
* It is steepest when isobars are close; and
* It determines wind velocity (the closer the isobars, the stronger the winds).

Coriolis Force

* Because the earth rotates beneath the atmosphere, air is deflected to the right in the Northern Hemisphere, until it flows parallel to the isobars.

**Surface Friction**

* Friction between the surface of the earth and the atmosphere will slow the movement of air. This, in turn, increases the angle at which the air crosses the isobars.

**BUYS BALLOT’S LAW**

In the Northern Hemisphere, when you stand with your back to the wind, the low pressure area is to your left.