

## **PRESSURE SYSTEMS**

### **LOW PRESSURE AREA**

- Also known as a cyclone or a depression,
- Wind flows counterclockwise and inward
- Pressure is lowest in the centre
- Expect poor weather

### **SECONDARY LOW**

- smaller disturbance of cyclone nature
- 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
- 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
- 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 BALLOTS LAW**

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