**Weather and Climate Vocabulary**

**Adiabatic cooling/heating**The rate of cooling (by expansion) as an air parcel rises. It is approximately 1 degrees Celsius per 100 metres. It is also the rate of heating (by compression) as an air parcel descends.

**Air mass**A large body of air that has similar temperature, pressure and moisture properties.

**Anticyclone**High pressure system in which air descends to give calm conditions and clear skies. Associated with summer heatwaves and winter frosts and fogs.

**Atmosphere** The envelope of air surrounding the Earth and bound to it by gravity.

**Atmospheric pressure** Pressure (force per unit area) exerted by the atmosphere on any surface by virtue of its weight.

**Clear sky**Sky with a total cloud cover of less than one okta.

**Climate** Long-term (50 year) weather averages.

**Cold front** The "leading edge" of a relatively cold air mass.

**Continental climate**A climate with a high temperature range away from the influence of the sea. Winters will be colder and summers warmer compared to a coastal location for the same latitude.

**Depression (cyclone, low, low-pressure area)** Area in the atmosphere in which the pressures are lower than those of the surrounding region at the same level. In its development a depression usually has the following phases. A wave (young) depression forms and moves along a front. Mature depressions have well-developed warm sectors and both cold and warm fronts. An occluded depression is that within which there has developed an occluded front.

**Dew point (dew-point temperature)** The temperature to which a given parcel of air must be cooled in order for saturation to occur. When this temperature is below 0 °C, frosts form.

**Evaporation** The physical process by which a liquid or solid substance is transformed to a gas; the opposite of condensation.

**Fog** Saturated air with visibility below one kilometre. Fog differs from cloud only in that the base of fog is at the Earth's surface while clouds are above the surface.

**Front** The meeting point between two air masses of different density. Since the temperature is the most important regulator of the atmosphere density, a front almost invariably separates air masses of different temperature. When warmer air replaces the colder, it is a warm front, and a front is a cold one when the opposite occurs.

**Humidity** Water vapor content of the air.

**Isobar** A line of equal or constant pressure. Measured in millibars (mb).

**Maritime climate**A climate with a low temperature range influenced by proximity to the sea. Winters will be warmer and summers cooler compared to a continental location for the same latitude.

**Occluded front**A front that is formed as a cold front overtakes a warm front and lifts the warm air completely off the ground.

**Okta**Ameasure of cloud cover (in fractions of eight) on a synoptic chart.

**Precipitation** Any of all of the forms of water particles, whether liquid or solid, that fall from the atmosphere and reach the ground. The forms of precipitation are: rain, drizzle, snow, snow grains, snow pellets, diamond dust, hail, and ice pellets.

**Prevailing wind**The most common wind direction for a particular location.

**Rain Shadow**The dry region on the leeward side of a mountain (the side sheltered from the wind).

**Relief rainfall**Formed when air is forced to rise over relief features such as hills or mountains. Cooling and condensation occurs as the air rises.

**Seasonality**Periodic fluctuations in the climate related to seasons of the year e.g. wet winters, drier summers.

**Smog** A word currently used as a synonym for general air pollution. It was originally created by combining the words "smoke" and "fog."

**Synoptic chart** A weather chart reflecting the state of the atmosphere over a large area at a given moment.

**Temperature** A physical quantity characterizing the mean random motion of molecules in a physical body. In other words, it is a measure of the degree of hotness or coldness of a substance.

**Temperature range** Maximum minus the minimum temperature for a particular location.

**Warm front** The forward edge of an advancing warm air mass that is rising over cooler air in its path.

**Warm sector**The zone of warm air within a depression.

**Water vapour** Water substance in vapour (gaseous) form; one of the most important of all constituents of the atmosphere.

**Weather** The state of the atmosphere, mainly with respect to its effects upon life and human activities. As distinguished from climate, weather consists of the short-term (minutes to about 15 days) variations of the atmosphere state.

**Wind** movement of air caused by changes in temperature and air pressure. Winds are always identified by the compass direction from which they blow.