THE ATMOSPHERE

1. UNDERSTANDING THE PROCESSES. Knowledge of the component parts and dynamic nature of the atmosphere helps us to understand the various conditions encountered, allowing us to make better decisions.

2. FAVORABLE CONDITIONS. We depend on conditions of the atmosphere that are not uncomfortable to us.

      a) chemical composition (78% nitrogen, 21% oxygen, 1% other - .03% carbon dioxide)

      b) pressure (14 lbs per sq. in. at sea level)

      c) temperature (don't like cold and heat waves)

      d) air movements (don't like storms)

3. SHIELD. The atmosphere protects us from meteorites, ultraviolet rays and heat re-radiation (heat loss).

4. WEATHER.

      a) **Weather** is the state of the atmosphere at any one point in time. It is composed of temperature, air pressure, wind and moisture. These are known, measurable variables at any point in time.

      b) **Weather prediction** or forecast is an *attempt* to *guess* what it will be like in the future based on models of events in the past.

5. INTERCONNECTIVITY. The atmosphere is dynamic. Its parts are interconnected and they are influenced by changes anywhere on the planet: land or ocean.

6. CLIMATE.

      a) **Climate** is the average of all weather at a particular location over a long (+50 years) period of time. Climate maps show the distribution of this averaged data; climographs give us a snapshot of individual locations.

      b) Climates change naturally as the combinations of weather events change and/or vary. Throughout history global warming and global cooling have occurred.

7. HUMAN IMPACT.

      a) Climates can be altered by the works of people (pollution, vegetation removal, reservoir building).

      b) Microclimates can be created (urbanization, deforestation for agriculture, huge parking lots).

8. INFLUENCES ON CLIMATE FORMATION.

      There are seven influences on the formation of climate:

            Latitude; land and water; ocean currents; wind direction; topographic barriers; elevation; and air masses.