Earth Sciences Field Course

Meteorological Observations

At each observing position, which should be located by its grid reference and altitude, the following observations are to be made on the hour and half-hour:

- Wind using the hand anemometer.

 (a) Hold the anemometer above the head in the most exposed position available. Observe the velocity for 60 seconds and record the mean velocity during this period and the maximum value reached (to the nearest 1 km/hr).
 (b) Observe the wind direction with the aid of a streamer and magnetic compass.
- Cloud

 (a) Estimate the amount of the sky covered by cloud in eighths.
 (b) Record the types of cloud present.
 (c) Estimate, as accurately as possible, the height of the cloud base.
- 3. Present Weather, if any, in the following categories: Rain - slight (less than 0.5 mm/hr). moderate (0.5 - 4.0 mm/hr). heavy (downpour - more than 4.0 mm/hr).

Shower;Drizzle;Snow;Sleet;Hail;Thunder;Haze (Visibility less than 1000 metres due to drv particles)Fog (Visibility less than 1000 metres due to water droplets).

- 4. Past Weather, if any, which has occurred since the last observation in the same categories as above.
- 5. Air Temperature and Humidity Use the whirling psychrometer, as instructed, where available. Otherwise measure air temperature with the mercury in glass thermometer, ensuring that it is kept out of direct sunlight and that the bulb is perfectly dry. Allow at least two minutes for the thermometer to equilibriate to air temperature, and then read to the nearest 0.1°C.
- 6. Visibility. Report the greatest distance, in metres or miles, at which objects can be seen in the direction towards which visibility is least, using a map to determine distance.
- 7. State of Ground. The state of a patch of preferably bare ground of representative exposure, in the following categories:

Moist;	Saturated (free water
	on the surface)
Frozen;	Snow covered.

8.

Rainfall (where rain-gauge available).

The rain gauge should be installed on the most level ground available so that its horizontal distance from any surrounding object is not less than twice the height of the object above the rain gauge. The lower part of the can must be sunk into the ground so that it is firmly secured with its rim horizontal and as high above the surrounding ground as possible.

Record the amount collected since the last observation. Only empty the rain gauge after the first observation each day.

9. Water Temperature

Where the position is in the vicinity of a lake or a stream take a surface sample of water in the bucket provided, allow the temperature of the bucket to equilibriate to water temperature for one minute, keeping the bucket out of direct radiation, rinse and refill. Hold the thermometer in the bucket for one minute and then read the temperature to the nearest 0.1°C, keeping the thermometer bulb in the water whilst the reading is taken.

10. Atmospheric Pressure and Altitude

The altimeter should be set at sea-level before leaving Bangor. On arrival on station the altitude should be read, and compared with that read from the O.s. 1" map of the area.

Record atmospheric pressure on the hour and on the half hour while on station and calculate the barometric tendency.

-2-