Weather Forecasting Variables

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EDITORIAL NOTE

This editorial note contains brief discussion about the seven weather forecasting variables. These variables are: wind forecast, dew forecast, frost forecast, evaporation, precipitation, minimum temperature forecast and maximum temperature forecast.

Wind is generated by the movement of air-mass thanks to the horizontal pressure gradient found out between the 2 stations. The forecast of wind is formed supported the spacing of the isobars. Closer the isobars, higher the strength of the winds and vice-versa. Generally strong surface winds are related to low areas or cyclonic circulation. If the low area is intensified and becomes cyclone, then the strength of the winds becomes very strong and sometimes may exceed even 64 kmph. On the opposite hand, light winds are related to high area or anticyclone circulation. Wind forecast depends upon the pressure distribution on the surface chart. Closer the isobars, stronger would be the wind speed. The utmost wind speed at the surface can't exceed the very best wind speed at 850 mb. Wind forecast is vital for spraying chemicals and fertilizer application.

Dew appears within the morning hours on vegetation near the earth's surface, when the air temperature falls to temperature. The condensation of water vapours from the air upon the vegetation surface cooled by radiation losses is named 'Dew'. The quantity of dew is extremely small as compared to precipitation. There are large variations within the quantity of dew deposited on the surface. Dew may be a sort of precipitation. It's vital for agricultural plants in those areas where scanty rainfall occurs. Within the desert areas, dew provides moisture to the vegetation for its survival.

Frost is that the sort of precipitation. Like dew, frost also plays a crucial role in agriculture. The formation of frost depends upon the temperature. When the temperature decreases below freezing temperature, then the water vapours directly change to ice crystals. This process is named sublimation. The layer of the ice crystals is named frost. The frost causes coldness injury to the crop plants. The vegetable plants are sensitive to frost injury. Frost generally occurs during winter season. In north India, it's a standard feature during December, January and February months, when the temperature falls below freezing level.

The rate of evaporation depends upon the prevailing weather and therefore the anticipated weather. Forecasting of evaporation is required to use irrigation to the crops. Application of irrigation depends upon the sort of soil and therefore the crop grown. It's simply supported the quantity of accumulated evaporation since the date of application of irrigation. The loss of water depends upon the weather. The information on these weather parameters is beneficial for farmers in taking decision on agricultural operations like spraying, irrigation and harvesting. Sunshine is additionally required for agricultural operations like threshing and drying the agricultural produce.

The forecast of the cloudiness depends upon the synoptic situation. If the world is under the influence of low related to upper air cyclonic circulation or upper air trough, then cloudiness or precipitation could also be expected depending upon the available water vapours.

The forecast of minimum temperature is predicated on the cloudy conditions during night. Cold and warm advection has pronounced effect on the already dark temperature. During winter season minimum temperature remains on the brink of melting point. So as to save lots of the crops from coldness injury, the forecast of minimum temperature is extremely important.

The forecast of maximum temperature is predicated on sunshine during the day. Cold and warm advection has pronounced effect on the temperature conditions. Air temperature is extremely important from agriculture point of view. Temperature provides working conditions for the expansion of crop plants. For the traditional growth, the temperature should be optimum.