

**Climatic Requirements**

*Open Education Resource*

**Climatic requirements:**

1. **Temperature** – It is one of the important factors limiting the growth of crops. Each crop has its own range of temperature i.e. its minimum, maximum and optimum temperature for growth. Crops either die or cease their growth when the temperature is very high or very low. On the basis of temperature, the world is divided in six temperature zones.
2. Tropical
3. Temperate
4. Micro thermal
5. Taiga
6. Tundra
7. Perpetual frost

Crops are classified broadly as warm or cool weather crops.

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| Sr. No. | Crops | Preferable Temperature Range |
|  | Cotton, Sorghum, Rice, Sugarcane, Ground nut | 20° – 30° C |
|  | Wheat, Oat, Potato, Sugar beet, Peas | 15° – 20° C |

1. **Humidity:** Humidity means amount a water vapour in the air. High humidity favours growth by reducing transpiration but increases possibility of pest and diseases and also affects quality of fruits. Humidity is expressed in terms a Relative Humidity. It is defined as the ratio of amount of water vapour present in the air at a particular place to the amount of water vapour in the saturated air. It is expressed in percentage.
2. **Rainfall:** The major source soil moisture is rainfall. The total amount and distribution of rainfall is important for crop growth, Heavy rain in short period is dangerous as it leads to water logging, cause soil erosion, affect fruit setting and pollination. Distribution of rainfall is not even in India. In some area it is scanty and in other area it may be heavy, causing problems in both the places.
3. **Light:** Light is an important factor for photosynthesis. Rate of photosynthesis is proportional to light intensity up to certain limit but beyond that excess light reduces chlorophyll content from the leaves. The duration of light in a day has significant effect on flowering of certain plant which is called as photoperiod. Accordingly plants are called short day, long day or day neutral plants.
4. **Wind:** Moderate wind velocity is useful for pollination, but high wind velocity cause damage to crops. Also high wind velocity cause soil erosion and evapo-transpiration losses.
5. **Frost:** Highly condensed or frozen from of water vapour is called as frost. Many tropical and subtropical plants are susceptible to frost.