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LECTURE 1

WEATHER AND CLIMATE



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Introductory Agrometeorology and climate change

[ASAG1202] 2(1+1)

Book

1. Agricultural meteorology

-G. S. L. H. S. V Prasada Rao

2. Agrometeorology – S.R. Reddy and D.S. Reddy

3. Basic Principles of Agricultural meteorology

- Radha Krishna Murthy



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Meteorology

Meteorology is defined as

- ◆ "The science of atmosphere".
- ◆ "A branch of physics that earth dealing with physical processes in the atmosphere that produce weather".

Or the science that deals with the study of the atmosphere & it's phenomena, especially with weather and weather forecasting.

Climatology

It is defined as "The science dealing with the factors which determine and control the distribution of climate over the earth's surface". Different factors affecting the climate of a region are:

1. Latitude. 5. Low and high pressure belts.
2. Altitude. 6. Mountain barriers.
3. Land and water. 7. Ocean currents.
4. Winds 8. Extent of forests, etc.

The above factors are also known as "climatic elements"



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Agricultural Meteorology

- "The study of those aspects of meteorology that have direct relevance to agriculture". It is also defined as "A branch of applied meteorology which investigates the responses of crops to the physical conditions of the environment".

"An applied science which deals with the relationship between weather/climatic conditions and agricultural production".

- The word 'Agrometeorology' is the abbreviated form of agricultural meteorology.



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Weather: It is defined as “A state or condition of the atmosphere at a given place and at a given instant of time”.

Climate: It is defined as “The generalized weather or summation of weather conditions over a given region during comparatively longer period”.

Weather	Climate
Refers to the day-to-day state of the atmosphere at a particular place	Refers to generalized weather or summation of weather condition over a given region.
Refers to specific instant of time & place	Refers to a large region & for a long period of time
It is always changing and differs from time to time	It is more or less stable and differs from region to region
Crop growth, development and yield are decided by weather in a given season	Selection of crops suitable for a place is decided based on climate of the region
Under aberrant weather conditions planners can adopt a short-term contingent planning	Helps in long-term agricultural planning
Expressed as fine, foggy, cloudy, rainy, sunny or windy weather	It is expressed as arid, semiarid, humid or desert climate



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