

Simplified Climatology



SIMPLIFIED **CLIMATOLOGY**

**A COMPREHENSIVE WORK
FOR UPSC CSE
AND OTHER COMPETITIVE EXAMINATIONS**

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ABOUT THE AUTHOR

Dr. Krishnanand is highly proficient scholar in the field of research and academics in Geography and environment. He graduated from Shaheed Bhagat Singh College, University of Delhi. He was awarded “best student of the college across all disciplines” in 2009 and “Gold medal” in 2010. He completed his Ph.D from Department of Geography, Delhi School of Economics, University of Delhi. He has a teaching experience of over a decade in the field of Geography for UPSC, State PCS , UGC NET and other competitive examinations.

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This E-book by Dr. Krishnanand is a Simplified Compilation on **CLIMATOLOGY along with detailed explanations available through his YouTube lectures of the same.**



PREFACE	TITLE	CONTENTS	PAGE NO.
Chapter 1:	Introduction to Climatology		6-18
Chapter2:	Atmosphere : Structure and Composition		19- 38
Chapter 3:	Solar Insolation		39-52
Chapter 4:	Heat Budget		53-60
Chapter 5:	Latitudinal Heat Balance		61-66
Chapter 6:	Temperature Distribution		67-79
Chapter 7:	Lapse Rate		80-86
Chapter 8:	Adiabatic Lapse Rate		87-97
Chapter 9:	Inversion of Temperature		98-107
Chapter 10:	Temperature and Pressure Belts of the World		108-123
Chapter 11:	Atmospheric Circulation (tri-Cellular)		124-133
Chapter 12:	Atmospheric Stability and Instability		134-146
Chapter 13:	Primary Winds (Prevailing/Permanent)		147-155
Chapter 14:	Secondary Winds		156-163
Chapter 15:	Tertiary Winds (Local Winds of the World)		164-174
Chapter 16 :	Jet Stream (Geostrophic Winds)		175-187
Chapter 17 :	Monsoons :Concepts and Mechanism		188-196
Chapter 18 :	Air Mass :Formation and Distribution		196-207
Chapter 19 :	Air Fronts :Formation and Distribution		208-222

Chapter 20: Humidity: Concepts and Classification	223-230
Chapter 21: Clouds : Concepts and Classification	231-243
Chapter 22: Rainfall: Types and World Distribution	244-256
Chapter 23 : Tropical Cyclone: Origin and Development	257-282
Chapter 24: Tropical Cyclone: Naming System	283-289
Chapter 25 : Temperate Cyclone: Origin and Development	290-298
Chapter 26: Tropical Cyclone Vs. Temperate Cyclone: Comparison	299-306
Chapter 27: Hydrological Cycle and Condensation Forms	307-324
Chapter 28 : Fog Formation and Types	325-334
Chapter 29: Smog Formation and Types	335-342
Chapter 30: Air Pollution	343-368
Chapter 31: ENSO + IOD (El Nino- La Nina- El Nino Modoki)	369-383
Chapter 32: Polar Vortex: Formation and Ozone Depletion	384-397
Chapter 33: Koppen's Climatic Classification	398-404
Chapter 34: Thornthwaite's Climatic Classification	405-413
Chapter 35: Trewartha's Climatic Classification	414-425
Chapter 36: Urban Heat Island	426-435
Chapter 37: Global Climate Change	436-453
Chapter 38 : Applied Climatology	454- 465

Climatology is the scientific study of climates, which is defined as the mean weather conditions over a period of time. A branch of study within atmospheric sciences, it also takes into account the variables and averages of short-term and long-term weather conditions. Climatology is different than meteorology and can be divided into different areas of study. It can be defined as the scientific study of spatio- temporal characteristics and variation of climatic elements like rainfall, temperature, evapotranspiration, humidity, pressure, winds and air masses. The word Climatology is derived from two Greek words 'klima' and 'logia'. The klima means place or zone and logia means the study of climate. The climate is the average study of weather. The standard average periods for climatic analysis are thirty years defined by the World Meteorological organization . In Physical Geography, climatology is of immediate relevance because of its inherent interest on climate-human inter-relationships.

This E-book aims to facilitate the young and budding UPSC CSE aspirants as well as geographers and research scholars especially in the field of geographical studies to understand the conceptual framework of the subject matter of Climatology in a comprehensive manner.

Dr. Krishnanand

Chapter 1

INTRODUCTION TO CLIMATOLOGY

CLIMATOLOGY

from Greek, *KLIMA*,
"slope, inclination,
zone"

The term originally denoted **a zone of the earth between two lines of latitude**, then any region of the earth, and later, a **region** considered with reference to its **atmospheric conditions**.

Climate is generally defined as ***the average state of the atmosphere for a given time scale (hour, day, month, season, year, decade and so forth) and generally for a specified geographical region.***

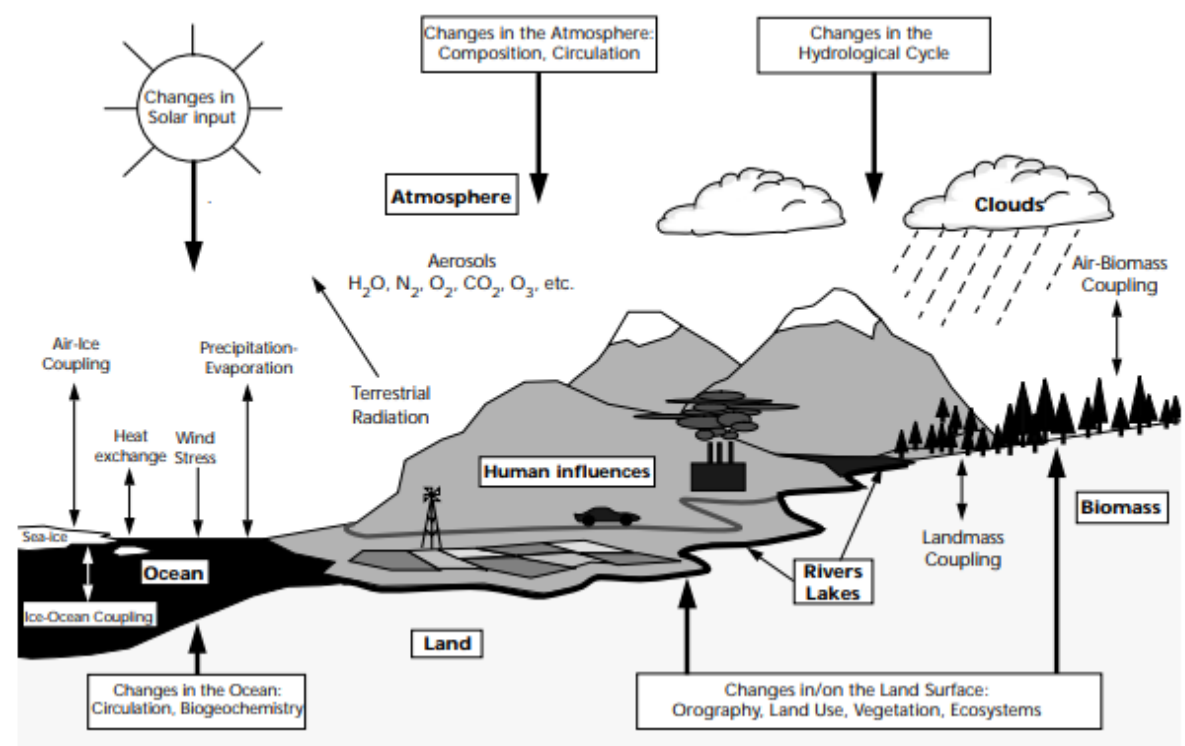
The average-state description involves a wide range of variables among which, **TEMPERATURE AND PRECIPITATION** are the most commonly used;

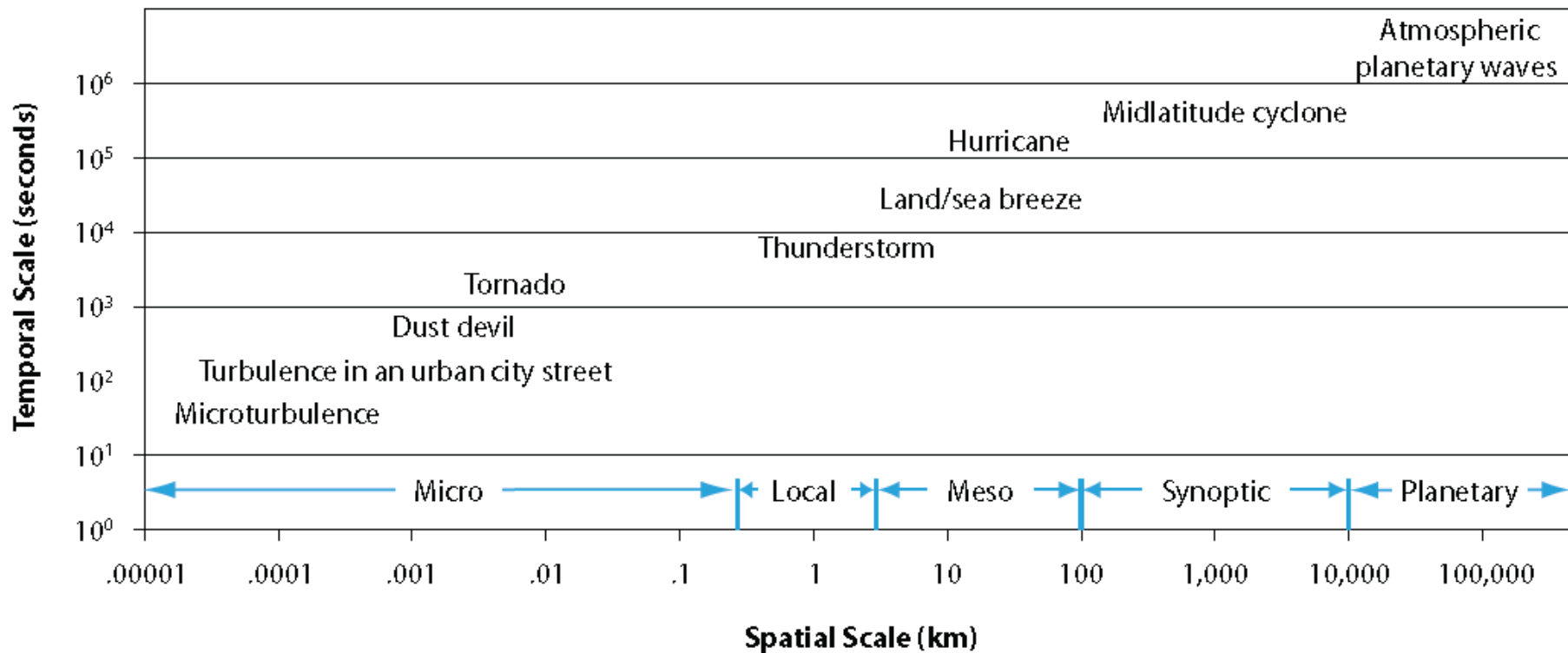
However, the list may include **wind, cloudiness and sunshine, pressure, visibility, humidity** and elements with noteworthy human impacts such as **severe storms, excessively high and low temperatures, fog, snow and hail.**

The **CLIMATE SYSTEM** is defined as the five components in the geophysical system, the atmosphere and four others which directly interact with the atmosphere and which jointly determine the climate of the atmosphere.

The five components are listed below:

- (a) **Atmosphere;**
- (b) **Ocean;**
- (c) **Land surface;**
- (d) **Ice and snow surfaces (both land and ocean areas); and,**
- (e) **Biosphere (both terrestrial and marine).**





SCALES IN CLIMATOLOGY