

Weather and Climate of Mauritius

By

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1989, 283pp, Price not stated.

The book entitled 'Weather and Climate of Mauritius', by Dr. Padya is meant to understand the weather of the island. It contains not only the climatology but also the basic meteorological knowledge required to understand the weather and climate of the island. The author has made a bold attempt to bring clearly the details about the weather and climate of Mauritius.

The book contains 9 useful chapters namely; Atmospheric circulation over the Indian Ocean; The wind field over Mauritius; The intertropical convergence zone; Tropical cyclones; Tropical cyclone climatology; Weather systems; Rainfall; Sunshine, Radiation and Temperature; Humidity, Evaporation and Bio Climate.

Chapter 1, deals with the general features near and around the island. The marine environment of the Island, Hadley cell circulation of southern hemisphere, Walker circulation and other related topics are discussed. In Chapter 2, regional characteristics of surface and upper winds over Mauritius are presented. The role of sub-tropical ridge and ITCZ is highlighted. ITCZ is discussed in more detail in Chapter 3. The discussion about the mean surface flow, the ITCZ and the Indian monsoon is of interest. The migration of ITCZ during southern summer, autumn, winter and spring supported by INSAT-1B is presented. Interannual variability and disturbances associated with ITCZ is mentioned in brief. The possible relation between ENSO and rainfall fluctuations during some seasons over Mauritius is hinted.

Tropical cyclones play an important role in the weather of the island. Chapters 4 and 5 deal exclusively about these systems. The movement of these systems is forecasted by climatology, persistence, steering concepts and dynamical methods. The history of all listed tropical cyclones since 1615, with details of some major cyclones

during 1886-1985, is another point of interest. The work done so far on this important topic is limited, which may be due to paucity of data.

Chapter 6 deals with the weather systems in south-west Indian Ocean. The author presented the effect of land mass, onset of sea breeze, air masses, fronts and other related features. Sometimes small perturbations give rise to copious rainfall over parts of the island. INSAT pictures of India Meteorological Department are used to explain some of the weather situations.

Temporal and spatial distribution of rainfall of a country is useful in many fields of human activity. It is estimated annually that Mauritius receives about 2100 mm of rainfall, whereas the evaporation over land; ocean, in and around the island is about 1700 mm and 2000 mm respectively. This suggests that the rainfall almost balances the evaporation. The normal annual rainfall increases gradually from coast and reaches maximum at the central parts of the island. The monthly and annual rainfall tables given at the end, for some representative stations are based on a very long series of data, sunshine, radiation and temperature data is available for small periods at limited stations.

In Chapter 8, attempt to estimate the global radiation in limited way is presented. Spatial variation of mean surface temperature, diurnal temperature range and secular variation are also explained. The final chapter is related to humidity, evaporation and the bioclimate. Mean relative humidity is fairly high due to oceanic influence. Maximum and minimum values are observed during March/April and August respectively. The mean annual evaporation decreases from coast to central parts of the island in an opposite manner to that of the annual rainfall. Some results about the human discomfort index are also discussed. Every chapter is appended with useful references.

The book is well written with the available data of the island. The language is simple and the printing is quite attractive. It is more oriented towards the weather than the climate. It is quite useful and informative for meteorologists working on the problems of oceanic islands. It would have been more informative, if a brief summary is added at the end of each chapter. Overall, it is a well written book about the weather of Mauritius.

— G. APPA RAO