

OUTLINE OF CONTENTS

(Detailed contents are given in the beginning of each Chapter)

VOLUME 1

Dedication	iii - iv
Foreword by Prof. P.R.Pisharoty	v
Author's Preface	vii - xi
Outline of Contents	xiii - xvi
CHAPTER 1 : Special Features of Tropical Meteorology	1 -
1.1 History of Meteorology	1 - 15
1.2 Special Features of Tropics	15 - 18
1.3 Special Analysis for Tropics	19 - 31
1.4 Scale Analysis for Tropics	31 - 45
1.5 Pressure-Wind Adjustment	45 - 63
1.6 Atmospheric Tides	63 - 77
1.7 Diurnal Variation of Precipitation	77 - 89
1.8 Summary of Chapter 1	89 - 93
<i>References</i>	93 - 99
CHAPTER 2 : Climatology of the Tropics	100 -
2.1 Scope of Climatology	101 - 102
2.2 Wind, Temperature and Water Vapour	102 - 114
2.3 Cloudiness	114 - 115
2.4 Meridional Circulation	115 - 120
2.5 Inter Tropical Convergence Zone	120 - 134
2.6 Water Budget	134 - 139
2.7 Angular Momentum Budget	139 - 156
2.8 Energy	156 - 174
2.9 Deserts	174 - 179
2.10 Jet Streams	179 - 192
2.11 International Tropical Reference Atmosphere	192 - 193
2.12 Summary of Chapter 2	193 - 197
<i>References</i>	198 - 204

CHAPTER 3 : Climatic Change	205	-
3.1 Trends in the Subject	205	- 235
3.2 Climate Simulation	235	- 240
3.3 Modelling Climatic Change	240	- 254
3.4 Monitoring Air Quality	254	- 258
3.5 Summary of Chapter 3	258	- 261
<i>References</i>	262	- 268
 CHAPTER 4 : Monsoons	 269	 -
4.1 Introduction	270	- 284
4.2 Causes of Monsoons	284	- 303
4.3 Monsoon of India	303	- 357
4.4 Monsoon over Tibetan Plateau	357	- 368
4.5 Monsoon over China	368	- 370
4.6 Monsoon over SE Asia	370	- 371
4.7 Monsoon over N. Australia	371	- 375
4.8 Monsoon of E. Africa	375	- 390
4.9 Monsoon of W. Africa	390	- 398
4.10 Squall Lines of W. Africa	398	- 404
4.11 Summary of Chapter 4	404	- 409
<i>References</i>	409	- 418
 CHAPTER 5 : Near-equatorial Flow Patterns	 419	 -
5.1 Inertial Flow	419	- 427
5.2 Steady-state Flow Near Equator	427	- 430
5.3 E. African Low-Level Jet	430	- 447
5.4 Equatorial Waves	447	- 457
5.5 Subsidence near Equator	458	- 476
5.6 5-day Waves	476	- 485
5.7 Bi-weekly Oscillations	485	- 488
5.8 30-50 day Oscillation	489	- 494
5.9 Quasi-Biennial Oscillation	494	- 494
5.10 Southern Oscillation and El Nino	494	- 515
5.11 Summary of Chapter 5	515	- 520
<i>References</i>	520	- 528

CHAPTER 6 : Instability of Tropical Flows	529 -
6.1 Stability Principles	529 - 531
6.2 Static Stability	532 - 539
6.3 Kelvin-Helmholtz Waves	539 - 546
6.4 Inertial Stability	546 - 557
6.5 Barotropic Instability	557 - 565
6.6 Baroclinic Instability	565 - 580
6.7 Effective Static Stability	580 - 583
6.8 Conditional Instability of Second Kind	583 - 588
6.9 Trapeze Instability	588 - 590
6.10 Trends in Stability Analysis	590 - 593
6.11 Summary of Chapter 6	593 - 598
<i>References</i>	598 - 603

VOLUME 2

CHAPTER 7 : Tropical Stratosphere and Mesosphere	604 -
7.1 Stratosphere and Mesosphere	604 - 610
7.2 Vertical Propagation of Waves	610 - 628
7.3 Quasi-Biennial Oscillation	628 - 643
7.4 Sudden Stratospheric Warmings	643 - 652
7.5 Coupling with Troposphere	652 - 656
7.6 Summary of Chapter 7	656 - 661
<i>References</i>	661 - 668
CHAPTER 8 : Easterly Waves	669 -
8.1 Discovery of Easterly Waves	669 - 671
8.2 Difficulties in the Study	671 - 671
8.3 Methods of Study	672 - 673
8.4 Regional Characteristics	673 - 709
8.5 Energetics	709 - 719
8.6 Over-all Picture	719 - 722
8.7 Summary of Chapter 8	722 - 726
<i>References</i>	726 - 729
CHAPTER 9 : Tropical Cyclones	730 -
9.1 Devastation - Some Real Experiences	730 - 736

9.2	Definition by Beaufort Scale	736 - 737
9.3	Conditions Favourable for Formation	737 - 739
9.4	Life History of a Cyclone	739 - 743
9.5	Structure of a Mature Cyclone	743 - 777
9.6	Satellite Pictures and Intensity	777 - 779
9.7	Dynamical Simulation	779 - 789
9.8	Forecasting of Cyclones	789 - 808
9.9	Artificial Modification	808 - 809
9.10	Summary of Chapter 9	809 - 814
	<i>References</i>	815 - 821
CHAPTER 10 : Meso-scale Systems of the Tropics		822 -
10.1	Definition; importance in tropics	822 - 824
10.2	Thunderstorms	824 - 865
10.3	Squall Lines	865 - 876
10.4	Hail Storms	876 - 893
10.5	Tornadoes and Water-spouts	893 - 931
10.6	Dust Devils	931 - 933
10.7	Land and Water Breeze	933 - 939
10.8	Orographic Winds	939 - 946
10.9	Lake Victoria	946 - 954
10.10	Summary of Chapter 10	954 - 959
	<i>References</i>	959 - 969
CHAPTER 11 : Recent Trends in Tropical Meteorology		970 -
11.1	Trends in Tropical Meteorology	971 - 980
11.2	Initialization in the Tropics	980 - 1000
11.3	Parameterization of Cumulus Convection	1000 - 1014
11.4	Parameterization of Tropical PBL	1014 - 1065
11.5	Parameterization of Radiative Processes	1065 - 1106
11.6	Satellites	1106 - 1153
11.7	Summary of Chapter 11	1153 - 1159
	<i>References</i>	1159 - 1172
Author Index		1173 - 1186
Subject Index		1187 - 1202