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2.2.4.3 Deserts of China and Mongolia; 2.2.5 SOUTH AMERICA; 2.2.5.1 The west coast deserts: Peru-Chile, Atacama, and Sechura deserts; 2.2.5.2 Altiplano/Puna; 2.2.5.3 Monte Desert; 2.2.5.4 Patagonian Desert; 2.2.6 NORTH AMERICA; 2.2.6.1 Chihuahuan Desert; 2.2.6.2 Sonoran Desert; 2.2.6.3 Mojave Desert; 2.2.6.4 The Great Basin deserts; 2.2.7 AUSTRALIA; 3: THE CLIMATIC FRAMEWORK; 3.1 INTRODUCTION: CLASSIFICATION OF DESERTS BY TEMPERATURE; 3.2 WEATHER DATA; 3.3 ATMOSPHERIC CONTROLS: SURFACE BOUNDARY LAYER; 3.3.1 ATMOSPHERIC WATER VAPOR AND CLOUD COVER; 3.3.2 RADIATION 3.3.3 TEMPERATURE OF THE AIR, SURFACE, AND SUBSURFACE; 3.3.3.1 Air temperature of hot deserts; 3.3.3.2 Surface temperatures; 3.3.3.3 Subsurface temperatures; 3.3.4 ALBEDO; 3.3.5 PRECIPITATION; 3.3.5.1 Storm types and seasonality of precipitation; 3.3.5.2 Forms of precipitation other than rainfall: fog, dew, and snow; 3.3.5.3 Variability in precipitation; 3.3.6 WIND; 3.3.7 EFFECTS OF POPULATION GROWTH AND URBANIZATION ON DESERT CLIMATOLOGY; 3.3.7.1 Air pollution; 3.3.7.2 Heat islands; 3.4 TEMPORAL AND SPATIAL VARIABILITY OF CLIMATIC INFLUENCES; 3.4.1 ENSO FORCING OF DESERT CLIMATES 3.4.2 EXPANSION AND CONTRACTION OF THE SAHARA DESERT; 3.4.3 THE SAHEL: LAND-SURFACE-ATMOSPHERE INTERACTIONS; 4: THE HYDROLOGIC FRAMEWORK; 4.1 INTRODUCTION; 4.2 THE WATER BALANCE IN DESERTS; 4.3 WATER BUDGETS; 4.3.1 PRECIPITATION AND ITS ASSESSMENT: PROBLEMS IN GAUGING AND NETWORK DESIGN; 4.3.2 INTERCEPTION; 4.3.3 EVAPOTRANSPIRATION; 4.3.3.1 Introduction; 4.3.3.2 Evaporation; 4.3.3.3 Transpiration; 4.3.4 INFILTRATION AND SOIL WATER; 4.3.5 GROUNDWATER, SUBSURFACE FLOW, AND SPRINGS; 4.3.5.1 Role of groundwater in arid environments; 4.3.5.2 Groundwater recharge; 4.3.5.3 Groundwater quality 4.4 SURFACE RUNOFF AND FLOODS

Sommario/riassunto

Taking a global perspective, this book provides a concise overview of drylands, including their physical, biological, temporal, and human components. Examines the physical systems occurring in desert environments, including climate, hydrology, past and present lakes, weathering, hillslopes, geomorphic surfaces, water as a geomorphic agent, and aeolian processes Offers an accessible introduction to the physical, biological, temporal, and human components of drylands Investigates the nature, environmental requirements, and essential geomorphic roles of plants and
