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Buoyancy Frequency; 2.4. Internal Gravity Waves; 2.5. Mountain Waves; 2.6. Mass, Momentum and Energy Fluxes; 3. Convection; 3.1. Unstable Stratification; 3.2. Parcel Argument; 3.3. Dimensional Analysis; 3.3.1. Rayleigh number; 3.4. Convection Strength; 3.5. High Rayleigh Number; 3.6. Very High Rayleigh Number; 4. Plumes; 4.1. Plumes-Dimensional Analysis; 4.2. Entrainment; 4.2.1. Entrainment assumption; 4.3. Self-similarity; 4.4. Plume Rise in a Stratified Fluid
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 3. Paleotempestology

Sommario/riassunto

The Institute for Mathematical Sciences at the National University of Singapore hosted a Spring School on Fluid Dynamics and Geophysics of Environmental Hazards from 19 April to 2 May 2009. This volume contains the content of the nine short lecture courses given at this School, with a focus mainly on tropical cyclones, tsunamis, monsoon flooding and atmospheric pollution, all within the context of climate variability and change. The book provides an introduction to these topics from both mathematical and geophysical points of view, and will be invaluable for graduate students in applied mathem
