9.4.1 The monsoon circulations

Figure 9.8 shows an idealized model of the three-dimensional structure of the summer monsoon circulations, based upon the relationships described above. "Wet monsoons" are associated with rising motion over the warm land masses. The available potential energy generated by the differential heating between land and sea is released by the rising of warm (light) air and the sinking of cold (dense) air. The vertical motions are accompanied by a horizontal motion

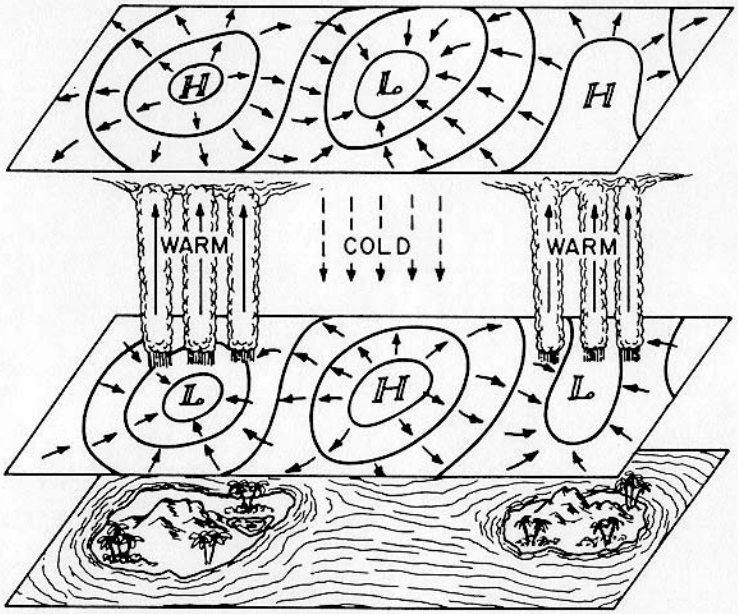

Fig. 9.8 Idealized representation of the monsoon circulations. The islands in the figure represent the tropical continents in the summer hemisphere. Solid lines represent isobars or geopotential height contours near sea level or 1000 mb (lower plane) and 14 km or 200 mb (upper plane). Short solid arrows indicate the cross-isobar flow. Vertical arrows indicate the sense of the vertical motions in the middle troposphere.