

Figure 3.11. Seasonal envelope of maximum observed dewpoints at Los Angeles, California (after United States Weather Bureau, 1961a)

#### 3.3.4.4 Reduction for upwind barriers

The amount of moisture that a column of air can contain is reduced by shortening the column as it crosses an orographic barrier. Convergence PMP is therefore adjusted for the moisture depletion by upwind barriers. In making the reductions, so-called effective barrier heights are used rather than actual heights. Maps of effective barrier heights (Figure 3.15) differ from actual topographic maps in that they take into account the effect of barriers on air crossing them. Also, since the maps are intended for use in making generalized estimates of PMP, effective barrier height contours naturally smooth out the smaller irregularities in crest height, ridge orientation, and other orographic features. Local features that would seriously affect precipitation over small basins are thus smoothed out.

#### 3.3.4.5 Reduction of point, or 25.9 km<sup>2</sup>, convergence PMP for area size

Point precipitation data (arbitrarily accepted as representative for 25.9 km<sup>2</sup>) were used in the derivation of convergence PMP described above. Ideally, the 25.9 km<sup>2</sup> values would be reduced for area size by depth–area relations based on observed storms that produced heavy convergence (non-orographic) rainfalls in the problem area. Sparsity

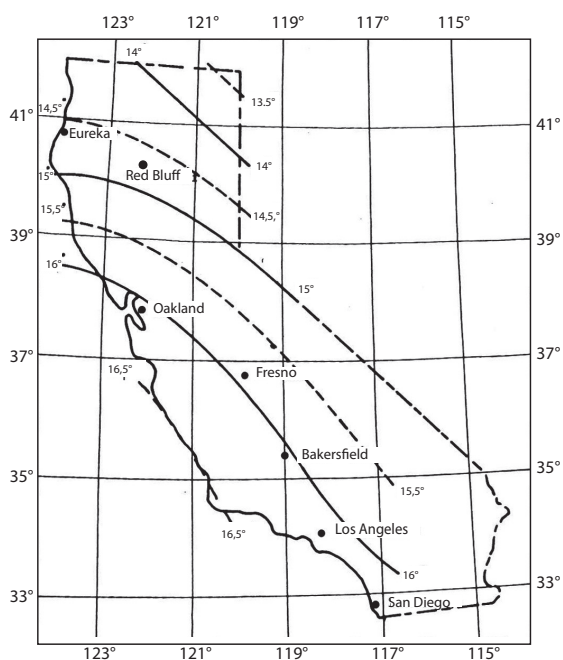


Figure 3.12 Maximum persisting 12-hour 1000-hPa dewpoints (°C) for February (United States Weather Bureau, 1961a)