usually occur with near-maximum dewpoints, were adjusted to the basin location on the basis of decreased rainfall with distance inland of observed storms. This tropical storm data aided in establishing summer PMP magnitudes. The seasonal variation was first determined for the larger basin, because of previous studies for that size area, and then applied to the sub-basin as described below. Figure 3.21 shows the adopted seasonal variation of PMP for the 55 426 km^2 basin as a percentage of March PMP.

A seasonal variation curve of the ratio of 24-hour storm rainfall for 55 426 km^2 to that for 20 668 km^2, the areas of the two project basins, was based on some two dozen major storms in the southeastern part of the country. This ratio curve (Figure 3.22) was used to estimate PMP for the larger basin from that for the smaller, with an additional reduction of about 2 per cent for the north-eastwardly displacement of the centre of the large basin. This small adjustment was based on PMP values indicated by Figure 3.20. Application of the basin centre adjustment and area ratio for March to the sub-basin PMP (357 mm) yielded a 24-hour March PMP of 284 mm for the larger basin.

The seasonal variation curve of Figure 3.21 was then applied to the 24-hour March PMP for the larger basin to obtain 24-hour PMP for April to September as shown on line 5 of Table 3.4. These PMP values were then adjusted for area by the reciprocal of the ratio curve of Figure 3.22 to yield April to September 24-hour PMP for the sub-basin (line 2, Table 3.4).

3.4.2.4 Depth–duration relations

Depth–duration relations, particularly 6-hour/24-hour and 72-hour/24-hour rain ratios, of over 100 outstanding storms in the eastern part of the country were examined. Although the storms occurred in various months during the March–July period, no seasonal trend was indicated. The adopted depth–duration curves (Figure 3.23) show slight differences for basin size. These curves were used to adjust the 24-hour PMP values of Table 3.4 to 6-hour and 72-hour amounts.

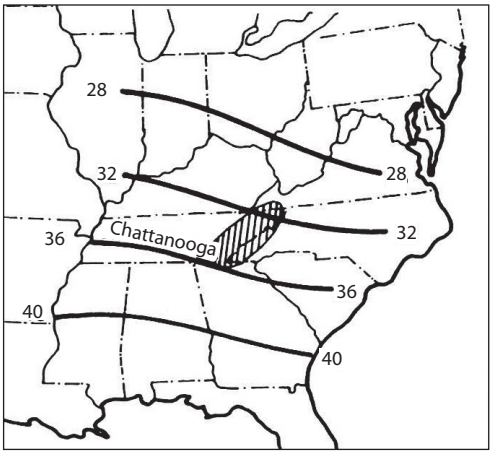

Figure 3.20. March 24-hour 25 900 km^2 PMP (cm; after Schwarz, 1965)

3.4.2.5 Geographic distribution of PMP

It was stated earlier that there was no net decrease or increase of basin rainfall as compared with surrounding areas. This does not mean that there are no topographic effects. Any examination of a number of storms shows that the distribution is definitely affected by the topography. In rugged terrain, topographic effects result in more or less distinct storm rainfall patterns, with appreciable differences between patterns attributable chiefly to wind direction and storm movement.

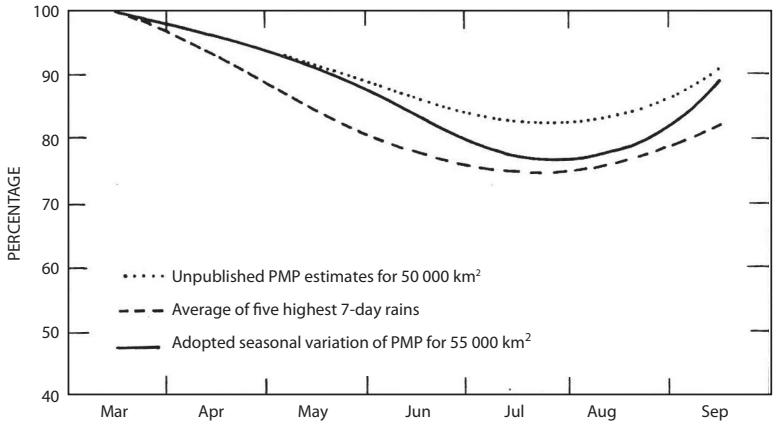

Figure 3.21. Seasonal variation of PMP for 55 426 km^2 as percentage of March PMP (Schwarz, 1965)