(iii) Values for a set of standard area sizes both larger and smaller than the area sizes of the specific drainage are read off the curves from step (a)(ii).

(iv) For each of the standard pattern area sizes in step (a)(iii), the depth–duration data is plotted on a linear graph and a smooth curve is fitted to enable interpolation of values for intermediate durations.

(v) Incremental differences are obtained for each of the first three 6-hour periods through successive subtraction for each area size considered in (a)(iv).

(b) Isohyetal pattern:

(i) A tracing of the drainage should be placed over the isohyetal pattern developed. These should both be of the same map projection and scale. Placement should generally be done so as to put the maximum precipitation in the drainage. In most cases this condition is met by drainage-centring the isohyetal pattern.

(ii) The orientation of the pattern when placed on the drainage is determined.

(iii) The preferred orientation for PMP conditions is determined from Figure 5.6 at the location of the pattern centre. If the difference between the orientation from (b)(iii) and (b)(ii) is less than 40°, then no reduction factor needs to be considered for that placement of the isohyetal pattern over the drainage. If the orientation difference exceeds 40°, then it must be decided whether the pattern is to be:

a. placed at some angle to the drainage at which no reduction to isohyetal values used is required, or

b. aligned with the drainage and reduction made to the isohyetal values.

(iv) This step is carried out if no adjustment for orientation is needed. Having settled on the placement of the isohyetal pattern, the appropriate adjustment factor due to the orientation of the isohyets involved is determined from the model shown in Figure 5.7. Note that the amount of reduction is dependent upon the PMP storm area size (only areas larger than 777 km^2 need to be reduced) and the difference in orientation. The adjustment factor is multiplied by the corresponding 6-hour incremental amounts from (a)(v) for each pattern area size to obtain incremental values reduced as a result of the pattern orientation.

(c) Maximum precipitation volume:

(i) The name of the drainage, drainage area, data of computation and increment (either first, second or third) is placed in the appropriate boxes at the top of the form shown in Figure 5.13.

(ii) The area size (km^2) from (a)(iii) for which the first computation is made is placed under the heading at the upper left of the form.

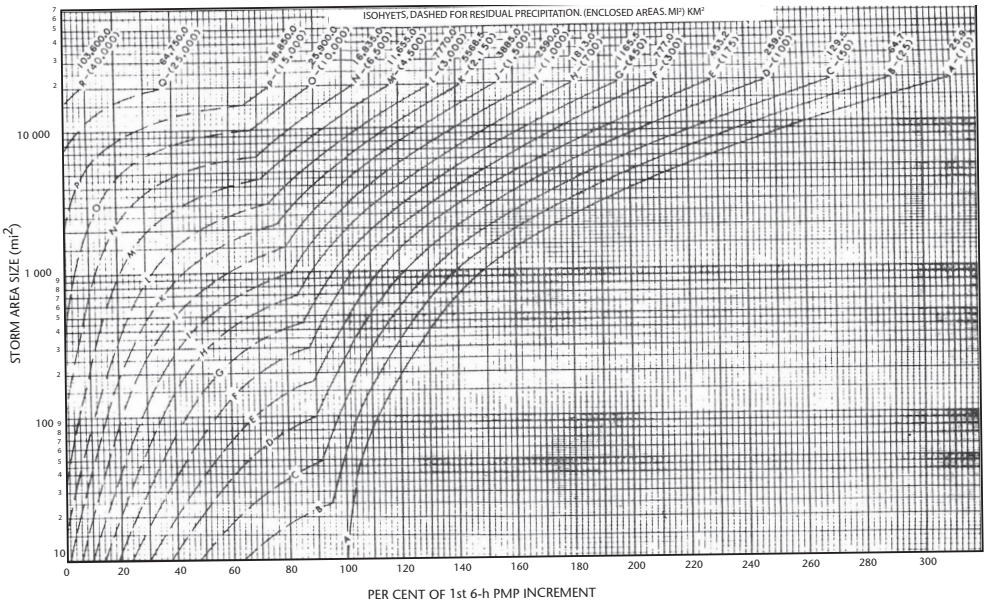

Figure 5.12. Nomogram for the first 6-hour PMP increment and for standard isohyet area sizes between 25.9 and 103 600 km^2 (Hansen and others, 1982)