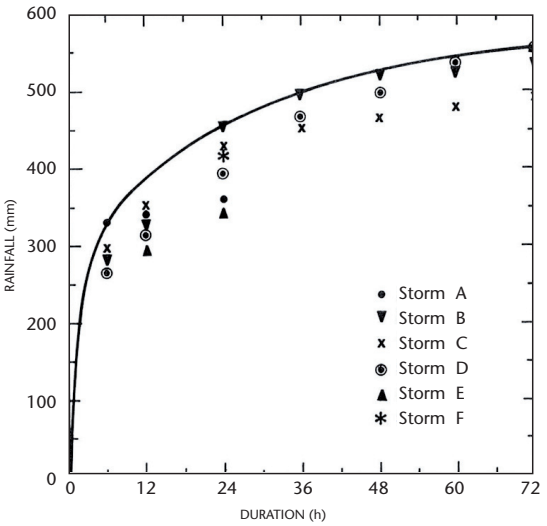

Figure 2.10. Depth–duration envelope of transposed maximized storm values for 2 000 km²

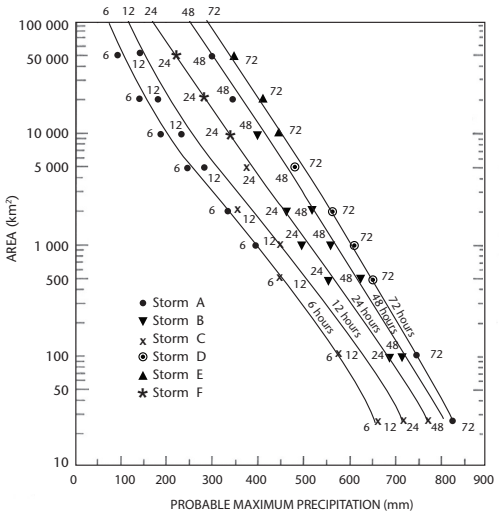

Figure 2.12. Enveloping DAD curves of probable maximum precipitation for a hypothetical basin

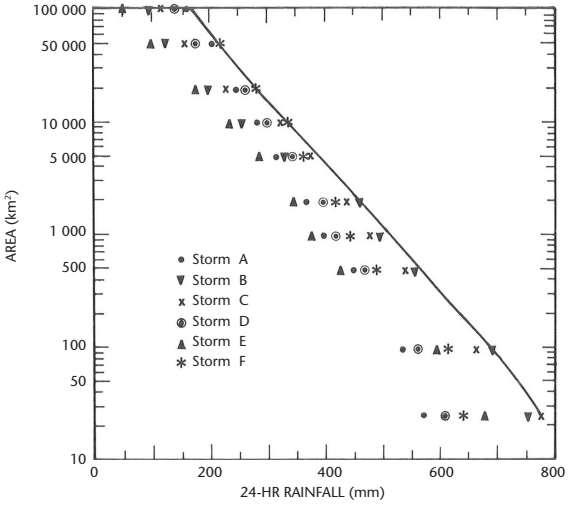

Figure 2.11. Depth–area envelope of transposed maximized 24-hour storm rainfall values

To prepare an individual drainage estimate, it is usually sufficient to prepare DAD curves for a range of area sizes from about 0.1 to about 10 times the area of the basin.

2.8.3 Undercutting

The data used in constructing an envelope curve are not of equal accuracy or reliability. For example, looking at graphs such as Figures 2.10 and 2.11, the basin under study may lie definitely within the transposition limits of some of the transposed storms, but it may lie within the fringes of the transposition limits of other storms, which leads to somewhat less reliable data from the transposition of those storms to this particular basin. Under these circumstances, it may be justified to place the curve at somewhat lower values than the extremes. This is called undercutting. Any undercutting should be done only after a careful review of:

(a) the meteorological characteristics of the storm;
(b) the transposition limits;
(c) the moisture and other adjustment factors;
(d) any other factors that affect the magnitude of the plotted value.

2.9 SUMMARY OUTLINE OF PROCEDURE FOR ESTIMATING PMP

2.9.1 Introduction

The steps outlined below for estimating PMP over a project basin are applicable only for a non-orographic region with reasonably adequate hydrometeorological data. For most reliable estimates, data should include:

(a) relatively detailed 6-hour or daily weather maps;
(b) long records, 50 years or more, of hourly and daily rainfall data from precipitation networks of sufficient density to permit reliable determination of time and spatial distribution of storm rainfall;
(c) long records of temperature, dewpoint and wind data, both at the surface and, if possible, aloft, although upper-air data are not essential for the PMP estimation procedure outlined here.