Comparisons of $\overline{X}_n$ and S_n or C_v with nearby stations are recommended. Odd values in the basic data should be examined and discarded if found spurious, or the record for another station should be used. However, care must be exercised not to remove an amount merely because it appears to be an outlier in the data series. Length of record should be considered also. A long record will yield generally more reliable PMP estimates than will a short record of comparable quality. Wherever possible, records of no less than 20 years should be used and records of less than 10 years should not be used at all.

Area-reduction and depth–duration curves, like those of Figures 4.7 and 4.8, respectively, should be developed directly from storm rainfall data in the region for which estimates are to be made. Use of generalized curves based on data from climatically similar regions, even if storm selection is limited to storms of the type capable of producing PMP over the study region, introduces additional sources of error in the PMP estimates. The magnitude of this error, though undefined, can be appreciable.

Although the use of these procedures can provide results with minimum effort, they are generally not considered as reliable as those obtained by use of procedures based on a comprehensive meteorological analysis. Every effort should be made to complete additional studies to support the results obtained by statistical procedures. This is particularly true in regions with short records. Many national meteorological services utilize these results only for very preliminary estimates to be used in reconnaissance or feasibility studies.

Note: Professor Lin has some new points on statistical approach on PMP estimation, see reference (Lin and Vogel, 1993).