

Figure 3.23. Depth-duration relations in percentage of 24-hour rainfall (Schwarz, 1965)

sequence. Storm experience in the Tennessee River basin, which provides guidelines for reasonable time sequences, generally indicates a strong tendency for several bursts of rainfall during a 72-hour storm. Within a typical burst, the largest two or three 6-hour increments usually occur in succession.

The following criteria were recommended for this basin (Schwarz, 1965) on the basis of the above

guidelines. It does not necessarily provide PMP for all durations but generally conforms to observed storm sequences.

The four largest 6-hour increments of the 72-hour PMP storm were grouped in one 24-hour sequence; the middle four, in a second 24-hour sequence; and the four smallest, in a third 24-hour sequence.

The four 6-hour increments within each of these three 24-hour sequences were arranged as follows: second largest next to largest, the third largest adjacent to these, and the fourth largest at either end.

The three 24-hour sequences were arranged with the second largest next to largest, with the third at either end. Any possible sequence of the three 24-hour periods was determined acceptable with the exception of that which would place the smallest 24-hour increment in the middle.

A sample arrangement that follows these criteria is shown in Table 2.4. This arrangement does not maintain PMP magnitude for the 30-, 36-, 42-, 54-, 60- and 66-hour durations. If it is desired to maintain PMP values for all durations, however, any sequence of n 6-hour increments should consist of the n highest 6-hour values (see section 2.12 for general discussion on temporal distribution).

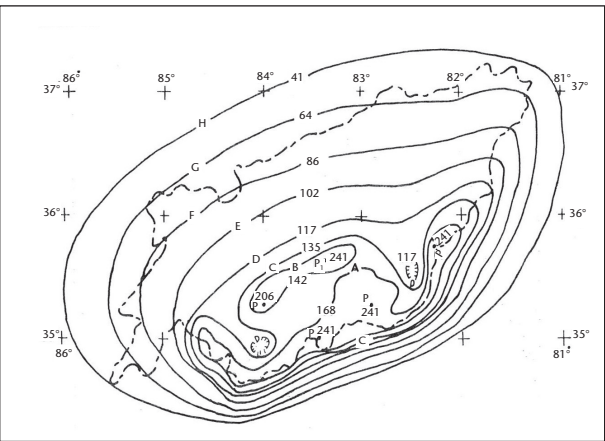


Figure 3.24. Six-hour PMP storm pattern (mm) for maximum 6-hour increment for total basin (55 426 km²) (Schwarz, 1965); isohyet values are applicable to the March PMP