arranging the 6-hour increments of PMP within the 72-hour storm period for this particular region.

To obtain PMP for all durations:

(a) Individual 6-hour increments are arranged so that they decrease progressively to either side of the greatest 6-hour increment. This implies that the lowest 6-hour increment will be either at the beginning or the end of the sequence.
(b) The four greatest 6-hour increments are placed at any position in the sequence, except within the first 24-hour period of the storm sequence. The study of major storms shows maximum rainfall rarely occurs at the beginning of the sequence.

5.2.7.2 Isohyetal patterns

The two most important considerations regarding an isohyetal pattern used to represent PMP rainfalls are:

(a) The pattern shape and how it is to be represented;
(b) The number and magnitude of the isohyets within the pattern.

In the study for the eastern United States (Hansen and others, 1982), 53 major storms were examined. It was apparent from this sample that the most representative shape for all such storms is that of an ellipse. The actual storm patterns in general are extended in one or more directions, primarily as a result of storm movement, and an ellipse having a particular ratio of major to minor axis is usually the best fit to the portion of the storm having the heaviest precipitation. The variation of shape ratios for the 53-storm sample is summarized in Table 5.1. Shape ratios of 2 are most common in this region, followed by those of 3 and 4. Of the storms summarized in Table 5.1, 62 per cent had shape ratios of 2 or 3. These ratios were also examined for regional bias, bias by magnitude of storm, or bias by total area size of the storm. In all cases, the preference was for a ratio of major to minor axis of 2 to 1 or 3 to 1. Since the majority of the storms considered had shape ratios of 2 or 3, an idealized elliptical isohyetal pattern with a ratio of major to minor axis of 2.5 to 1 was recommended for distribution of all 6-hour increments of precipitation over

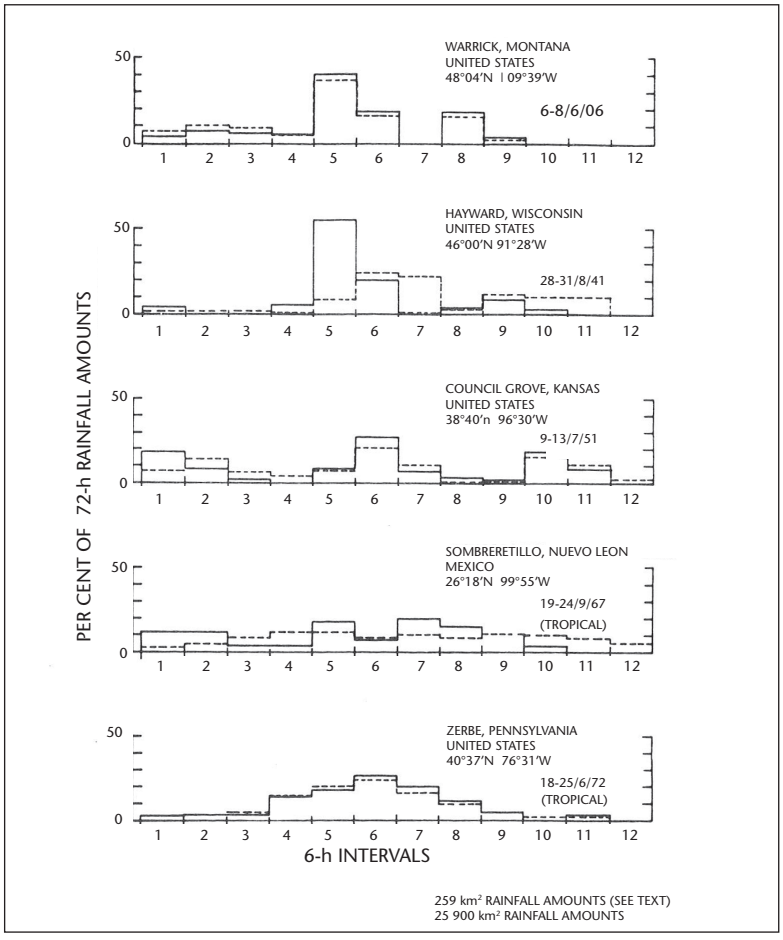

Figure 5.4 Examples of temporal sequences of 6-hour precipitation in major storms in eastern and central United States (Hansen and others, 1982)