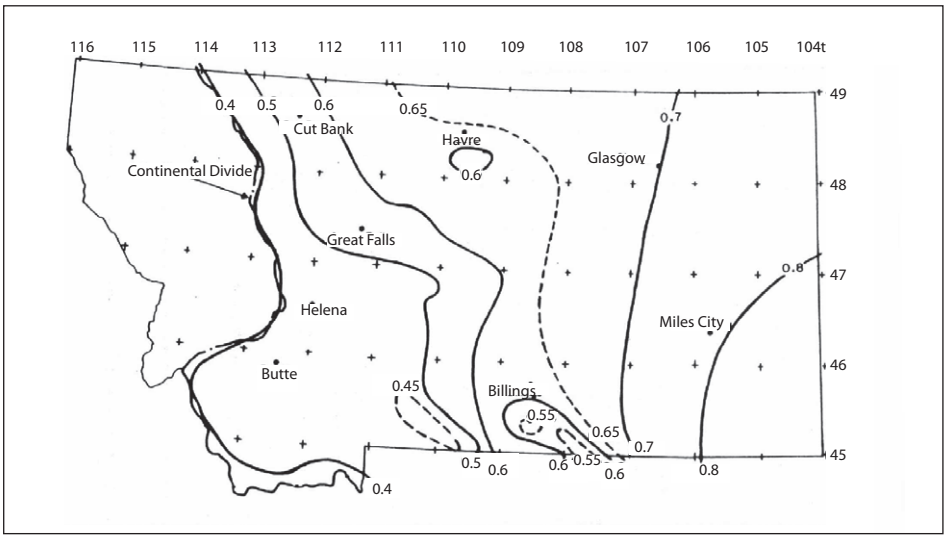

Figure 5.35. Storm intensity factor (*M*) for the state of Montana east of the Continental Divide (Miller and others, 1984*b*)

other durations were obtained by use of ratios related to basic 24-hour 25.9-km^2 PMP estimates.

5.3.4.5 Depth–area relations

The index maps prepared for this study were for 25.9 km^2 at 1-, 6-, 24-hour and 72-hour durations. It is generally necessary in developing PMP estimates for a region, to provide values for a range of area sizes. Depth–area relations were developed to enable estimates to be obtained for area sizes up to 51 800 km^2 in non-orographic regions and to 12 950 km^2 in orographic regions. The depth–area relations were based on depth–area characteristics of major storms in the region between the Continental Divide and the 103rd meridian. The variety of storms than can produce the PMP within the region and the complexity of the topography required subdividing this region into several subregions.first division was the major river basins within this total study region. There were five major combinations of river basins that were used, extending from the Missouri and Yellowstone rivers in the north to the Pecos and Canadian rivers and middle Rio Grande in the south (see Table 5.3). A second separation was between orographic and non-orographic regions. Each of these was separated into primary and secondary, or sheltered, regions. A

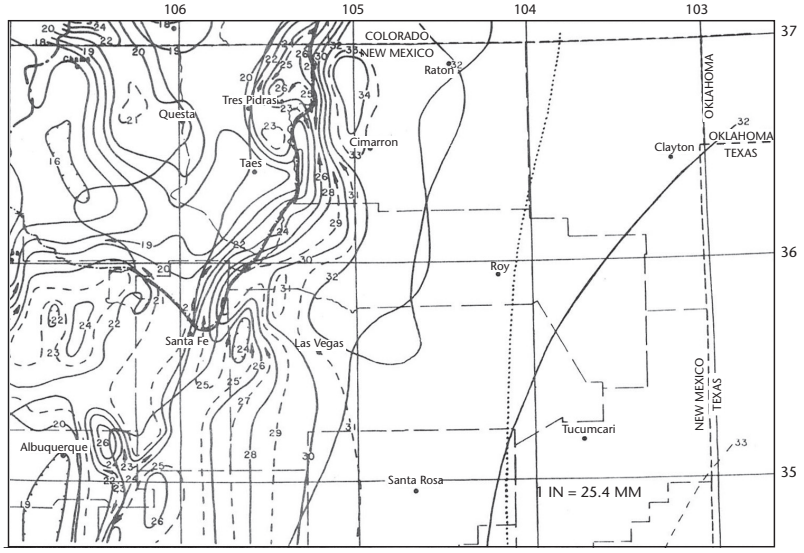

Figure 5.36. Twenty-four-hour 25.9-km^2 PMP estimates (inches) for the northern protion of the state of New Mexico east of the Continental Divide