

STATE OF ILLINOIS  
WILLIAM G. STRATTON, GOVERNOR  
**STATE WATER SURVEY DIVISION**  
WILLIAM C ACKERMANN, CHIEF  
**URBANA**

Subject: Technical Letter No. 4  
Rainfall Frequencies  
For 5 to 60 Minutes

Technical Letter No. 1 summarized results of a study to determine point rainfall frequencies in Illinois for storm periods of one hour to 10 days. As a result of subsequent requests from engineers and architects, this study has now been extended to provide frequency relations for storm periods of five minutes to one hour.

Results of the extended study are presented in the accompanying Table 1., Frequency relations are presented for each of four sections of the state having similar storm rainfall characteristics. Figure 1 shows the location of these sections which are the same as used in Technical Letter No. 1 and Water Survey Bulletin 46. As in Technical Letter No. 1, the table values represent maximum-period rather than clock-hour amounts.

We believe the frequency relations in Table 1 to be the best information presently available on point rainfall. They were developed from data appearing in Technical Letter No. 1, U. S. Weather Bureau Technical Paper 25, Water Survey Circular 28, and Water Survey Bulletin 46.

Use of Table 1 is illustrated by the following example: Assume that one wishes to obtain an estimate of the maximum 30-minute rainfall amount that will be equaled or exceeded in an average ten-year period, or five times in 50 years, for any location in the Northwest section. To obtain the desired rainfall value, enter Table 1 at a recurrence interval of ten years under the Northwest section and move horizontally to the column for 30-minute storm periods. This procedure yields a value of 1.50 inches. Other combinations of recurrence interval and storm period within any section can be obtained in the same manner.

Very truly yours,



William C. Ackermann

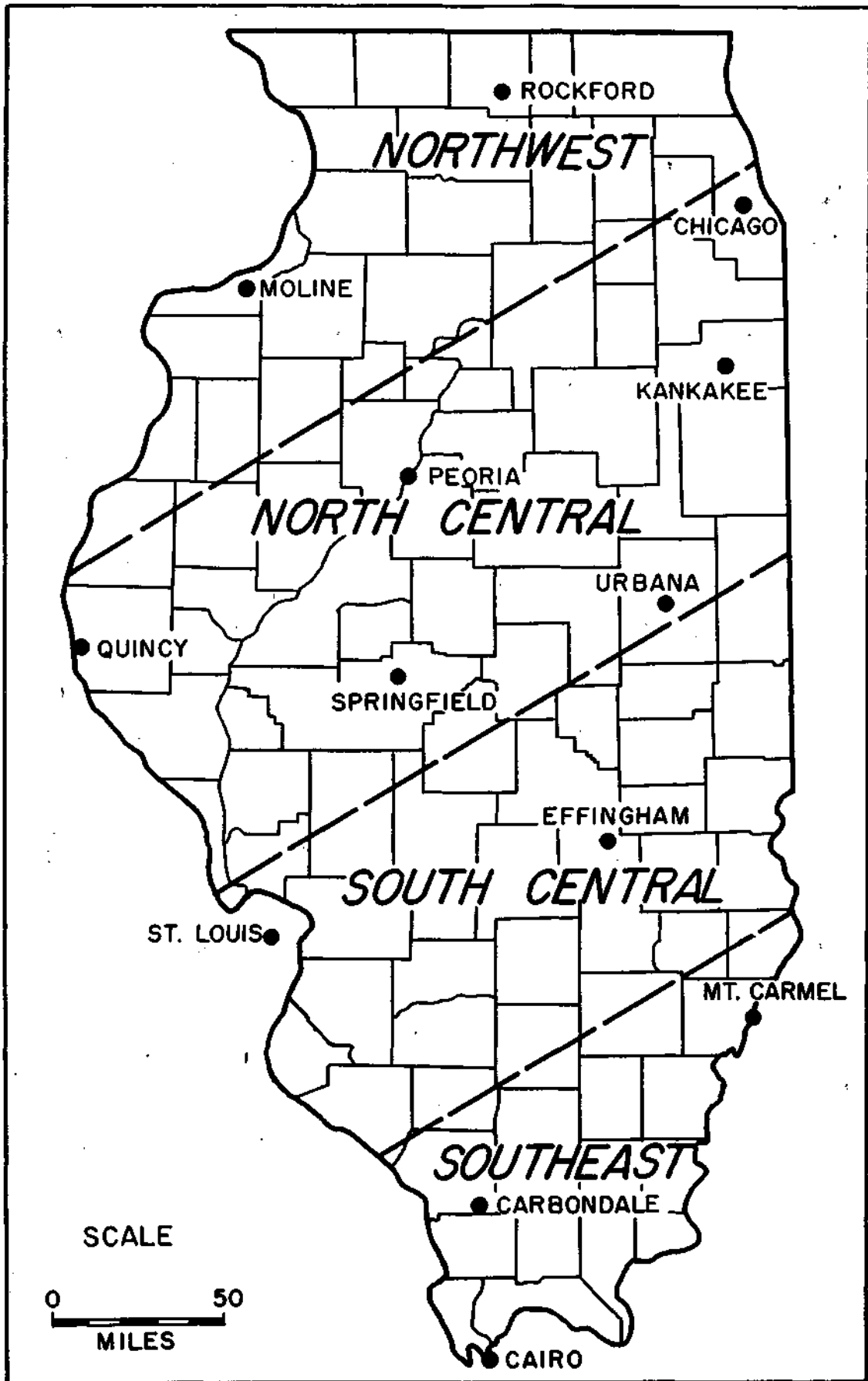


Fig. 1.- Sections of state according to rainfall frequencies

