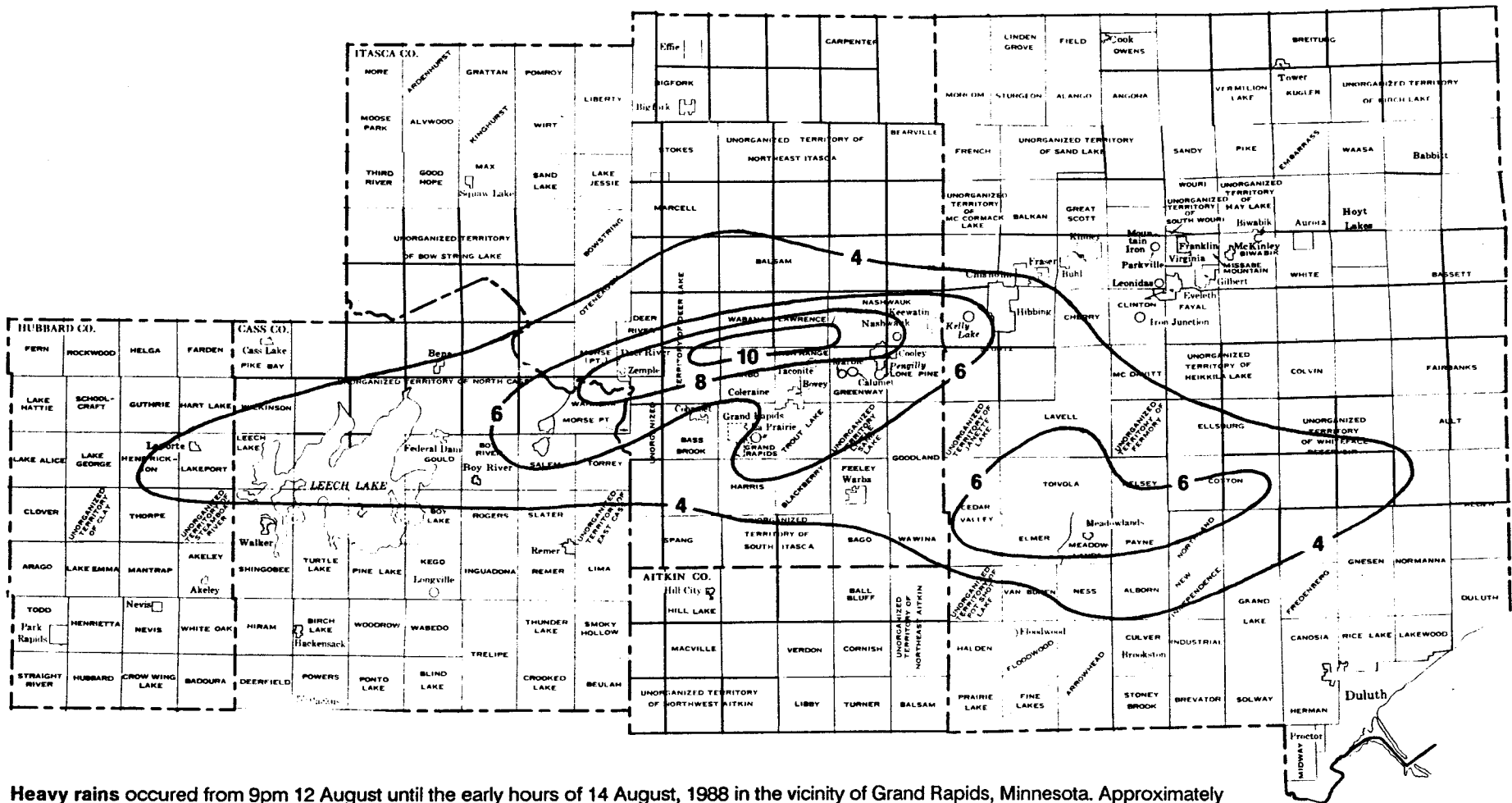


# FLASH FLOOD IN CASS-ITASCA-SAINT LOUIS COUNTIES, August 12-14, 1988.



Heavy rains occurred from 9pm 12 August until the early hours of 14 August, 1988 in the vicinity of Grand Rapids, Minnesota. Approximately 10 miles north of Grand Rapids, lying in a roughly east-west orientation, perhaps 15 miles long and about 2 miles wide, an area with greater than 10 inches of rain was detected. Approximate areas of coverage for various total falls were: 35 square miles with 10 inches or greater, 170 square miles with greater than 8 inches, 640 square miles with greater than 6 inches, and 2700 square miles with greater than 4 inches. A 24 hour 6 inch rain is generally regarded as a '100 year event' in much of Minnesota. This is the 8th time since 1970 that a 10 inch or greater storm total has been observed in Minnesota.

Timing of the events is not well known. However, apparently at least two 'waves' of heavy precipitation occurred over an interval of approximately 30 hours. The first major accumulation commenced at approximately 9pm on the evening of 12 August. This event dropped up to 8 inches of water within 12 hours. The second major contribution occurred primarily within the next 12 hours and tapered into the evening. Typically 2 to 3 inch amounts were added to already substantial totals from the preceding 12 hour period.

Data: DNR Forestry, National Weather Service, Soil & Water Conservation Districts, and Deep Portage Conservation Reserve. Prepared by State Climatology Office, DNR-Waters.