



Figure 54.--Annual rainfall in Kalamazoo from 1876 to 1973. (From precipitation records of Kalamazoo State Hospital.) ▲

Sept 2017 to August 2018 at 48.23" was the wettest year on record (47.58 " in 1877) UNTIL Oct 2017 to September 2018 beat it at 48.66"!! No wonder. One inch of water can saturate 3-5" of soil. If an average rainfall is about 36" and we have had 12.6" over that, that would saturate 25 to 63" (or 2-5.5') in a soil column. I guess that would explain a great deal. Lake levels are primarily a function of ground water level

Floods are natural and normal phenomena. They are catastrophic simply because man occupies the flood plain, the high-water channel of a river. Man occupies flood plains because it is convenient and profitable to do so, but he must purchase his occupancy at a price -- either sustain flood damage, or provide flood-control facilities. Although large sums of money have been and are being spent for flood control, flood damage continues to mount. However, neither complete flood control nor abandonment of the flood plain is practicable. Flood plains are a valuable resource and will continue to be occupied, but the nature and degree of occupancy should be compatible with the risk involved and with the degree of protection that is practicable to provide (7).

River Dynamics

Any drainage basin, such as the Kalamazoo River Basin, receives varying amounts of precipitation from year to year (Fig. 54). In Kalamazoo County, records at the Kalamazoo State Hospital show that precipitation has varied from 47.58 inches (120.9 cm) in 1877 to 21.21 inches (53.9 cm) in 1953, averaging 34.48 inches (87.6 cm) per year. A certain percentage of the precipitation returns to the atmosphere by evaporation and plant transpiration (evapotranspiration). The remainder either percolates into the ground (infiltration) or flows over the surface of the ground (surface runoff). (See Figure 55.) The relative amounts of evapotranspiration, infiltration and surface runoff depend largely upon climate, terrain, vegetation, and soil or rock characteristics. Approximately 70 to 85 percent of the precipitation in Kalamazoo County returns to the atmosphere by evapotranspiration; 3 to 8 percent becomes surface runoff. Water which infiltrates into the ground flows through the soil and rocks to low points on the earth's surface, principally rivers or lakes (ground-water accretion). The sustaining flow of a river derives largely from water flowing underground and lake levels are generally controlled by the elevation of the water table. Ground-water accretion to surface water



Red Arrow Park, April 28, 1975. ▲
(Courtesy of Kalamazoo Gazette)

