

SEMCOG RAIN GAUGE NETWORK

2001

ANNUAL REPORT

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2001 SUMMARY OF ANNUAL PRECIPITATION FOR THE SEMCOG RECORDING RAIN GAUGE NETWORK

Annual precipitation totals over the SEMCOG network during 2001 ranged from a high of 44.06 inches at M-03 in southeastern Macomb County to a low of 26.84 inches at W-43, in east-central Wayne County (see map: **2001 ANNUAL**; and tables: **2001 SEMCOG Summary Precipitation**; and **Ranked Monthly and Annual Precipitation Amounts**). Only five additional gauges recorded more than 40 inches, namely: 42.19" @ O-24; 40.27" @ O-26; & 40.26" @ O-13, all in south-central Oakland County; 41.52" @ L-10; & 40.88" @ L-09, in west-central and east-central Livingston County, respectively. The regions of lowest amounts (i.e. less than 34 inches) included: SE Macomb; central Macomb and adjacent regions of Oakland; most of Wayne; and one location in south-central Livingston.

The departures of the 2001 Annual Precipitation amounts from long-term median amounts for stations in the network with more than 15 years of record through 2000 (see map **2001 ANNUAL DEPARTURE FROM MEDIAN**), ranged from values above the median of 9.40 inches at M-03 in southeastern Macomb and 8.79 inches at O-13 in south-central Oakland to a below-median value of 5.65 inches at W-42 in northeastern Wayne. Ten additional stations in Wayne, as well as two in Oakland, were below the median. The latter, however, were just below the median, with values of -0.03" & -0.01". Most of the below-median Wayne stations extend from the down-river area northeastward into the SW corner of Macomb. Almost all of Washtenaw, most of Oakland, and approximately the NW half of Livingston were more than 4 inches above the median, with a few stations recording more than 6 inches above the median. Only three additional disparate areas of Macomb had departures from the median greater than the 4-inch amount.

The map of **ANNUAL 2001 CALCULATED PROBABILITIES** shows the percentile ranking of each station's annual total compared to historical data through 2000, based on a gamma probability distribution function. These map values represent the decimal fraction of years that total annual precipitation at that station would have been less than or equal to the 2001 amount. For example, the 0.8 isoline encloses all stations in the area where the annual amount would be less than or equal to that received in 2001 during 8 years in 10. The complement of that value, .2, means that in only 2 years in 10 should a station be expected to record more rain than was recorded in 2001. Care must be used in interpreting the values, however, because of the relatively short periods-of-record (as short as 16 years) for some stations. Extreme positive departures resulted in probability values over 0.9 for northwest Livingston, west-central Washtenaw, and south-central Oakland, while none of the amounts in Wayne reached the 0.9 level. The highest probability values were .93 in east-central Washtenaw and SW Oakland. Two adjacent gages in south-central Oakland and one in north-central Macomb were between 0.91 and 0.92. An area of less-than-50-percentile values extends from central & SE Wayne north eastward to extreme SE Macomb. The lowest value was 0.13 at W-42 in northeastern Wayne County. Only two other stations, W-43 (.20) & W-08 (0.29) were lower than the 0.3 probability level. Most of the network was at the 0.6 level or higher.

Compared to 2000, the network was much drier in 2001 (see map **2001 ANNUAL CHANGE FROM 2000 ANNUAL**). Only W-44 (+2.57") in SE Wayne County was more than 2 inches wetter than 2000; three stations in SE Oakland were between 0.17" and 1.42" inches wetter in 2001; and one station in west-central Livingston was only +0.16" wetter. Three areas were more than 8" drier: SE Macomb (M-16 @ -8.90"), east-central Wayne (W-19 @ -8.57"), and east-central Oakland (O-03 @ -8.55"). Several areas were more than 6 inches drier than in 2000, while most of the network was more than 3 inches drier.

In summary, 2001 was a relatively wet year for the residents of the five county area, but IT WAS not as wet as the year 2000.