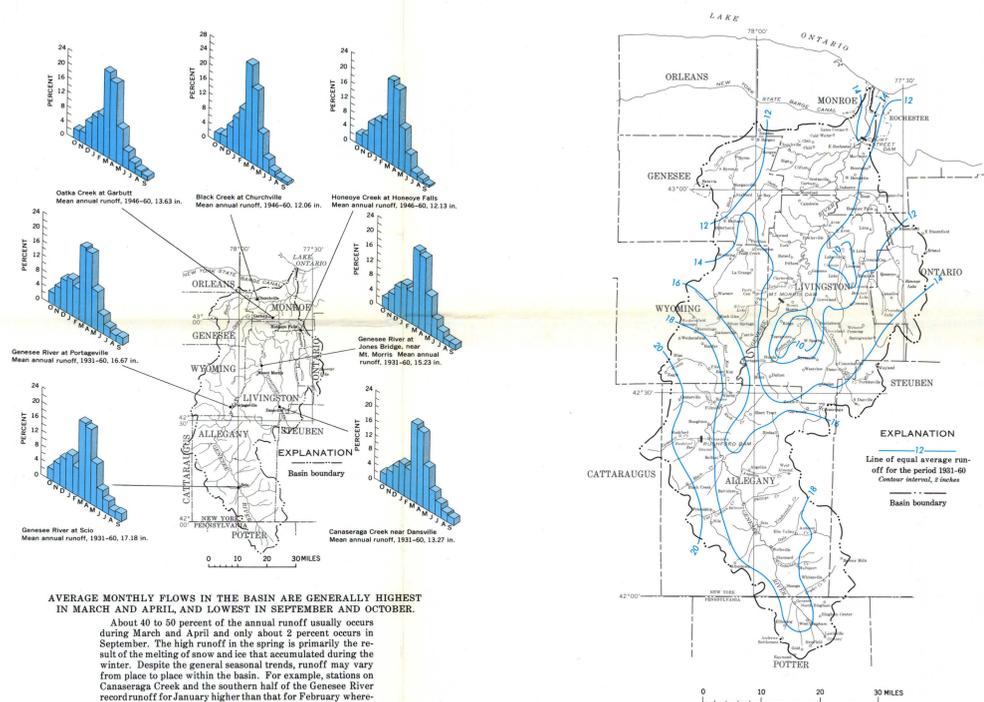


AVERAGE STREAMFLOWS

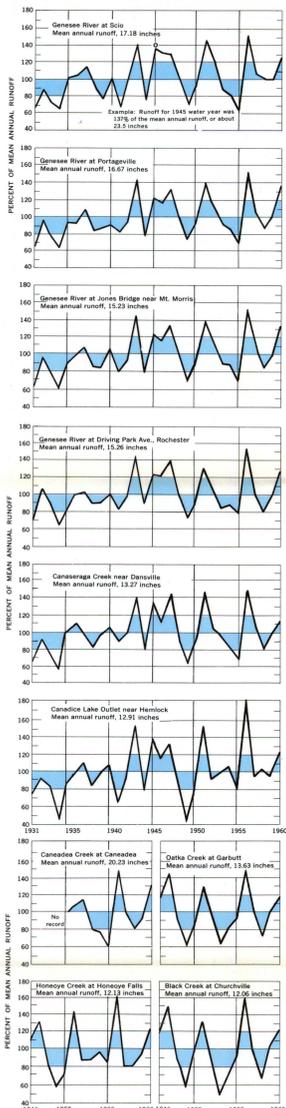


AVERAGE MONTHLY FLOWS IN THE BASIN ARE GENERALLY HIGHEST IN MARCH AND APRIL, AND LOWEST IN SEPTEMBER AND OCTOBER.

About 40 to 50 percent of the annual runoff usually occurs during March and April and only about 2 percent occurs in September. The high runoff in the spring is primarily the result of the melting of snow and ice that accumulated during the winter. Despite the general seasonal trends, runoff may vary from place to place within the basin. For example, stations on Canaseraga Creek and the southern half of the Genesee River record runoff for January higher than that for February whereas the other stations in the basin record just the opposite. This and other minor variations in monthly runoff are probably caused by changes in the distribution of precipitation, which for January and February decreases in proportion to the distance from Lake Ontario.

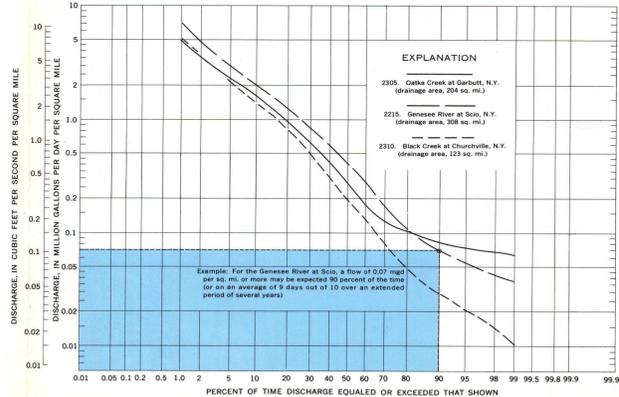
AVERAGE ANNUAL RUNOFF IS HIGHEST, MORE THAN 20 INCHES, ALONG THE SOUTHWESTERN BORDER OF THE BASIN AND DECREASES TO A MINIMUM OF ABOUT 10 INCHES IN THE EASTERN-CENTRAL REGION.

Even though streamflow records are an integration of upstream conditions, runoff is consistently about 18 to 20 inches less than average annual precipitation throughout the area. In other words, evapotranspiration is about 19 inches annually.



FOR THE MOST PART, ANNUAL RUNOFF FOLLOWS A CONSISTENT PATTERN WITH HIGHS AND LOWS OCCURRING IN THE SAME YEARS THROUGHOUT THE BASIN.

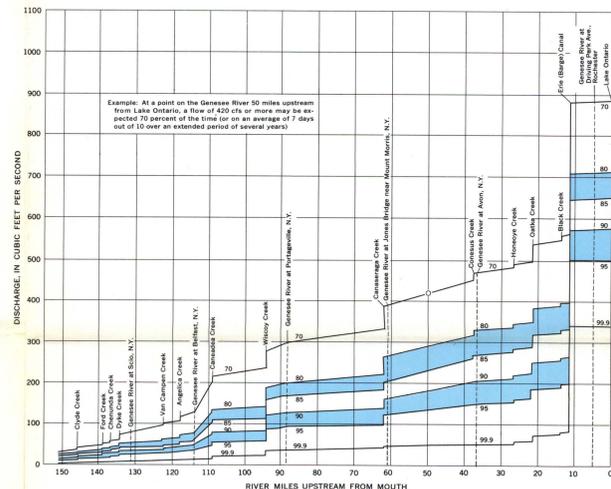
Comparison of these graphs with precipitation records shows that years with high average runoff are not necessarily the years with high total precipitation. The precipitation-runoff relationship is controlled by the season of the year when most of the precipitation occurs. That is, if greater than average precipitation falls during the nongrowing season, it is likely that runoff for the year will also be greater than average. During the growing season, however, even a heavy rainfall can be largely consumed by soil-moisture and evapotranspiration demands.



DURATION CURVES ARE COMPOSITE PICTURES OF DAILY STREAMFLOWS THAT HAVE OCCURRED DURING A SPECIFIED PERIOD OF TIME.

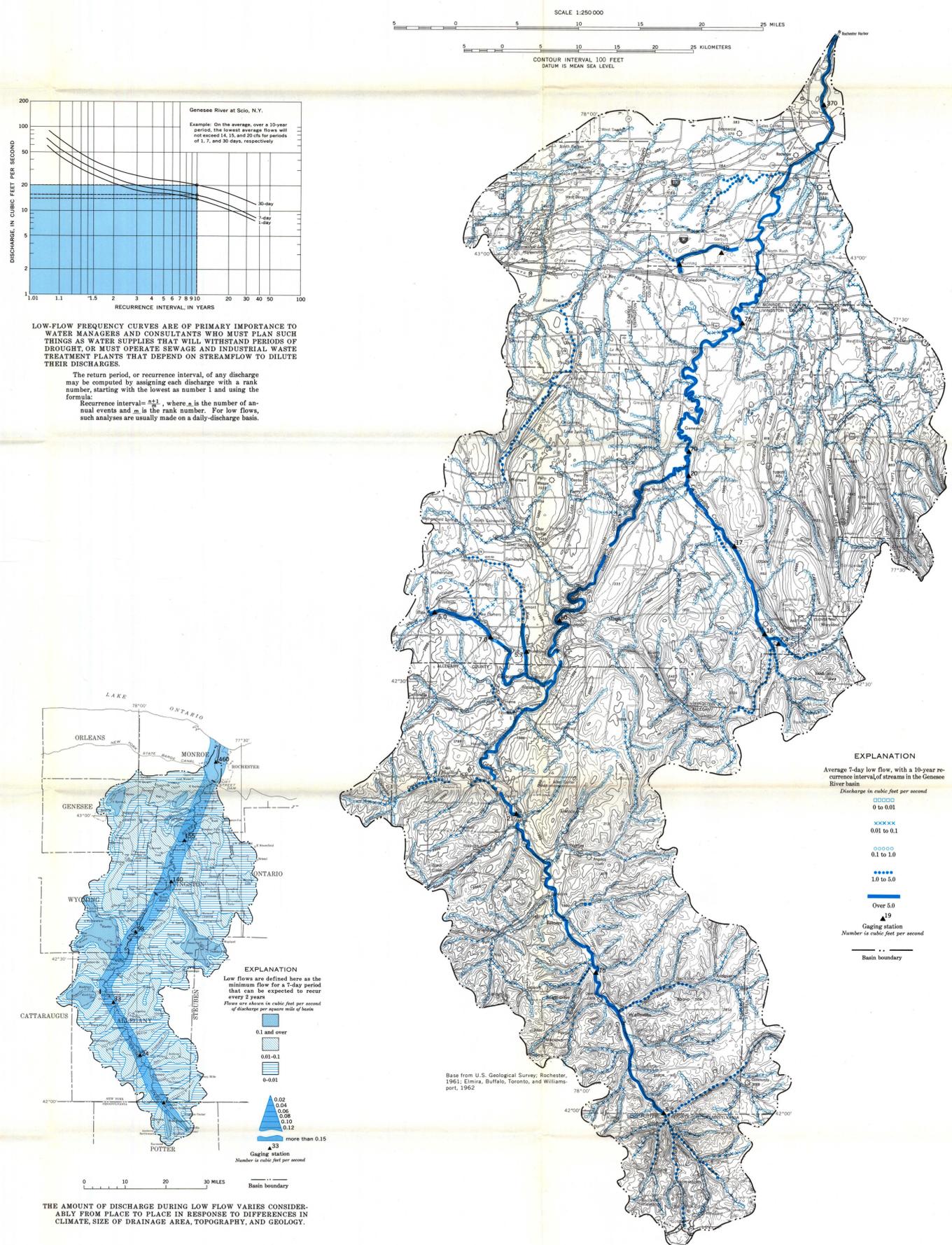
These curves show the percentage of time within that period for which any particular daily discharge was equaled or exceeded. Mean annual discharges at unregulated long-term stations in the basin generally fall in a range of 26 to 29 percent on the duration curve, with an average of about 26 percent. The shape and slope of a duration curve indicate hydrologic

conditions in the drainage basin. A steep slope indicates a "flashy" stream mostly supplied by overland runoff. A flat slope shows the effect of ground- or surface-water storage and, therefore, a less variable flow. A change in slope of a curve may be caused by a change in stream regimen, either by some process of nature, such as the draining of an aquifer, or by the activities of man.



THE PROFILES OF DURATIONS OF FLOW FOR THE GENESSEE RIVER PROVIDE A BASIS FOR ESTIMATING FLOWS AT SEVERAL DURATION POINTS. The diversion from the New York State Barge Canal System to the river may be noted at Rochester.

LOW STREAMFLOWS



THE AMOUNT OF DISCHARGE DURING LOW FLOW VARIES CONSIDERABLY FROM PLACE TO PLACE IN RESPONSE TO DIFFERENCES IN CLIMATE, SIZE OF DRAINAGE AREA, TOPOGRAPHY, AND GEOLOGY.

MANY STREAMS IN THE BASIN HAVE AN AVERAGE 7-DAY LOW-FLOW, WITH A 10-YEAR RECURRENT INTERVAL, IN THE RANGE OF 1 TO 5 CFS.

In addition to the Genesee River and Canaseraga Creek, streams with sustained low flows over 5 cfs are Wisnoy, East Koy, Mill, Spring, and Oatka Creeks.