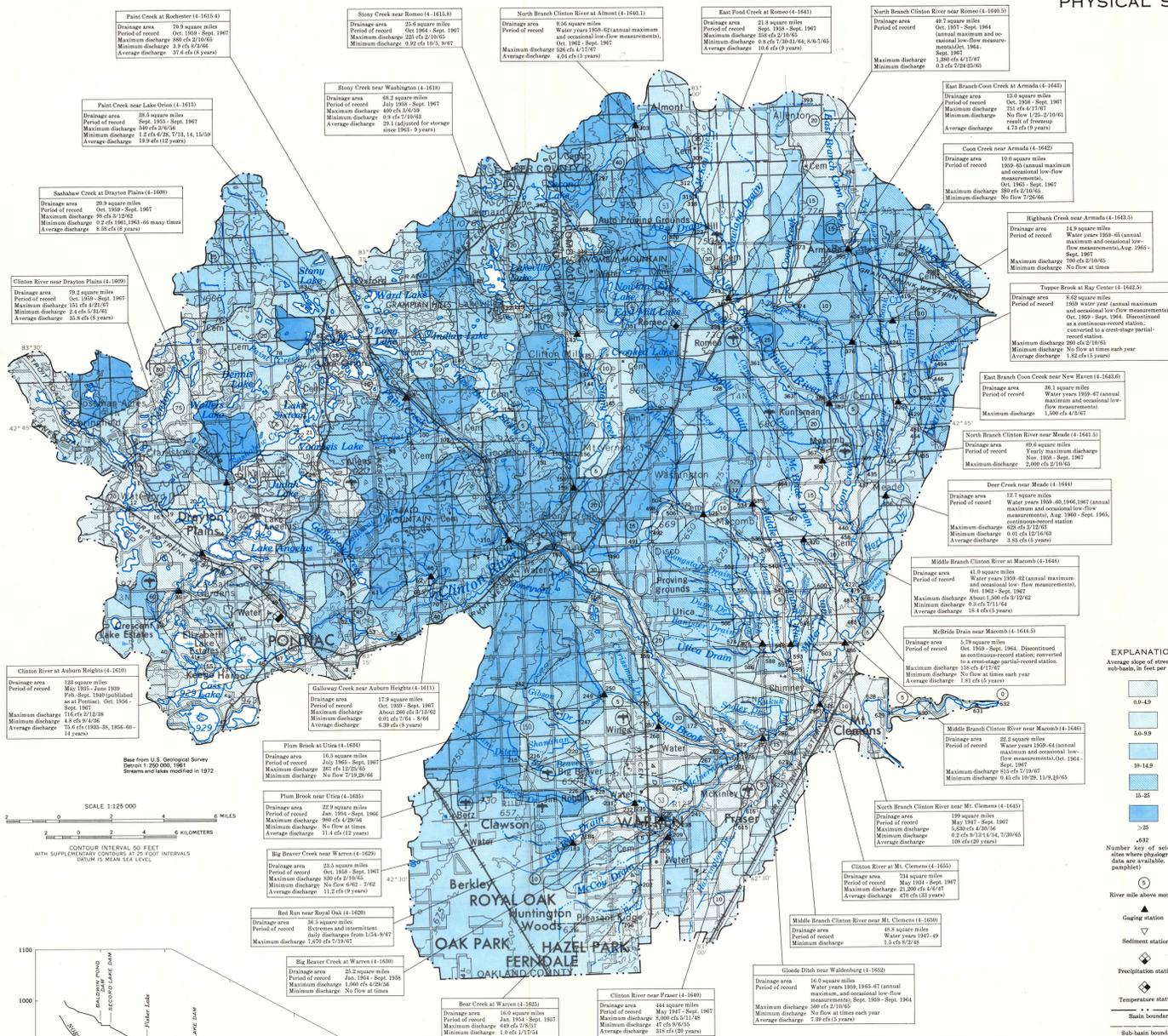
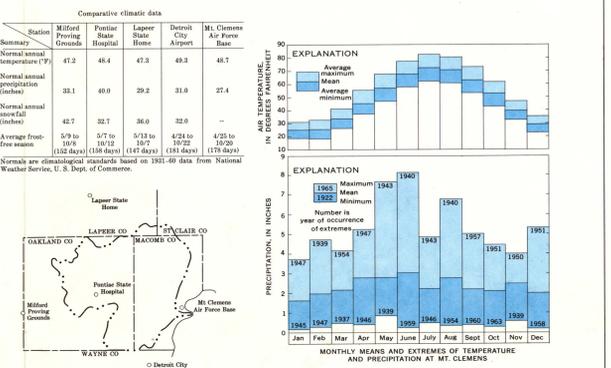


PHYSICAL SETTING AND SURFACE WATER



PURPOSE AND SCOPE
This hydrologic atlas is part of a comprehensive study of the water resources of southeastern Michigan. The data presented provide information on (1) the physical features of the Clinton River and its tributaries, (2) the characteristics of streamflow, (3) the quality of ground and surface water, and (4) the availability of ground water. This atlas is one in a series on the river basins of southeastern Michigan.

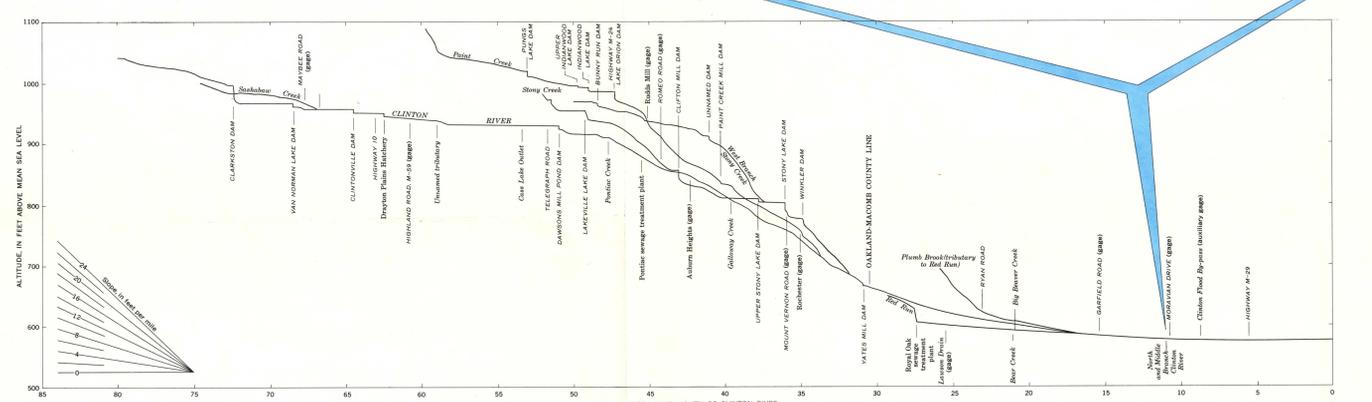
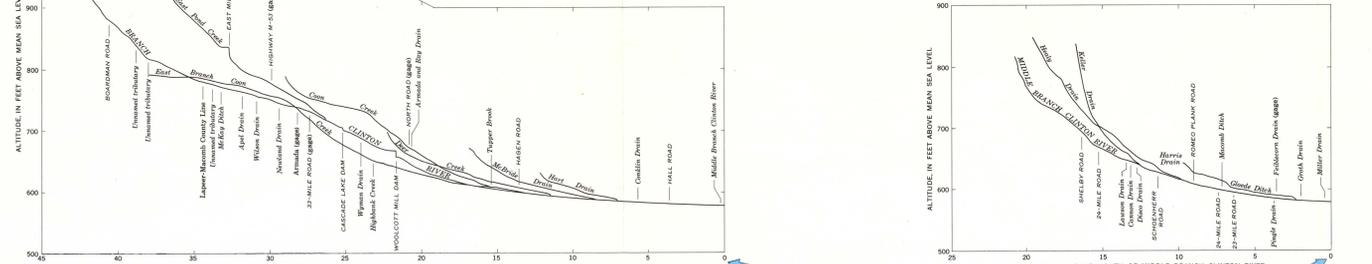
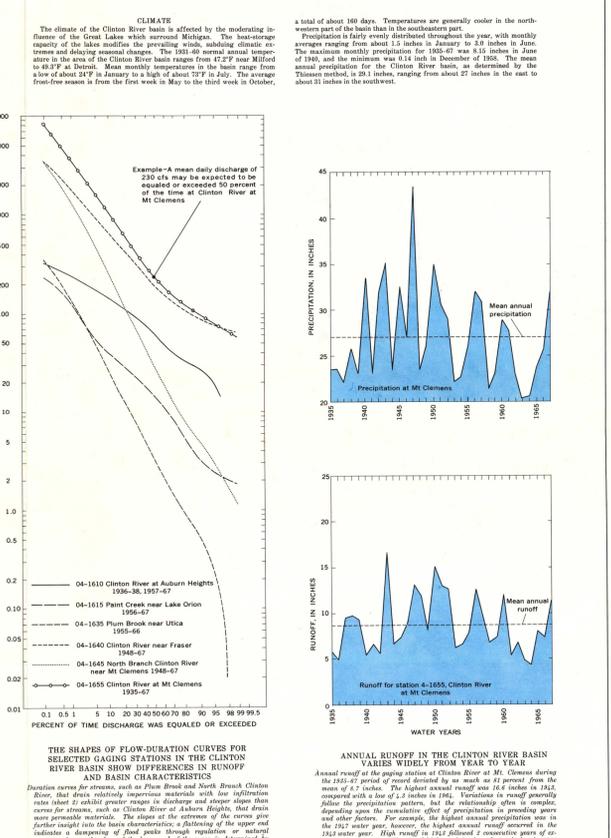
PHYSICAL DESCRIPTION
The Clinton River basin, a hilly-shouldered area of 700 square miles, is divided into two geographically different areas by a series of relief basins running diagonally northwesterly through the center of the basin. The basins are generally in the northwestern part of the basin and are separated by low, rolling hills. The relief basins are formed by a local denudation of the surface, which has resulted in a relatively level glacial lake plain. Altitudes range from 700 to 800 feet above sea level. The relief basins are separated by a series of low, rolling hills. The relief basins are formed by a local denudation of the surface, which has resulted in a relatively level glacial lake plain. Altitudes range from 700 to 800 feet above sea level. The relief basins are separated by a series of low, rolling hills. The relief basins are formed by a local denudation of the surface, which has resulted in a relatively level glacial lake plain. Altitudes range from 700 to 800 feet above sea level.



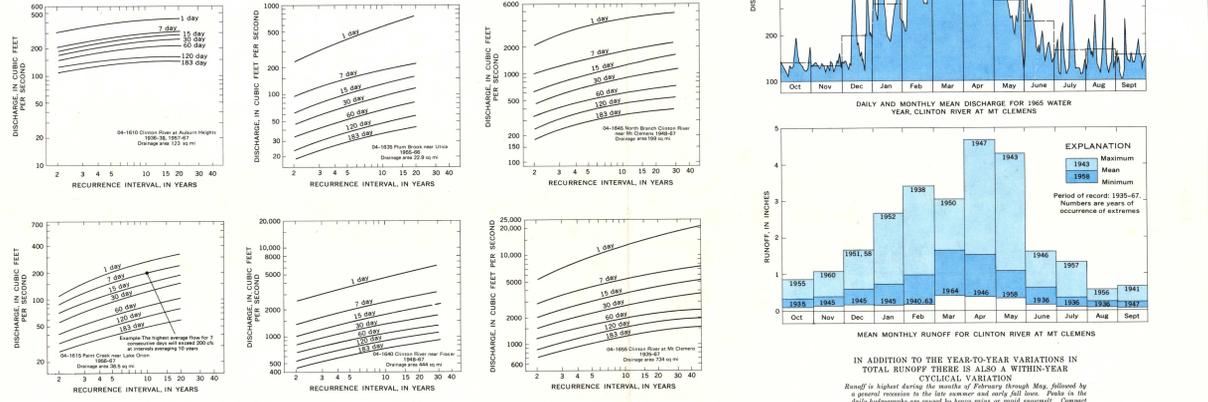
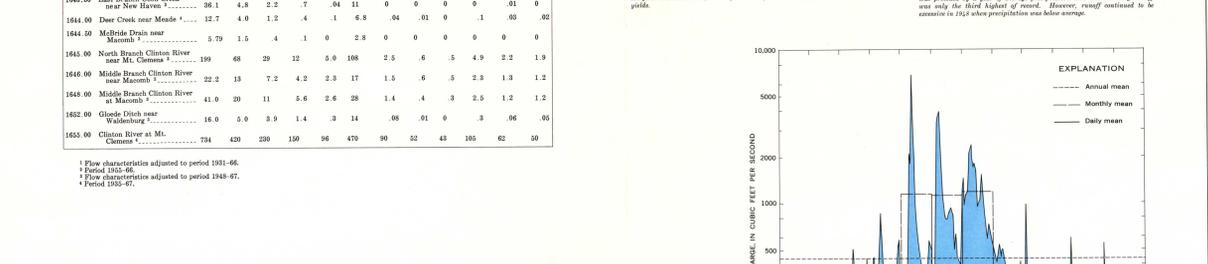
STREAMS IN THE CLINTON RIVER BASIN HAVE VARYING FLOW CHARACTERISTICS
Flow duration and low-flow frequency data are tabulated below for 11 gauging stations in the Clinton River basin. The data are presented for the entire period of record for each station. The data are presented for the entire period of record for each station. The data are presented for the entire period of record for each station. The data are presented for the entire period of record for each station.

SUMMARY OF LOW-FLOW CHARACTERISTICS

Station (04-)	Station name	Drainage area (sq. mi.)	Discharge (cfs) which was equaled or exceeded for indicated percent of time					Average discharge (cfs)	Lowest average discharge (cfs) for indicated recurrence interval					
			30	50	70	90	99		7-day	10-day	30-day	60-day	90-day	
1007.00	Clinton River at Charleston	11.5	7.0	4.1	2.5	1.3	7.2	1.1	0.5	—	—	—	—	—
1007.00	Deer Lake outlet near	14.7	8.0	6.0	4.7	3.4	6.1	3.1	2.0	—	—	—	—	
1007.00	Judah Lake outlet near	4.2	1.5	—	—	—	1.5	0	—	—	—	—	—	
1009.00	Sashabaw Creek near	39.9	11	5.0	2.6	1.7	11	5	1	0.6	0.7	—	—	
1009.00	Clinton River at Drayton	74.4	49	27	15	7.5	51	6.3	2.5	—	—	—	—	
1009.00	Clinton River near Drayton	79.2	50	28	16	8.5	52	7.0	3.0	2.3	0.9	3.9	8.2	
1010.00	Clinton River at Ashburn	123	85	57	38	22	80	20	10	7.8	25	13	10	
1011.00	Clinton River at Auburn	17.9	6.8	1.5	—	—	8.2	1	0.3	0.2	—	0.6	0.4	
1012.00	Plum Brook near	15.3	12	6.7	3.6	1.8	13	1.4	—	—	—	1.3	0.7	
1013.00	Pointe Creek near	38.5	22	12	6.9	3.5	24	2.8	1.2	—	—	1.6	1.3	
1013.00	Troy Creek near	7.8	4.6	2.7	1.7	—	4.7	7	—	—	—	—	—	
1013.22	Troy Creek tributary near	2.55	2.3	1.7	1.2	—	2.4	6	—	—	—	—	—	
1013.38	Sargent Creek at	4.69	2.3	—	—	—	2.5	1	0	0	—	—	—	
1013.40	Pointe Creek at Rochester	70.9	43	27	15	11	45	9.7	5.9	5.1	1.2	7.0	6.1	
1015.00	Stony Creek near	23.6	11	5.8	3.0	1.6	12	1.3	0.5	—	—	1.6	0.7	
1015.98	West Branch Stony Creek near	11.9	3.5	2.0	1.2	—	6.5	4	—	—	—	—	—	
1016.00	West Branch Stony Creek near	14.9	2.0	2.8	1.6	—	5.2	4	—	—	—	—	—	
1017.00	West Branch Stony Creek near	22.6	7.3	3.4	1.6	—	7.9	5	2	—	—	—	—	
1017.70	Troy Lake outlet near	3.62	1.5	1.0	—	—	4	1.6	—	—	—	—	—	
1018.00	Stony Creek near	68.2	32	20	13	8.2	35	7.0	4.0	3.4	8.3	5.0	4.2	
1018.30	Clinton River at Yates	299	200	130	74	43	210	40	20	—	—	48	24	
1029.00	Big Beaver Creek near	23.5	12	4.6	1.6	—	14	3	1	0	—	—	—	
1034.00	Plum Brook at Utica	16.5	9.5	3.2	1.0	—	12	2	0.3	—	—	—	—	
1035.00	Plum Brook near	22.9	8.0	3.3	1.5	—	11	—	—	—	—	—	—	
1040.00	Clinton River near	444	320	190	130	90	318	80	65	60	92	70	66	
1040.10	North Branch Clinton River near	85	35	2.0	1.2	—	5.0	6	3	2	—	—	—	
1040.50	North Branch Clinton River near	49.7	18	9.0	4.5	2.1	12	4	3	2.1	1.1	—	—	
1041.00	East Pond Creek at	21.8	10	6.2	3.9	2.3	12.5	7	4	3	2.2	1.4	—	
1041.50	North Branch Clinton River near	89.4	—	—	—	—	—	—	—	—	—	—	—	
1042.00	Clinton River near	10.0	3.1	1.0	—	—	1.0	0.6	0.1	—	—	—	—	
1042.50	Tupper Brook at	4.62	1.6	—	—	—	0.7	0	0	0	—	—	—	
1043.00	East Branch Stony Creek near	11.0	2.2	—	—	—	3.4	0.1	0	0	—	—	—	
1043.50	Highbank Creek near	14.9	2.7	—	—	—	0.6	0.0	0.3	0.1	—	—	—	
1044.00	East Branch Stony Creek near	38.1	4.8	2.2	—	—	7.4	11	0	0	—	—	—	
1044.00	Deer Creek near	12.7	4.0	1.2	—	—	1.6	0.4	0.1	—	—	—	—	
1044.00	McBride Drain near	5.79	1.5	—	—	—	1.0	2.8	0	0	—	—	—	
1045.00	North Branch Clinton River near	199	68	29	12	5.0	108	2.5	6	5	4.9	2.2	1.9	
1046.00	Middle Branch Clinton River near	22	13	7.2	4.2	2.3	17	1.5	6	5	2.9	1.3	1.2	
1045.00	Middle Branch Clinton River near	41.0	20	11	5.6	2.8	14	4	3	2.5	1.3	1.2	—	
1045.00	Globe Dish near	16.0	5.0	3.9	1.4	—	11	0.8	0.1	—	—	—	—	
1055.00	Clinton River at	734	420	250	150	96	470	90	22	43	105	62	50	



STREAM GRADIENTS IN THE CLINTON RIVER BASIN ARE RELATIVELY STEEP IN THE UPPER REACHES AND FLAT NEAR THE MOUTH
The average slope of the Clinton River is 3.8 feet per mile. Slopes on the main stem above the average-slope reach of the Clinton River are 1.2 feet per mile. Slopes on the main stem below the average-slope reach of the Clinton River are 1.2 feet per mile. Slopes on the main stem below the average-slope reach of the Clinton River are 1.2 feet per mile. Slopes on the main stem below the average-slope reach of the Clinton River are 1.2 feet per mile.



THE RECURRENCE OF HIGH SUSTAINED FLOWS MAY BE DETERMINED FROM FREQUENCY CURVES
Periods of high-flow frequency curves for gauging stations in the Clinton River basin are shown. The curves show the relationship between discharge and recurrence interval, allowing for the determination of the recurrence of high sustained flows.