

TABLE of the Variations in the Level of Lake Erie, at Port Colborne, during the years 1850, 1851, and 1852:

MONTH.	Mean Depth.	Least Depth.	Greatest Depth.	Monthly Fluctuation.	Greatest Fluctuation in 24 hours.
	feet.	feet.	feet.	feet.	feet.
1850—April.....	12.25	11.5	12.83	1.33	0.91
May.....	12.32	11.83	12.83	1.00	0.56
June.....	12.05	11.75	12.50	0.75	0.50
July.....	12.16	11.75	12.83	1.08	0.75
August.....	11.98	11.25	12.75	1.50	0.91
September.....	11.82	10.66	12.41	1.75	1.33
October.....	11.74	11.08	13.16	2.08	1.87
November.....	11.45	10.75	12.33	1.58	0.75
December.....	11.70	9.83	14.83	5.00	4.33
1851—January.....	12.12	11.08	15.16	4.08	4.00
February.....	11.85	9.79	12.16	2.37	1.41
March.....	12.28	11.33	13.16	1.83	0.83
April.....	12.3	10.8	13.4	2.6	2.25
May.....	12.9	12.1	16.4	4.3	3.9
June.....	13.18	12.58	13.84	1.26	.75
July.....	13.23	12.5	14.25	1.75	1.35
August.....	13.	12.08	13.5	1.42	1.17
September.....	12.57	11.17	14.25	3.08	1.75
October.....	12.73	12.08	14.03	2.00	1.6
November.....	12.6	11.17	14.25	3.08	1.75
December.....	12.74	11.83	14.6	2.77	1.66
1852—January.....	12.2	9.75	13.92	4.37	1.5
February.....	11.3	10.9	12.5	1.6	1.08
March.....	12.1	11.17	13.66	2.49	1.66
April.....	12.8	9.83	14.16	4.33	3.16
May.....	13.6	13.00	16.33	3.33	2.5
June.....	13.8	12.9	15.00	2.3	1.08
July.....	13.5	12.16	14.9	2.73	2.75
August.....	13.35	13.3	13.5	.5	.5

The lowest monthly mean depth of the waters of Lake Erie, on the sill of the lock at Port Colborne, during the interval between April, 1850, and August, 1852, a period of 32 months, appears to have been 11.45 feet, which occurred in November, 1850. The highest observed mean was in July, 1852, when the depth appears to have been 13.55 feet, giving a difference of 2.1 feet.

The least depth recorded occurred in January, 1852—9.75 feet; the greatest depth in May 1851, and in May 1852, when the height of the water was indicated by 16.33 feet, affording a difference of 6½ feet, which was due, without question, to the prevalence of westerly winds. To the same influence we may ascribe the remarkable monthly fluctuations, and to a great extent, the fluctuations during twenty-four hours. The greatest monthly fluctuation recorded is 5 feet; the greatest daily fluctuation is 4½ feet. It is a matter of some uncertainty whether the daily fluctuations are due to the influences of winds alone; it appears probable that local variations in atmospheric pressure may have something to do with this phenomenon. The situation of Port Colborne, at one extremity of Lake Erie, is most favourable for the influence of westerly winds, whose effects upon the coast of Buffalo and other neighbouring localities are well known. The westerly winds are among the most frequent and powerful which affect Lake Erie, and they occasionally pro-

duce very disastrous results at the eastern extremity of the Lake.

The levels of Lake Ontario, at Port Dalhousie, are given below, for the years 1851 and 1852; they do not indicate the extraordinary fluctuations which distinguish the water-levels of Lake Erie. The sheltered situation of Port Dalhousie sufficiently explains this difference.

TABLE of the Variations in the Level of Lake Ontario, at Port Dalhousie, during the years 1851 and 1852:

MONTH.	Mean Depth.	Least Depth.	Greatest Depth.	Greatest Monthly Fluctuation.	Greatest Fluctuation in 24 hours.
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
1851.					
January.....	11 8	11 8	11 9	0 1	0 1
February.....	11 10	11 9	12 0	0 3	0 1
March.....	12 5	12 1	12 7	0 6	0 2
April.....	12 10	12 7	13 2	0 7	0 2
May.....	13 3	13 2	13 3	0 1	0 1
June.....	13 4	13 3	13 5	0 2	0 0
July.....	13 2	13 1	13 4	0 3	0 1
August.....					
September.....	12 10	12 8	13 0	0 4	0 1
October.....	12 5	12 3	12 7	0 4	0 1
November.....	12 3	12 3	12 4	0 1	0 1
December.....	12 2	12 2	12 3	0 1	0 1
Mean yearly difference.	1 8				
1852.					
January.....	12 2	12 2	12 2		
February.....	12 2½	12 1	12 4	0 3	0 1
March.....	12 7	12 4	12 9	0 5	0 1
April.....	13 1	12 10	13 6	0 8	0 2
May.....	14 3½	13 6	14 4	0 10	0 2
June.....	14 6½	14 4	14 7	0 3	0 1
July.....	14 5	14 4	14 6	0 2	0 1
Mean yearly difference.	2 3½				

The Lock-Master (Mr. Geo. Thompson) at the Burlington Bay Canal, in his Report to the Secretary of the Board of Works on the subject of the rise and fall of the Lakes, remarks:—

“As far back as 1836 we had exactly the same high water as we have had this season. I do not remember, in the interval of 16 years, of ever the water being so high; the mean of the rise of each year in that interval may, I think, be stated pretty correctly at from 22 to 28 inches; this season it has risen to 3 feet. 6½ inches above the low water mark that I took in 1848. It had not been as low for several years, and has not been as low since, but it must be remembered that it did not fall to that mark last winter by 6 inches; deducting that from 3 ft. 6½ inches, we have a dead rise of 36½ inches for this season. In March of this year the water was very near up to its old standard, which was rather singular; it rose rapidly until about the middle of May; curiosity induced me to measure it, when I found it 3 feet above the low water mark of 1848. I kept measuring it at intervals as follows:—

May 26th, 3 feet 2 inches above the low water mark of '48.  
 June 8th, 3 “ 3½ “ “ “ “  
 “ 15th, 3 “ 4 “ “ “ “  
 “ 21st, 3 “ 6 “ “ “ “  
 “ 25th, 3 “ 6½ “ “ “ “

It stood at this until the beginning of August. On the 4th it had fallen 2 inches; on the 15th 6 inches. September 1st, it