the greatest height, and 1866-69 the least. Finally, and dividing the whole series into two equal parts, we find that in 1862-69 the average annual height was 8·2 inches lower than in the preceding eight years.

Annual Distribution or alternate Rise and Fall in different parts of the Year.

Taking the differences between the general annual mean (20·3 inches) from sixteen years and the corresponding monthly means, we obtain the mean annual inequalities, marked (+) or (—) according as the water is higher or lower than the annual mean. It may be seen that the water is lowest in February (depression 8·5), and that it then rises without interruption till it reaches its highest point in June (elevation 10·3,) after which it falls uninterruptedly till February.

From February to March the rise is slow; it increases rapidly from March to April, and still more so from April to May. The more rapid outflow as the water rises and the obstructions in the St. Lawrence disappear, and the diminished supply as the melted snow becomes exhausted, check the rate of increase, and a rise of only 3·6 inches occurs from May to June. Advancing temperature, acting by evaporation on the surface of the lake and on the country whose waters feed it, now manifests itself, and the level slowly begins to fall. From this time forward the expenditure by evaporation and through the St. Lawrence, continues in excess of the supply; and although the greater rain-fall in some months will cause irregularities in the *rate* at which the lake falls, it is never sufficient to convert the fall into a rise. (*)

The connection between meteorological conditions and the rise or fall of the lake from one month to another in single years affords an interesting subject for examination, but it will not be entered on here.

HEIGHT OF WATER ON LAKE ONTARIO.

Monthly and Annual Mean Heights, derived from four measurements in every month, and reckoned from an arbitrary mark, for each year from 1854 to 1869 inclusive, with analogous means embracing four, eight, and sixteen years.

Year.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1854.....	20.0	21.0	22.0	24.2	33.2	35.7	34.2	27.2	22.4	17.4	10.7	9.0	23.1
1855.....	8.0	6.7	4.8	6.2	16.5	20 3	26.7	28·5	26.0	24·7	22.2	22.9	17.8
1856.....	19.7	18.0	17.0	20.5	28.8	32.2	30.1	25.6	21.3	16·5	10.5	7.4	20.6
1857.....	3.8	5.0	11.7	17.5	29.5	36.4	41.8	41.4	39.0	33.4	32.8	37.4	27.5
1858.....	31.1	30.0	24.4	28.4	30.5	39 5	42.6	40.6	35.4	28.9	25.0	20.8	31.4
1859.....	21.1	22 0	23.2	34.5	41.5	41.5	38.7	35 6	28.1	22.4	15.9	18.2	28.6
1860.....	16.7	16.9	16.1	17.2	20.2	22.5	23.1	22.6	18.5	15.1	15.1	15.5	18.3
1861.....	14.6	13.5	18.0	25.5	33.3	37·5	36.4	35.0	29.0	29.9	29·5	27.0	27.4
1862.....	22.6	18.0	19.1	29.1	41.0	40.3	37.7	33.6	27.8	21.2	16.6	12 6	26.6
1863.....	11·9	14.2	17.1	24.9	32·5	32.6	30.6	25.6	19.5	14.5	11.1	10.4	20.4
1864.....	7.4	10.4	8 9	15.2	27.8	33.6	28.2	23.4	18.1	13.1	14.0	15.5	18.0
1865.....	15.4	9.2	10.4	22.8	26.7	27.1	22.9	17·9	13.0	8.5	5·0	0.9	15.0
1866.....	—1.4	—4.9	—1.8	4.0	11.6	16.1	13.6	16.8	13.5	13.9	13.6	17.0	9.3
1867.....	16.9	15.5	18.0	22.5	30 5	37·1	34.2	27·6	19 1	11.1	5·2	—1.0	19.7
1868.....	—2.2	—8.2	—4.5	2·9	8·0	15·0	15·8	11·5	9.6	3.6	1·9	1.5	4.6
1869.....	2.5	0.9	3.2	10.8	20 6	22.4	25·1	25.6	25.0	21.9	16·0	17.8	16.0
Means of Four Years.													
1854-57...	12.9	12.7	13.9	17.1	27.0	31.1	33.2	30.7	27.2	23.0	19.0	19.2	22.3
1858-61...	20.9	20.6	20.4	26 4	31.4	35·3	35.2	33·5	27.8	24.1	21.4	20.4	26.4
1862-65...	14 3	12.9	13.9	23.0	32.0	33·4	29·9	25·1	19.6	14.3	11.7	9.9	20.0
1866-69..	3·9	0.8	3.7	10.0	17·7	22.7	22.2	20.4	16·8	12.6	9.2	8.8	12.4
Means of Eight Years.													
1854-61...	16.9	16.7	17.2	21.8	29.2	33.2	34.2	32.1	27.5	23.6	20.2	19.8	24.4
1862-69...	9.1	6.9	8.8	16.5	24.8	28.0	26.1	22.7	18.2	13.5	10 5	9·3	16.2
Means of Sixteen Years.													
1854-69....	13.0	11.8	13·0	19.2	27.0	30.6	30.1	27.4	22.8	18.6	15·3	14.5	20.3
Mean Annual Inequalities.													
1854-69...	—7·3	—8.5	—7·3	—1.1	+6.7	+10·3	+9·8	+7·1	+2.5	—1.7	—5·0	—5.8	

The bulk of contributions received from correspondents consists in meteorological returns relating to the current year. For these, or rather for extracts from them, the proper place is the second meteorological article containing the climatological statistics for the year ending 31st May, 1870.

In the present article no contributions have been taken in hand, excepting such as embrace the observations of at least three years, and of these a large and valuable portion relating to the Provinces of Quebec, New Brunswick, and Nova Scotia, have been omitted (†). It is hoped that in the next *Year Book* a consideration of the leading characteristics of the climate of these Provinces will be entered on, and also, as the area of observation extends and observers are multiplied, that it will eventually be practicable to present a synopsis of the climate of the whole of the Dominion.

(*) These remarks have reference to the average of sixteen years. In *single* years examples of a rise of the lake in autumn often occur.

(†) Included in these is a series of temperature observations at Halifax, made by Mr. F. Allison, at every even hour, day and night, for more than three years, the discussion of which has been reluctantly postponed.