

Seasonal Snowfall Totals to 1992–1993 from 1884–1885 for Oswego, New York

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ABSTRACT

Continuous monthly snowfall information started with the 1884–85 snowfall season. During this 109-year period measurements have been made from at least 9 locations within, and near Oswego City. Interpretation of snowfall data is complicated not only by the number of reporting sites but also by varying methods of measurement, and by wide variations in snowfall conditions due to high percentages of lake-effect episodes. Space limitations require that this paper concentrate on this 109-year period, Table 1, and on the selection of some recent seasons, Table 2, for brief special comment. Four photographs by the author illustrate typical conditions (Figures 1–4). Dedications and acknowledgements comprise the final text section.

BACKGROUND

Newspaper and diary accounts predated organized snowfall measurement procedures instituted for Oswego by the United States Weather Bureau, (USWB), now the National Weather Service (NWS). It was thus that continuous seasonal snowfall records finally began with the 1884–85 season (USWB 1945) and continue into the present.

During 1953 the Federal weather station was closed. From then forward climatological information has been recorded by a number of individuals at at least six locations, especially as concerned snowfall data. The snowfall record for the entire 109 years involved at least 8 locations (Sykes 1969b). Table 1 is an updated and expanded tabulation of Oswego's snowfall information as reported at the Forty-Fifth Annual Eastern Snow Conference (Sykes 1988).

Oswego is located in the very eastern part of the Great Lakes Region. The Lakes, especially Lake

Ontario, are extremely important to Oswego's weather and climate (Sykes 1969a). Of the weather factors actively influenced, snowfalls are certainly outstanding. In any particular snowfall season 75 to 90 percent of snowfalls can be expected to be so related. "Lake-effect snowfall" is certainly appropriate terminology for snowfalls at Oswego and other locations with similar geography.

DISCUSSION

Due to the importance of lake-effect snowfalls to seasonal totals it is essential to consider at least briefly, factors related to snowfall measurements (Sykes 1966 and 1969a). Some of these factors are: 1) Site exposure along with site location relative to local geography; 2) Actual measurement means such as snow boards, catching container with saline/oil solution, weighing gauge, etc.; 3) Experience of observer (s); 4) Number of daily measurements; 5) Prevailing weather conditions, especially winds and variations in cloudy and sunny periods; 6) Actual times-of-day for measurements; Visibility and snowflake diameters in relation to surface snowfall accumulations; and, plain estimation when outside conditions are particularly difficult.

In respect to snowfalls it is also important to know what is actually being measured: snow depth at the surface, snowfall accumulation and/or water content of the snowfall. At least a portion of the Oswego snowfall record was determined by taking melt water in a collecting gauge and automatically equating one inch (2.5 cm.) of liquid water to 10 inches (25.4 cm) of snowfall regardless of wind and other conditions. In reality lake-effect snowfalls during the colder parts of the seasons around Oswego average at 38 to 51 cm to 2.5 cm of water (15 to 20 to 1 in.), or greater. In often very windy locations such as Oswego blowing and drifting snow factors are important to snow depth measurements.

Not only are there problems in comparing Oswego snowfall data but there are problems in comparing such data with other locations; e.g., the National Weather Service station at Syracuse, N.Y. For about the last 10 years at this airport station snowfall measurements are attempted hourly. The Syracuse records go back to 1902 although airport records constitute only a portion of the total time.

CONCLUSION and RECOMMENDATION

Inspection of Table 1 for 35 snowfall seasons from 1958-59 to the present reveals what appears to be quite an increase in average seasonal snowfalls. Table 2 is a selection of 5 seasons for comparison although others might have been chosen for emphasis. Within the period of record the past 35 seasons appear extraordinary. What has been observed and what has been measured are at best difficult to compare within the Oswego snowfall record. Comparing the Oswego record with other locations raises other questions beyond the scope of this paper.

Further standardizations in the need for snowfall measurements and in the means used, are desirable goals. If the past is truly an indication of difficulties for acquiring truly realistic snowfall information, then the future holds real challenges worthy of attacking.

DEDICATIONS and ACKNOWLEDGEMENTS

The author dedicates this paper to many Oswego Area, official and unofficial, observers who have suffered through varying weather circumstances to obtain snow information. Much of their total effort has been accomplished without special remuneration under difficult, often dangerous conditions.

The author also dedicates the paper to Livingston Lansing (1911-1992), President, Eastern Snow Conference (ESC) 1956-57; and, Raymond Falconer, President ESC 1973-1974. Both were active associates during area snowfall and lake-effect snow condition studies, beginning in Oswego during 1962 and continuing for nearly 30 years. Both shared liberally of their extensive experience and professional resources.

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Table 1: Monthly and Seasonal Snowfall Totals (inches/centimeters) at Oswego, NY

| Season | September | October | November | December | January | February | March | April | May | Seasonal |
|-----------|------------|--------------|-------------|--------------|--------------|--------------|-------------|-------------|---------------|---------------|
| 1884/85ci | 0.0 / 0.0 | 0.4 / 1.0 | 7.6 / 19.3 | 12.4 / 31.5 | 11.2 / 28.4 | 8.1 / 20.6 | 3.1 / 7.9 | 0.8 / 2.0 | 0.0 / 0.0 | 43.6 / 110.7 |
| 1885/86 ↓ | 0.0 / 0.0 | 0.0 / 0.0 | 8.5 / 21.6 | 8.7 / 22.1 | 6.4 / 16.3 | 3.0 / 7.6 | 2.3 / 5.8 | 0.5 / 1.3 | 0.0 / 0.0 | m29.4 / 74.7 |
| 1886/87 | 0.0 / 0.0 | 0.0 / 0.0 | 34.3 / 87.1 | 29.4 / 74.7 | 32.5 / 82.6 | 12.7 / 32.3 | 16.6 / 42.2 | 0.2 / 0.5 | 0.0 / 0.0 | 125.7 / 319.3 |
| 1887/88 | 0.0 / 0.0 | 0.0 / 0.0 | 13.0 / 33.0 | 16.2 / 41.1 | 44.0 / 111.8 | 11.3 / 28.7 | 13.7 / 34.8 | 3.8 / 9.7 | 0.0 / 0.0 | 102.0 / 259.1 |
| 1888/89 | 0.0 / 0.0 | 0.0 / 0.0 | 2.2 / 5.6 | 11.6 / 29.5 | 25.2 / 64.0 | 37.2 / 94.5 | 14.4 / 36.6 | 1.5 / 3.8 | 0.0 / 0.0 | 92.1 / 233.9 |
| 1889/90 | 0.0 / 0.0 | T / 0.0 | 10.2 / 25.9 | 2.7 / 6.9 | 17.1 / 43.4 | 10.4 / 26.4 | 11.3 / 28.7 | T / T | 0.0 / 0.0 | 51.7 / 131.3 |
| 1890/91 | 0.0 / 0.0 | 0.0 / 0.0 | 0.8 / 2.0 | 26.4 / 67.1 | 10.6 / 26.9 | 16.7 / 42.4 | 13.5 / 34.3 | 0.7 / 1.8 | T / T | 68.7 / 174.5 |
| | | | | | | | | | 5 year avg=> | 88.0 / 223.6 |
| 1891/92 | 0.0 / 0.0 | 0.0 / 0.0 | 6.7 / 17.0 | m1.6 / 4.1 | 31.7 / 80.5 | 27.7 / 70.4 | 27.9 / 70.9 | 0.5 / 1.3 | 0.0 / 0.0 | 95.1 / 241.6 |
| 1892/93 | 0.0 / 0.0 | 0.0 / 0.0 | 15.7 / 39.9 | 17.4 / 44.2 | 16.2 / 41.1 | 11.5 / 29.2 | 0.5 / 1.3 | 3.0 / 7.6 | 0.0 / 0.0 | 64.3 / 163.3 |
| 1893/94 | 0.0 / 0.0 | 4.0 / 10.2 | 5.5 / 14.0 | 24.0 / 61.0 | 18.8 / 47.8 | 30.4 / 77.2 | 2.8 / 7.1 | 1.0 / 2.5 | 0.0 / 0.0 | 86.5 / 219.7 |
| 1894/95 | 0.0 / 0.0 | T / 0.0 | 9.0 / 22.9 | 19.5 / 49.5 | 21.2 / 53.8 | 19.8 / 50.3 | 9.8 / 24.9 | T / T | 0.0 / 0.0 | 79.7 / 202.4 |
| 1895/96 | 0.0 / 0.0 | h10.3 / 26.2 | 2.5 / 6.4 | 4.1 / 10.4 | 14.5 / 36.8 | 20.3 / 51.6 | 18.2 / 46.2 | 5.0 / 12.7 | 0.0 / 0.0 | 74.9 / 190.2 |
| | | | | | | | | | 5 year avg=> | 80.1 / 203.5 |
| | | | | | | | | | 10 year avg=> | 84.1 / 213.5 |
| 1896/97 | 0.0 / 0.0 | 0.0 / 0.0 | 5.6 / 14.2 | 19.6 / 49.8 | 52.7 / 133.9 | 8.5 / 21.6 | 7.6 / 19.3 | 1.0 / 2.5 | 0.0 / 0.0 | 95.0 / 241.3 |
| 1897/98 | 0.0 / 0.0 | 0.0 / 0.0 | 23.5 / 59.7 | 12.3 / 31.2 | 22.6 / 57.4 | 19.7 / 50.0 | T / 0.0 | 3.6 / 9.1 | 0.0 / 0.0 | 81.7 / 207.5 |
| 1898/99 | 0.0 / 0.0 | 0.6 / 1.5 | 4.4 / 11.2 | 26.8 / 68.1 | 18.5 / 47.0 | 22.3 / 56.6 | 13.5 / 34.3 | 0.9 / 2.3 | 0.0 / 0.0 | 87.0 / 221.0 |
| 1899/0 | h0.1 / 0.3 | T / 0.0 | 0.7 / 1.8 | 30.7 / 78.0 | 22.8 / 57.9 | 18.5 / 47.0 | 30.0 / 76.2 | 1.6 / 4.1 | T / T | 104.4 / 265.2 |
| 1900/1 | 0.0 / 0.0 | 0.0 / 0.0 | 23.2 / 58.9 | 22.1 / 56.1 | 16.7 / 42.4 | 15.5 / 39.4 | 14.5 / 36.8 | 7.8 / 19.8 | 0.0 / 0.0 | 99.8 / 253.5 |
| | | | | | | | | | 5 year avg=> | 93.6 / 237.7 |
| | | | | | | | | | 10 year avg=> | 86.8 / 220.6 |
| 1901/2 | 0.0 / 0.0 | 0.0 / 0.0 | 17.0 / 43.2 | 30.1 / 76.5 | 16.0 / 40.6 | 14.0 / 35.6 | 2.7 / 6.9 | 0.9 / 2.3 | 0.0 / 0.0 | 80.7 / 205.0 |
| 1902/3 | 0.0 / 0.0 | T / 0.0 | 3.6 / 9.1 | 31.4 / 79.8 | 27.9 / 70.9 | 21.0 / 53.3 | 3.1 / 7.9 | 0.6 / 1.5 | T / T | 87.6 / 222.5 |
| 1903/4 | 0.0 / 0.0 | 5.0 / 12.7 | 8.6 / 21.8 | 33.8 / 85.9 | 26.6 / 67.6 | 19.3 / 49.0 | 11.4 / 29.0 | 11.2 / 28.4 | 0.0 / 0.0 | 115.9 / 294.4 |
| 1904/5 | 0.0 / 0.0 | 0.5 / 1.3 | 2.2 / 5.6 | 28.8 / 73.2 | 26.6 / 67.6 | 33.0 / 83.8 | 10.3 / 26.2 | 0.4 / 1.0 | T / T | 101.8 / 258.6 |
| 1905/6 | 0.0 / 0.0 | T / T | 7.7 / 19.6 | 10.8 / 27.4 | 13.0 / 33.0 | 6.0 / 15.2 | 17.1 / 43.4 | 1.8 / 4.6 | 0.0 / 0.0 | 56.4 / 143.3 |
| | | | | | | | | | 5 year avg=> | 88.5 / 224.7 |
| | | | | | | | | | 10 year avg=> | 91.0 / 231.2 |
| 1906/7 | 0.0 / 0.0 | 1.4 / 3.6 | 2.1 / 5.3 | 20.0 / 50.8 | 15.7 / 39.9 | 4.8 / 12.2 | 12.8 / 32.5 | 3.5 / 8.9 | h1.0 / 2.5 | 61.3 / 155.7 |
| 1907/8 | 0.0 / 0.0 | T / T | 1.1 / 2.8 | 31.4 / 79.8 | 12.1 / 30.7 | 29.0 / 73.7 | 7.4 / 18.8 | 0.7 / 1.8 | T / T | 81.7 / 207.5 |
| 1908/9 | 0.0 / 0.0 | T / T | 5.8 / 14.7 | 13.9 / 35.3 | 25.7 / 65.3 | 7.8 / 19.8 | 7.7 / 19.6 | 4.9 / 12.4 | T / T | 65.8 / 167.1 |
| 1909/10ci | 0.0 / 0.0 | T / T | 6.6 / 16.8 | 42.1 / 106.9 | 27.1 / 68.8 | 39.6 / 100.6 | 4.3 / 10.9 | 1.0 / 2.5 | 0.0 / 0.0 | 120.7 / 306.6 |
| 1910/11 ↓ | 0.0 / 0.0 | 1.1 / 2.8 | 12.7 / 32.3 | 25.3 / 64.3 | 5.6 / 14.2 | 21.8 / 55.4 | 11.2 / 28.4 | 2.1 / 5.3 | T / T | 79.8 / 202.7 |
| | | | | | | | | | 5 year avg=> | 81.9 / 207.9 |
| | | | | | | | | | 10 year avg=> | 85.2 / 216.3 |

Table 1: Monthly and Seasonal Snowfall Totals (inches/centimeters) at Oswego, NY

| Season | September | October | November | December | January | February | March | April | May | Seasonal |
|---------|-----------|------------|-------------|--------------|--------------|--------------|--------------|------------|---------------|---------------|
| 1911/12 | 0.0 / 0.0 | T / T | 5.6 / 14.2 | 2.9 / 7.4 | 47.4 / 120.4 | 44.3 / 112.5 | 12.0 / 30.5 | 5.5 / 14.0 | T / T | 117.7 / 299.0 |
| 1912/13 | 0.0 / 0.0 | 0.0 / 0.0 | 4.2 / 10.7 | 13.0 / 33.0 | 7.2 / 18.3 | 23.5 / 59.7 | 14.4 / 36.6 | T / T | 0.0 / 0.0 | 62.3 / 158.2 |
| 1913/14 | 0.0 / 0.0 | T / T | 0.5 / 1.3 | 7.8 / 19.8 | 10.1 / 25.7 | 21.6 / 54.9 | 29.7 / 75.4 | 5.5 / 14.0 | 0.0 / 0.0 | 75.2 / 191.0 |
| 1914/15 | 0.0 / 0.0 | T / T | 13.6 / 34.5 | 41.7 / 105.9 | 22.2 / 56.4 | 6.9 / 17.5 | 4.2 / 10.7 | T / T | 0.0 / 0.0 | 88.6 / 225.0 |
| 1915/16 | 0.0 / 0.0 | 0.0 / 0.0 | 6.0 / 15.2 | 36.6 / 93.0 | 15.7 / 39.9 | 26.7 / 67.8 | 19.5 / 49.5 | 0.3 / 0.8 | 0.0 / 0.0 | 104.8 / 266.2 |
| | | | | | | | | | 5 year avg=> | 89.7 / 227.9 |
| | | | | | | | | | 10 year avg=> | 85.8 / 217.9 |
| 1916/17 | 0.0 / 0.0 | 0.0 / 0.0 | 7.7 / 19.6 | 25.7 / 65.3 | 24.7 / 62.7 | 39.6 / 100.6 | 9.1 / 23.1 | 2.2 / 5.6 | T / T | 109.0 / 276.9 |
| 1917/18 | 0.0 / 0.0 | T / T | 5.8 / 14.7 | 21.3 / 54.1 | 28.3 / 71.9 | 14.7 / 37.3 | 8.1 / 20.6 | 3.5 / 8.9 | 0.0 / 0.0 | 81.7 / 207.5 |
| 1918/19 | 0.0 / 0.0 | 0.0 / 0.0 | 1.5 / 3.8 | 11.4 / 29.0 | 15.8 / 40.1 | 12.2 / 31.0 | 7.5 / 19.1 | 1.1 / 2.8 | 0.0 / 0.0 | 49.5 / 125.7 |
| 1919/20 | 0.0 / 0.0 | 0.0 / 0.0 | 0.6 / 1.5 | 47.2 / 119.9 | 47.4 / 120.4 | 29.3 / 74.4 | 16.5 / 41.9 | 7.5 / 19.1 | T / T | 148.5 / 377.2 |
| 1920/21 | 0.0 / 0.0 | T / T | 8.0 / 20.3 | 30.2 / 76.7 | m 3.9 / 9.9 | 27.4 / 69.6 | 1.6 / 4.1 | 0.2 / 0.5 | 0.0 / 0.0 | 71.3 / 181.1 |
| | | | | | | | | | 5 year avg=> | 92.0 / 233.7 |
| | | | | | | | | | 10 year avg=> | 90.9 / 230.8 |
| 1921/22 | 0.0 / 0.0 | 0.0 / 0.0 | 6.8 / 17.3 | 7.7 / 19.6 | 24.6 / 62.5 | 17.1 / 43.4 | 10.5 / 26.7 | T / T | 0.0 / 0.0 | 66.7 / 169.4 |
| 1922/23 | 0.0 / 0.0 | T / T | 1.8 / 4.6 | 38.2 / 97.0 | 31.8 / 80.8 | 39.2 / 99.6 | 17.8 / 45.2 | 0.8 / 2.0 | 0.5 / 1.3 | 130.1 / 330.5 |
| 1923/24 | T / 0.0 | 0.5 / 1.3 | 4.2 / 10.7 | 8.8 / 22.4 | 26.7 / 67.8 | 29.7 / 75.4 | 3.8 / 9.7 | 3.8 / 9.7 | T / T | 77.5 / 196.9 |
| 1924/25 | 0.0 / 0.0 | T / T | 10.6 / 26.9 | 22.4 / 56.9 | 39.3 / 99.8 | 29.1 / 73.9 | 7.9 / 20.1 | 4.5 / 11.4 | T / T | 113.8 / 289.1 |
| 1925/26 | 0.0 / 0.0 | 7.8 / 19.8 | 5.4 / 13.7 | 37.3 / 94.7 | 48.2 / 122.4 | 31.4 / 79.8 | 20.3 / 51.6 | 9.9 / 25.1 | T / T | 160.3 / 407.2 |
| | | | | | | | | | 5 year avg=> | 109.7 / 278.6 |
| | | | | | | | | | 10 year avg=> | 100.8 / 256.1 |
| 1926/27 | 0.0 / 0.0 | T / T | 13.5 / 34.3 | 25.4 / 64.5 | 20.0 / 50.8 | 34.6 / 87.9 | 1.3 / 3.3 | 0.3 / 0.8 | 0.0 / 0.0 | 95.1 / 241.6 |
| 1927/28 | 0.0 / 0.0 | 0.0 / 0.0 | 2.0 / 5.1 | 17.1 / 43.4 | 31.7 / 80.5 | 18.8 / 47.8 | 33.0 / 83.8 | 1.1 / 2.8 | 0.0 / 0.0 | 103.7 / 263.4 |
| 1928/29 | 0.0 / 0.0 | T / T | 3.0 / 7.6 | 11.4 / 29.0 | 48.1 / 122.2 | 37.9 / 96.3 | 7.4 / 18.8 | T / T | T / T | 107.8 / 273.8 |
| 1929/30 | 0.0 / 0.0 | T / T | 20.5 / 52.1 | 21.0 / 53.3 | 14.7 / 37.3 | 16.3 / 41.4 | 9.2 / 23.4 | 0.1 / 0.3 | 0.0 / 0.0 | 81.8 / 207.8 |
| 1930/31 | 0.0 / 0.0 | 3.2 / 8.1 | 15.7 / 39.9 | 8.9 / 22.6 | 41.9 / 106.4 | 13.9 / 35.3 | 11.9 / 30.2 | T / T | T / T | 95.5 / 242.6 |
| | | | | | | | | | 5 year avg=> | 96.8 / 245.8 |
| | | | | | | | | | 10 year avg=> | 103.2 / 262.2 |
| 1931/32 | 0.0 / 0.0 | 0.0 / 0.0 | 1.0 / 2.5 | 3.0 / 7.6 | 15.0 / 38.1 | 16.6 / 42.2 | 42.5 / 108.0 | 6.1 / 15.5 | 0.0 / 0.0 | 84.2 / 213.9 |
| 1932/33 | 0.0 / 0.0 | 0.0 / 0.0 | 0.6 / 1.5 | 11.4 / 29.0 | 4.0 / 10.2 | 21.2 / 53.8 | 8.0 / 20.3 | 2.6 / 6.6 | 0.0 / 0.0 | 47.8 / 121.4 |
| 1933/34 | 0.0 / 0.0 | T / T | 28.9 / 73.4 | 17.8 / 45.2 | 10.8 / 27.4 | 18.0 / 45.7 | 11.7 / 29.7 | 3.5 / 8.9 | 0.0 / 0.0 | 90.7 / 230.4 |
| 1934/35 | 0.0 / 0.0 | T / T | 0.9 / 2.3 | 17.6 / 44.7 | 20.0 / 50.8 | 12.7 / 32.3 | 1.9 / 4.8 | 0.9 / 2.3 | 0.0 / 0.0 | 54.0 / 137.2 |
| 1935/36 | 0.0 / 0.0 | T / T | 0.6 / 1.5 | 20.8 / 52.8 | 21.5 / 54.6 | 40.5 / 102.9 | 12.3 / 31.2 | 4.3 / 10.9 | 0.0 / 0.0 | 100.0 / 254.0 |
| | | | | | | | | | 5 year avg=> | 75.3 / 191.4 |
| | | | | | | | | | 10 year avg=> | 86.1 / 218.6 |

Table 1: Monthly and Seasonal Snowfall Totals (inches/centimeters) at Oswego, NY

| Season | September | October | November | December | January | February | March | April | May | Seasonal |
|------------|-----------|-----------|-------------|--------------|--------------|-------------|--------------|-------------|---------------|---------------|
| 1936/37 cl | 0.0 / 0.0 | T / T | 13.1 / 33.3 | 15.6 / 39.6 | 6.8 / 17.3 | 13.1 / 33.3 | 33.5 / 85.1 | 3.6 / 9.1 | 0.0 / 0.0 | 85.7 / 217.7 |
| 1937/38 | 0.0 / 0.0 | 0.8 / 2.0 | 1.2 / 3.0 | 20.3 / 51.6 | 25.9 / 65.8 | 7.5 / 19.1 | 4.1 / 10.4 | 6.8 / 17.3 | 0.0 / 0.0 | 66.6 / 169.2 |
| 1938/39 | 0.0 / 0.0 | T / T | 5.6 / 14.2 | 8.6 / 21.8 | 33.3 / 84.6 | 27.9 / 70.9 | 15.8 / 40.1 | 2.0 / 5.1 | 0.0 / 0.0 | 93.2 / 236.7 |
| 1939/40 | 0.0 / 0.0 | T / T | 1.0 / 2.5 | 5.3 / 13.5 | 48.7 / 123.7 | 21.7 / 55.1 | 15.8 / 40.1 | 1.1 / 2.8 | 0.0 / 0.0 | 93.6 / 237.7 |
| 1939/40 | 0.0 / 0.0 | T / T | 7.6 / 19.3 | 8.2 / 20.8 | 22.2 / 56.4 | 27.2 / 69.1 | 16.5 / 41.9 | 0.7 / 1.8 | 0.0 / 0.0 | 82.4 / 209.3 |
| | | | | | | | | | 5 year avg=> | 84.3 / 214.1 |
| | | | | | | | | | 10 year avg=> | 79.8 / 202.7 |
| 1941/42 | 0.0 / 0.0 | T / T | 0.6 / 1.5 | 14.2 / 36.1 | 24.3 / 61.7 | 20.9 / 53.1 | 8.7 / 22.1 | 8.0 / 20.3 | 0.0 / 0.0 | 76.7 / 194.8 |
| 1942/43 | 0.0 / 0.0 | T / T | 8.7 / 22.1 | 25.5 / 64.8 | 26.8 / 68.1 | 13.7 / 34.8 | 11.5 / 29.2 | 11.1 / 28.2 | 0.4 / 1.0 | 97.3 / 247.1 |
| 1943/44 | 0.0 / 0.0 | 0.0 / 0.0 | 2.1 / 5.3 | 16.5 / 41.9 | 8.4 / 21.3 | 19.2 / 48.8 | 16.6 / 42.2 | 1.0 / 2.5 | 0.0 / 0.0 | 63.8 / 162.1 |
| 1944/45 | 0.0 / 0.0 | 0.0 / 0.0 | 7.7 / 19.6 | 29.3 / 74.4 | 50.6 / 128.5 | 26.7 / 67.8 | 1.5 / 3.8 | 0.2 / 0.5 | T / T | 116.0 / 294.6 |
| 1945/46 | 0.0 / 0.0 | T / T | 10.0 / 25.4 | 12.8 / 32.5 | 20.9 / 53.1 | 25.1 / 63.8 | 0.1 / 0.3 | 0.7 / 1.8 | 0.0 / 0.0 | 69.6 / 176.8 |
| | | | | | | | | | 5 year avg=> | 84.7 / 215.1 |
| | | | | | | | | | 10 year avg=> | 84.5 / 214.6 |
| 1946/47 | 0.0 / 0.0 | T / T | 2.6 / 6.6 | 32.4 / 82.3 | 32.1 / 81.5 | 37.8 / 96.0 | 47.4 / 120.4 | 2.9 / 7.4 | 0.2 / 0.5 | 155.4 / 394.7 |
| 1947/48 | 0.0 / 0.0 | 0.0 / 0.0 | 17.7 / 45.0 | 20.6 / 52.3 | 36.1 / 91.7 | 11.8 / 30.0 | 15.6 / 39.6 | 0.3 / 0.8 | T / T | 102.1 / 259.3 |
| 1948/49 | 0.0 / 0.0 | T / T | T / 0.0 | 20.1 / 51.1 | 22.6 / 57.4 | 13.9 / 35.3 | 7.2 / 18.3 | 0.2 / 0.5 | 0.0 / 0.0 | 64.0 / 162.6 |
| 1949/50 | 0.0 / 0.0 | T / T | 4.8 / 12.2 | 25.3 / 64.3 | 14.8 / 37.6 | 34.1 / 86.6 | 24.6 / 62.5 | 2.4 / 6.1 | 0.0 / 0.0 | 106.0 / 269.2 |
| 1950/51 | 0.0 / 0.0 | 0.0 / 0.0 | 3.8 / 9.7 | 24.1 / 61.2 | 25.5 / 64.8 | 10.8 / 27.4 | 9.6 / 24.4 | T / T | 0.0 / 0.0 | 73.8 / 187.5 |
| | | | | | | | | | 5 year avg=> | 100.3 / 254.7 |
| | | | | | | | | | 10 year avg=> | 92.5 / 234.9 |
| 1951/52un | 0.0 / 0.0 | T / T | 6.3 / 16.0 | 32.4 / 82.3 | 18.6 / 47.2 | 29.0 / 73.7 | 8.0 / 20.3 | T / T | 0.0 / 0.0 | 94.3 / 239.5 |
| 1952/53un | 0.0 / 0.0 | 0.1 / 0.3 | 5.7 / 14.5 | 8.6 / 21.8 | 16.3 / 41.4 | 10.3 / 26.2 | 6.7 / 17.0 | T / T | 0.3 / 0.8 | 48.0 / 121.9 |
| 1953/54co | 0.0 / 0.0 | 0.0 / 0.0 | 2.0 / 5.1 | 9.7 / 24.6 | 15.6 / 39.6 | 11.5 / 29.2 | 26.0 / 66.0 | 0.0 / 0.0 | 0.0 / 0.0 | 64.8 / 164.6 |
| 1954/55 | 0.0 / 0.0 | 0.0 / 0.0 | 6.0 / 15.2 | 26.0 / 66.0 | 18.0 / 45.7 | 19.0 / 48.3 | 16.0 / 40.6 | T / T | 0.0 / 0.0 | 85.0 / 215.9 |
| 1955/56 | 0.0 / 0.0 | 0.0 / 0.0 | 4.0 / 10.2 | 18.0 / 45.7 | 15.5 / 39.4 | 31.5 / 80.0 | 21.0 / 53.3 | 3.0 / 7.6 | 0.0 / 0.0 | 93.0 / 236.2 |
| | | | | | | | | | 5 year avg=> | 77.0 / 195.6 |
| | | | | | | | | | 10 year avg=> | 88.6 / 225.1 |
| 1956/57co | 0.0 / 0.0 | 0.0 / 0.0 | 13.0 / 33.0 | 13.5 / 34.3 | 35.5 / 90.2 | 2.5 / 6.4 | 6.5 / 16.5 | 5.0 / 12.7 | T / T | 76.0 / 193.0 |
| 1957/58 | 0.0 / 0.0 | 0.0 / 0.0 | 2.0 / 5.1 | 7.0 / 17.8 | 25.0 / 63.5 | 35.0 / 88.9 | 2.0 / 5.1 | 1.0 / 2.5 | 0.0 / 0.0 | 77.0 / 195.6 |
| 1958/59 | 0.0 / 0.0 | 0.0 / 0.0 | 11.3 / 28.7 | 85.8 / 217.9 | 34.2 / 86.9 | 26.8 / 68.1 | 11.5 / 29.2 | 0.0 / 0.0 | 0.0 / 0.0 | 169.6 / 430.8 |
| 1959/60 | 0.0 / 0.0 | 0.0 / 0.0 | 18.0 / 45.7 | 8.2 / 20.8 | 18.4 / 46.7 | 35.2 / 89.4 | 19.2 / 48.8 | 0.0 / 0.0 | 0.0 / 0.0 | 99.0 / 251.5 |
| 1960/61 | 0.0 / 0.0 | 0.0 / 0.0 | T / T | 22.5 / 57.2 | 35.3 / 89.7 | 6.0 / 15.2 | 10.5 / 26.7 | 0.2 / 0.5 | 0.0 / 0.0 | 74.5 / 189.2 |
| | | | | | | | | | 5 year avg=> | 99.2 / 252.0 |
| | | | | | | | | | 10 year avg=> | 88.1 / 223.8 |

Table 1: Monthly and Seasonal Snowfall Totals (inches/centimeters) at Oswego, NY

| Season | September | October | November | December | January | February | March | April | May | Seasonal |
|----------------|-----------|------------|----------------|-----------------|-----------------|-----------------|----------------|---------------|---------------|-----------------|
| 1961/62co | 0.0 / 0.0 | 0.0 / 0.0 | 1.0 / 2.5 | m 7.0 / 17.8 | 22.5 / 57.2 | 25.0 / 63.5 | T / T | 4.0 / 10.2 | 0.0 / 0.0 | 59.5 / 151.1 |
| 1962/63 | 0.0 / 0.0 | T / T | 3.5 / 8.9 | 30.5 / 77.5 | 16.0 / 40.6 | 26.2 / 66.5 | 4.5 / 11.4 | T / T | 0.0 / 0.0 | 80.7 / 205.0 |
| 1963/64 ↓ | 0.0 / 0.0 | 0.0 / 0.0 | 2.0 / 5.1 | 75.0 / 190.5 | 25.0 / 63.5 | 16.5 / 41.9 | 12.0 / 30.5 | 3.5 / 8.9 | 0.0 / 0.0 | 134.0 / 340.4 |
| 1964/65 | 0.0 / 0.0 | T / T | 60.0 / 152.4 | 15.5 / 39.4 | 48.0 / 121.9 | 33.3 / 84.6 | 20.6 / 52.3 | 5.0 / 12.7 | 0.0 / 0.0 | 128.4 / 326.1 |
| 1965/66cosw | 0.0 / 0.0 | T / T | 5.0 / 12.7 | 14.5 / 36.8 | 67.0 / 170.2 | 54.0 / 137.2 | 7.5 / 19.1 | T / T | T / T | 148.0 / 375.9 |
| | | | | | | | | | 5 year avg=> | 110.1 / 279.7 |
| | | | | | | | | | 10 year avg=> | 104.7 / 265.9 |
| 1966/67cosw | 0.0 / 0.0 | 0.0 / 0.0 | m 0.0 / 0.0 | 26.0 / 66.0 | 13.9 / 35.3 | 45.8 / 116.3 | 16.1 / 40.9 | 0.8 / 2.0 | 0.5 / 1.3 | 104.0 / 264.2 |
| 1967/68cisw | | 0.0 / 0.0 | 25.0 / 63.5 | 19.0 / 48.3 | 21.3 / 54.1 | 58.3 / 148.1 | 13.7 / 34.8 | T / T | 0.0 / 0.0 | 137.0 / 348.0 |
| 1968/69cee | | 0.0 / 0.0 | 24.8 / 63.0 | 23.5 / 59.7 | 62.5 / 158.8 | 34.6 / 87.9 | 13.0 / 33.0 | T / T | T / T | 162.7 / 413.3 |
| 1969/70ce | | 1.0 / 2.5 | 6.3 / 16.0 | 45.1 / 114.6 | 65.1 / 165.4 | 73.0 / 185.4 | 7.6 / 19.3 | 2.0 / 5.1 | 0.0 / 0.0 | 200.0 / 508.0 |
| 1970/71 | 0.0 / 0.0 | T / T | 6.8 / 17.3 | 53.2 / 135.1 | 50.0 / 127.0 | 53.0 / 134.6 | h 54.0 / 137.2 | 10.0 / 25.4 | 0.0 / 0.0 | 227.0 / 576.6 |
| | | | | | | | | | 5 year avg=> | 166.1 / 422.0 |
| | | | | | | | | | 10 year avg=> | 138.1 / 350.9 |
| 1971/72 ce, sw | 0.0 / 0.0 | T / T | 20.0 / 50.8 | 26.0 / 66.0 | 139.0 / 353.1 | h 100.8 / 256.0 | 28.2 / 71.6 | 10.3 / 26.2 | 0.0 / 0.0 | h 324.3 / 823.7 |
| 1972/73 ce | | 6.0 / 15.2 | 26.7 / 67.8 | 36.8 / 93.5 | 34.7 / 88.1 | 26.0 / 66.0 | 3.7 / 9.4 | 5.3 / 13.5 | 0.0 / 0.0 | 138.5 / 351.8 |
| 1973/74 ↓ | | 0.0 / 0.0 | 2.9 / 7.4 | 45.8 / 116.3 | 74.6 / 189.5 | 27.2 / 69.1 | 22.0 / 55.9 | 4.9 / 12.4 | 0.0 / 0.0 | 177.4 / 450.6 |
| 1974/75 ↓ | | 2.2 / 5.6 | 3.7 / 9.4 | 23.0 / 58.4 | 44.6 / 113.3 | 75.8 / 192.5 | 26.6 / 67.6 | 16.1 / 40.9 | 0.0 / 0.0 | 192.1 / 487.9 |
| 1975/76 ↓ | 0.0 / 0.0 | 0.3 / 0.8 | 2.5 / 6.4 | 39.1 / 99.3 | 76.2 / 193.5 | 29.8 / 75.7 | 28.6 / 72.6 | 1.1 / 2.8 | 0.0 / 0.0 | 177.3 / 450.3 |
| | | | | | | | | | 5 year avg=> | 201.9 / 512.9 |
| | | | | | | | | | 10 year avg=> | 184.0 / 467.4 |
| 1976/77 | 0.0 / 0.0 | 2.5 / 6.4 | h 42.3 / 107.4 | 42.4 / 107.7 | 112.9 / 286.8 | 37.7 / 95.8 | 31.6 / 80.3 | 2.3 / 5.8 | 0.3 / 0.8 | 272.0 / 690.9 |
| 1977/78 | | T / T | 12.0 / 30.5 | 52.4 / 133.1 | h 156.9 / 398.5 | 51.8 / 131.6 | 12.5 / 31.8 | 1.1 / 2.8 | T / T | 286.7 / 728.2 |
| 1978/79ce | | T / T | 7.3 / 18.5 | 29.2 / 74.2 | 66.1 / 167.9 | 26.4 / 67.1 | 10.0 / 25.4 | 11.5 / 29.2 | 0.0 / 0.0 | 150.5 / 382.3 |
| 1979/80 ↓ | | 0.0 / 0.0 | 4.5 / 11.4 | 21.5 / 54.6 | 36.1 / 91.7 | 38.6 / 98.0 | 28.0 / 71.1 | 1.5 / 3.8 | 0.0 / 0.0 | 130.2 / 330.7 |
| 1980/81 ↓ | 0.0 / 0.0 | 0.0 / 0.0 | 8.4 / 21.3 | 81.3 / 206.5 | 38.9 / 98.8 | 35.5 / 90.2 | 24.7 / 62.7 | 1.2 / 3.0 | 0.0 / 0.0 | 190.0 / 482.6 |
| | | | | | | | | | 5 year avg=> | 205.9 / 522.9 |
| | | | | | | | | | 10 year avg=> | 203.9 / 517.9 |
| 1981/82 | 0.0 / 0.0 | 0.0 / 0.0 | 2.1 / 5.3 | 30.2 / 76.7 | 70.0 / 177.8 | 50.6 / 128.5 | 26.9 / 68.3 | 14.3 / 36.3 | 0.0 / 0.0 | 194.1 / 493.0 |
| 1982/83 | | 0.0 / 0.0 | 2.4 / 6.1 | 17.0 / 43.2 | 25.9 / 65.8 | 11.7 / 29.7 | 7.8 / 19.8 | h 19.2 / 48.8 | T / T | 84.0 / 213.4 |
| 1983/84 | | T / T | 11.8 / 30.0 | 44.3 / 112.5 | 47.6 / 120.9 | 33.4 / 84.8 | 38.6 / 98.0 | T / T | T / T | 175.7 / 446.3 |
| 1984/85 | | 0.0 / 0.0 | 2.0 / 5.1 | 40.7 / 103.4 | 81.0 / 205.7 | 42.8 / 108.7 | 10.2 / 25.9 | 5.0 / 12.7 | 0.0 / 0.0 | 181.7 / 461.5 |
| 1985/86 | T / T | 0.0 / 0.0 | 8.5 / 21.6 | h 100.7 / 255.8 | 60.9 / 154.7 | 40.2 / 102.1 | 15.4 / 39.1 | 2.4 / 6.1 | T / T | 228.1 / 579.4 |
| | | | | | | | | | 5 year avg=> | 172.7 / 438.7 |
| | | | | | | | | | 10 year avg=> | 189.3 / 480.8 |

Table 1: Monthly and Seasonal Snowfall Totals (inches/centimeters) at Oswego, NY

| Season | September | October | November | December | January | February | March | April | May | Seasonal |
|--------------|-----------|-----------|-------------|--------------|--------------|--------------|--------------|------------|---------------|---------------|
| 1986/87 ce | 0.0 / 0.0 | 0.0 / 0.0 | 8.7 / 22.1 | 11.9 / 30.2 | 65.2 / 165.6 | 12.0 / 30.5 | 8.0 / 20.3 | 2.4 / 6.1 | 0.0 / 0.0 | 108.2 / 274.8 |
| 1987/88 | 0.0 / 0.0 | T / T | 3.8 / 9.7 | 16.9 / 42.9 | 39.1 / 99.3 | 80.7 / 205.0 | 10.8 / 27.4 | 3.5 / 8.9 | 0.0 / 0.0 | 154.8 / 393.2 |
| 1988/89 | 0.0 / 0.0 | 0.2 / 0.5 | T / T | 57.1 / 145.0 | 18.1 / 46.0 | 29.6 / 75.2 | 13.5 / 34.3 | 5.1 / 13.0 | T / T | 123.6 / 313.9 |
| 1989/90 | T / T | T / T | 11.2 / 28.4 | 76.0 / 193.0 | 27.5 / 69.9 | 27.5 / 69.9 | 6.8 / 17.3 | 8.5 / 21.6 | T / T | 157.2 / 399.3 |
| 1990/91 | 0.0 / 0.0 | T / T | 2.3 / 5.8 | 32.8 / 83.3 | 55.9 / 142.0 | 42.7 / 108.5 | 2.6 / 6.6 | T / T | 0.0 / 0.0 | 136.3 / 346.2 |
| | | | | | | | | | 5 year avg=> | 136.0 / 345.5 |
| | | | | | | | | | 10 year avg=> | 154.4 / 392.1 |
| 1991/92 | T / T | T / T | 6.8 / 17.3 | 38.8 / 98.6 | 56.4 / 143.3 | 20.2 / 51.3 | 45.1 / 114.6 | 1.8 / 4.6 | 0.0 / 0.0 | 169.1 / 429.5 |
| 1992/93 | 0.0 / 0.0 | 0.4 / 1.0 | 7.8 / 19.8 | 23.0 / 58.4 | 32.5 / 82.6 | 75.3 / 191.3 | 43.3 / 110.0 | 5.5 / 13.9 | 0.0 / 0.0 | 196.1 / 498.1 |
| 109 year avg | 0.0 / 0.0 | 0.4 / 1.0 | 7.8 / 19.8 | 25.4 / 64.5 | 32.9 / 83.6 | 27.2 / 69.1 | 14.3 / 36.3 | 2.9 / 7.4 | 0.0 / 0.0 | 110.9 / 281.7 |

Table 1 data were all originally derived in English units. Snowfall data have been made at different locations. These are identified generally by the simple code as follows:

- ci - 3 locations within the city interior.
- co - 2 locations at SUNY College at Oswego property, both are close to the college and had open exposure.
- ce - city; east central location; meteorologist; in valley.
- cee - city; somewhat further east than (ce); on higher elevation; cooperative weather observer; (Mr. W. Gregway).
- sw - some 5 miles southwest of the city; near SW Oswego; author's residence.
- un - unknown; variable

Other comments relating to Table 1:

- e - indicates estimated
 - T - indicates TRACE in the measurement amount
 - h - alongside the entry indicates "high" for the record of 109 years
 - m - alongside the entry indicates "low" for the record of 109 years
- 5 and 10 year averages are included as appropriate.
 monthly averages for the record follow after 1992/93 data.

Table 2: Some Outstanding Snowfall Seasons at Oswego, NY

| <u>Season</u> | <u>September</u> | <u>October</u> | <u>November</u> | <u>December</u> | <u>January</u> | <u>February</u> | <u>March</u> | <u>April</u> | <u>May</u> | <u>Seasonal</u> |
|---------------|------------------|----------------|-----------------|-----------------|----------------|-----------------|--------------|--------------|------------|-----------------|
| 1958/59co | 0.0 / 0.0 | 0.0 / 0.0 | 11.3 / 28.7 | 85.8 / 217.9 | 34.2 / 86.9 | 26.8 / 68.1 | 11.5 / 29.2 | 0.0 / 0.0 | 0.0 / 0.0 | 169.6 / 430.8 |
| 1963/64co | 0.0 / 0.0 | 0.0 / 0.0 | 2.0 / 5.1 | 75.0 / 190.5 | 25.0 / 63.5 | 16.5 / 41.9 | 12.0 / 30.5 | 3.5 / 8.9 | 0.0 / 0.0 | 134.0 / 340.4 |
| 1965/66cosw | 0.0 / 0.0 | T / T | 5.0 / 12.7 | 14.5 / 36.8 | 67.0 / 170.2 | 54.0 / 137.2 | 7.5 / 19.1 | T / T | T / T | 148.0 / 375.9 |
| 1967/68cisw | 0.0 / 0.0 | 0.0 / 0.0 | 25.0 / 63.5 | 19.0 / 48.3 | 21.3 / 54.1 | 58.3 / 148.1 | 13.7 / 34.8 | T / T | 0.0 / 0.0 | 137.0 / 348.0 |
| 1971/72ce | 0.0 / 0.0 | T / T | 20.0 / 50.8 | 26.0 / 66.0 | 139.0 / 353.1 | 100.8 / 256.0 | 28.2 / 71.6 | 10.3 / 26.2 | 0.0 / 0.0 | 324.3 / 823.7 |

The snowfall seasons which make up Table 2 all had common exceptional snowfall months and/or outstanding episodes

a. During the 1958-59 season the outstanding event was the snowburst of 7-11 December, 1958 (Loveridge and Sykes, 1969). 40 inches (101.6 cm) are indicated from the forenoon of the 7th - a record 24 hour amount until that year. Actually, the observation was not made at the College, but was made in the City. The total snowfall for the month is indicated as 85.8 inches (217.9cm), but the retired meteorologist, Mr. Elmer Loveridge, near the City center, recorded 101.0 inches (256.2 cm).

b. During the 1963-64 season, an outstanding event was a snowburst (heavy snowfall, with little or no surface wind where the snowfall is occurring) which extended from about 0500 to 1700 LST, or 12 hours. A one time measurement taken more than two hours after the significant snowfall stopped measured 28 inches (72 cm).

c. During the 1965-66 season, the outstanding event was the blizzard period of 27-31 January, 1966. The "official" snowfall amount is indicated as 67.0 inches (170.2 cm). Mr. Loveridge reported 103.1 inches (261.5 cm). The author believes, based upon extensive observation during the month, and especially during the episode, that the monthly amount was more likely in excess of 140 inches (355.8 cm). The author in (Sykes, 1966) considered a realistic amount was at least 102.0 inches (259.5 cm). Later experience suggests that the total snowfall for the period may have been 10-20% higher (Sykes, 1969 and Sykes, 1992).

d. During the 1971-72 snowfall season, there were two outstanding months; January and February. The period was important to the eastern Snow Conference, as its 29th annual meeting was held in Oswego. Some aspects are covered in the appropriate proceedings, as well as in the proceeding of the 1992 annual meeting held in Oswego, NY (Sykes, 1992; also note references not repeated).

e. During the 1967-68 season, the outstanding period was from 09-22 February, 1968. The "official" snowfall amount for February is indicated as 58.3 inches (148.1 cm). The author believes, based upon extensive personal observation during the 13-day period, that the monthly snowfall amount exceeded 199 inches (or about 302 cm). Included within the period were snowburst and blizzard-burst periods. See (Sykes, Loveridge, 1971, 72) for details. See also (Sykes, 1969).

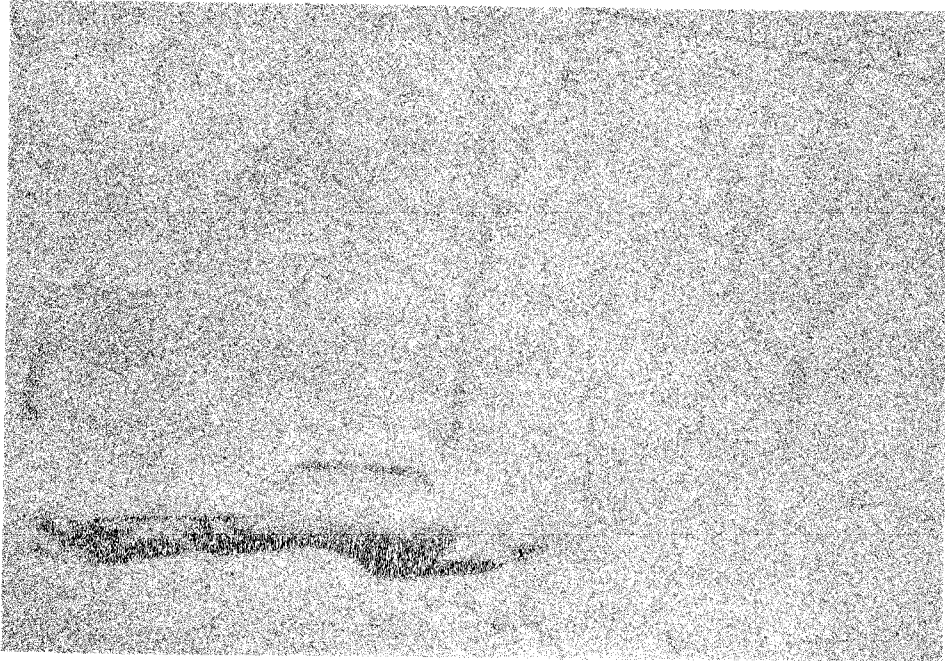


Figure 1 0815 on 20 Dec. 1963 in Oswego. Vehicle is 13.6m (55 feet) from camera. House beyond is 22.2m (90 feet) from camera. Snowfall rates per hour ranged from 5.1 to 10.2cm (2 to 4 inches).

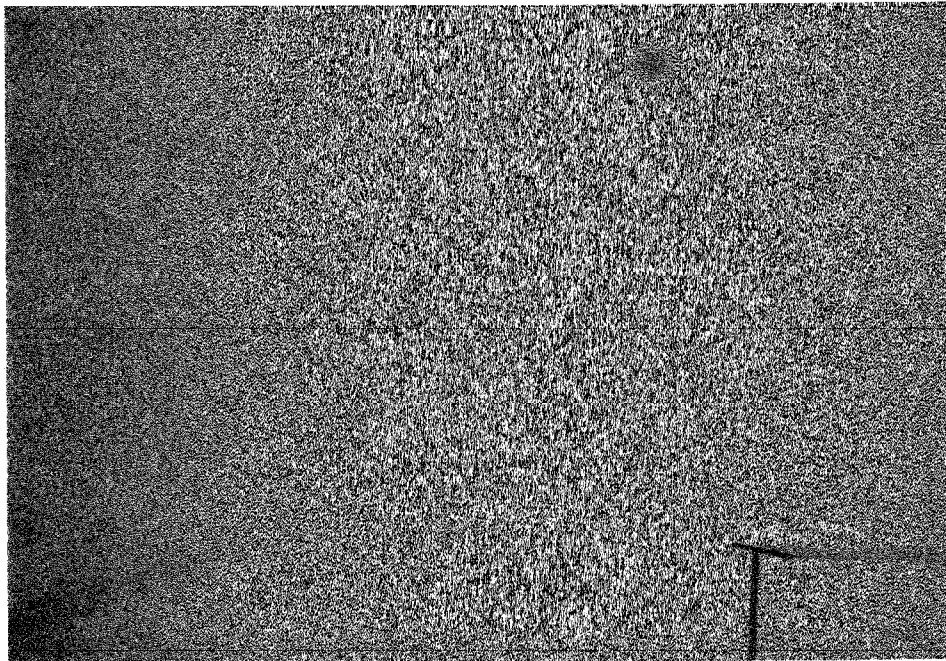


Figure 2 Late afternoon picture during 31 January, 1966 at author's residence during final blizzard-burst phase. Storm winds ranged to and beyond 100kms/hour (67 mph). Snowfall rates are believed to have averaged 5 to 10cm/hour (2 to 4 in.) for much of a 25 to 30 hour period.



Figure 3 During Wednesday, 02 February, 1966 in the afternoon near the author's house. Drifting in places 2 to 4m (6 to 12 ft.) or greater; in some places nearly bare ground was visible over large areas due to wind scouring effect.

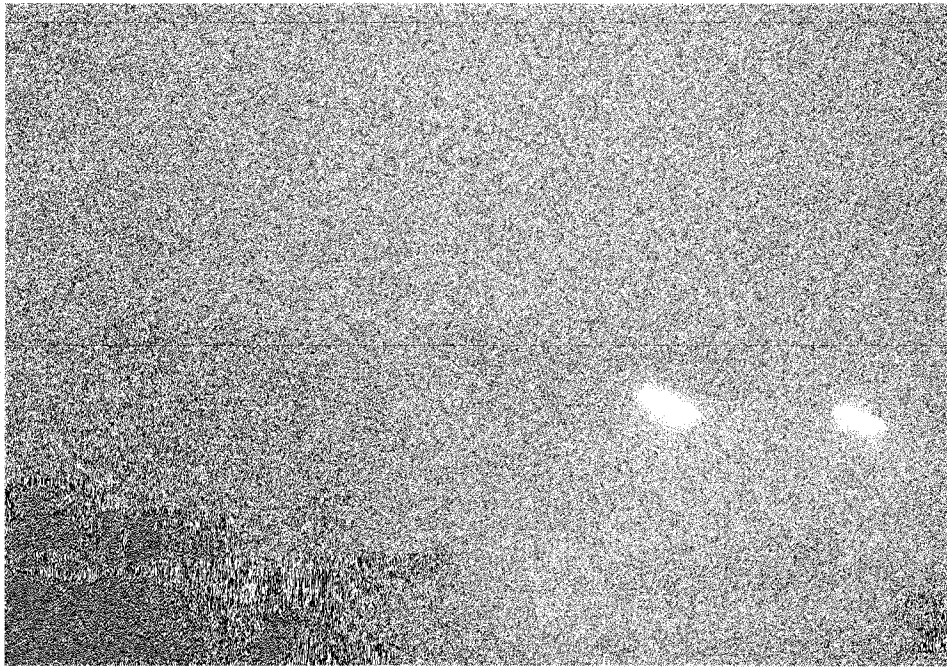


Figure 4 Near 1500 on 25 January, 1972, a few minutes after an arctic frontal passage in western Oswego City. Distance to lights, about 14m (15 yards). Steady winds exceeded 100km per hour (67mph) during this synoptic blizzard episode.