

Otsego Lake, NY ice phenology 1843-2014

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Otsego Lake’s ice phenology, including date of ice-on (freeze) and ice-off (break-up), and duration of ice cover is summarized in this report (Table 1, Figure 1), providing an update to a 2005 report which included data for most years from 1843-2005 (Altman 2005). Missing data points have been filled by collaboration with K. Addington (Pers. Comm.). Biological Field Station faculty and staff observe lake conditions and maintain a record of annual data.

Table 1. Otsego Lake, NY freeze and thaw dates and duration of ice cover (days) 1843-2014.

Winter of	Freeze Date	Break-up Date	Ice Duration (days)	Winter of	Freeze Date	Break-up Date	Ice Duration (days)
1842-43		4/26/1843		1872-73	12/24/1872	5/4/1873	131
1843-44		4/13/1844		1873-74	1/26/1874	5/5/1874	99
1844-45		4/1/1845		1874-75	12/31/1874	5/7/1875	128
1845-46		4/7/1846		1875-76	1/13/1876	4/26/1876	104
1846-47		4/25/1847		1876-77	12/17/1876	4/27/1877	131
1847-48		4/10/1848		1877-78	1/29/1878	4/1/1878	62
1848-49		4/7/1849		1878-79	1/3/1879	4/30/1879	117
1849-50	02/01/1850	4/24/1850	83	1879-80	2/3/1880	4/7/1880	64
1850-51	12/30/1850	3/30/1851	90	1880-81	12/29/1880	4/25/1881	118
1851-52	12/24/1851	4/26/1852	124	1881-82	1/5/1882	4/6/1882	91
1852-53	1/17/1853	4/9/1853	82	1882-83	1/6/1883	4/26/1883	110
1853-54	1/24/1854	4/20/1854	86	1883-84	1/6/1884	4/22/1884	107
1854-55	12/20/1854	4/24/1855	125	1884-85	1/19/1885	4/26/1885	97
1855-56	1/5/1856	4/26/1856	112	1885-86	1/11/1886	4/13/1886	92
1856-57	12/18/1856	4/6/1857	109	1886-87	1/2/1887	5/1/1887	119
1857-58	2/5/1858	4/5/1858	59	1887-88	12/30/1887	4/30/1888	122
1858-59	1/9/1859	3/30/1859	89	1888-89	1/19/1889	4/11/1889	82
1859-60	12/28/1859	4/7/1860	101	1889-90	2/22/1890	4/8/1890	45
1860-61	1/8/1861	4/14/1861	96	1890-91	12/25/1890	4/15/1891	111
1861-62	1/5/1862	4/22/1862	107	1891-92	1/20/1892	4/5/1892	76
1862-63	1/17/1863	4/23/1863	96	1892-93	12/28/1892	4/18/1893	111
1863-64	1/3/1864	4/21/1864	109	1893-94	1/13/1894	3/22/1894	63
1864-65	1/8/1865	4/5/1865	87	1894-95	12/29/1894	4/20/1895	112
1865-66	1/7/1866	4/14/1866	97	1895-96	1/6/1896	4/20/1896	91
1866-67	1/3/1867	4/15/1867	102	1896-97	1/18/1897	4/21/1897	92
1867-68	1/6/1868	4/16/1868	101	1897-98	1/28/1898	3/18/1898	44
1868-69	12/27/1868	4/21/1869	115	1898-99	1/10/1899	4/24/1899	104
1869-70	1/8/1870	4/26/1870	108	1899-00	1/9/1900	4/19/1900	101
1870-71	1/4/1871	3/17/1871	72	1900-01	1/19/1901	4/17/1901	88
1871-72	12/21/1871	4/27/1872	128	1901-02	1/17/1902	3/29/1902	71

Table 1. Cont'd.

Winter of	Freeze Date	Break-up Date	Ice Duration (days)	Winter of	Freeze Date	Break-up Date	Ice Duration (days)
1902-03	1/19/1903	3/17/1903	57	1942-43	12/20/1942	4/12/1943	113
1903-04	12/29/1903	4/24/1904	117	1943-44	12/24/1943	4/20/1944	118
1904-05	1/23/1905	4/19/1905	86	1944-45	12/28/1944	3/26/1945	88
1905-06	2/3/1906	4/14/1906	70	1945-46	1/20/1946	3/24/1946	63
1906-07	12/26/1906	4/4/1907	99	1946-47	2/8/1947	4/11/1947	62
1907-08	1/12/1908	4/8/1908	87	1947-48	1/5/1948	3/27/1948	82
1908-09	1/8/1909	4/9/1909	91	1948-49	2/6/1949	3/26/1949	48
1909-10	12/30/1909	3/28/1910	88	1949-50	2/8/1950	4/17/1950	68
1910-11	1/4/1911	4/23/1911	109	1950-51	1/28/1951	4/9/1951	71
1911-12	1/7/1912	4/19/1912	103	1951-52	1/8/1952	4/10/1952	93
1912-13	2/18/1913	3/21/1913	31	1952-53	2/2/1953	3/23/1953	49
1913-14	1/14/1914	4/19/1914	95	1953-54	1/14/1954	3/9/1954	54
1914-15	12/26/1914	4/19/1915	114	1954-55	1/21/1955	4/11/1955	80
1915-16	1/8/1916	4/17/1916	100	1955-56	12/23/1955	4/8/1956	107
1916-17	2/12/1917	4/18/1917	65	1956-57	1/11/1957	4/16/1957	95
1917-18	12/13/1917	4/14/1918	122	1957-58	2/1/1958	4/18/1958	76
1918-19	2/8/1919	3/28/1919	48	1958-59	12/29/1958	4/18/1959	110
1919-20	12/18/1919	4/17/1920	121	1959-60	1/12/1960	4/17/1960	96
1920-21	1/18/1921	3/19/1921	60	1960-61	1/3/1961	4/26/1961	113
1921-22	1/3/1922	4/11/1922	98	1961-62	1/18/1962	4/18/1962	90
1922-23	1/6/1923	4/11/1923	95	1962-63	1/16/1963	4/17/1963	91
1923-24	1/24/1924	4/17/1924	84	1963-64	1/12/1964	4/15/1964	94
1924-25	12/28/1924	3/27/1925	89	1964-65	1/15/1965	4/25/1965	100
1925-26	1/13/1926	4/23/1926	100	1965-66	1/15/1966	4/19/1966	94
1926-27	12/19/1926	4/10/1927	112	1966-67	1/19/1967	4/9/1967	80
1927-28	1/27/1928	4/7/1928	71	1967-68	1/2/1968	4/5/1968	94
1928-29	1/15/1929	3/29/1929	73	1968-69	12/26/1968	4/15/1969	110
1929-30	1/23/1930	4/7/1930	74	1969-70	1/2/1970	4/24/1970	112
1930-31	1/14/1931	4/10/1931	86	1970-71	1/9/1971	4/30/1971	111
1931-32	2/25/1932	4/22/1932	57	1971-72	1/17/1972	4/25/1972	99
1932-33	2/25/1933	4/17/1933	51	1972-73	1/8/1973	3/18/1973	69
1933-34	12/29/1933	4/11/1934	103	1973-74	1/12/1974	4/14/1974	92
1934-35	1/12/1935	4/13/1935	91	1974-75	1/21/1975	4/20/1975	89
1935-36	1/27/1936	3/30/1936	63	1975-76	2/29/1976	3/29/1976	29
1936-37	1/28/1937	4/20/1937	82	1976-77	12/27/1976	4/12/1977	106
1937-38	1/10/1938	3/23/1938	72	1977-78	1/15/1978	4/17/1978	92
1938-39	1/18/1939	4/24/1939	96	1978-79	1/10/1979	4/6/1979	86
1939-40	12/28/1939	4/27/1940	121	1979-80	1/25/1980	4/11/1980	77
1940-41	1/7/1941	4/17/1941	100	1980-81	12/25/1980	4/13/1981	109
1941-42	1/16/1942	4/8/1942	82	1981-82	12/25/1981	4/20/1982	116

Table 1. Cont'd.

Winter of	Freeze Date	Break-up Date	Ice Duration (days)	Winter of	Freeze Date	Break-up Date	Ice Duration (days)
1982-83	1/20/1983	4/1/1983	71	1999-00	1/19/2000	3/25/2000	66
1983-84	1/11/1984	4/14/1984	94	2000-01	12/29/2000	4/21/2001	113
1984-85	1/30/1985	4/5/1985	65	2001-02	did not freeze		0
1985-86	1/7/1986	3/30/1986	82	2002-03	1/14/2003	4/17/2003	93
1986-87	1/23/1987	4/4/1987	71	2003-04	1/10/2004	4/13/2004	94
1987-88	1/7/1988	4/1/1988	85	2004-05	1/21/2005	4/11/2005	80
1988-89	1/5/1989	4/1/1989	86	2005-06	2/8/2006	2/17/2006	
1989-90	12/22/1989	3/21/1990	89	2005-06	2/26/2006	4/1/2006	43
1990-91	1/22/1991	3/28/1991	65	2006-07	2/12/2007	4/23/2007	71
1991-92	1/25/1992	4/17/1992	83	2007-08	1/27/2008	4/9/2008	75
1992-93	1/19/1993	3/14/1993	87	2008-09	1/10/2009	4/4/2009	84
1993-94	1/6/1994	4/20/1994	104	2009-10	1/23/2010	3/29/2010	65
1994-95	2/7/1995	3/30/1995	51	2010-11	1/14/2011	4/12/2011	88
1995-96	1/4/1996	4/15/1996	102	2011-12	did not freeze		0
1996-97	1/19/1997	4/6/1997	77	2012-13	1/24/2013	4/13/2013	79
1997-98	2/16/1998	3/31/1998	43	2013-14	1/22/2014	4/14/2014	82
1998-99	2/24/1999	4/6/1999	41				

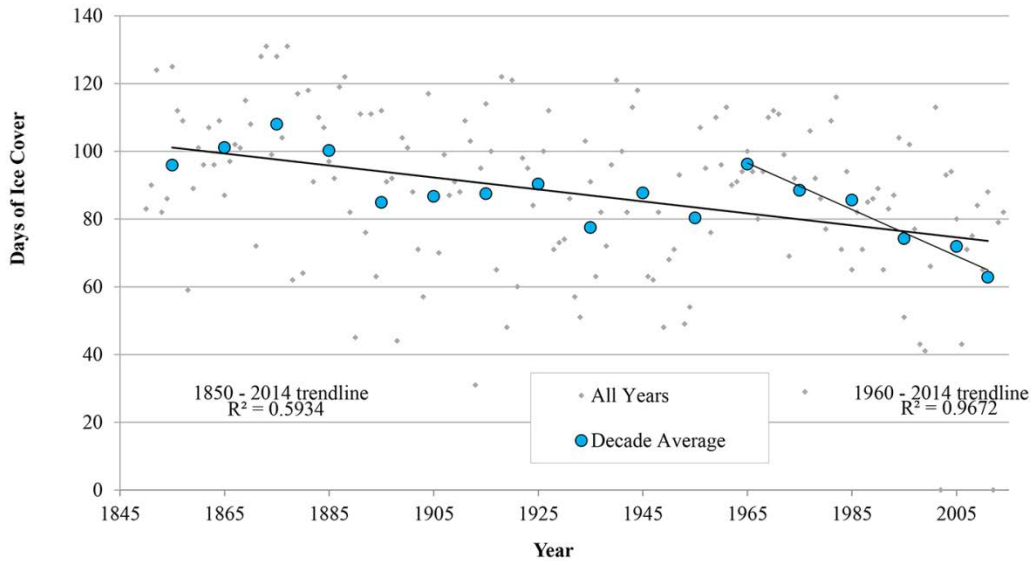


Figure 1. Duration of ice cover (days) on Otsego Lake, NY 1850-2014, by year and by 10 year mean. Linear trend lines and R^2 values included for time periods 1850-2014 and 1960-2014.

Long-term trends in the duration of ice cover follow those exhibited by many lakes throughout the northern hemisphere (Magnuson et al. 2000). In general, temperate lakes are freezing later and thawing earlier, with the greatest rates of change observed beginning around 1850 (Magnuson, et al. 2000). The rate of change in Otsego Lake's length ice cover in more recent years (1960-2014) is greater than that seen from 1850-2014, based on decade mean ice cover duration (Figure 1). The ecological effects of such changes are currently a focus of researchers around the world.

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