

On Thin Ice

<https://www.allotsego.com/editorial-on-thin-ice/>

An unusual thing happened during this past weekend's severe cold snap: Between 6:30 p.m. on Friday and 8 a.m. Saturday, Otsego Lake, the largest lake in Otsego County, froze over completely. With this week's warmer weather forecast, it may well thaw again and, if it does, it will follow a somewhat disturbing trend that could spell trouble in the years ahead.

Records of ice cover on Otsego Lake have been kept since 1842 and, with the establishment of the SUNY Biological Field Station on the Lake in 1968, extensive research and record-keeping on all aspects of the health of the lake have been an invaluable resource.

BFS records show that for the nearly 160 years from the winter of 1842-1843 to the winter of 2000-2001, the lake has had complete ice cover each winter. The first 50 years of records show that the average length of ice cover was about 100 days, with a high average of about 110 days in the decade of the 1860s and a low average of about 85 days in the 1890s.

From the 1890s to the 1920s, the length of ice cover rose steadily each decade and then fluctuated between a low of about 79 days in the 1930s and a high of about 98 days in the 1960s—a decade that those of us around then remember for its cold and unforgiving winters. Since then, each decade has shown a steady decline in the length of ice cover from the 1960s high to a 2010s low just over 60 days. Highly noteworthy is that, since the beginning of the new century, the previously unprecedented phenomenon of zero days of ice cover has occurred three times—in 2000-2001, 2011-2012 and 2016-2017.

Why does this matter? According to BFS publications, “Changes in ice cover can affect the physical, chemical and biological characteristics of a body of water. For example, ice influences heat and moisture transfers between a lake and the atmosphere. Reduced ice cover leads to increased evaporation and lower water levels, as well as an increase in water temperature and sunlight penetration. These changes, in turn, can affect plant and animal life cycles and the availability of suitable habitat. Additionally, ice cover affects the amount of heat that is reflected from the Earth's surface. Exposed water will absorb and

retain heat, making the Earth’s surface warmer, whereas an ice- and snow-covered lake will reflect more of the sun’s energy and absorb less.”

The BFS scientists further point out that the length of ice cover on lakes “depends on climate factors such as air temperature, cloud cover and wind. Conditions such as heavy rains or snowmelt in locations upstream or elsewhere in the watershed also affect the length of time a lake is frozen. Thus, ice formation and breakup dates are key indicators of climate change.”

It is extremely fortunate that we have these local records and these local scientists despite the unfortunate trend they are beginning to show. It is very easy for us to think that our little piece of the globe has a certain safety or immunity—plenty of water and carbon-catching forests, virtually no forest fires, hurricanes, tornadoes, mudslides or floods. But if our lakes are something of a canary in the coal mine, they are telling us that change is upon us, leaving precious little room for complacency.

SRVWHG

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