RINKWATCH REPORT

2020-2021 EDITION



WWW.RINKWATCH.ORG





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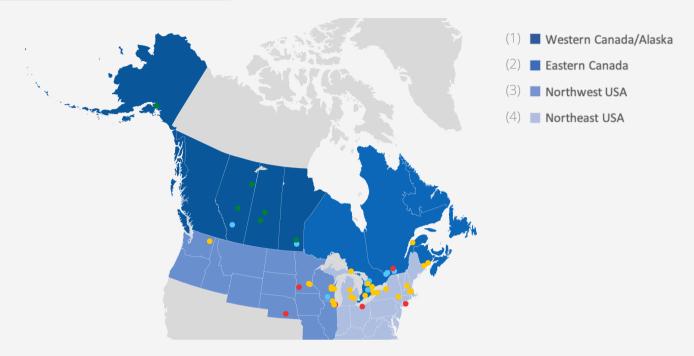
WHERE WE GET OUR DATA

Since its launch in January 2013, RinkWatch has collected information about outdoor skating rinks from volunteers across North America. People with outdoor skating rinks in their backyards or neighbourhood parks are invited to pin the location of the rink on our interactive map at rinkwatch.org, and then throughout the winter report on skating conditions. Over the years, skating information for more than 1.500 different rinks has been provided, sometimes continuously, sometimes occasionally. Our research team is able to aggregate these data and compare them with local weather station data to determine key temperature thresholds for building and maintaining a skateable ice surface. Starting in the winter of 2019-2020 we launched our Rink Sentinels which program, in participants work with a RinkWatch researcher throughout the winter to



collect detailed information about rink conditions, daily ice conditions, and the impacts of rain, snow and other weather conditions on the skating system. This allows us a deeper understanding of how site-specific conditions and climatic conditions beyond temperature affect outdoor rinks.

The data in this report come directly from our volunteer Rink Sentinels, whom we cannot thank enough. If you would like to join the team and become a Rink Sentinel next winter, please email us at rinwatchproject@gmail.com



Red = 30 days or less | Yellow = 31-60 days | Blue = 61-90 days | Green = 90+ days

LOCATION OF SENTINEL RINKS

Maple, ON

(1) Palmer, AK Calgary, AB Edmonton, AB Fort McMurray, AB Lorette West, MB Petersfield, MB Prince Albert, SK

Saskatoon, SK

(2) Oak Bay, NB Quispamsis, NB Holland Centre, ON London, ON London, ON

Midland, ON (3) Chicago, IL Mississauga, ON Mono, ON Navan, ON Niagara Falls, ON Ottawa, ON Ottawa, ON Richards Landing, ON Thornhill, ON Wasaga Beach, ON

Waterloo, ON

St-Calixte, QC

Saint Charles, IL Chanhassen, MN Farmington, MN Lynd, MN Hastings, NE Chewelah, WA Neenah, WI Oshkosh, WI Plymouth, WI

Laval QC

Rimouski, QC

La Grange Park, IL

Trevor, WI Verona, WI (4) Stow, MA Wellesley, MA Commerce Township, MI East Lansing, MI Midland, MI East Amherst, NY Nesconset, NY Oswego, NY Rhinebeck, NY Warner, NH Berea, OH

ediscovered OUTDOOR SKATING

The winter of 2020-21 was darker than usual. Across North America. public health measures to control the spread of COVID-19 meant that gyms, arenas, sports facilities and playgrounds were closed, and even simple diversions like going to a café for a hot chocolate were difficult or off limits altogether. Starting in late September, social media sites dedicated to outdoor skating began seeing a dramatic increase in the number of posts from people looking information on how to build a backyard skating rink. With few other options for their kids to get some outdoor activity, families northern US across the and Canada were buying up plastic



Photo provided by the Climenhaga family of Prince Albert, SK

tarps and second-hand skates, and keeping their fingers crossed for a long, cold winter. At RinkWatch, we were keeping our fingers crossed, because the pre-pandemic winter of 2019-20 had been a poor one for outdoor rink building. especially in eastern North America, with many rinks in early February like badly-built wading lookina pools. We had also published a study in July 2020 describing how the outdoor skating season has started shrinking in the NHL's Original Six cities.

Fortunately, Mother Nature came through for us this winter, just when we needed her most. Across North America, many rink makers experienced better skating conditions than had been seen in several years, and almost every rink saw successive weeks of great skating throughout January and February. In western Canada, the skating season was one of the longest in recent memory, with many rinks operational in early November and staying that way well through March and into early April. Winter came later to the American Midwest and eastern North America, with most rinks not opening until the Christmas holidays. But, once they did open, the skating was great for the next 8-10 weeks, apart from a brief mid-January thaw. Temperature fluctuations during the skating season were the most common explanation for days when rinks were not skateable, but our Sentinel data also showed that roughly a third of non-skating days were due to precipitation (either rain or heavy snowfall).

No matter if you were a seasoned pro or a first-time rink maker, the winter of 2020-21 was a memorable one, with the sounds of skate blades on ice and kids' laughter helping us forget about the pandemic and reminding us all of what matters most.

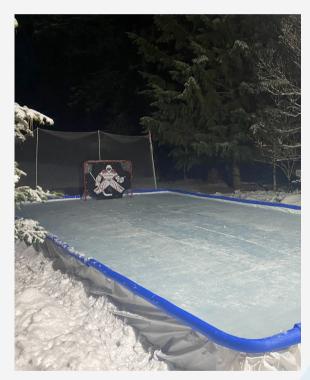
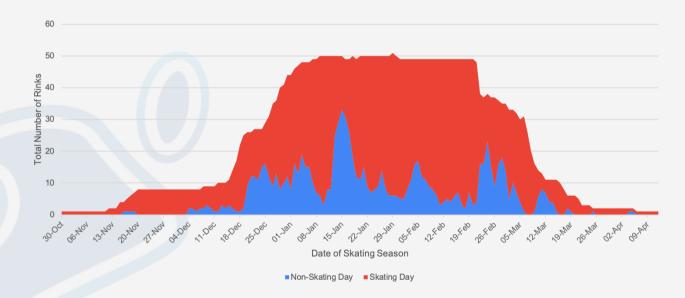


Photo provided by the Mora family of Chewelah, WA

SKATING SEASON 2020 - 2021

Figure 1: All Sentinel Rinks



Figures 1-5 compare the number of days and non-skating days for all sentinel rinks and for sentinel rinks in specific regions in the winter of 2020-21. The dates listed on the horizontal axis begin with the earliest reported skating day from our sentinel network (October 30, 2020) through to the final reported skating day (April 12, 2021). The number of sentinel rinks operating is seen on the vertical axis. The red area of the chart reflects the total number of rinks reporting good skating conditions on a given date, and the blue area reflects the number of rinks reporting unskateable conditions on that same date.

SKATING SEASON 2020 - 2021

Figure 2: Western Canada/Alaska Region



Figure 3: Eastern Canada Region



SKATING SEASON 2020 - 2021

Figure 4: Northwest USA Region

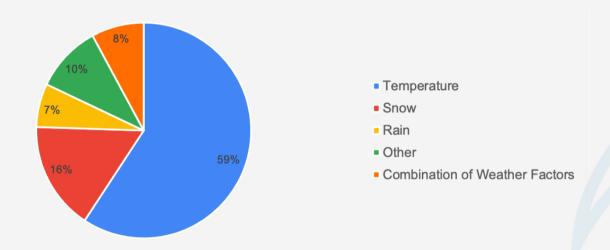


Figure 5: Northeast USA Region



REASONS WHY RINKS WERE TEMPORARILY NOT SKATEABLE

Figure 6: All Sentinel Rinks



Figures 6 through 10 summarize the reasons given by Sentinels for days during the winter when their rink was not skateable.

REASONS WHY RINKS WERE TEMPORARILY NOT SKATEABLE

Figure 7: Western Canada/Alaska Region

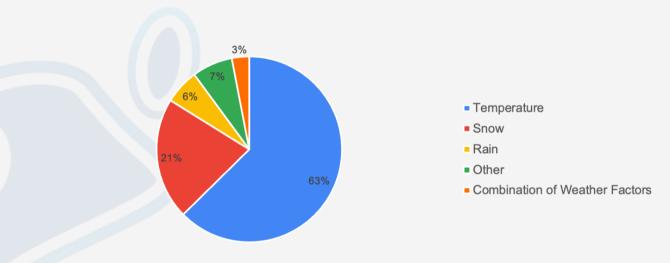
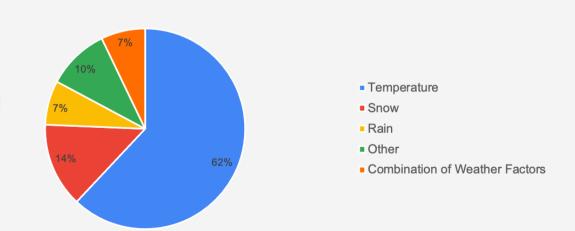


Figure 8: Eastern Canada Region



REASONS WHY RINKS WERE TEMPORARILY NOT SKATEABLE

Figure 9: Northwestern USA Region

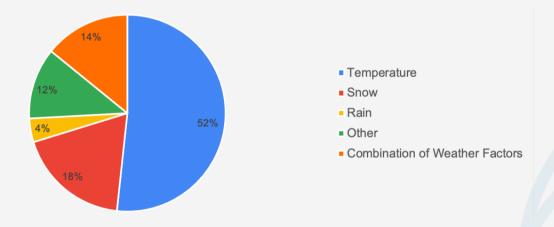
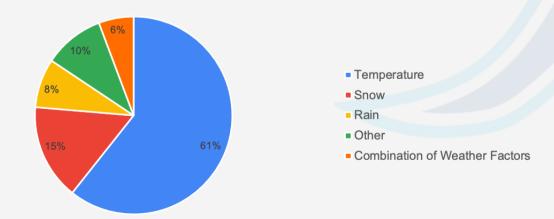
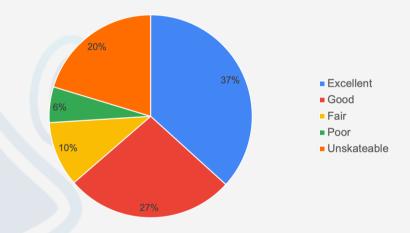


Figure 10: Northeastern USA Region



ICE CONDITIONS

Figure 11: All Sentinel Rinks



Figures 11 through 15 summarize the relative skating conditions reported by sentinels during the season.

ICE CONDITIONS

Figure 12: Western Canada/Alaska Region

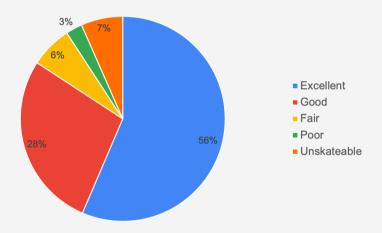
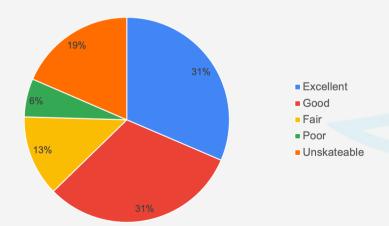


Figure 13: Eastern Canada Region



ICE CONDITIONS

Figure 14: Northwestern USA Region

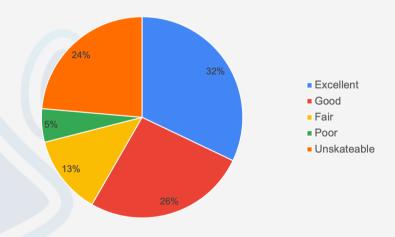
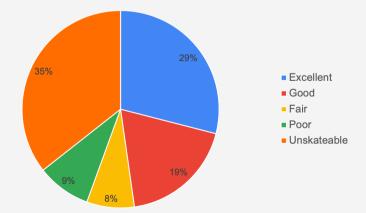


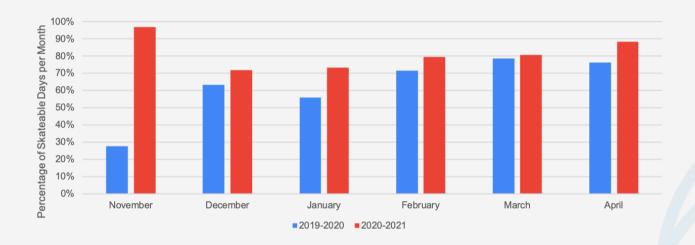
Figure 15: Northeastern USA Region



SEASON COMPARISON

2019-'20 & 2020-'21

Figure 16: All Sentinel Rinks



Figures 16 through 20 compare the percentage of skateable days per month between the 2019-20 skating season and that of 2020-21.

SEASON COMPARISON

2019-'20 & 2020-'21

Figure 17: Western Canada/Alaska Region

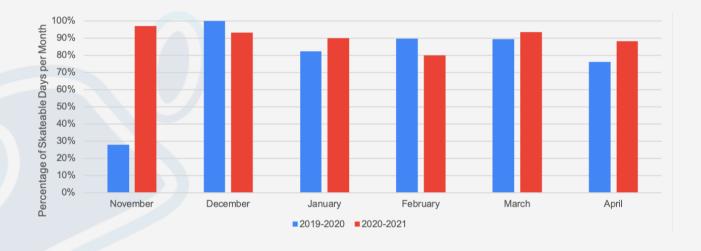
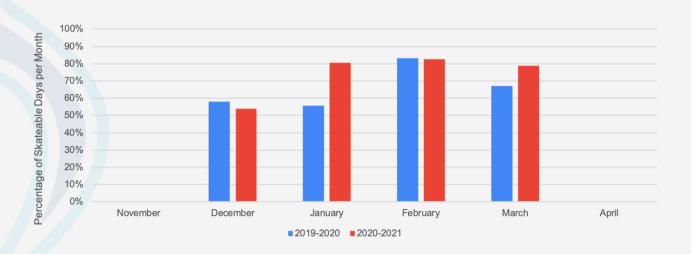


Figure 18: Eastern Canada Region



SEASON COMPARISON

2019-'20 & 2020-'21

Figure 19: Northwestern USA Region

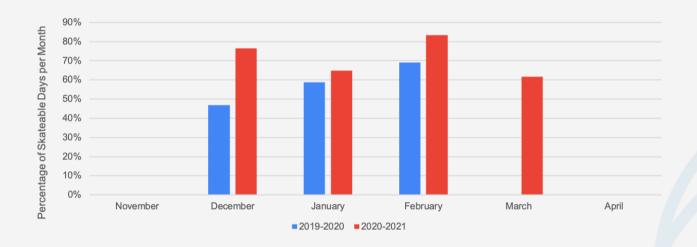
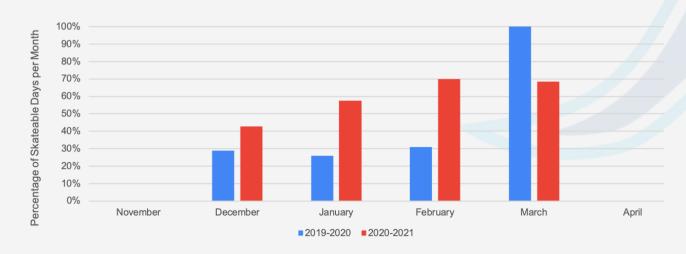


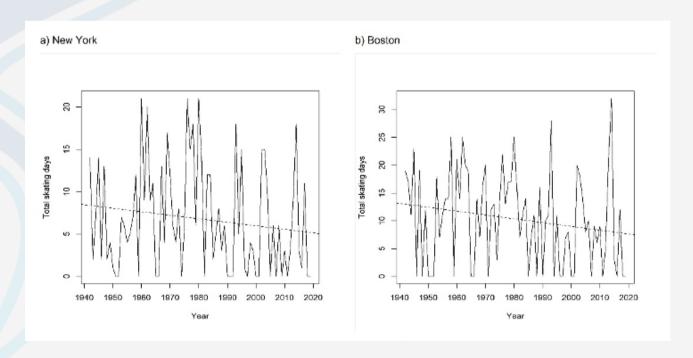
Figure 20: Northeastern USA Region



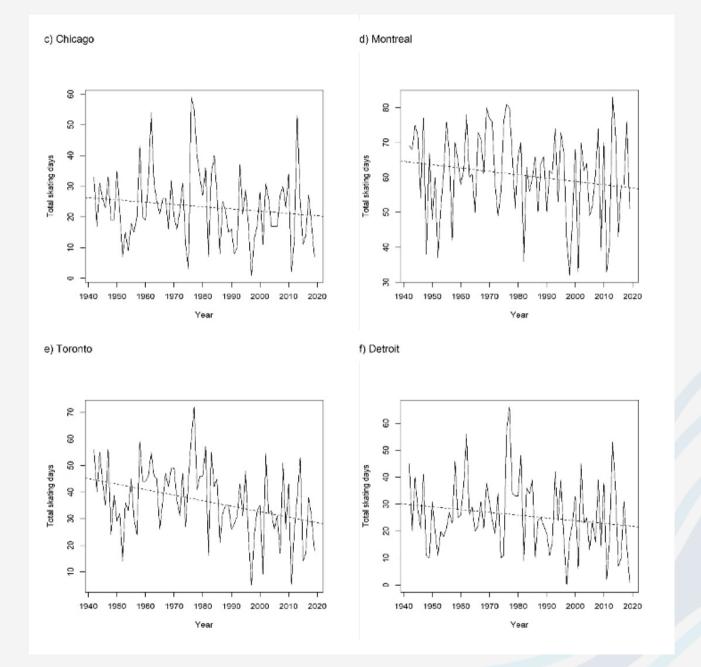
NEW cience FROM RINKWATCH

In 2020, the RinkWatch team released results from a study of historical weather data since 1942 from the Original Six NHL cities of Boston, Chicago, Detroit, Montreal, New York and Toronto. Our findings showed that the number of high quality outdoor skating days has declined in all of the 6 cities, with Toronto experiencing the most significant changes. Full results of the study were published in the Winter 2020 issue of the peer-reviewed scholarly journal The Canadian Geographer (https://onlinelibrary.wiley.com/toc/15410064/2020/64/4).

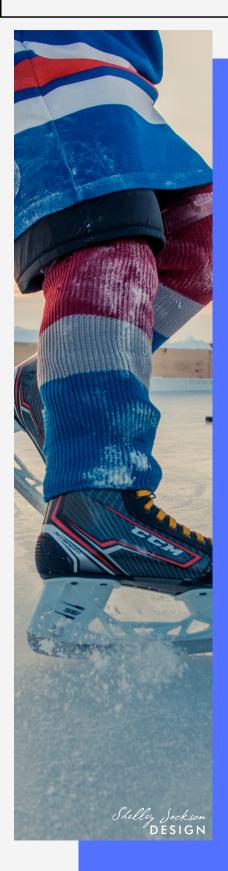
ESTIMATED NUMBER OF HIGH-PROBABILITY SKATING DAYS PER WINTER SINCE 1942 FOR EACH OF THE ORIGINAL SIX NHL CITIES (FROM MALIK ET AL 2020)



NEW SCIENCE PAGE 20



THANK YOU PAGE 21



THANK YOU

As it was for many people and organizations, the pandemic year was a challenging one for the RinkWatch team. We operated on a shoestring budget, and worked from home throughout the winter due to the university campus being locked down. The RinkWatch project is only possible because of the participation of volunteers from across North America, most of whom faced their own challenges because of public health measures.

With sincere thanks, the RinkWatch team: Robert, Laura, Colin, Karim and Haydn

Please refer to the next page for a personal Thank You to the sentinels.

THANK YOU PAGE 22



THANK YOU

The 2020-21 RinkWatch Sentinel Program honour list of volunteers:

Adam Krichbaum. Alessandro Angela Heinz, Aric Dodd, Bob Ruggio, Brad Buican, Brian Baker, Brian Eckhardt, Brian Phillips, Carole Hunt-Ford, Chris Fraser, Chris Starzec, Dan Sanborn, Darryl De Gagne, Dawn McGregor, Derek Coulombe, Emily Burger, Eric Walker, Gary Lukaitis, Guy Moreau. Jackson Wilson. Jason Vlahos. Jeremy Wakaruk, Jim Gootjes, Jimmy Skrivanos. John Kalantzakos. Josh Johnson. Kaija Hupila, Kevin Riley, Kishore Desai, Kris Jackson, Mark Rafferty, Mathew Blanchard, Matt Lozar, Maurice Cormier, Max Farley, Michel Godbout, Mike Mora, Murray Reingold, Pat Blake, Philippe Allard, Rick Nasta, Roberta Bond, Rod Hartman, Sean Gill, Sean Howard, Shelley Jackson, Steve Climenhaga, Steven Kiryakoza, Tiffany Mukaabya, Trevor Stewart, and Zach Weston