

## We Need More Research on the Impact of Warmer Winters on Older Adults

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### ABSTRACT

It is generally accepted that the climate around the globe is warming. This change in climate has serious consequences for people in general, but especially for older adults. Much has been written about the impact of warmer summers, with extreme heat and severe weather events impacting morbidity and mortality among older adults. There is far less in the scientific, medical, and social literature about the impact of warming winters on older adults. In the northern hemisphere, winters are warming at an alarming rate, at a much faster rate than summers. There are bigger temperature swings and less frequent but more intense snows. When there are more days where the daytime temperatures are above freezing and nighttime temperatures dip below freezing, there are an increased risks of falls on ice and transport accidents due to slippery roads<sup>1</sup>. Less snow can lead to a reduction of water in aquifers, lakes, and rivers as well as drought conditions come spring and summer. Late season heavy snows can melt quickly creating spring floods. This commentary seeks to identify some of the consequences of warmer winters and call for more research on the impacts of year-round climate change on older adults.

**Keywords:** Climate change, Older adults, Global warming, Winter

### 1. Introduction

Across the globe and across the seasons, temperatures are rising. There is abundant evidence that average daily temperatures are rising<sup>1-3</sup>. Extreme weather and climate-related events such as fires, floods, and blizzards have resulted in damage to crops, deepened poverty, and displaced people on six continents<sup>2</sup>. Older adults are disproportionately affected by these climate-related conditions<sup>2-5</sup>. As the global population of older adults continues to increase, they are at increasing risk for the effects of climate change such as extreme heat and cold, floods, and droughts<sup>3-5</sup>.

### 2. Winters are Warming Rapidly

According to Climate Central (2025), winter is warming faster than any other season in the United States (US). Of the 244 US cities they monitor, 98% winter has warmed by an average of 3.9°F (4.4°C), with the Upper Midwest in particular warming by an average of 5.4°F (5.2°C) and some locations warming by as much as 8°F (6.7°C)<sup>6</sup>. In January, 2026, major cities in the US set four times more record daily high temperatures than record low temperatures<sup>7</sup>. Close to 2/3 of monitored locations now get less snow than they did 50 years ago<sup>8</sup>. This reduces mountain snowpack which is a critical source of meltwater used to refill

reservoirs and irrigate crops in the spring and summer. Shorter winters are known to disrupt summer crop yields, especially for citrus fruits and nuts. Warmer, shorter winters impact growing seasons, allergies, and disease-carrying insects<sup>6</sup>.

In the United Kingdom, the intensity of rainfall has increased by 16% since 1891<sup>9</sup>. They report that while the increase is seen across all seasons, the winter has been more affected than summer. Warming winters are such a global concern that the International Olympic Committee is contemplating moving the Winter Games and Paralympic Games a month earlier for better snow conditions for the athletes<sup>10,11</sup>.

As winters warm, the planet may experience less frequent snowfalls, more ice from daily freeze/thaw cycles, and more extreme storms such as blizzards<sup>12</sup>. A blizzard is when snow falls while the winds blow at least 35 miles per hour (56 km per hour), for 3 hours or more<sup>12</sup>. This causes dangerous whiteout conditions that present significant problems for anyone walking, biking, or driving outside, even after the winds subside. The drifting and deep snow make it harder for emergency vehicles to rescue people stranded by the snow. This is of concern to many older adults.

### 3. Impact on Older Adults

Although there have been tens of thousands of articles published within the last 5 years related to climate change and its relationship to the health of older adults, relatively few have addressed how changing winter climates have impacted older adults. There are some studies that have examined how extreme cold events may contribute to morbidity and mortality<sup>4,5,13,14</sup>. For example, Kephart, et al.<sup>14</sup> found that in Latin America, a higher proportion of deaths in all age groups were attributable to ambient cold than heat. Despite these studies, there seems to be a large gap in the literature that focuses on how warming winter temperatures impact the daily lives of older adults.

Beyond morbidity and mortality, warming winter temperatures impact older adults' abilities to engage in occupations that are meaningful to them. These occupations could be recreational, vocational, or related to self-care, each of which contribute to comfort and well-being of older adults. A few examples can illustrate this point.

Harsh winter weather, such as blizzards and extended cold snaps, impacts older adults' ability to access food, medical services, and social connections. Older drivers may be hesitant to drive when there is ice on the road. With less snow, historically cold winter climates may develop more freezing rain that turns into ice. When roads are icy, food delivery and home health services may not be available, leading to poorer health outcomes. Friends and family may visit less often resulting in increased feelings of loneliness, boredom, and isolation. In addition, the vulnerability of older adults to cardiovascular and respiratory diseases have been noted to increase mortality under extreme cold temperature and drastically fluctuating temperatures<sup>1,4,5,13,14</sup>. We need more evidence to support these claims.

Skiing is a popular recreational activity, particularly among adults living in cooler climates or mountainous environments. Many adults who have skied all their lives continue skiing well past age 65. Cross-country skiing, snowshoeing, or snowmobiling may also continue into old age. Older adults who enjoy these activities may be left with excess time on their hands

when climate change results in less snow. What do older adults do with that excess time?

Ice fishing is a popular winter activity enjoyed by many older adults, but it is being threatened by warmer winters. Warmer winters mean thinner and less stable ice on which to fish. Ice needs to be clear and at least 4" (10.2 cm) to walk on, 12" (30.5 cm) to drive a car on, but 20" (50.8 cm) to drive a heavy-duty truck with a wheelhouse shelter<sup>15</sup>. On many northern lakes, people need to drive on frozen lakes to tow their wheelhouse shelter (fish houses on wheels that often resemble camper trailers) so they can fish out of the wind, and in some cases, within heated spaces. The length of the ice fishing season is shrinking as winters heat up. For many elders in Native communities, ice fishing is an important source of food, anything that keeps fisherpersons off the ice is a lost opportunity for obtaining food. What happens when activities such as ice fishing are not safe because of thin ice?

Older adults who pick up a little extra income in the winter by driving residential snow removal vehicles are left without that income when snow doesn't fall as a result of climate change. Older adults who work as gig workers delivering people or products on an on-call basis might have better driving conditions under which to do their work. If there are prolonged periods where the temperature stays above freezing, there will be less ice on the sidewalks and trails for walking, leading to fewer falls and more exercise opportunities. Alternatively, if daily temperatures more regularly cross freezing (0°C or 32°F), called zero-crossing days, the freezing and thawing cycle could result in more ice on the road and create a danger for increased transport accidents and falls<sup>1</sup>. We need to know more about how volatility in winter weather impacts older adults.

Even for adults who mostly stay indoors in winter, warming temperatures can impact their daily lives. Outdoor temperature often effects clothing choices. Rapid temperature swings can make choosing the appropriate clothing more challenging. The frequency with which an older adult bathes, shaves, or trims one's hair may also be dependent on outdoor temperatures. The types of foods prepared and eaten also can vary by season. If a warmer winter leads to a summer drought, that will in turn lead to diminished food supplies, higher costs for everyday foods, and less food put away for the following winter. What is the evidence around food access and older adults in a changing climate?

Additional considerations are the indirect effects that warmer winters have on the health, vitality, and comfort of older adults. Warmer winters with less spring snow melt mean that water supplies are not replenished for spring and summer growing seasons<sup>6</sup>. This impacts older adults who farm for a living as well as food supplies for human and animal consumption. Earlier springs mean that allergy seasons are extended causing more discomfort for older adults. Warmer winters also mean that there is less die-off of insects that carry diseases, increasing vector-borne illnesses in the summer months<sup>6</sup>. Older adults are more vulnerable to such diseases than younger adults. With warming winters, which diseases are moving into places they were never found before, and how are older adults affected by them?

### 4. Call to Action

Given the impacts of climate change on older adults, we need more research related to the impact of warming and volatility in all seasons, especially winter. This research needs to examine

the social, health, and economic impacts at the individual, community, and population levels. Both qualitative and quantitative research methods are needed to fully understand the real-life impacts of warming winter climates on the health, vitality, and emotional well-being of older adults. With winters warming at a faster rate than summers, we must seek to better understand how older adults are impacted in all aspects of their life during these changing winter conditions.

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