DESPITE COLD SNAP, WARMING HAS TRANSFORMED U.S. WINTERS
New report tracks a trend with serious consequences for winter recreation

(PRINCETON, N.J.) — The past week’s snow-friendly temperatures are becoming increasingly rare. Across the United States, winters have heated up since the 1970s — and that trend is jeopardizing America’s valuable winter recreation sector, according to Climate Central’s new report, ON THIN ICE: How Climate Change is Shaping Winter Recreation.

Winter sports contribute billions of dollars to the U.S. economy each year. They also support hundreds of thousands of jobs. And all winter sports, from downhill skiing to ice fishing, depend on low temperatures, ample snowfall, or both.

"Climate change is making winters warmer and shifting snowfall patterns around the country," said Jennifer Brady, Climate Central’s senior data analyst. "The warming has happened fastest in America’s historically cold places, many of which have winter-based economies and traditions."

The analysis gathered temperature data from more than 200 weather stations across the United States. Virtually all of those stations — 91 percent — saw winters heat up by at least 1°F since the 1970s. 78 percent saw a rise of 2°F or more. And 21 percent recorded warming of at least 4°F, including a number of big cities, such as Atlanta, Georgia and Philadelphia, Pennsylvania. These temperature increases may seem modest, but when they are linked to shorter winter-sports seasons, they can have serious consequences for outdoor recreation.

Snowfall patterns are in flux, too. Of 107 locations examined, more than half (57) saw declines in average annual snowfall of at least an inch over the last half century, and 16 percent, or 17 stations, recorded declines of a foot or more. The results also pointed to stark regional differences between stations that experienced declines in snowfall, many of them in the Western United States, and those that recorded significant increases, as in the Great Lakes region (where shorter iced-over seasons allow water to evaporate and form more lake-effect snow). Those uneven changes are consistent with the warming climate, and reflect the complex interactions between precipitation and temperature that make snowfall possible.

Local highlights include:

- Winters in Burlington, Vermont — near a number of popular alpine and cross-country resorts — warmed 7°F since 1970, more than at any other station assessed
• In Salt Lake City, Utah — which hosted the 2002 Winter Olympics — average winter temperatures rose from below to above freezing since 1970, and annual snowfall declined by 31 inches
• In Minneapolis, Minnesota, where ice fishing and ice hockey are popular winter pastimes, winters warmed by about 5.7°F since 1970
• Flagstaff, in the heart of Arizona’s ski country, lost 48 inches of annual snowfall over the last half century

Such changes make the winter sports season shorter and less profitable, endangering cold-weather traditions cherished by communities around the United States. Only slashing the amount of carbon pollution that humanity is pouring into the atmosphere can protect those benefits for generations to come.

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*Climate Central* is a non-profit science and news organization providing authoritative information to help the public and policymakers make sound decisions about climate and energy.