



## City Dwellers Look To Backyards When Deciding To Head To Slopes

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DURHAM, N.H. – City dwellers are less likely to head to the slopes when their backyards are bare, even if New England ski resorts have many feet of packed powder and ideal skiing conditions, according to new research from the University of New Hampshire.

The new research is published in the December issue of the International Journal of Climatology in the article, "Ski areas, weather and climate: time series models for New England case studies." The researchers are Cliff Brown, professor of sociology at UNH; Lawrence Hamilton, professor of sociology at UNH; and Barry Keim, former professor of geography at UNH and New Hampshire State Climatologist who is now at Louisiana State University.

The researchers found that the New England ski industry is directly impacted by the "backyard effect," which means that urban snow conditions significantly affect skier activity. Snow in urban backyards can be as important to ski businesses as snow in the mountains, according to the researchers.

Because snow and weather follow deeper climate trends, the research also has implications for understanding the potential consequences of climate change and how it could impact the New England ski industry. Since 1970, Northeast winters have warmed by an average of 0.70 °C/decade.

"Ski areas, emblematic of winter tourism, provide the economic engine for many rural regions. Their importance extends beyond employment and revenues of the ski area itself. Real estate booms in second homes and condominiums, and in migration by retirees and others, raise housing prices and transform communities in fundamental ways. Tax revenues, businesses, and the needs for infrastructure and social services change as well. If climate shifts directly affect ski areas, their indirect impacts ripple as well," according to the researchers.

The researchers studied two of the nation's oldest alpine resorts, both in New Hampshire: Cannon Mountain in the northwestern White Mountains and Gunstock Mountain Resort near Lake Winnepesaukee.

With the assistance of resort personnel, researchers obtained records of daily attendance through seven winter seasons at Cannon and nine winters at Gunstock. Weather and snow-condition indicators include daily snowfall, snow-depth and temperature for Boston, and Lakeport and Bethlehem, NH.

They found that attendance at the ski areas is more influenced by snowfall in Boston than at the resorts themselves. For example, a one centimeter increase in the previous day's snow-depth at Bethlehem, near Cannon, increases the predicted attendance by 11 skiers/snowboarders. On the other hand, a one centimeter increase in the previous day's snow-depth in Boston increases predicted attendance somewhat more, by 18 skiers, even though Boston snow might have no bearing on Cannon-area conditions.

"If this backyard effect reflects ignorance, then education is the cure – skiers could be persuaded that great skiing exists in the mountains, even when their backyard is bare. The backyard effect might also partly reflect subtler dynamics, such as people who feel less like skiing, or perceive more activity choices, when conditions are not wintry near home," the researchers said.

Weekends and holidays also play a crucial role in ski resort attendance. The highest spikes in attendance on weekends and holidays occur at different times from one year to the next, however, because they are influenced by snow conditions and weather.

The results are particularly interesting in light of the continued investments made by ski resorts in snow-making infrastructure. "Snowmaking costs millions, but has become a competitive and climatic necessity in many places. Smaller, less capitalized resorts, and those in marginal climates, have trouble making the necessary investments – a factor in their high failure rate, and the industry's consolidation into a smaller number of larger resorts," the researchers said.

#### Links of Interest

#### Current Study

- "Ski areas, weather and climate: time series models for New England case studies"  
[http://pubpages.unh.edu/~lch/Hamilton\\_et\\_al\\_IJOC.pdf](http://pubpages.unh.edu/~lch/Hamilton_et_al_IJOC.pdf)

#### Previous Research

- "NH Skiers Facing Downhill Slide Of Diminishing Ski Areas" (news release)  
[http://www.unh.edu/news/cj\\_nr/2006/nov/lw09ski.cfm?type=n](http://www.unh.edu/news/cj_nr/2006/nov/lw09ski.cfm?type=n)
- "Warming Winters and New Hampshire's Lost Ski Areas: An Integrated Case Study" (journal article)  
[http://pubpages.unh.edu/~lch/ski\\_warming.pdf](http://pubpages.unh.edu/~lch/ski_warming.pdf)

