Article Title

Impact of weather on downhill ski lift ticket sales

Citation

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Abstract

Skiing heavily relies on specific weather and environmental conditions to make participation both feasible and enjoyable. The lack of published research on the relationships among ski activity, weather, and climate is, therefore, surprising, especially in light of mounting evidence regarding climate change. The analyses of the influence of daily weather variations on daily ski lift ticket sales at two Michigan ski resorts presented here appear to be the first of their kind. The regression models developed could be used by outdoor recreation and tourism providers for both short-term decision making and longer-term planning and management activities, in particular those involving consideration of climate change and potential adaptation strategies.

Methods

 Two popular ski resorts in the northwestern part of lower Michigan served as the two case study sites.

Results

Results suggest that weather variables such as minimum and maximum temperature, snow depth, and wind chill do indeed have a statistically significant impact on downhill ski lift ticket sales.

Conclusion

The results of this study suggest that the weather, as measured by minimum or maximum temperature, snow depth, and wind chill, does indeed have a statistically significant impact on downhill ski lift ticket sales in Michigan. Significant results from the four regression analyses reported herein are summarized in table 6. As expected, the snow depth variable was found to be significant in all four models, with only one additional inch of snow depth producing a 7% to 9% increase in daily lift ticket sales. Sales were also influenced by one of the two local temperature variables in each of the four models; an increase in temperature was found to have a consistently negative impact on sales. Wind chill proved to be significant in only one of the four regressions, suggesting that advances in ski apparel may have largely mitigated this measure as a factor in skiers' behaviors. The ski area managers' contention that snow conditions in the lower region of the state from which they draw a large number of their customers matter was not supported in these analyses since none of the relevant variables were found to be statistically significant. The results were also consistent for the weekend and

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holiday variables, confirming that increased lift ticket sales occur when people have more leisure time. In comparing results for the peak and off-peak models, only slight differences were evident, and no consistent patterns were found. Nevertheless, this peak–off-peak modeling strategy was found to be superior to a single-season approach, resulting in better performing models and improved projections of sales.