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# ENVIRONMENTAL Fact Sheet

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## Global Climate Change and Its Impact on New Hampshire Skiing

### The Season May Be Shorter

Climate change scientists predict that the ski season in New Hampshire may be adversely impacted as a result of climate change. Warmer temperatures may shorten the season; rain, instead of snow, may fall mid-winter; and warmer nighttime temperatures will make snowmaking more difficult.



### What is Global Climate Change?

Life on Earth is possible because the sun's energy warms the earth and its atmosphere. As this warmth radiates back into space, a portion is absorbed by a delicate balance of heat-trapping gases in the atmosphere, creating an insulating layer. The insulating layer, functioning much as a conventional greenhouse, acts to elevate temperatures on Earth. This "greenhouse effect" is a necessary natural global mechanism. Without it, the Earth's climate would be hostile to human life. Human contributions to greenhouse gases (GHG) have led to an "enhanced greenhouse effect," often referred to as climate change or global warming. Today's atmospheric concentrations of carbon dioxide (CO<sub>2</sub>), the primary GHG, are 30 percent above the pre-industrial levels of 200 years ago. At present rates they may double as early as 2050.

### Potential Impacts to the New Hampshire Ski Industry

- Potential mid-season rain and significantly more freeze-thaw cycles could result in more icy, granular conditions. Ski conditions, in general, may deteriorate.
- Mid-season rain would necessitate additional snowmaking to restore conditions. Warming will be more pronounced during winter nighttime. Snowmaking may be adversely affected. To cover one acre of ski trails with one foot of snow takes 150,000 to 180,000 gallons of water. Water supply will be an issue, as well as environmental impacts from such large water withdrawals.
- Loss of 10 - 20 percent of ski season days represents a loss of \$42 - \$84 million in direct and indirect spending in New Hampshire.
- New Hampshire's ski industry represents 8.6 percent of total direct visitor spending, approximately \$190 million. Total ski spending, including indirect spending such as meals, overnight accommodations and the like, totals \$420.7 million.
- EPA estimates of national revenue ski losses are as high as \$14 billion.
- Lost revenue translates to lost jobs. Approximately 17,000 New Hampshire residents are employed directly by the New Hampshire ski industry.

### For More Information

For more information on climate change, its impacts on the ski industry and other New Hampshire resources, visit [www.des.nh.gov](http://www.des.nh.gov) or contact the DES Air Resources Division at (603) 271-1370.