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## News Release

July 26, 2004

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**Note to Editors: The paper, “Changes in the Proportion of Precipitation Occurring as Snow in New England 1949-2000,” is available to news media from the contacts listed above.**

## Is Less Snow in New England’s Forecast?

With mid summer upon us, most New Englanders long ago packed away thoughts of snow and winter sports in favor of fair-weather pursuits. Lawn mowers, canoes, and short sleeves have displaced shovels, sleds, and heavy coats. And new research suggests that the tools and toys of winter are staying in the back of the closet and storage shed a bit longer throughout the region than they once did. According to a U.S. Geological Survey (USGS) study published in the July issue of the American Meteorological Society’s *Journal of Climate*, the yearly snow decreased significantly in favor of rain during the last half of the 20<sup>th</sup> century.

“We compared the annual snowfall to total precipitation at 21 sites throughout New England and found a persistent trend from 1949 to 2000 of significantly less snow for 11 of those sites,” said Thomas Huntington, the study’s lead author and a hydrologist at the USGS in Maine. The remaining 10 sites had insignificant trends. “The four northernmost sites showed the strongest and most consistent trends, with an average decrease in annual snow-to-precipitation ratio from about 30% in 1949 to 23% in 2000,” said Huntington.

The scientists also found that the percent of precipitation that fell as snow generally decreased along and near the coast as well. Five of eight sites showed significant changes over the 50-year period.

Furthermore, the research revealed significant correlations between snow-to-precipitation ratios in northern New England, air temperature, the timing of spring runoff, and two dominant modes of atmospheric circulation: the North Atlantic Oscillation and Pacific North American indices.

These results are consistent with previously published evidence of systematic, regional late winter and early spring hydrologic changes throughout New England during the past century. In a study released in July 2003, USGS scientists determined that the center of the winter/spring runoff has advanced by 1 to 2 weeks during the 20<sup>th</sup> century and that most of this change occurred over the last 30 years. That study also showed more striking trends in northern and mountainous areas of New England. These northern regions have substantially greater snow accumulation, thus warming would have a greater impact on runoff than in more southerly regions. A companion study of rivers in coastal Maine showed large increases in February river flows during the 20<sup>th</sup> century and large decreases in May flows, which also

suggests an earlier snowmelt. Earlier last-frost dates, lilac-bloom dates, lake and river ice-out dates; the thinning of river ice; and spring air temperatures also suggest New England's winter weather has become less ferocious.

“Although these findings provide further evidence of a regional warming pattern, questions of the impact and cause of this trend are beyond the scope of this study,” said Huntington, “and this research does not identify whether the warmer climate in New England is linked to global climate change.”

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