

Trends in Temperature and Dew Point at the Summit of Mount Washington, New Hampshire, 1935-2004

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Dry and wet bulb temperatures from sling psychrometer measurements taken every 6 hours from 1935 to 2004 at the summit of Mount Washington, located at 44°16'N, 71°18'W, 1914 m above sea level were recently digitized. The annual temperature increased by 0.3°C, and the annual dew point decreased by 0.4°C over this 70-year period (Figure 1). The synoptic temperature increased most in spring and winter, changing by 1.0°C and 0.5°C, respectively, while it decreased slightly in summer and fall. Dew point has decreased in fall, summer, and winter, 0.9°C, 0.5°C, and 0.4°C respectively, and increased by 0.1°C in spring. Preliminary analysis suggests that some of the larger trends in winter and spring may be statistically significant; results of Monte Carlo simulations will be reported. Increasing temperatures can cause air to appear drier, but lower dew points indicate the presence of somewhat drier air. Other dew point climatologies of the continental United States for the second half of the century have shown mixed results, with increased dew points evident at some stations, decreased dew points at others, and no clear regional patterns.

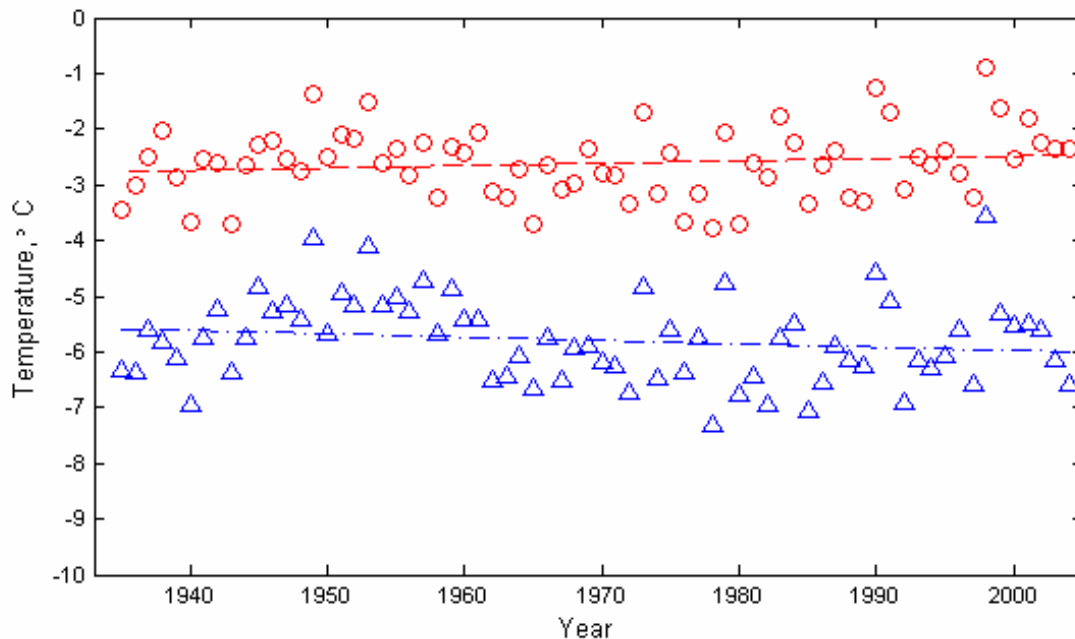


Figure 1. Annual synoptic temperature and dew point with linear regressions for the summit of Mount Washington for the 1935 to 2004 period. Mean temperature has increased by 0.3°C while dew point has decreased by 0.4°C over 70 years.