

Geophysical Research Abstracts,
Vol. 10, EGU2008-A-02314, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-02314
EGU General Assembly 2008
© Author(s) 2008



Response of Northern Hemisphere snow cover to a changing climate

P. Mote (1) and R. Brown (2)

(1) Center for Science in the Earth System, JISAO, Box 354235 University of Washington, Seattle WA 98195 USA (philip@atmos.washington.edu); (2) Environment Canada/Ouranos, 550 Sherbrooke Ouest, Montreal H3A 1B9 CANADA (brown.ross@ouranos.ca)

The quantity of snow at a given location and time depends of course on snowfall but also on ablation. Both accumulation and ablation can, in the right conditions, respond to temperature changes. We survey observational studies of variability and trends in snow cover and snow depth. Many have shown declines that are consistent with local warming in spring, whereas midwinter snow quantity is relatively insensitive to temperature in most places, especially very cold locations. Global climate models simulate most features of observed northern hemisphere snow cover reasonably well and predict changes that include substantial decreases in the most temperature-sensitive seasons and locations, and increases in Arctic lands.