

## Citizen Science: How Does the Forest Affect Snow Duration in the Pacific Northwest?

We need your help! We are in need of on-the-ground observations of snow presence and absence across the mountains of the Pacific Northwest during the spring and summer of 2014.

<http://depts.washington.edu/mtnhydr/research/PNWsnowforest.shtml>

### How to Participate

It's easy! Take geotagged photos of a forested and open area in the same general vicinity, and send them to us. Most smart phones will take geotagged photos as long as the GPS for the camera is enabled in phone settings.

**To:** [uwsnowresearch@gmail.com](mailto:uwsnowresearch@gmail.com)

**Optional Subject:** direction you are facing when you took the photo (e.g., northwest)

- Single photos showing a forest and open area, or pairs of photos all work well
- Open areas include clearings, meadows, or large forest gaps (more than 30 feet across)
- The forest and clearing should be close to each other and have about the same elevation and slope
- Take the photo from about a stone's throw away
- We want photos that show snow in both the forest and open, snow in just one or the other, and photos that show no snow at all.
- You can also submit details via our online form or a print form if that's easier.
- Multiple observations at different elevations would be very helpful.

One photo showing both



A pair of photos from the same day



### The Science

Trees intercept snow leading to less snow accumulation in forests (this is one of the reasons for tree wells, which backcountry skiers know well). Once the snow is on the ground, trees also provide shading from the sun and the wind (reducing melt), but the trees are also warmer than the sky which can increase melt (this is another reason for tree wells). Thus, the net effect of the forest on snowpack duration varies with climate, topography, and forest density.

Previous investigations of snow duration in forests indicate that average winter temperature is a key predictor of whether forest cover will accelerate or delay snow disappearance. However, local effects such as topographic position (e.g., north-facing slopes), weather patterns (e.g., high winds), and forest characteristics (e.g., canopy density) also have an important influence on how the presence of or type of forest affects snow duration. The Pacific Northwest has a highly variable winter climate, so we need many observations from across the region.

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