

# SIMON FRASER UNIVERSITY

DEPARTMENT OF EARTH SCIENCES

ALEXANDRA PULWICKI

8888 University Drive  
Burnaby, BC V5A 1S6 Canada  
**Telephone:** (778) 782-5387  
**Fax:** (778) 782-4198  
**Web:** <http://www.earth-sciences.sfu.ca>



**E-mail:** [apulwick@sfu.ca](mailto:apulwick@sfu.ca)  
**Telephone:** (778) 782-7207  
**Web:** <https://www.sfu.ca/earth-sciences/people/grads/pulwicki.html>

Chief Editor, *Journal of Glaciology*  
International Glaciological Society

1 September 2017

Dear Editor,

This letter accompanies a manuscript entitled “Estimating winter balance and its uncertainties from direct measurements of snow depth and density on alpine glaciers” that I am submitting on behalf of my coauthors, Gwenn Flowers and Valentina Radić, for consideration in the *Journal of Glaciology*.

Our manuscript describes a statistical approach to estimating glacier-wide winter balance and quantifying its associated uncertainty. The study is based on over 9000 measurements made in 2016 across three alpine glaciers in northwestern Canada. We find that uncertainty associated with the method of interpolating individual values of winter balance dominates the uncertainty in glacier-wide winter balance. Methods described in the manuscript can be directly applied to other glacier mass-balance programs, and our results highlight the value of investigating and quantifying sources of uncertainty in reported values of glacier mass balance.

We have used the IGS LaTeX template in preparing the manuscript and have followed author guidelines to the best of our ability. Thank you for your time in reading and considering our work.

With best wishes,

Alexandra Pulwicki

MSc Candidate  
Department of Earth Sciences  
Simon Fraser University