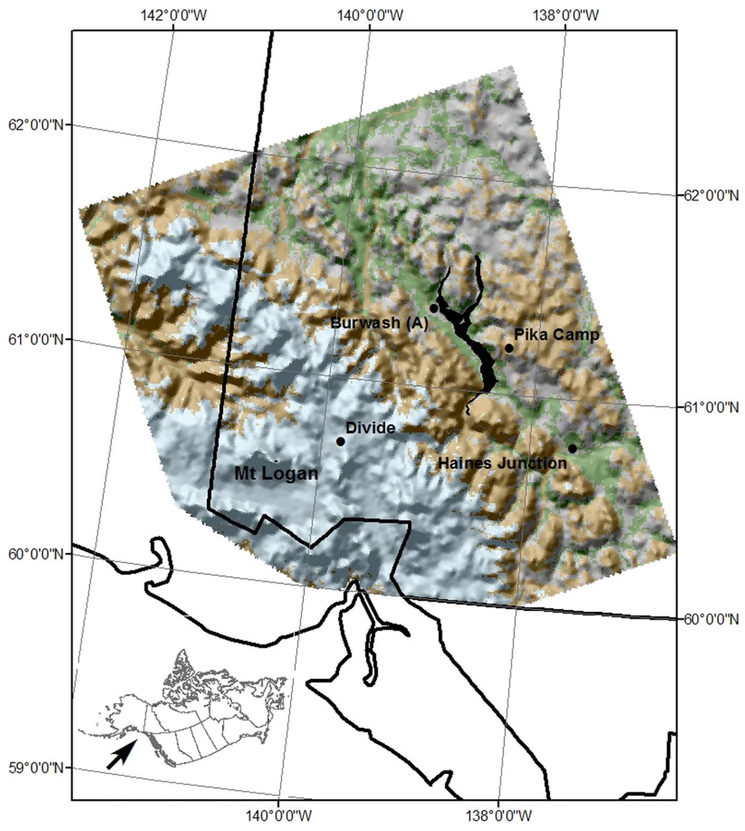
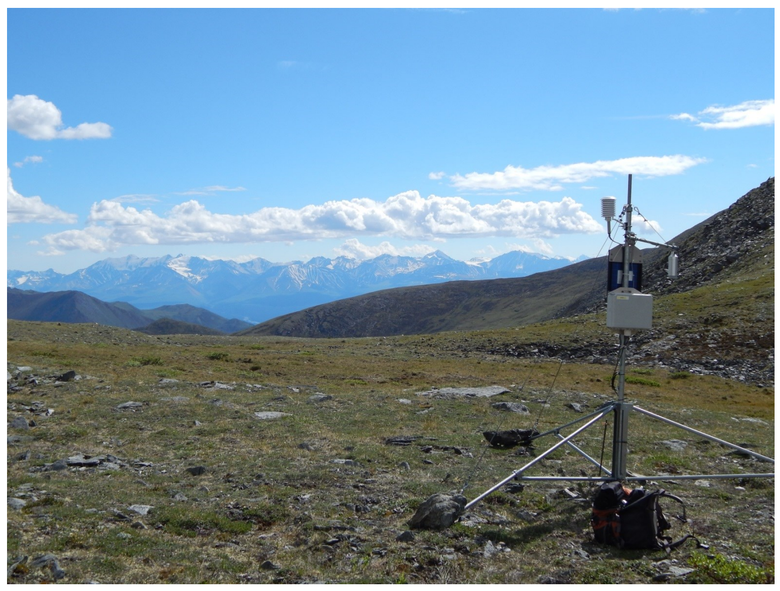
Does modelled SAF equal measurement?

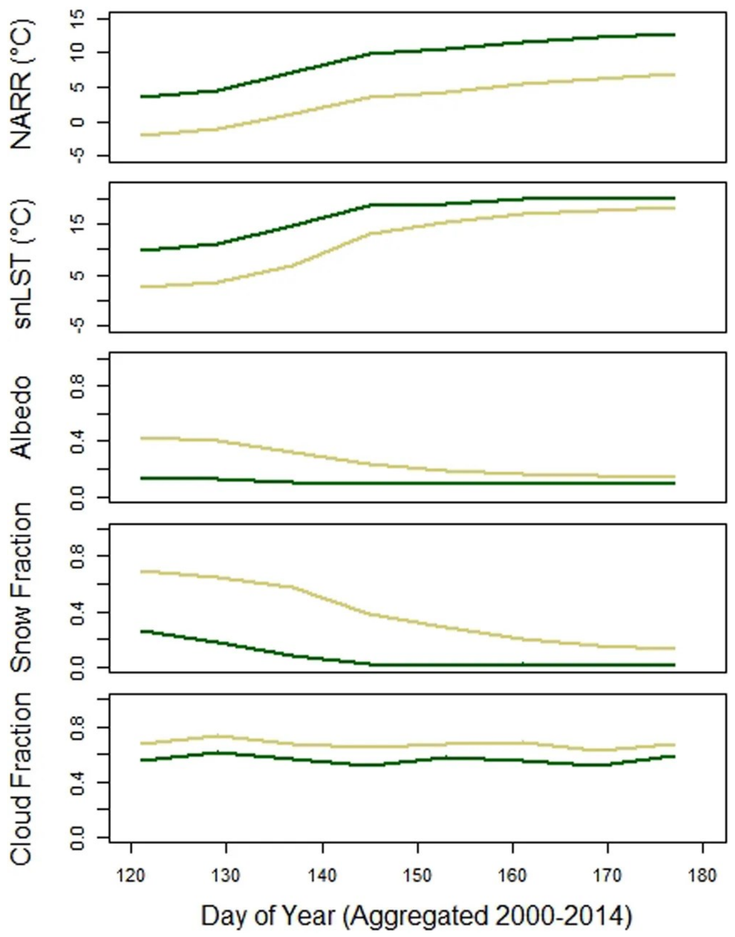


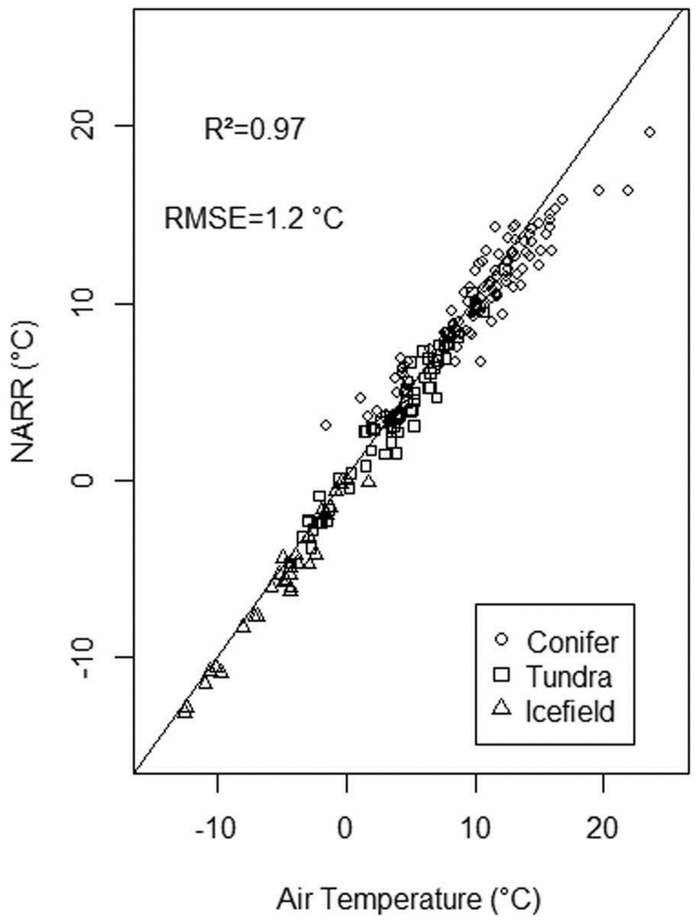
South west Yukon elevation gradient from conifer forest to tundra to icefields.



The Snow Albedo Feedback (SAF) is often invoked to partially understand high latitude temperature amplification.

Measuring SAF requires disentangling multiple forcings and feedbacks.





Left: Seasonal phenology for Tundra (brown line) and Conifer (green) in key environmental variables from 2000 to 2014 data averaged by 8-day period. Standard errors are small (similar to line thickness) and have been removed for clarity.
Right: NARR downscaled 8-day temperature validation using meteorological measurements of 8-day average air temperature, for May and June, 2000–2014. The Conifer class was measured at Haines Junction Environment Canada station, the Tundra class was measured at Pika Camp station and Icefield was measured at the Divide station. The comparison is for the resampled 1 km NARR grid cells that intersect with the station locations.
Williamson et al., Scientific Reports **volume 8**, 9000 (2018)

Can models help to understand how the SAF can be measured? Can what is feasible to measure inform how SAF can be implemented in models?

Is it possible that the strength of SAF varies depending on solar angle, cloud cover or the difference in temperature between surface and air?

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