CRHM Ablation Parameterization Updates – Post AGU

1. Removed duration based unloading as suggested by John. Had a negligible effect on model output.
2. Updated model forcing to convert RH to RH calculated with saturation vapour pressure wrt ice. Reduced sublimation by 50% for some cold events. Getting better agreement now, especially at night. Also noticed issue with Logan’s QC protocol which removed RH values if at 100% for more than 12 hours and filled with FRS which had much lower RH (60-70%) and increased canopy snow sublimation rates too much. Resolved this by allowing 100% humidity for 24 hours.
3. Rescaled weighed tree to SCL canopy coverage so appropriate canopy snow load is used for deriving the unloading models.
4. Changed temperature based unloading from exponential function to ratio of canopy snowmelt. Calculated ratio of mass unloading to drip as residual from weighed tree:
5. Found that canopy snowmelt was better calculated using the ice-bulb temperature as a proxy for the canopy snow temperature compared to the canopy snow temperature from PSP.