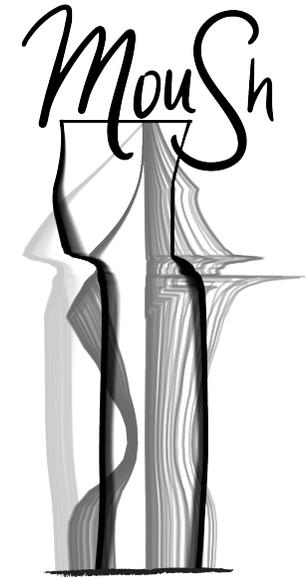


Combined Modeled and Explored Moulin Shape Informs Subglacial Pressure Dynamics in Western Greenland

AGU FALL MEETING
Online Everywhere | 1-17 December 2020
C066-05

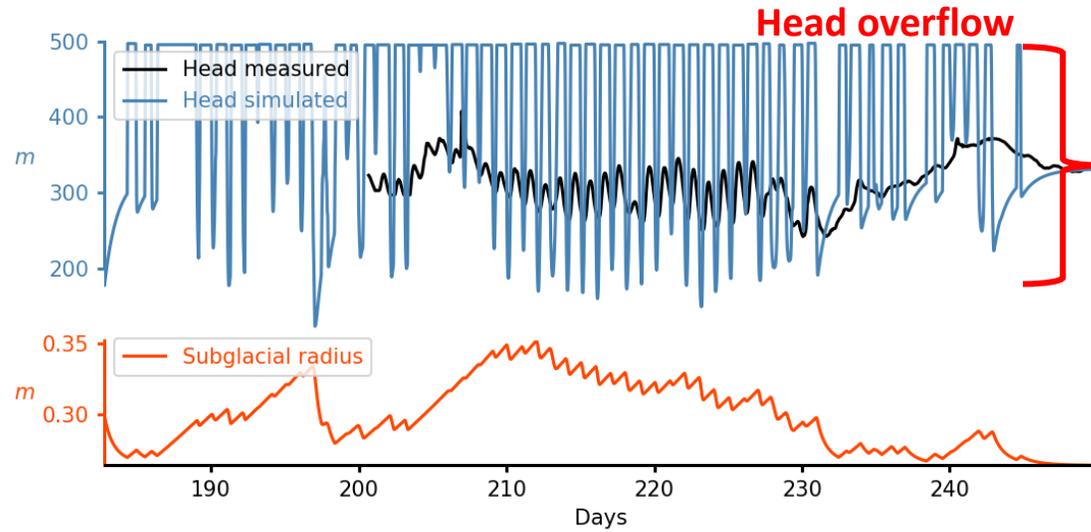


Celia Trunz¹ - Presenting
Kristin Poinar²
Lauren C. Andrews³
Matthew D. Covington¹
Jessica Mejia⁴
Jason Gulley⁴
Vickie Siegel⁵
Charles Breithaupt⁴

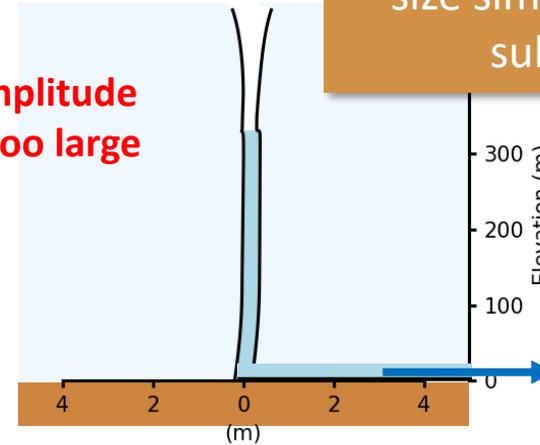


Moulin
Shape
Model

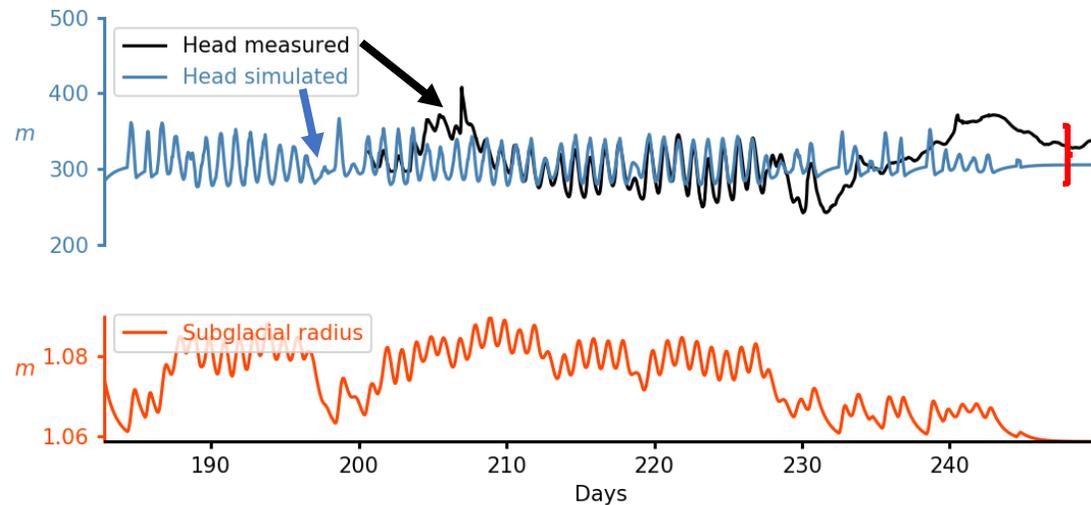
Current models require very large moulin volumes to generate realistic head variations



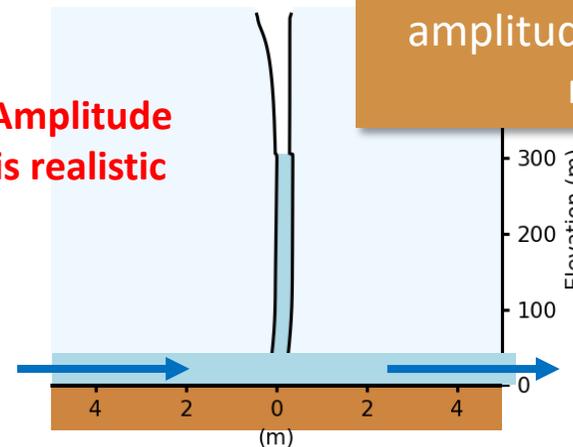
Amplitude is too large



MouSh predicts a moulin size similar to the associated subglacial channel

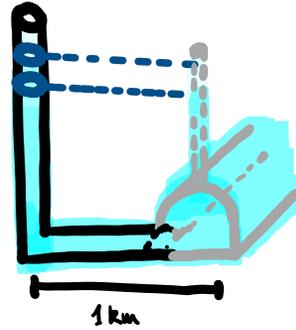
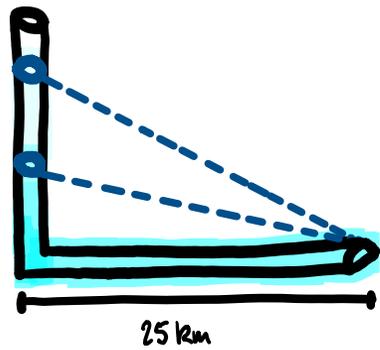


Amplitude is realistic

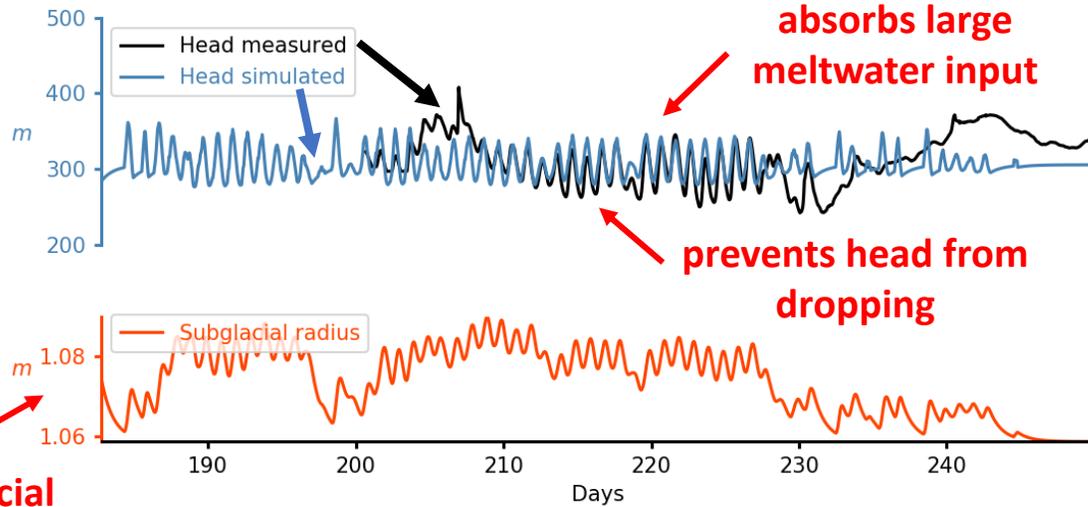
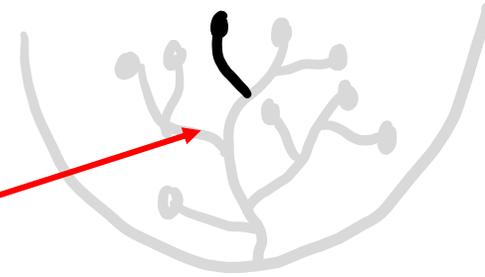


A subglacial baseflow makes the amplitude of head oscillations more realistic

There is more water in the subglacial system than simulated with a single channel



More water in the subglacial drainage



absorbs large meltwater input

prevents head from dropping

keeps subglacial channel larger

