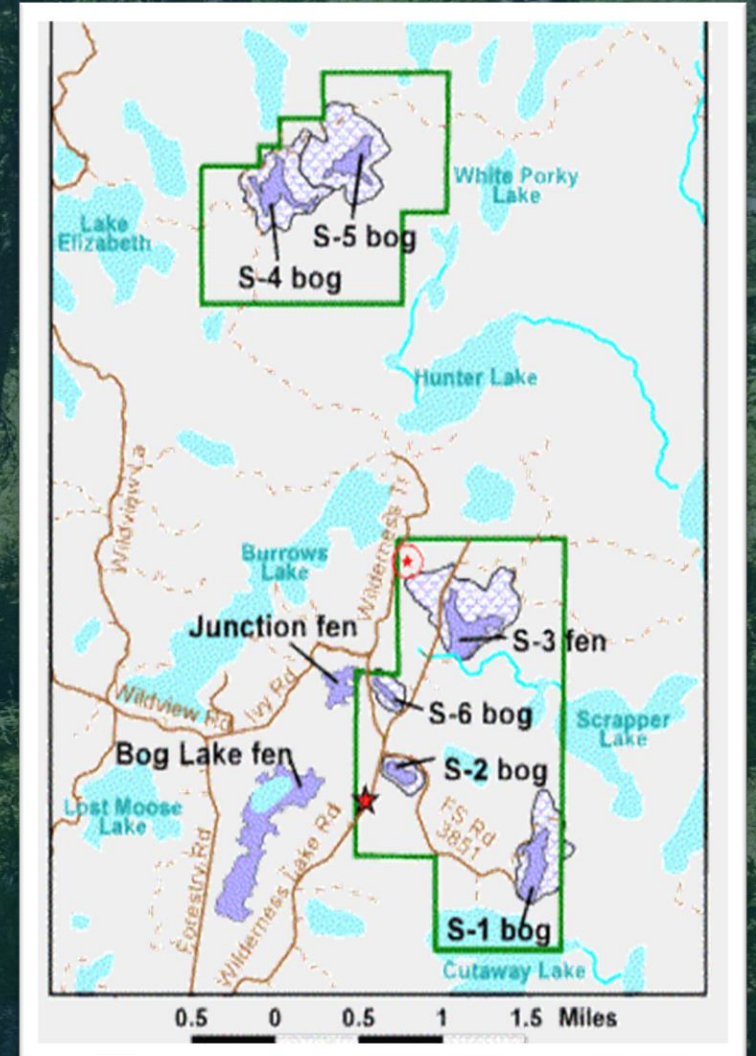
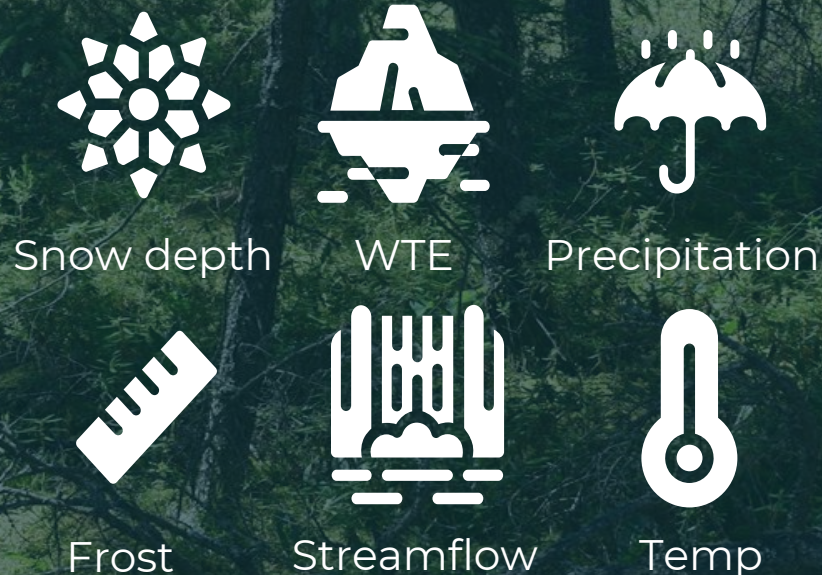
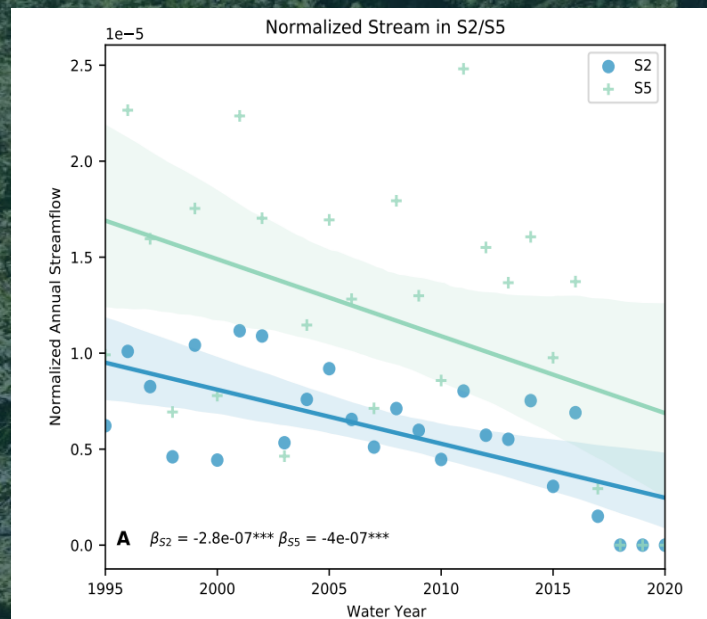


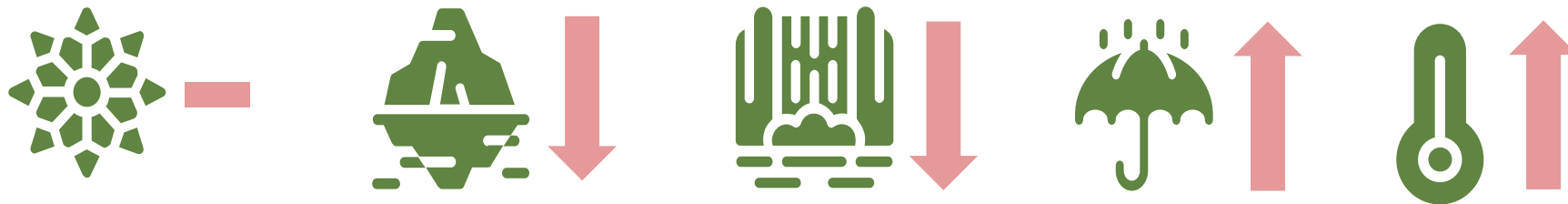
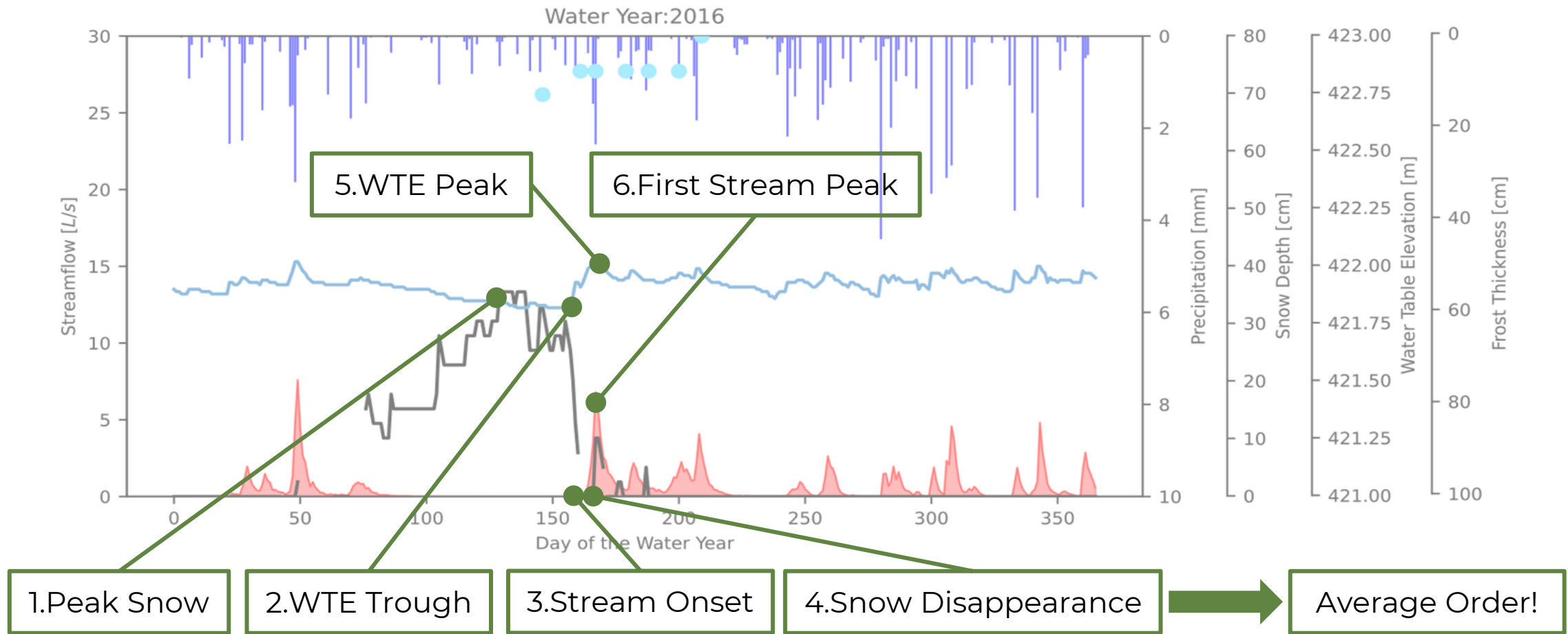
# The Influence of Frost on Spring Hydrologic Cascades in Peatland Dominated Headwater Catchments

Mariel Jones, Stephen Sebestyen, Salli Dymond, and Xue Feng

1. Which atmospheric and hydrologic drivers influence streamflow?
2. What role does frost play in regulating the magnitude and timing of streamflow?
3. How, if at all, are these relationships mediated by land cover and watershed architecture?

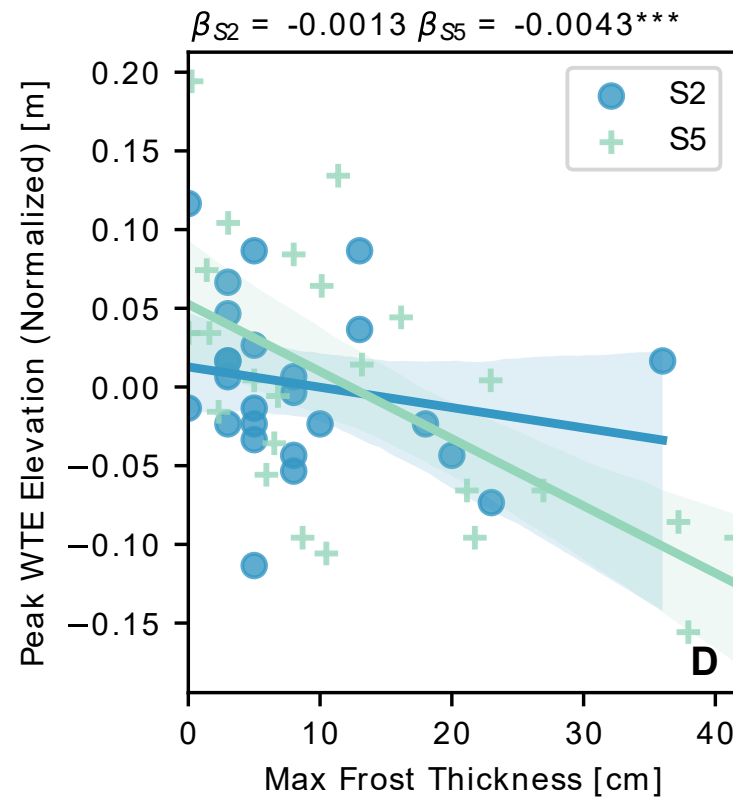
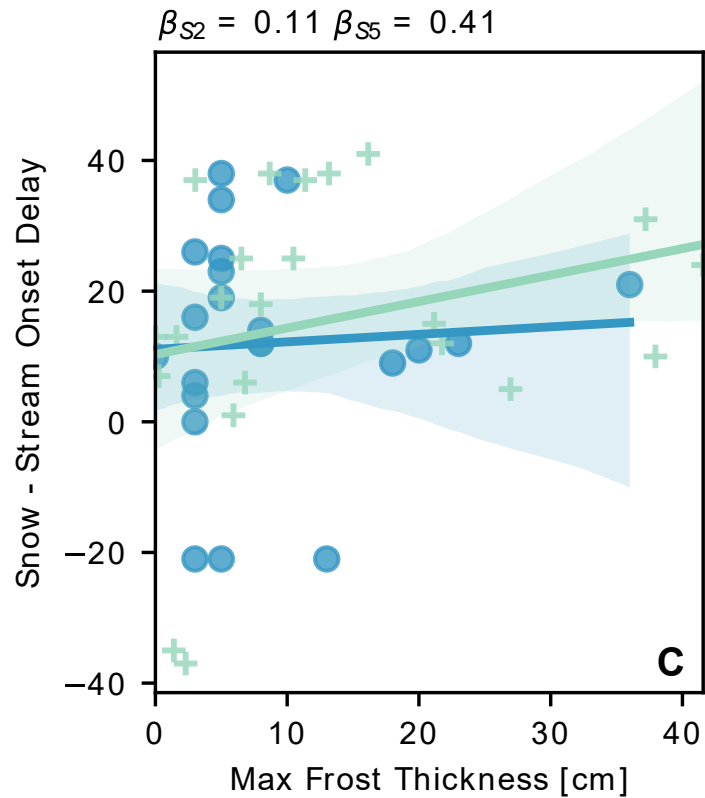






Base Model:  $Y_{Flow} \sim \beta_0 + \beta_1 X_{SnowPeak} X_{MFT} X_{WTE} I_{Watershed} + \beta_2 X_{AvgTemp} + \beta_3 X_{TotPrecip}$

Best Model:  $Y_{Flow,1} \sim \beta_0 + \beta_1 X_{MFT} X_{WTE} + \beta_2 X_{TotPrecip}$



## What does this mean?

1. Cascade of hydrologic connectivity that mediate hydrologic response (streamflow) to changes in precipitation
2. Frost plays a dominant role and can augment predictive capability of streamflow models
3. Watershed cover can change the sensitivity of the system
  - i. Larger proportions of inundated soil may increase the delay and reduction capacity of frost

**Thank you!**

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Questions? Email me!

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