

# Methylmercury in thawing peatlands on a trophic gradient in boreal Western Canada

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Weston Family  
Foundation



NSERC  
CRSNG



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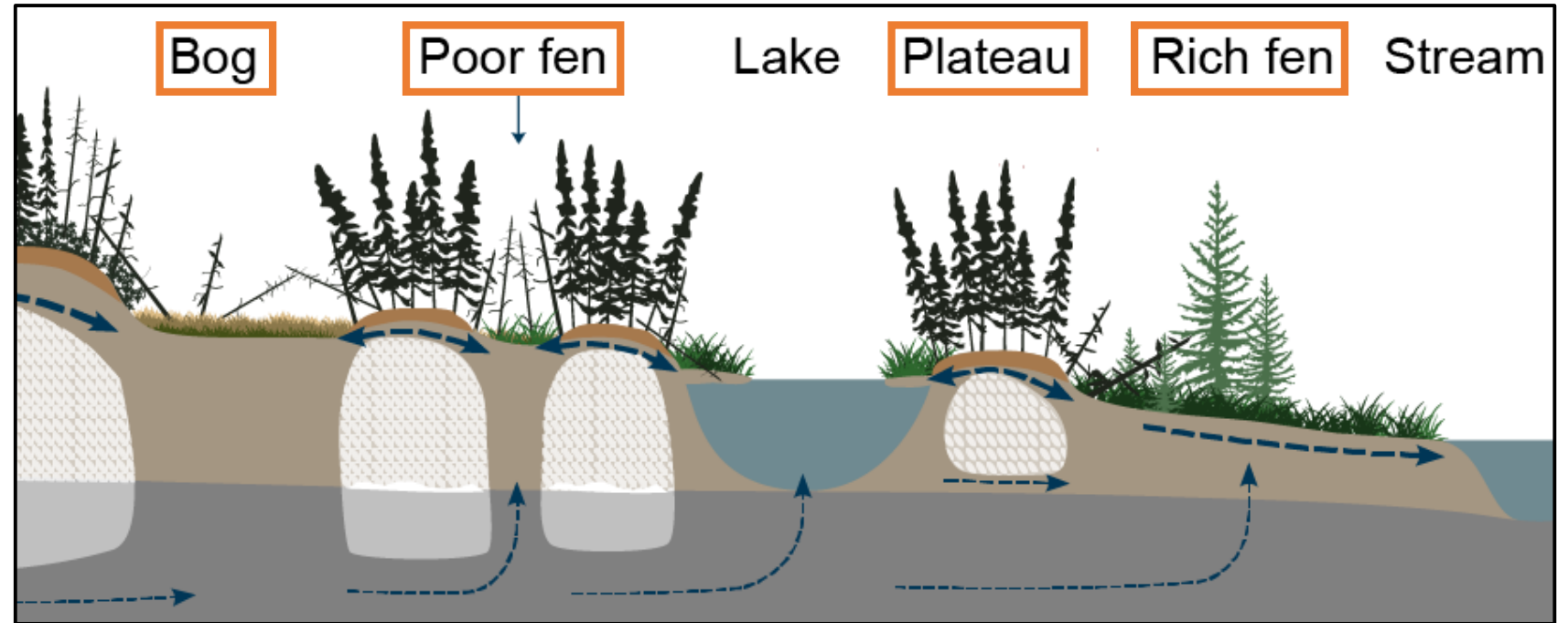
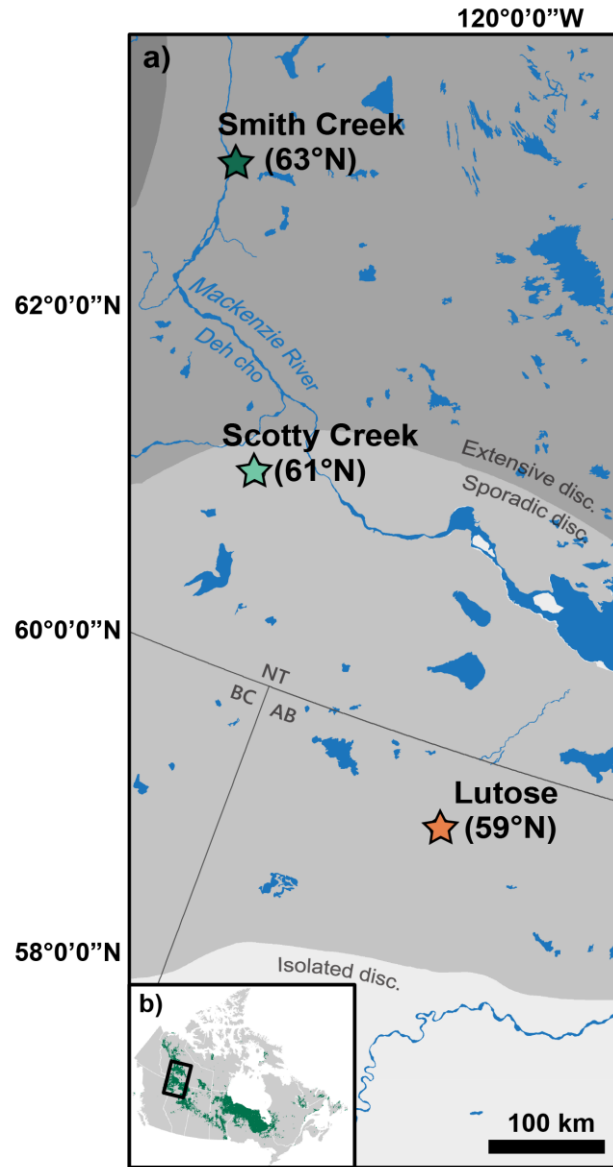


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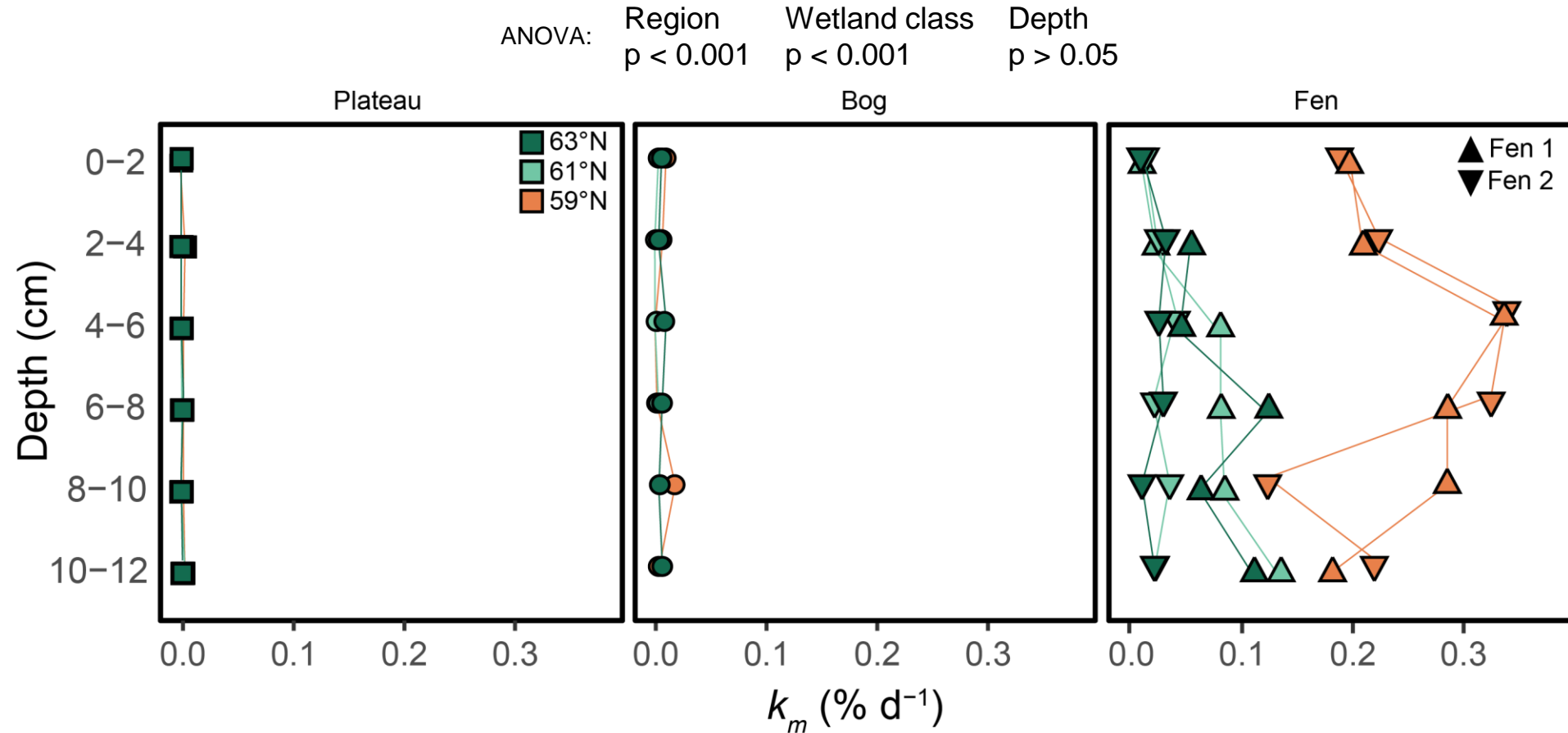


# *Does permafrost thaw enhance methylation in boreal peatlands?*

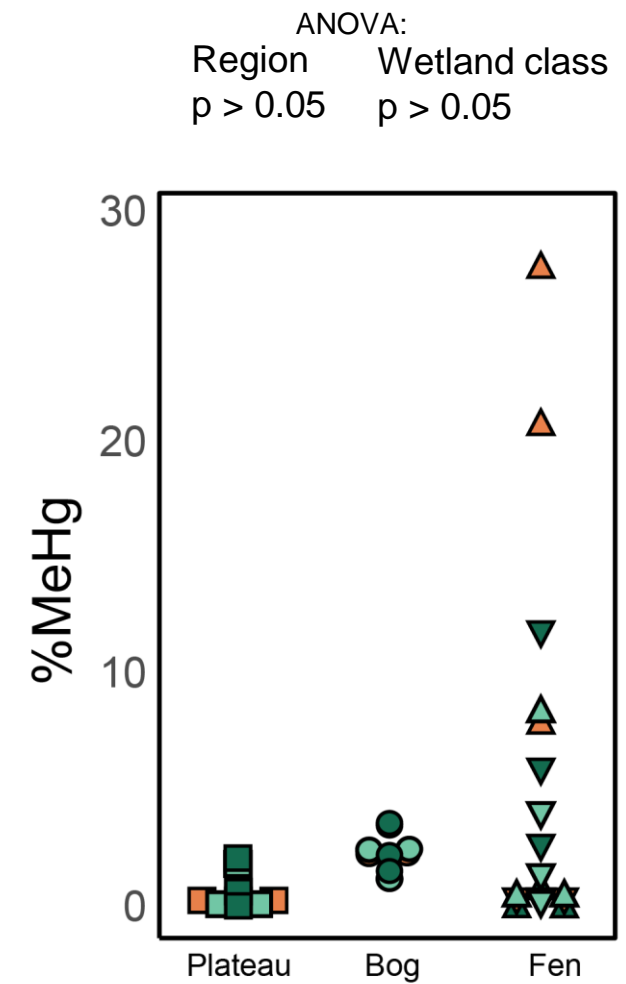
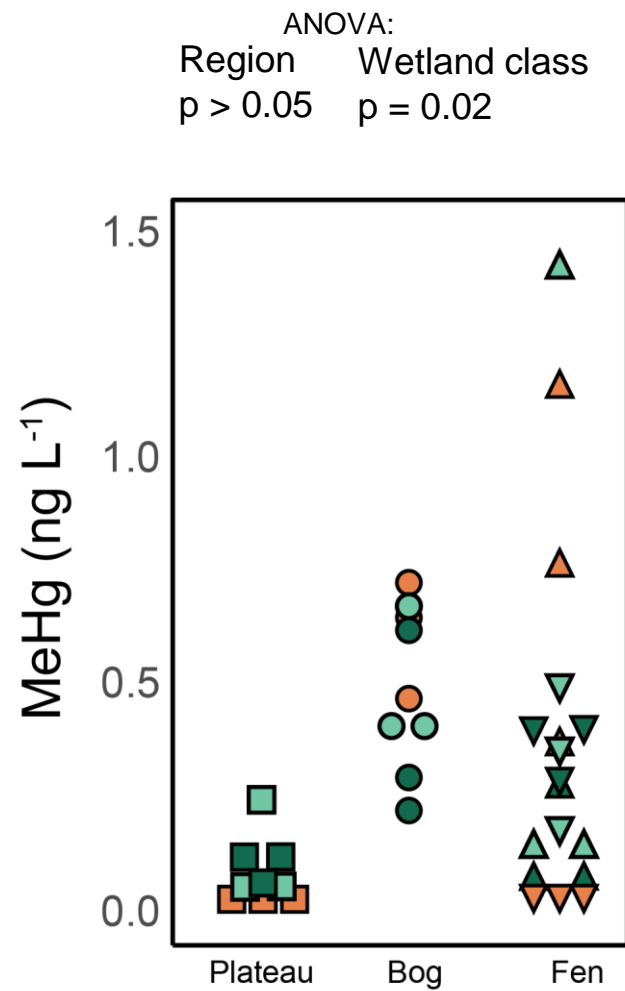
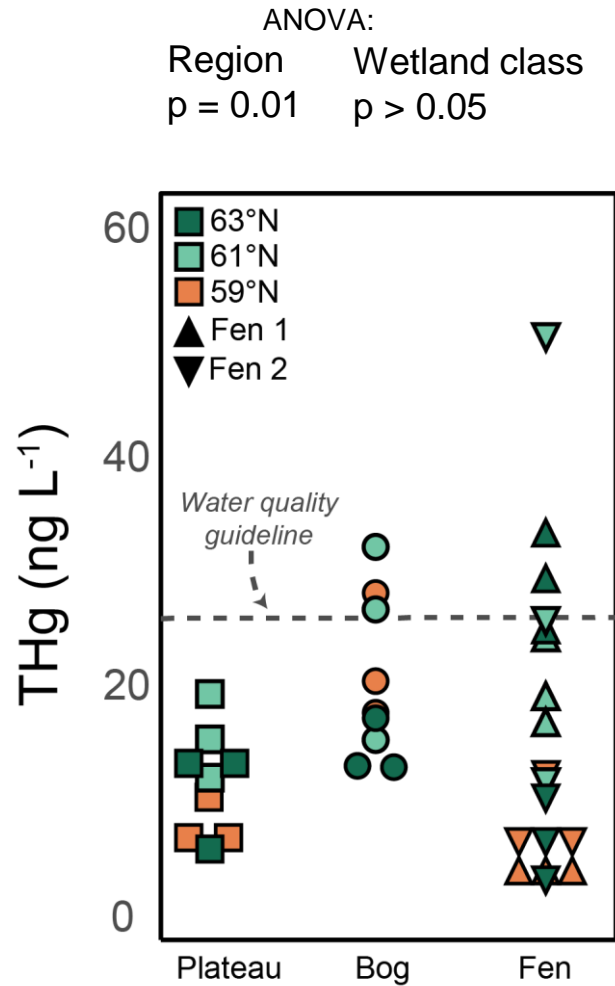


- Permafrost thaw can lead to increased methylation and higher, more variable MeHg concentrations in thaw wetlands – but post-thaw landscape type matters
- Bioavailable aliphatic or N-saturated DOM is closely linked to MeHg concentrations in porewaters

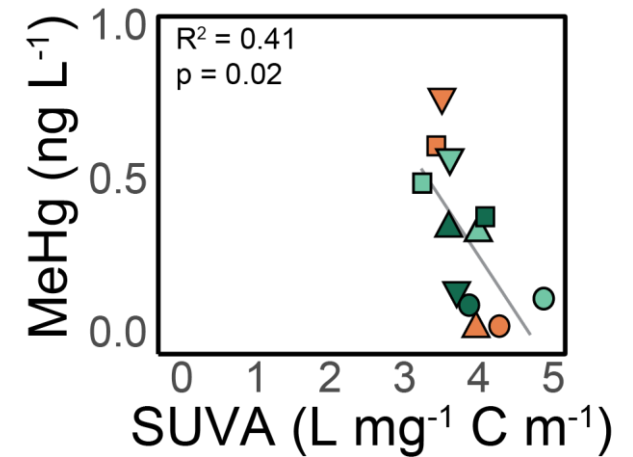
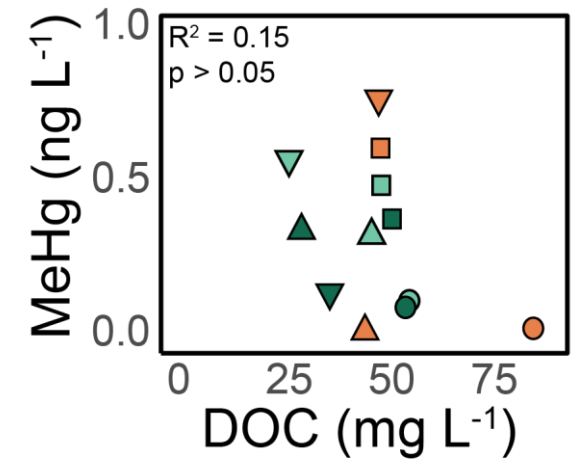
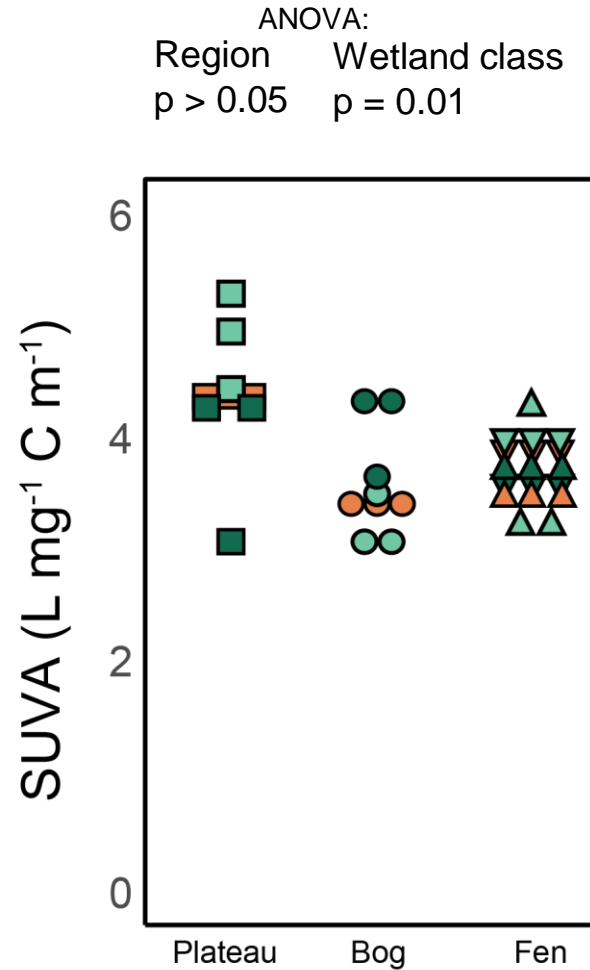
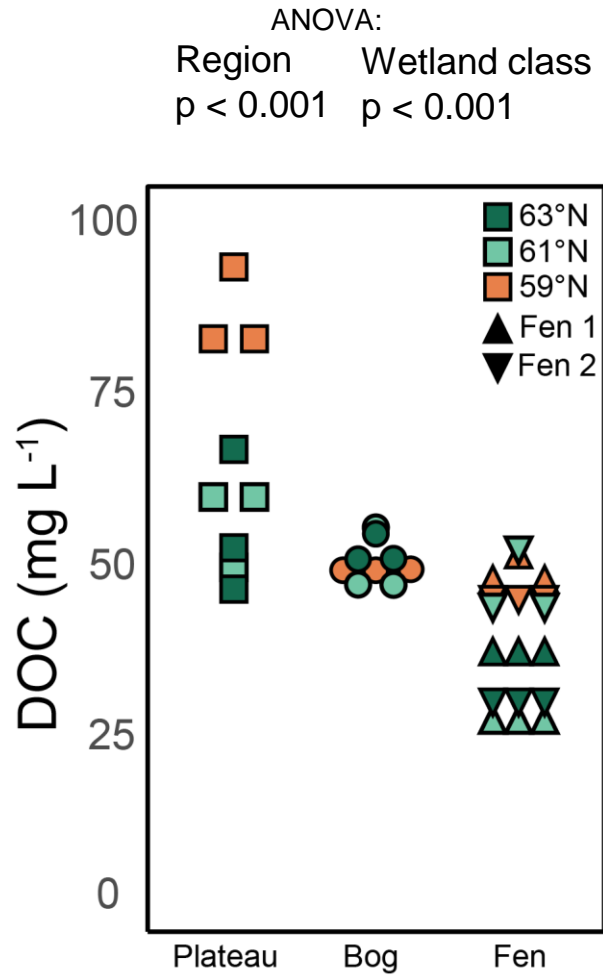
*Potential  $Hg^{II}$  methylation rates in peat were highest in fens across the latitudinal transect compared to peat plateaus and bogs*



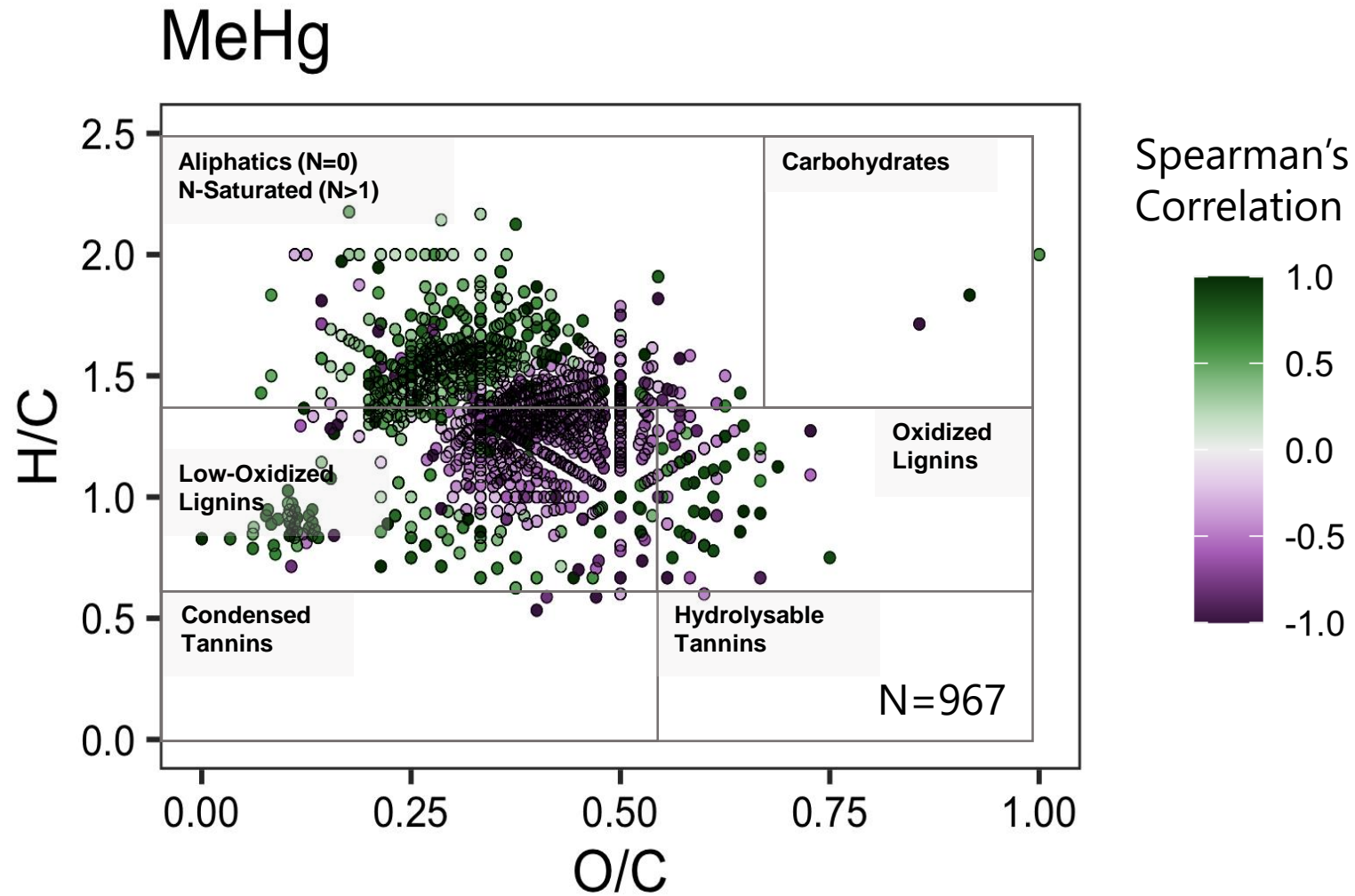
# *MeHg concentrations in porewater were higher and more variable in thaw wetlands compared to peat plateaus*



# Indicator of DOM aromaticity ( $SUVA_{254}$ ) negatively correlated with MeHg concentrations in porewater across wetlands



*Bioavailable aliphatic or N-saturated organic matter positively correlated MeHg concentrations in peatland porewater*





## Key Findings:

- Permafrost thaw can lead to increased methylation and higher, more variable MeHg concentrations in thaw wetlands – but post-thaw landscape type matters
- Bioavailable aliphatic or N-saturated DOM is closely linked to MeHg concentrations in porewaters

## Next Steps:



## Abstract - OSPP

