

# Seasonal Variations in Bottom Water Temperatures and their Influence on Subaquatic Permafrost Thermal Regimes

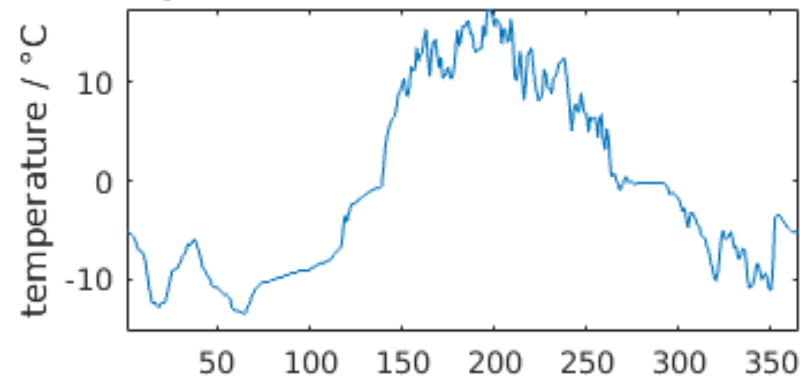
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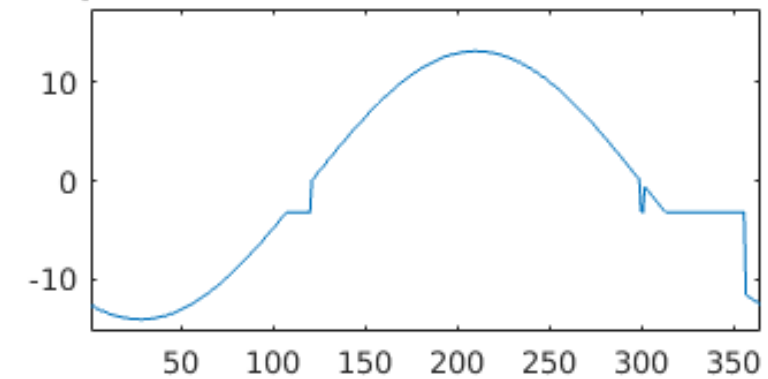
## Comparing Measured Temperature Fields with Model Results

- Measured Temperature from 4 boreholes in the Mackenzie River Delta, NWT, Canada
- 1D thermal model forced with observed and parameterized bottom water temperature
- Model results agree well with each other
- To reduce mismatch with observed temperature fields below the seasonally-thawed layer, winter temperatures at BH 4 needed to be  $\approx 3^{\circ}\text{C}$  lower

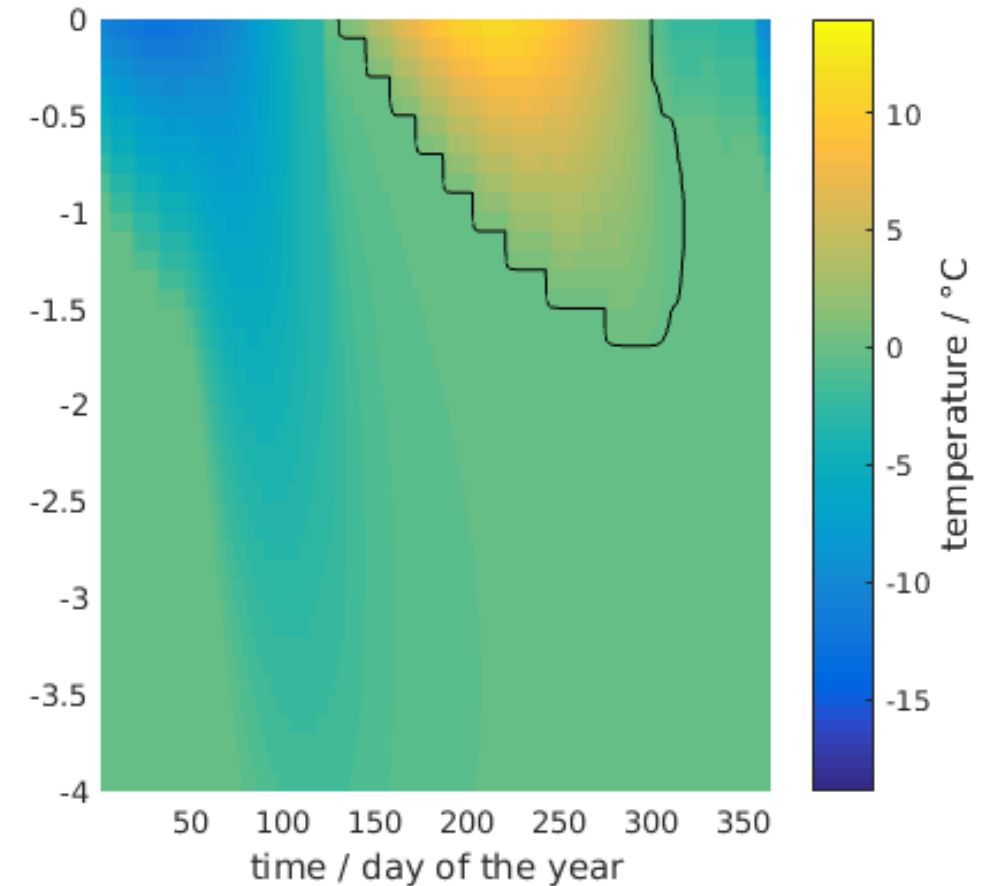
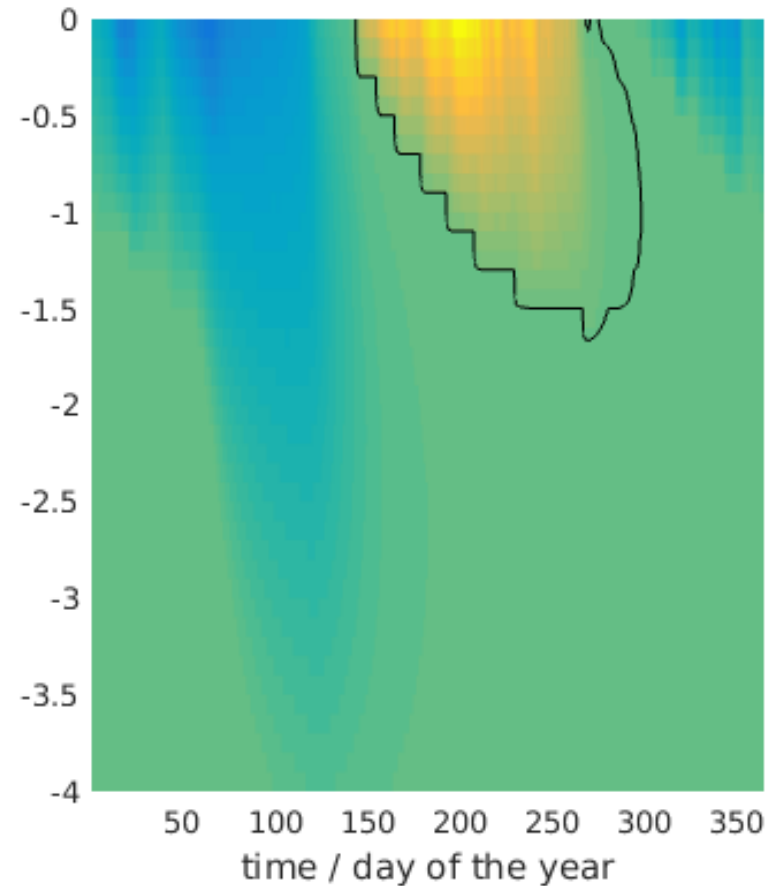
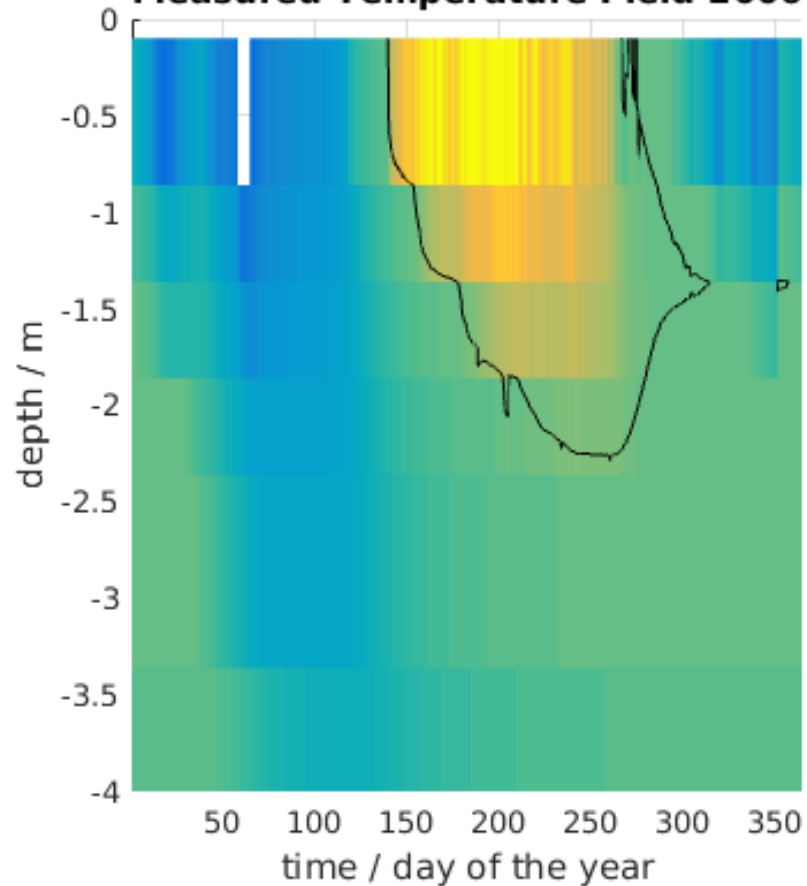
Temperature Field from Measured BWT



Temperature Field from Parameterized BWT



Measured Temperature Field 2006



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