

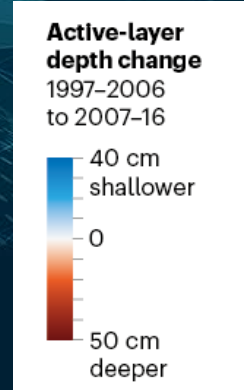
Mass Balance of the Cryosphere: Permafrost

General comments

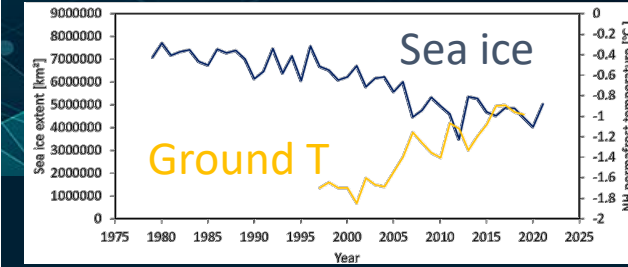
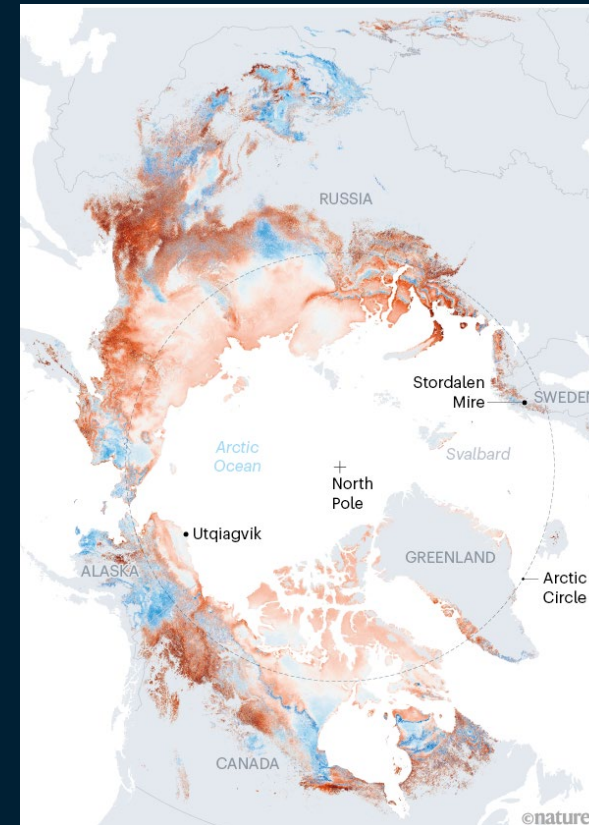
- ‚Mass‘ of Permafrost is commonly not addressed (depth is largely unknown)
- Ice does not need to be present by definition – ground with $T < 0^{\circ}\text{C}$
- Thickness of the active layer (ALT) is measured to monitor ‘upper boundary’ + Permafrost extent (usually at 2m)

Current state & challenges

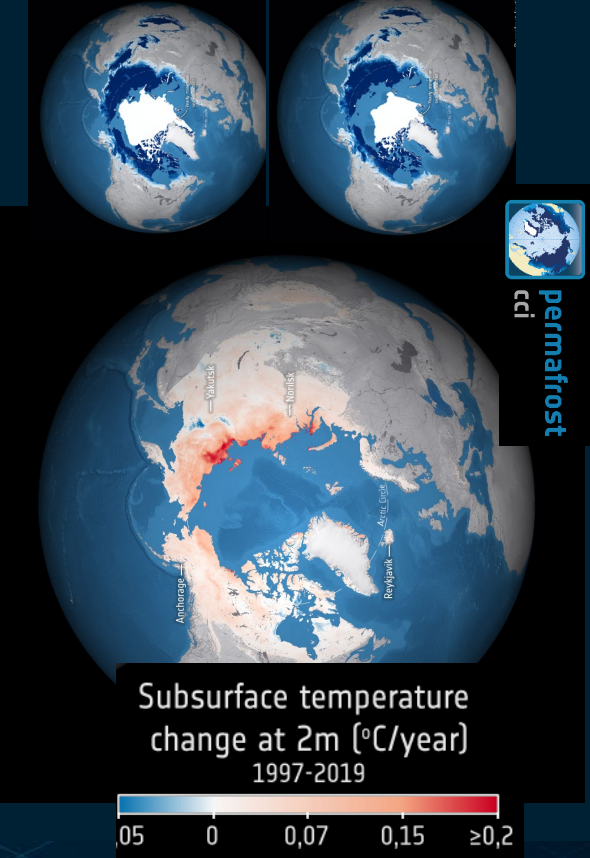
- Extent and ALT modelled using LST; SWE with at least 1km resolution needed
- InSAR as indicator for ALT & ground ice content – but little data; altimeter only in extreme cases of thermokarst



average 2.5 cm



1997 2019



Brouillette (2021), Nature 591, 360-362; data source: CCI Permafrost

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