

climate change initiative

→ PERMAFROST

CDR production status

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permafrost
cci

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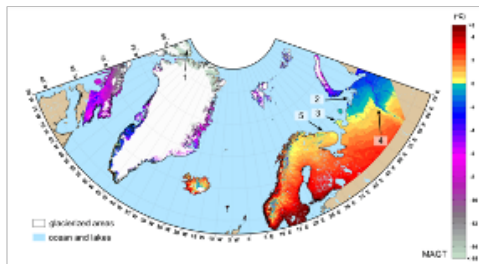
CDR production



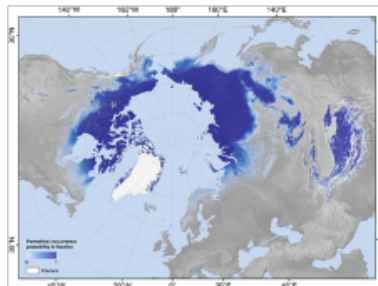
~5 Mio km² x 200 ensemble members

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TTOP



Westermann et al., 2015



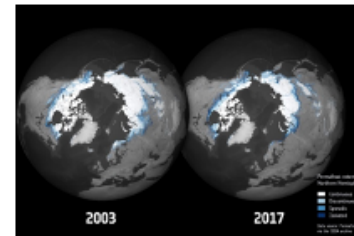
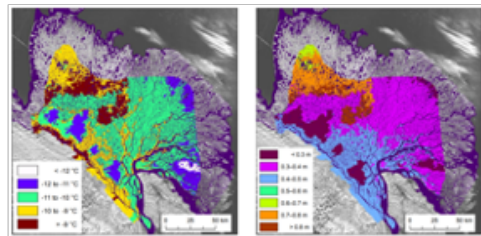
ESA GlobPermafrost, Obu et al., 2019



Westermann et al., 2017

ESA Permafrost_cci, Westermann et al., in prep

transient



ESA UNCLASSIFIED - For Official Use ~20,000 km² x 1 ensemble member

~30 Mio km² x 7 ensemble members

ESA CCI Evaluation | 06/16/2021 | Slide 2





Permafrost_cci algorithm implementation

- Permafrost_cci processing chain implemented in CryoGrid community model, github.com/CryoGrid/CryoGrid
- modular platform for permafrost (Cryosphere) models
- exchange model parts and input data with much reduced development effort
- replace MODIS LST with ESA Temperature_cci data to increase effective spatial resolution
- add data assimilation framework (Kristoffer Aalstad, Univ. Oslo)
- include «fractional snow covered area» from ESA Snow_CCI
- provide a community platform for future research (permafrost and beyond)
- Désirée Treicher, Univ. Oslo, Young Researcher Grant on snow remote sensing, start fall 2021

