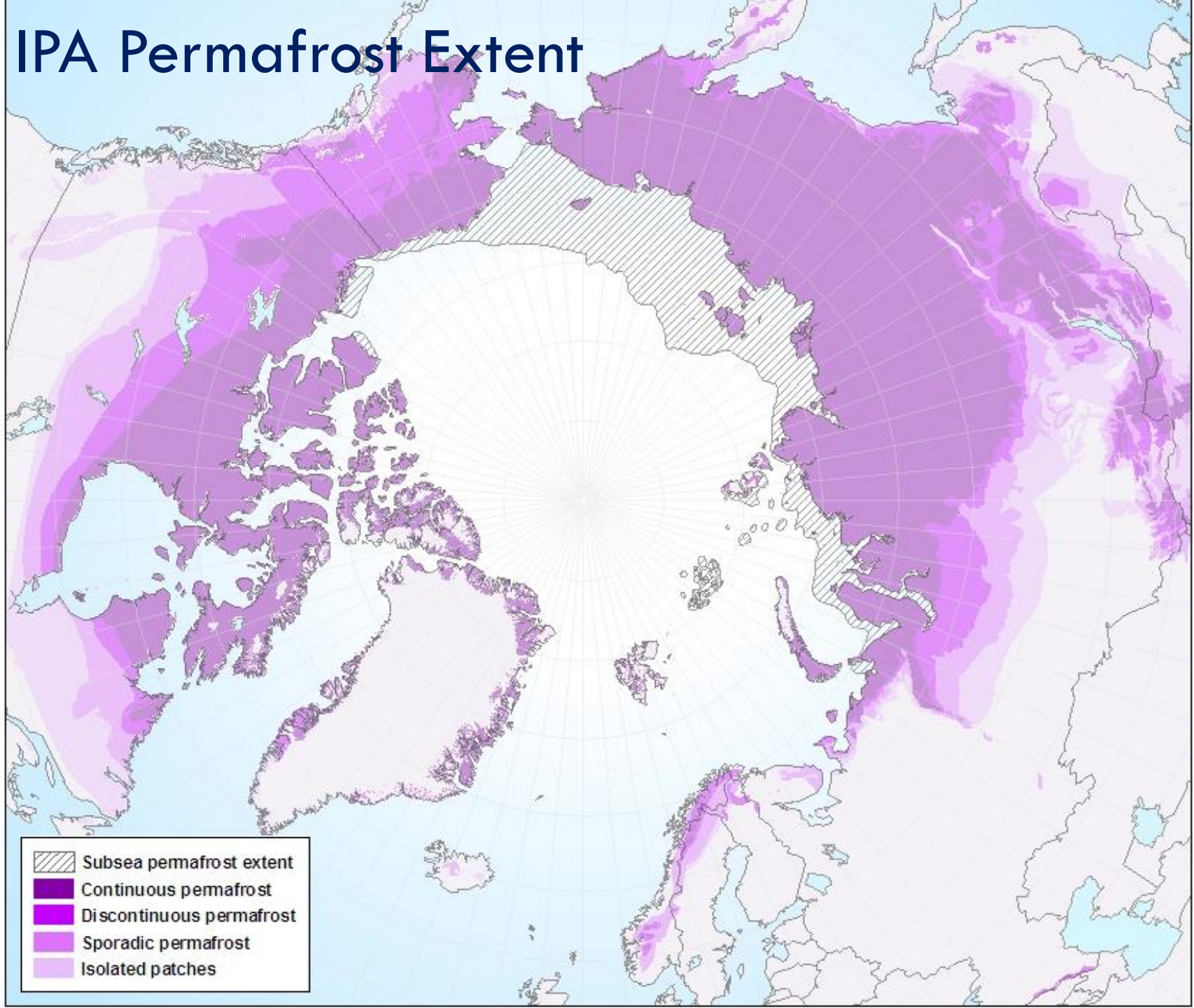


Shallow geophysical surveys of submarine permafrost beneath the arctic coastal shoreface

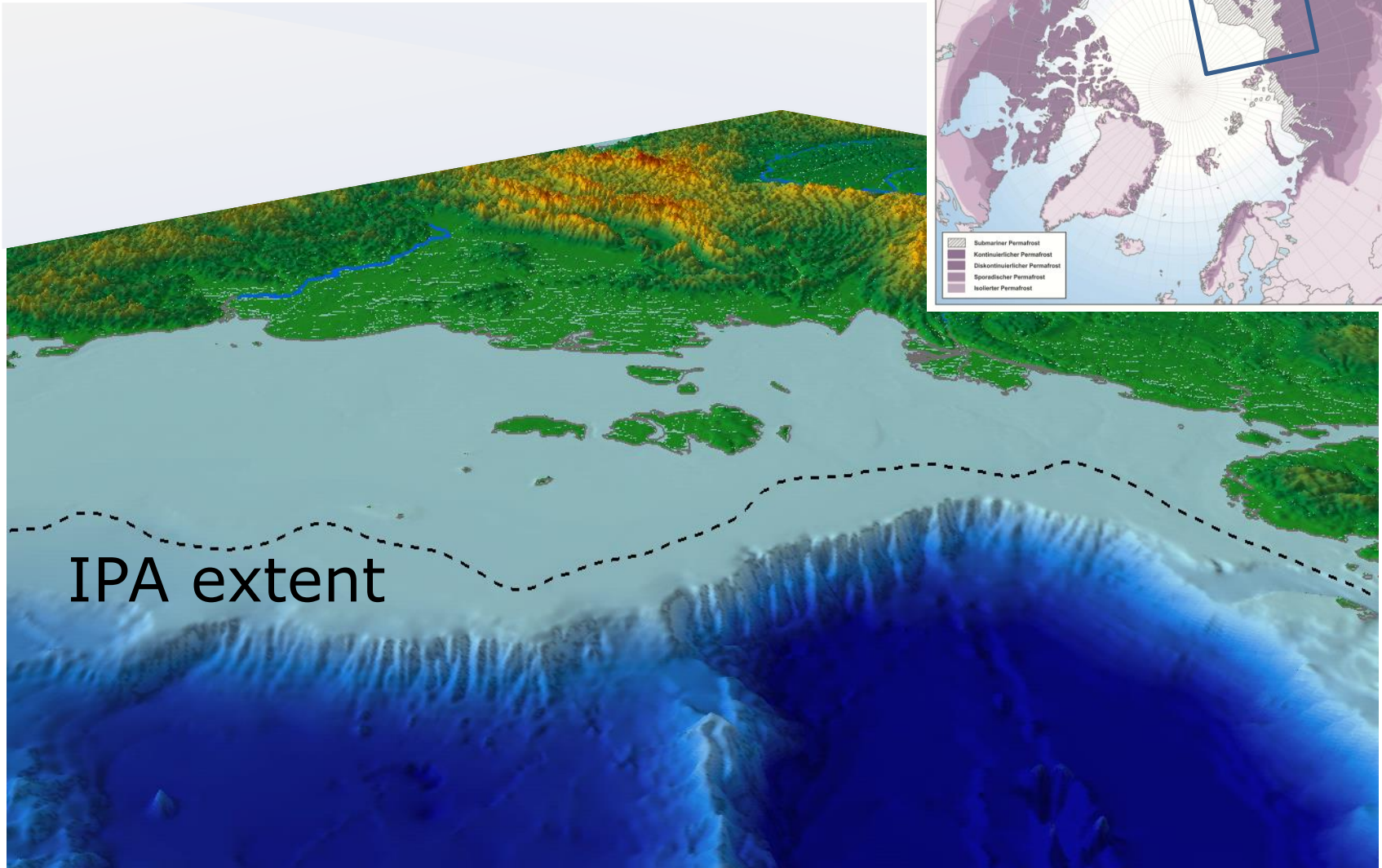
P. P. Overduin, AWI Potsdam

M. N. Grigoriev, Melnikov Permafrost
Institute Yakutsk

IPA Permafrost Extent



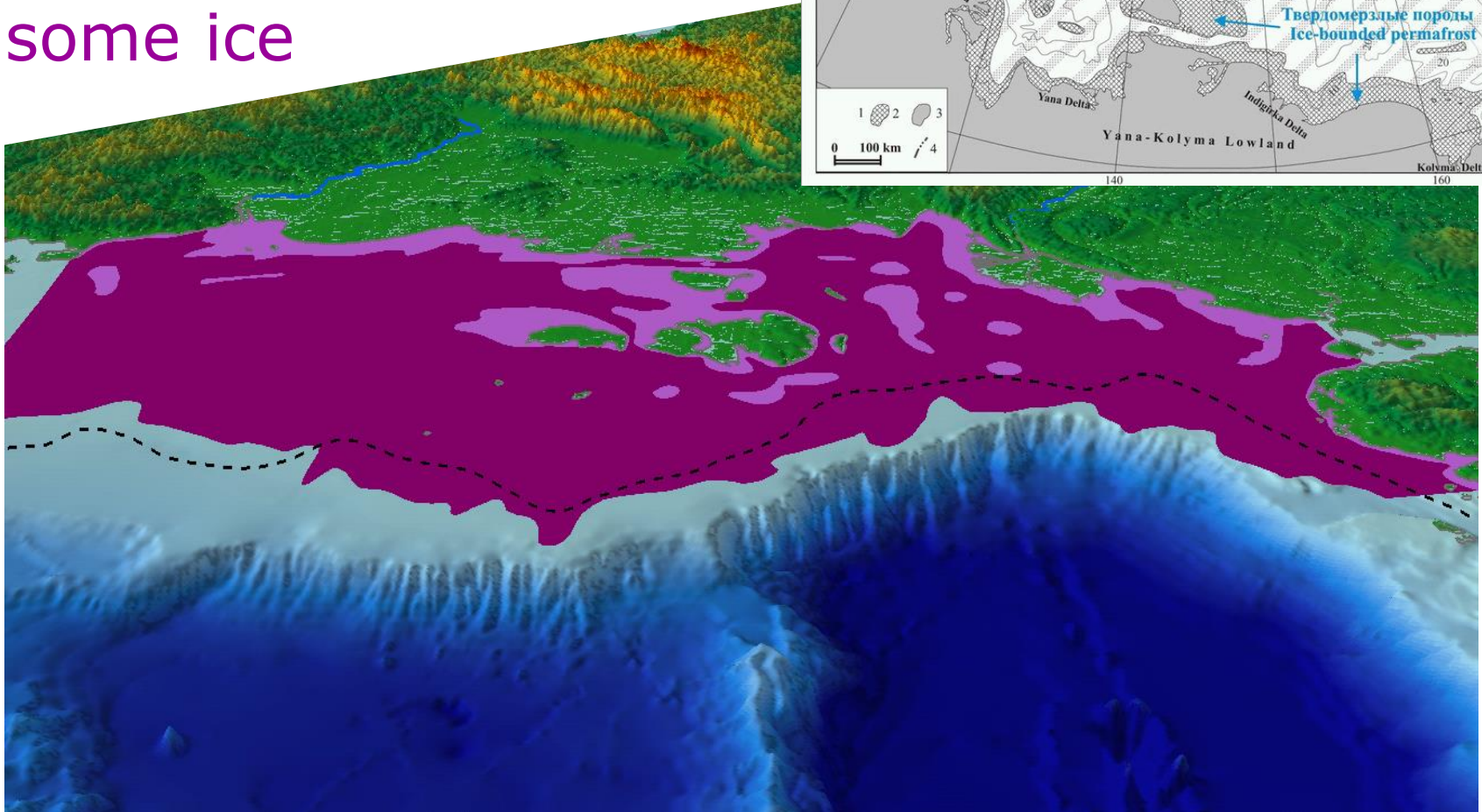
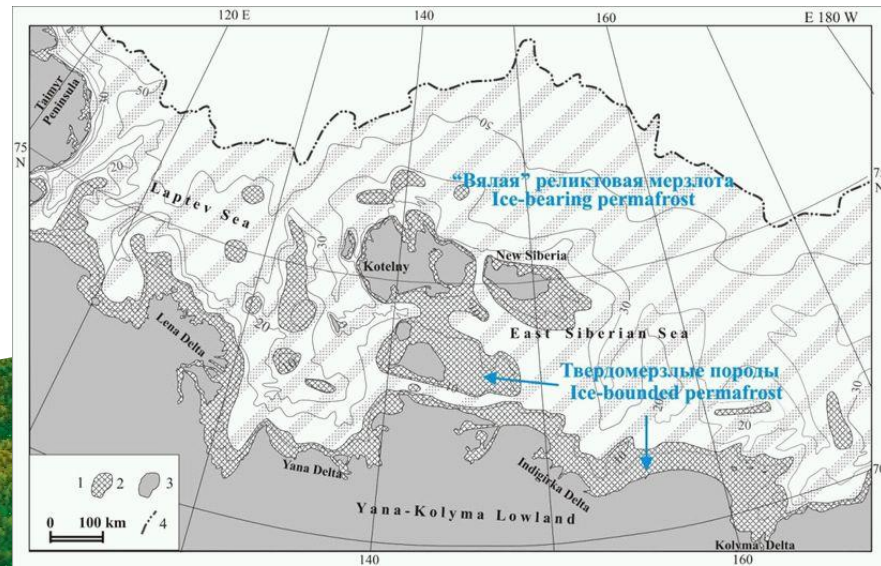
IPA Permafrost Extent East Siberian Shelf



Brown et al. (1997)

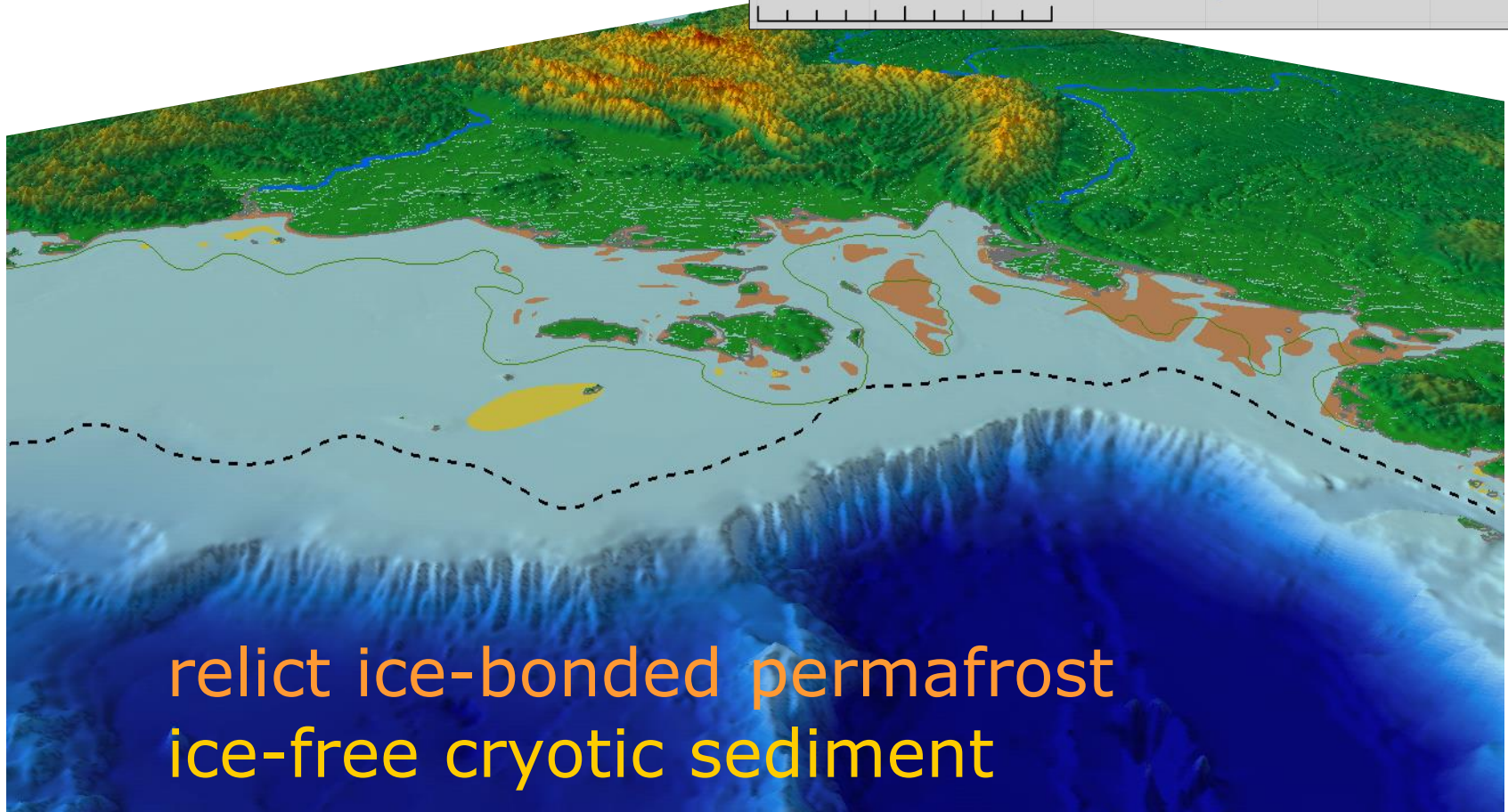
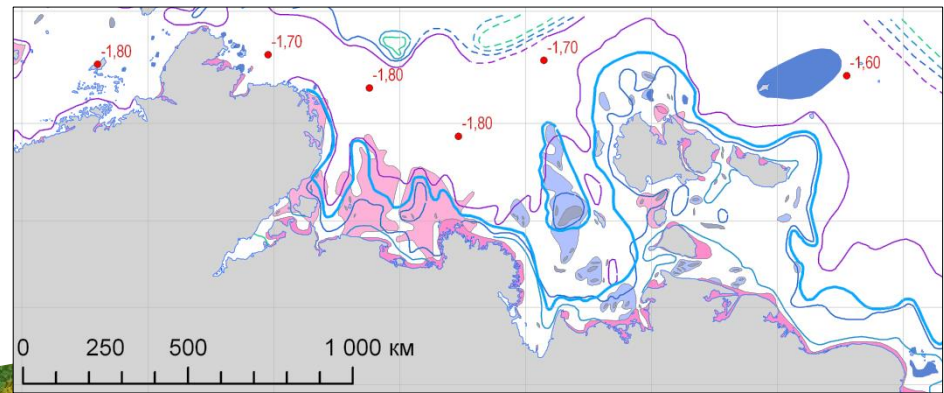
Modelled Extent from Romanovskii

ice-bonded
some ice



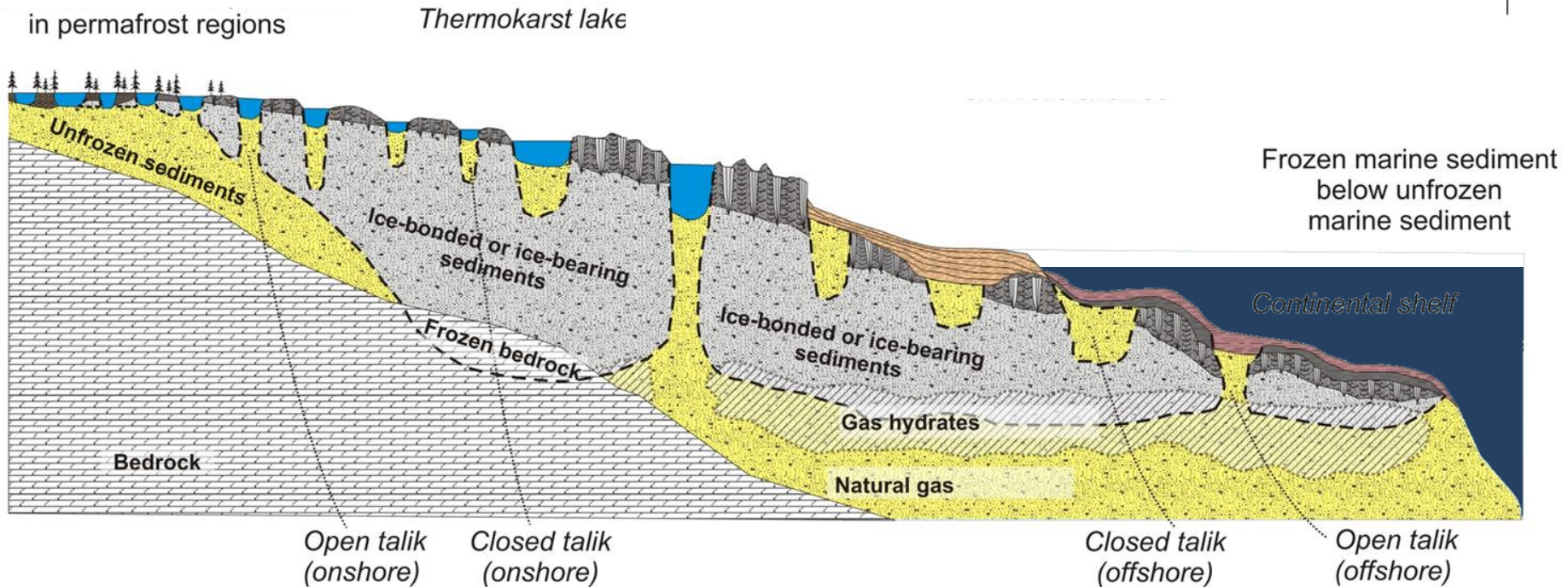
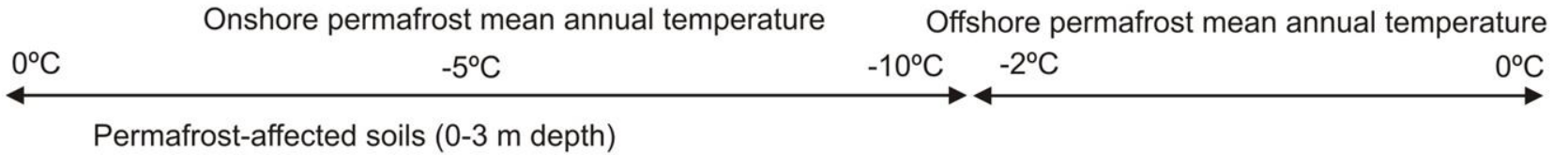
Hubberten & Romanovskii (2003)

Modelled Extent from Zhigarev



Zhigarev (1997)

Cross-section concept of the shelf



Grosse, Romanovsky, Jorgenson, Walter Anthony, Brown, Overduin (2011)

Research questions:

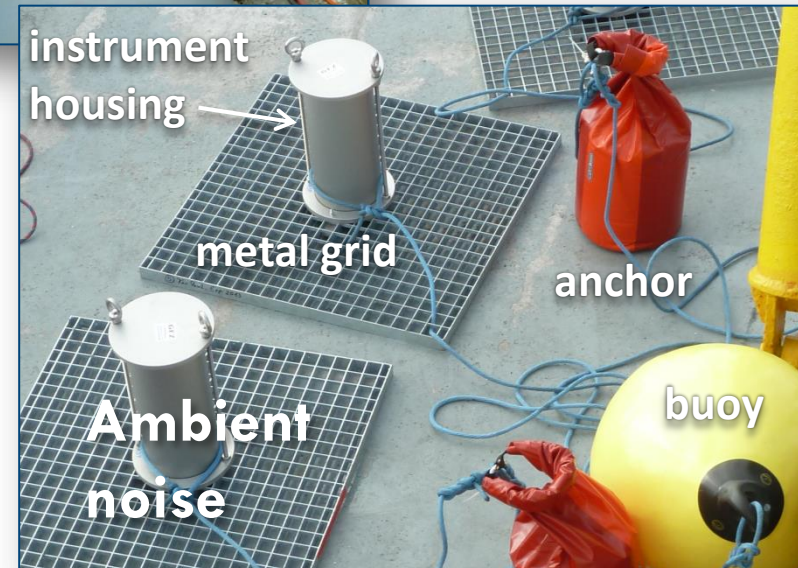
Submarine permafrost

...**distribution:**

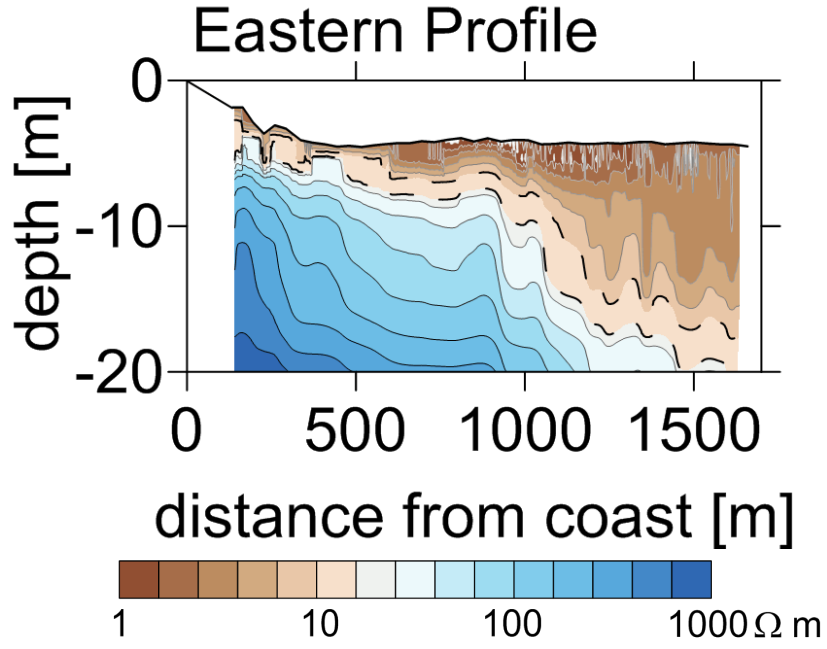
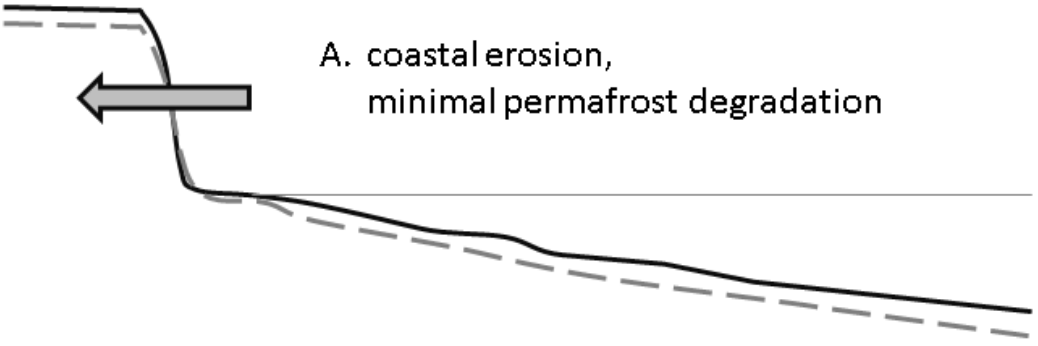
- depth of the top of submarine permafrost?
- how thick is submarine permafrost?

...**degradation:**

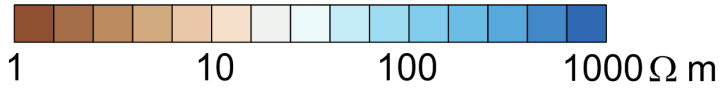
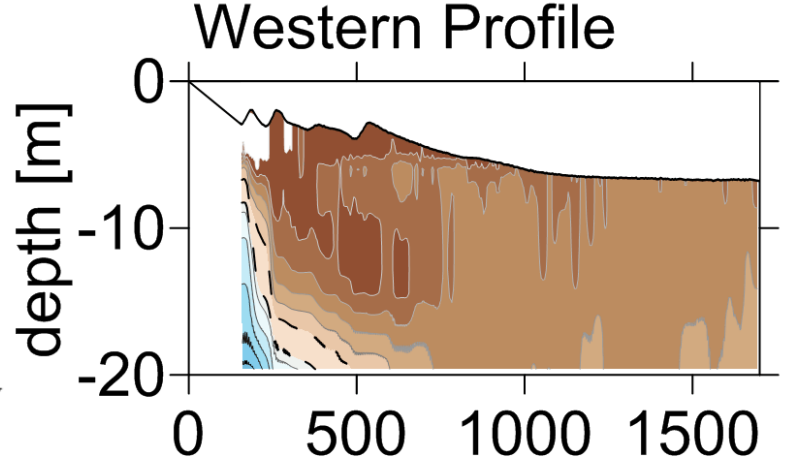
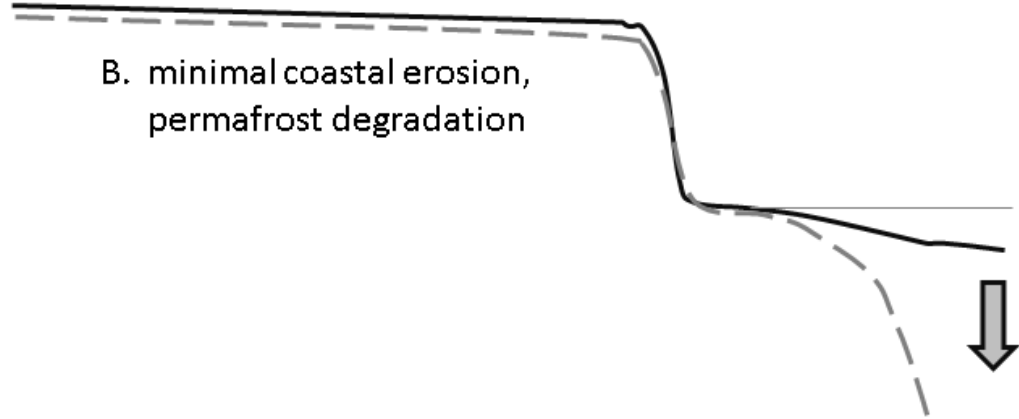
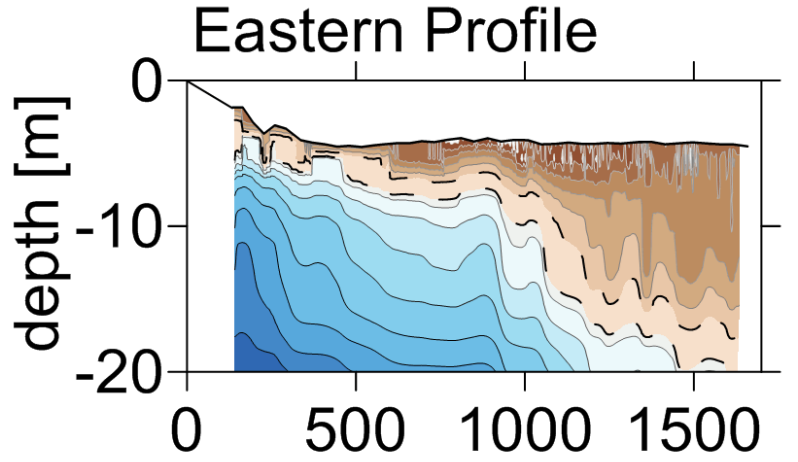
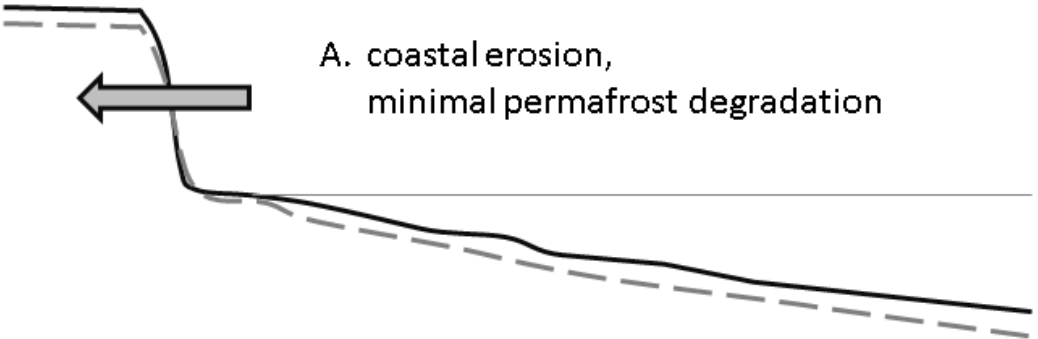
- sedimentation history
- coastal erosion
- bottom water temperature & salinity
- geomorphology at land surface



Coastal erosion & submarine permafrost



Coastal erosion & submarine permafrost



Ambient noise

