NGEA 01 2017
PERIGLACIAL ENVIRONMENTS

GLOBAL & NORDIC MOUNTAINS, SVALBARD, SIBIREA, GREENLAND, ICELAND & ARCTIC NORTH AMERIKA

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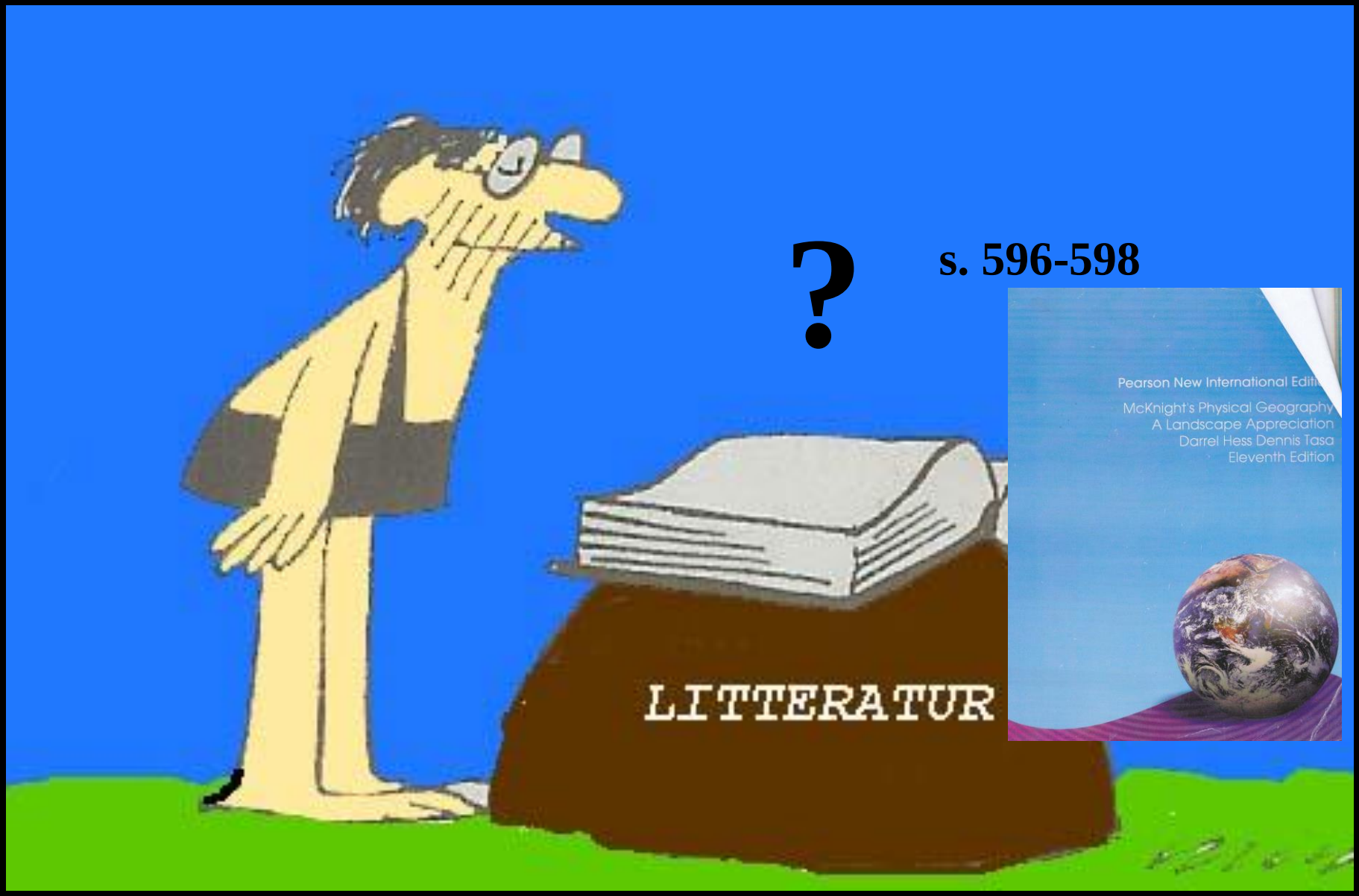
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s. 596-598
LITTERATUR
Pearson New International Edit
McKnight's Physical Geography
A Landscape Appreciation
Darrel Hess Dennis Tasa
Eleventh Edition

PERIGLACIAL ENVIRONMENTS

Areas with an important influence of cold air and ground temperatures, in daily, seasonal or annual pattern. Creating frozen ground – temporarily- seasonal frost or permafrost

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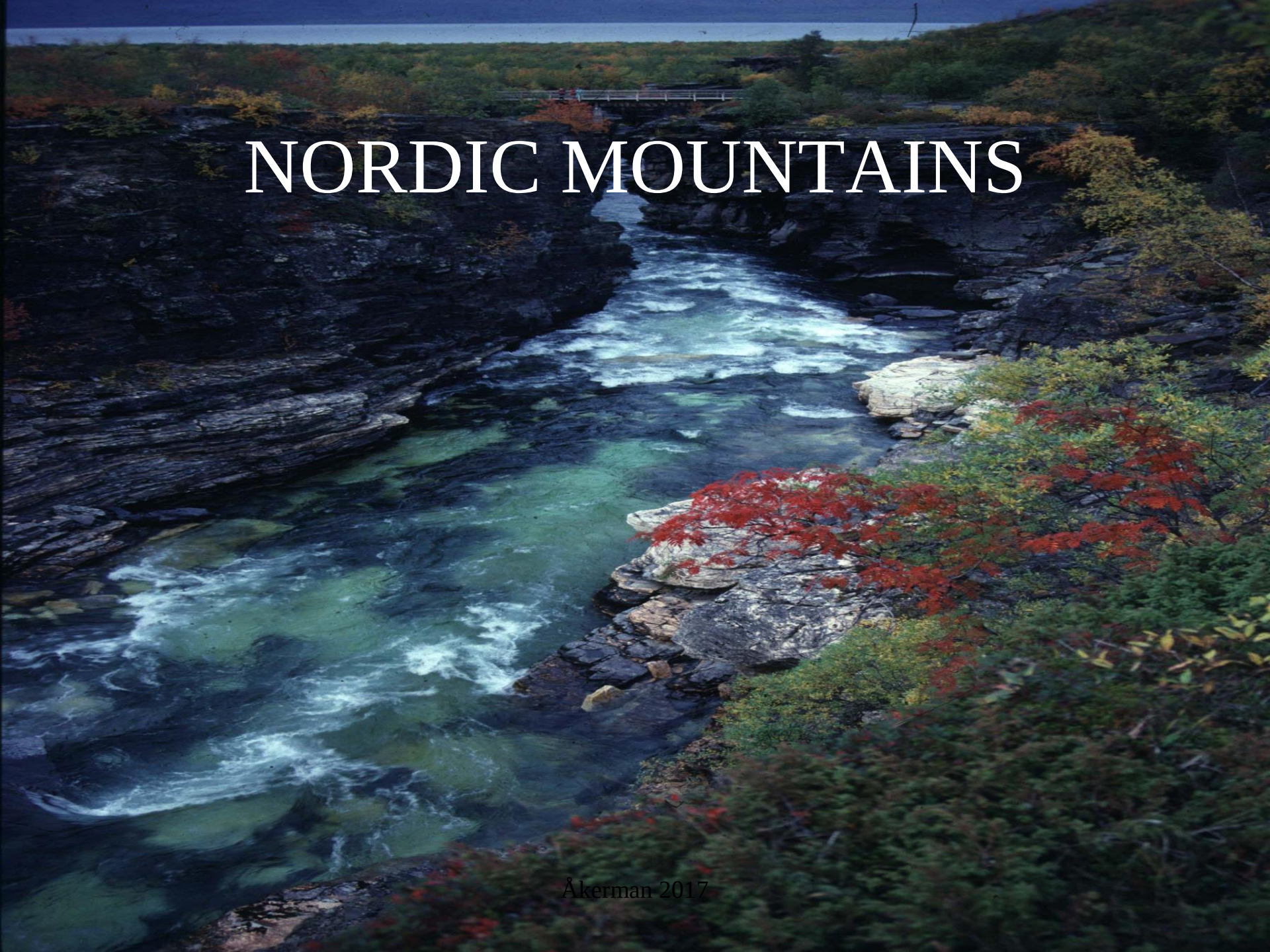
NORDIC MOUNTAINS



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ALASKA-CANADA

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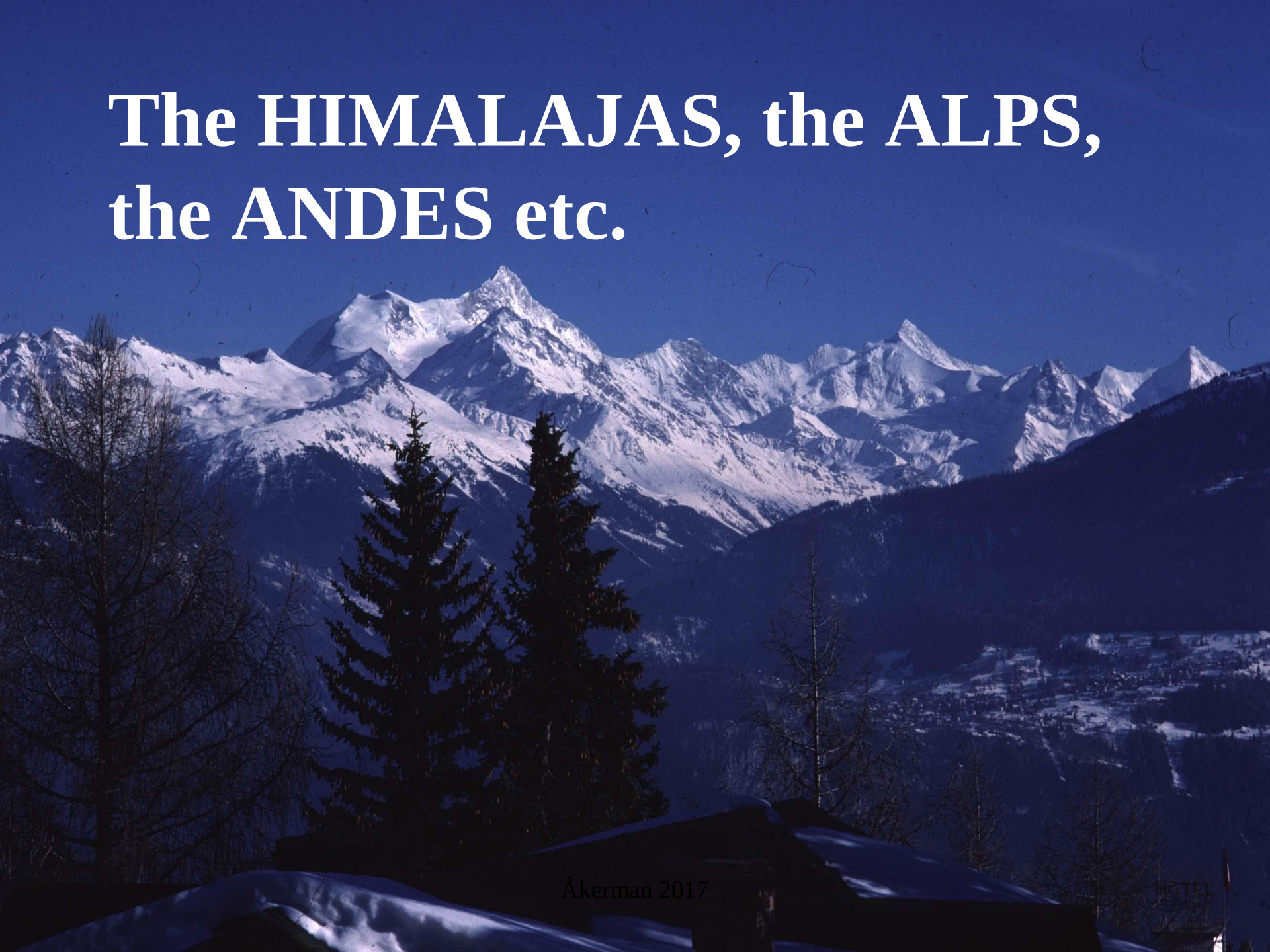
The HIMALAJAS, the ALPS, the ANDES etc.



GREENLAND

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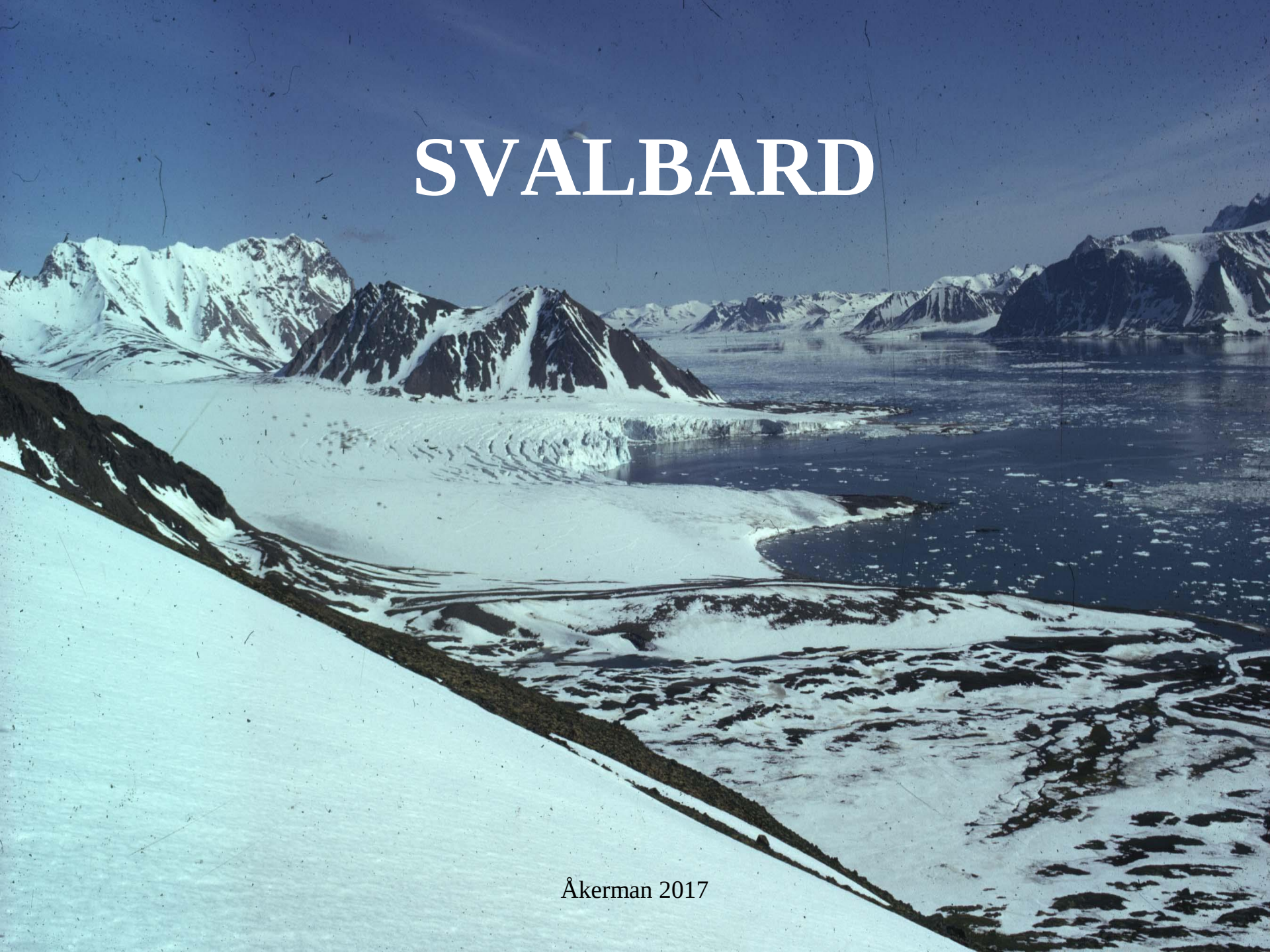

SVALBARD

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SIBIRIA

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TIBETAN PLATEAU

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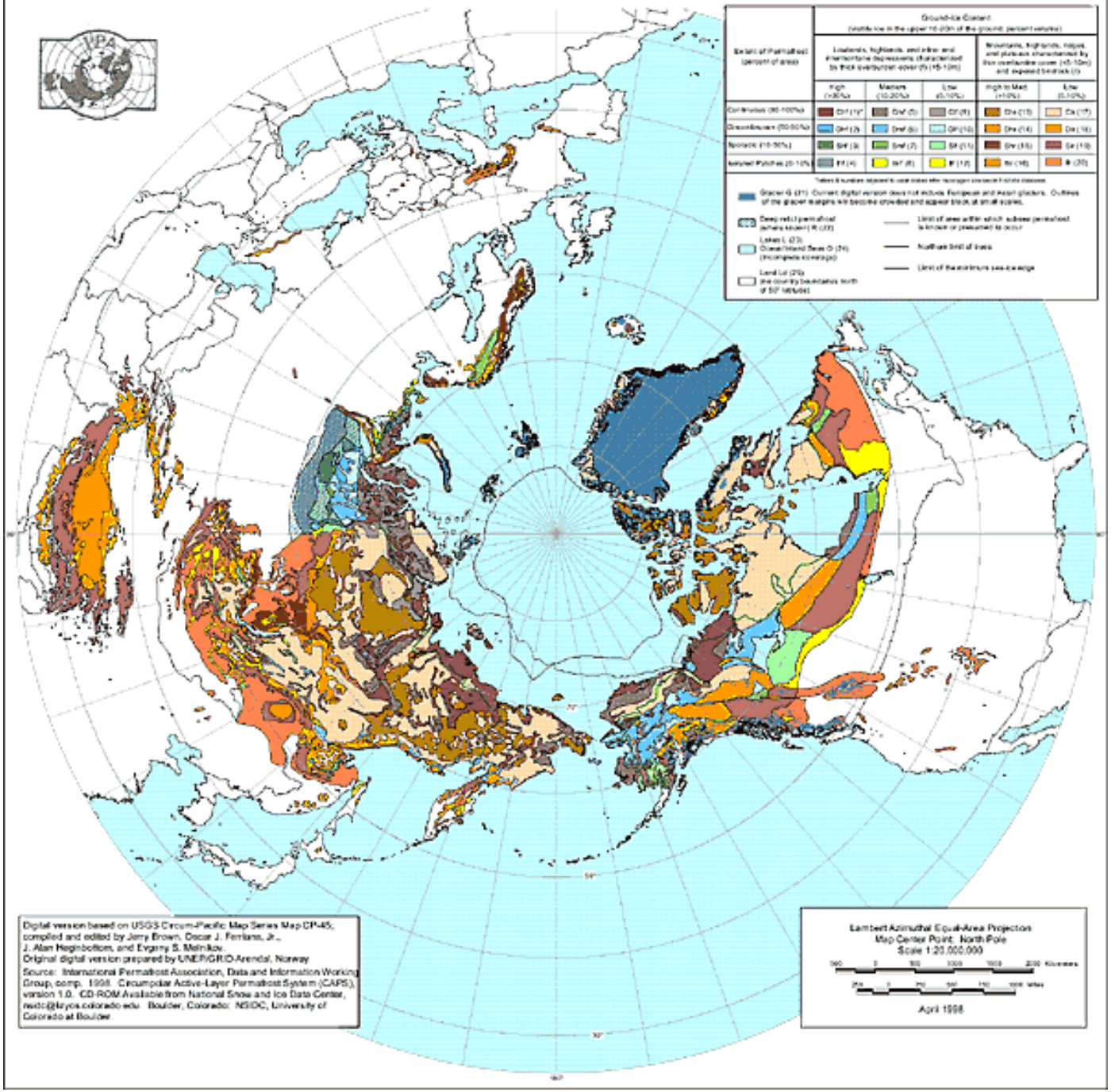
CIRCUM-ARCTIC MAP OF PERMAFROST AND GROUND-ICE CONDITIONS



Climate change and Increased evironmental pressure

-Minerals

-Fishing

-Tourism

-Defence inst.

-Infrastructure

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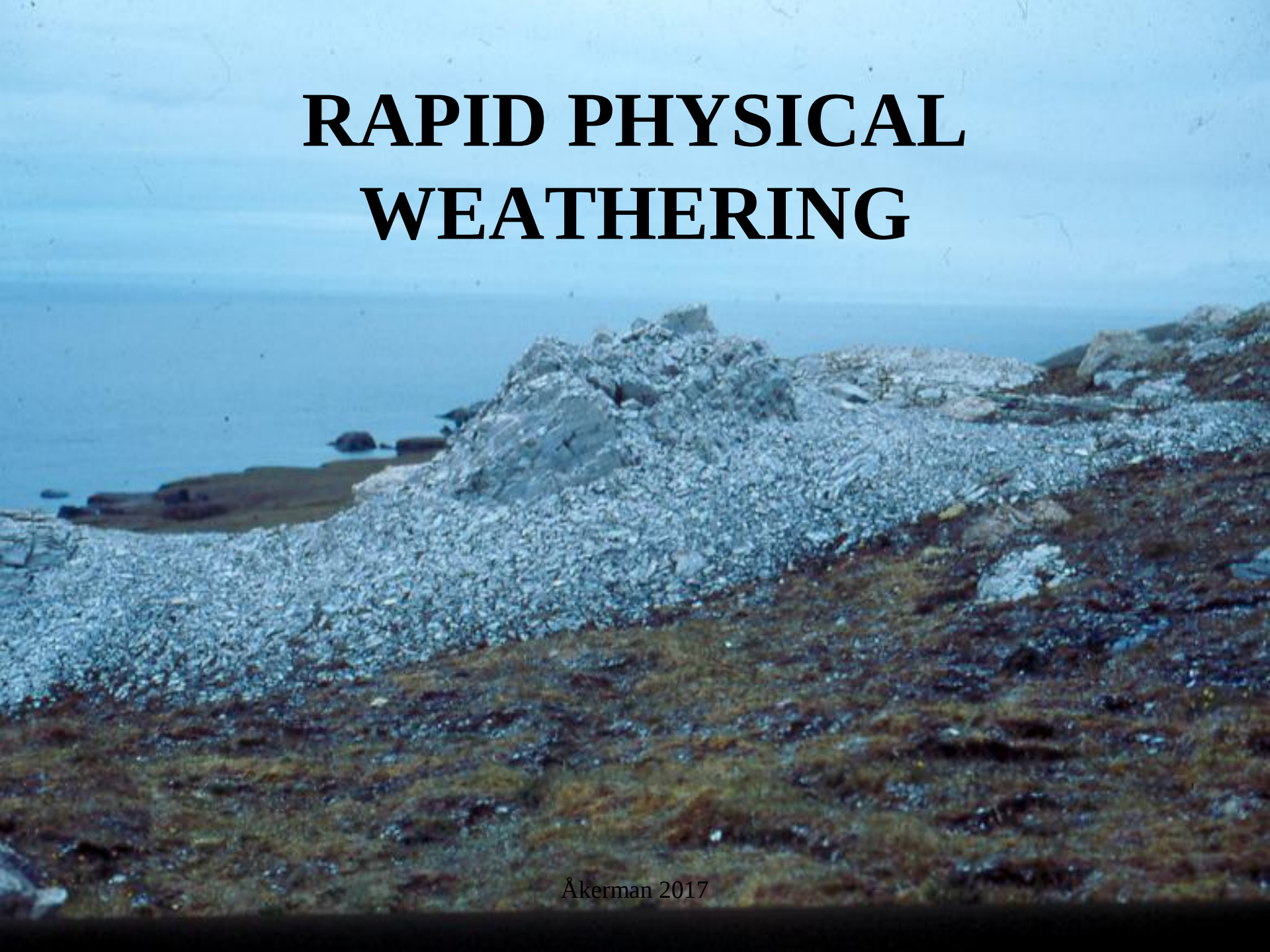
RAPID PHYSICAL WEATHERING



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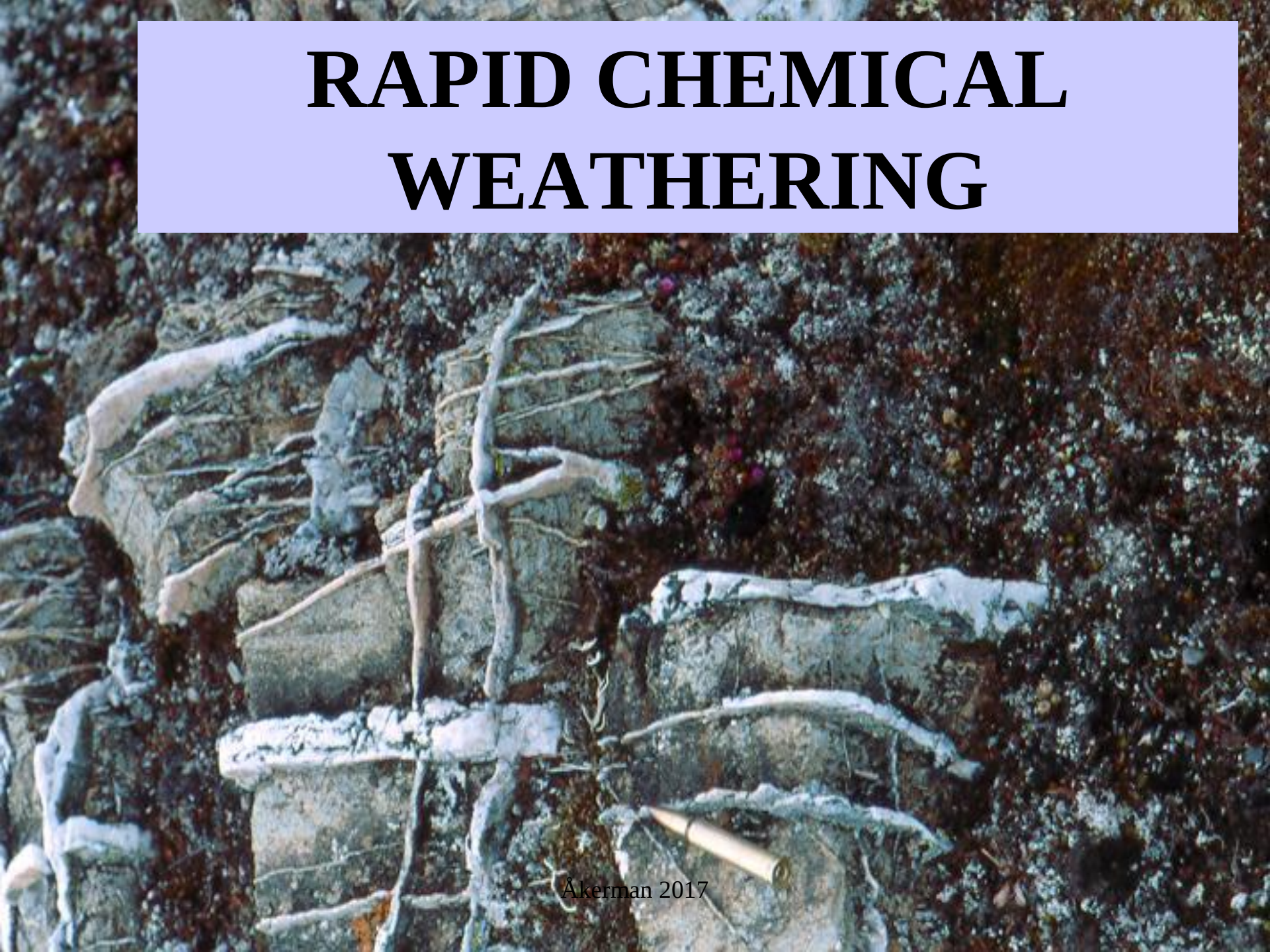
RAPID CHEMICAL WEATHERING



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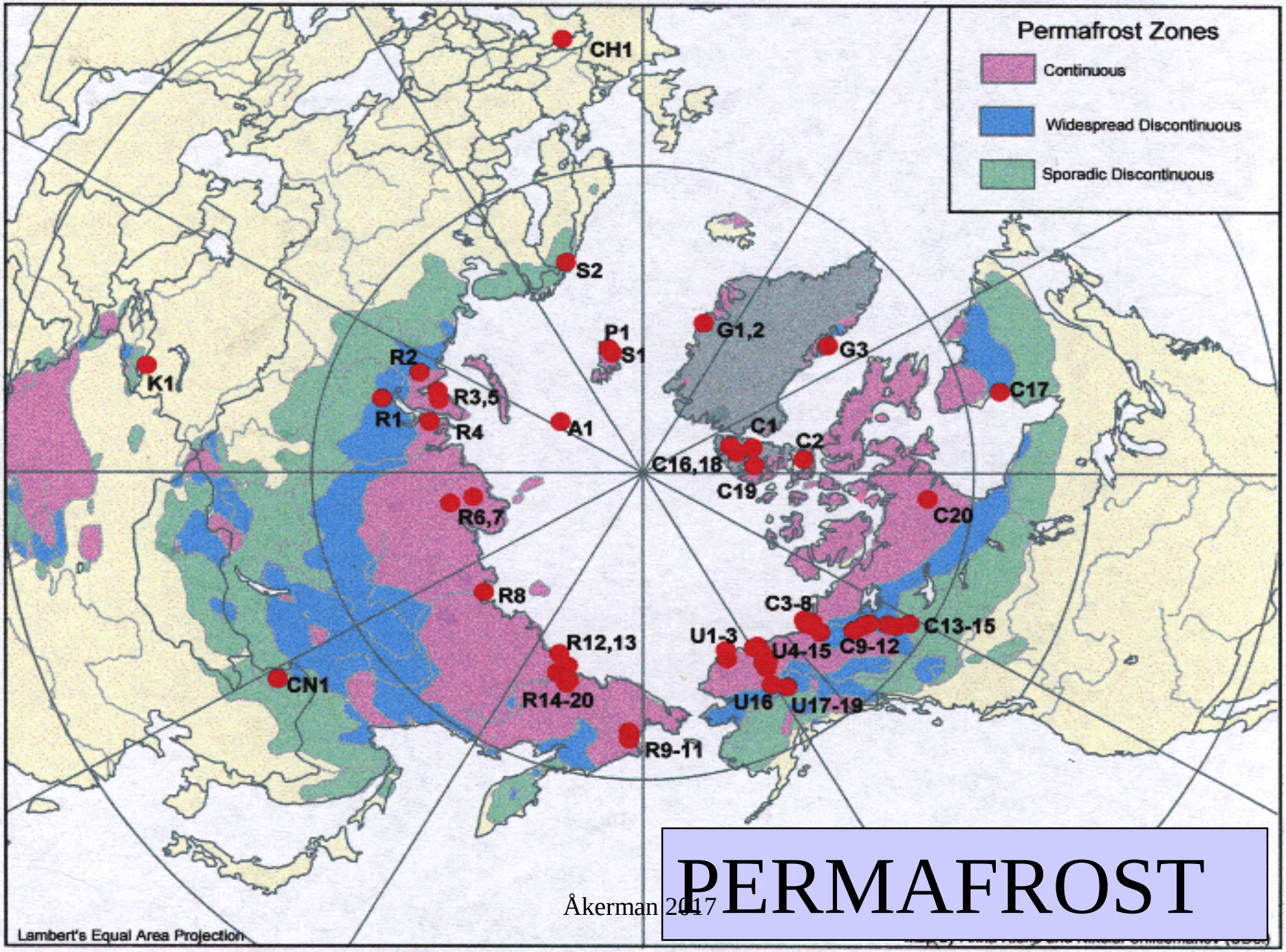

PERMAFROST

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6km
MELTING OF PERMAFROST
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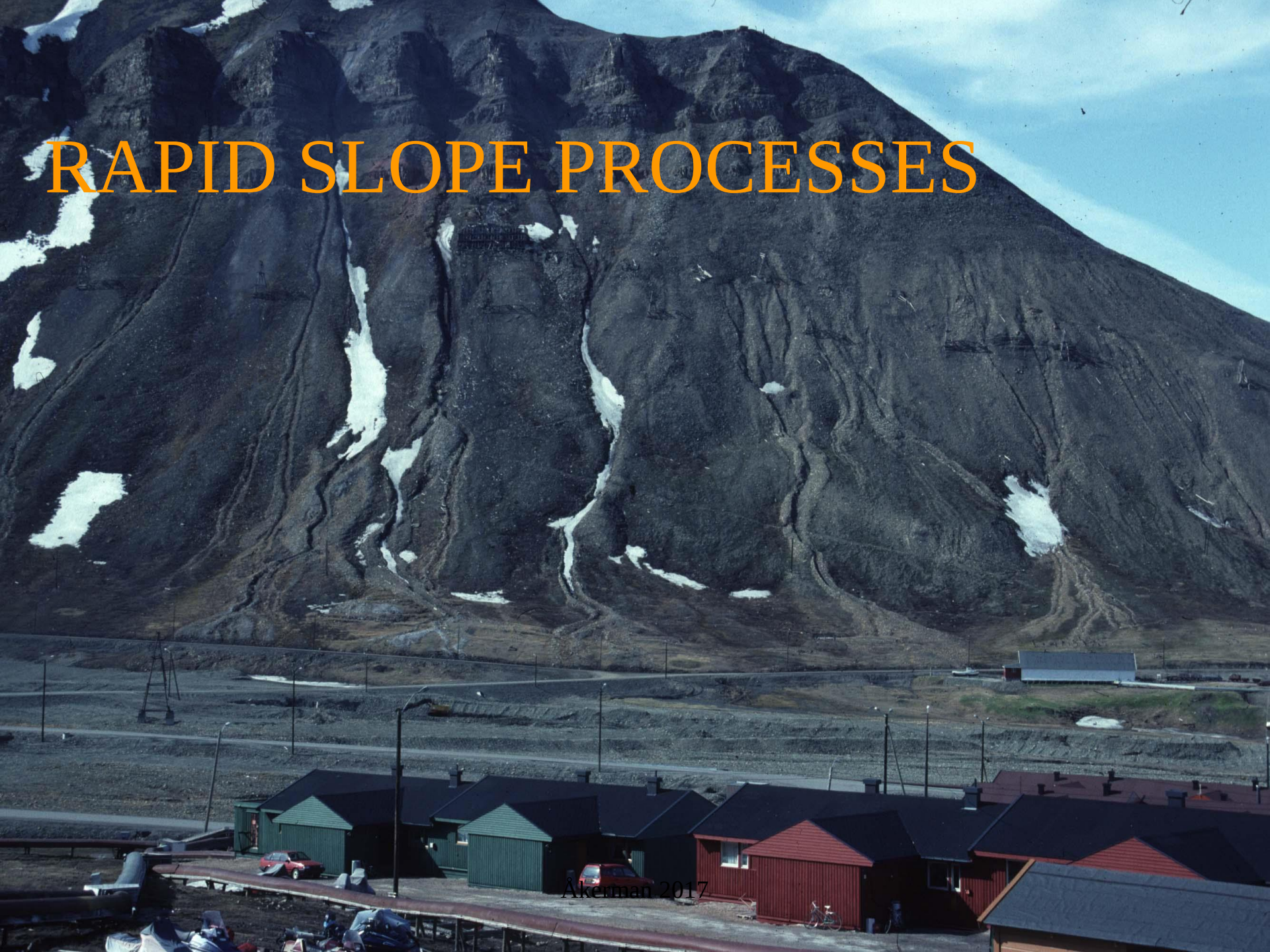
RAPID SLOPE PROCESSES



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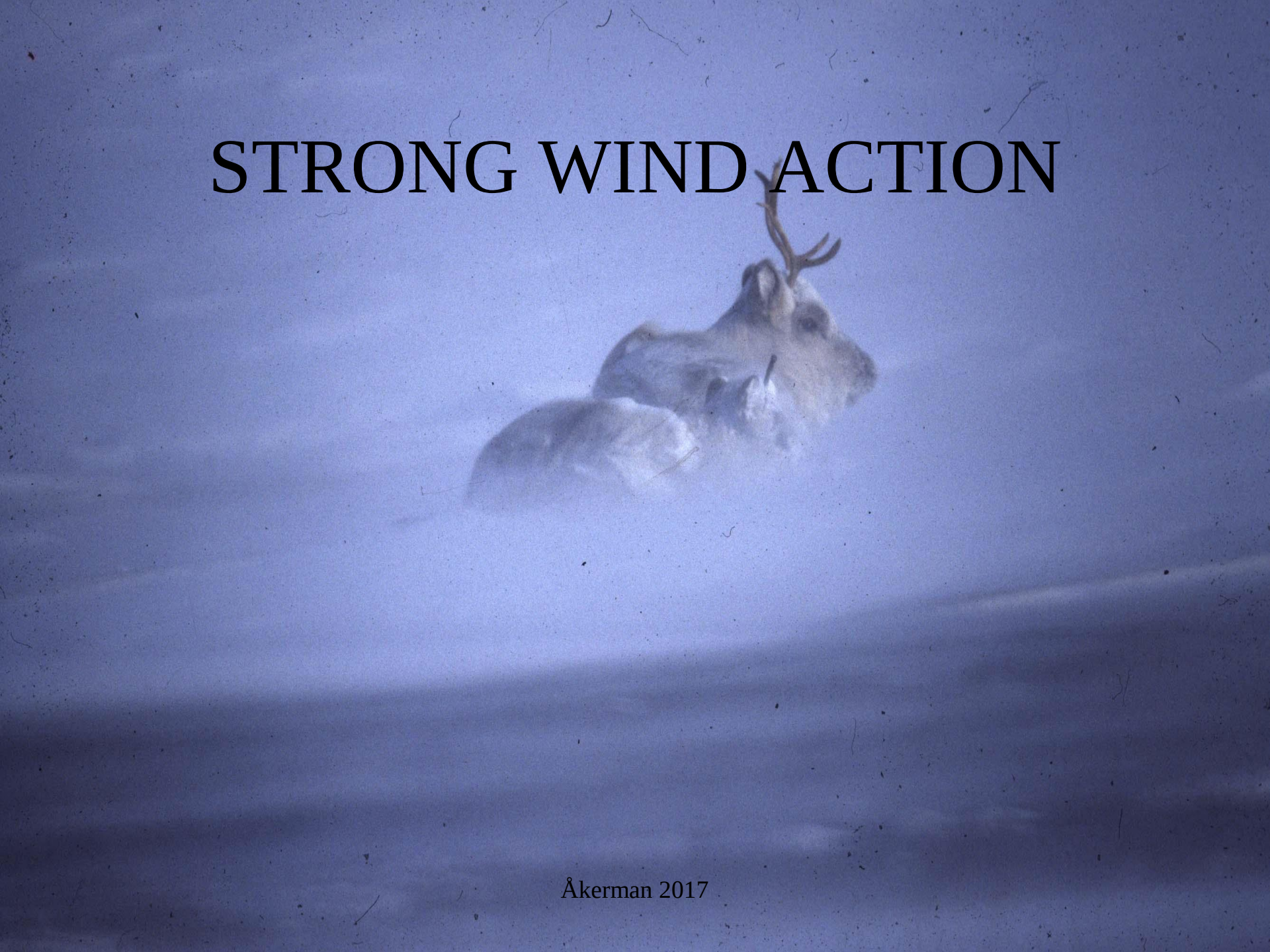
STRONG WIND ACTION



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SPECIAL STREAM PATTERNS

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SEA AND LAKE ICE

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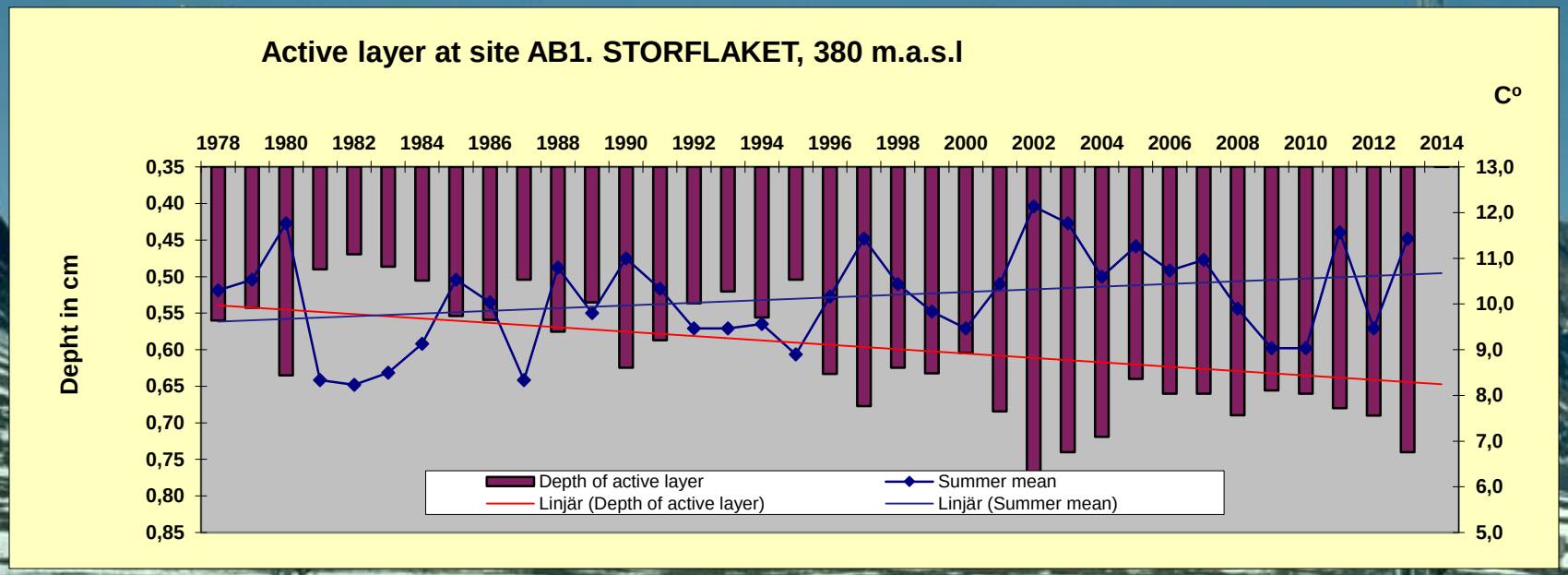
SENSIBILTY to CLIMATIC VARIABILITY OR CHANGES



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What might be like this
at temperatures < **0º C**
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Might be like this at temp. > 0º C

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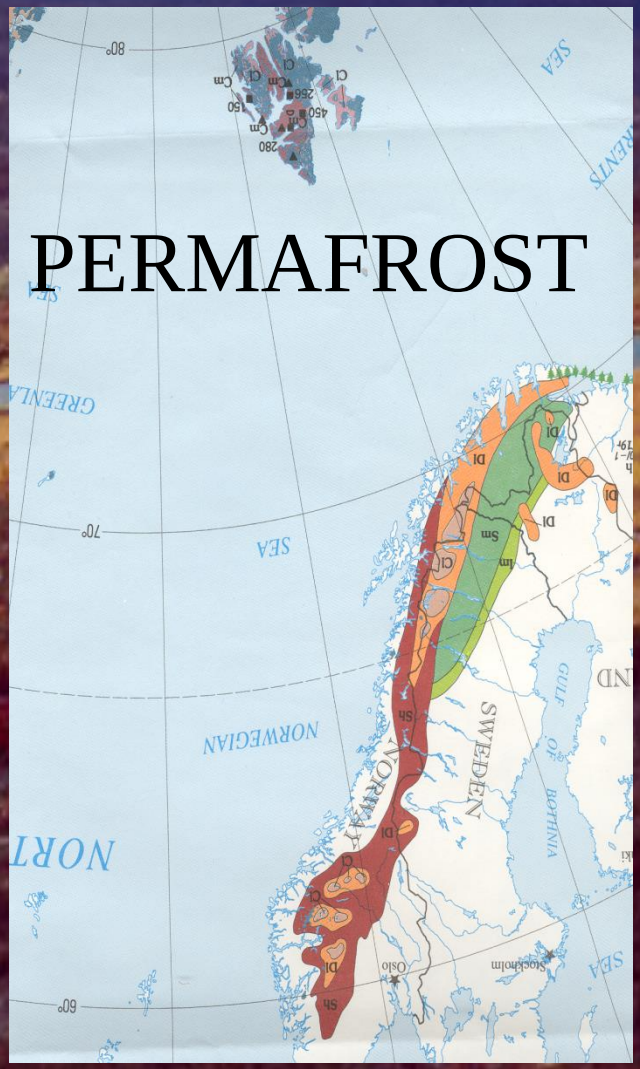
PERMAFROST



One of the most characteristic features of the periglacial environment is the presence of permafrost and various types of soil ice

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Thermokarst

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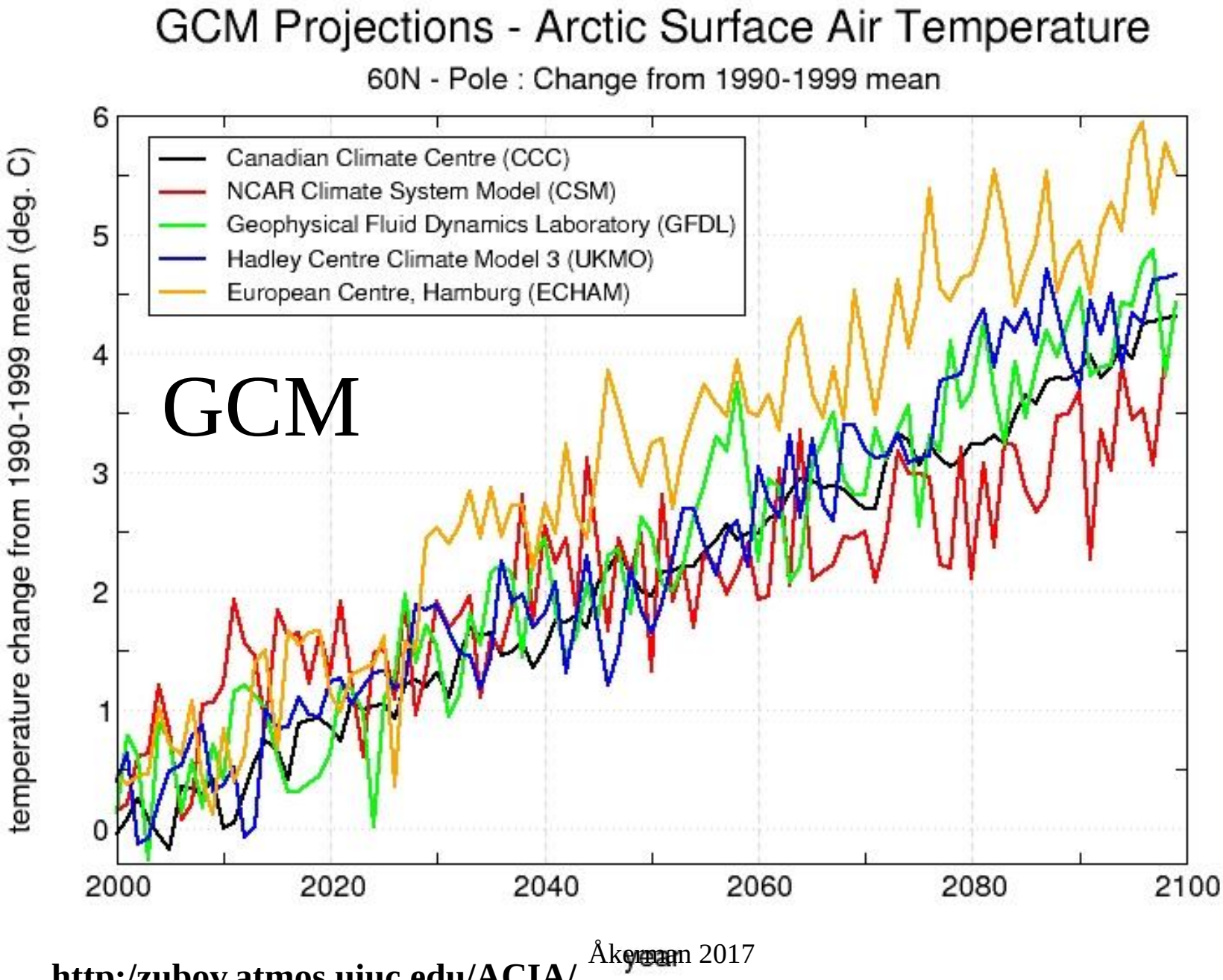
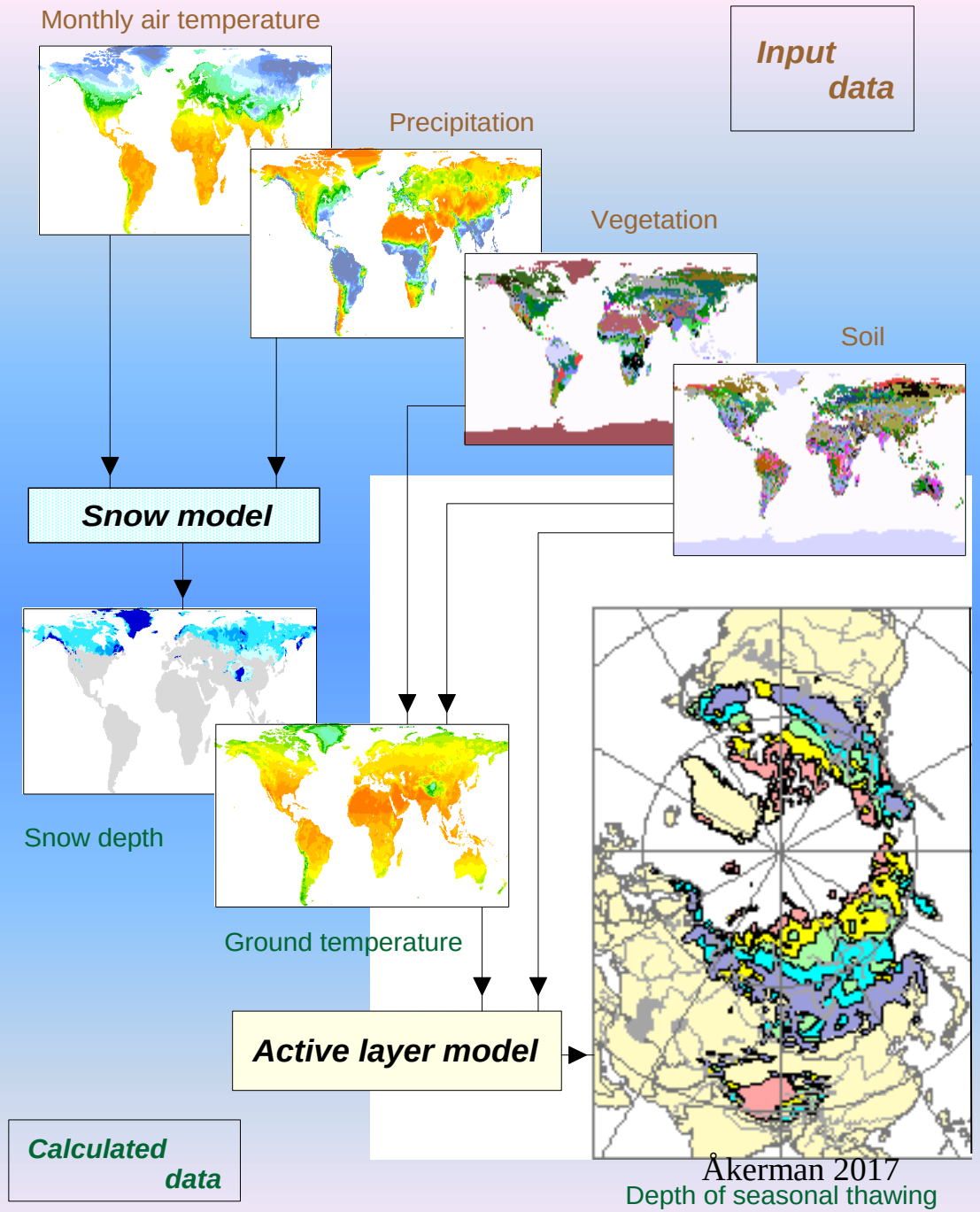


http:/zubov.atmos.uiuc.edu/ACIA/



Flow chart of permafrost model.

List of computed variables:

H_{sn} - Snow depth;
T_s – Surface temperature;
SFI – Surface Frost Index;
Z_{th} – Depth of seasonal thaw;
dZ^r_{th} – Relative change of thaw depth from baseline period,

$$dZ^r_{th} = (Z_{th}(t_1) - Z_{th}(t_0))/Z_{th}(t_0)$$

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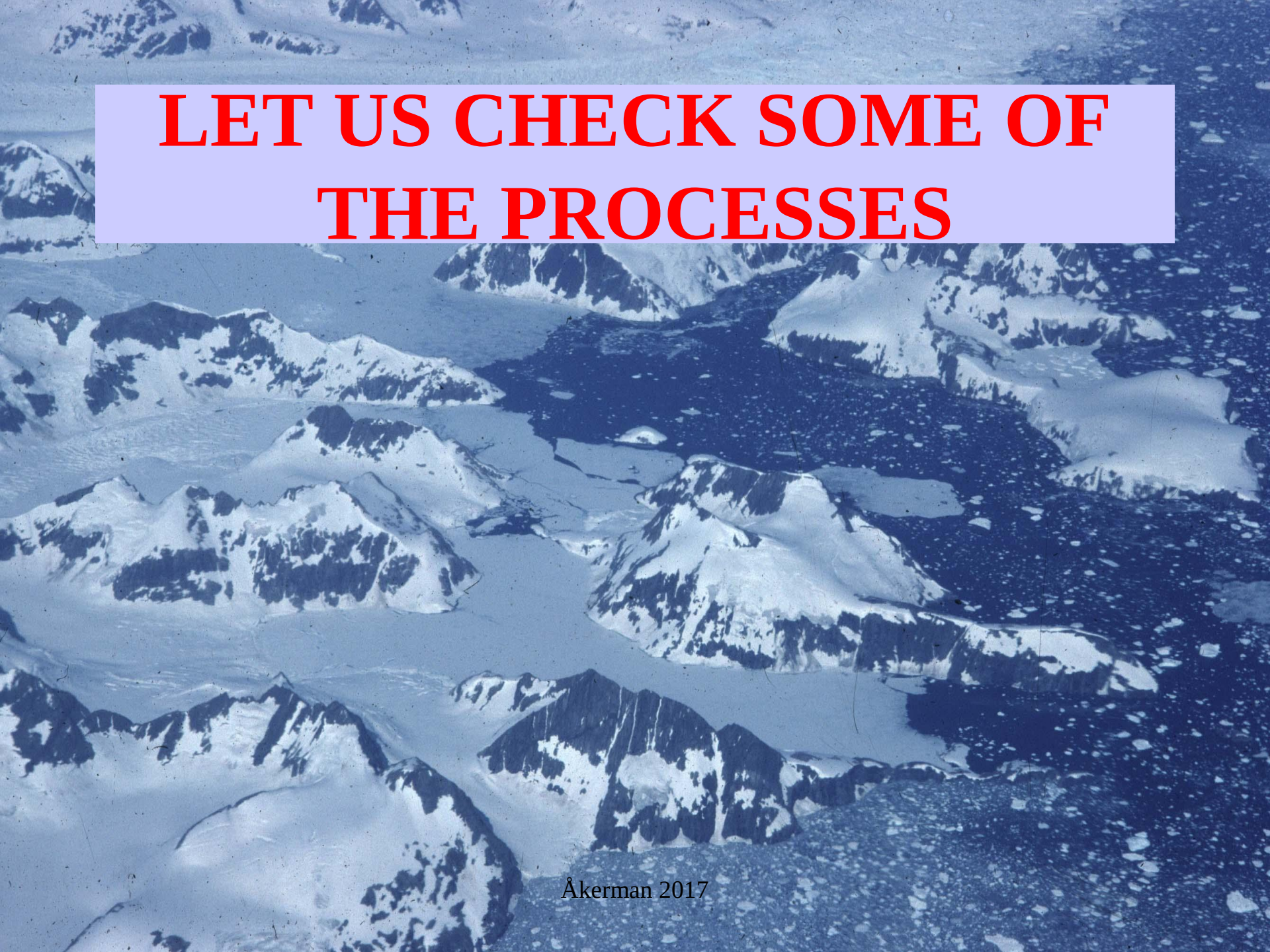
LET US CHECK SOME OF THE PROCESSES



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