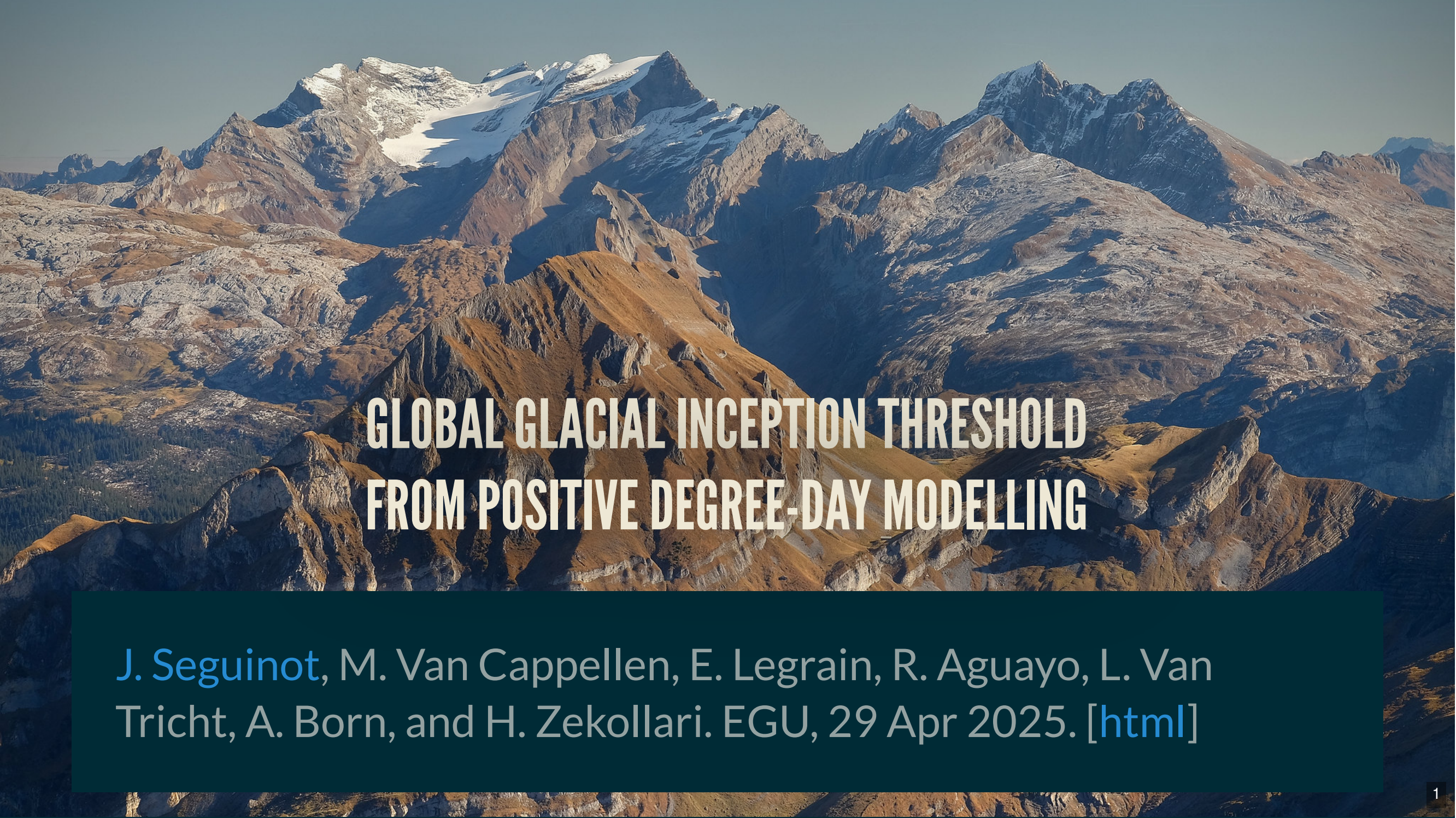




GLOBAL GLACIAL INCEPTION THRESHOLD FROM POSITIVE DEGREE-DAY MODELLING

J. Seguinot, M. Van Cappellen, E. Legrain, R. Aguayo, L. Van Tricht, A. Born, and H. Zekollari. EGU, 29 Apr 2025. [[html](#)]

GLACIERS AND PALEOGLACIERS

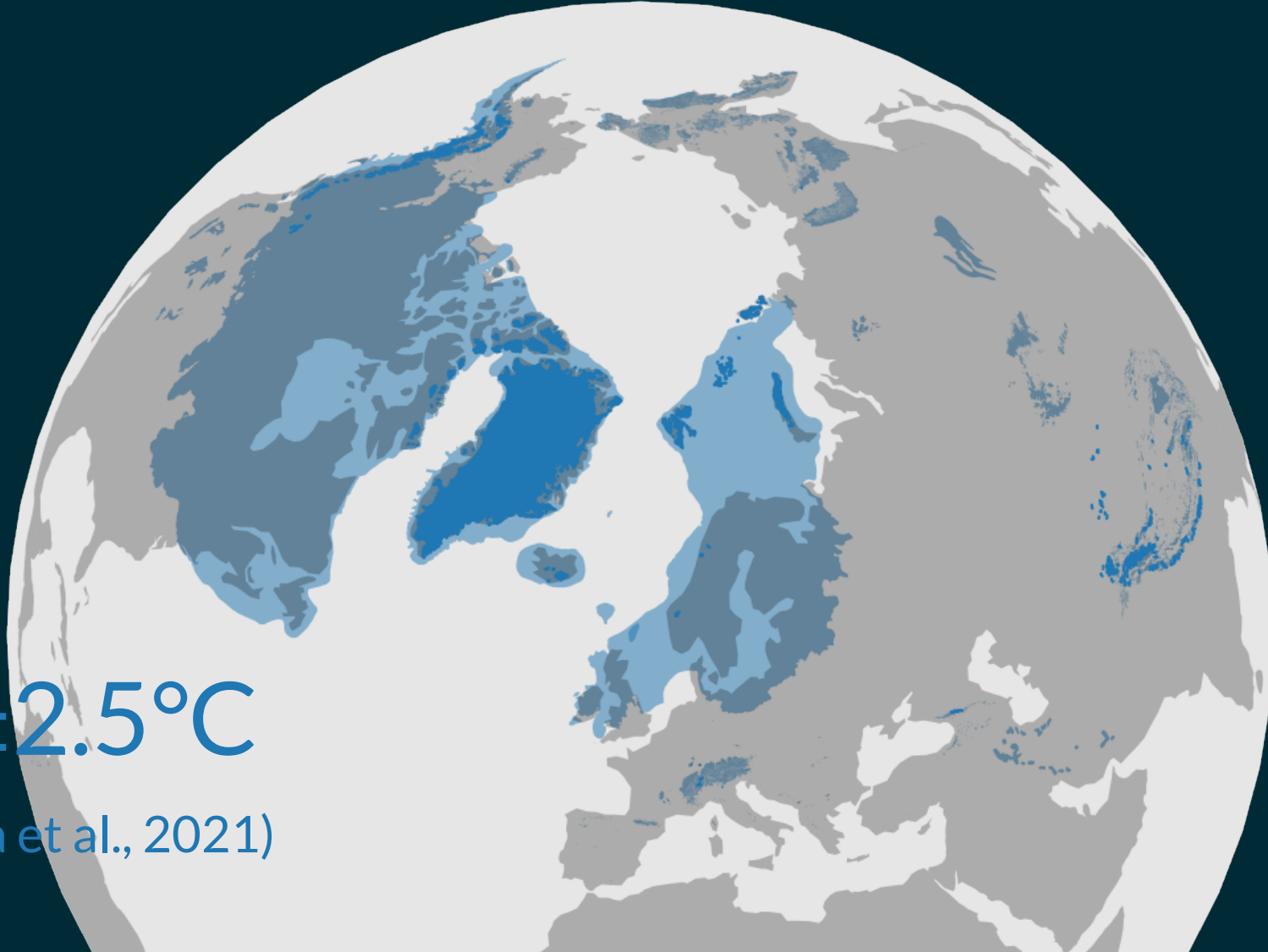


GLACIERS AND PALEOGLACIERS

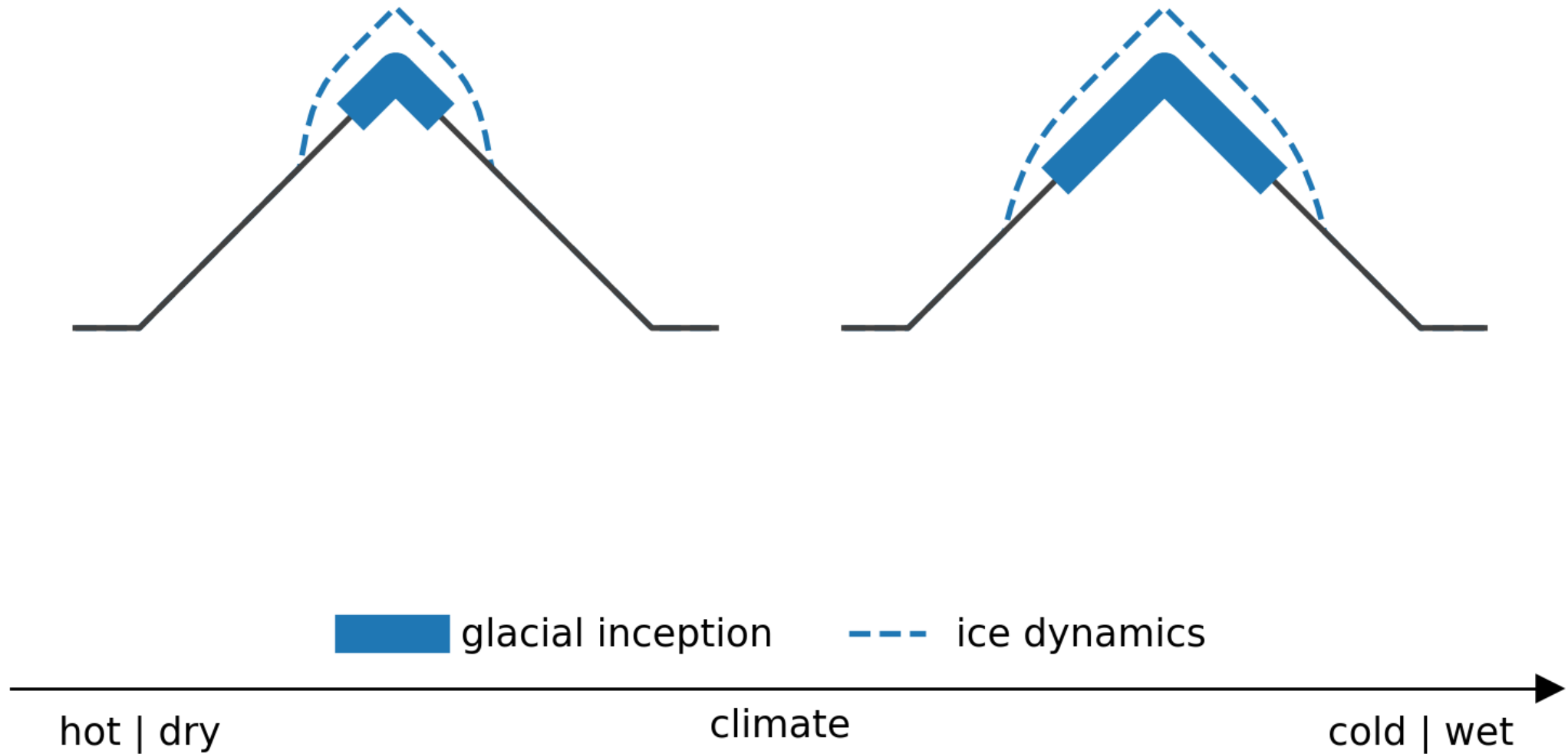


GLACIERS AND PALEOGLACIERS

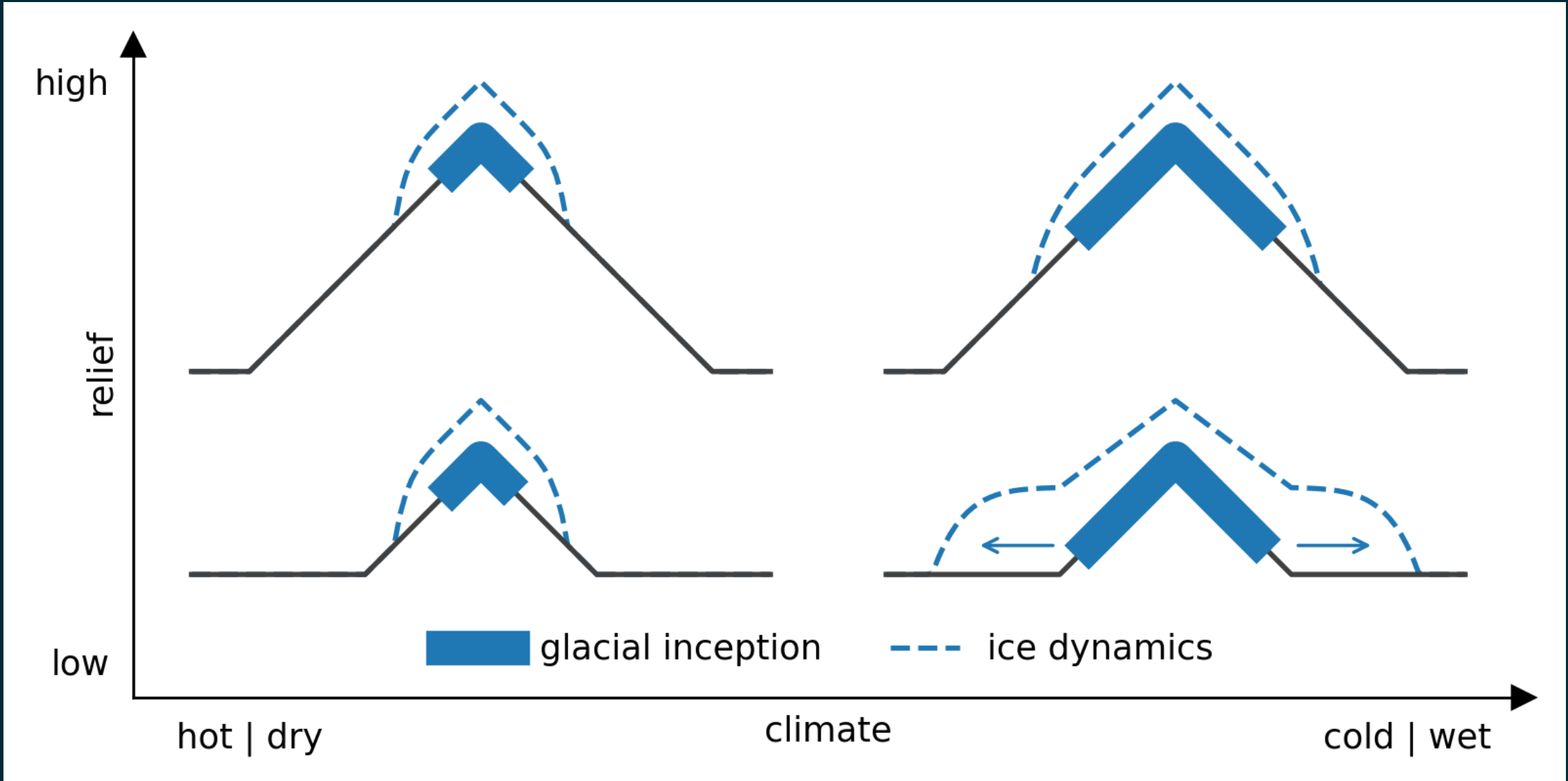
$-4.8 \pm 2.5^{\circ}\text{C}$
(Kageyama et al., 2021)



GLACIATION MODES



GLACIATION MODES



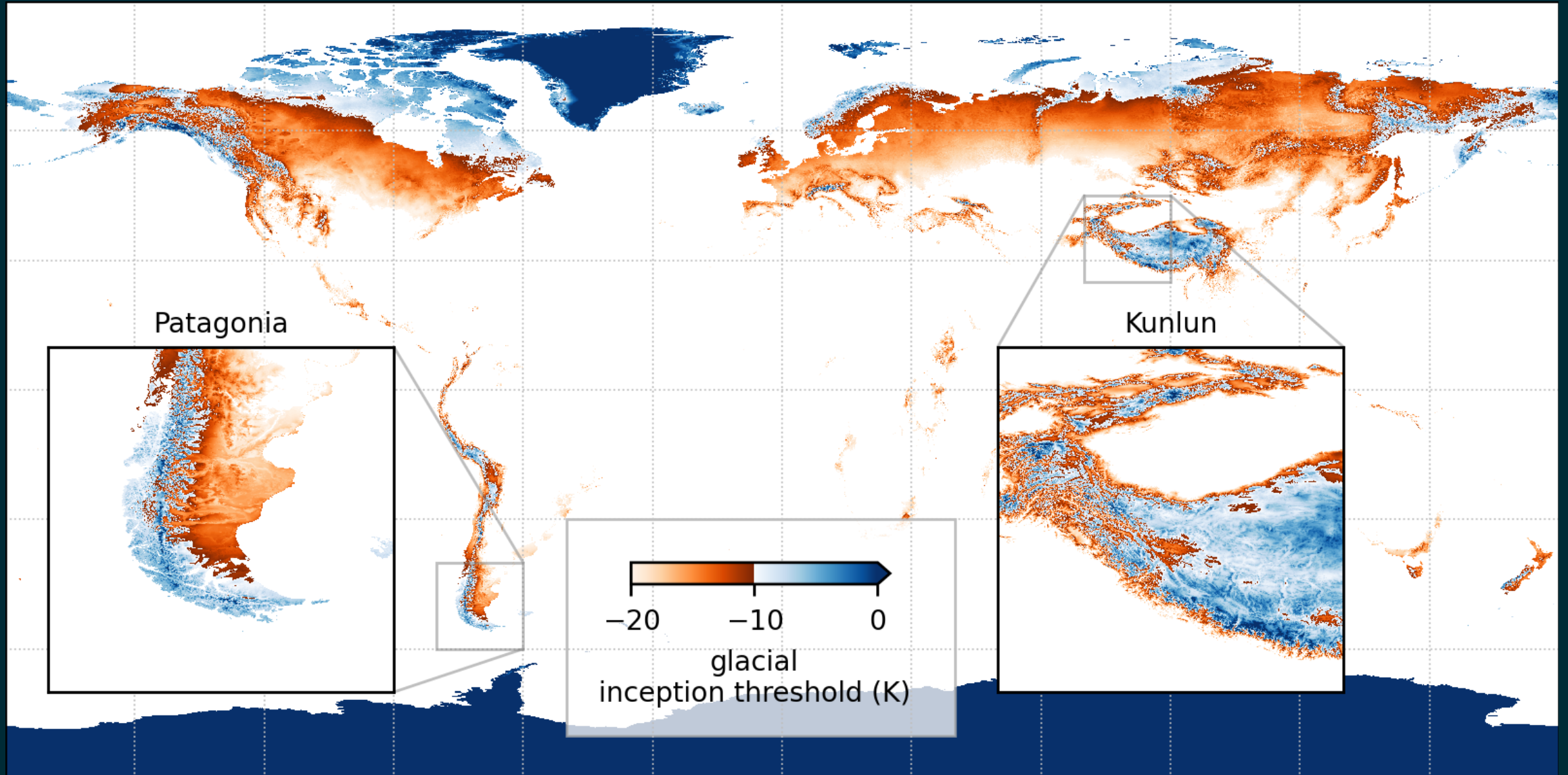
GLOBAL DEGREE-DAY MODELLING

- CHELSA-W5E5 ca. 1 km input climate (T, P, σ)
- Temperature offset +4.0, +3.8, ..., -20.0 K
- Positive degree-day mass balance model

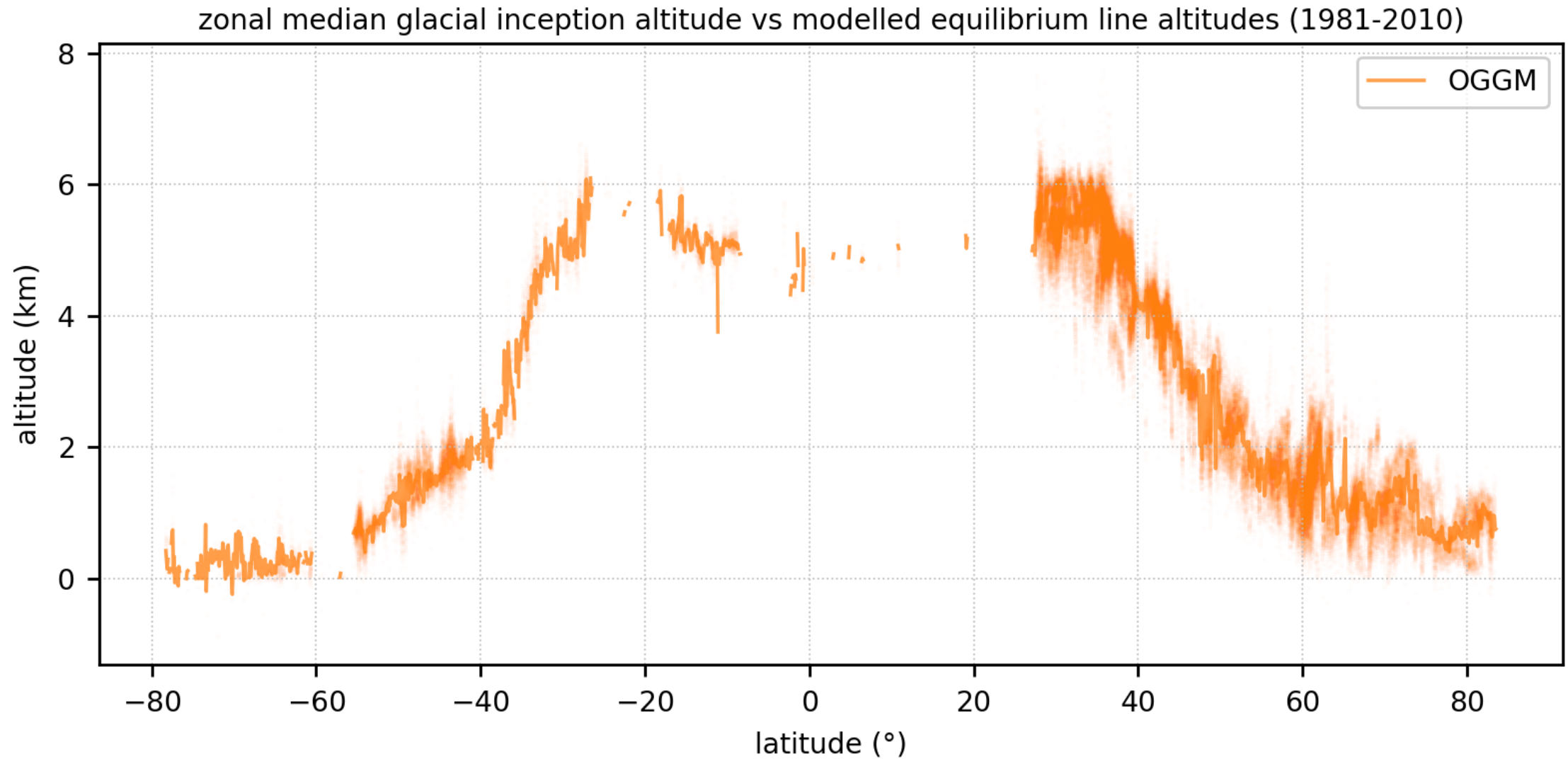
~

→ Global glacial inception threshold
(temperature change needed to begin glacier growth)

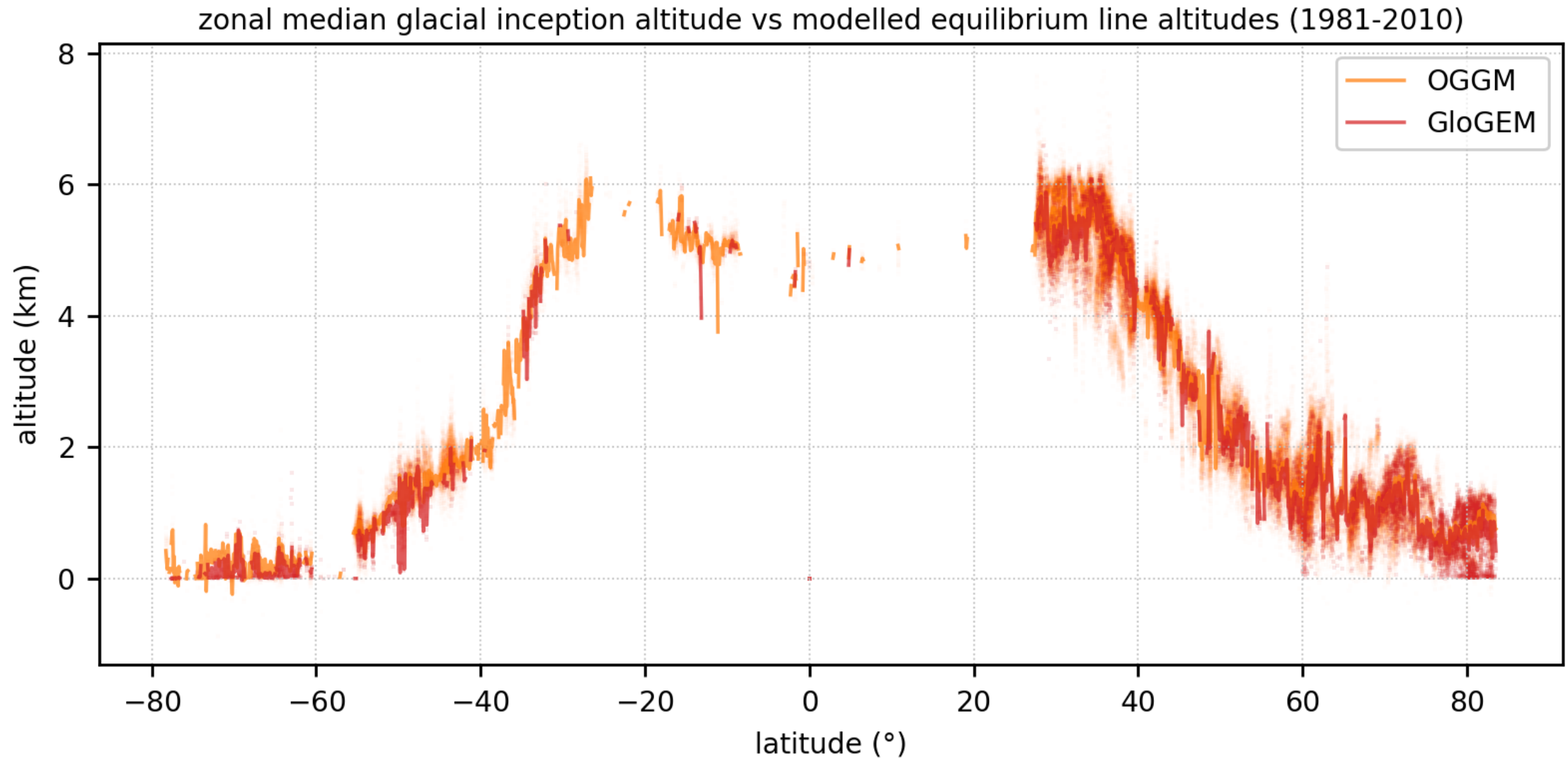
GLACIAL INCEPTION THRESHOLD



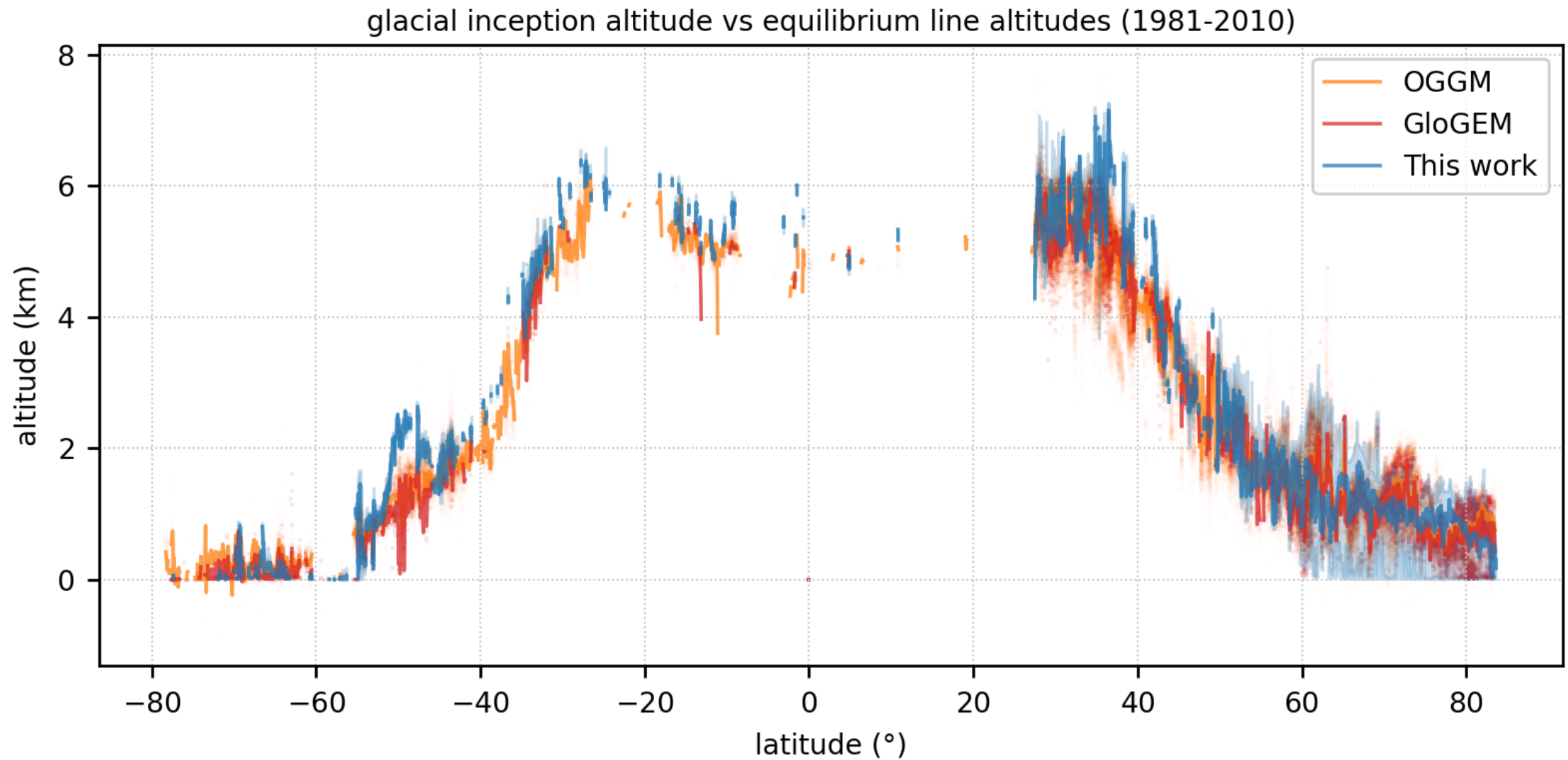
VS. CURRENT EQUILIBRIUM LINES



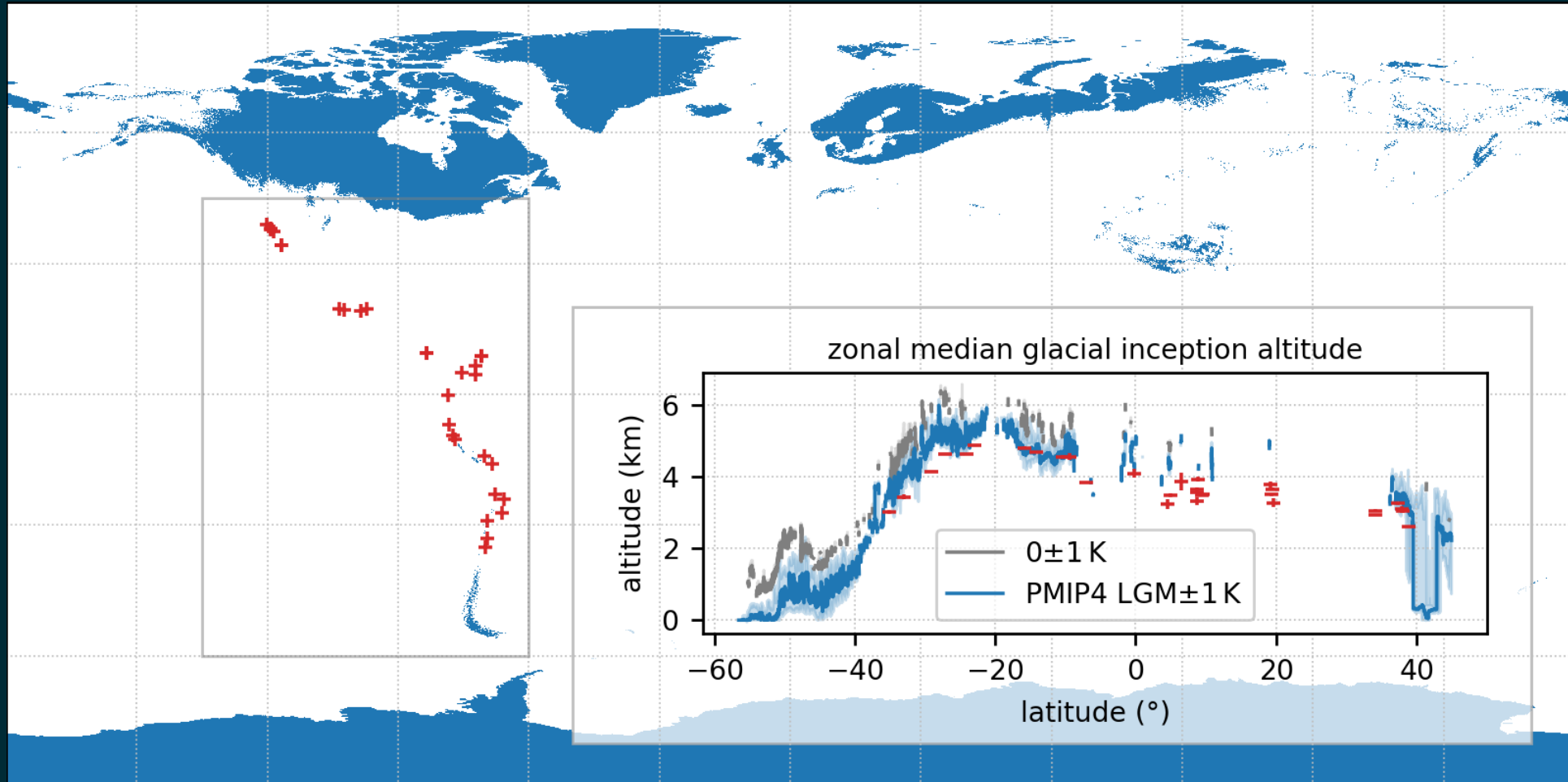
VS. CURRENT EQUILIBRIUM LINES



VS. CURRENT EQUILIBRIUM LINES



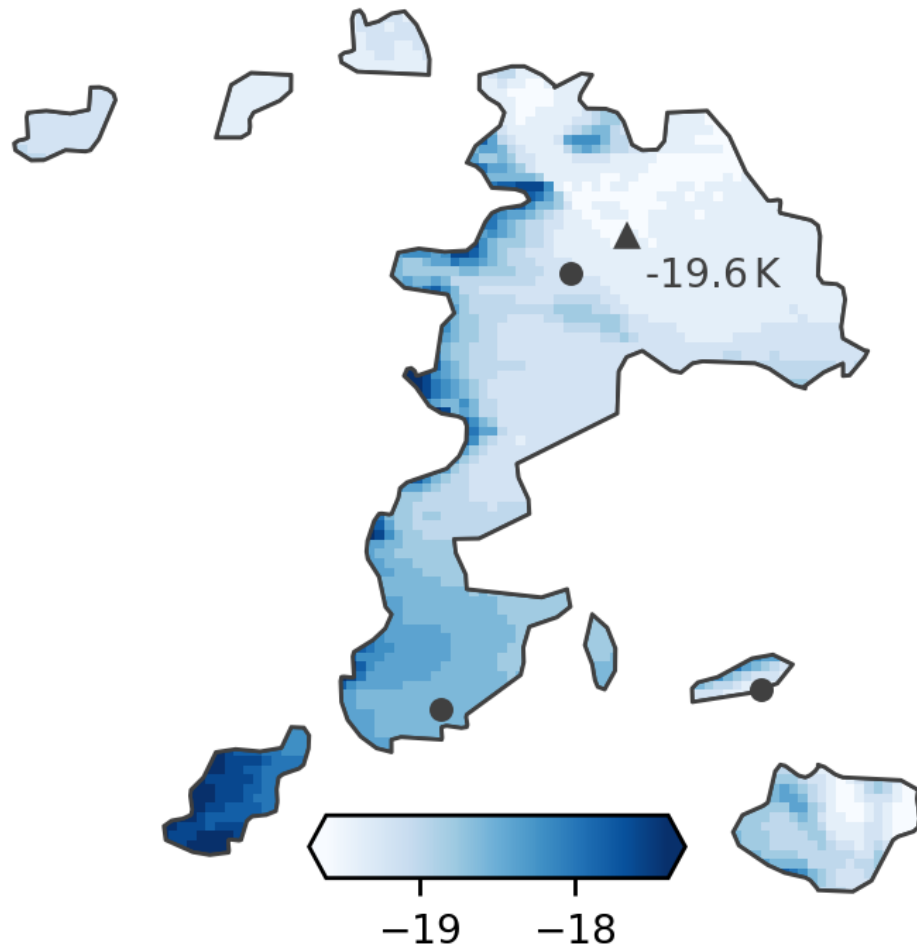
VS. PMIP4 AND LGM EQUILIBRIUM LINES



See also poster **EGU25-6672** by Van Cappellen et al.

GLACIAL INCEPTION ON THE AUSTRIA CENTER

(but glaciers from the Alps would flow here first)



glacial inception threshold (K) in Vienna

fwo



bglaacier