

EGU24-10070, updated on 10 Dec 2024

<https://doi.org/10.5194/egusphere-egu24-10070>

EGU General Assembly 2024

© Author(s) 2024. This work is distributed under the Creative Commons Attribution 4.0 License.



Spatial fluctuations of the Arctic sea ice border

Clara Hummel

Department of Mathematics and Statistics, UiT The Arctic University of Norway, Tromsø, Norway (c.hummel@uit.no)

Every year, the area of the Arctic sea-ice decreases in the boreal spring and summer and reaches its yearly minimum in the early autumn. Due to global warming, Arctic summer sea ice will most probably disappear. As the sea ice cover decreases, its border is retreating northwards towards the central Arctic. This retreat is not uniform in space and the variability of the border's movement further North could yield an early warning signal for summer sea ice loss. Here, we track the sea ice border from time series obtained from models of various complexity and observations to study the spatial variability of the border's movement as Arctic summer sea ice approaches its disappearance.