

# Supporting Information for “Is the surface forcing through sea ice leads transferred to the Arctic Ocean interior?”

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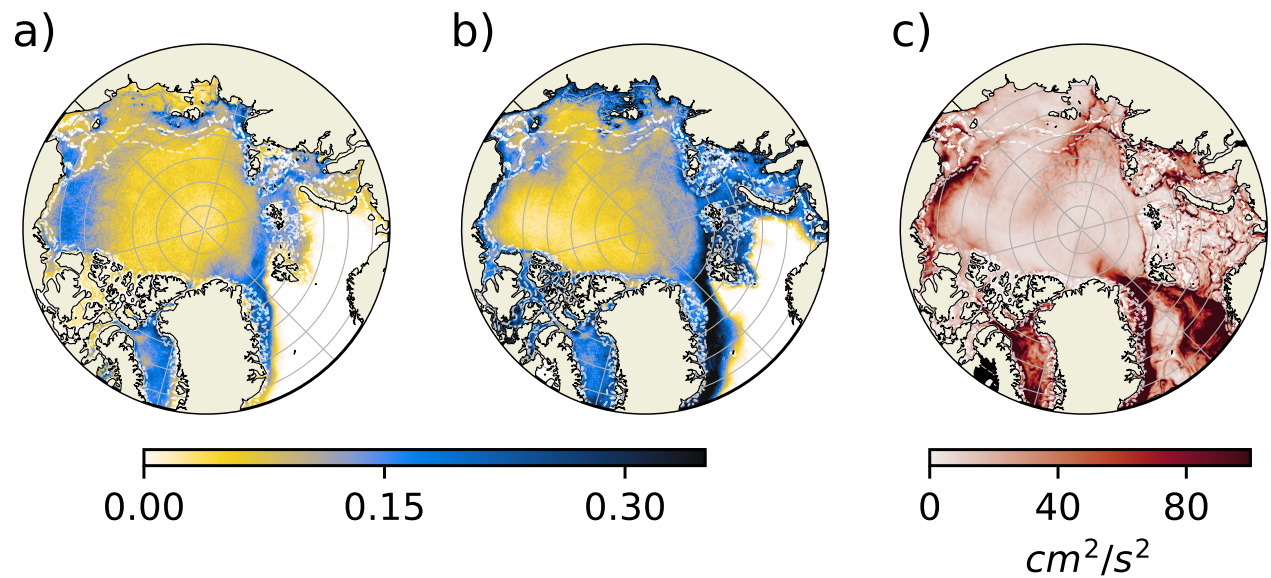
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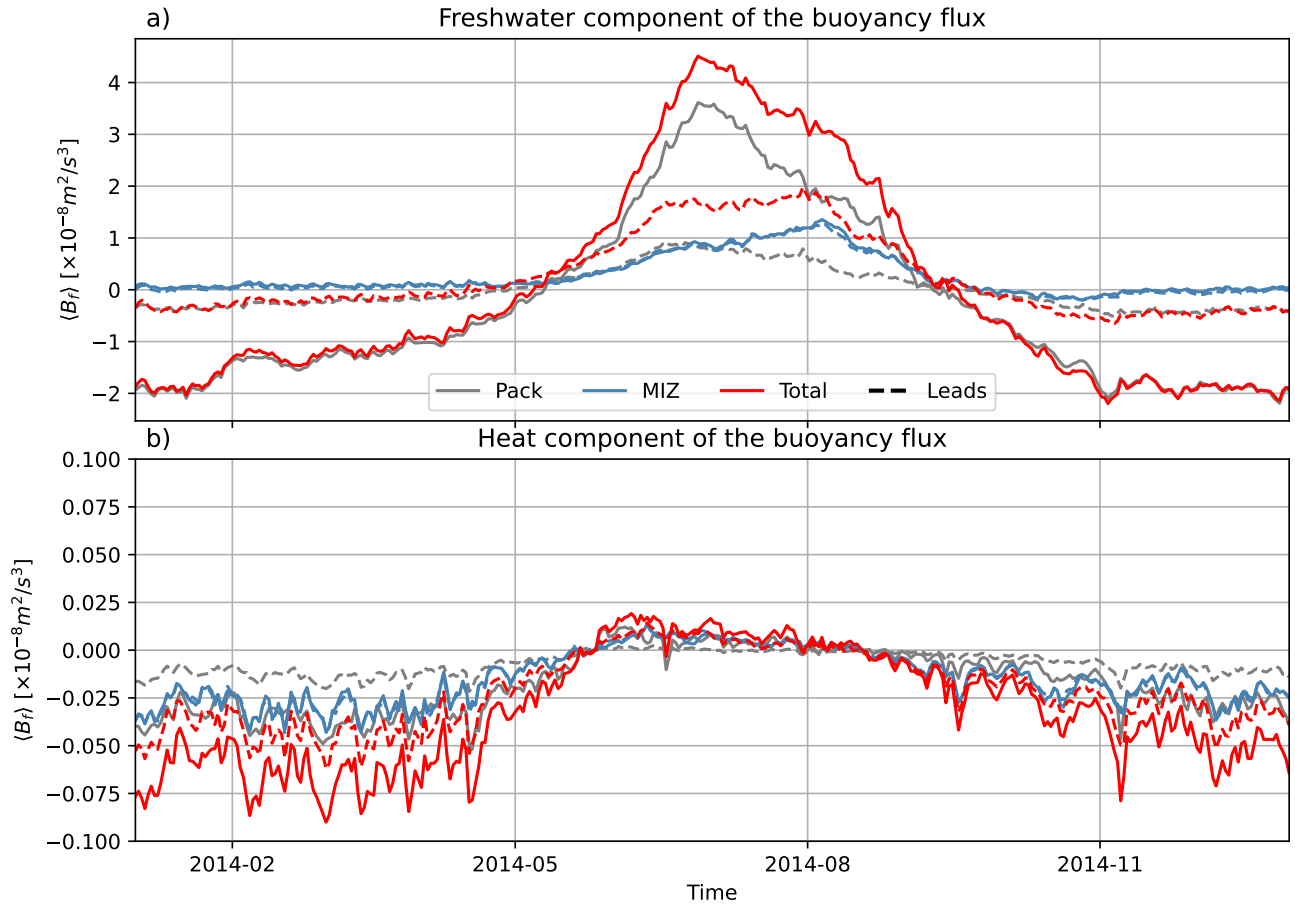
## References

Willmes, S., Heinemann, G., & Schnaase, F. (2023). Patterns of wintertime Arctic sea ice leads and their relation to winds and ocean currents. *The Cryosphere Discussions*, 2023, 1–23. doi: 10.5194/tc-2023-22

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**Figure S1.** Comparison of winter lead frequency between a) Thermal-Infrared Satellite Imagery (Willmes et al., 2023) and b) SEDNA between 2011 and 2015. Panel c) shows the SEDNA mean kinetic energy between 2011 and 2015.



**Figure S2.** Time-series during 2014 of a) the freshwater component of the buoyancy flux and b) the heat component of the buoyancy flux for the ice pack, the MIZ, and the leads in the ice pack and in the MIZ. The MIZ is defined between ice concentration of 15-80%, and the ice pack is defined where ice concentration  $> 80\%$ .