

EGU22-10689

<https://doi.org/10.5194/egusphere-egu22-10689>

EGU General Assembly 2022

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## Air-Sea, Ice-Sea, and Effective Wind Forcing of the Beaufort Gyre

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Surface heat and momentum fluxes between the atmosphere and ocean are mitigated by sea ice cover, resulting in an effective net forcing that can be very different in character from the wind stress alone. The effective stress is often expressed as a weighted sum of air-sea and ice-sea stresses. This is appropriate for levitating ice. Allowing instead for floating ice, one can rewrite the effective forcing in a way that makes no explicit mention of the ice-ocean stress. Instead, the net forcing becomes a linear sum of air-sea and internal ice stresses. These differences are explored in the context of the Beaufort Gyre. Previous studies have introduced the ice-ocean governor as a regulating mechanism for the gyre, and in this limit, the ice-ocean stress is assumed to vanish. For floating ice, the governor limit can be thought of instead as a balance between the wind stress and the internal ice stress. Note that this balance would seem to be unlikely in that the internal stress is associated with small-scale linear kinetic features, which are very different in character from the mesoscale and synoptic features that determine the wind stress. High-resolution ECCO data will be used to examine the instantaneous and time-averaged spatial structure of the various terms that drive the Beaufort Gyre. Future work will also examine the air-sea-ice interface in different wind and ice regimes, as well as the role of eddy fluxes in the gyre dynamics.