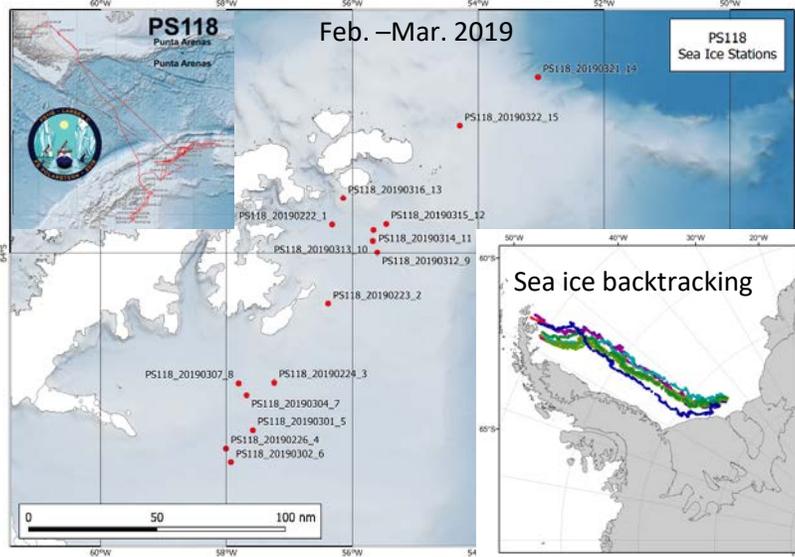


EGU2020-20152 The importance of sea ice biota for the ecosystem in the north-western Weddell Sea



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- Sea ice conditions in the north-western Weddell Sea are still severe and dominated by second-year ice
- Backtracking revealed sea ice origin from the southern Weddell Sea (Filchner–Ronne Ice shelf area)
- Superimposed ice gap layers (GAP) do not sustain high biomass, however they are still a repository for higher nutrient concentrations
- Algae biomass below the ice (UIW) is low and dominated by flagellates
- Multi year ice conserves high biomass in various layers which results in biomass-associated nutrients remineralization and accumulation
- Sea ice biomass standing stocks observed in this region are among the highest previously found in Antarctica and dominated by diatoms
- Sea ice derived carbon is a significant food source for higher trophic levels during the late summer season

