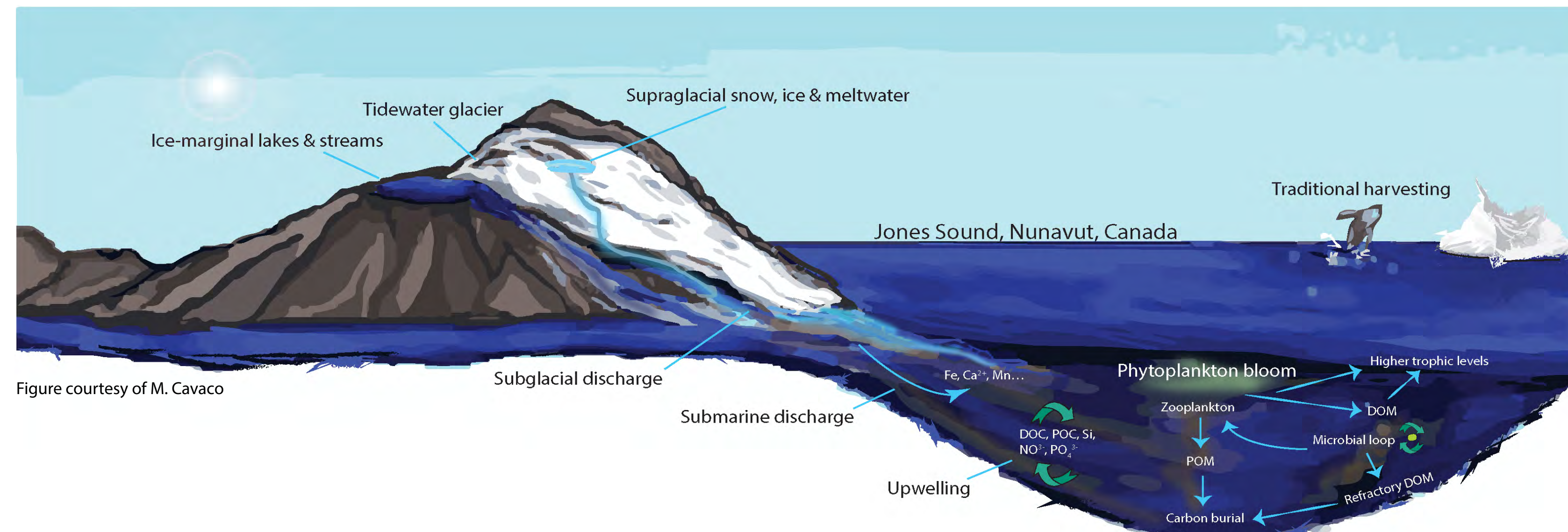


Glaciers and Nutrients in the Canadian Arctic Archipelago

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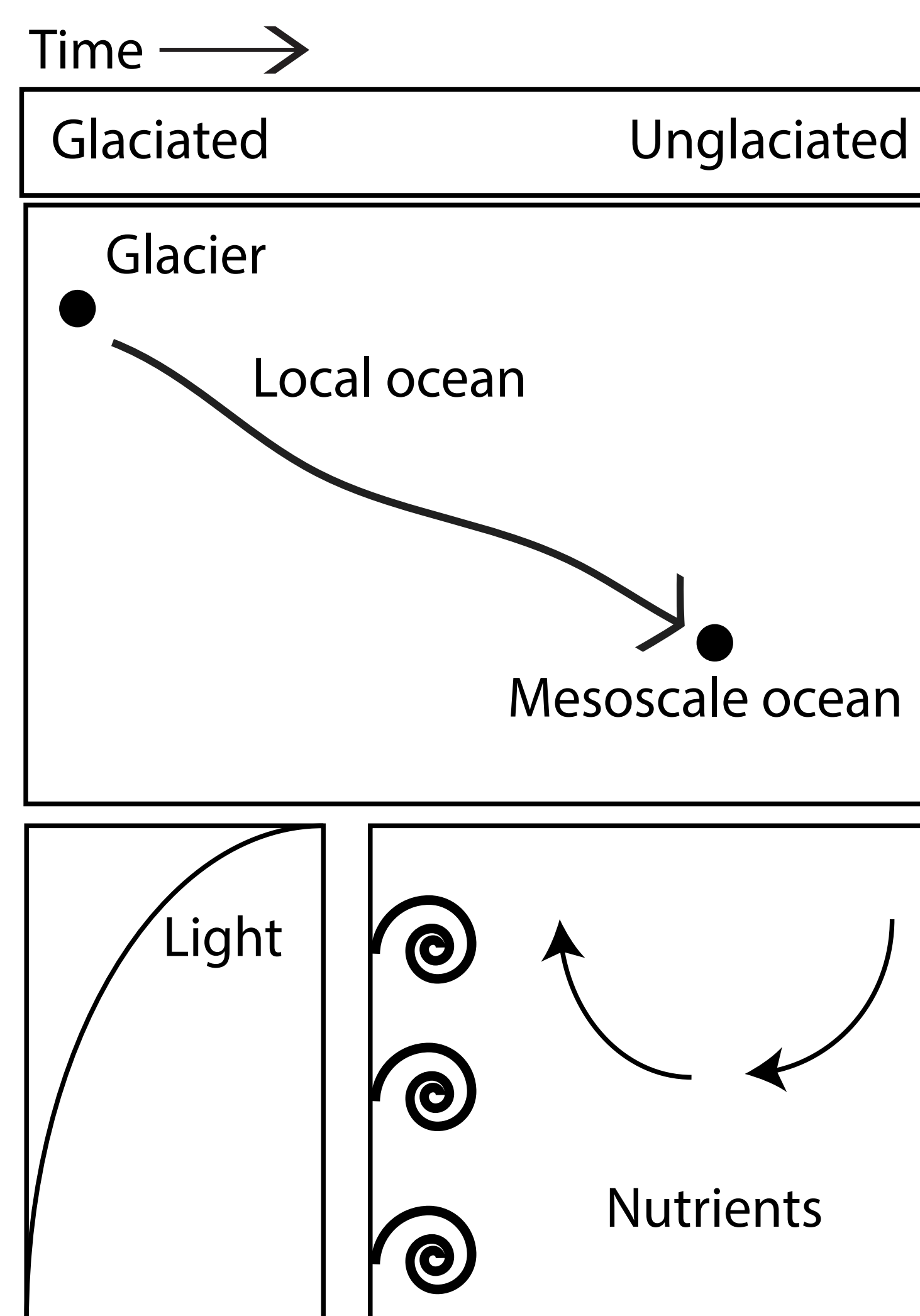
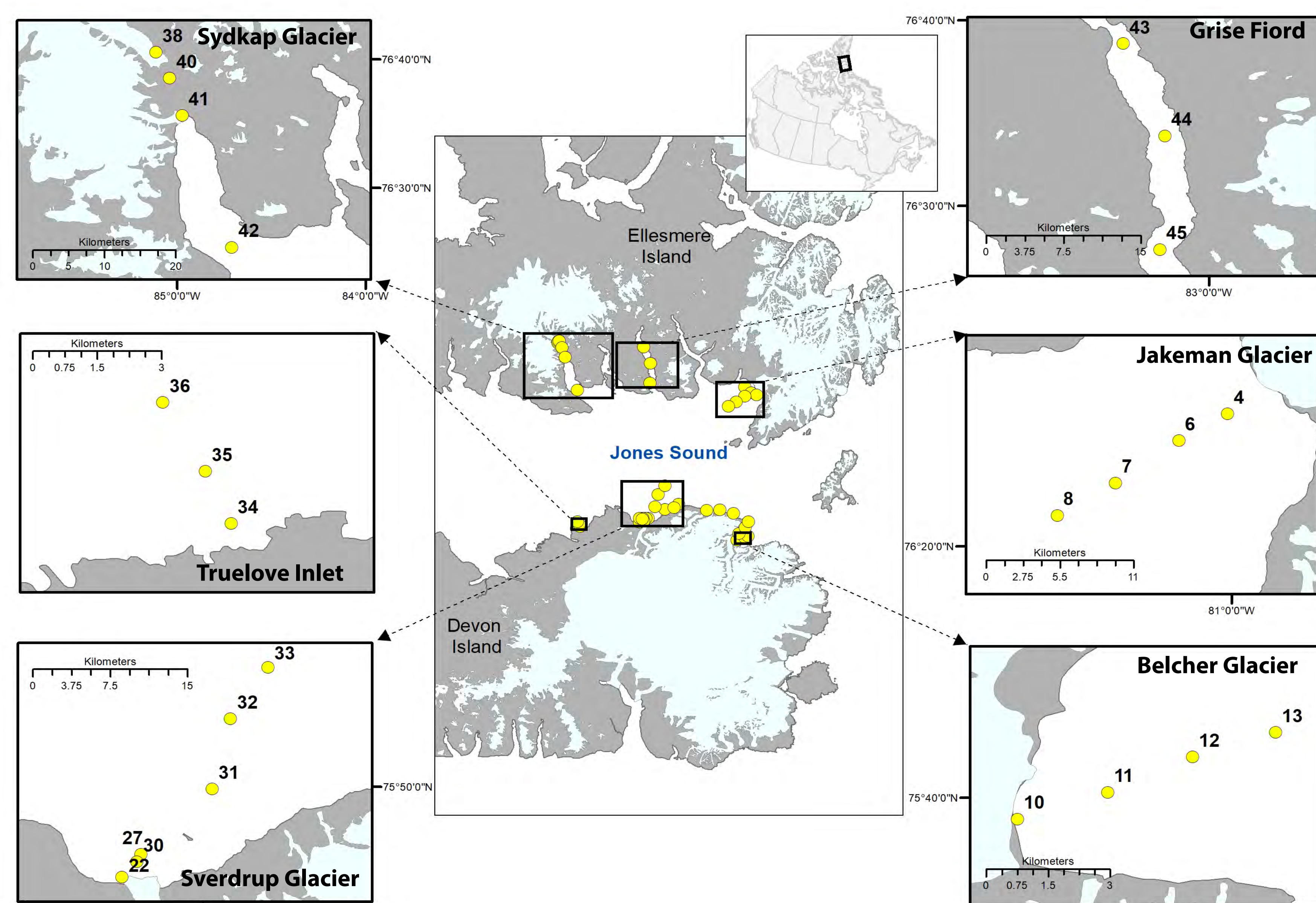
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How does the presence of a glacier change the local and mesoscale oceanography of an area?



Canadian Arctic Archipelago Jones Sound, Nunavut

A high Arctic glacially impacted region, which is home to Canada's northernmost community, the Hamlet of Grise Fiord, who harvest the waters of Jones Sound for marine resources

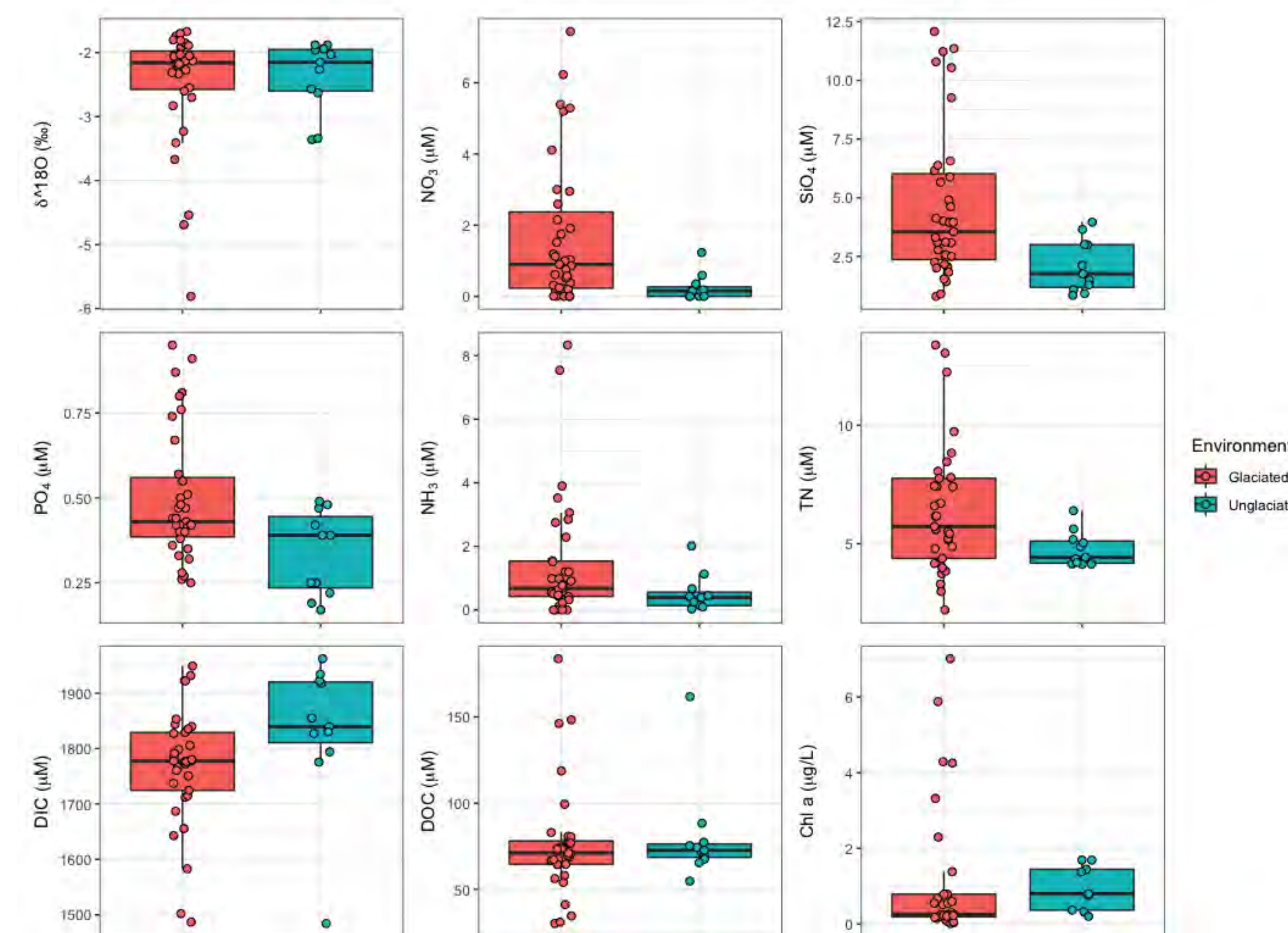


Specific Study Questions

1. Is there a difference in nutrients and productivity in glaciated vs unglaciated fjord/bays?
2. Is there a difference in these parameters with proximity to glacier vs further out?
3. Can we resolve local and mesoscale processes at each glacier and why these might be similar or different?

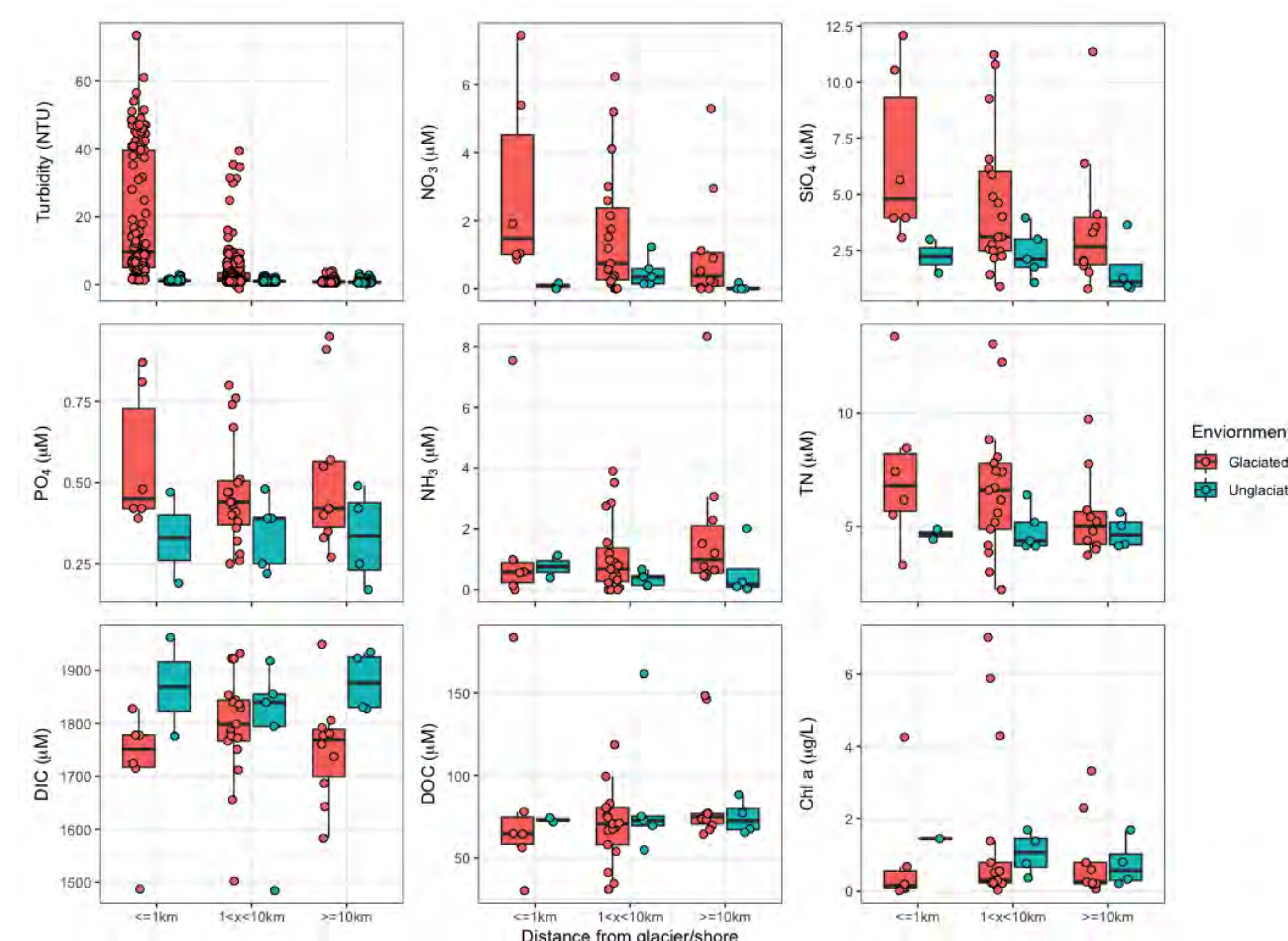
Comparisons of the surface (upper 40 m) ocean waters in glaciated (Jakeman, Belcher, Sverdrup, Sydkap) and unglaciated (Grise, Truelove) marine transects

Glaciated vs Unglaciated



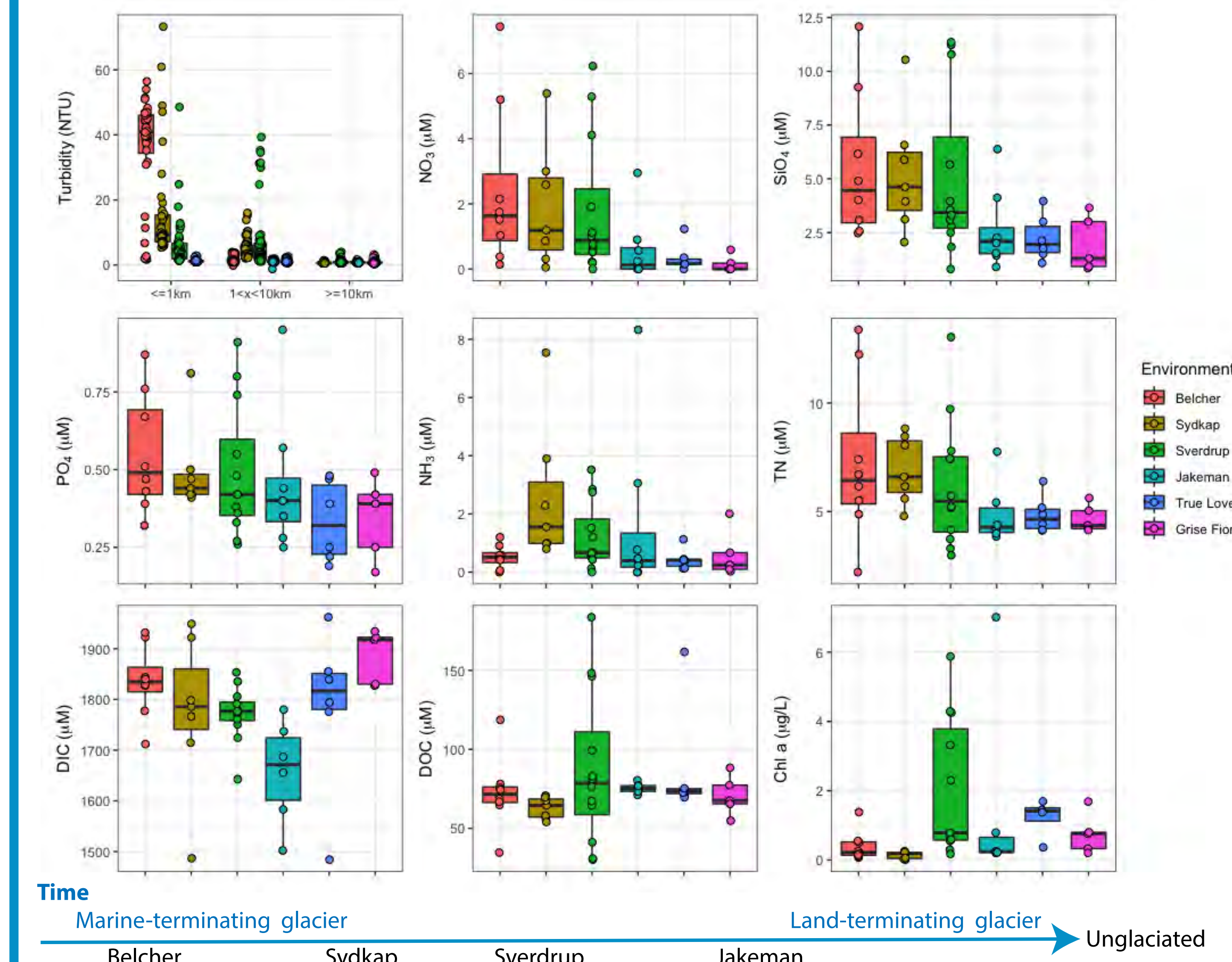
Glaciated fjords/bays have more variable, and sometimes higher, nutrient concentrations compared to unglaciated fjords/bays

Distance from Glacier

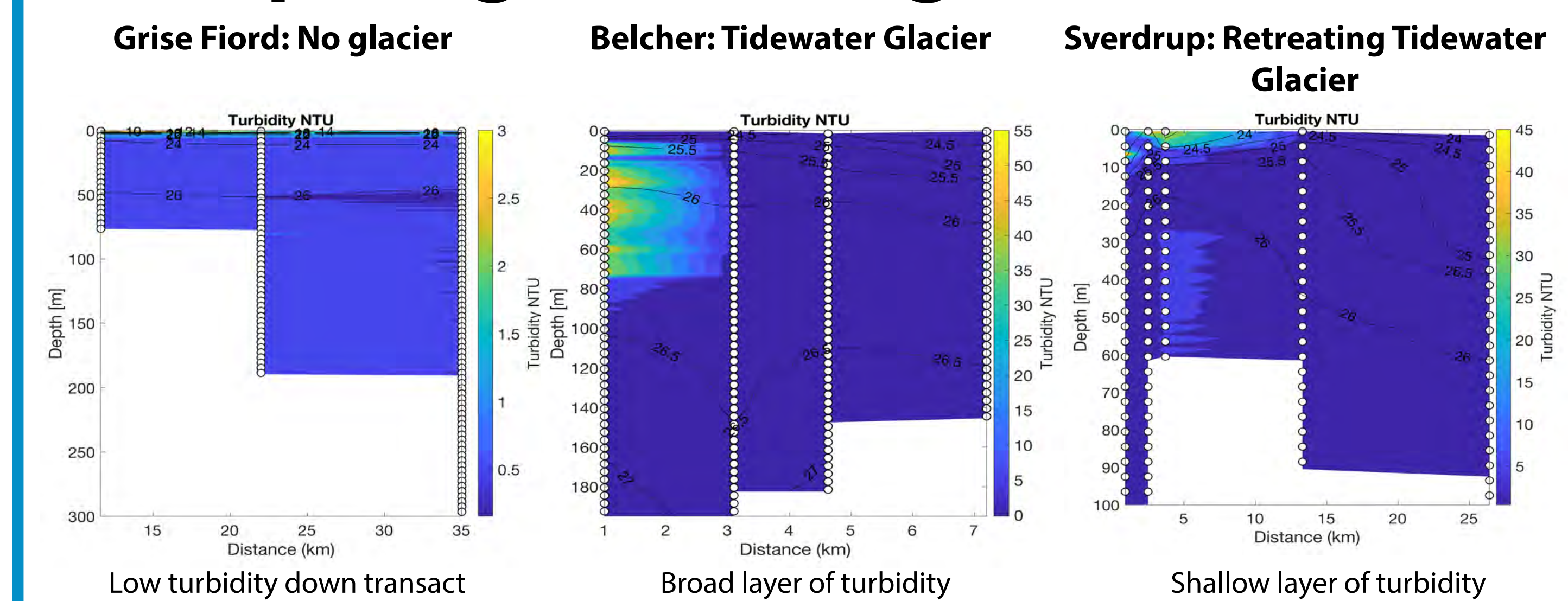


Highest nutrient concentrations were observed within 1km of the ice edge, and decreased offshore. Turbidity was also highest closest to the ice edge, potentially causing light attenuation that could explain the observed chlorophyll a patterns.

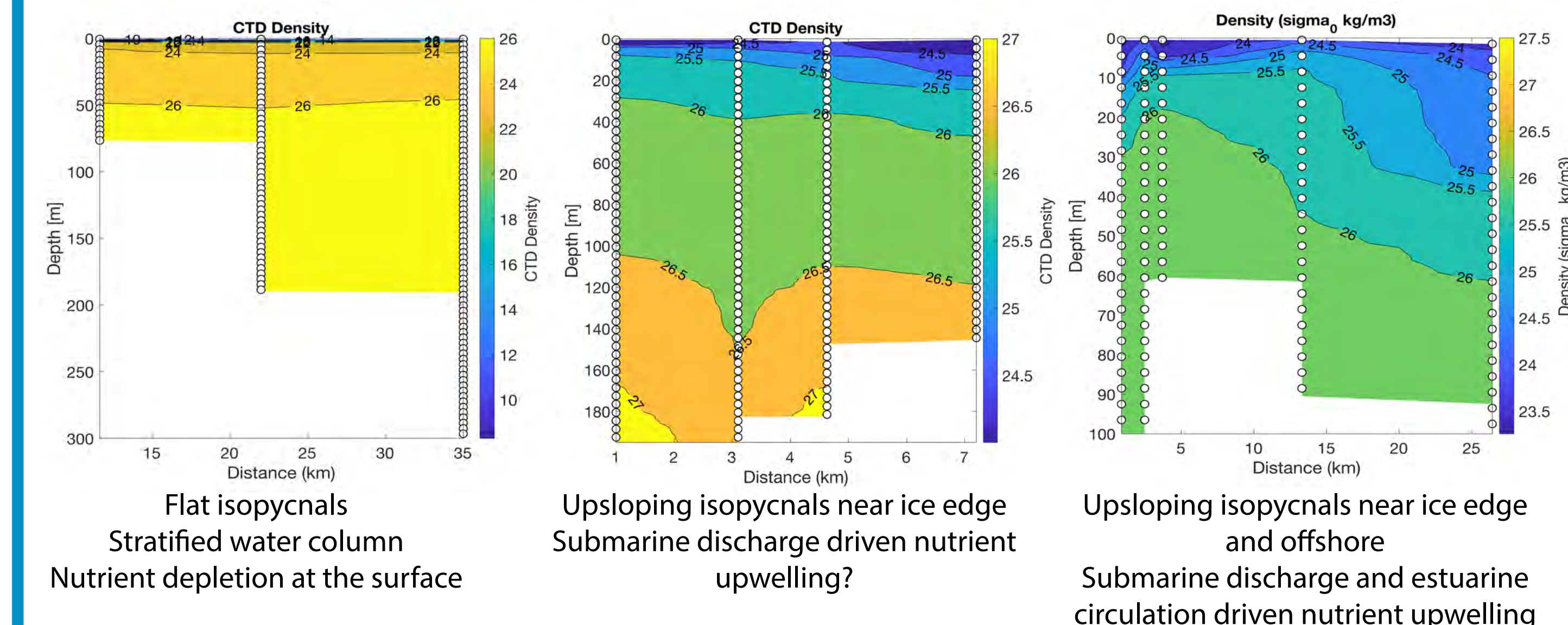
Local and Mesoscale Processes



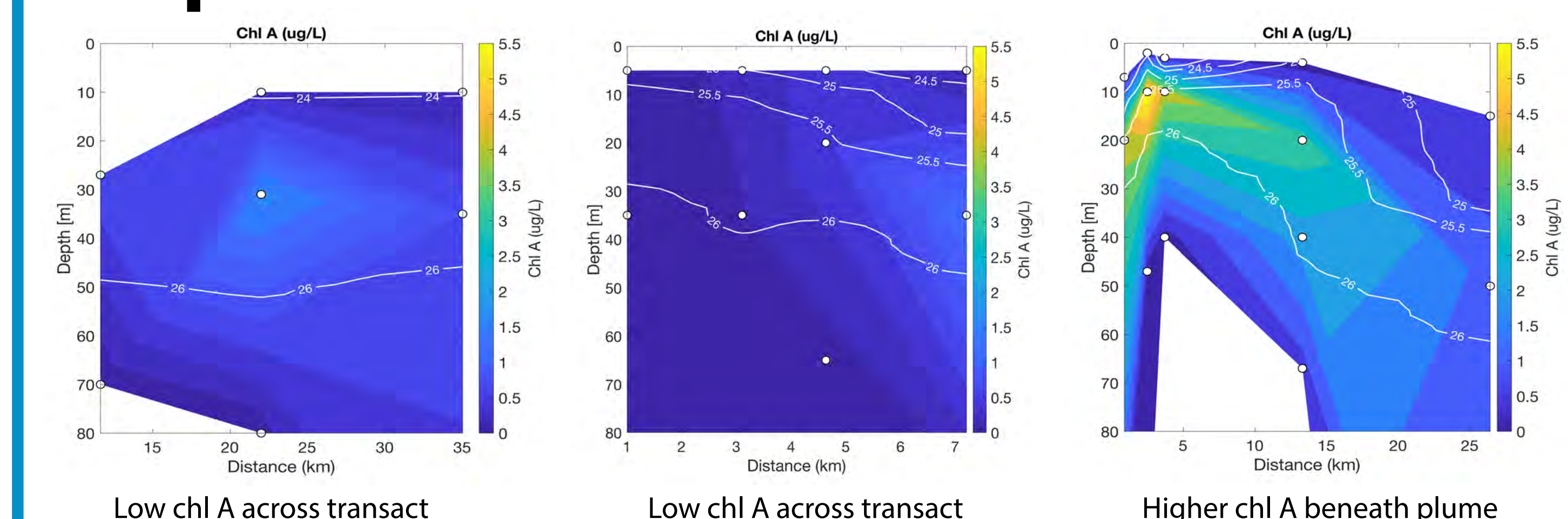
Competing Effects: Light Attenuation



Competing Effects: Nutrient Upwelling



Impact at the base of the food web?



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