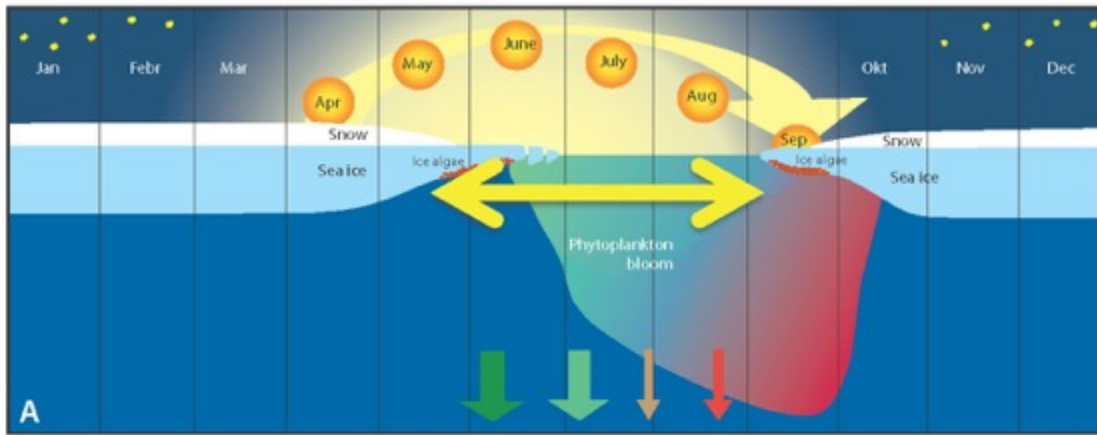


Arctic Ocean extreme seasonality

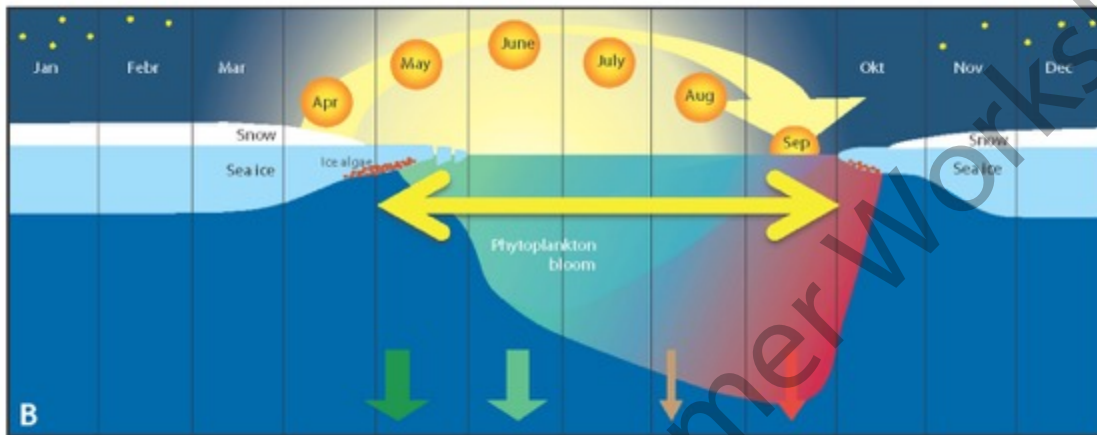
Patricia A. Matrai



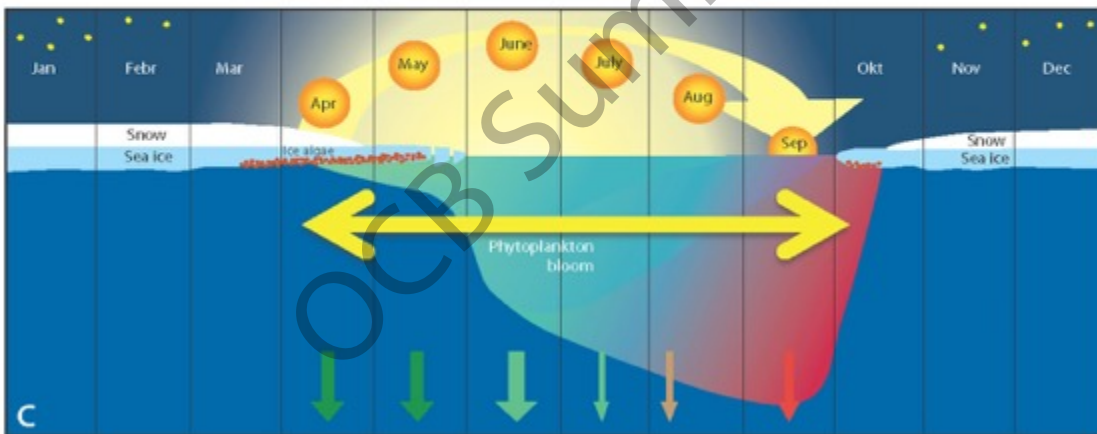


Barents Sea inflow shelf
78 °N

Before



Now



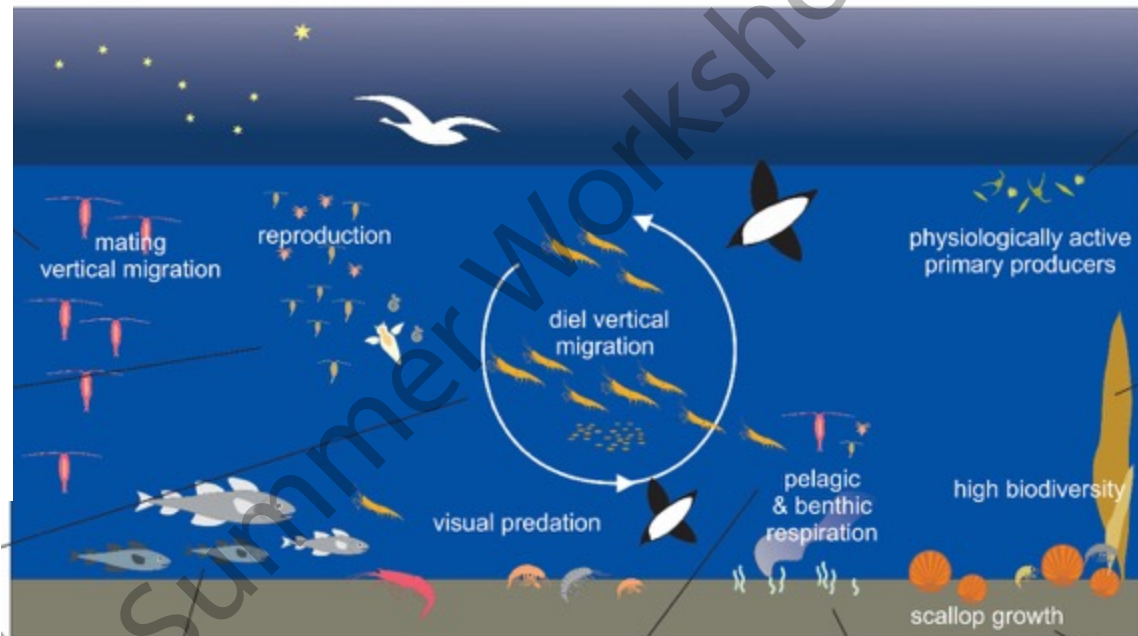
Future

P. Wassmann

Always in transition:
From light to darkness and back to light



Ecosystem processes during the polar night (in the absence of light)





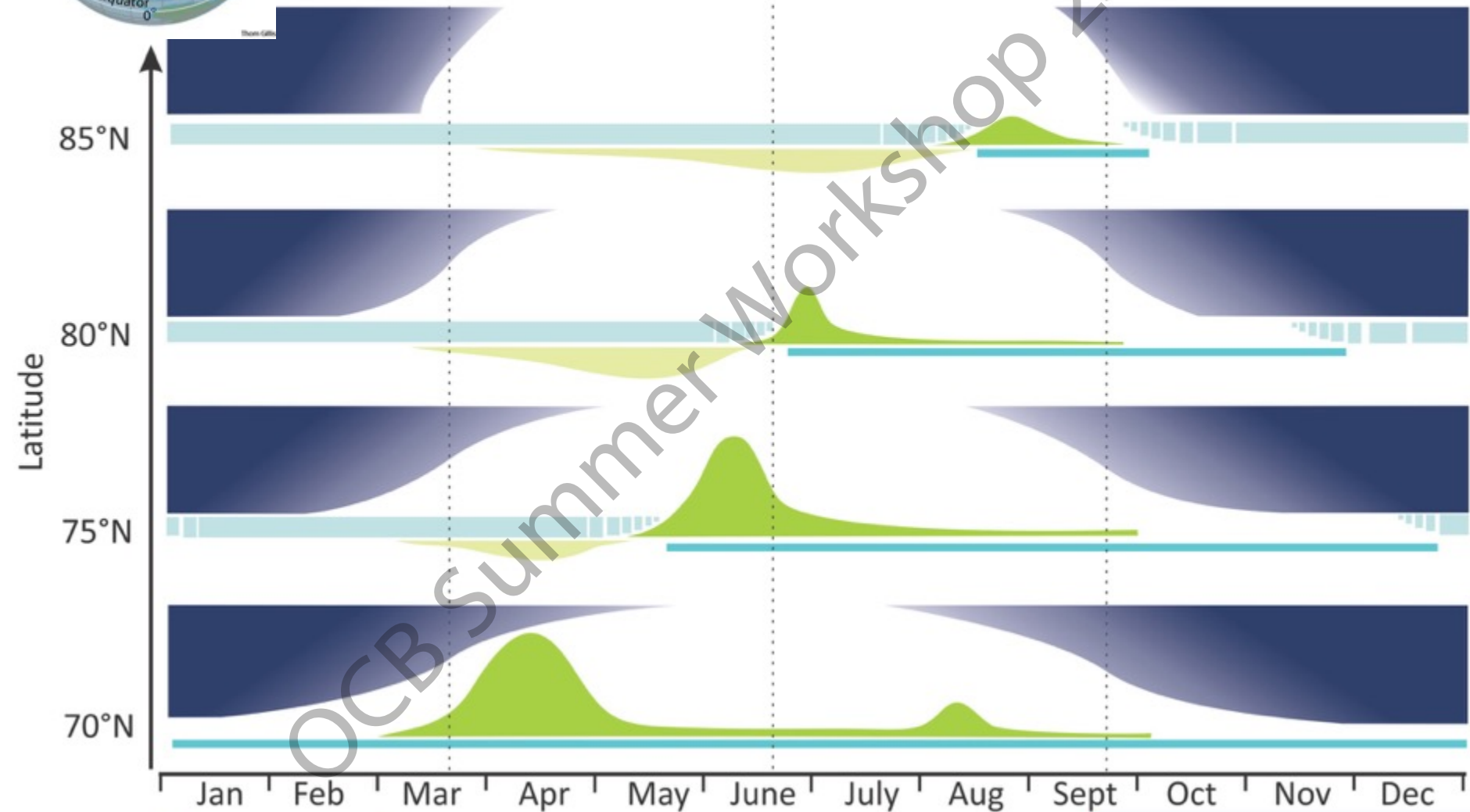
Regional seasonality (ice, light, ice and plankton algae)

Southern Barents Sea towards North Pole)

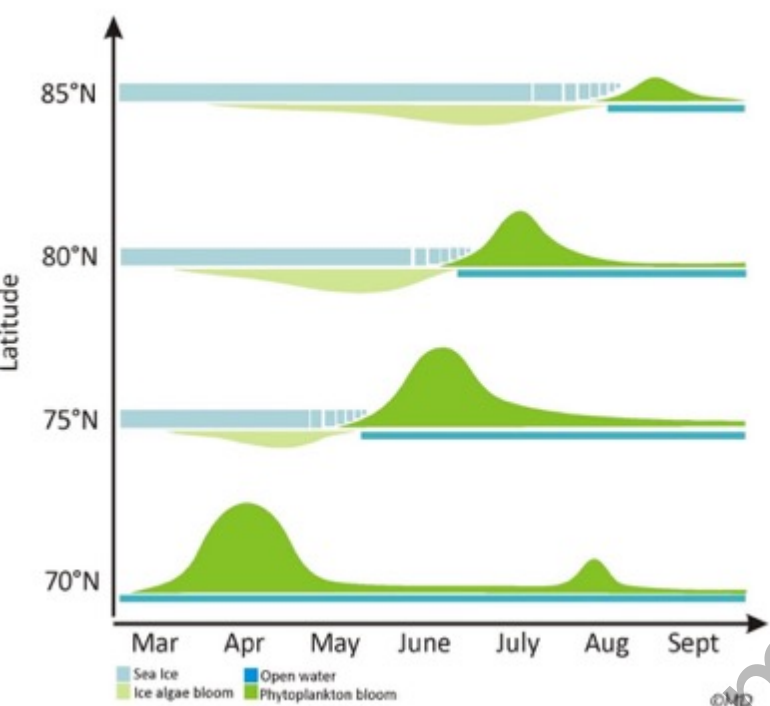
Equinox

Solstice

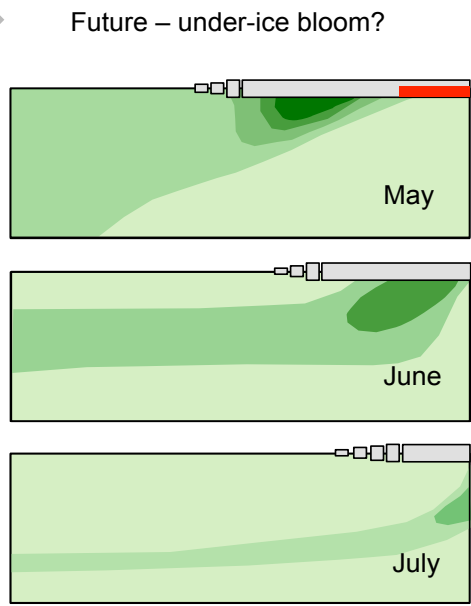
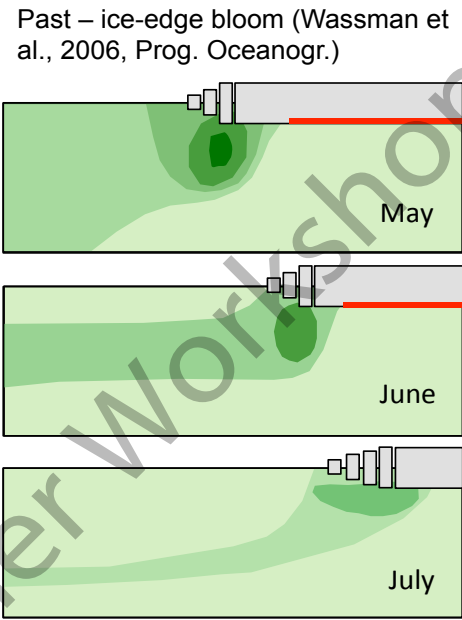
Equinox



Primary Production in the ice-influenced Arctic



Zenkevitch 1963, Leu et al. 2011



Barber et al. 2015



Sediments
Thawing permafrost
Groundwater
Ice sheets and glaciers

Photo: Robie Macdonald

**But there is more than sea ice and celestial
cycle for light ...**