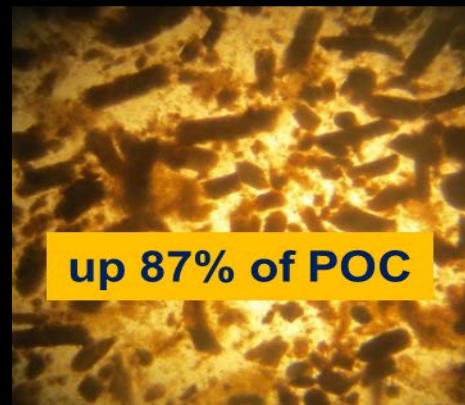


Challenge 2 “Define, quantify and provide mechanistic understanding of the key processes controlling the rate of SO C uptake”

What is the role of zooplankton in the control of C export?



- Determine the key species regulating C transfer efficiency
- Quantify the role of faecal pellets as vector for deep C export
- Characterise vertical distribution and migratory behaviour
- Model carbon export potential - respiration and egestion

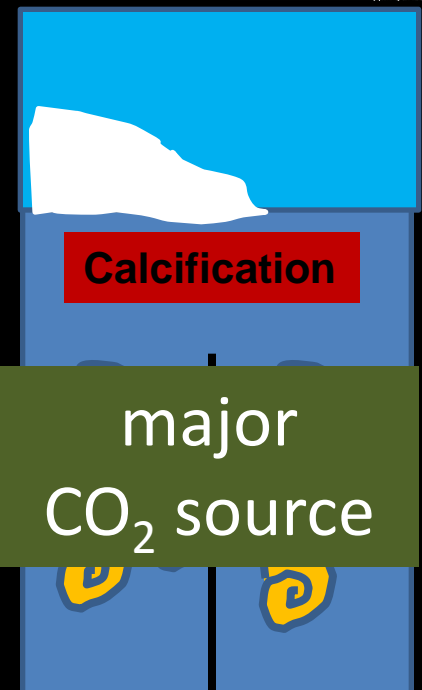
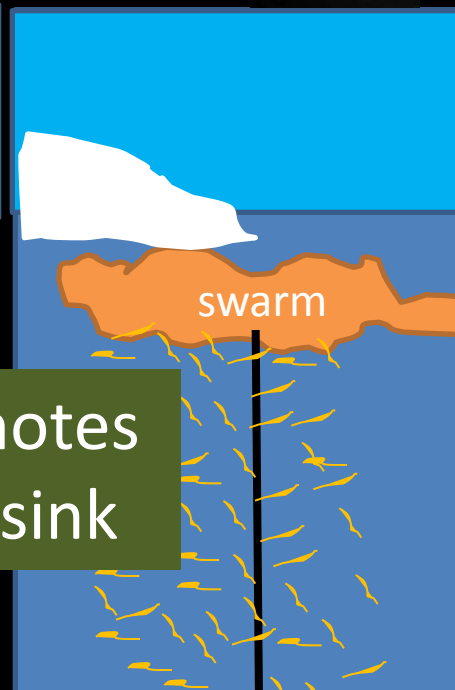
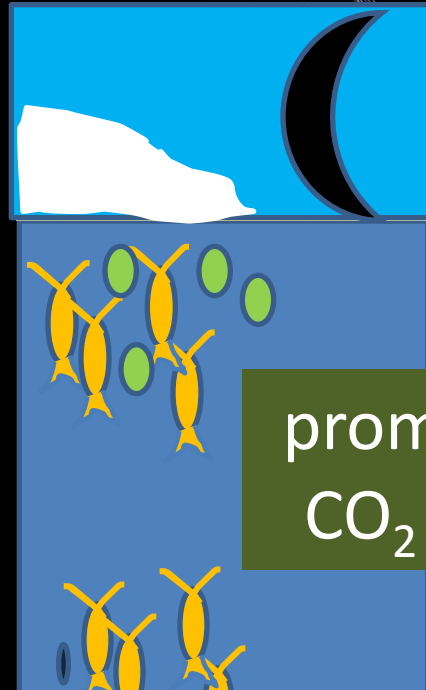
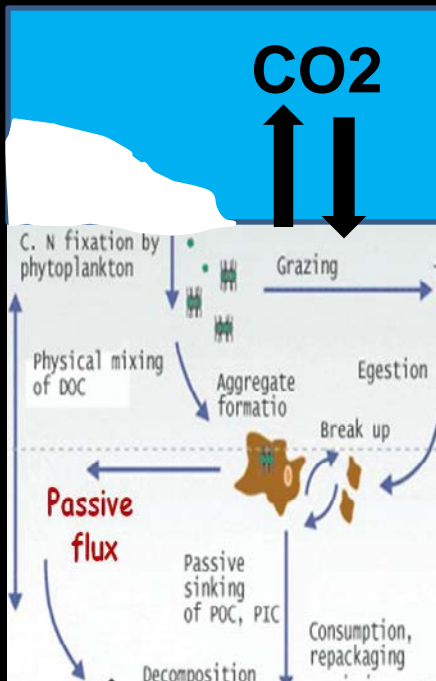
Zooplankton at the ice edge: the C sink highway

OC
Pump

Active
pump

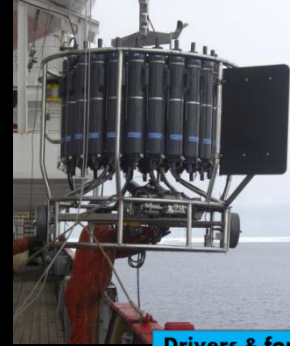
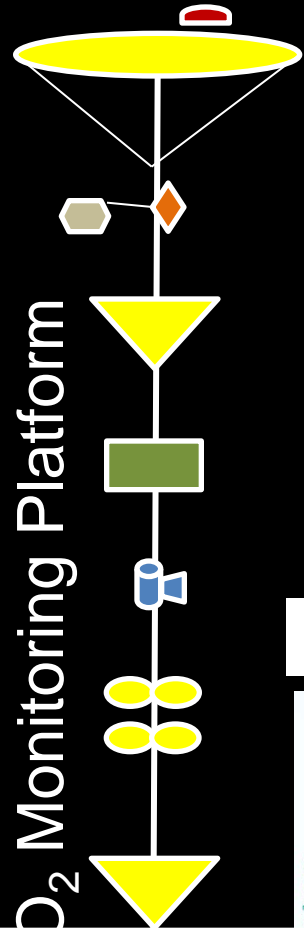
Swarm
pump

IC
pump



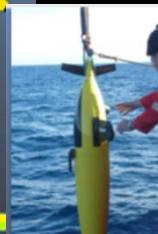
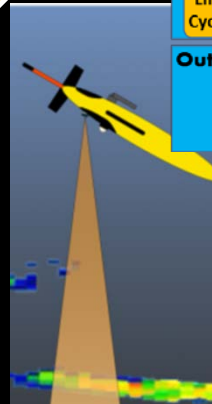
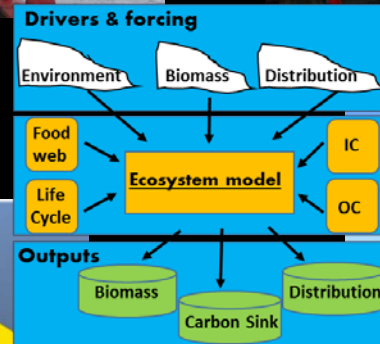
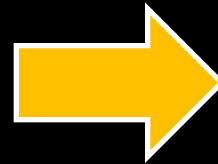
Zooplankton can drives different “pump routes” with strong implication for the C export

Multidisciplinary approach



O₂ sensor

pH sensor



It is crucial to link zooplankton community structure and processes with ocean biogeochemistry