

Zooplankton in "cold" and "warm" Spitsbergen fjords, are they different?

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MANUSCRIPTS:

Zooplankton structure in the high latitude fjords with contrasting oceanographic conditions: Hornsund and Kongsfjorden, Spitsbergen (European Arctic). Part I: biodiversity and abundance

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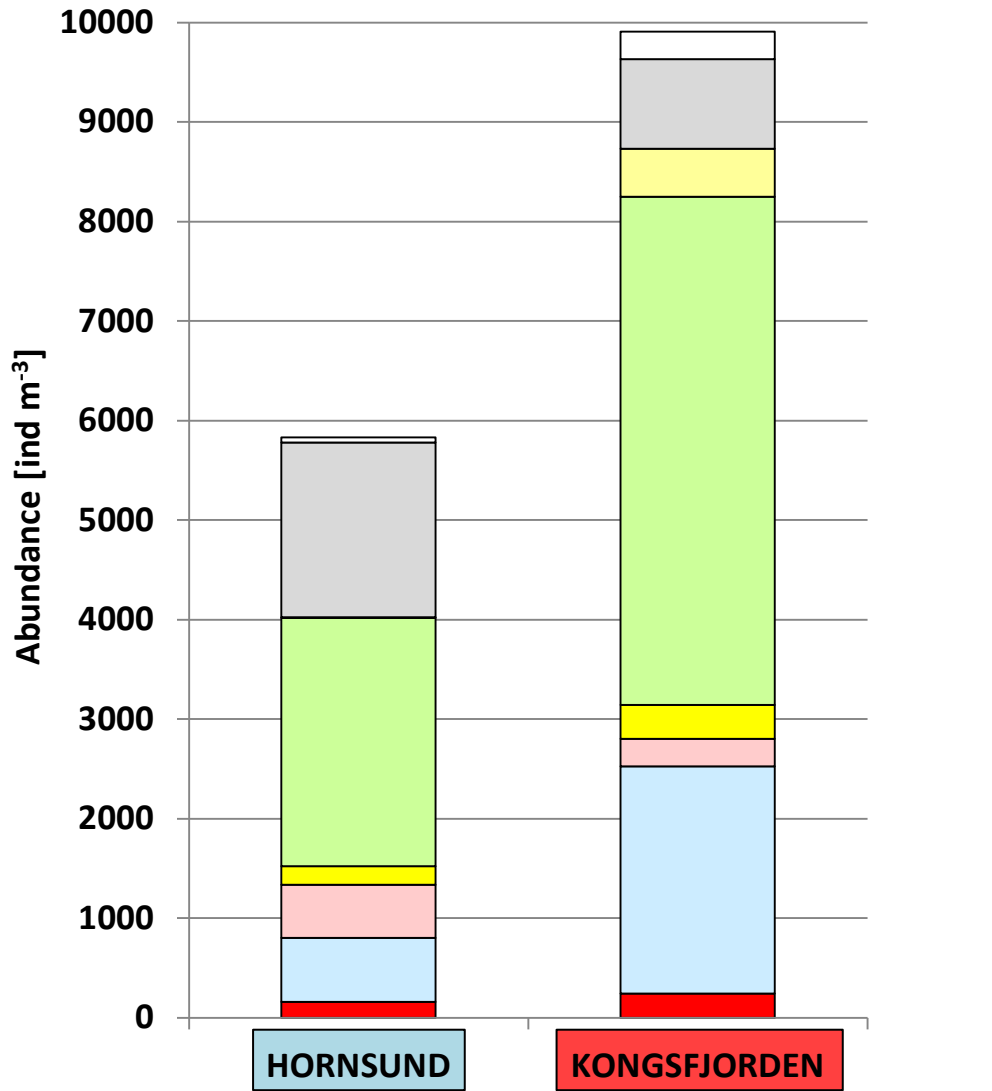
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Zooplankton structure in the high latitude fjords with contrasting oceanographic conditions: Hornsund and Kongsfjorden, Spitsbergen (European Arctic). Part II: biomass and trophic structure

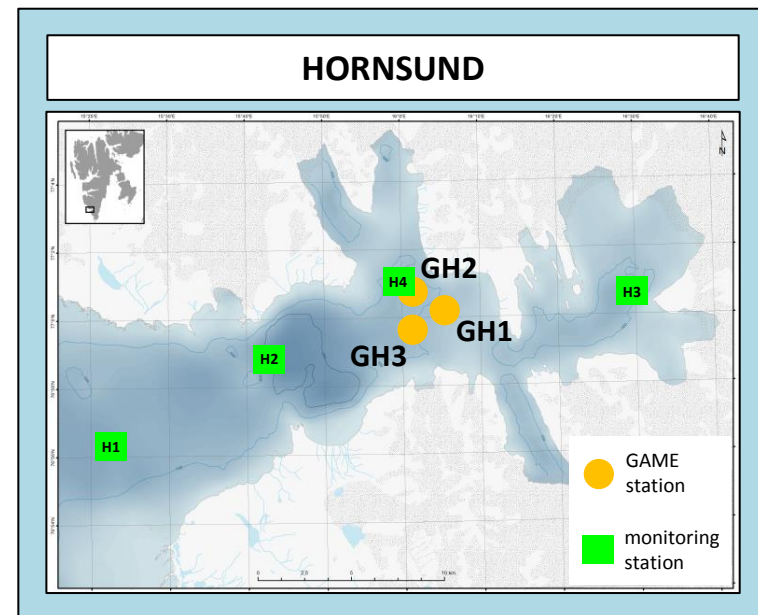
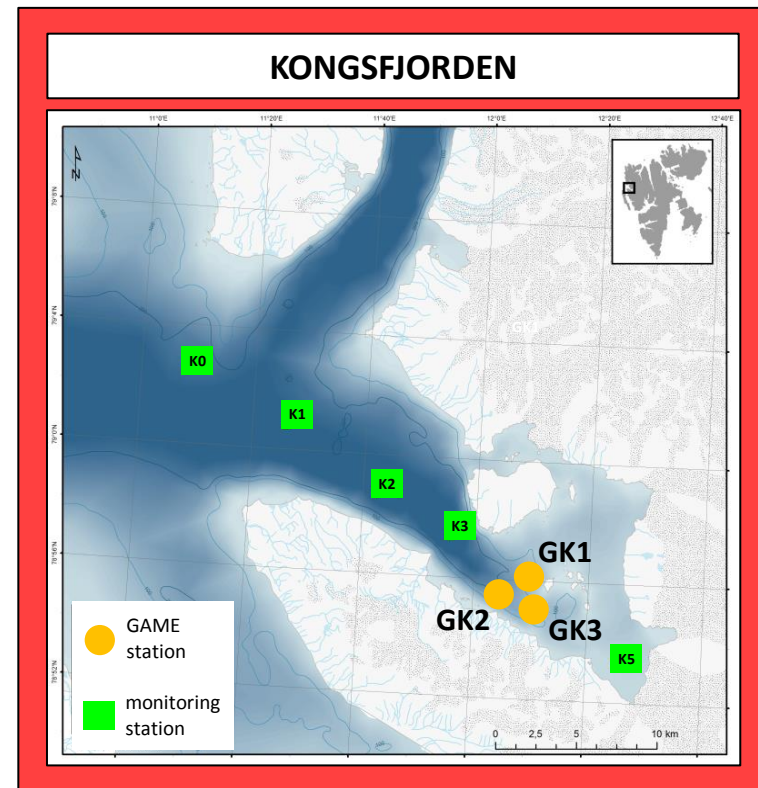
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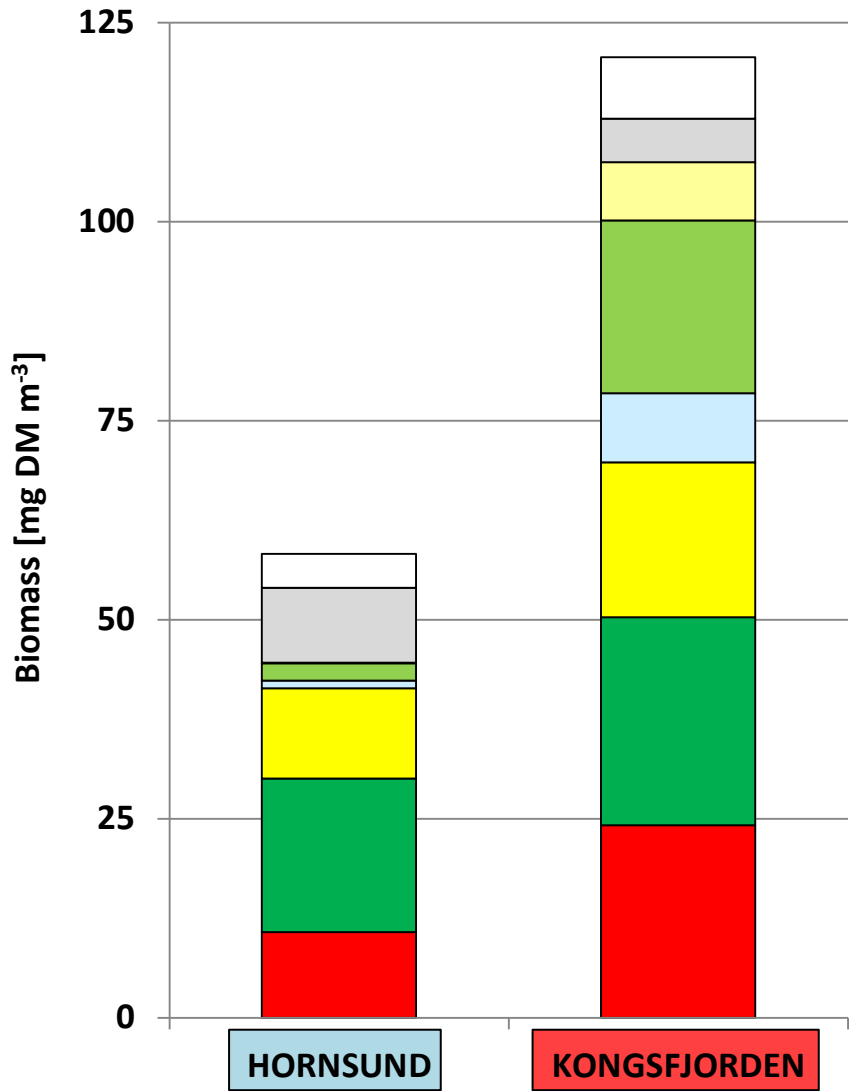
TOTAL ABUNDANCE IN 2013



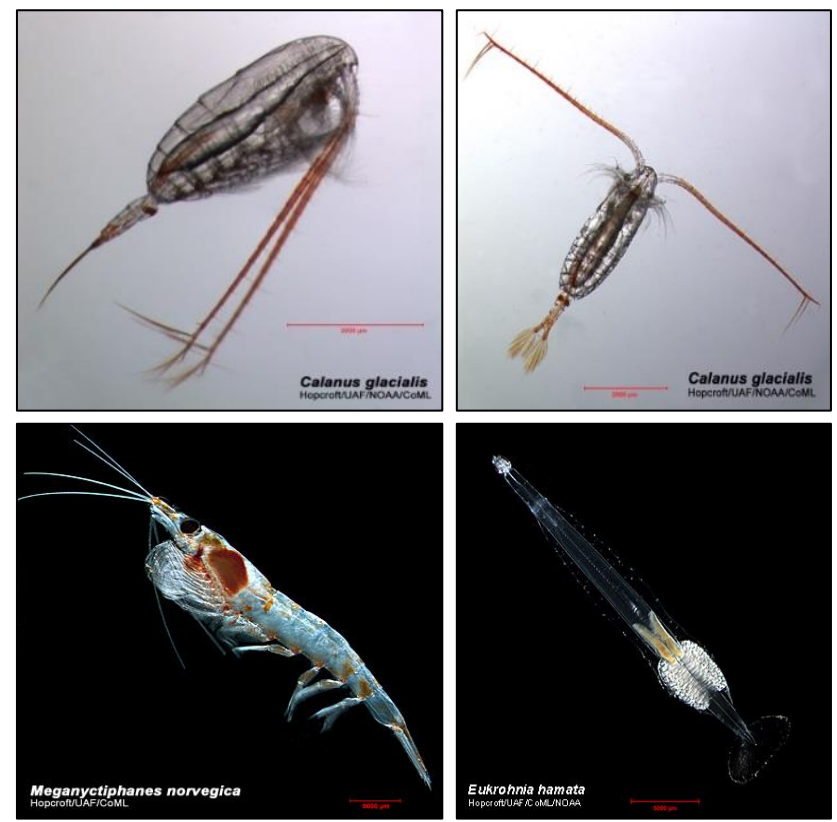
- *C. finmarchicus*
- other Copepoda
- Bivalvia
- *O. similis*
- *Copepoda nauplii*
- Others
- *Pseudocalanus*
- *L. helicina*



TOTAL BIOMASS IN 2013



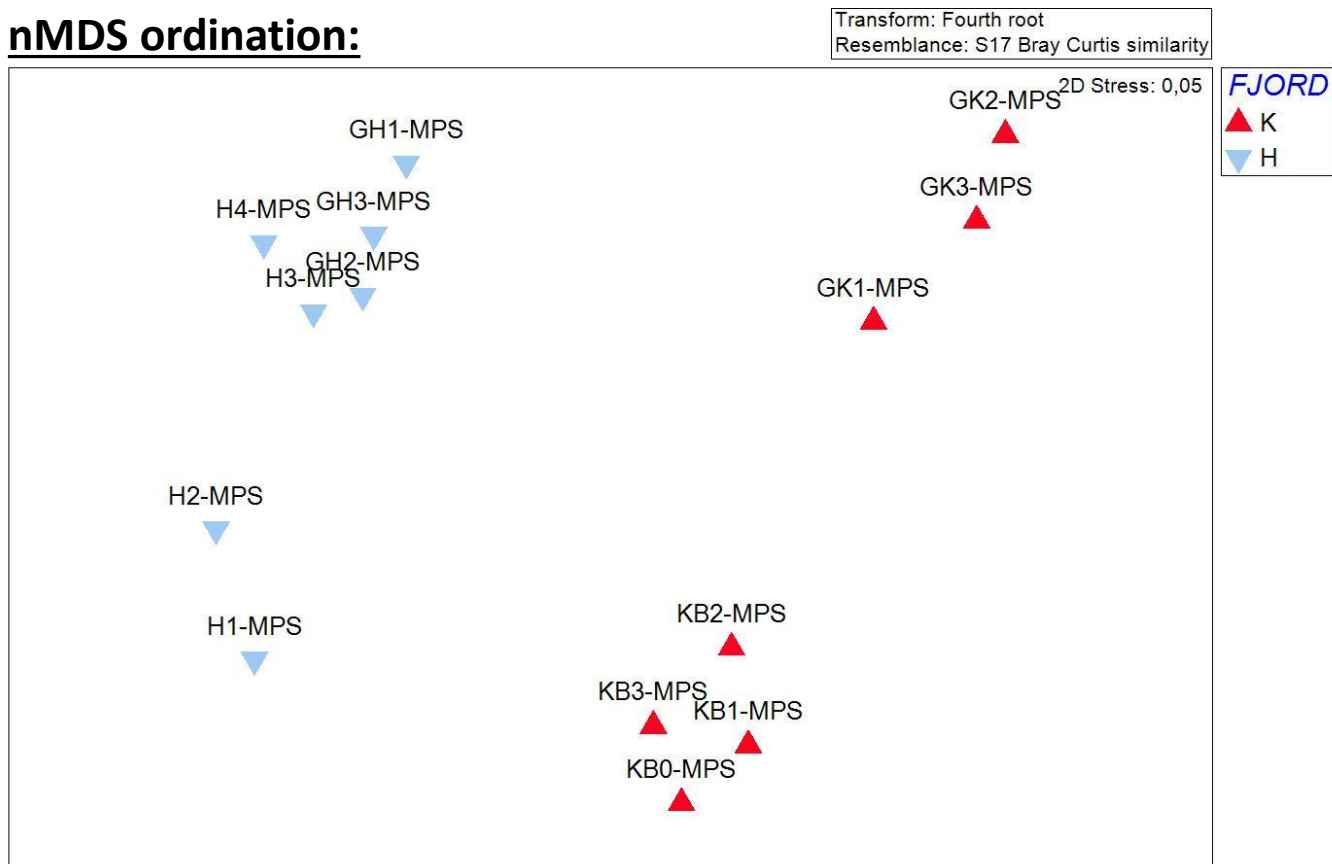
- *C. finmarchicus*
- *Hyperiidea*
- Chaetognatha
- *C. glacialis*
- *Euphausiacea*
- others
- other Copepoda
- *L. helicina*



BIOMASS OF MESOZOOPLANKTON DIFFERED BETWEEN FJORDS

Mann-Witney U-test: ($Z = 2.811, p = 0.005$)

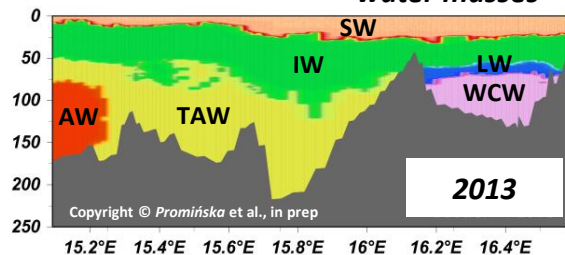
nMDS ordination:



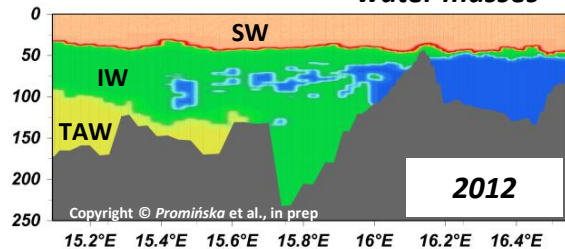
OCEANOGRAPHIC CONDITIONS IN 2002, 2007, 2012, 2013

HORNSUND

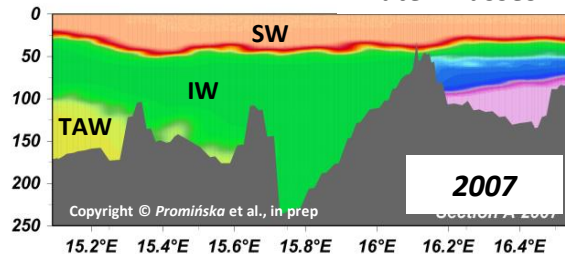
water masses



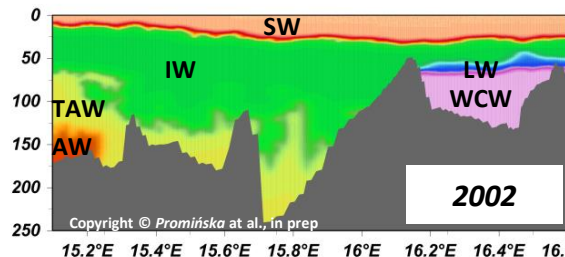
water masses



water masses

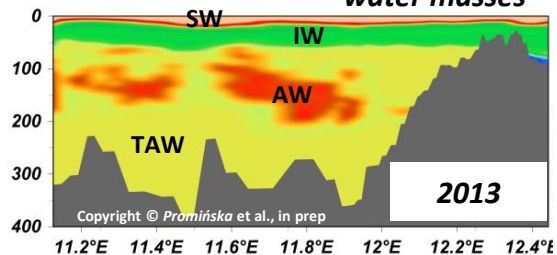


water masses

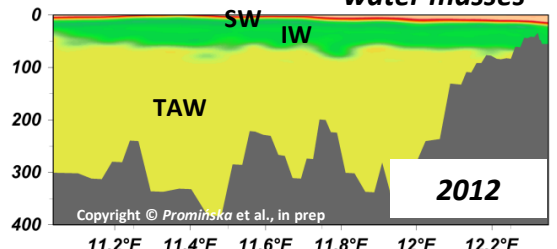


KONGSFJORDEN

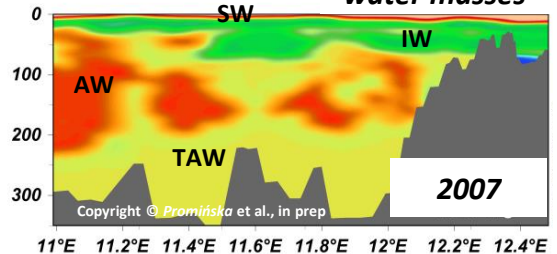
water masses



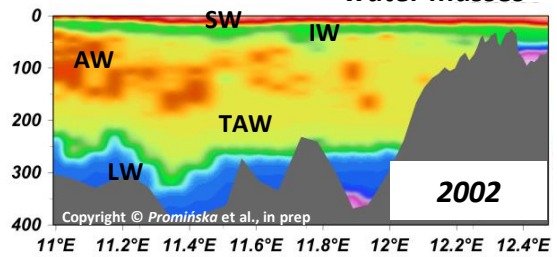
water masses



water masses



water masses



AW – Atlantic Water

$T > 3\text{ }^{\circ}\text{C}$, $S > 34.9$

TAW – Transformed Atlantic Water
 $T > 1\text{ }^{\circ}\text{C}$, $S > 34.7$

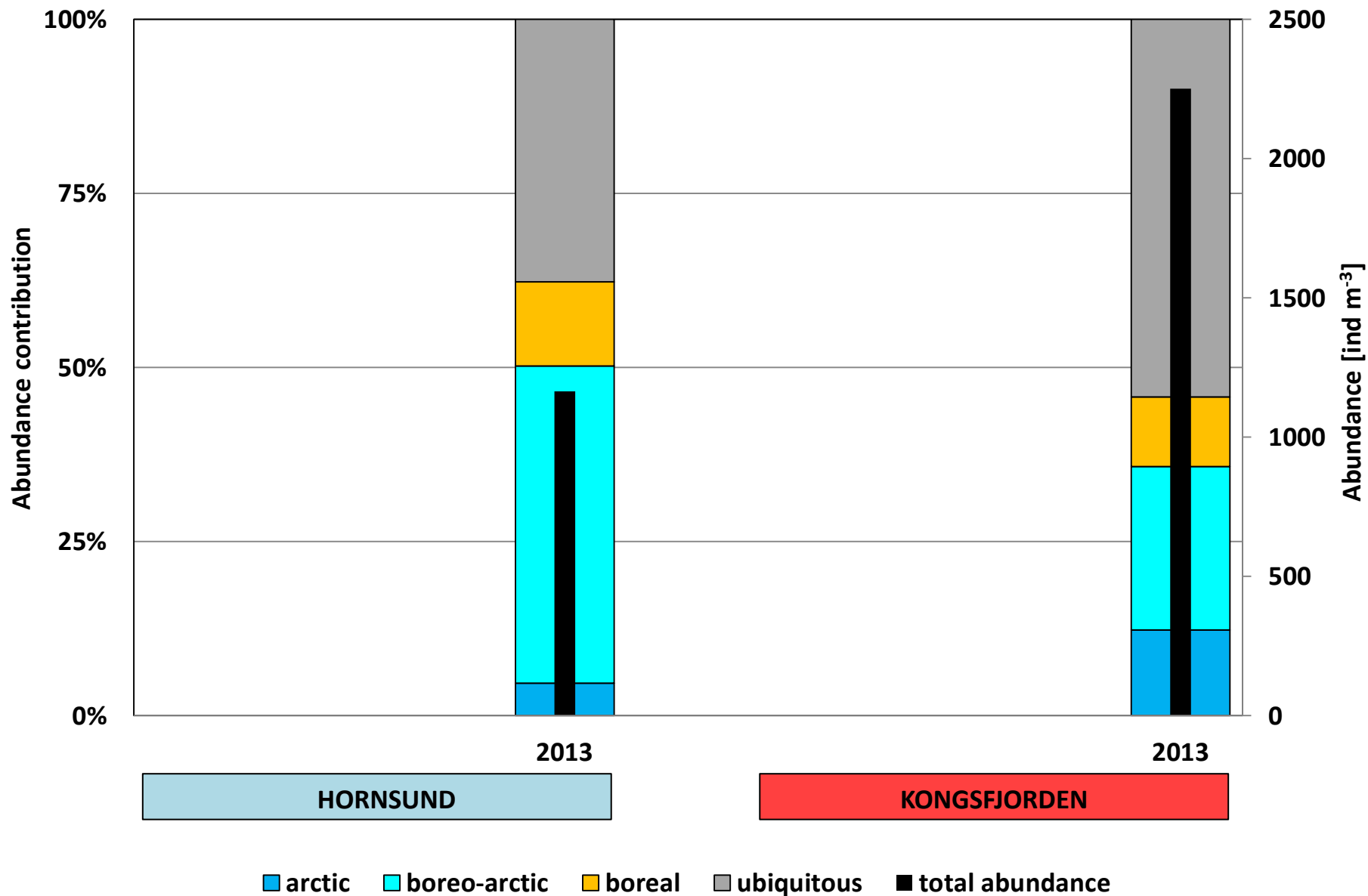
LW – Local Water
 $T < 1\text{ }^{\circ}\text{C}$

IW – Intermediate Water
 $T > 1\text{ }^{\circ}\text{C}$, $S > 34$ – 34.7

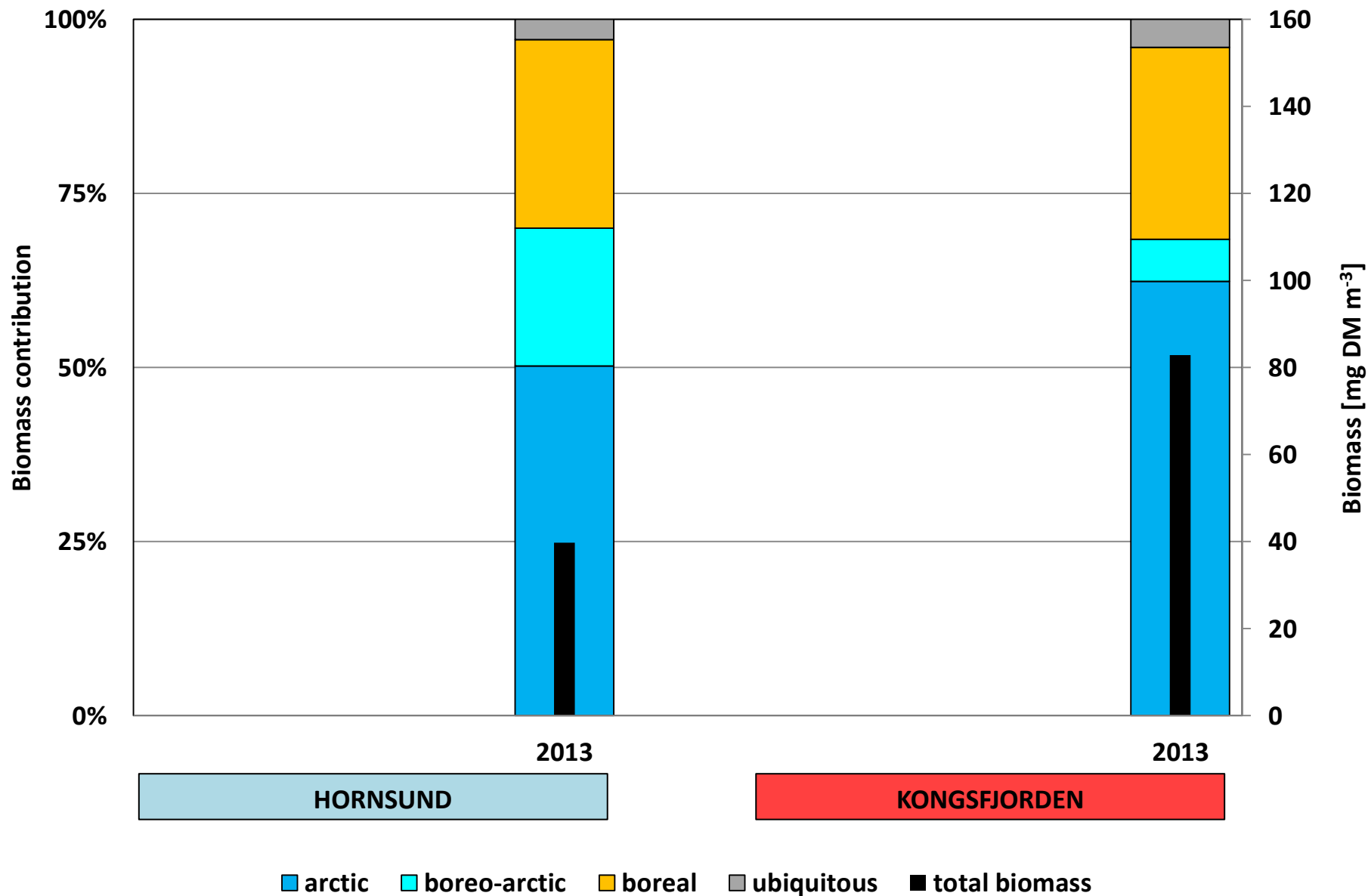
SW – Surface Water
 $T > 1\text{ }^{\circ}\text{C}$, $S < 34$

WCW – Winter Cooled Water
 $T < -0.5\text{ }^{\circ}\text{C}$, $S > 34.4$

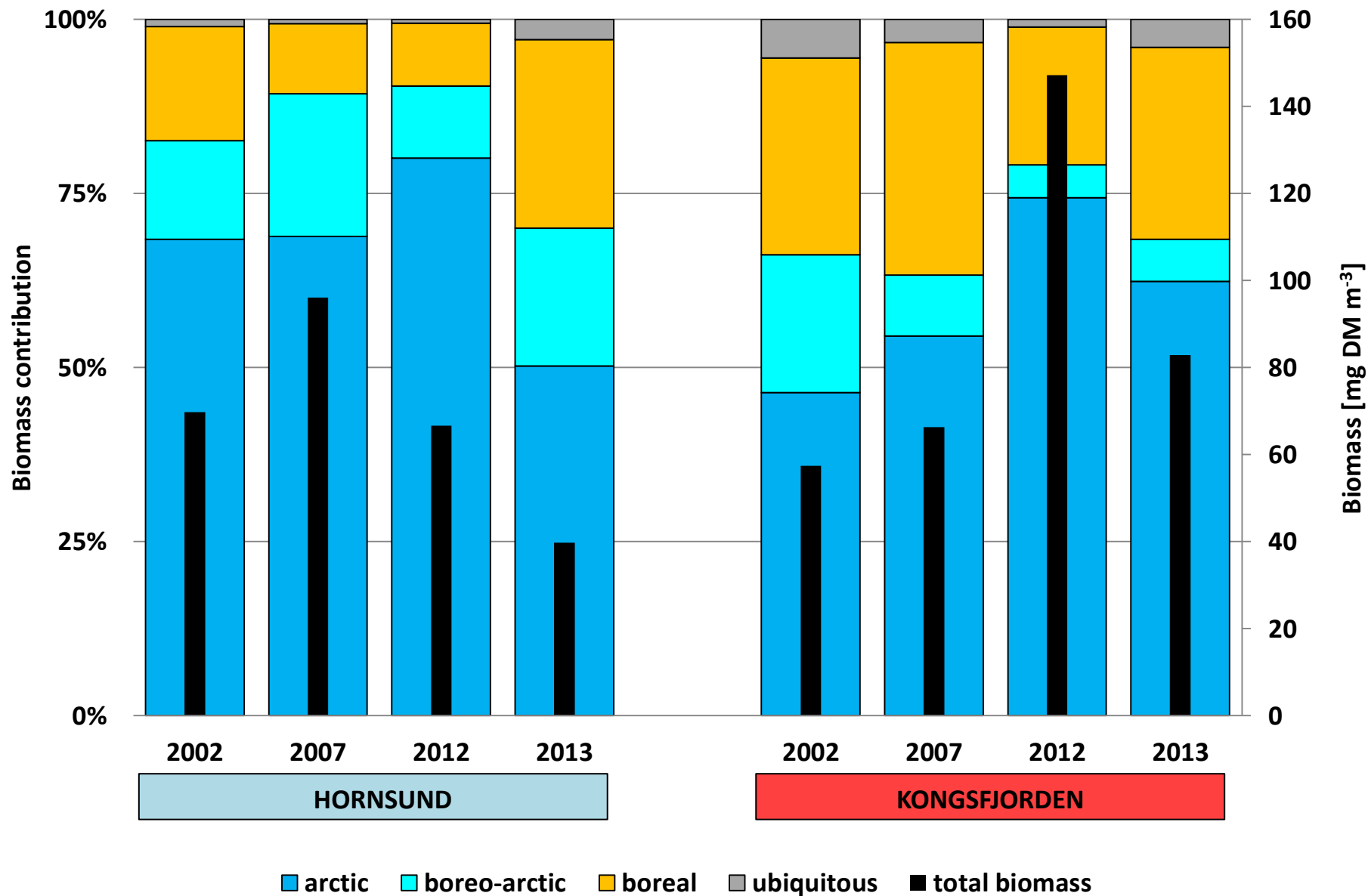
BIOGEOGRAPHICAL COMPOSITION OF MESOZOOPLANKTON IN 2013



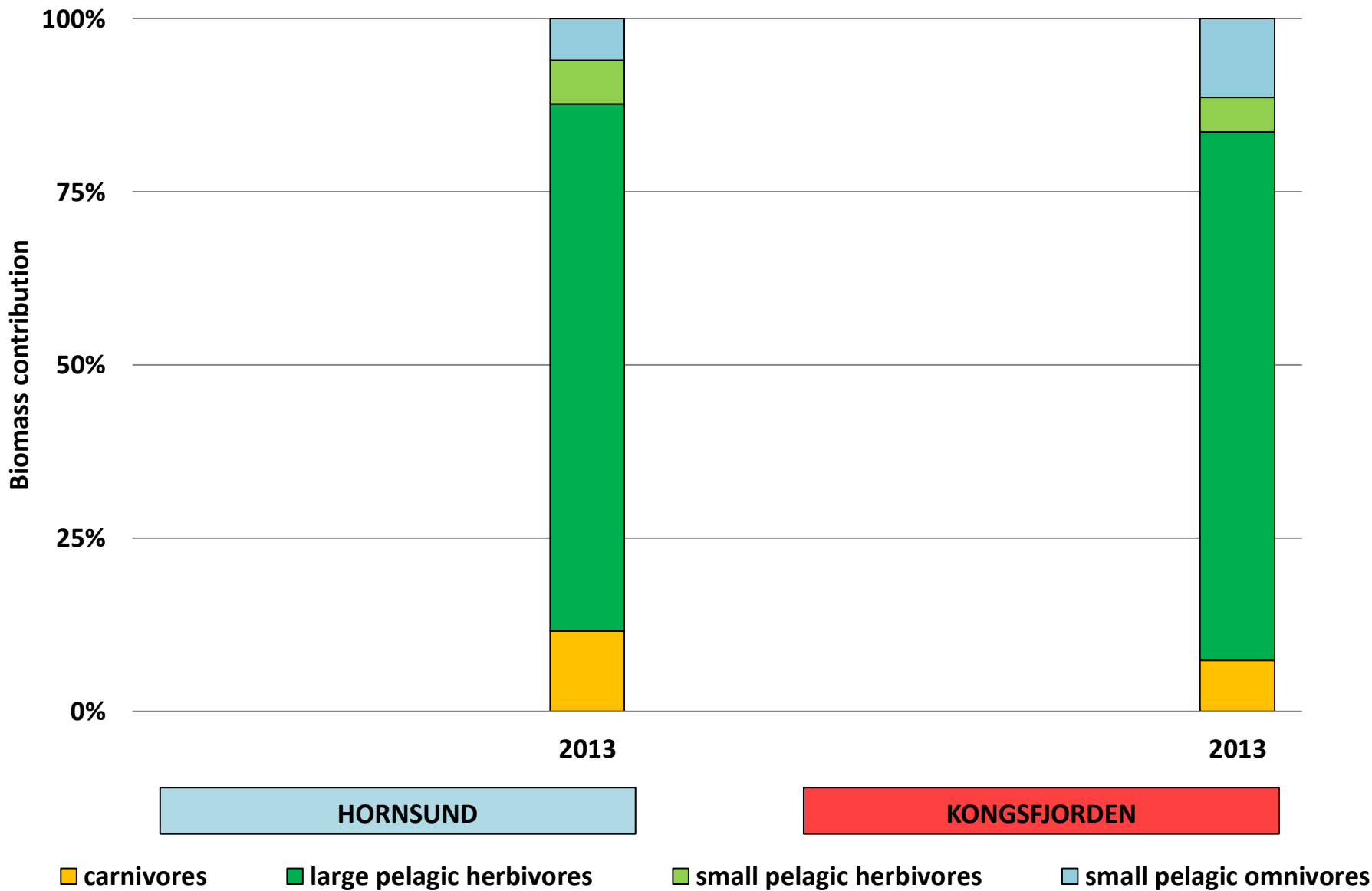
BIOGEOGRAPHICAL COMPOSITION OF MESOZOOPLANKTON IN 2013



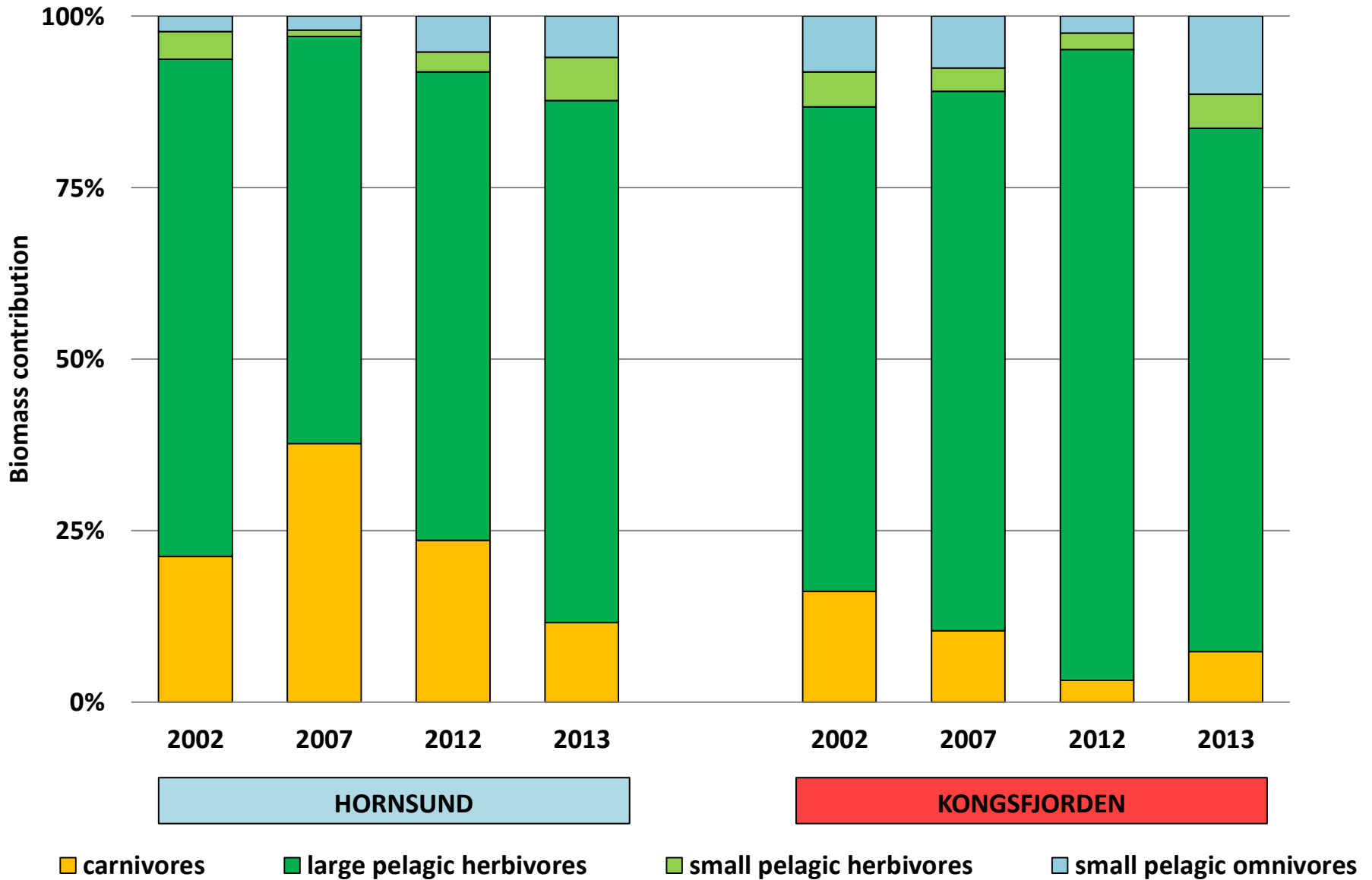
BIOGEOGRAPHICAL COMPOSITION OF MESOZOOPLANKTON IN 2002, 2007, 2012, 2013



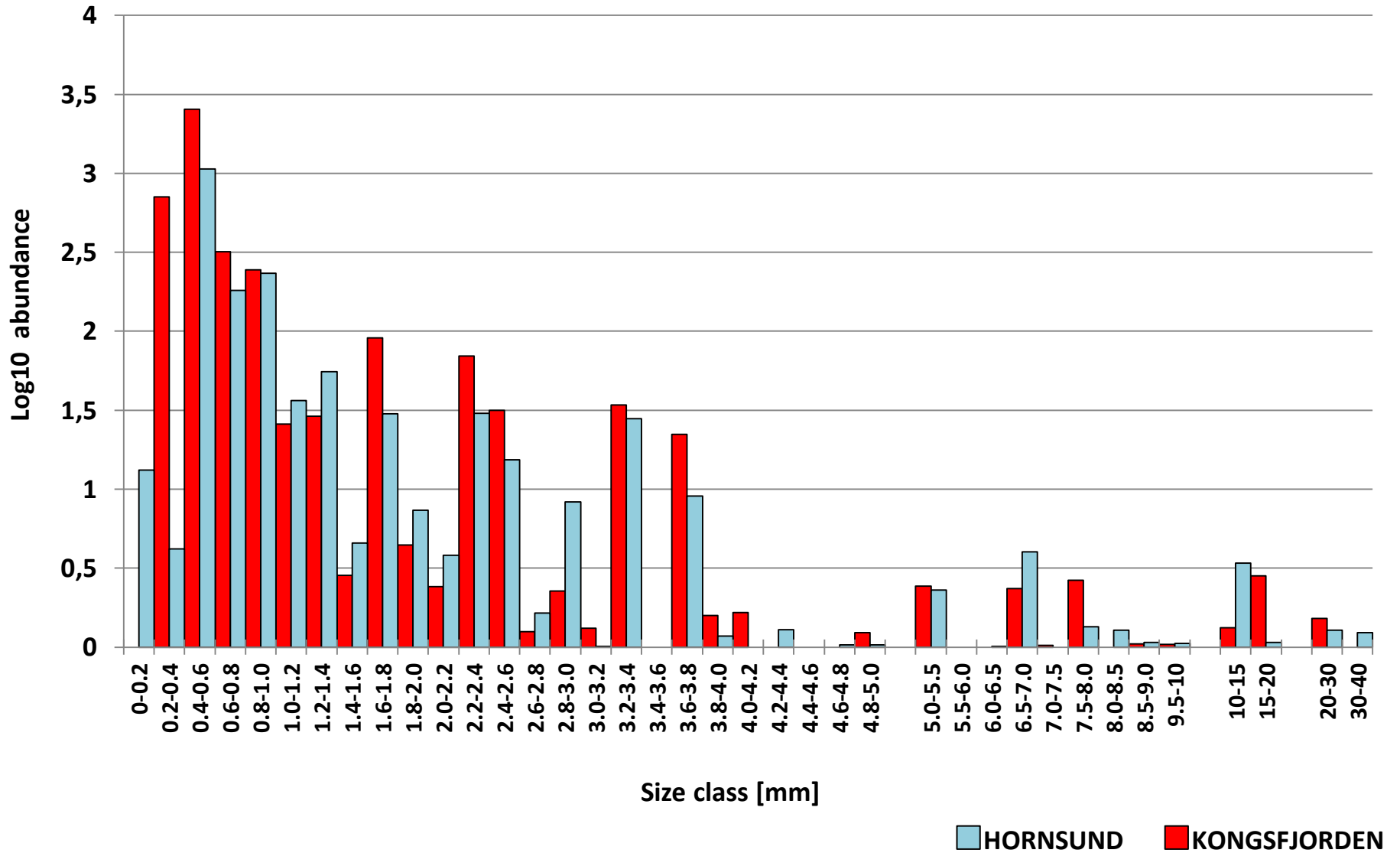
TROPHIC COMPOSITION OF MESOZOOPLANKTON IN 2013



TROPHIC COMPOSITION OF MESOZOOPLANKTON IN 2002, 2007, 2012, 2013

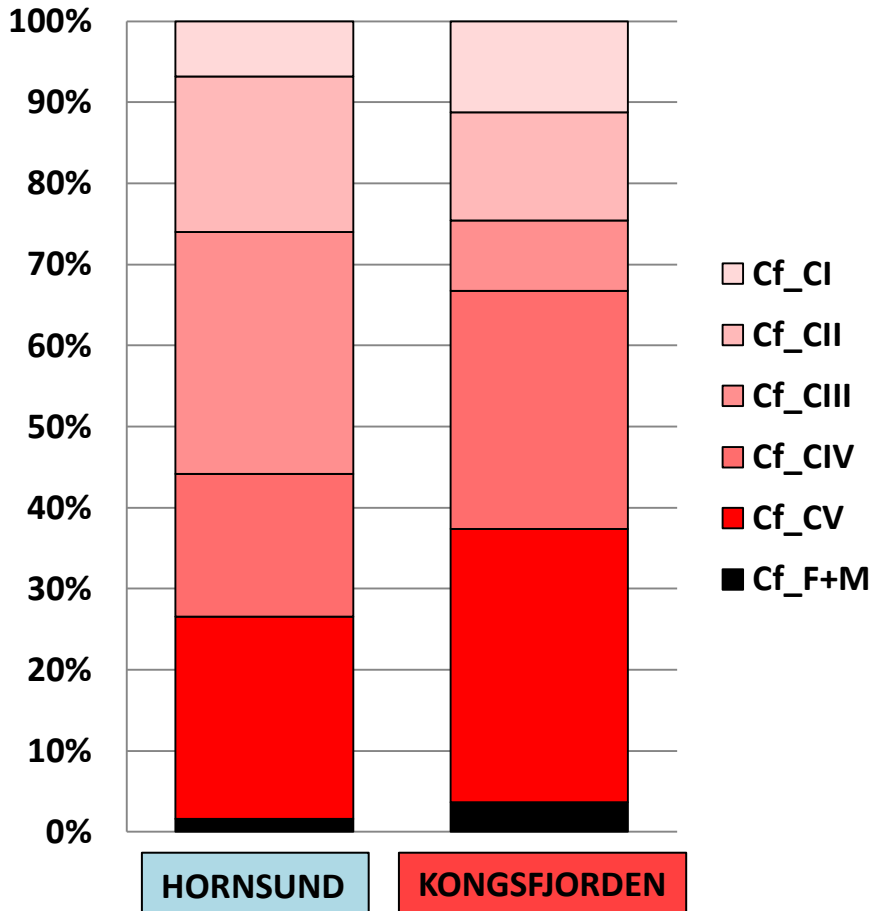


ZOOPLANKTON SIZE STRUCTURE IN 2013



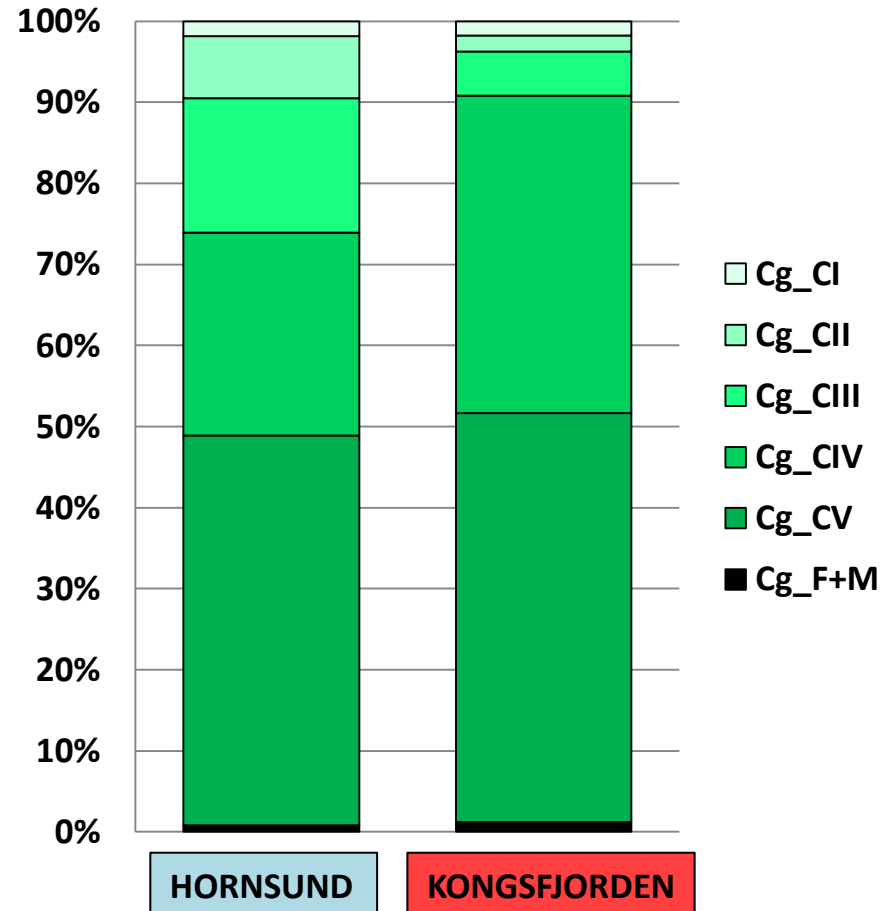
Calanus STAGE COMPOSITION IN 2013

C. finmarchicus (Relative abundance)



$\chi^2 = 31.95, p = 0.00001$

C. glacialis (Relative abundance)



$\chi^2 = 8.33, p = 0.04$

Dziękuję

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