

The Ecological Conditions of Arctic LMEs

Hein Rune Skjoldal

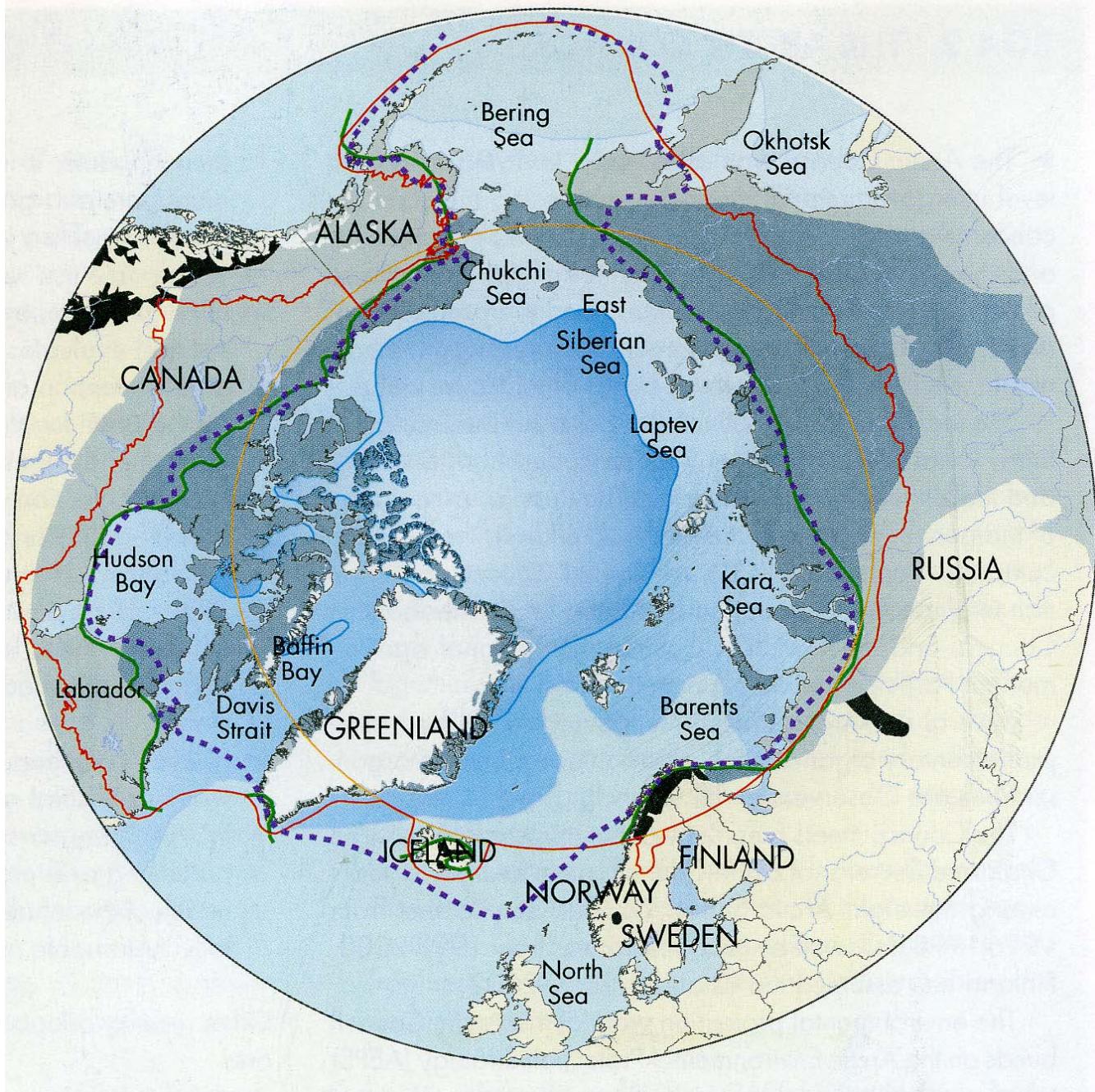
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Assessment of Oil and Gas Activities in the Arctic

- Chapter 1 Introduction
- Chapter 2 Oil and gas activities
- Chapter 3 Social and economic effects
- Chapter 4 Sources, inputs and concentrations
- Chapter 5 Effects on biota and human health
- Chapter 6 Status and vulnerability of ecosystems
- Chapter 7 Conclusions and recommendations

Arctic – the top of the World

- **Extreme**
- **Diverse**
- **Dynamic**
- Latitudinal
- Longitudinal



Species	Genus	Atlantic	Pacific
Herring	<i>Clupea</i>	<i>harengus</i>	<i>pallasii</i>
Cod	<i>Gadus</i>	<i>morhua</i>	<i>macrocephalus</i>
Navaga/Saffron cod	<i>Eleginus</i>	<i>navaga</i>	<i>gracilis</i>
Halibut	<i>Hippoglossus</i>	<i>hippoglossus</i>	<i>stenolepis</i>
White-sided dolphin	<i>Lagenorhynchus</i>	<i>acutus</i>	<i>obliquidens</i>
Black/pigeon guillemot	<i>Cephus</i>	<i>grylle</i>	<i>columba</i>
Atlantic/horned puffin	<i>Fratercula</i>	<i>arctica</i> -7ssp	<i>corniculata</i> -5ssp

Atlantic and Pacific subspecies

Species		Atlantic	Pacific
Minke whale	<i>Balaenoptera acutorostrata</i>	<i>acutorostrata</i>	<i>scammoni</i>
Walrus	<i>Odobenus rosmarus</i>	<i>rosmarus</i>	<i>divergens</i>
Black-legged kittiwake	<i>Rissa tridactyla</i>	<i>tridactyla</i>	<i>pollicaris</i>
Northern fulmar	<i>Fulmarus glacialis</i>	<i>glacialis/auduboni</i>	<i>rodgersii</i>

Circumpolar or wide distribution – **subspecies**

Harbour seal	<i>Phoca vitullina</i>	5 ssp
Lesser black-backed gull	<i>Larus fuscus</i>	4 spp
Herring gull	<i>Larus argentatus</i>	several/3 subgroups
Mew gull	<i>Larus canus</i>	4 ssp
Common eider	<i>Somateria mollissima</i>	6 ssp
Black scoter	<i>Melanitta nigra</i>	2 ssp
Velvet scoter	<i>Melanitta fusca</i>	3 ssp



Arctic Monitoring and Assessment Programme
AMAP Assessment Report: Arctic Pollution Issues, Figure 2-7

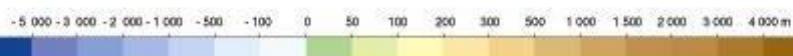
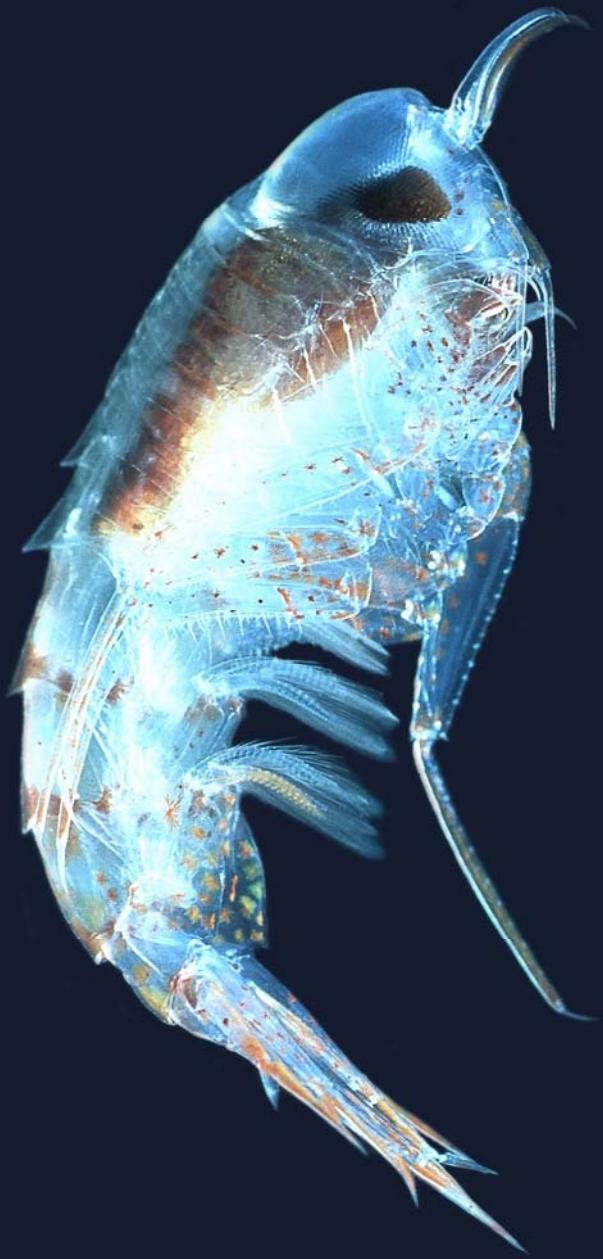


Abbildung 2-7





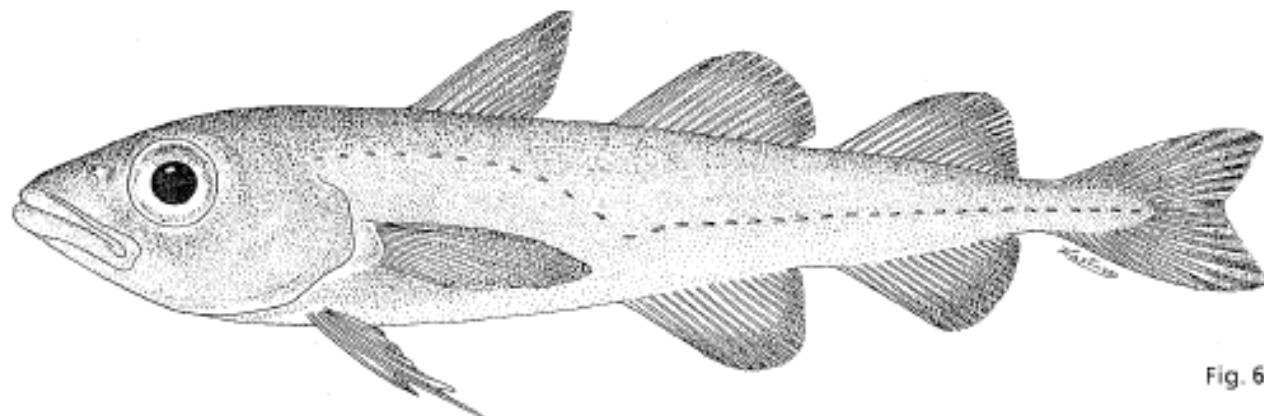
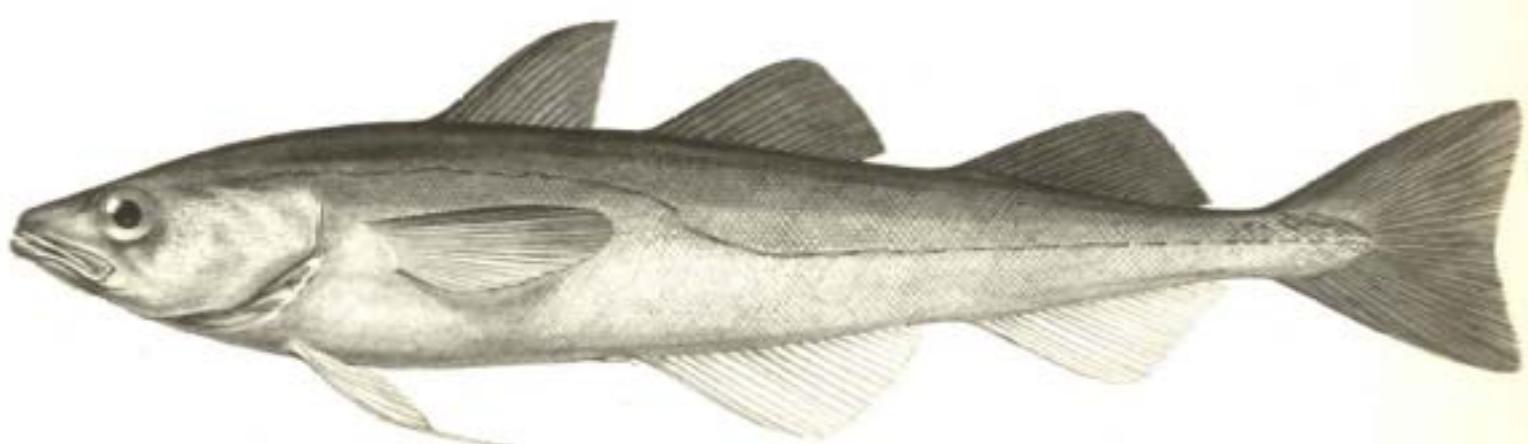


Fig. 60



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THERAGRA FINNMARCHICA ✓
(Berlevågfisk) Theragra



Fig. 9.18. Distribution of capelin (green) (based on Vilhjálmsson, 1994).



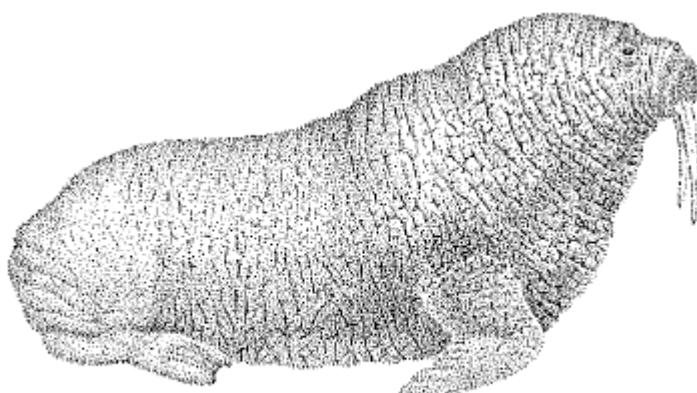
Ringed Seal *Phoca hispida* 1.1-1.5 m



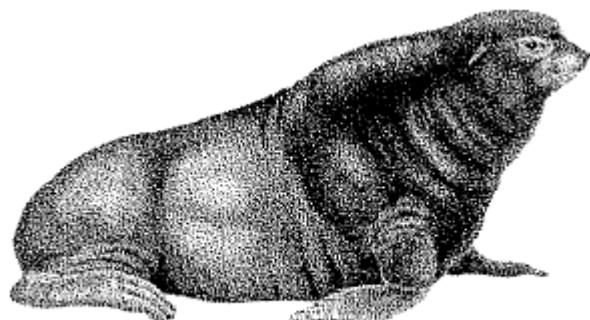
Bearded Seal *Erignathus barbatus* 2.1-2.4 m



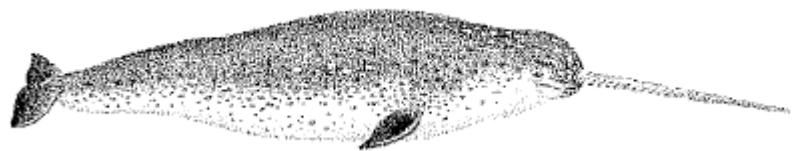
Harp Seal *Phoca groenlandica* 1.6-1.7 m



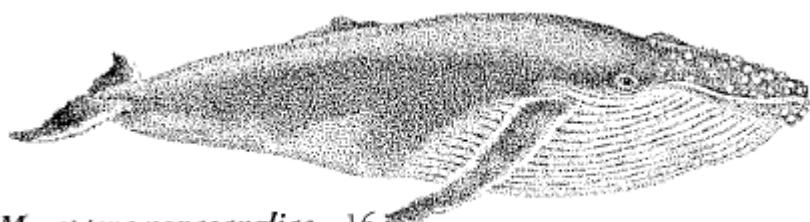
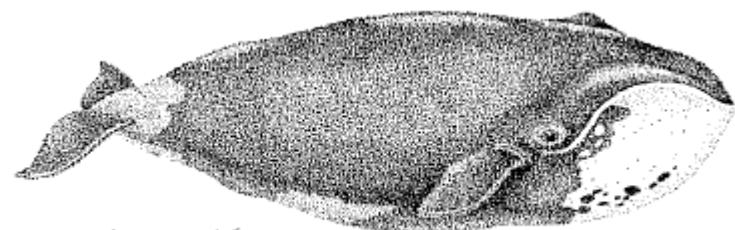
Walrus *Odobenus rosmarus* 2.5-4.2 m



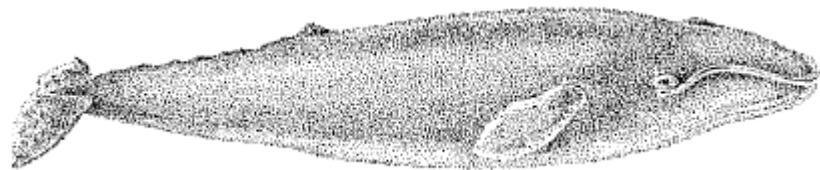
Northern Fur Seal *Callorhinus ursinus* 1.4-2.1 m

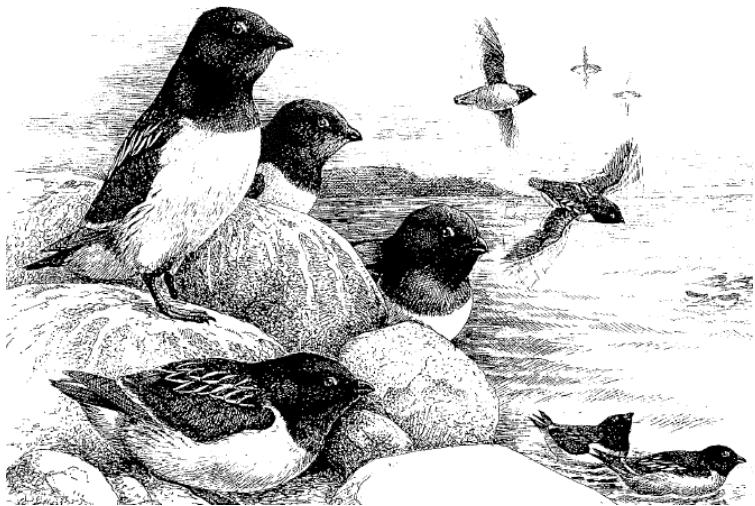


Balaena mysticetus 16 m

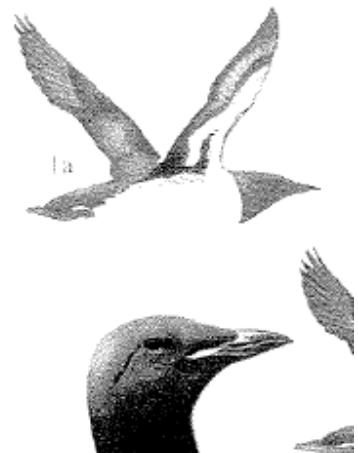


Megaptera novaeangliae 16 m





1b



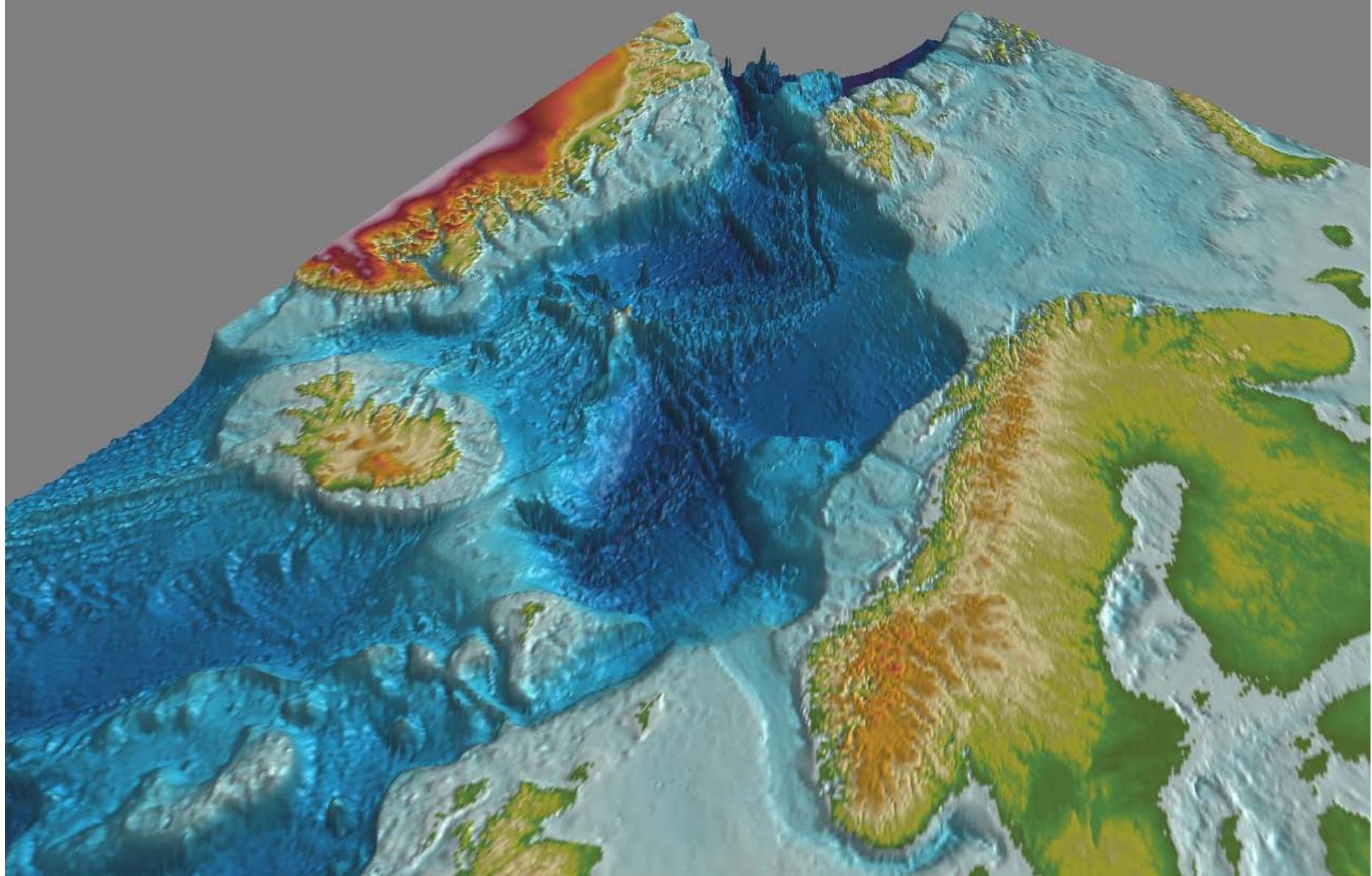
1a



1a



2a



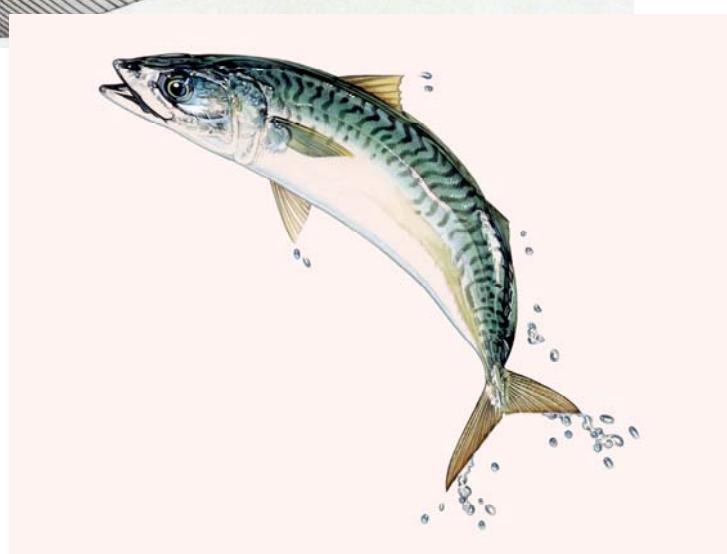
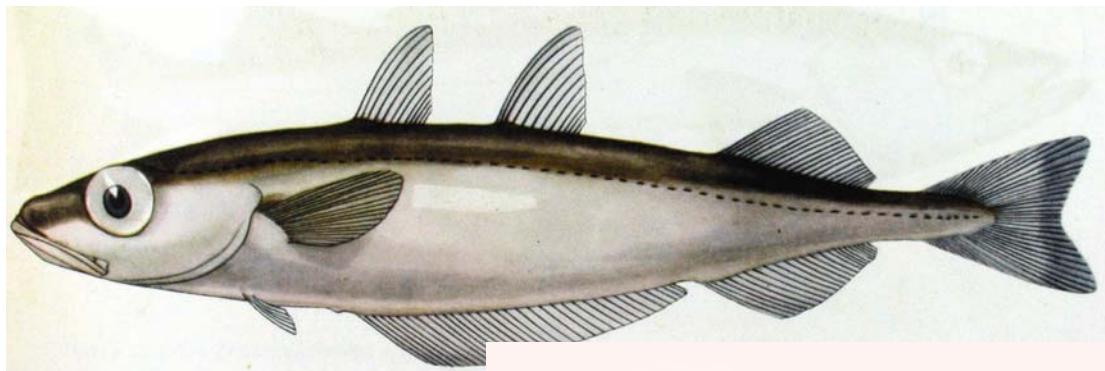
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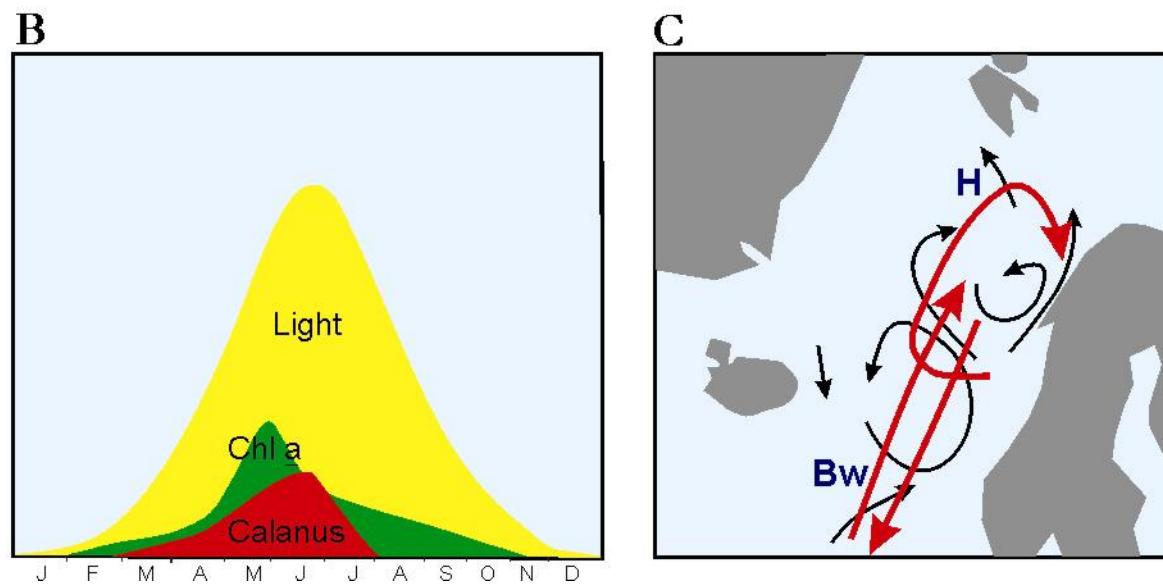
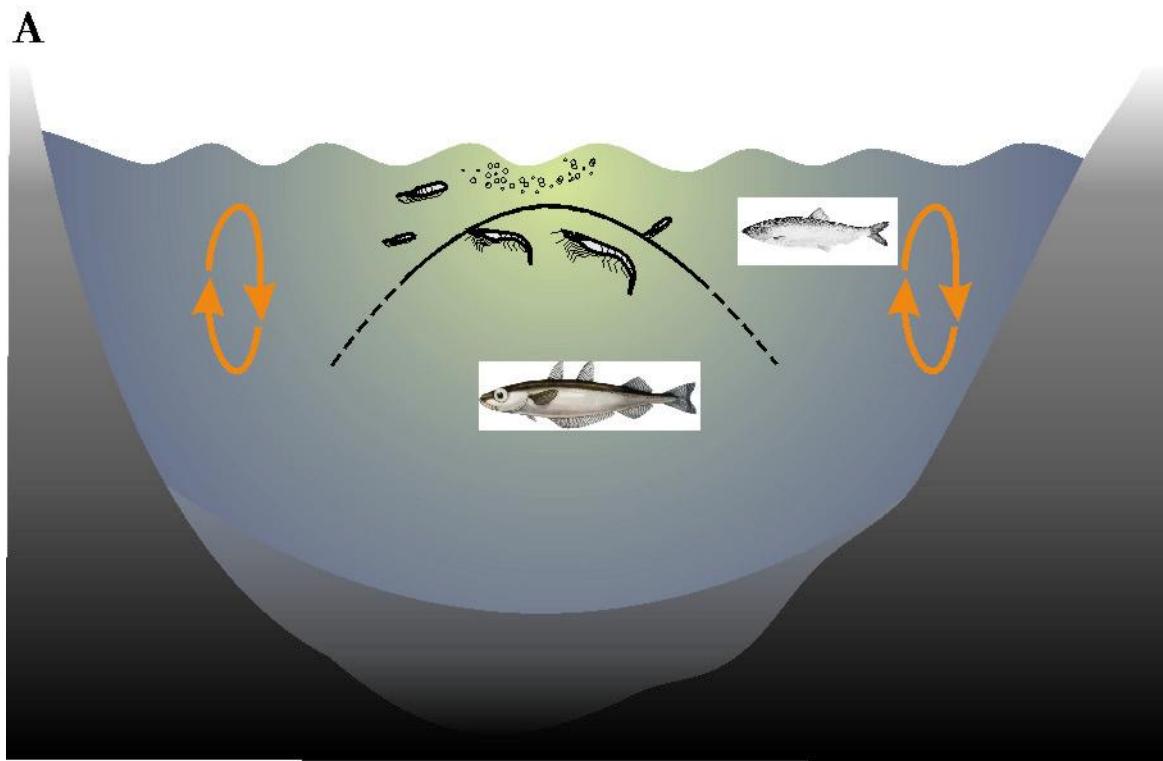
The Norwegian Sea Ecosystem

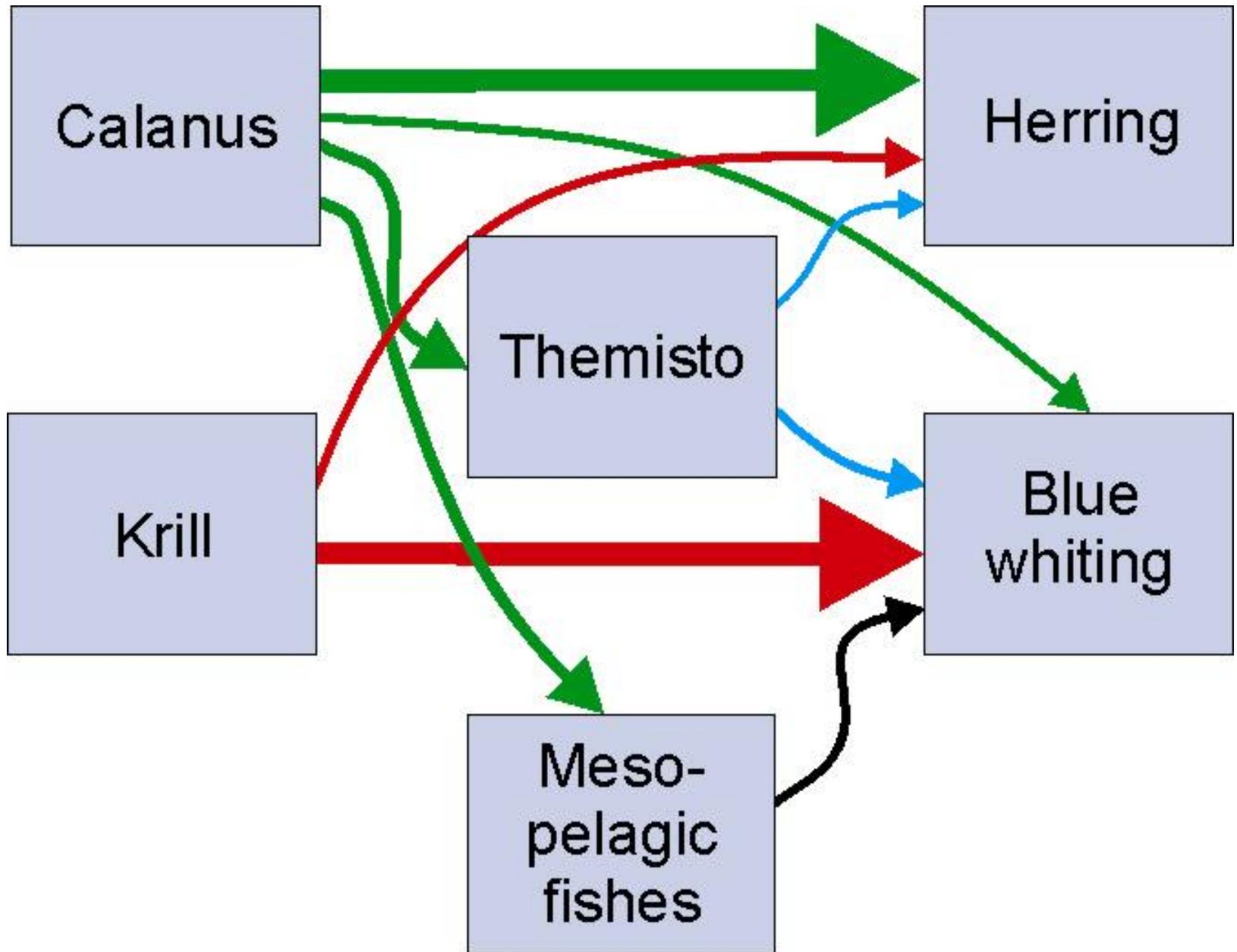


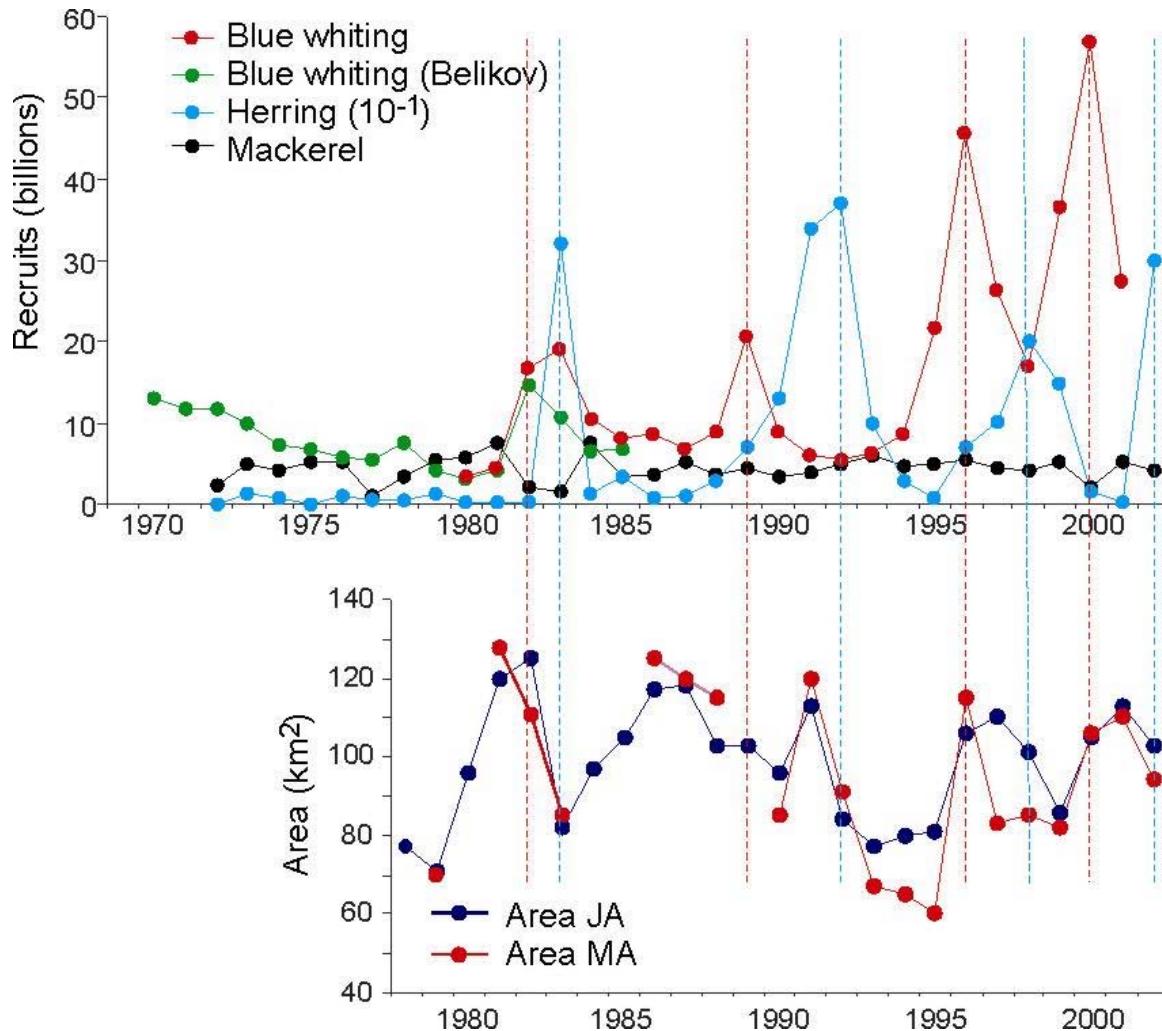
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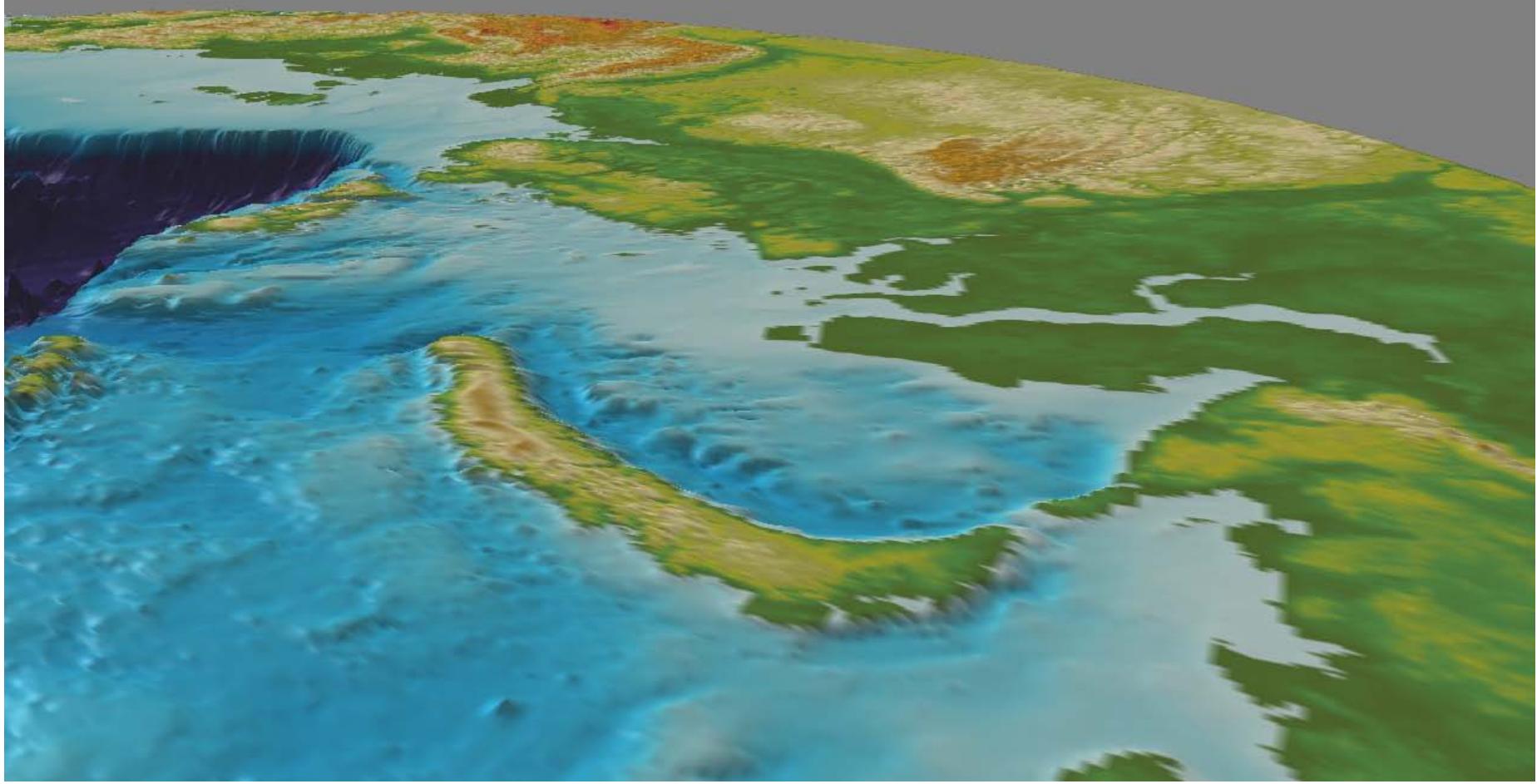
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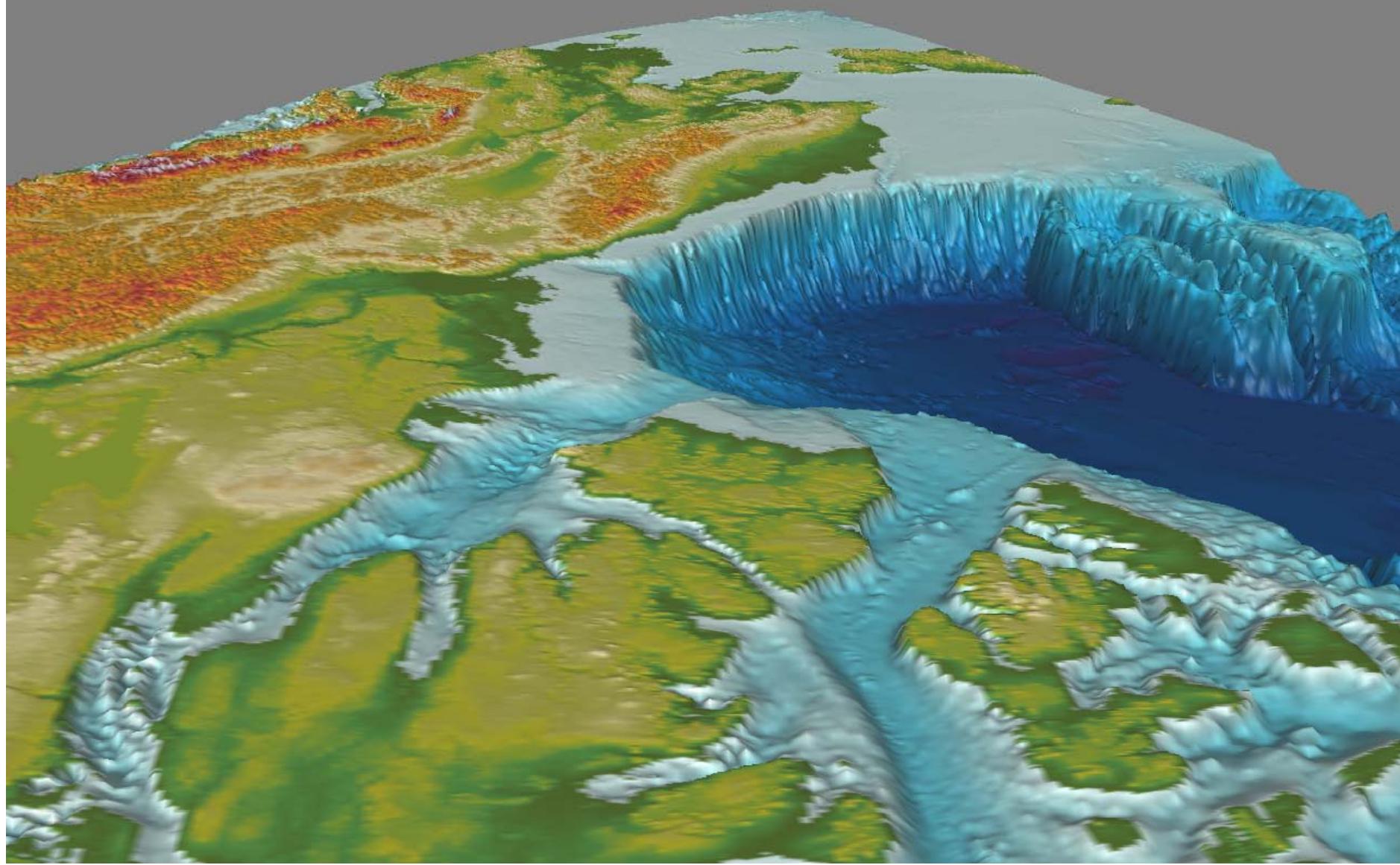


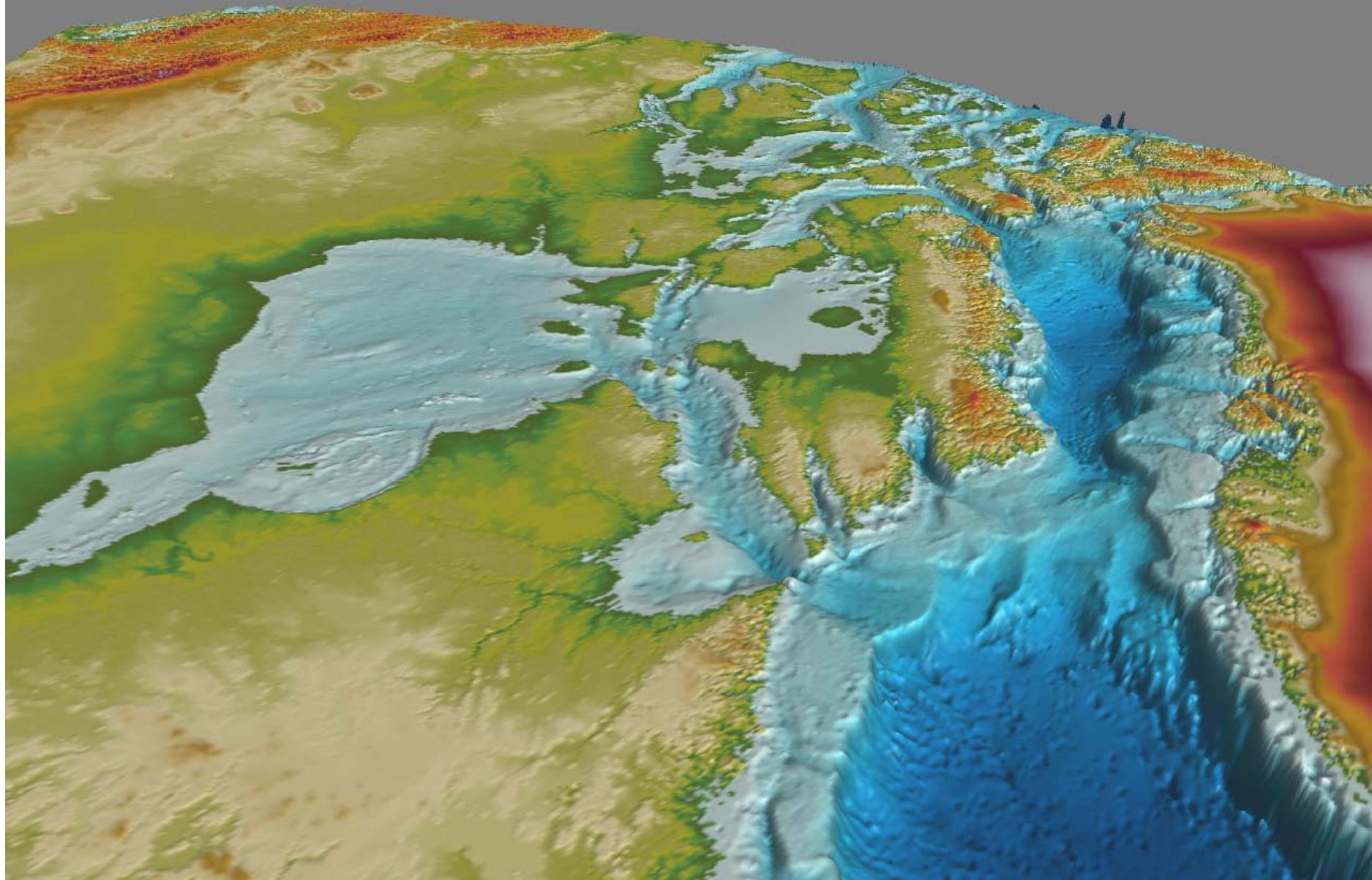


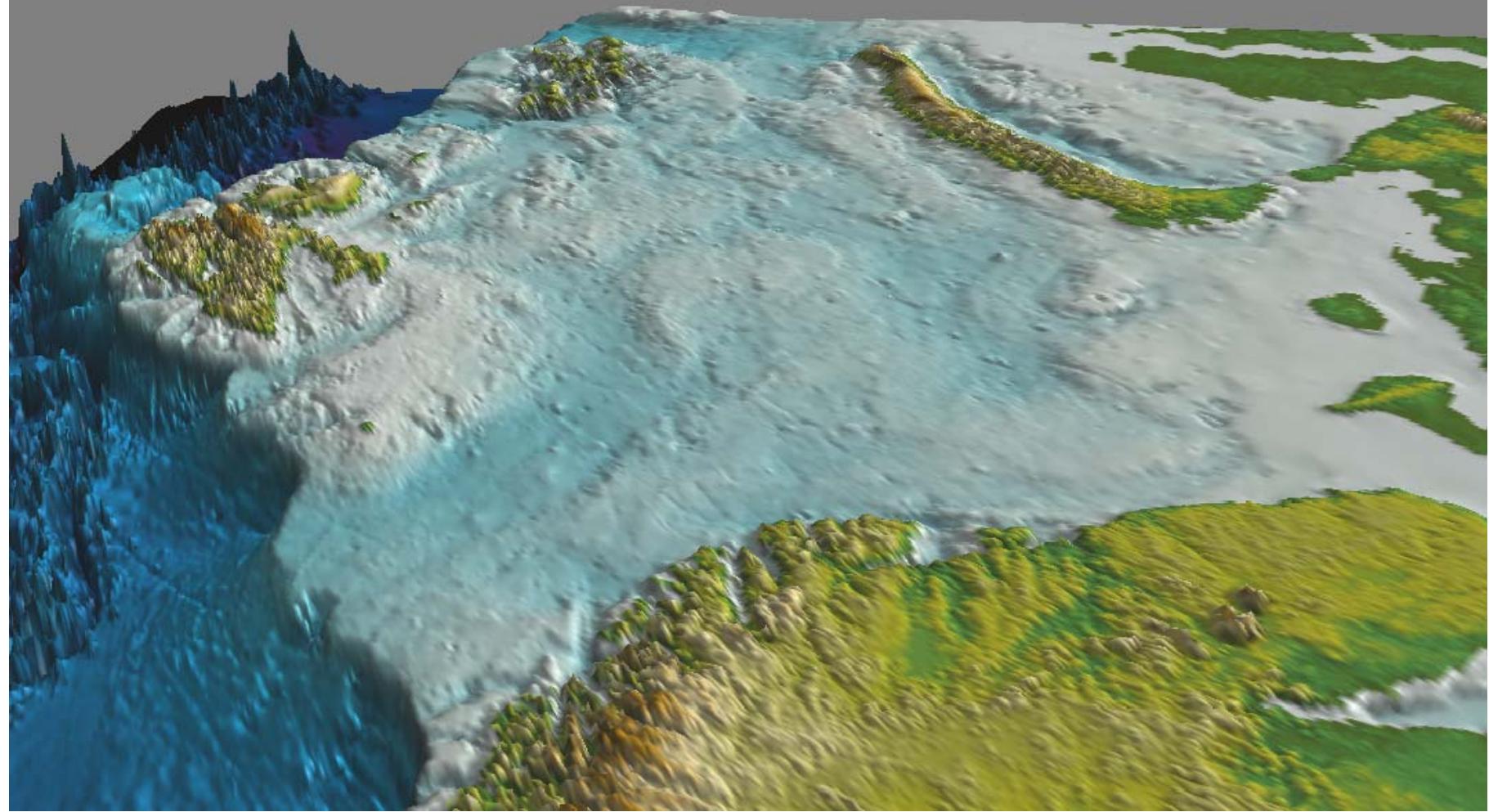












Modelled flux Fugløya Bjørnøya versus Kola temperature

