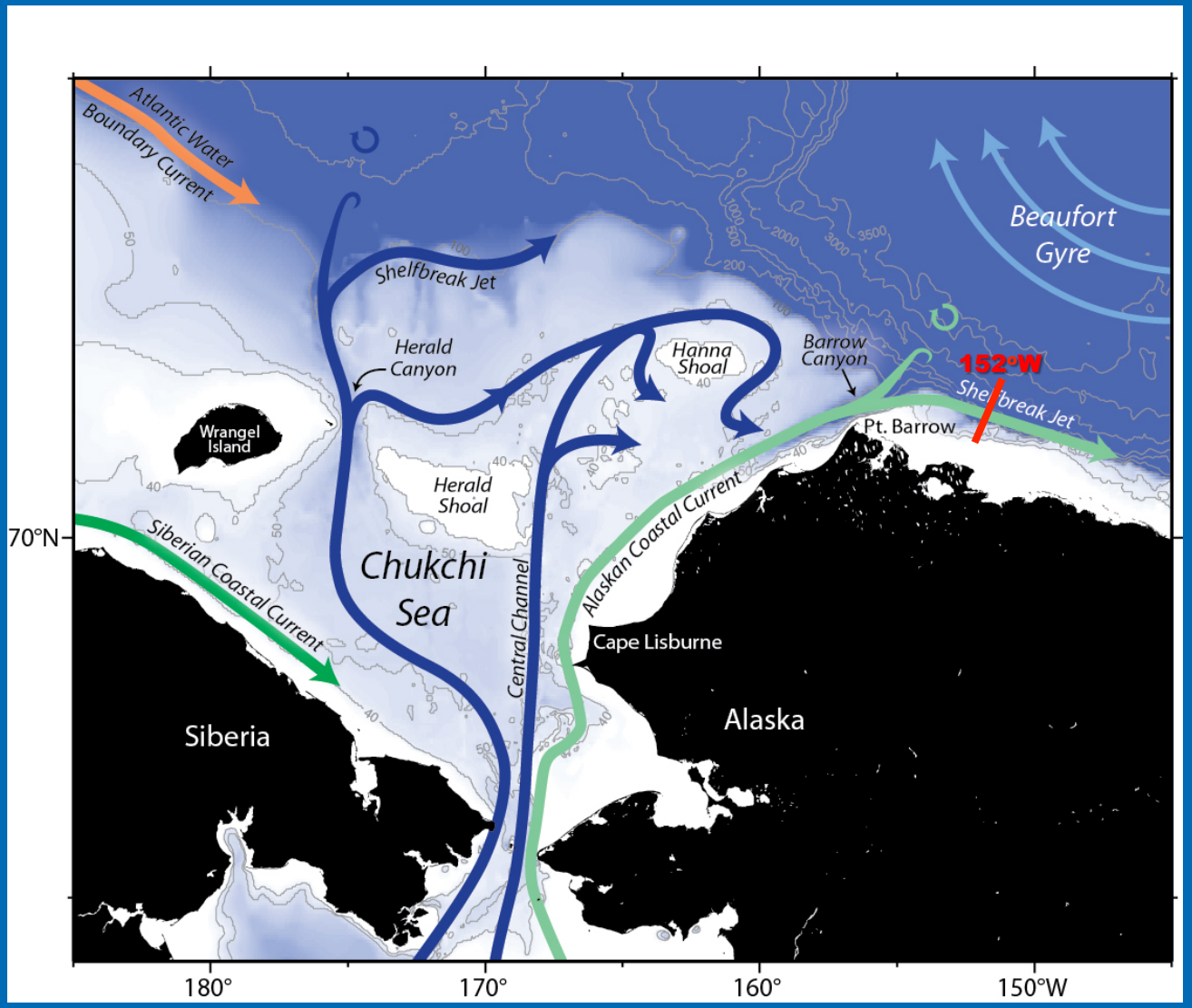

152°W as an Alaskan
Beaufort Sea DBO line?
HEALY
Photo by Amanda Kowlaski

Downstream of the Chukchi Sea outflow points



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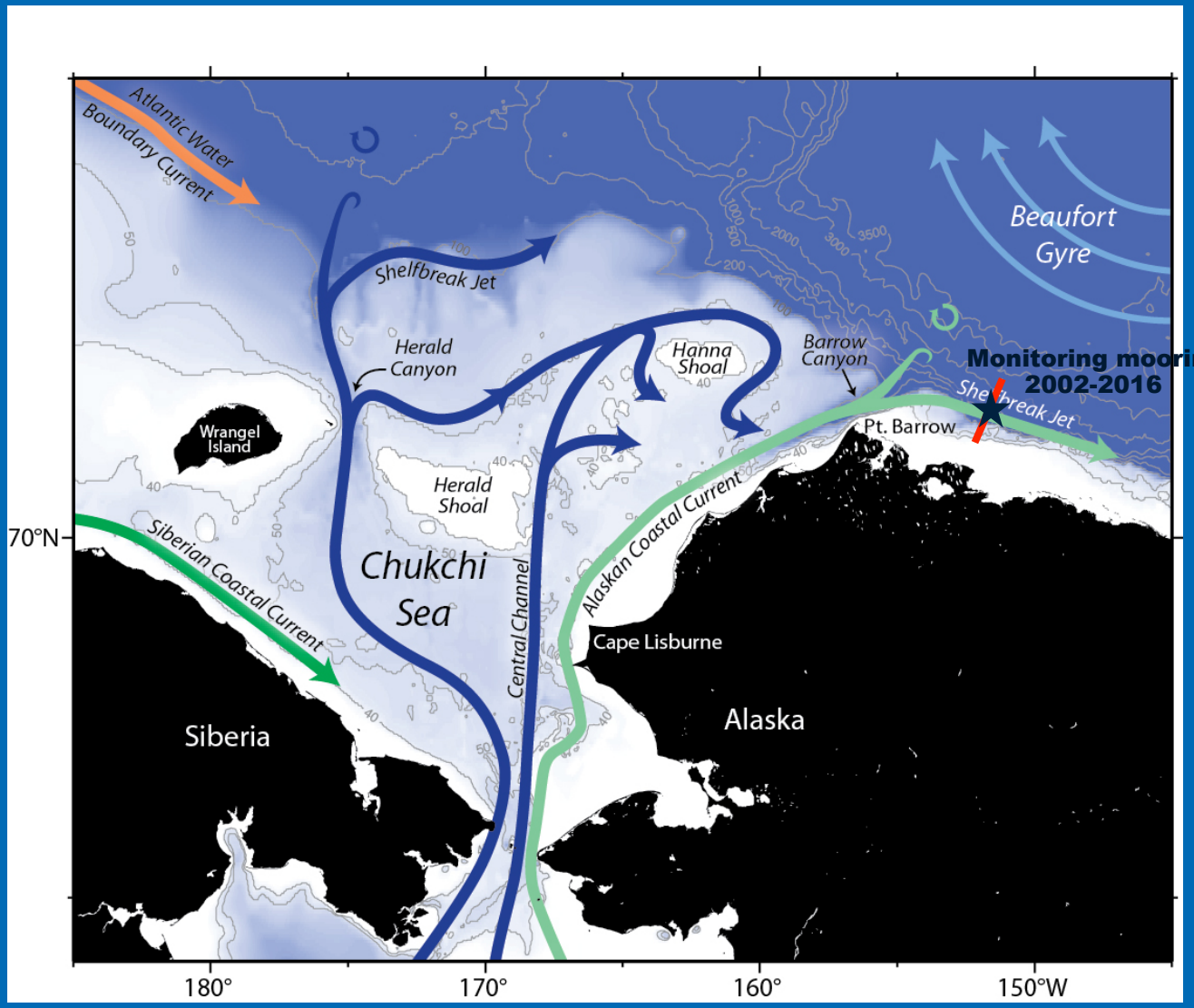
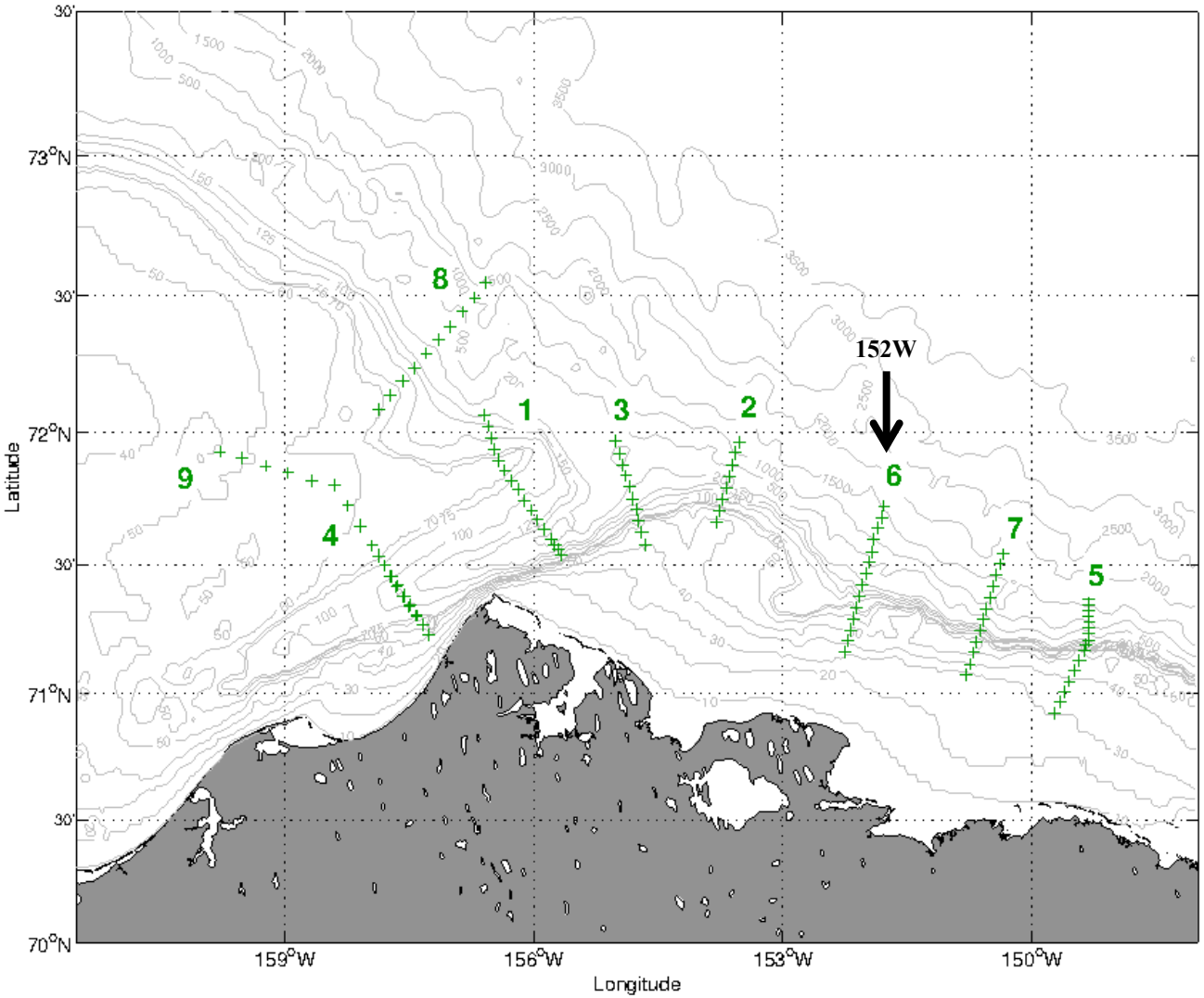
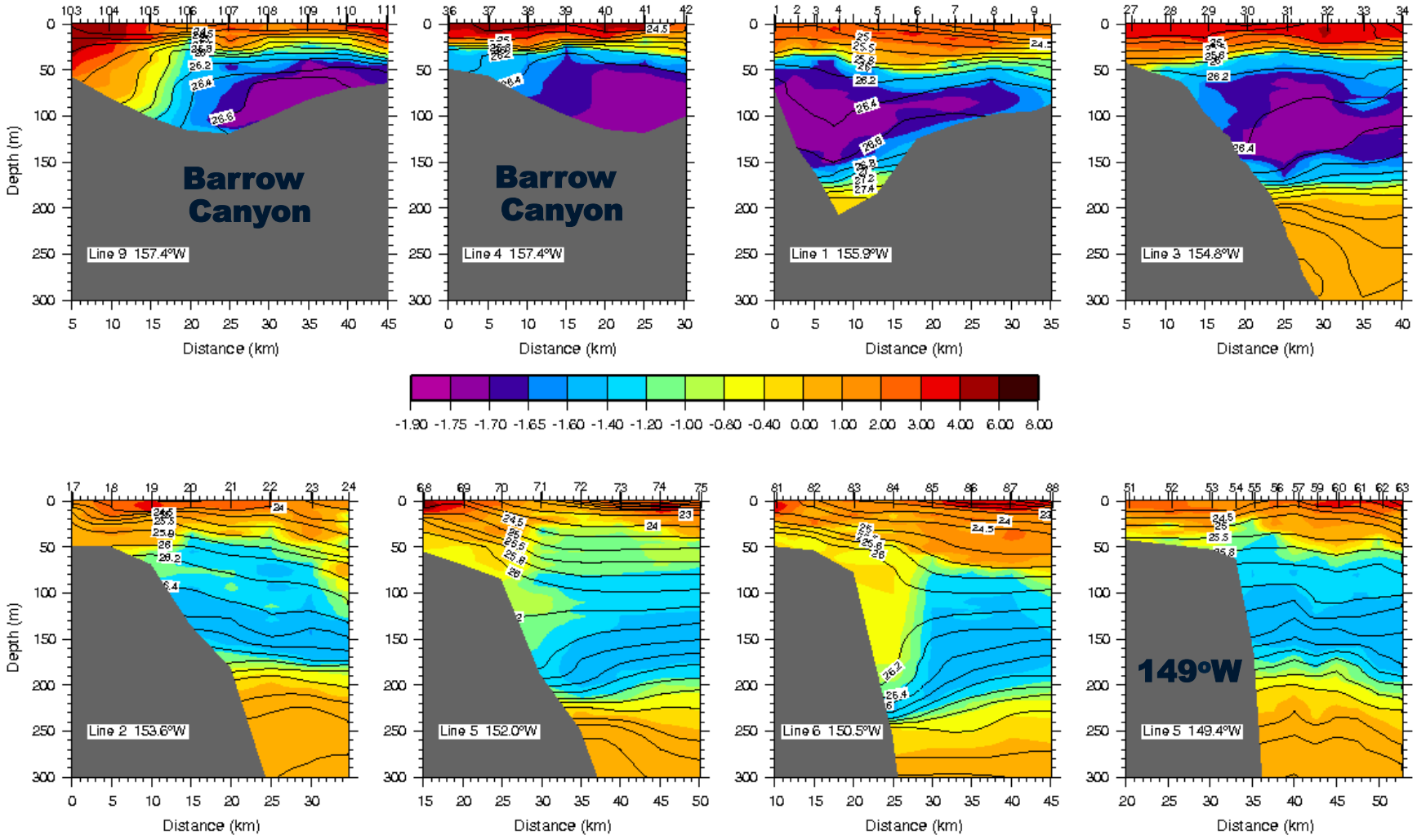


Boundary current survey July 2009



Flavors of the boundary current



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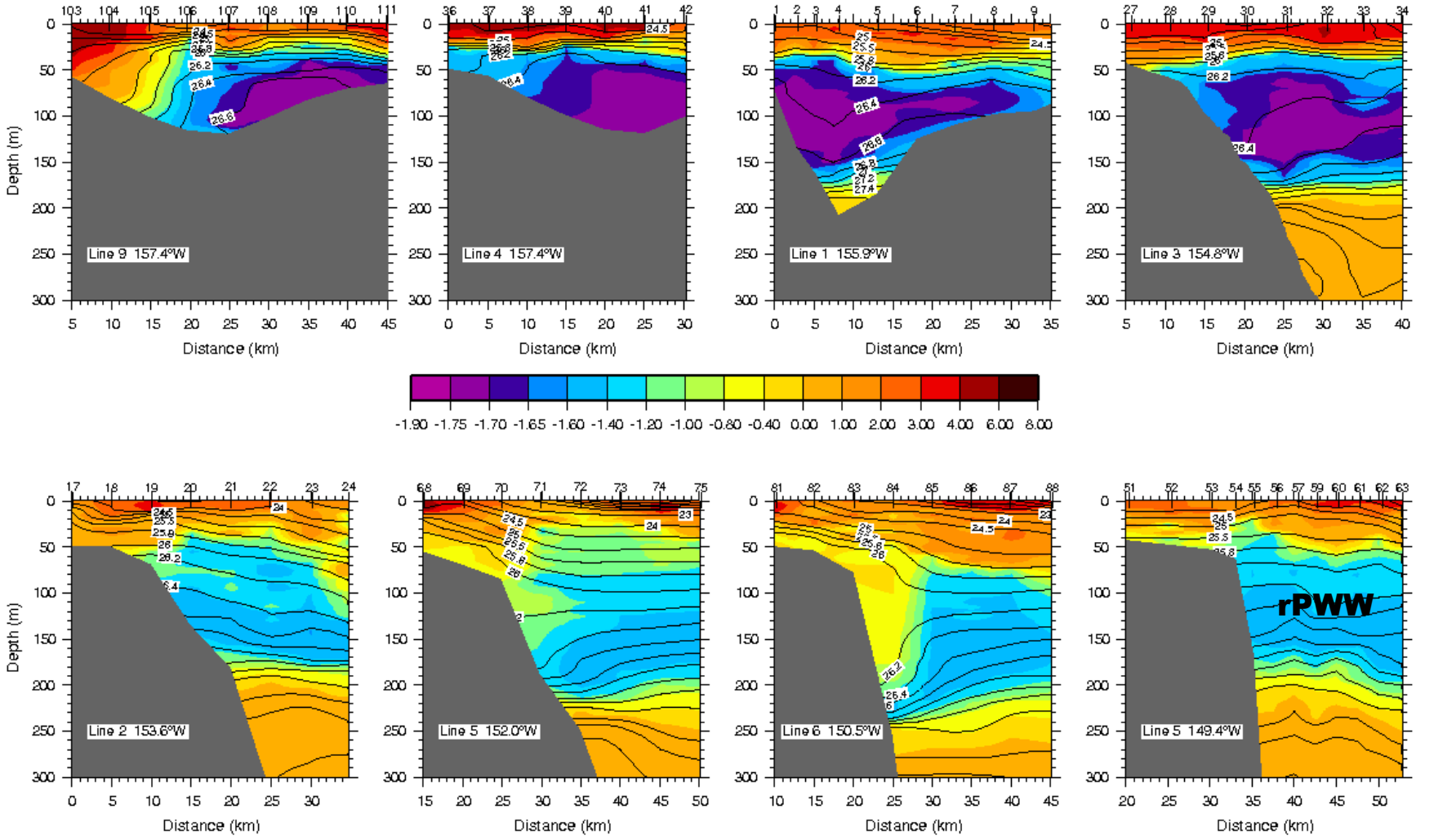

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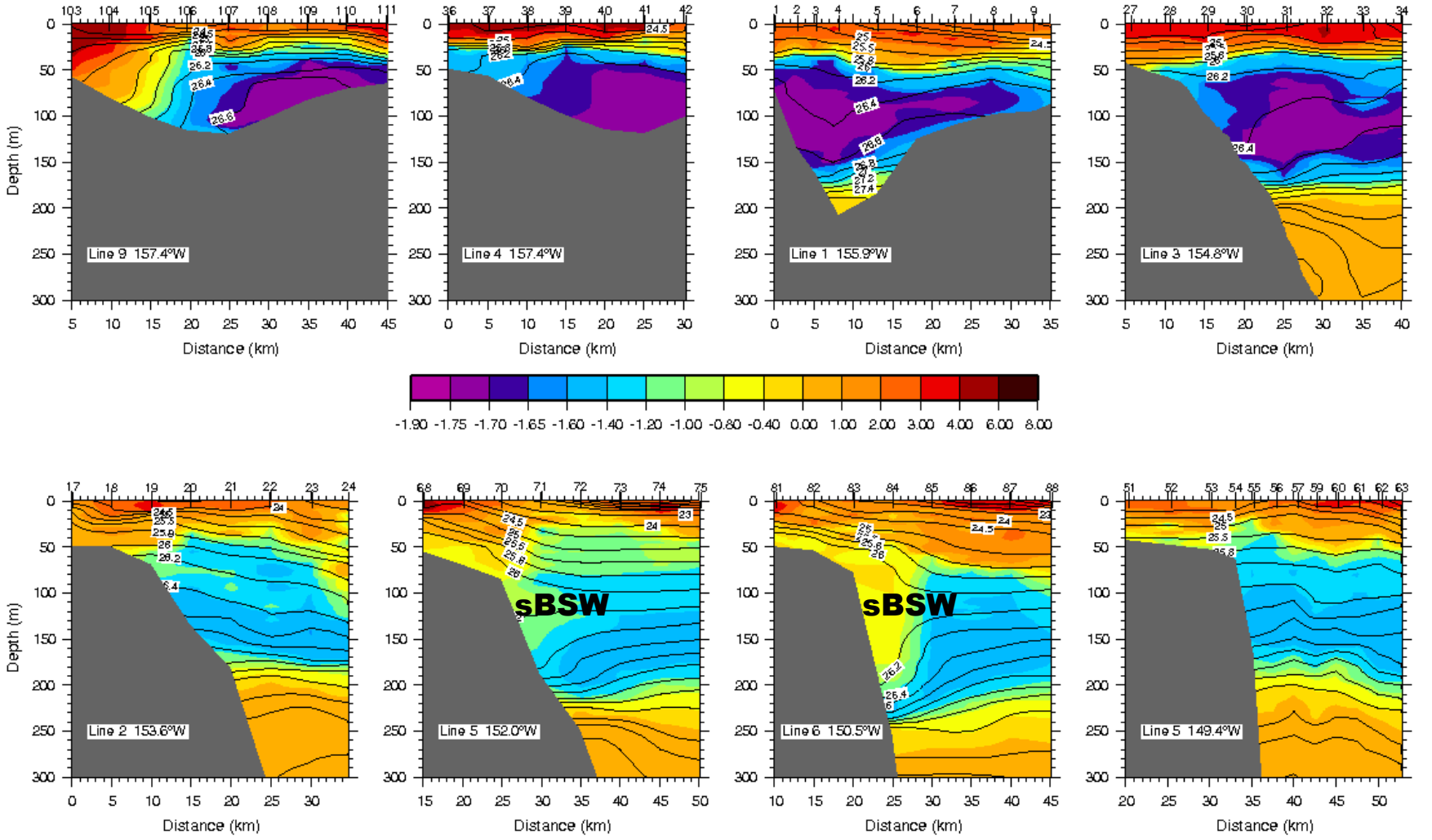

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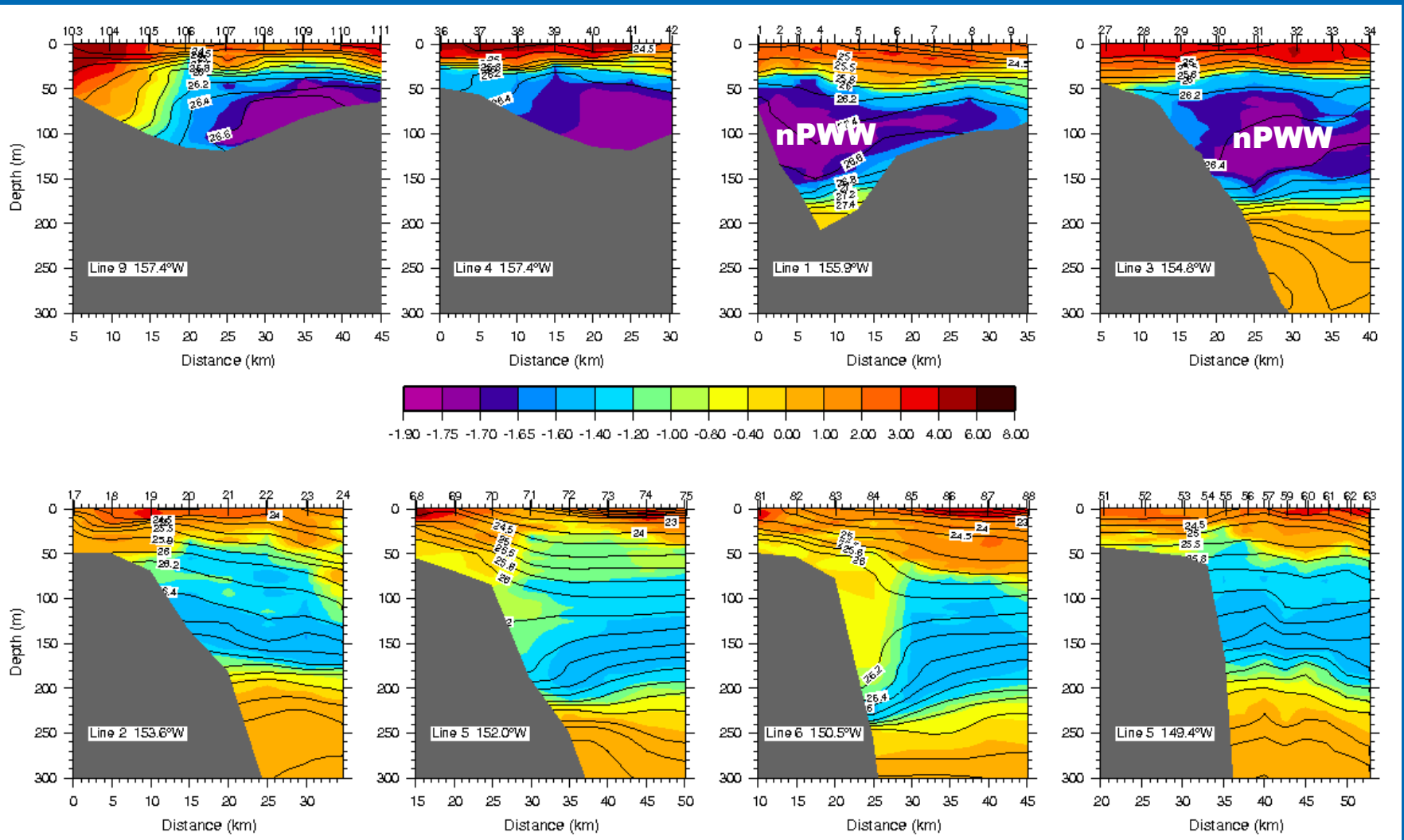

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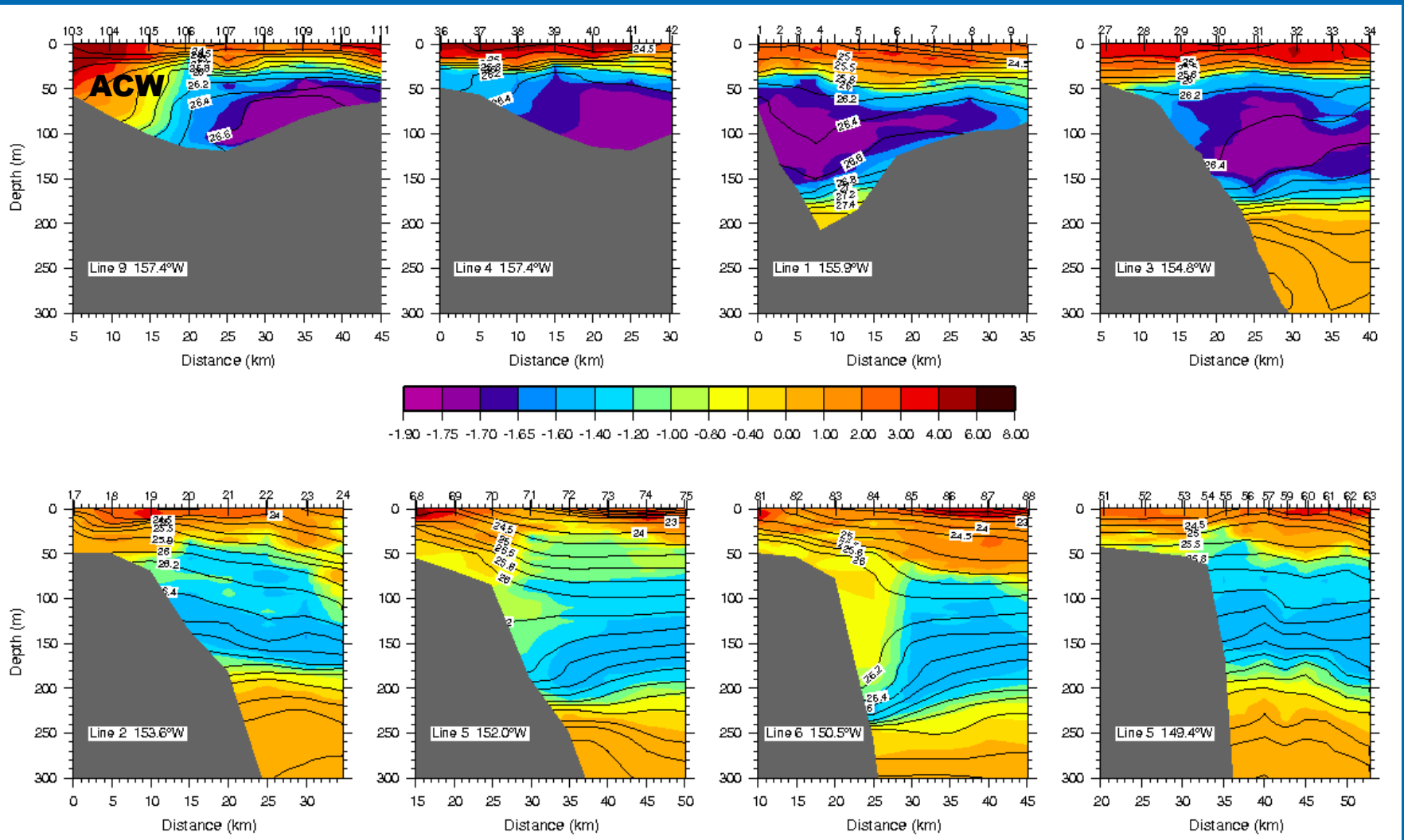

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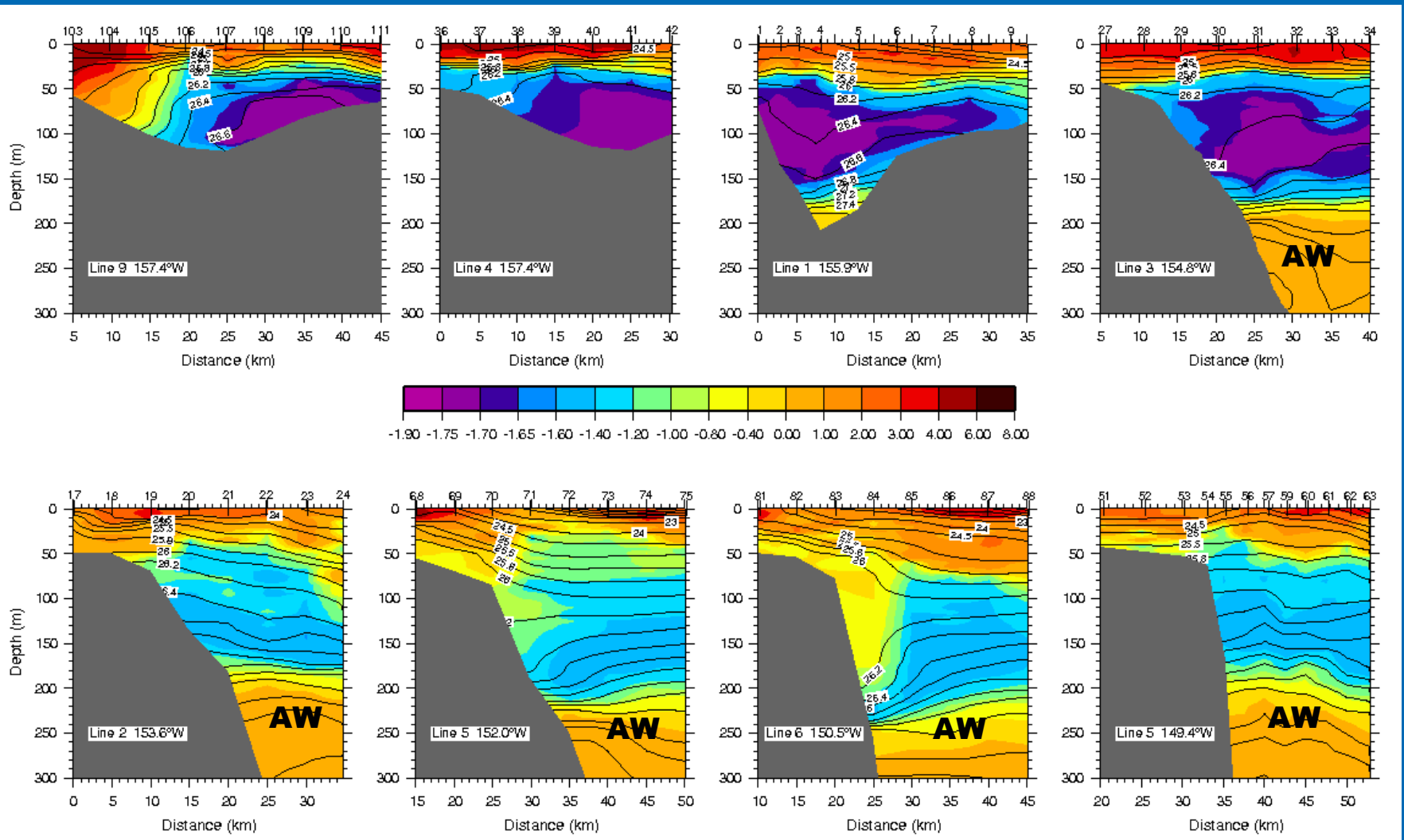
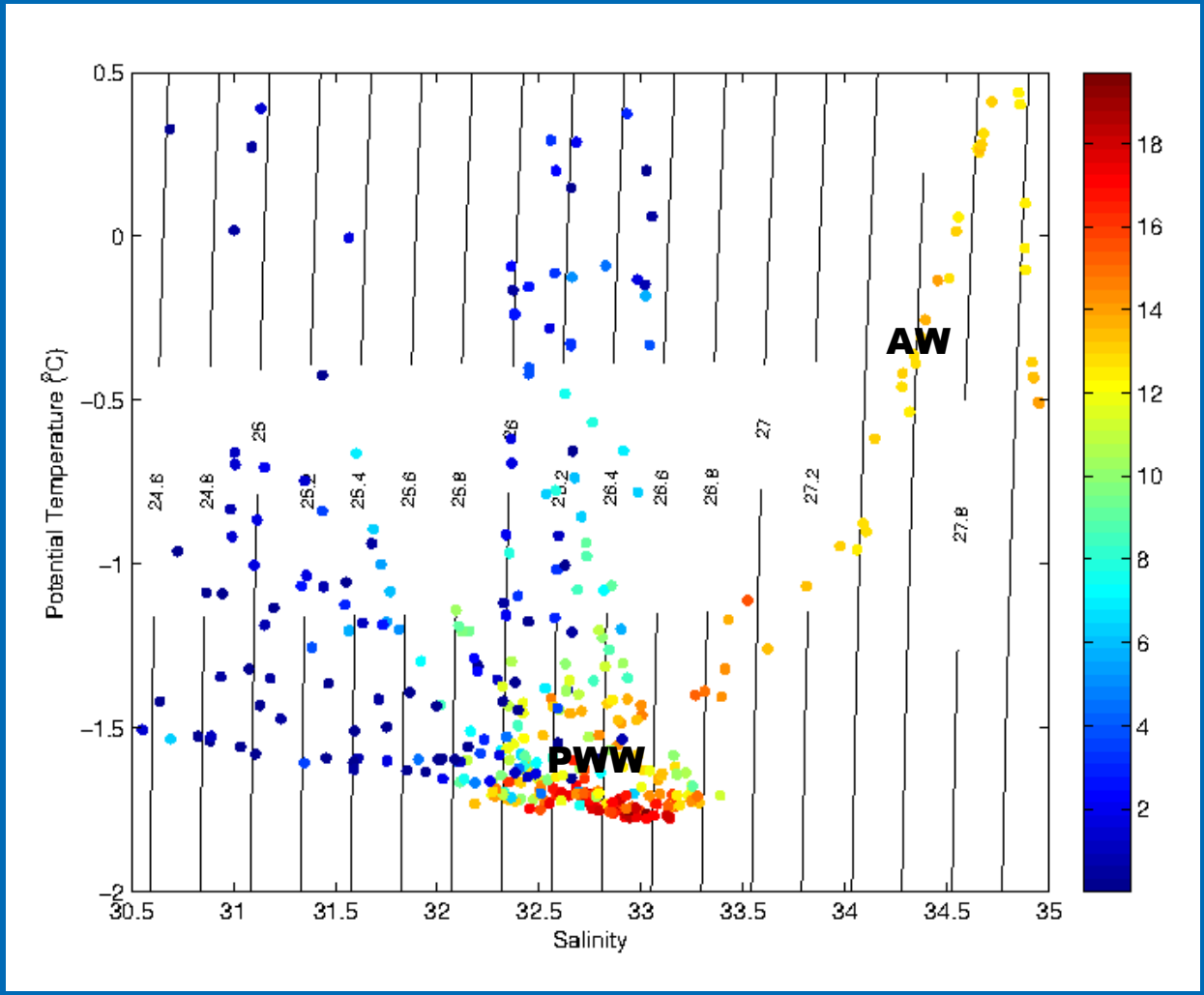
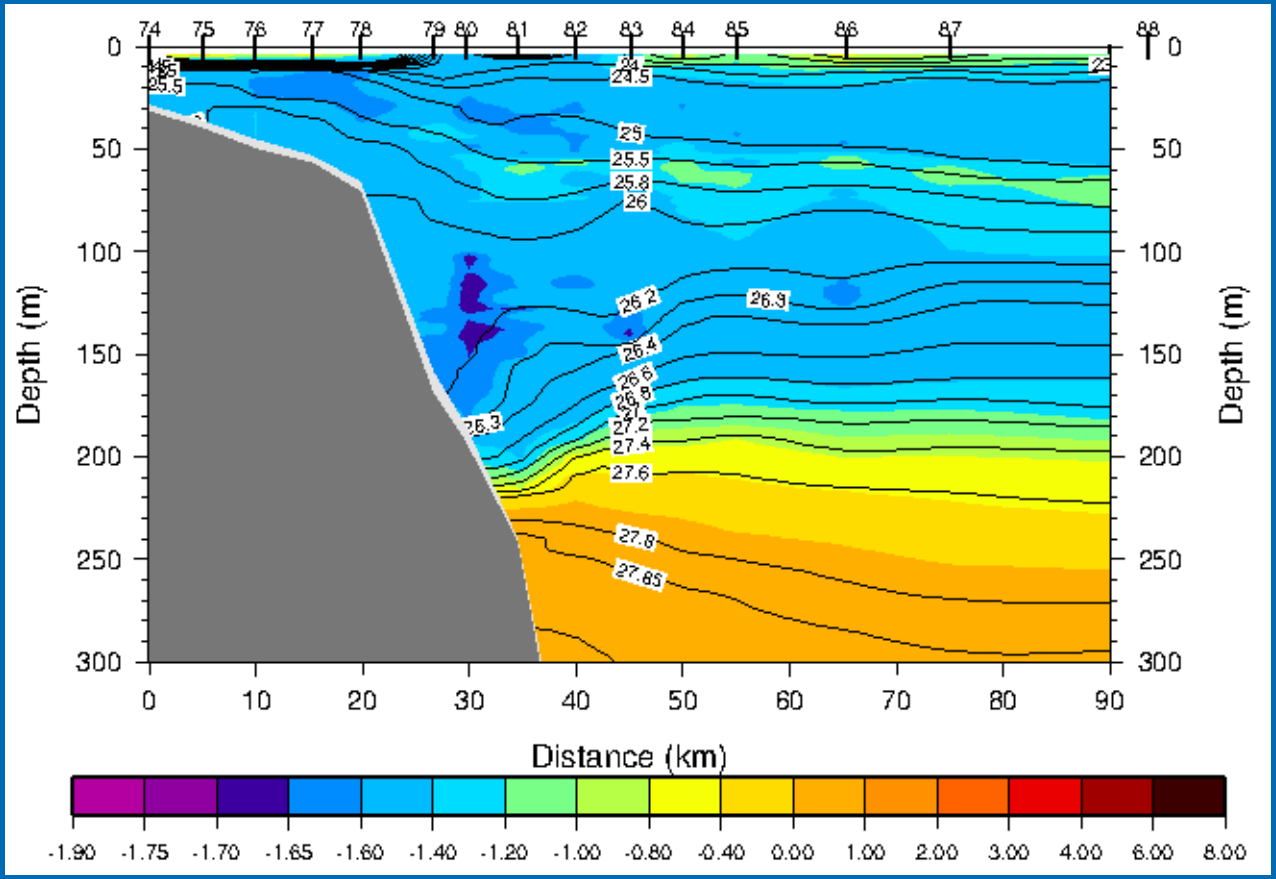


T-S diagram colored by nitrate

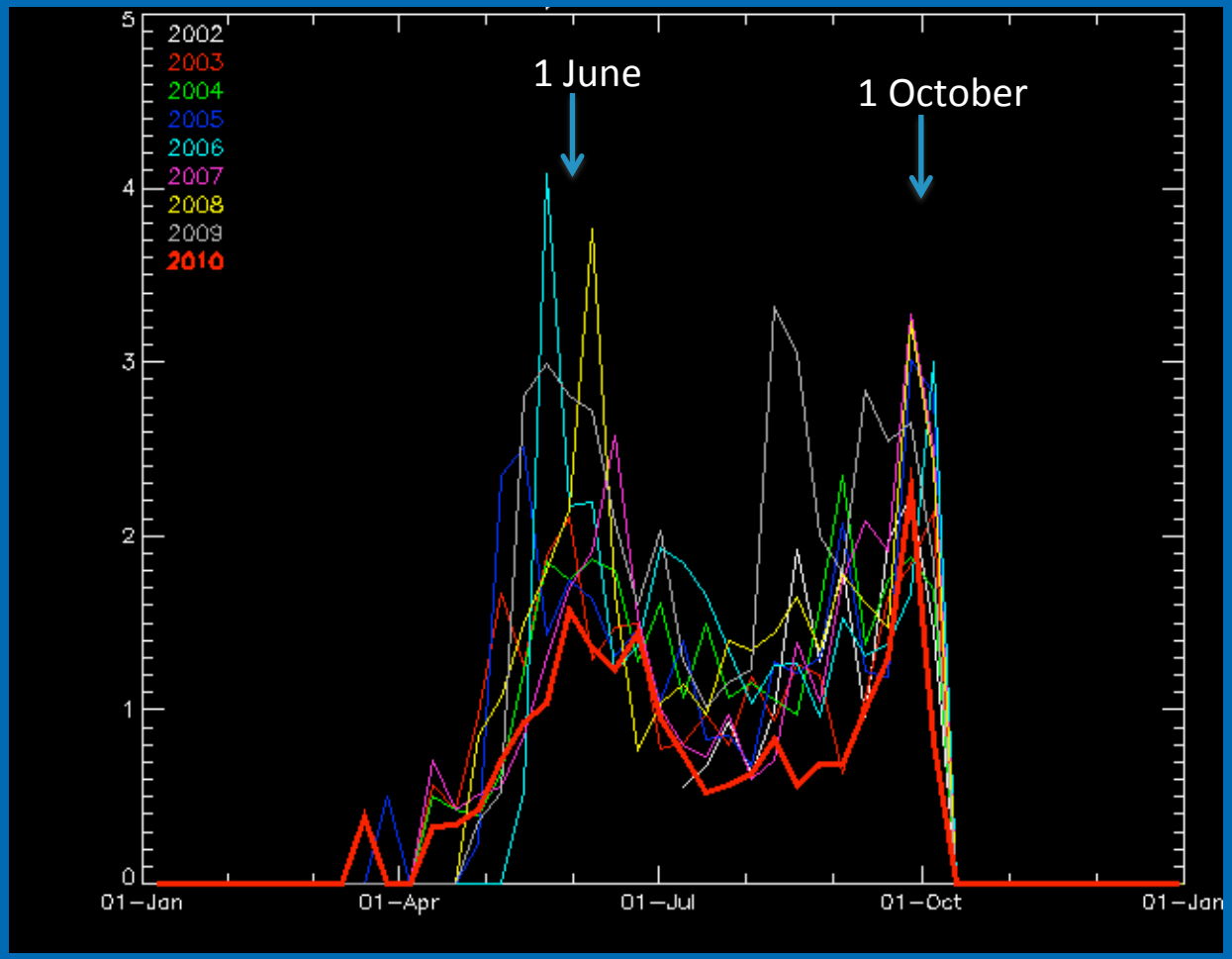


July occupation of 152°W



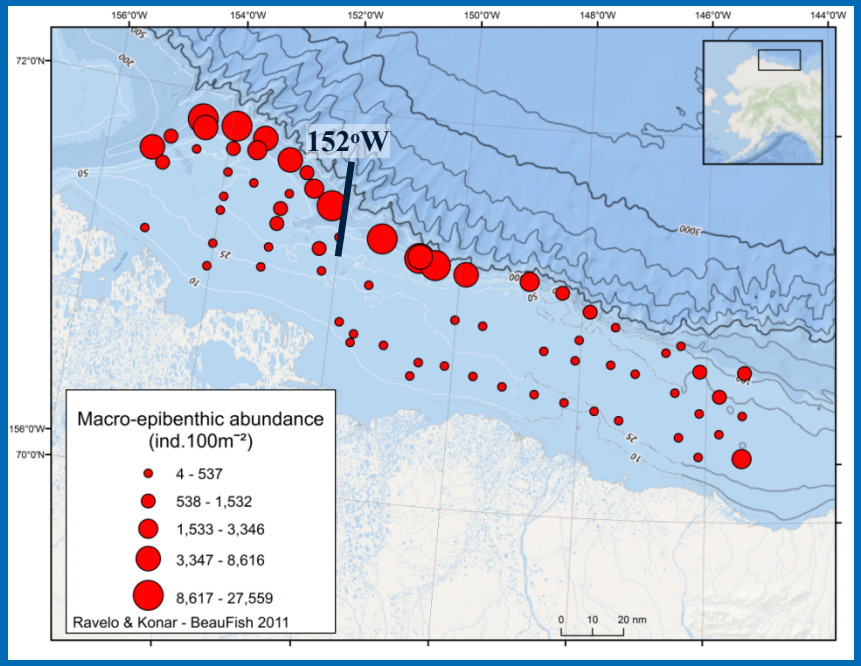
High-nitrate rPWW throughout top 150m

Mean chlorophyll (µg/L) near Barrow Canyon 2002-2010



Courtesy of
G. van Dijken

Epibenthic Abundance



Ravelo et al. (submitted)

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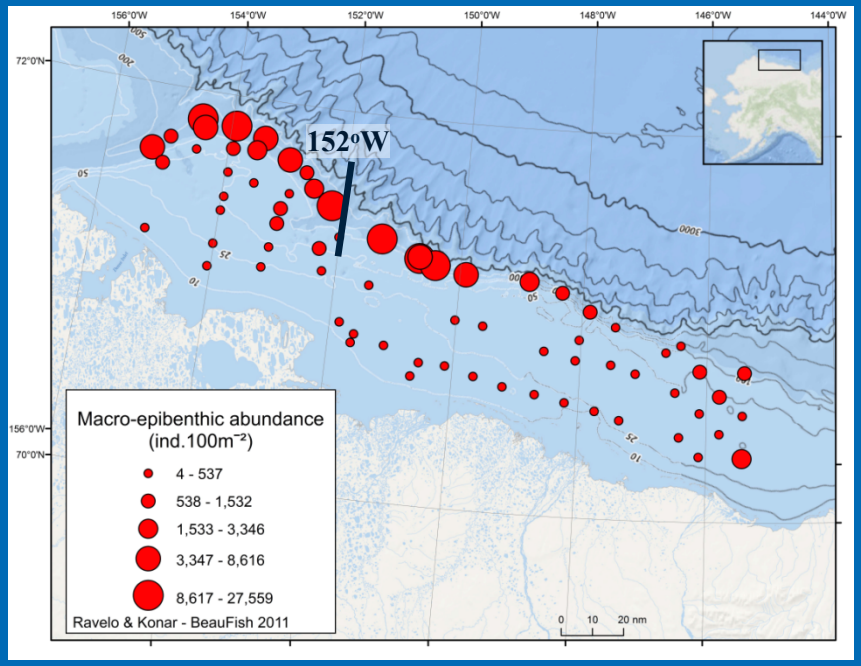

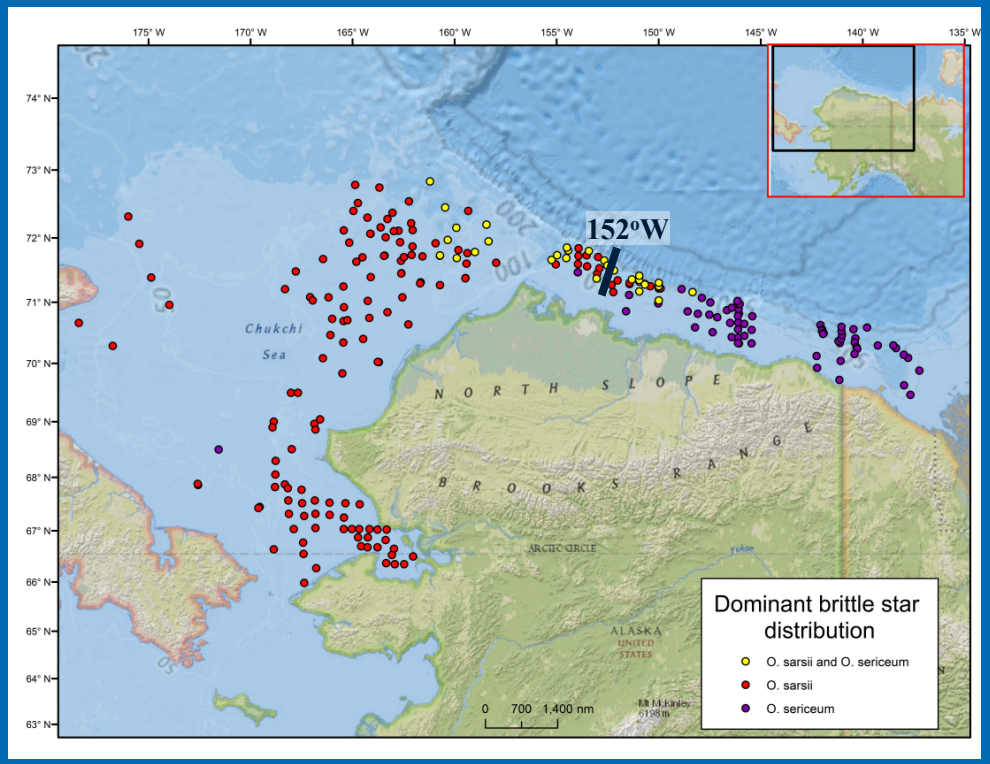

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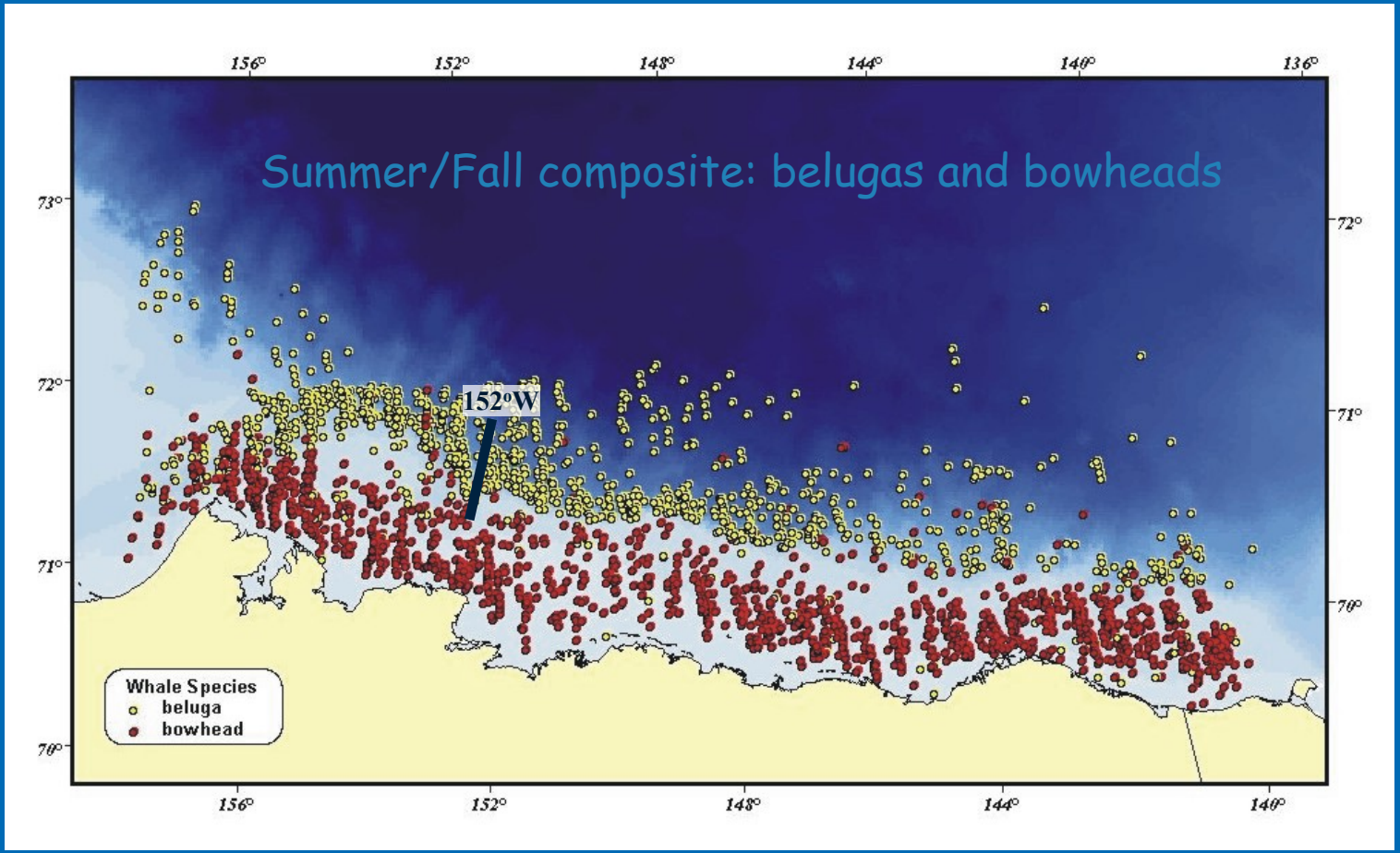
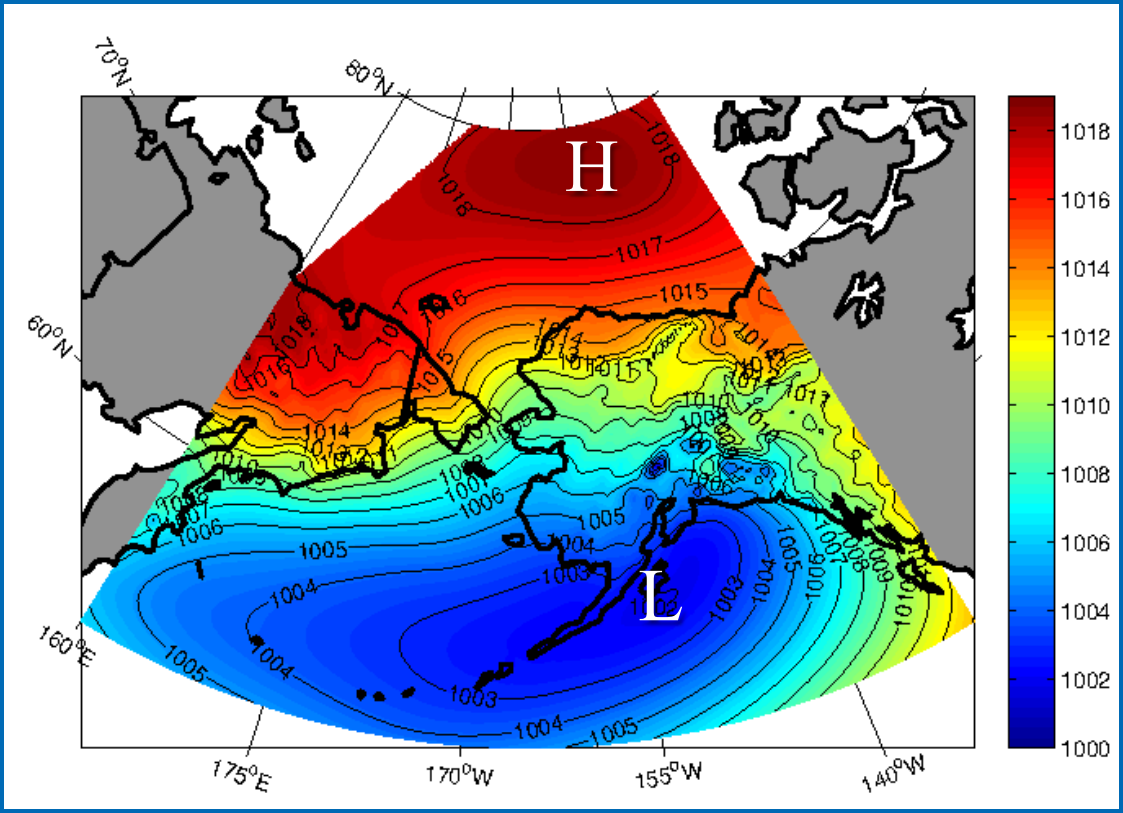
Marine mammal Distribution



From S. Moore et al.

Impact of wind: Beaufort High and Aleutian Low

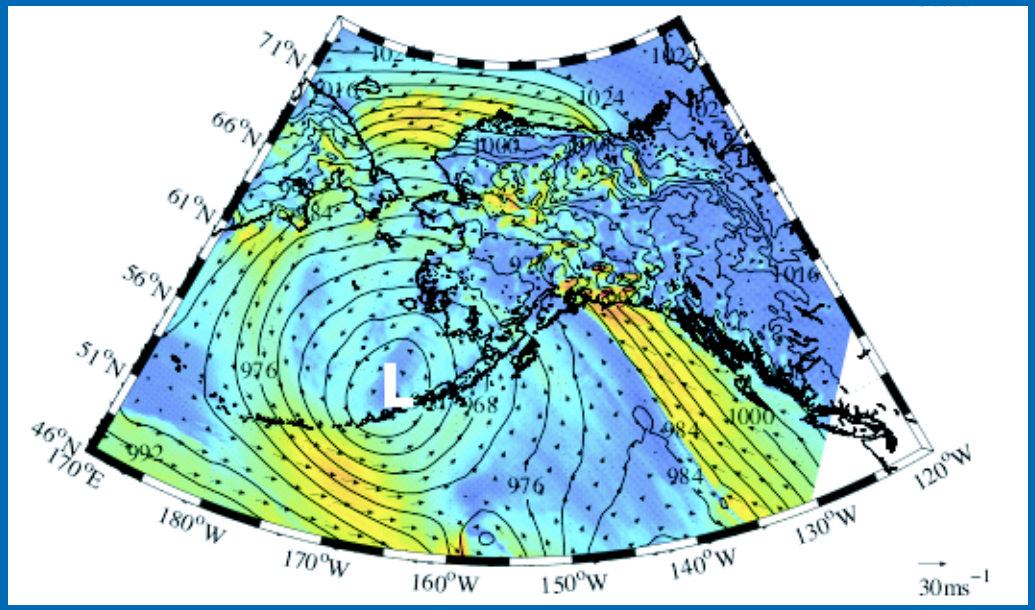


From North American Regional Reanalysis

Mean sea-level pressure (mb) 2002-12

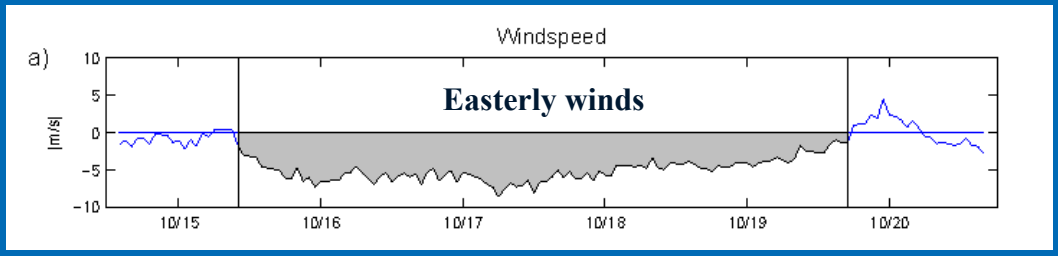
Typical upwelling sequence:

1. Aleutian low results in easterly winds in the Chukchi/Beaufort Seas



2. Eight hours later the shelfbreak jet reverses

3. Ten hours after that upwelling commences



Early-autumn upwelling event

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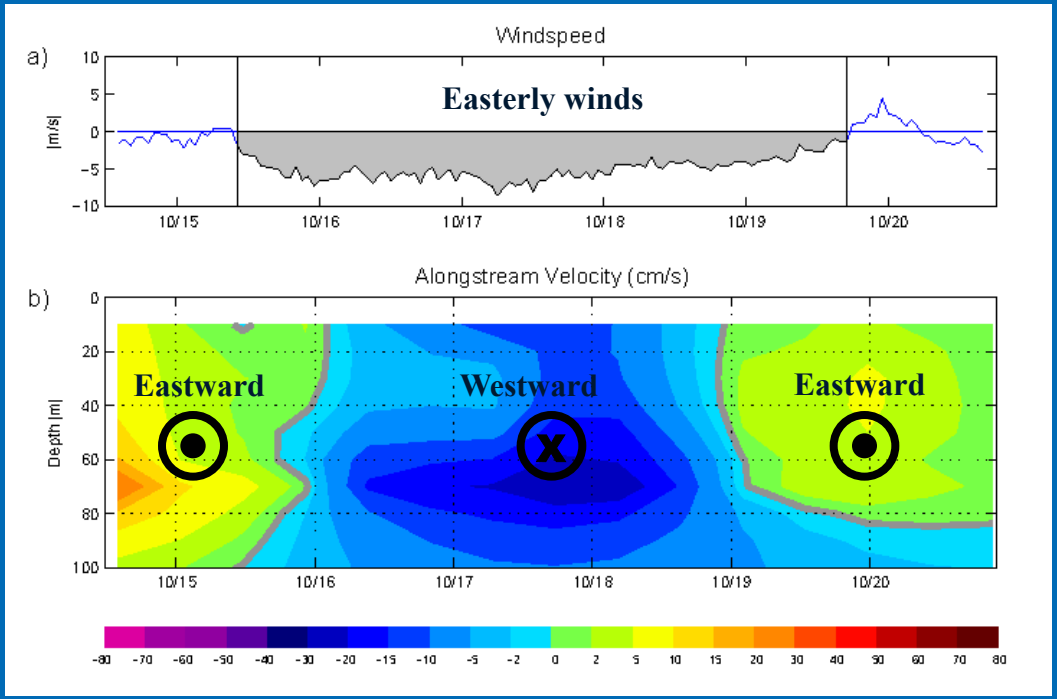

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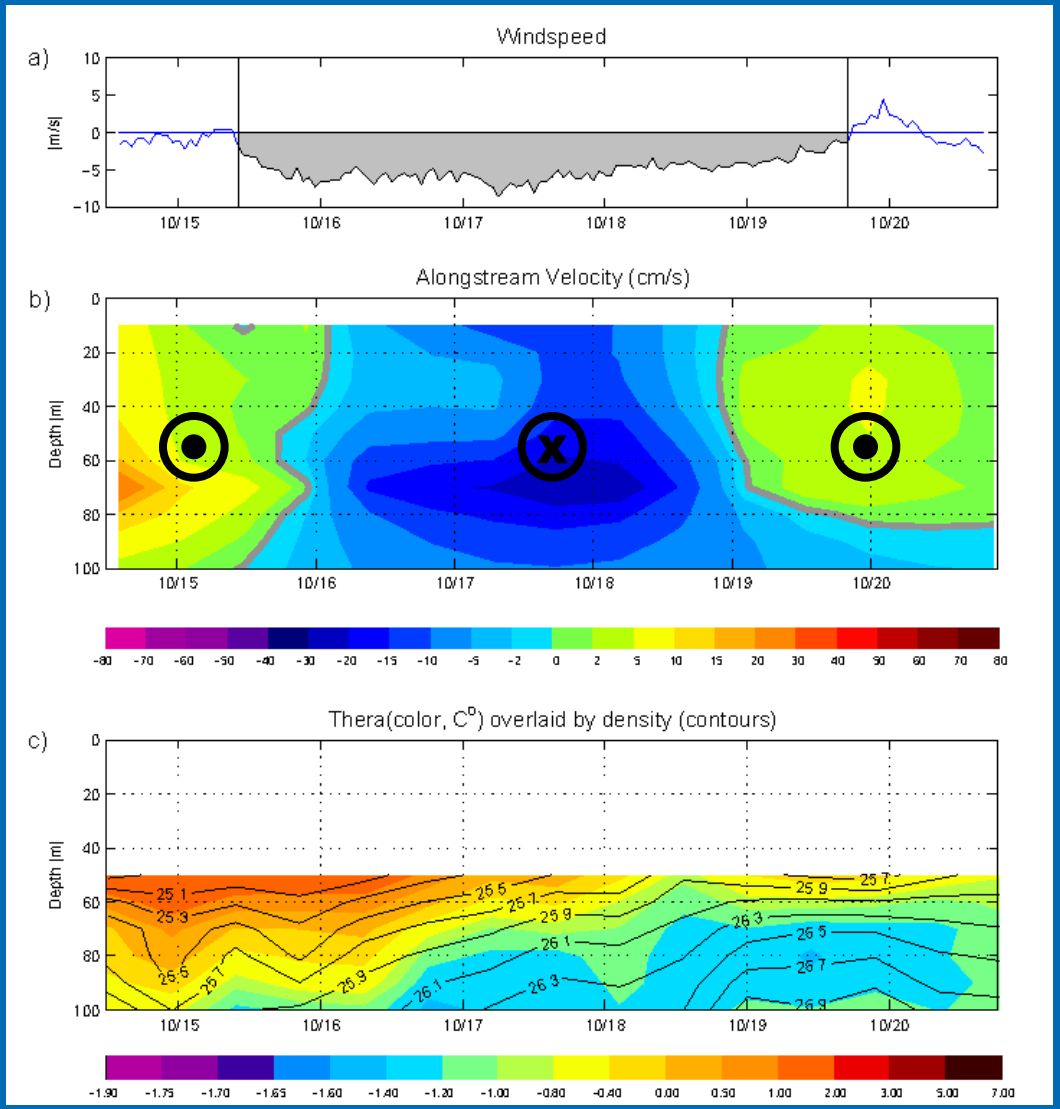

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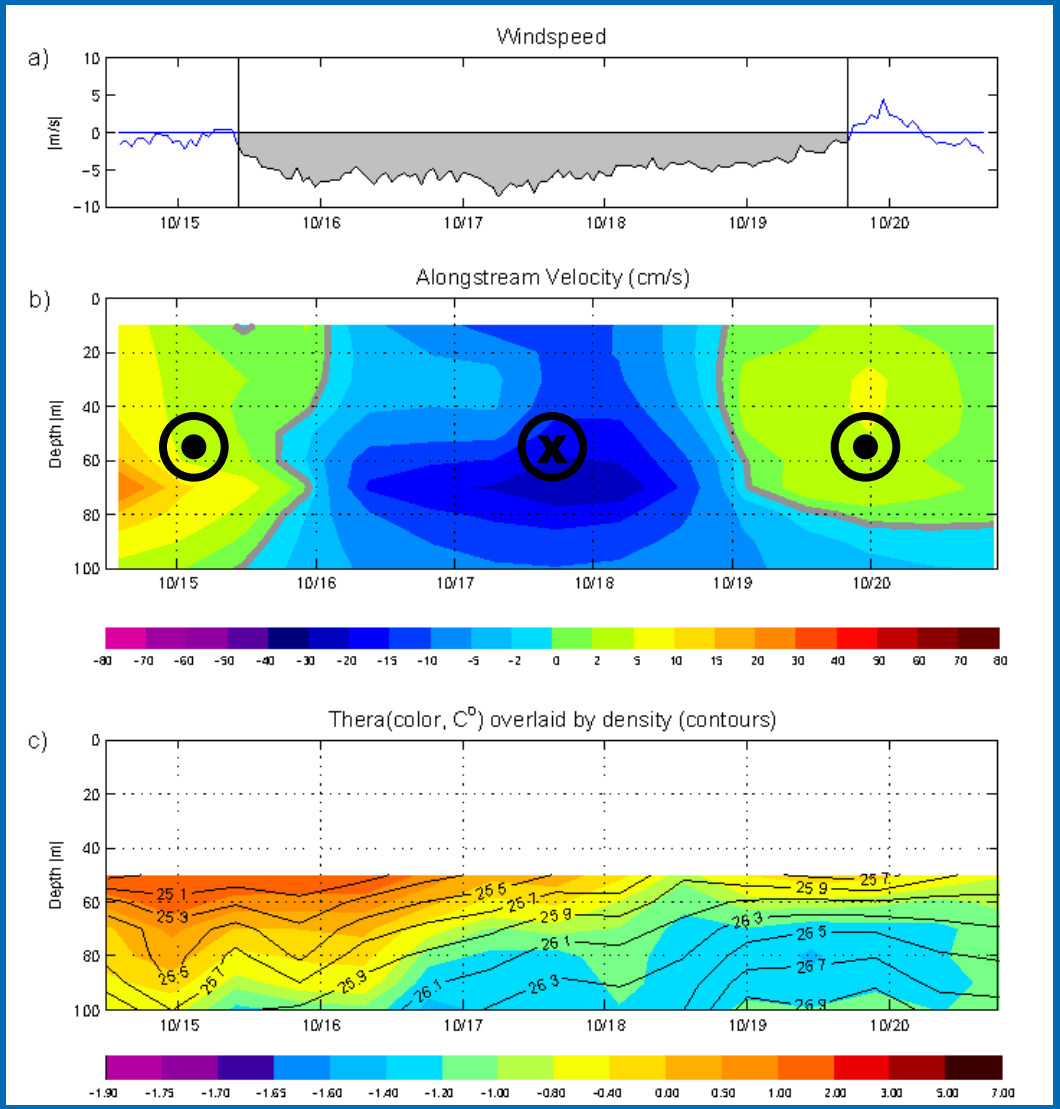
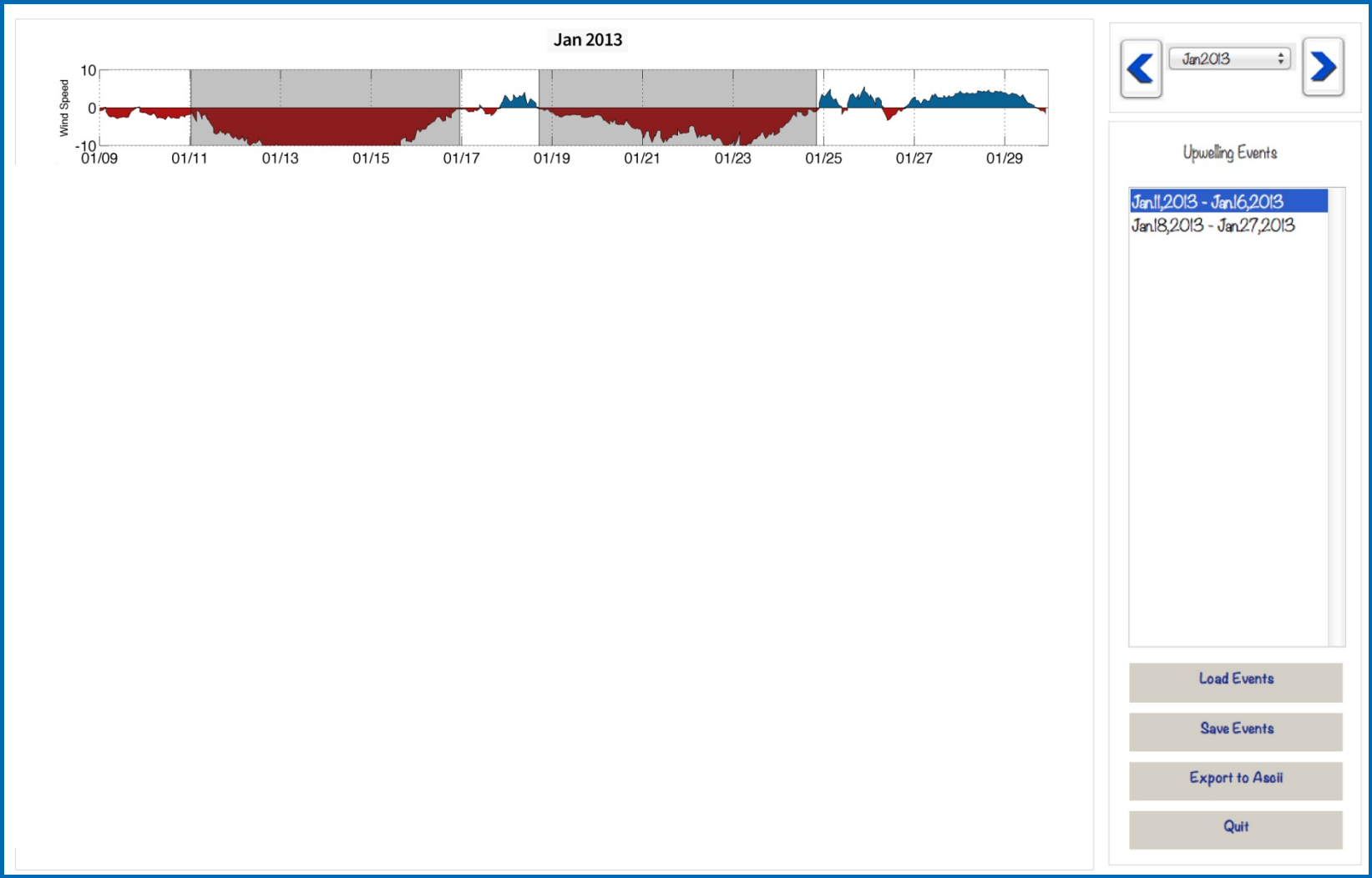


Pickart et al. (2013) found that on average the storms provide ~950 mmol C/m² per season, on par with measurements during summer in the Chukchi Sea in the absence of storms (Hill and Cota, 2005)

Identifying / Quantifying Upwelling



Graphical User Interface

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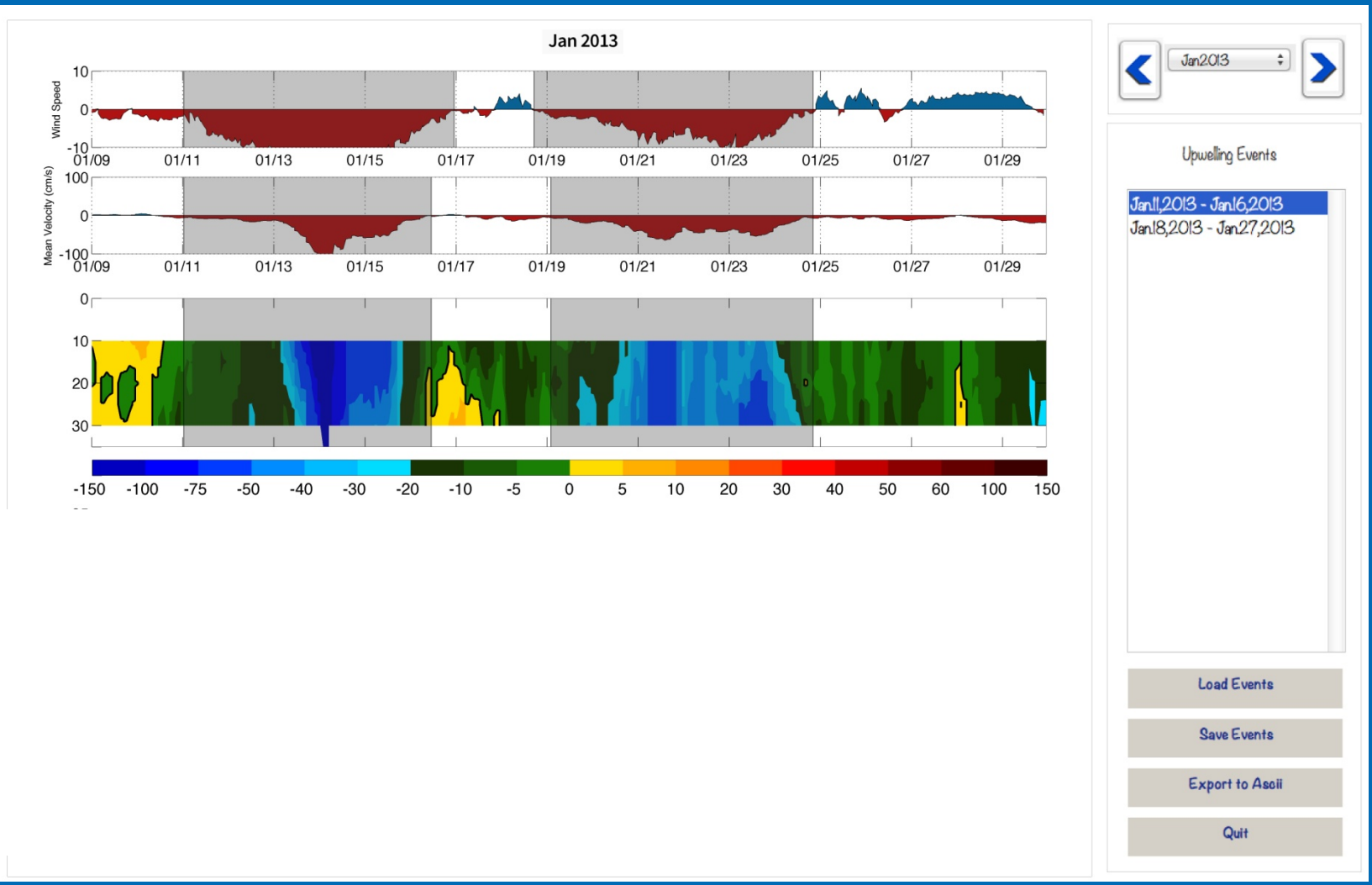

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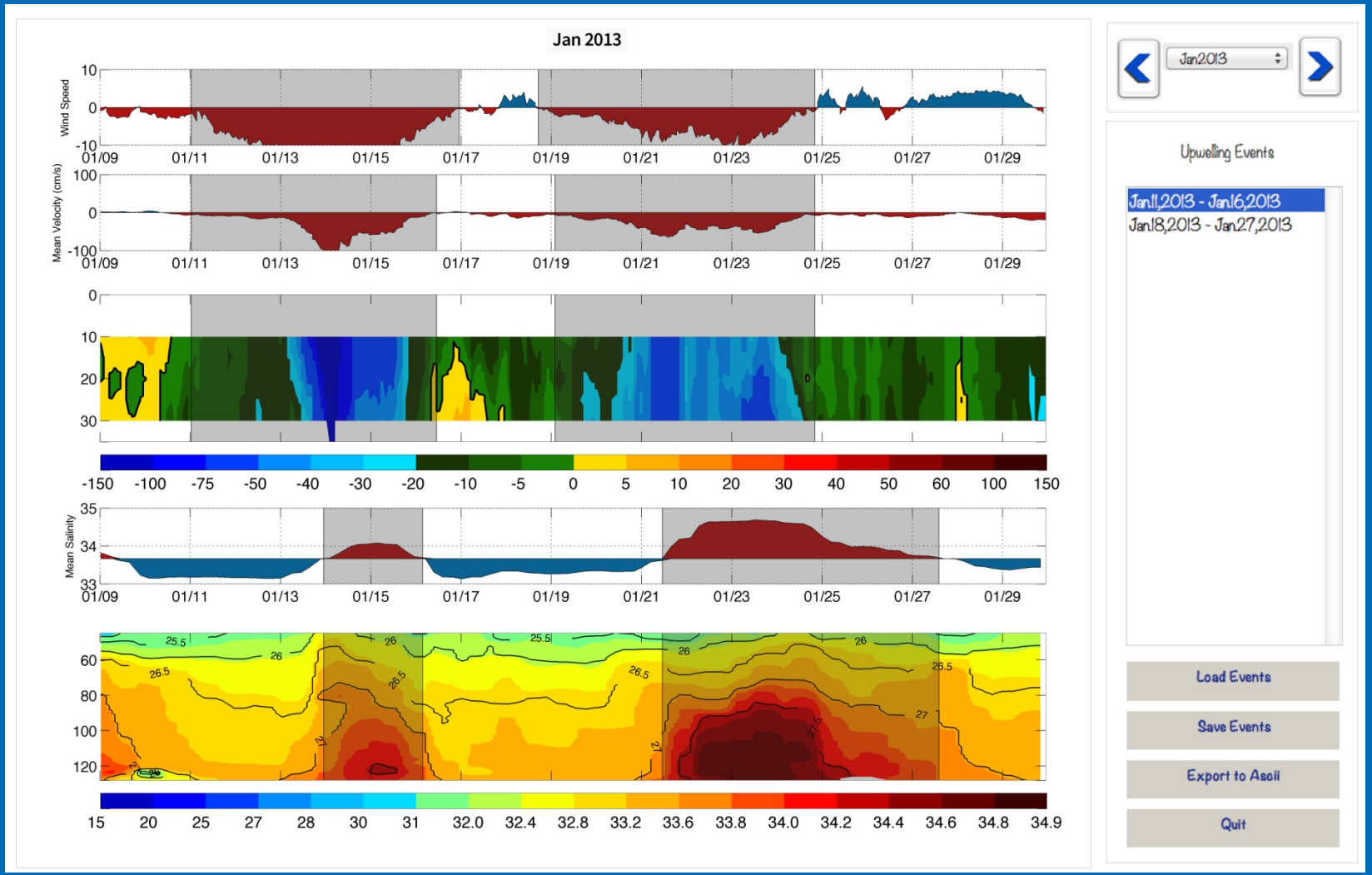

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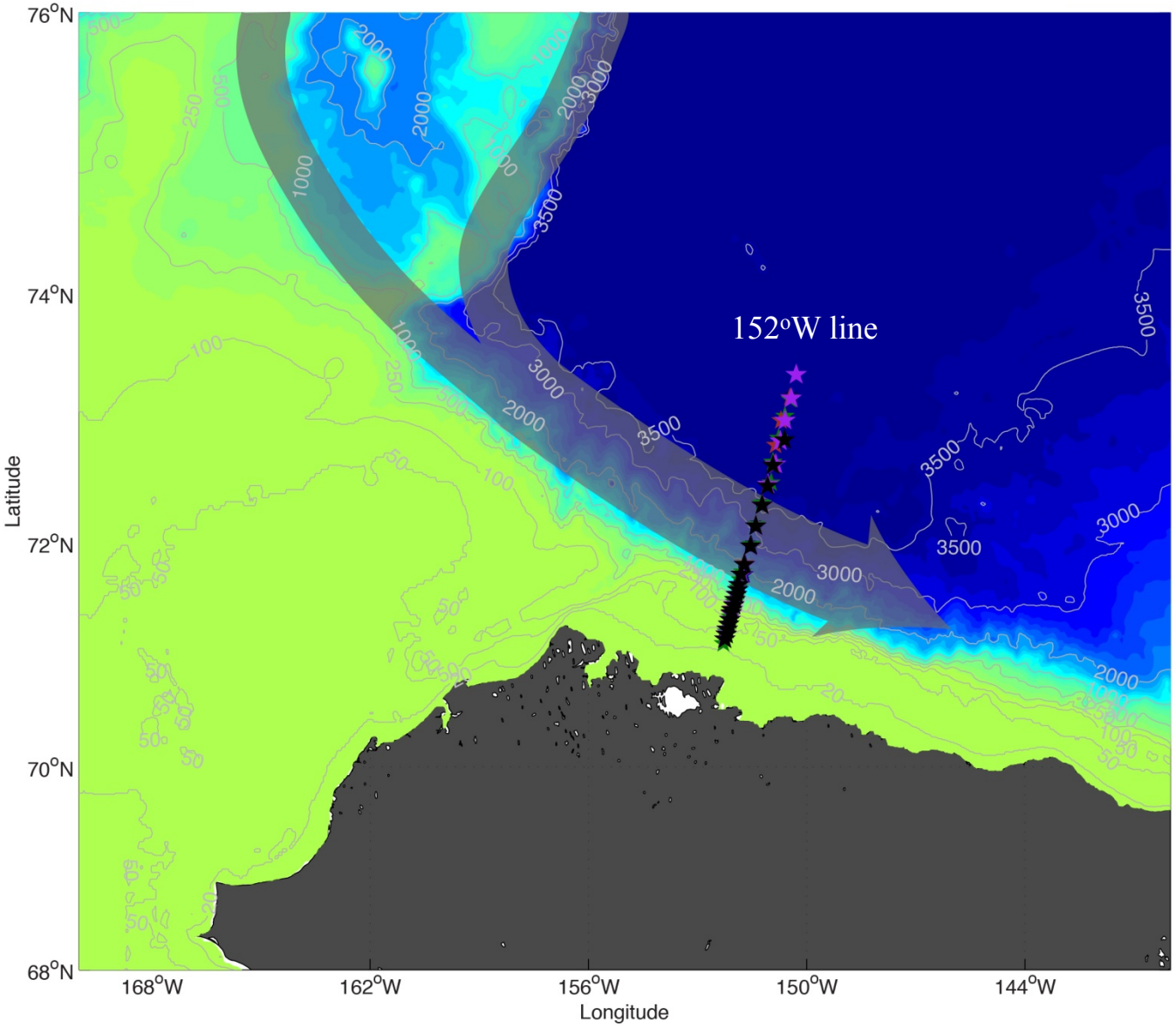
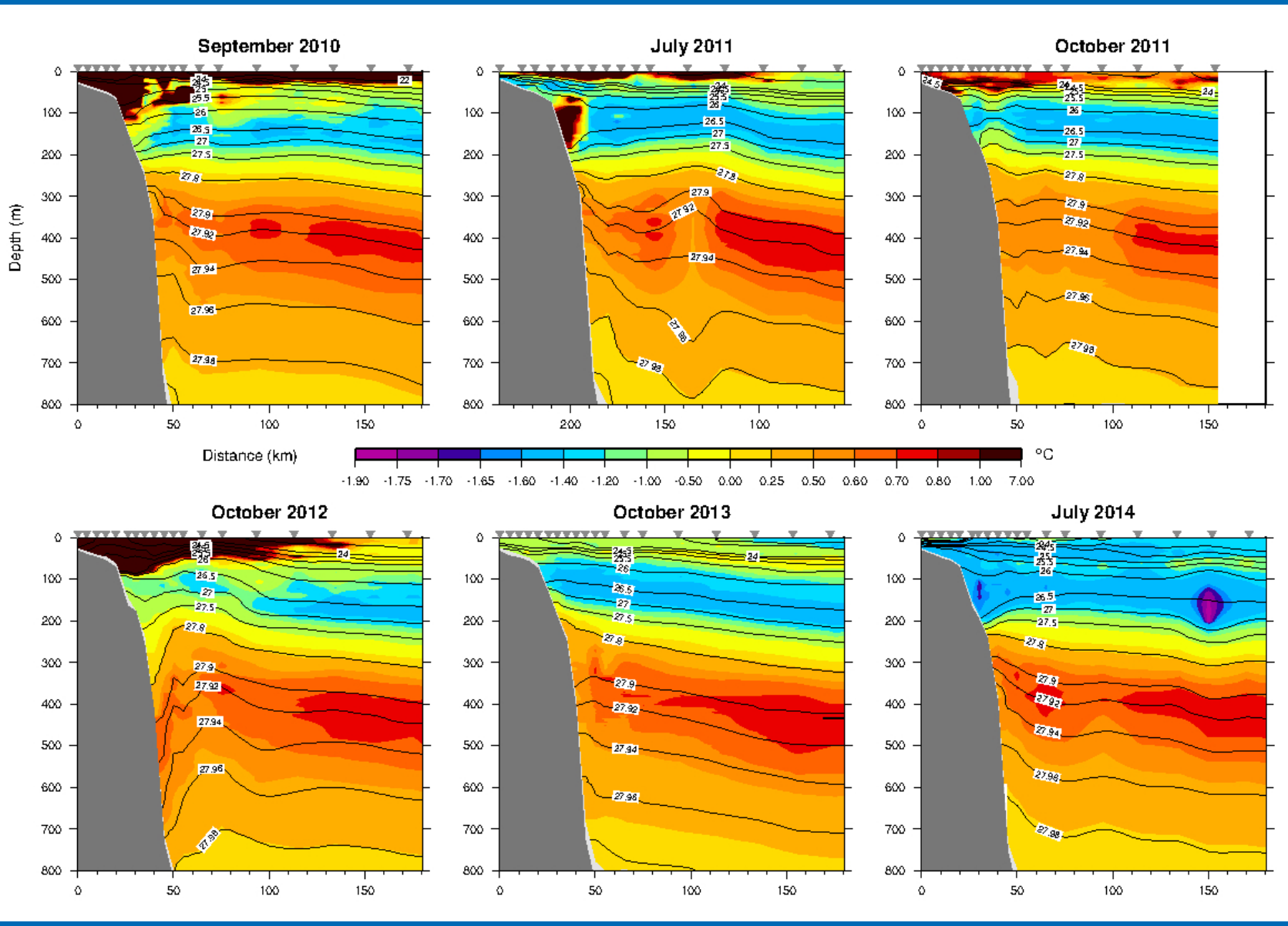
Atlantic Water Boundary Current



Atlantic Water boundary current timeseries



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- Optimal place to monitor the AW boundary current (i.e. between the steep Northwind Ridge and flat topography farther downstream)