

Characteristics of upwelling in the Alaskan Beaufort Sea based on 6 years of mooring data

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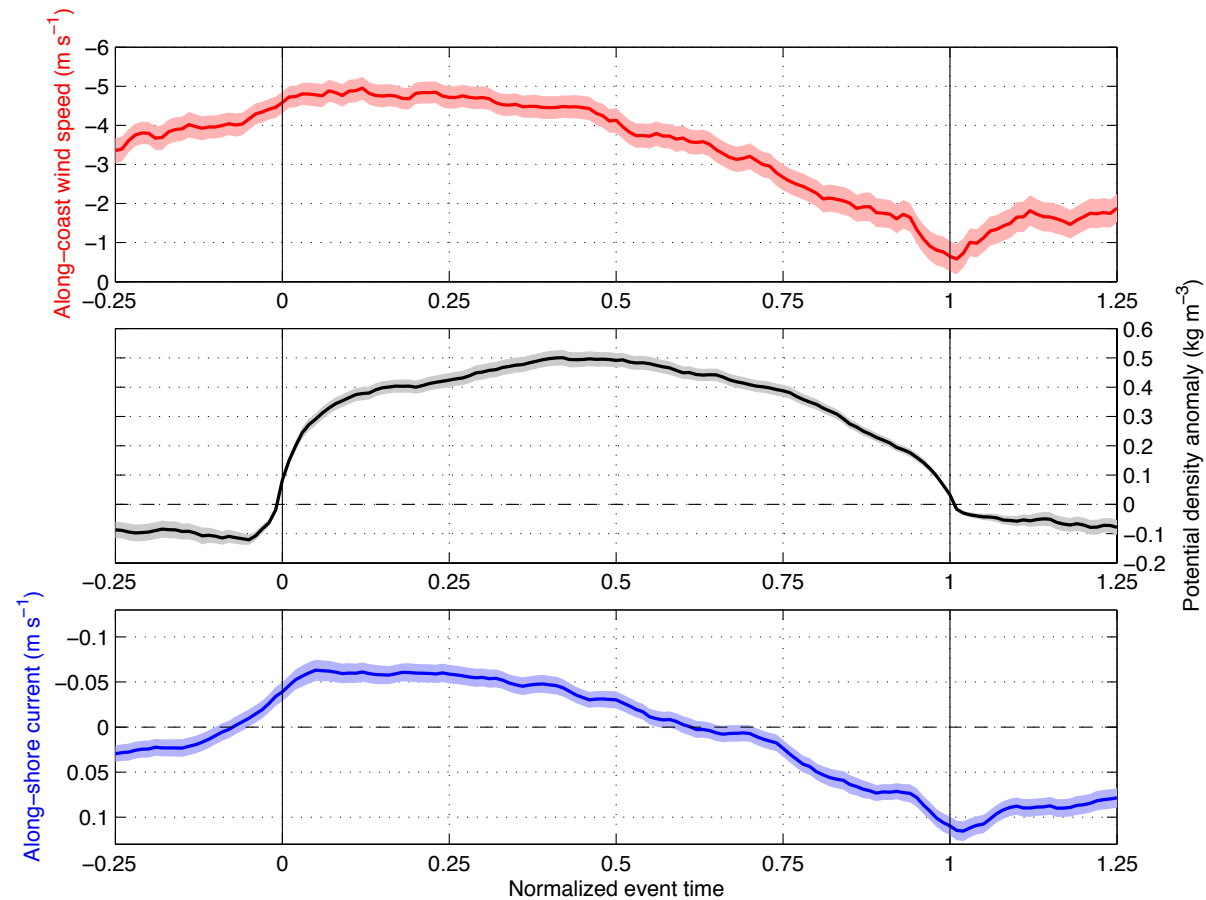
Outline:

1. Wind-driven upwelling events: definition, numbers
2. Comparison of Atlantic-type upwelling and Pacific-type upwelling
3. Atmosphere conditions including behavior of storms
4. Evolution of density field during upwelling

1. Wind-driven upwelling events

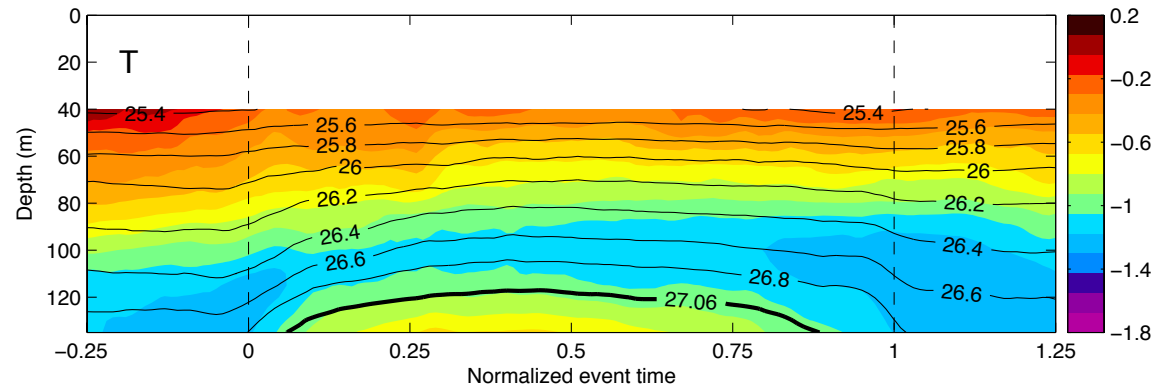
Normalized upwelling

- The period of each upwelling event is normalized into 0 to 1.

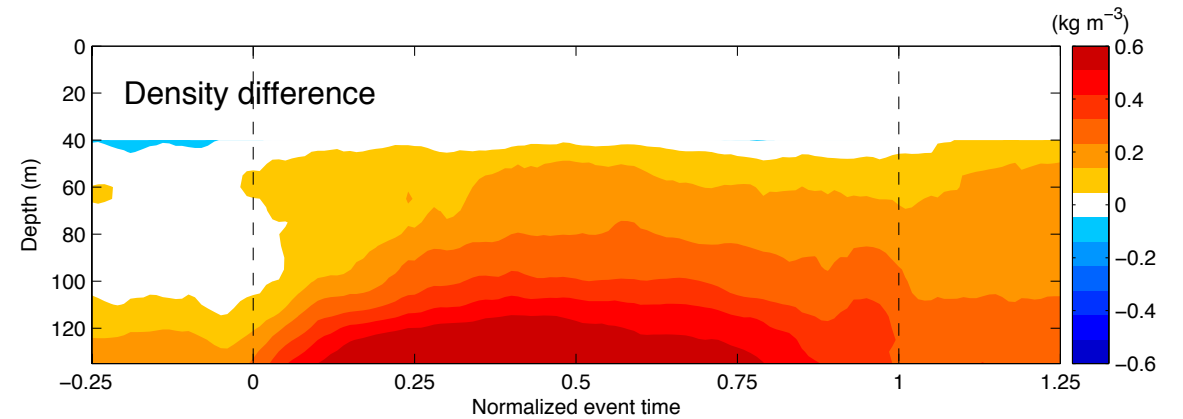
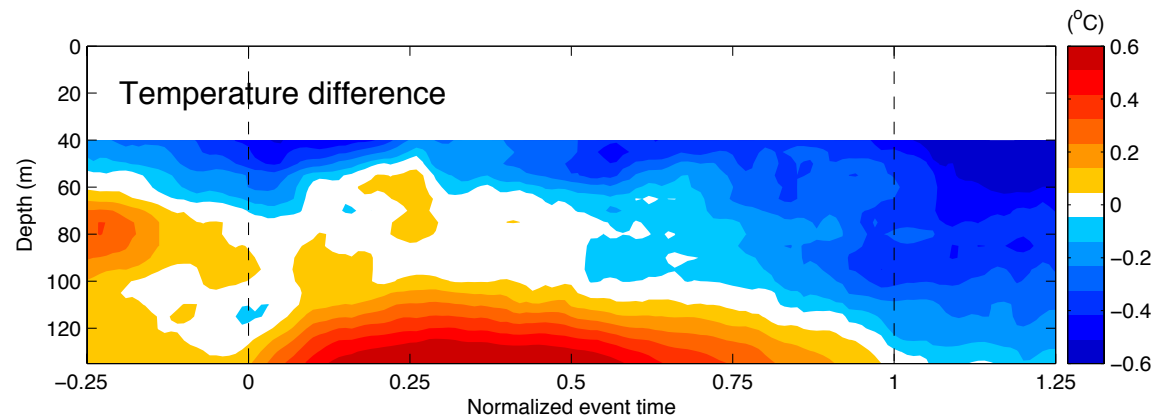
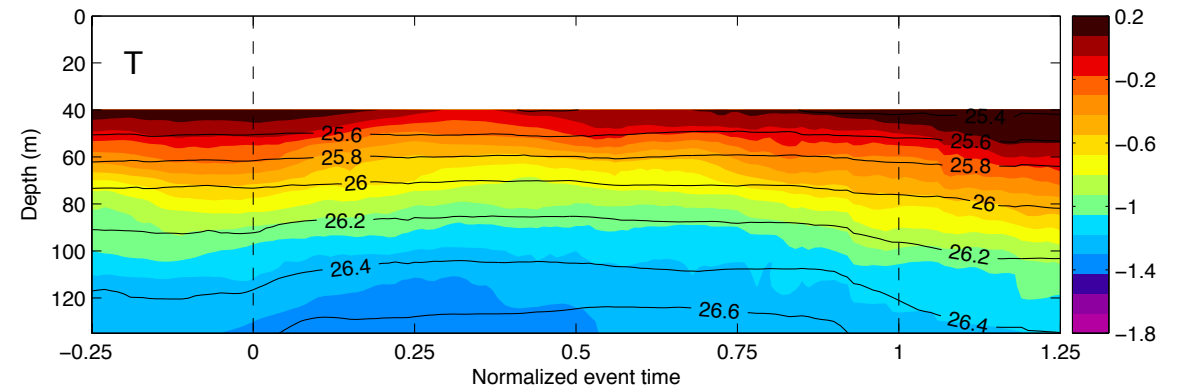


2. Comparison of AW-type and PW-type upwelling

AW-type upwelling

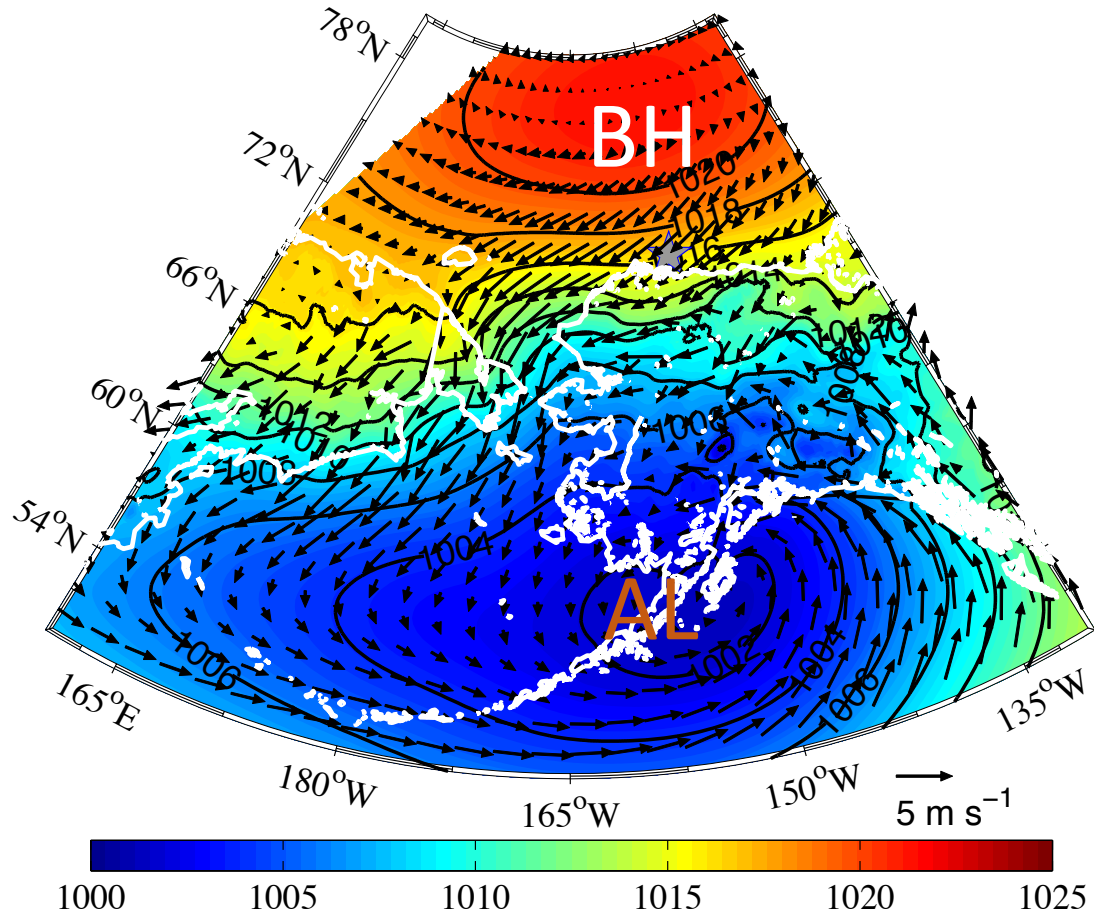


PW-type upwelling

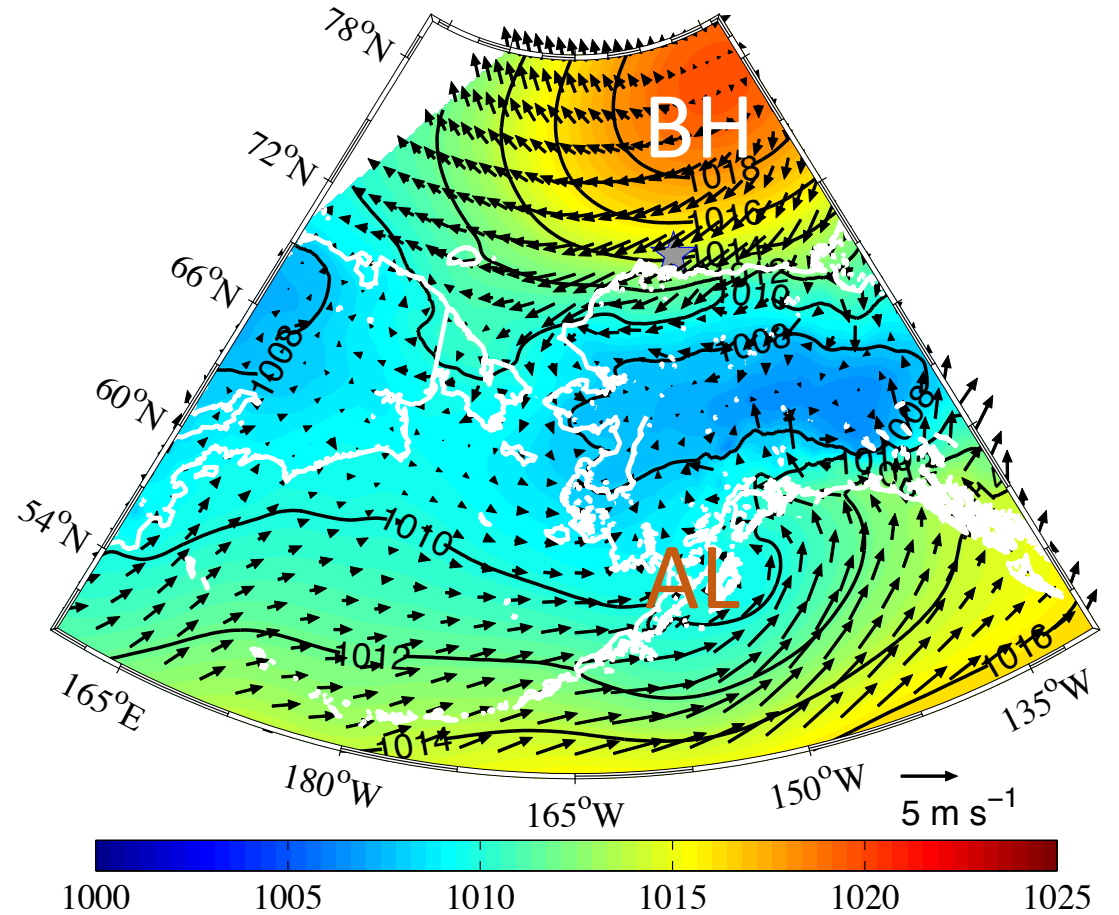


3. Atmosphere conditions

AW-type upwelling



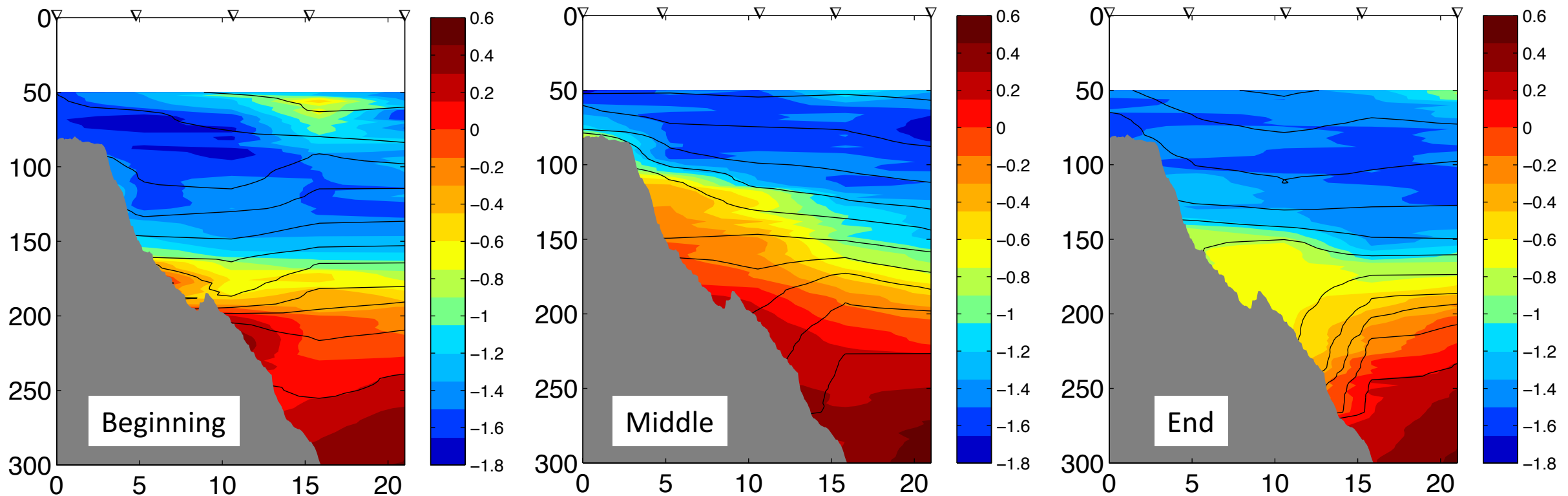
PW-type upwelling



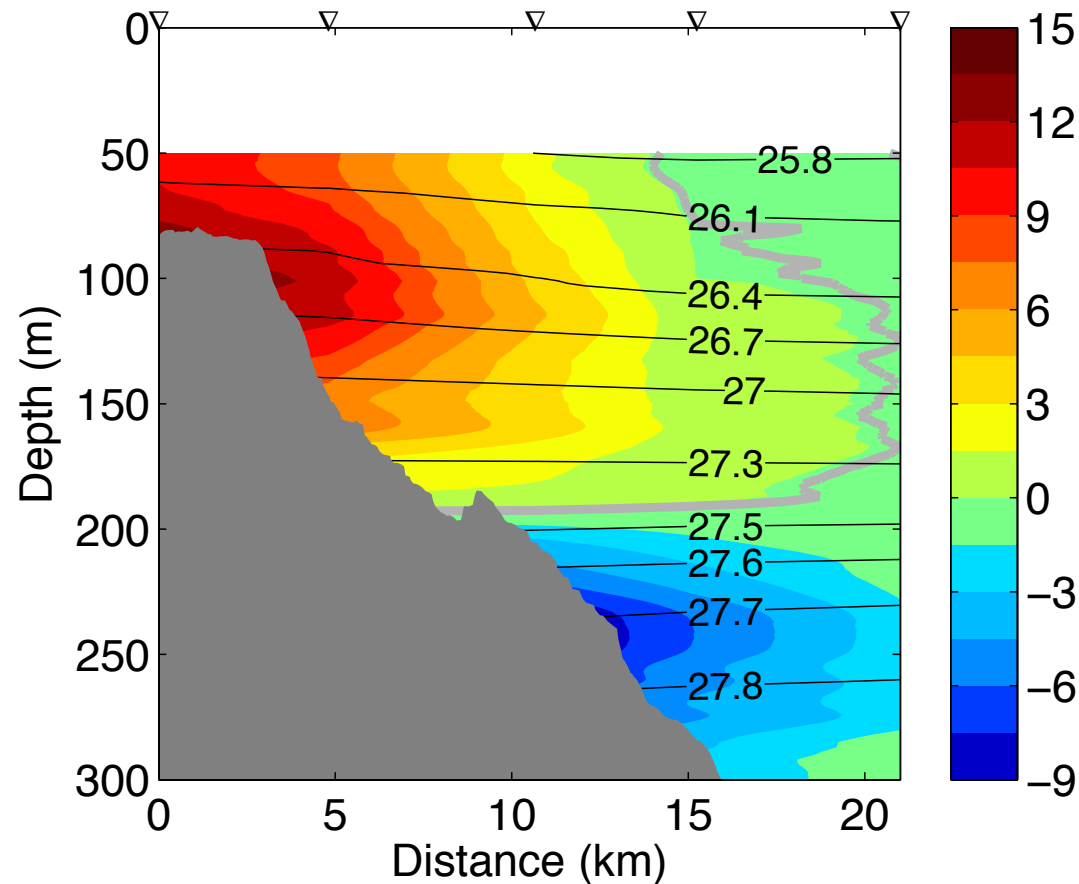
4. Evolution of density field during upwelling

Using mooring array data in first two years (Sep 2002 to Aug 2004)

Example: Feb 8 to Feb 14, 2004



Composite of isopycnal displacement



Composite of isopycnal displacement in the middle of each upwelling event period (26 events)

Potential topics

- Ice conditions
- Upwelling which is not wind-driven
- Storm behavior