

# SILL DYNAMICS IN THE CENTRAL CANADIAN ARCTIC ARCHIPELAGO

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# A conduit for Arctic water outflow

Rationale

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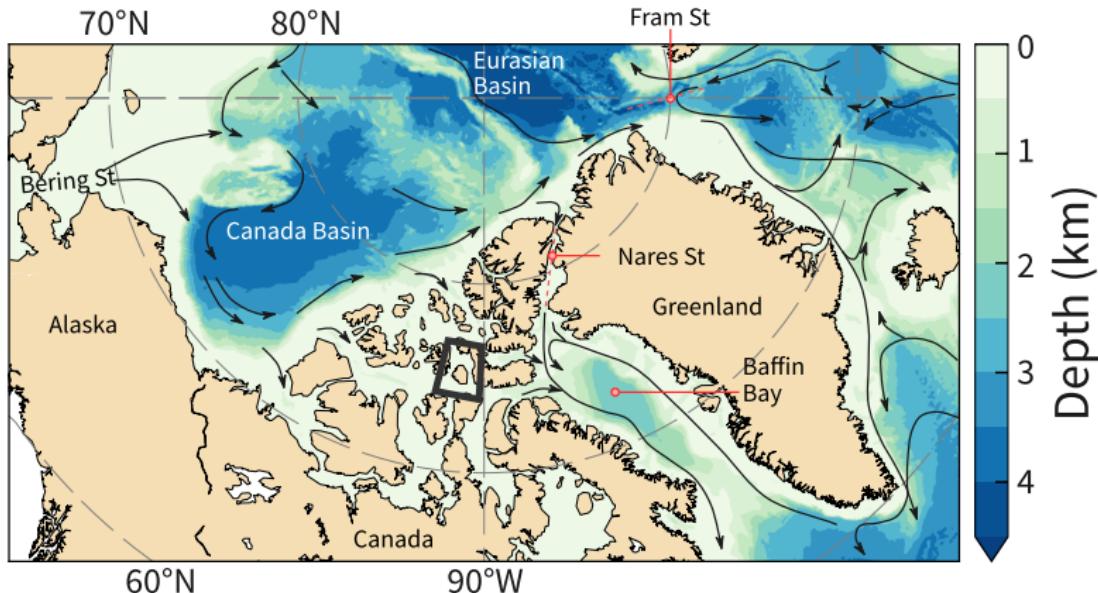
Northern influence

Energy budget

Categorising flow

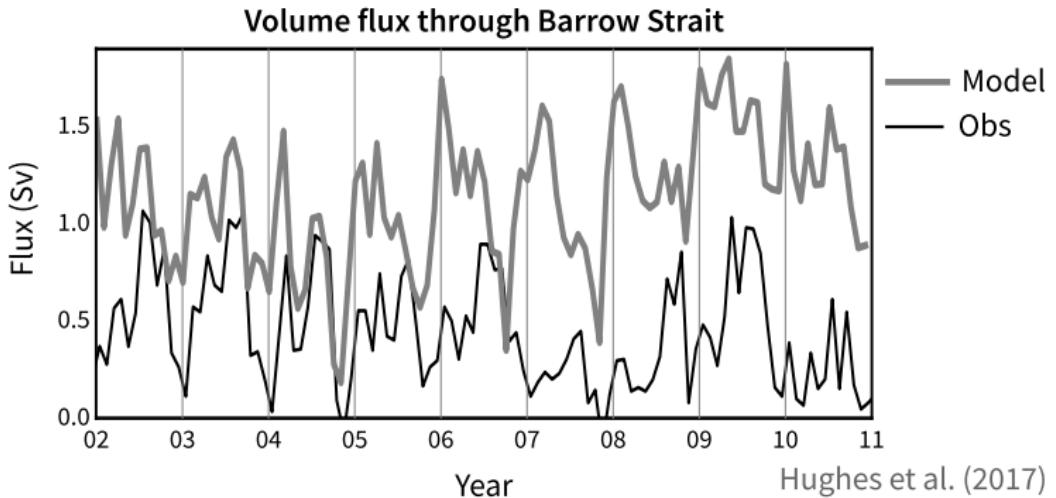
Open

questions



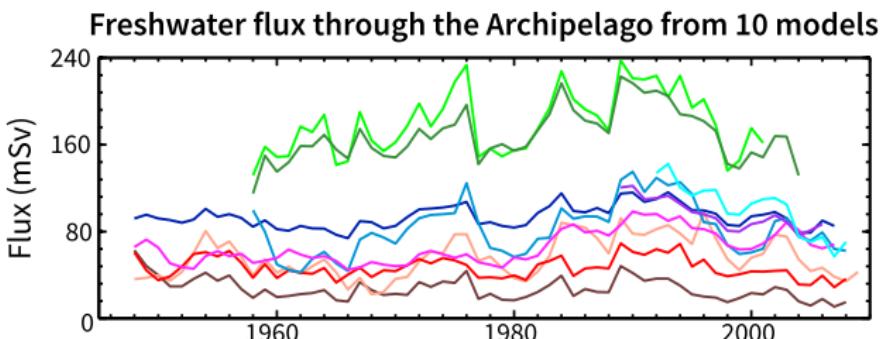
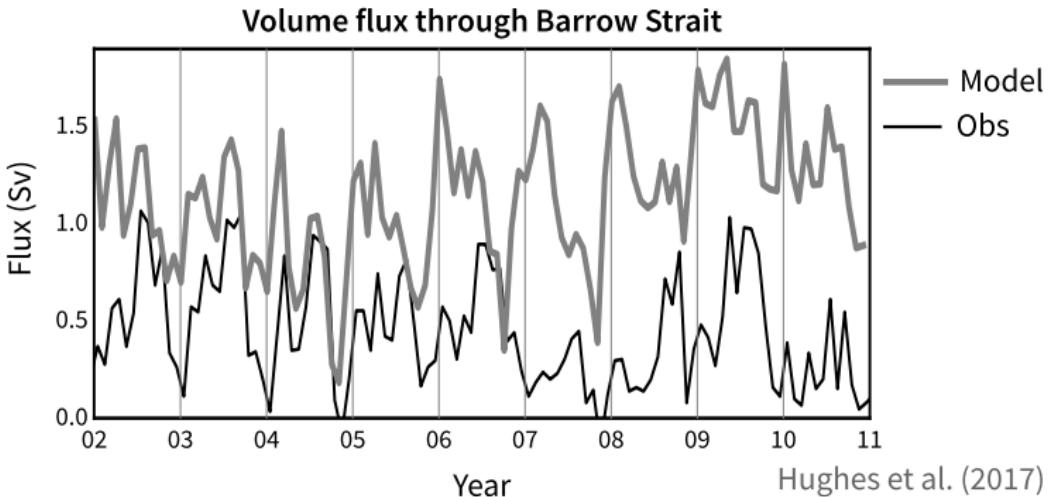
# Large-scale flow estimates disagree

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# Large-scale flow estimates disagree

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# Ice conditions indicate strong mixing

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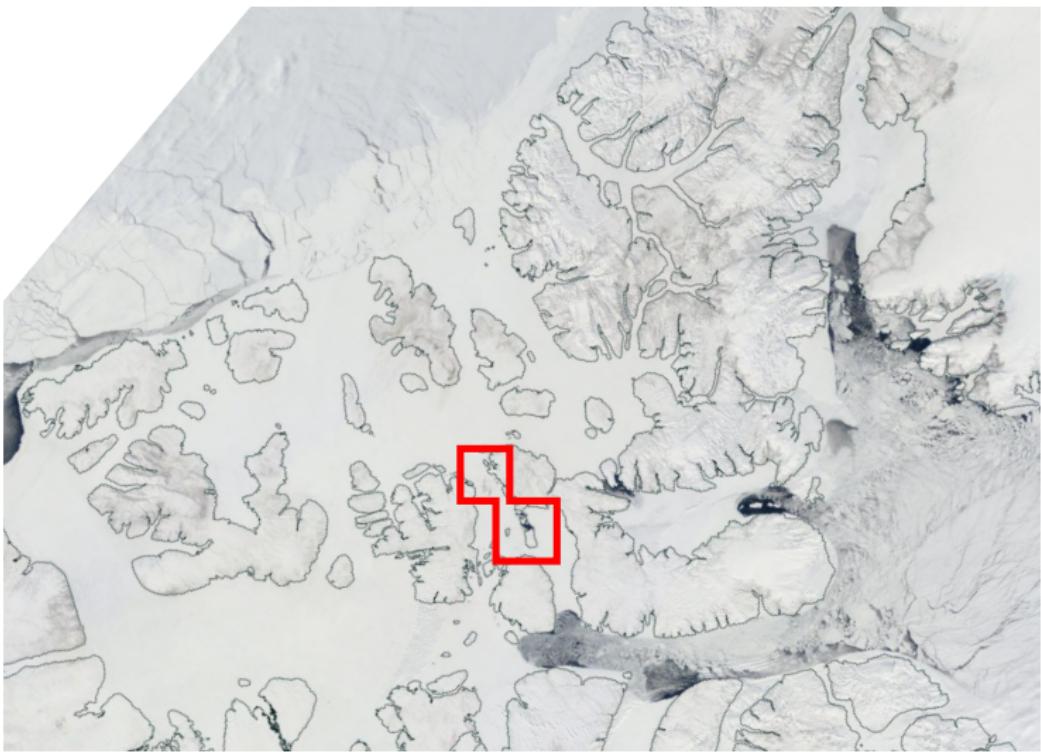
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May 3



# Ice conditions indicate strong mixing

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June 3



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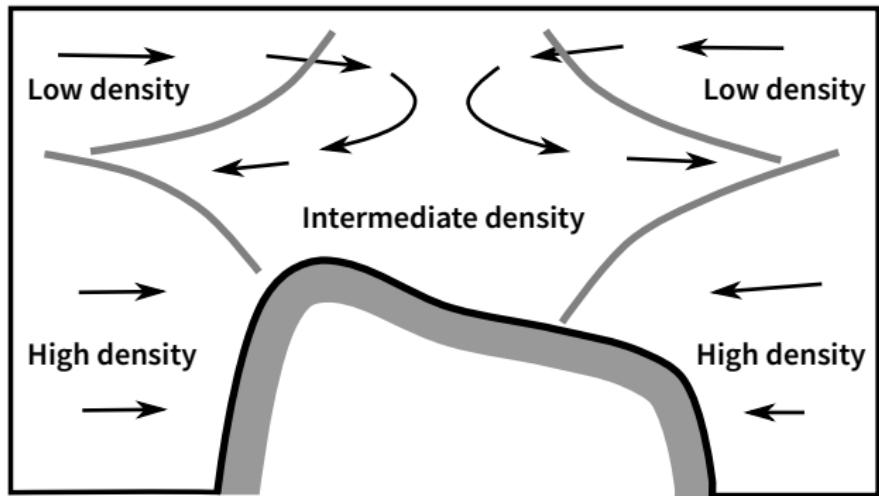
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After Valle-Levinson et al. (2001)

# The MVP: moving vessel profiler

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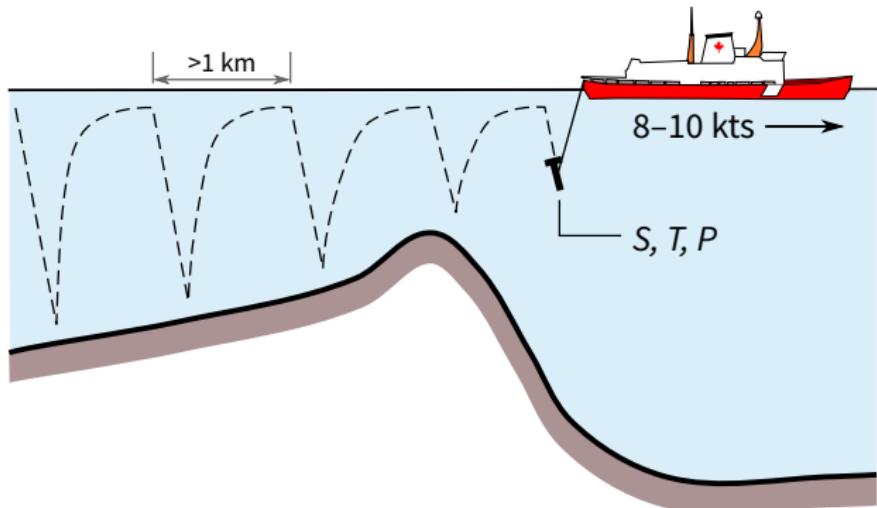
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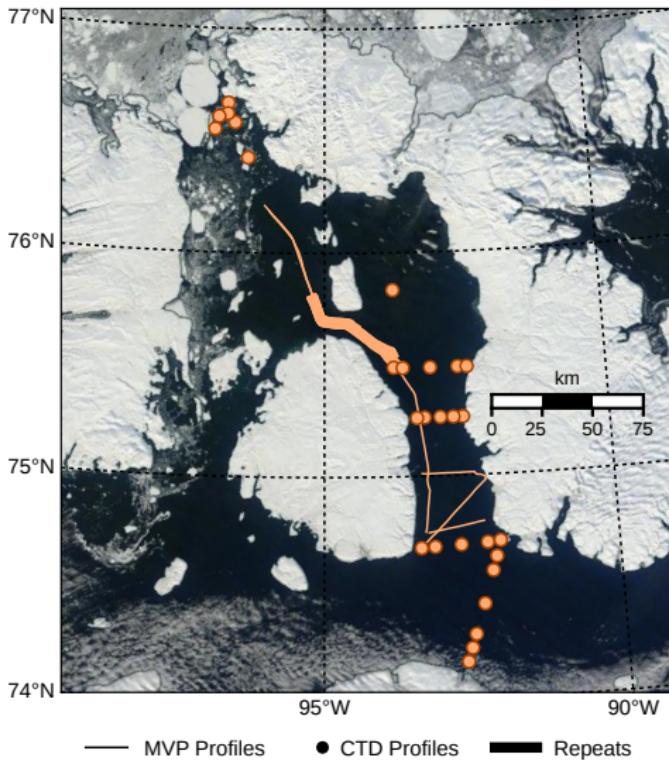
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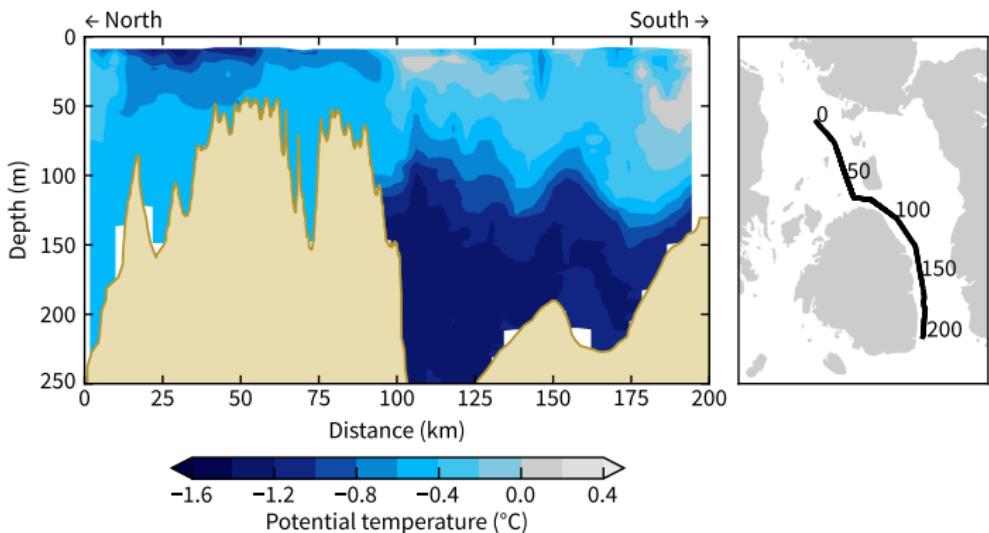
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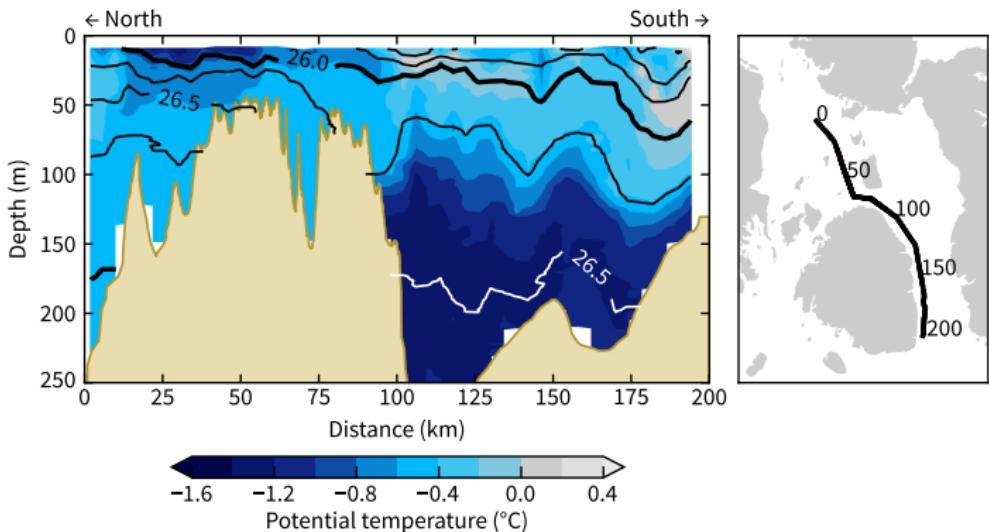
# An abrupt transition in properties

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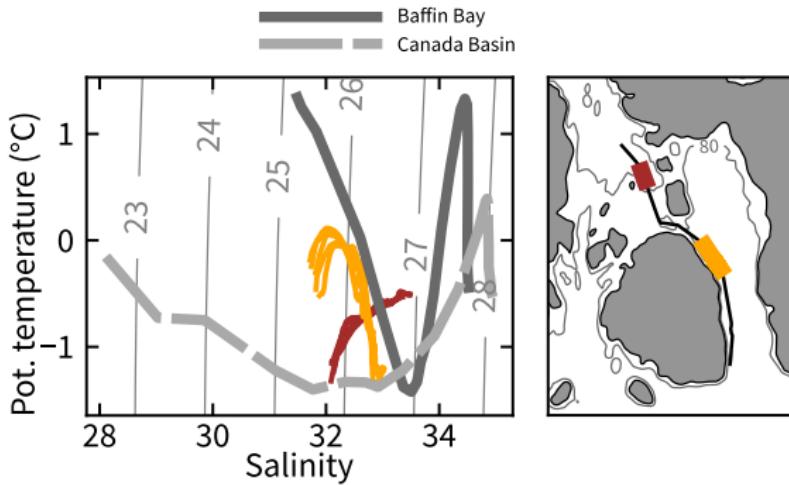
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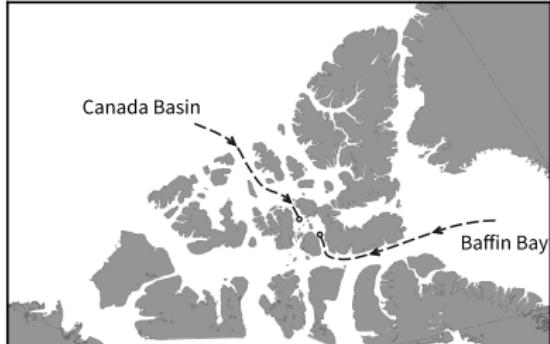
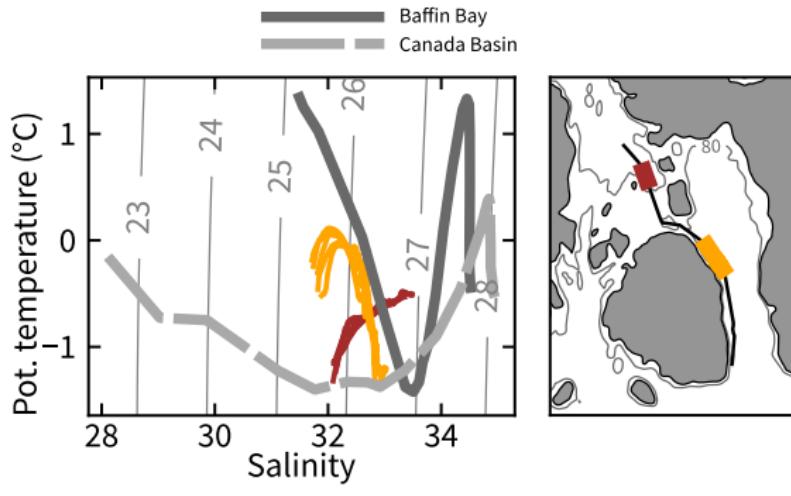
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# How much influence do northern waters have?

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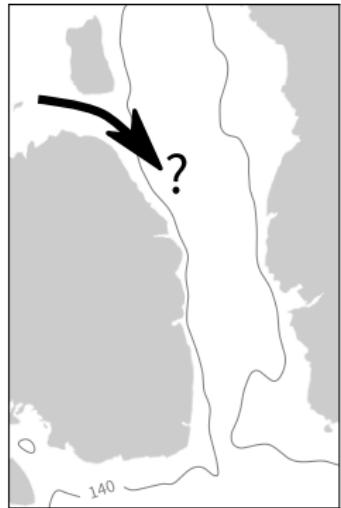
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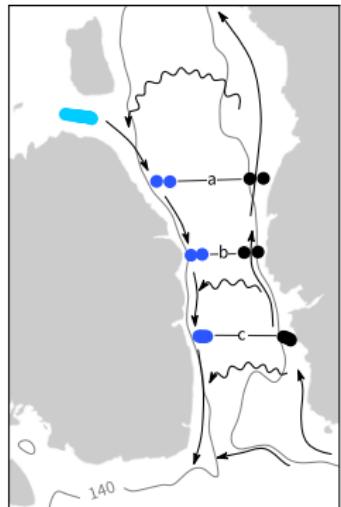
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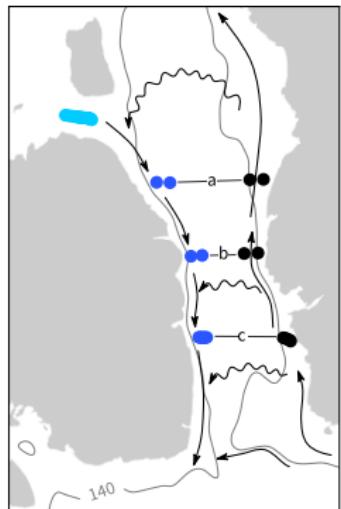
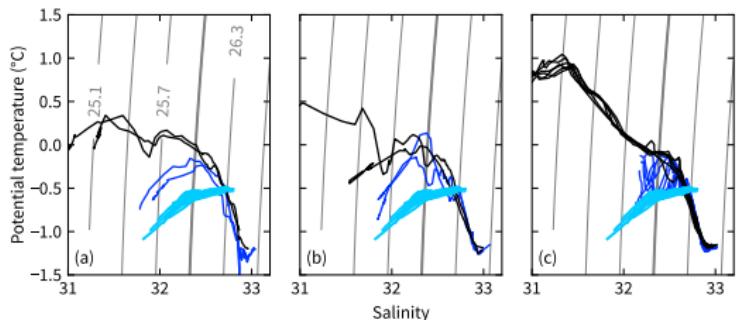
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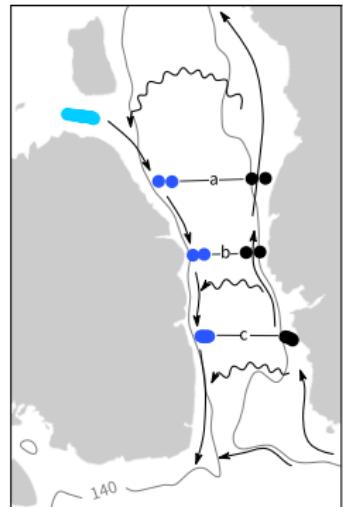
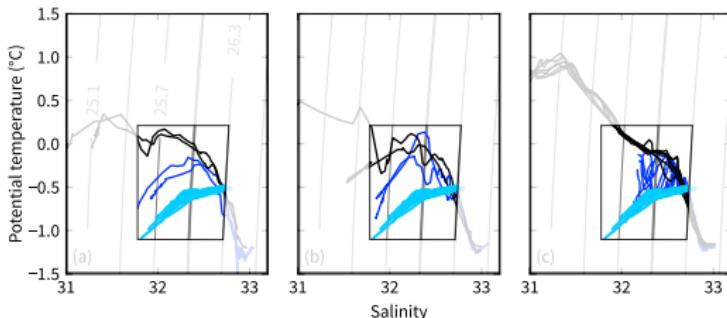
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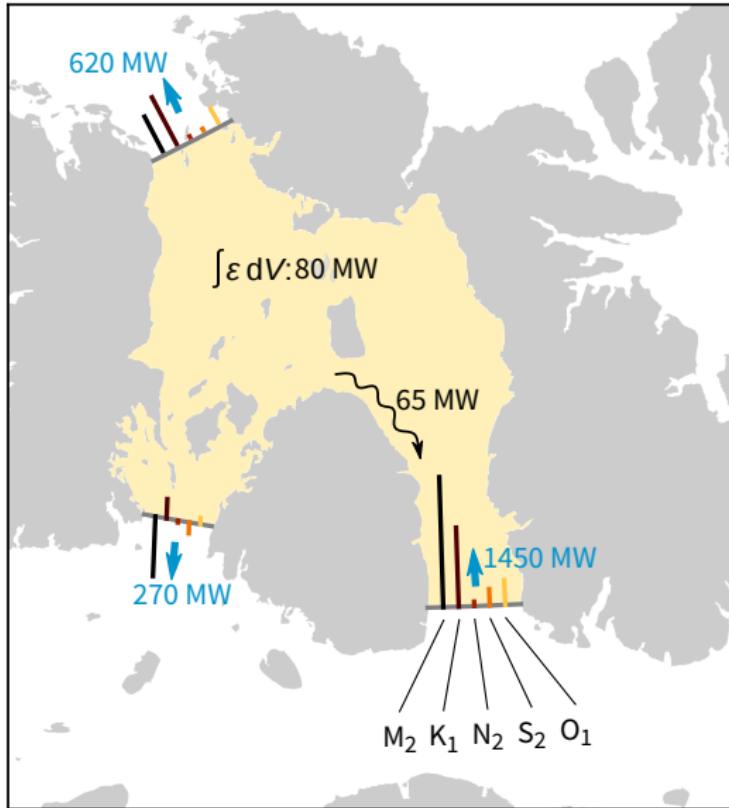


# Can we explain the tidal dissipation?

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# Flow state depends on the Froude number

Sill dynamics  
in the CAA

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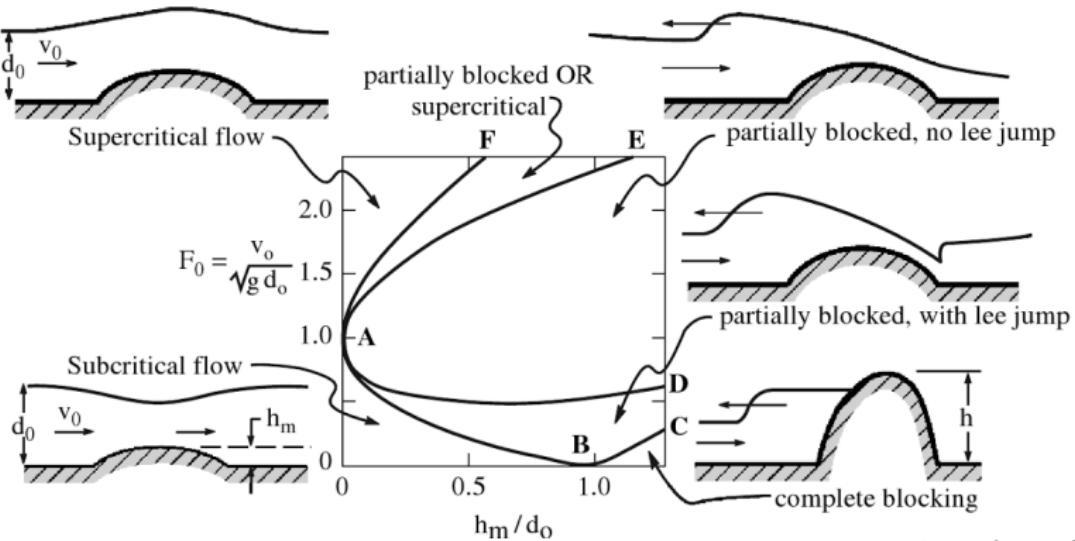
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Baines (1995)

# A jump during strong tidal flow

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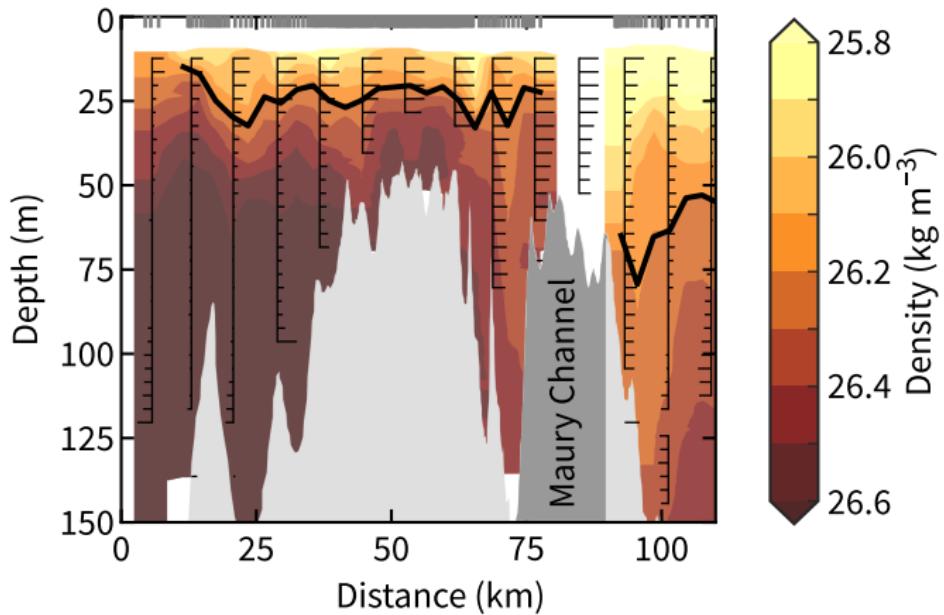
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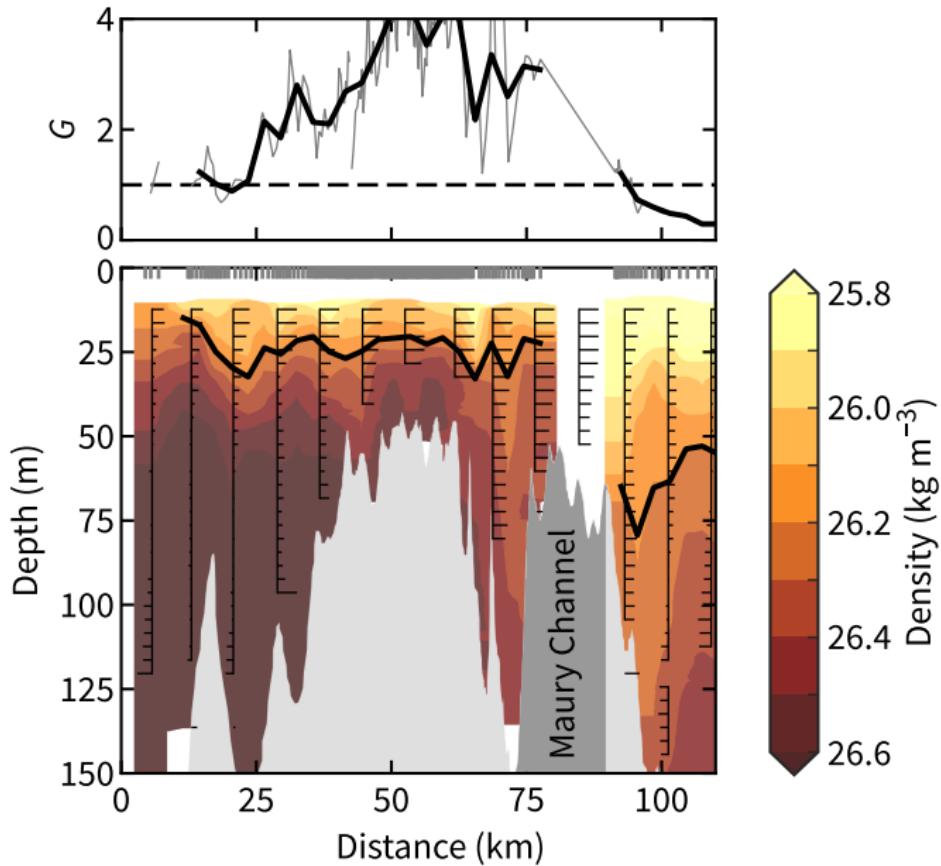


# A jump during strong tidal flow

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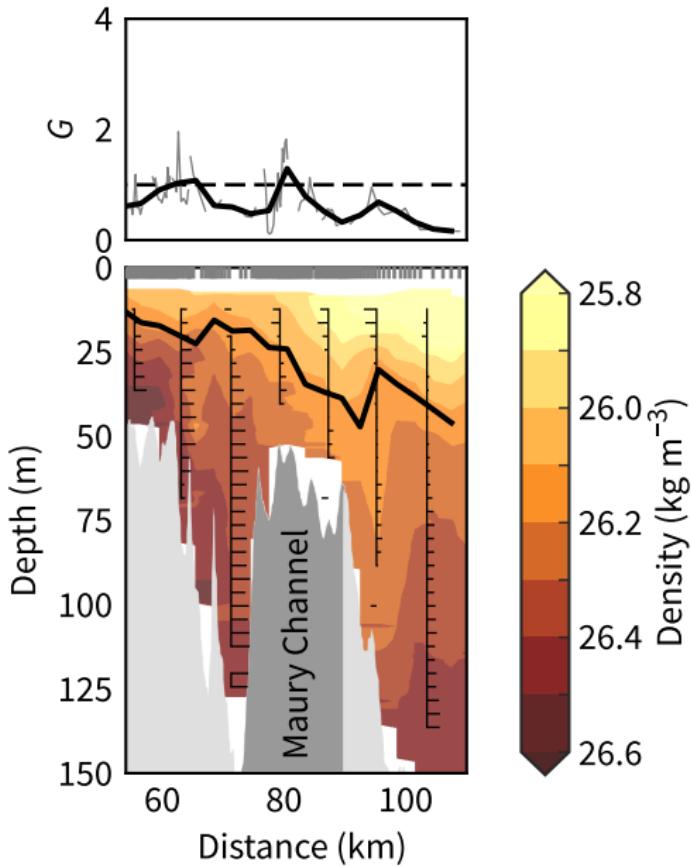


# No transition later in the tidal cycle

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- Tidally averaged behaviour
- Eddy generation
- Critical latitude

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- Tidally averaged behaviour
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- Critical latitude