

# High-spatial-resolution oceanography of the central Canadian Arctic Archipelago

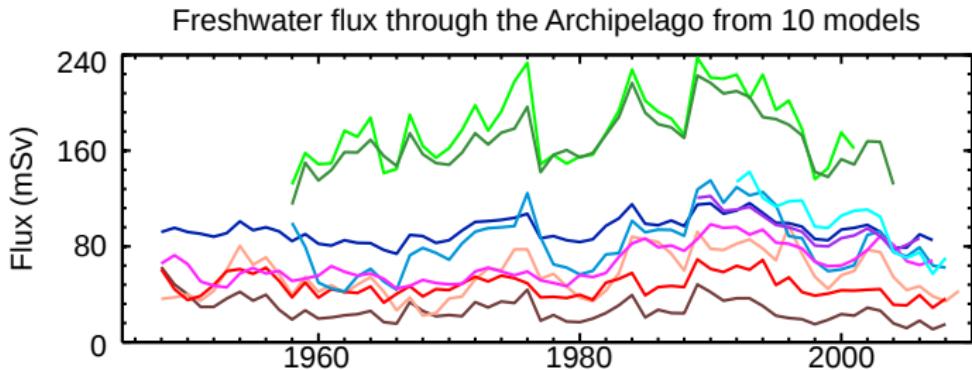
Ken Hughes,<sup>1</sup> Jody Klymak,<sup>1</sup>  
Bill Williams,<sup>2</sup> Humphrey Melling<sup>2</sup>

<sup>1</sup>University of Victoria

<sup>2</sup>Institute of Ocean Sciences

# Large-scale flow estimates disagree

Rationale  
Past observations  
Method  
The MVP  
Survey summary  
  
Results  
Meeting ground  
Transitions  
Dissipation  
  
Conclusions



Jahn et al. (2012)

# Past observations indicate strong mixing

Rationale

Past  
observations

Method

The MVP

Survey summary

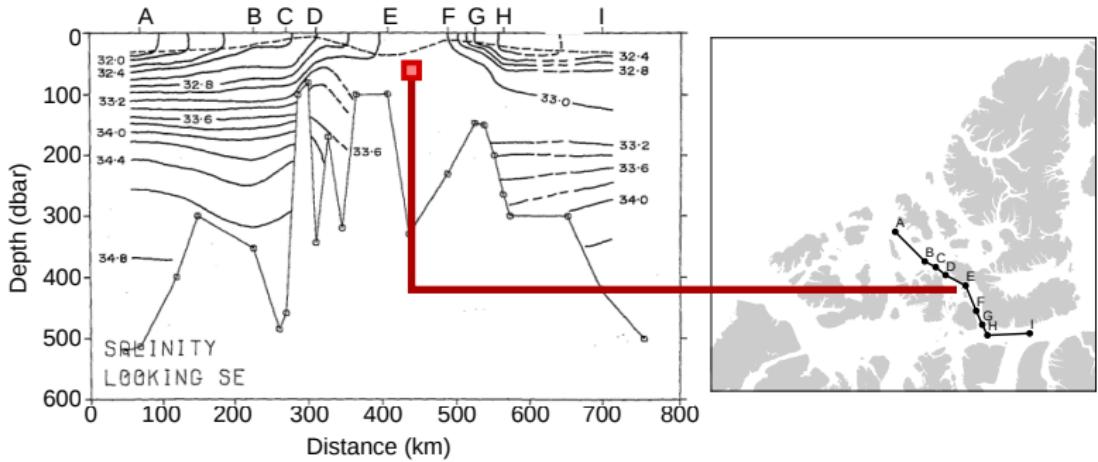
Results

Meeting ground

Transitions

Dissipation

Conclusions



de Lange Boom et al. (1987)

# Ice conditions indicate strong mixing

May 3

Rationale

Past  
observations

Method

The MVP

Survey summary

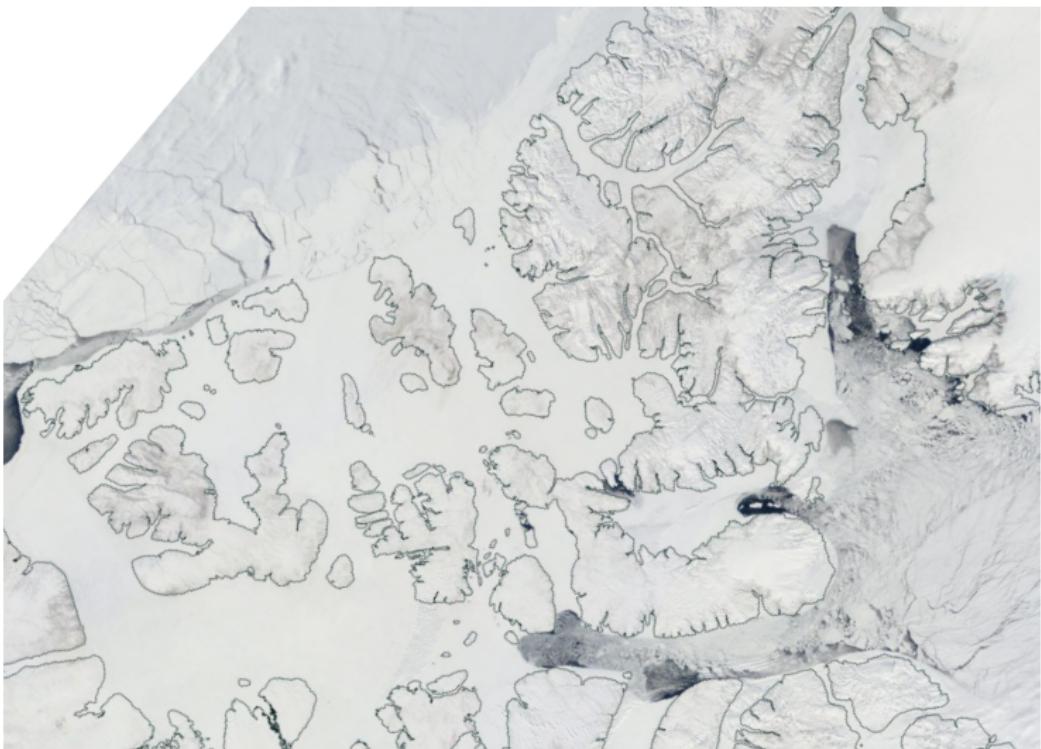
Results

Meeting ground

Transitions

Dissipation

Conclusions



# Ice conditions indicate strong mixing

Rationale

Past  
observations

Method

The MVP

Survey summary

Results

Meeting ground

Transitions

Dissipation

Conclusions

June 3



NASA Worldview

# Ice conditions indicate strong mixing

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Past  
observations

Method

The MVP

Survey summary

Results

Meeting ground

Transitions

Dissipation

Conclusions

June 3



NASA Worldview

# The MVP: moving vessel profiler

Rationale

Past  
observations

Method

The MVP

Survey summary

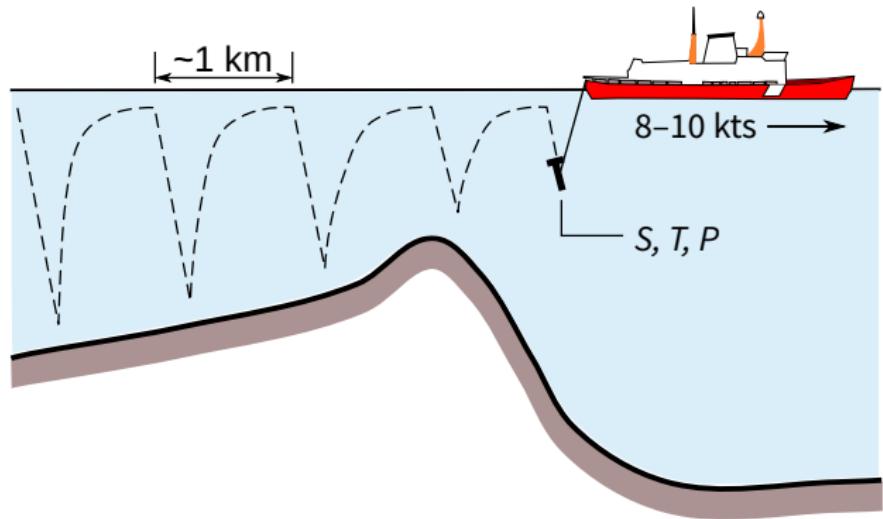
Results

Meeting ground

Transitions

Dissipation

Conclusions



# High-res oceanography in the CAA

# Survey summary

Rationale

Past  
observations

Method

The MVP

Survey summary

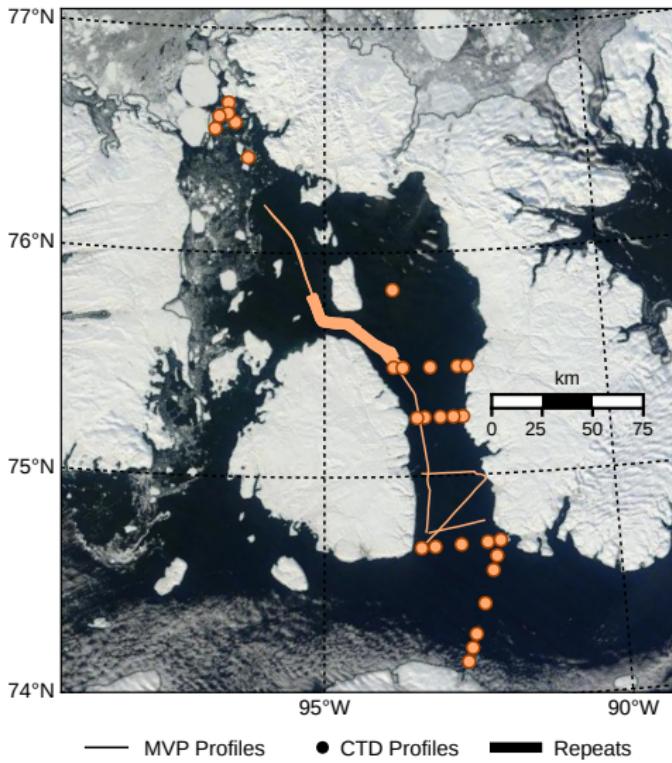
Results

Meeting ground

Transitions

Dissipation

Conclusions



NASA Worldview

# A meeting ground for water masses

Rationale

Past  
observations

Method

The MVP

Survey summary

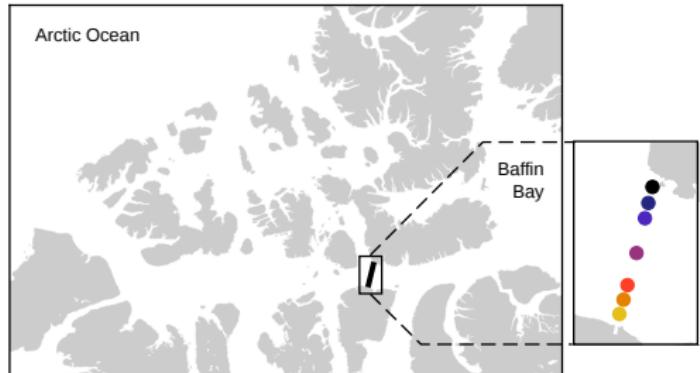
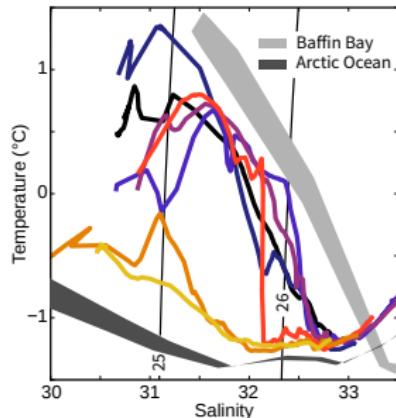
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Meeting ground

Transitions

Dissipation

Conclusions



# A meeting ground for water masses

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Past  
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The MVP

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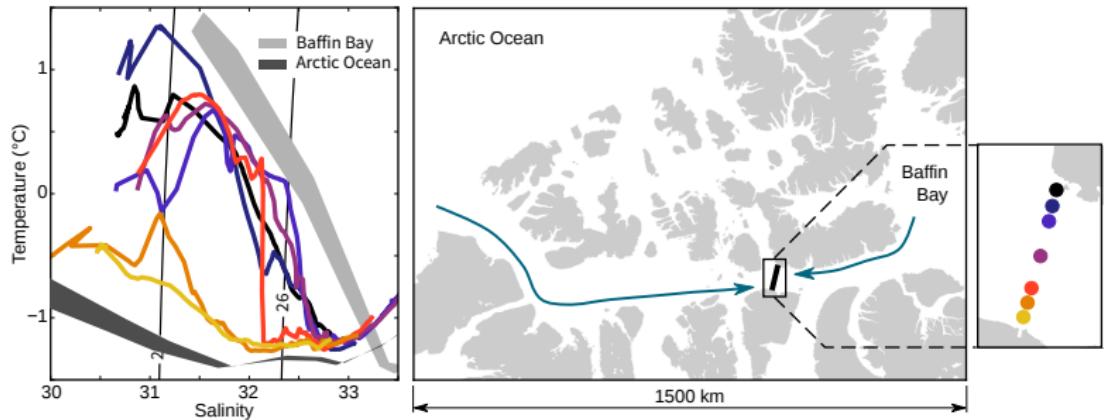
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Transitions

Dissipation

Conclusions



# An abrupt transition in properties

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Past  
observations

Method

The MVP

Survey summary

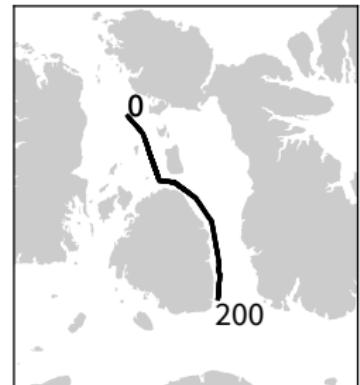
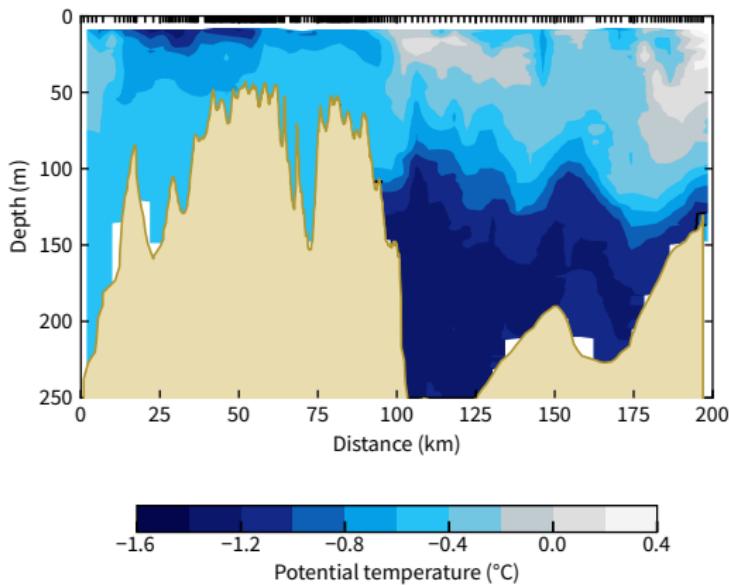
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Meeting ground

Transitions

Dissipation

Conclusions



# An abrupt transition in properties

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Past  
observations

Method

The MVP

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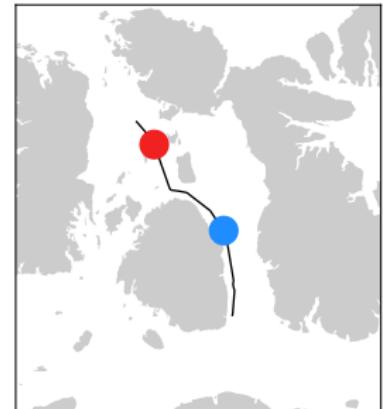
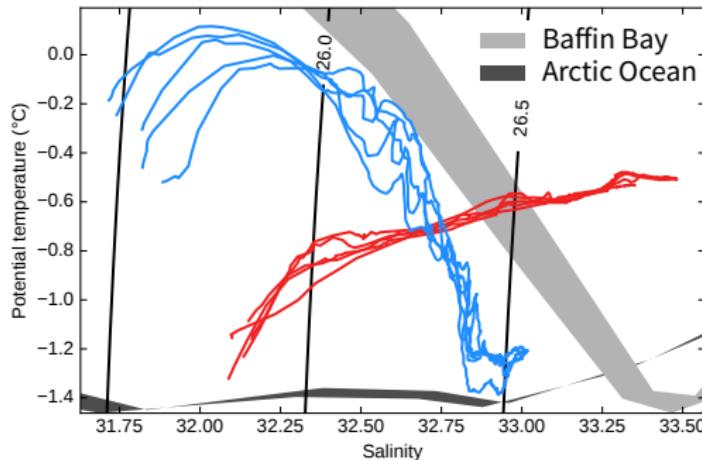
Results

Meeting ground

Transitions

Dissipation

Conclusions



# Estimating dissipation

High-res  
oceanography  
in the CAA

Rationale

Past  
observations

Method

The MVP

Survey summary

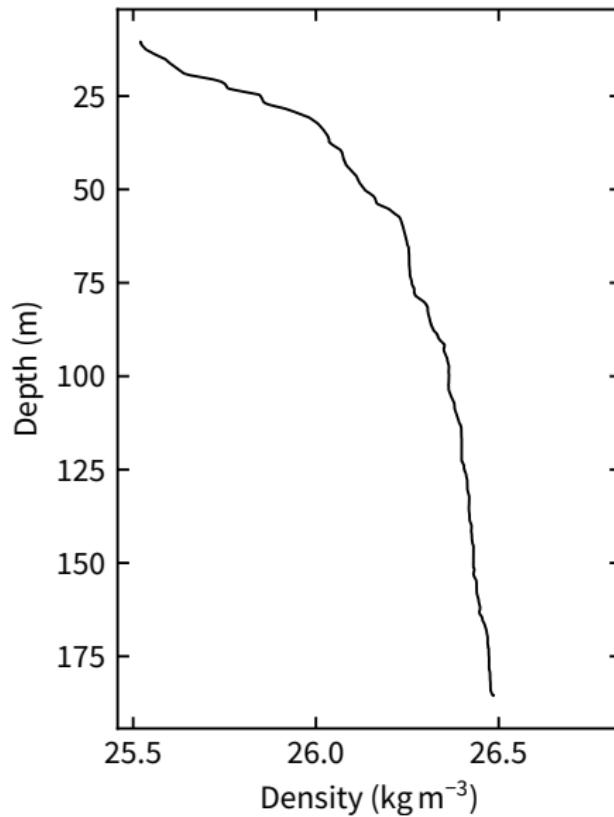
Results

Meeting ground

Transitions

Dissipation

Conclusions



# Estimating dissipation

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Past  
observations

Method

The MVP

Survey summary

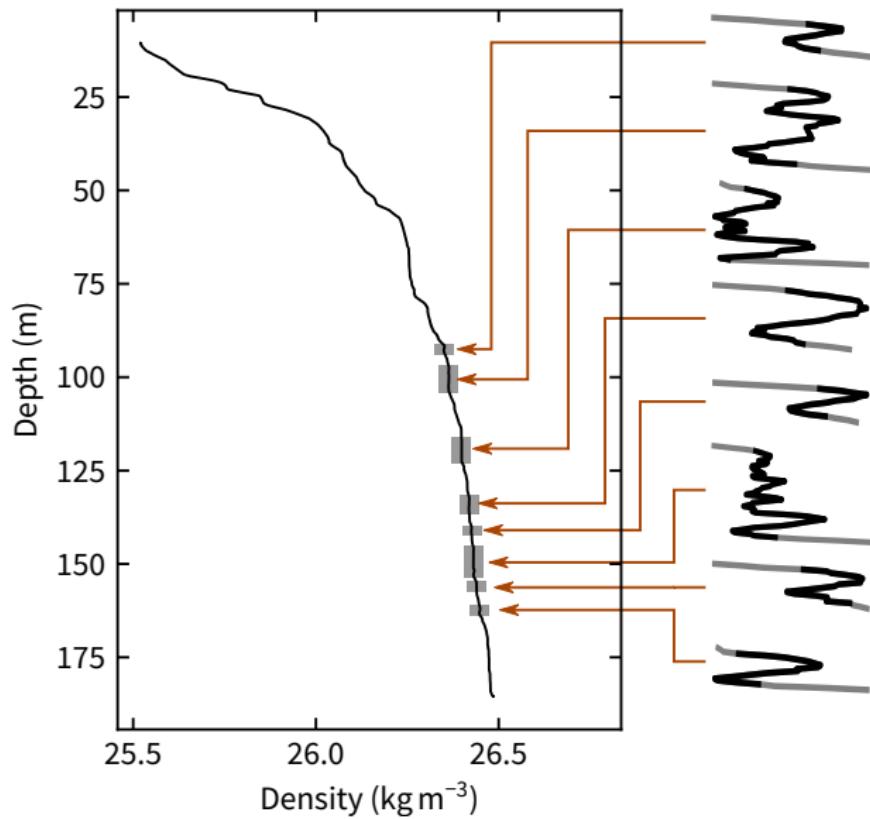
Results

Meeting ground

Transitions

Dissipation

Conclusions



# High dissipation rates near sills

Rationale

Past  
observations

Method

The MVP

Survey summary

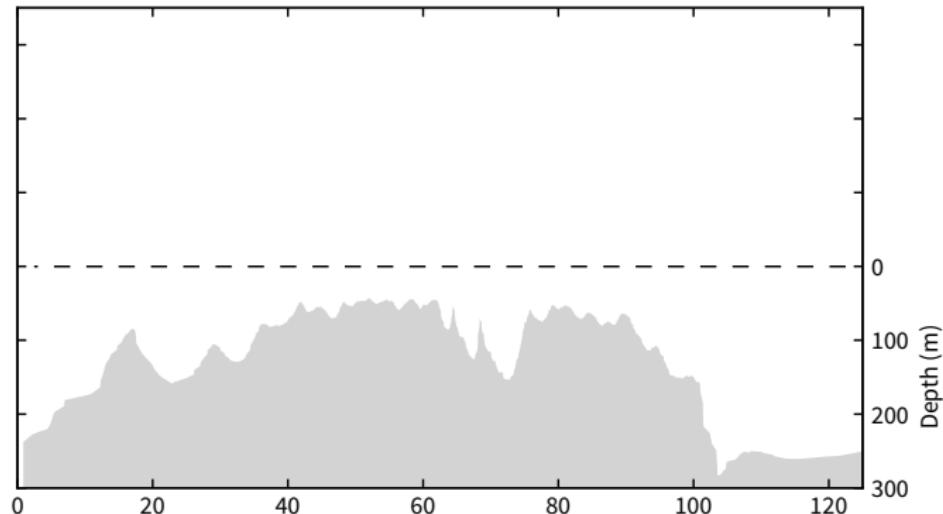
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Meeting ground

Transitions

Dissipation

Conclusions



# High dissipation rates near sills

Rationale

Past  
observations

Method

The MVP

Survey summary

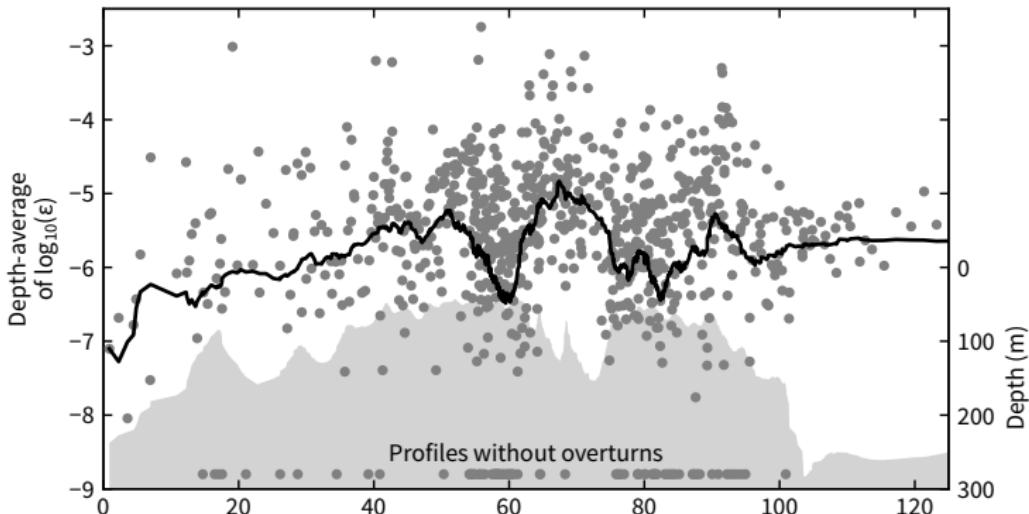
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Meeting ground

Transitions

Dissipation

Conclusions



## Rationale

Past observations

## Method

The MVP

Survey summary

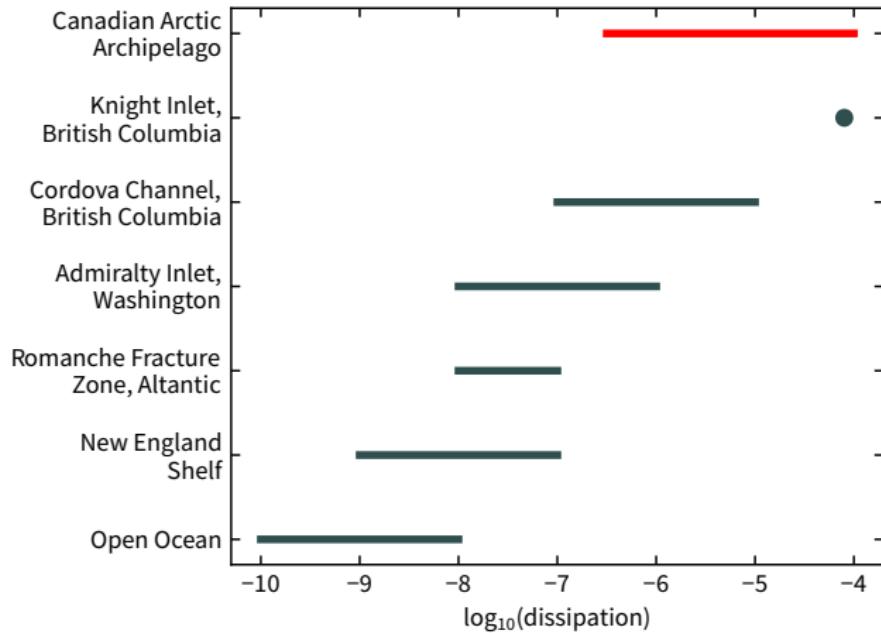
## Results

Meeting ground

Transitions

Dissipation

## Conclusions



# Mixing rates in context

High-res  
oceanography  
in the CAA

Rationale

Past  
observations

Method

The MVP

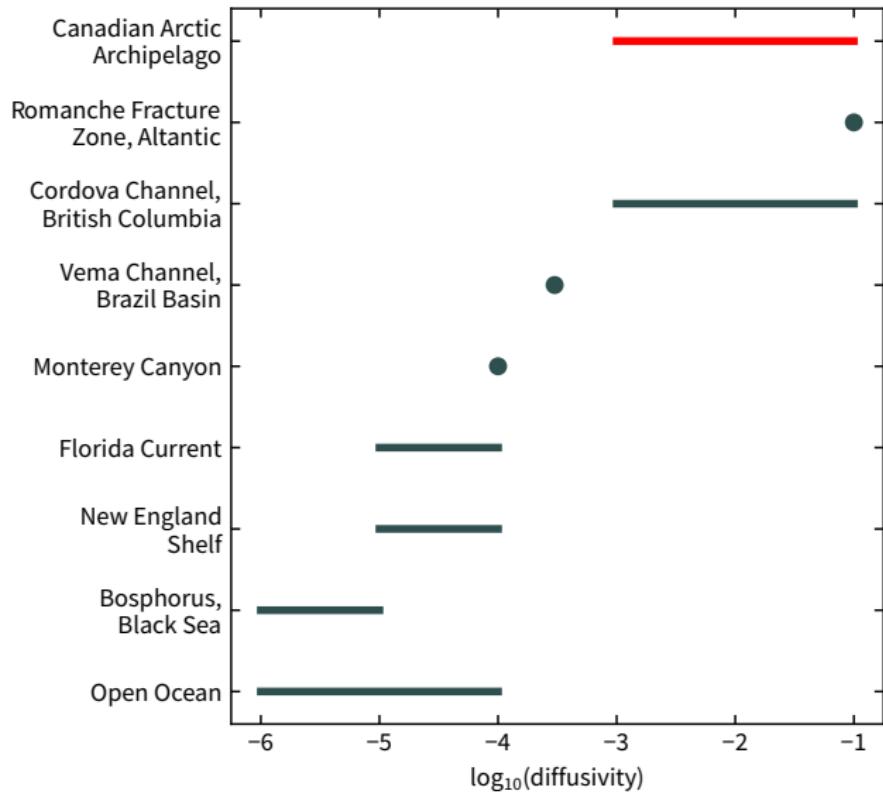
Survey summary

Results

Meeting ground  
Transitions

Dissipation

Conclusions



# Why such large dissipation and mixing?

Rationale

Past  
observations

Method

The MVP

Survey summary

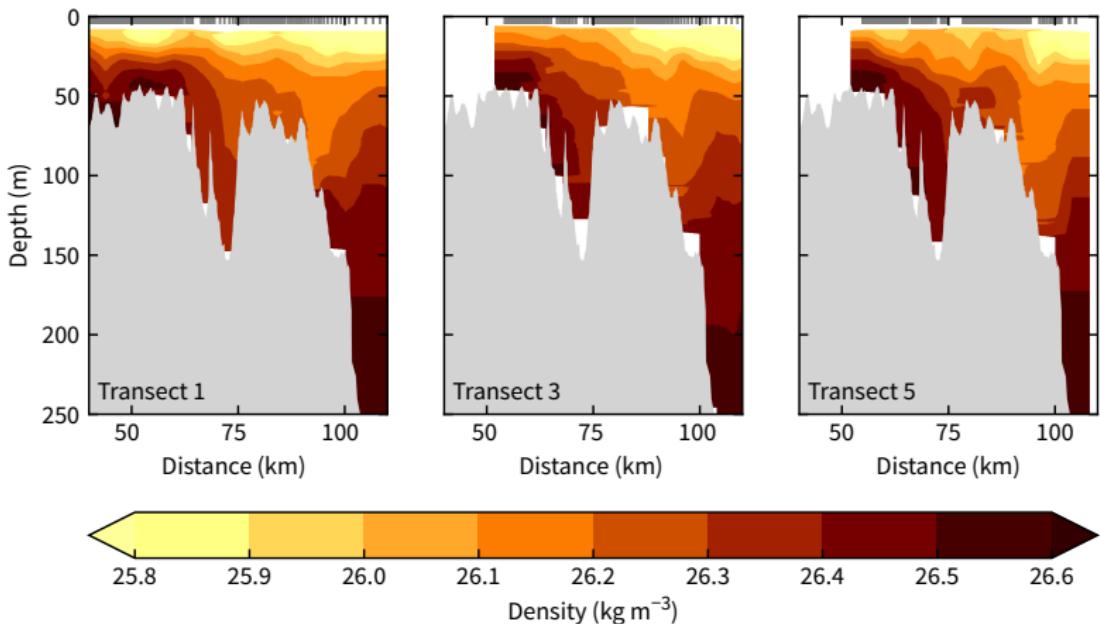
Results

Meeting ground

Transitions

Dissipation

Conclusions



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Method

The MVP

Survey summary

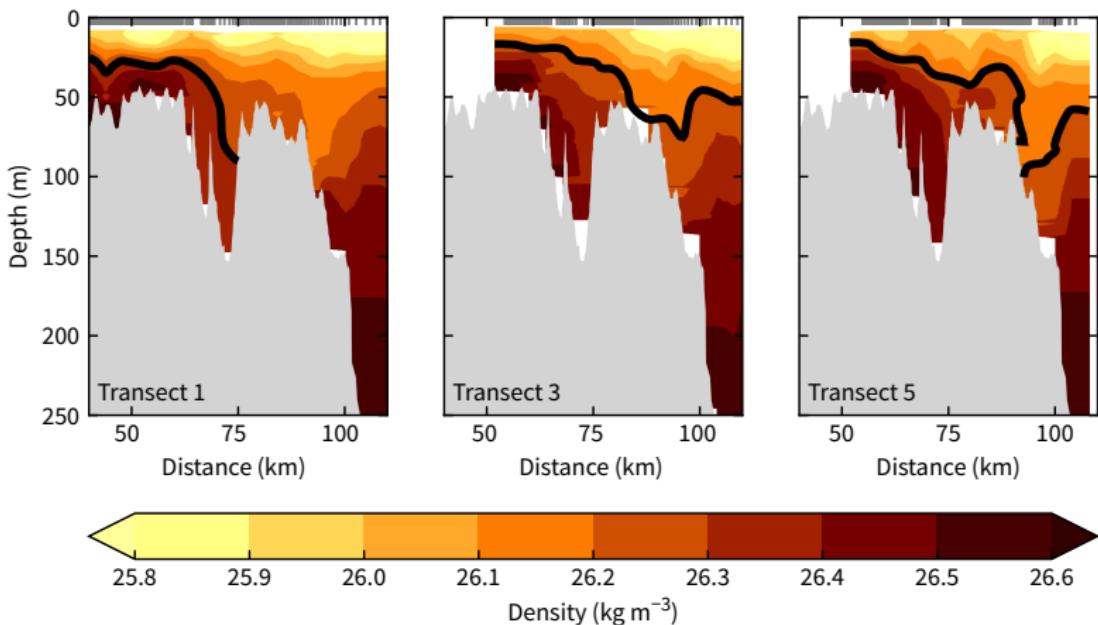
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Meeting ground

Transitions

Dissipation

Conclusions



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The MVP

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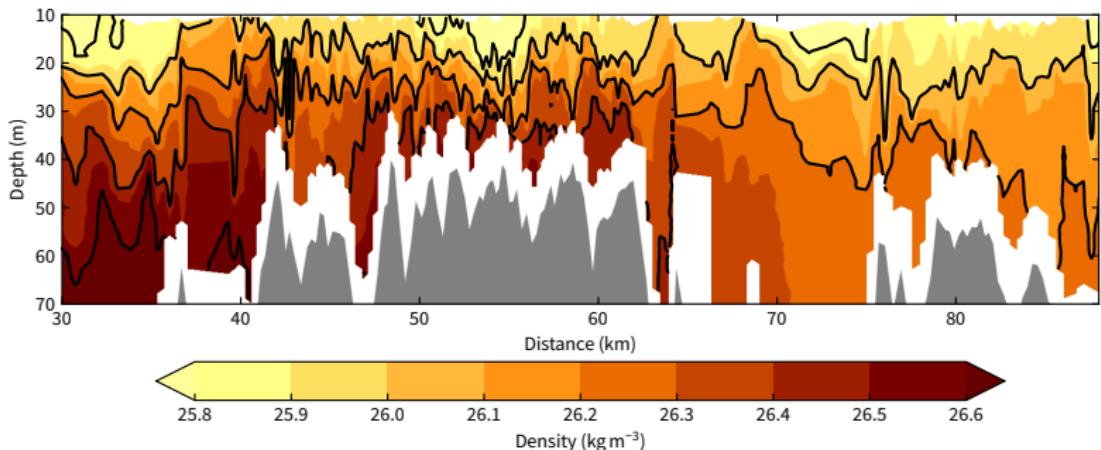
Results

Meeting ground

Transitions

Dissipation

Conclusions



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Past  
observations

Method

The MVP

Survey summary

Results

Meeting ground

Transitions

Dissipation

Conclusions

- Water masses meet in the Archipelago
  - Bathymetry inhibits direct communication ...
  - But also enhances mixing

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Past  
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Method

The MVP

Survey summary

Results

Meeting ground

Transitions

Dissipation

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