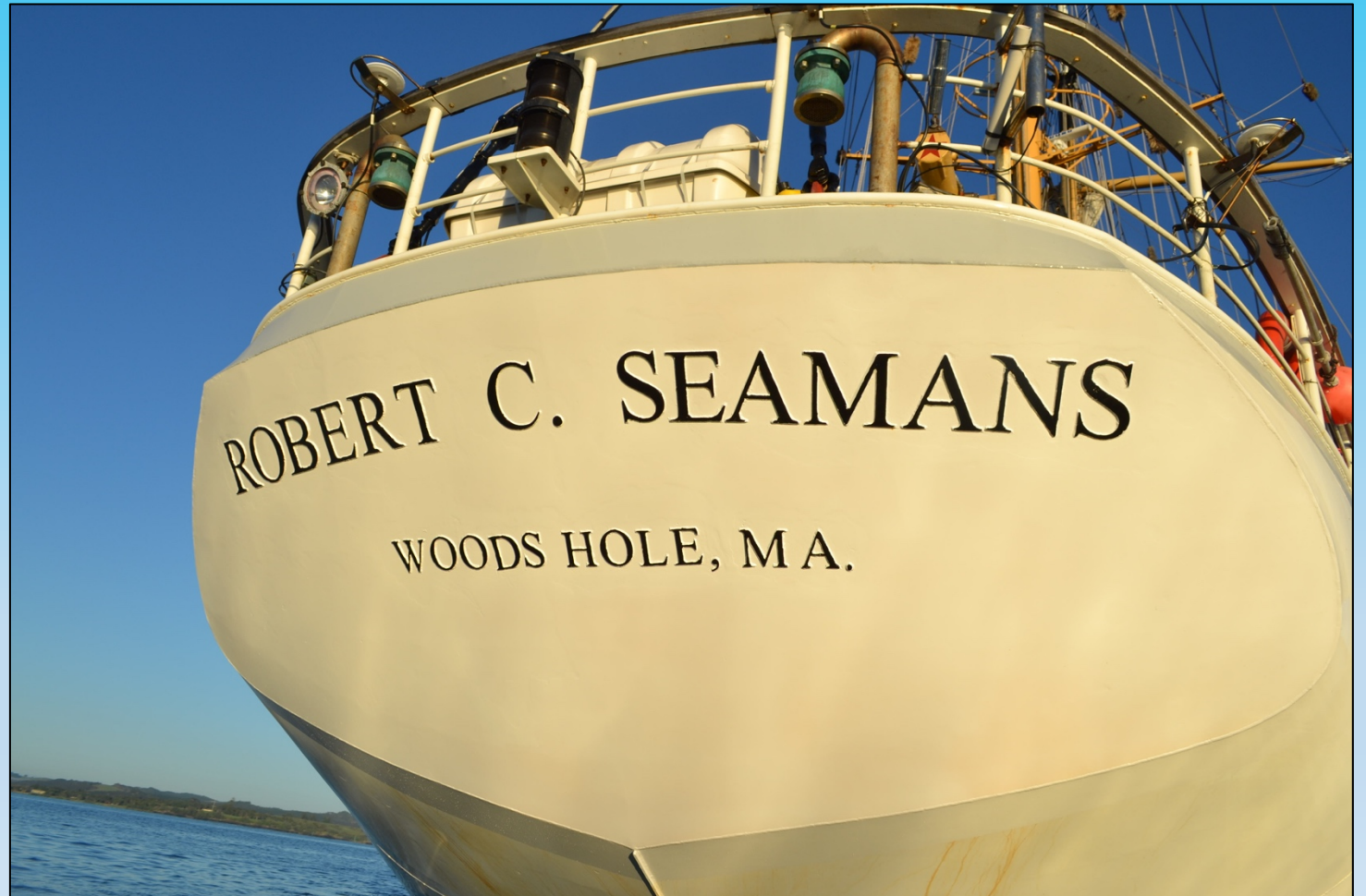


# Sailing One Ocean: SEA Semester in Aotearoa New Zealand

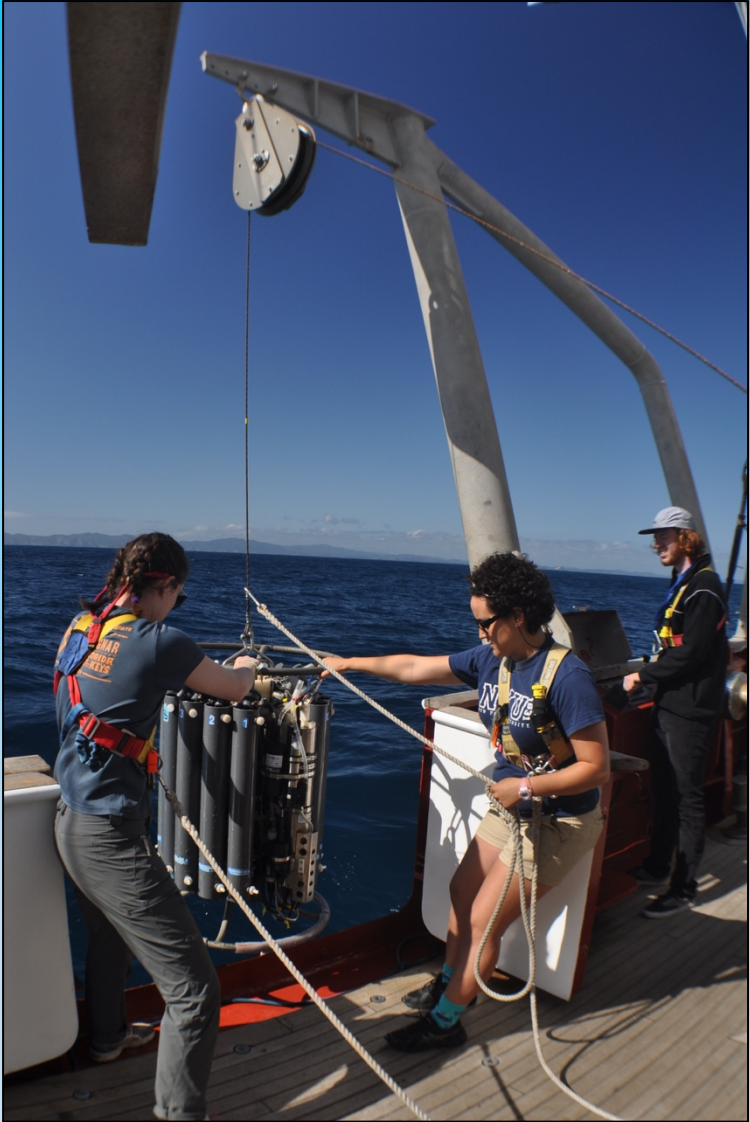
11 March 2016



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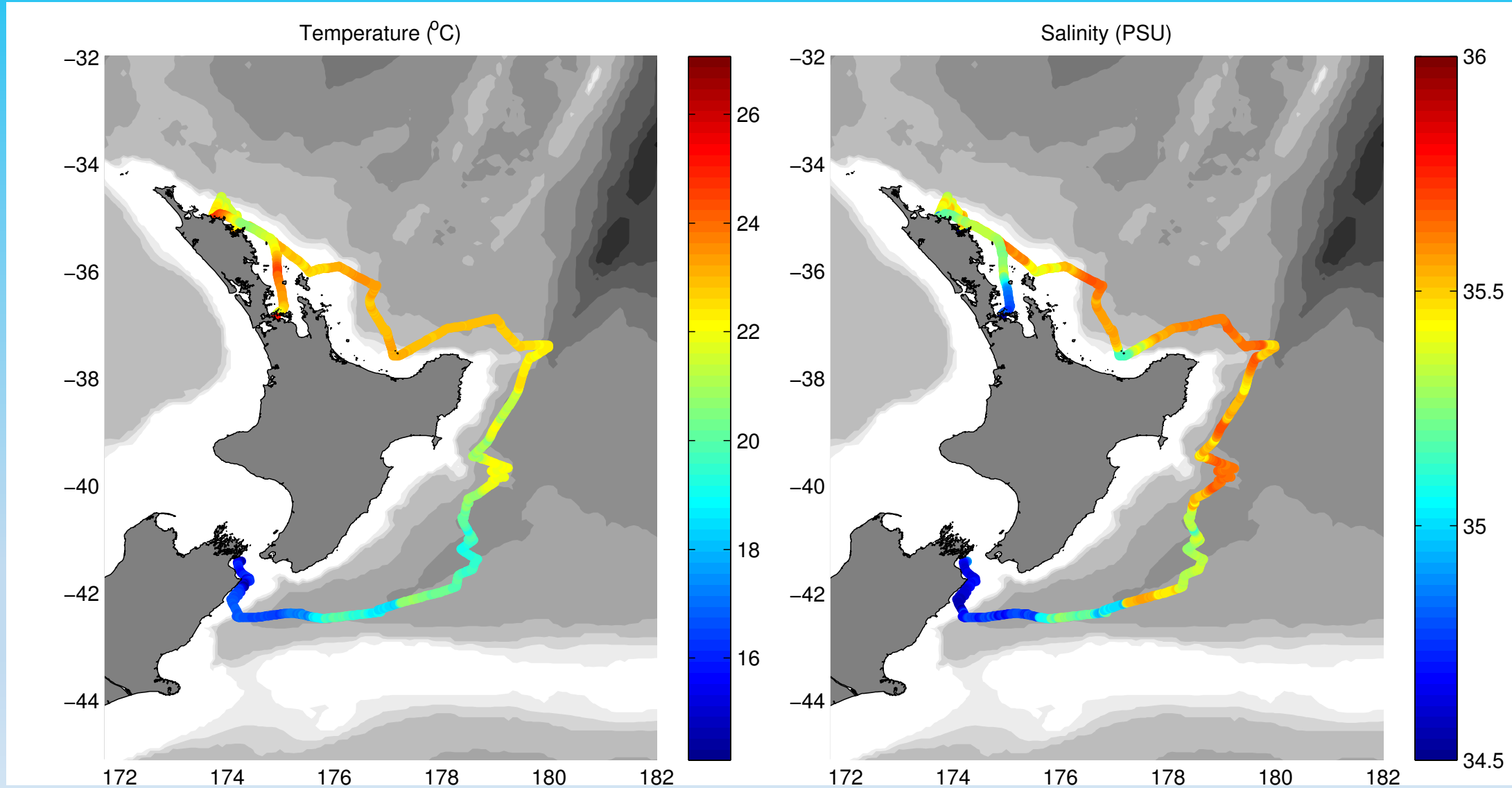


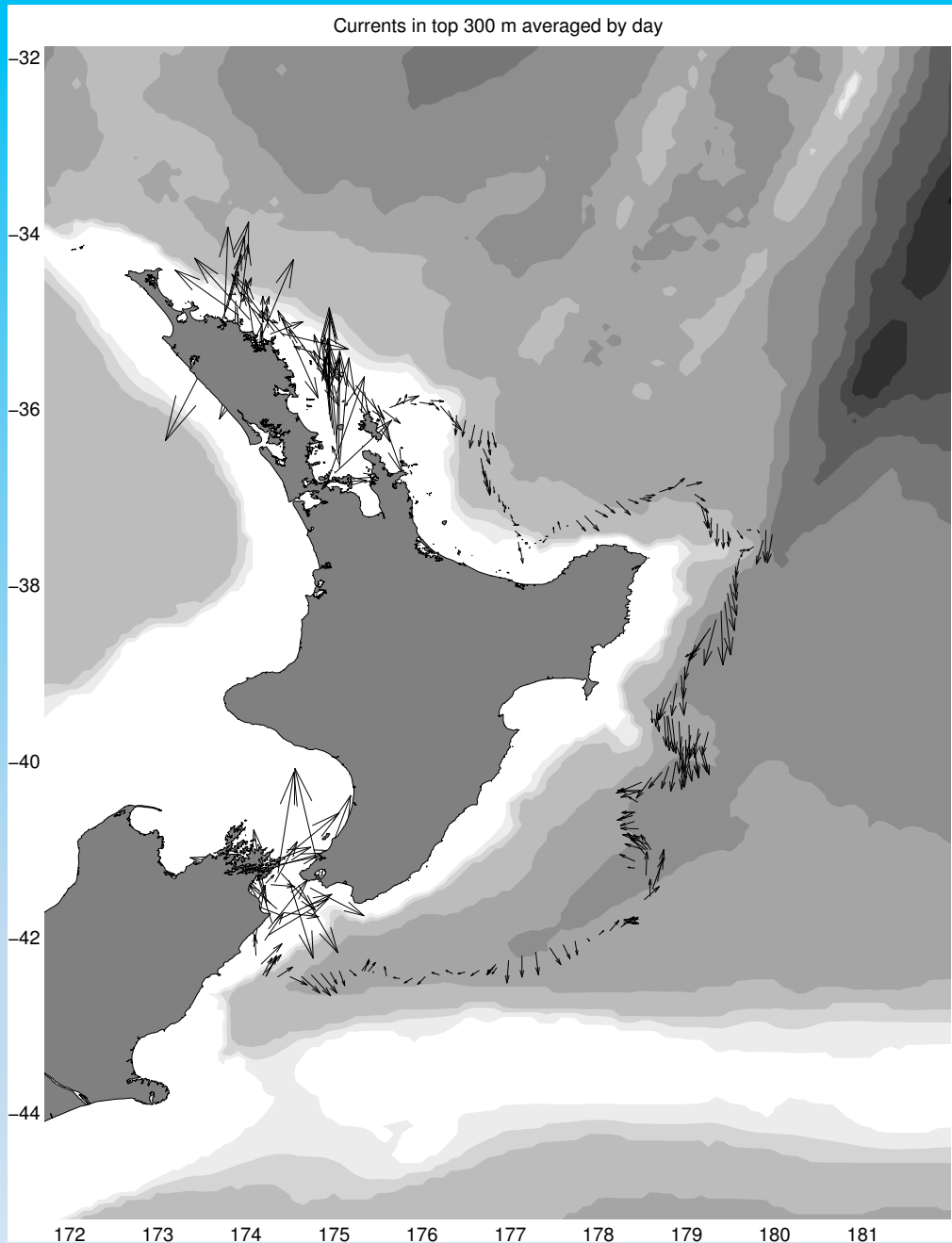


## Science on the SSV Robert C Seamans



# Continuous Data





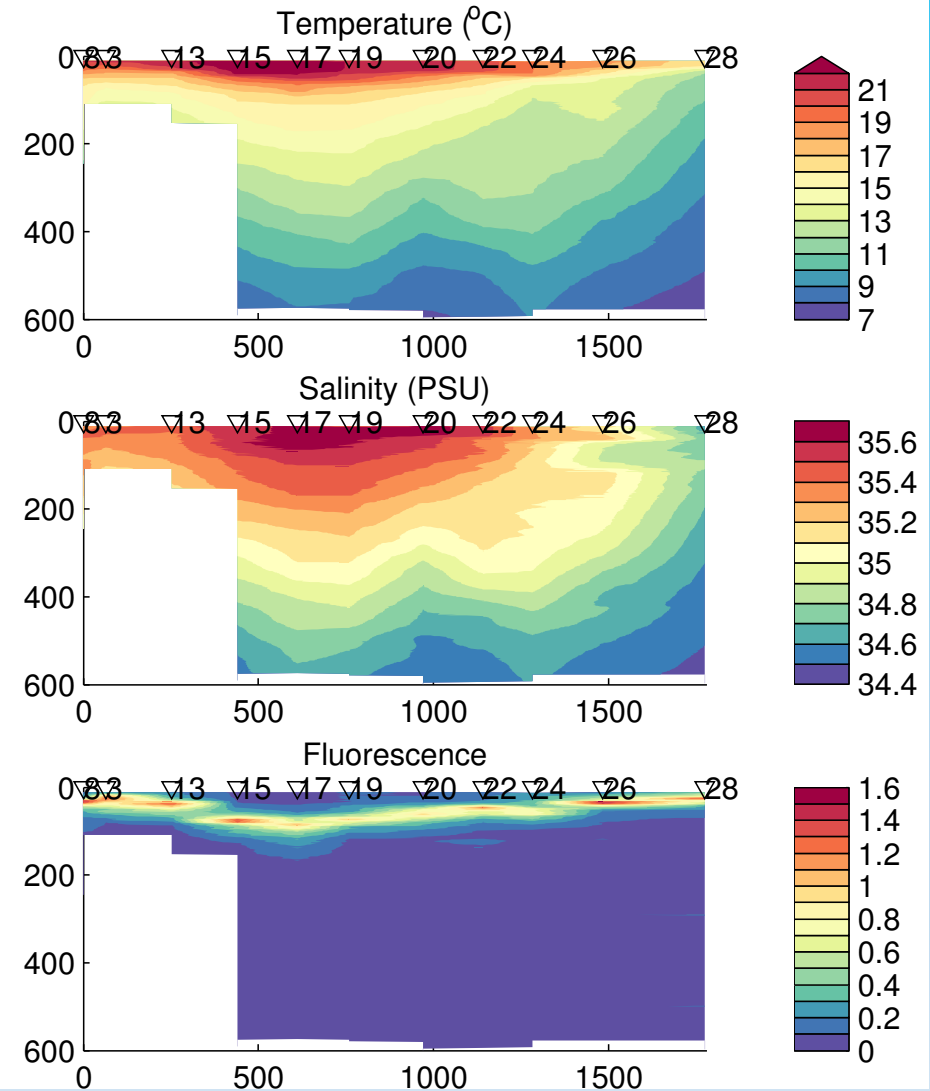
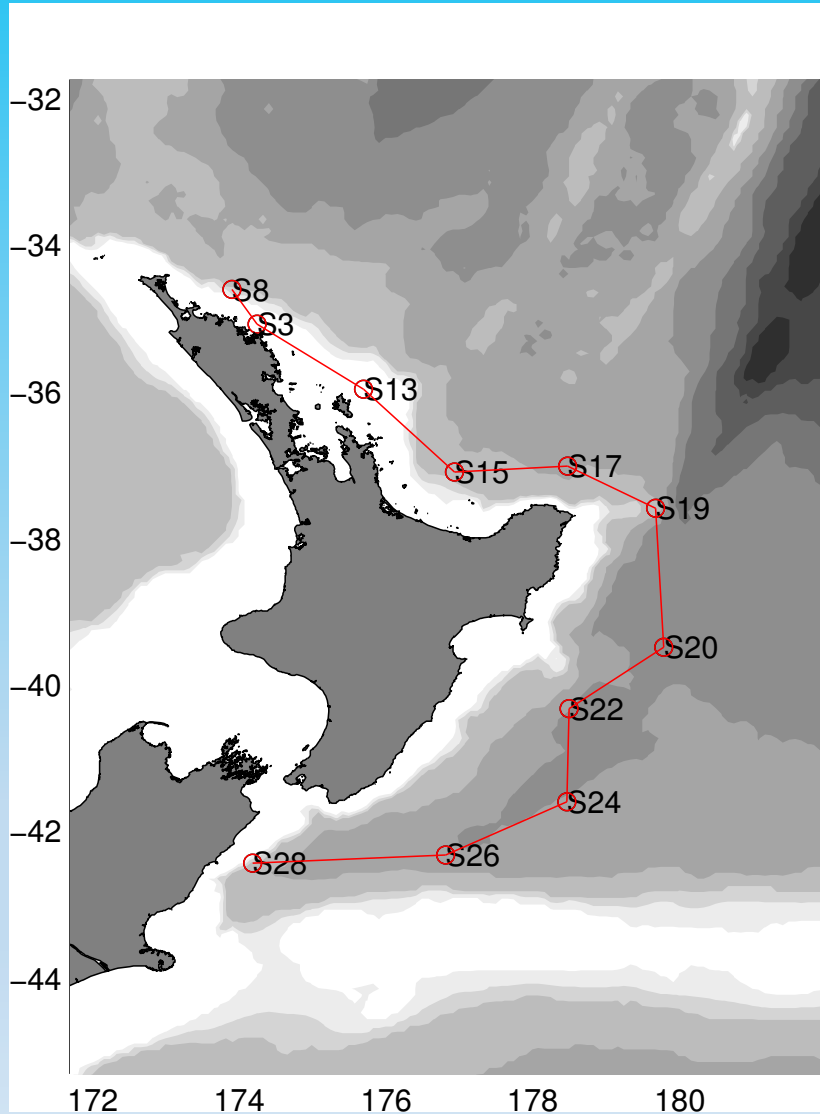
## Ocean Current Data

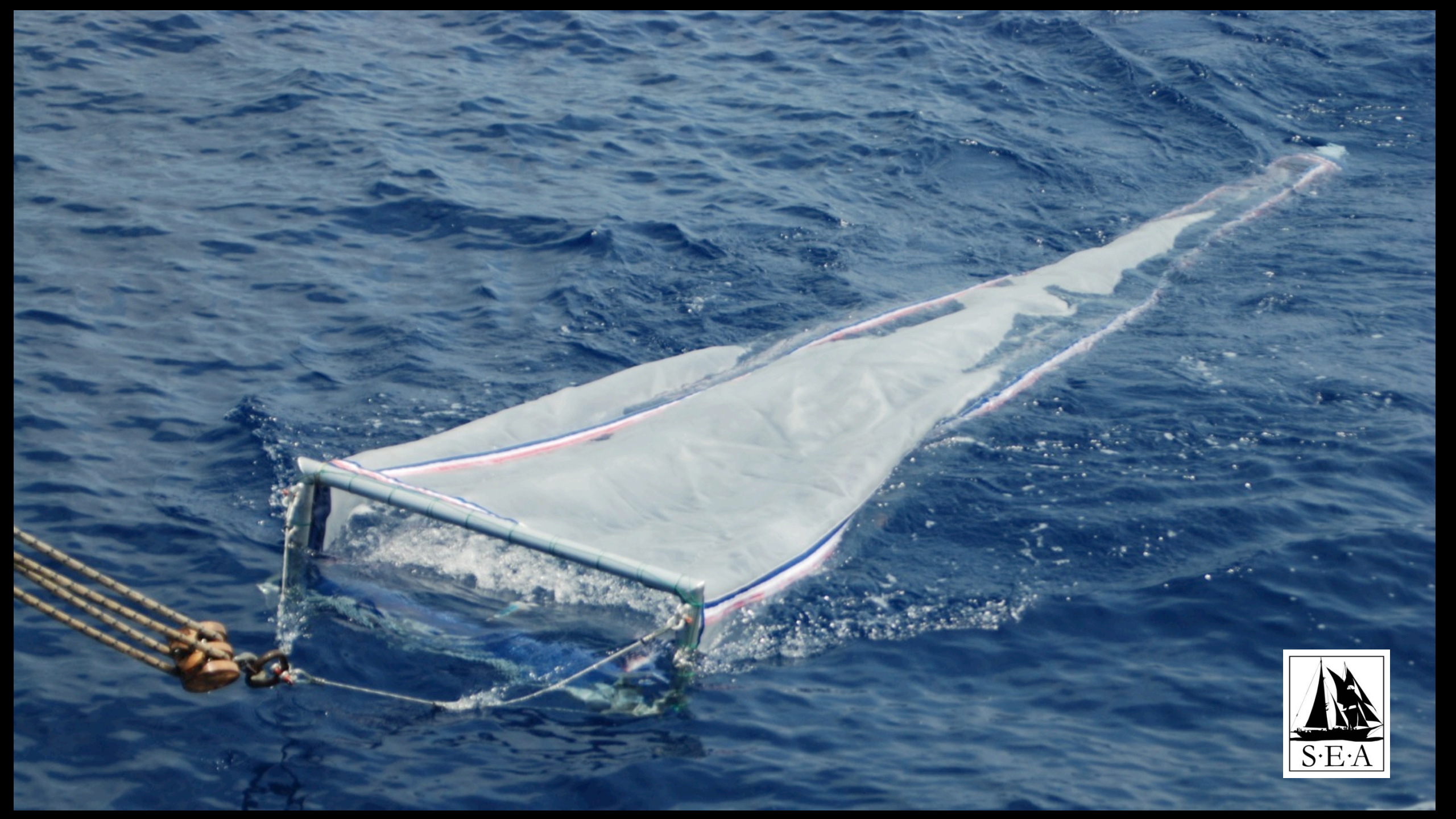






# Temperature and Salinity with depth





Copepod



Crab larva



Euphausiid - krill



Pteropod



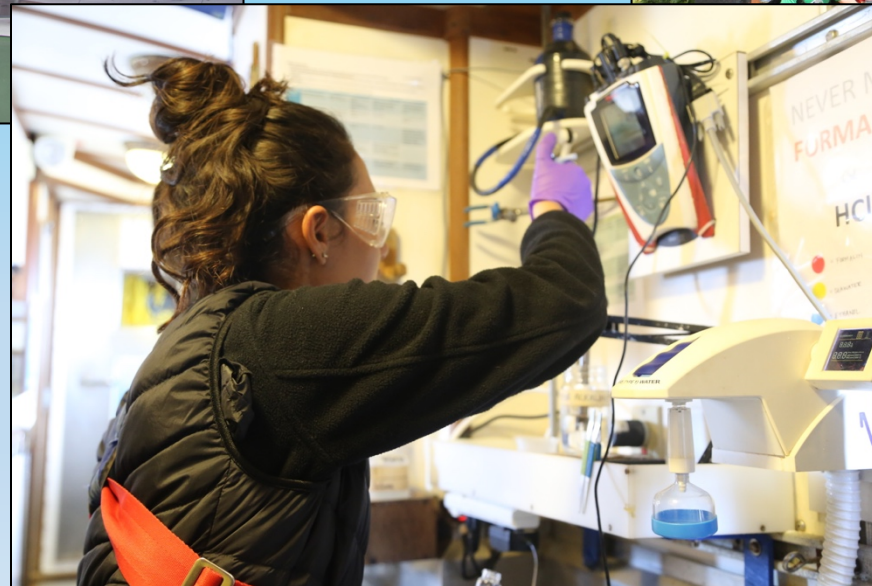
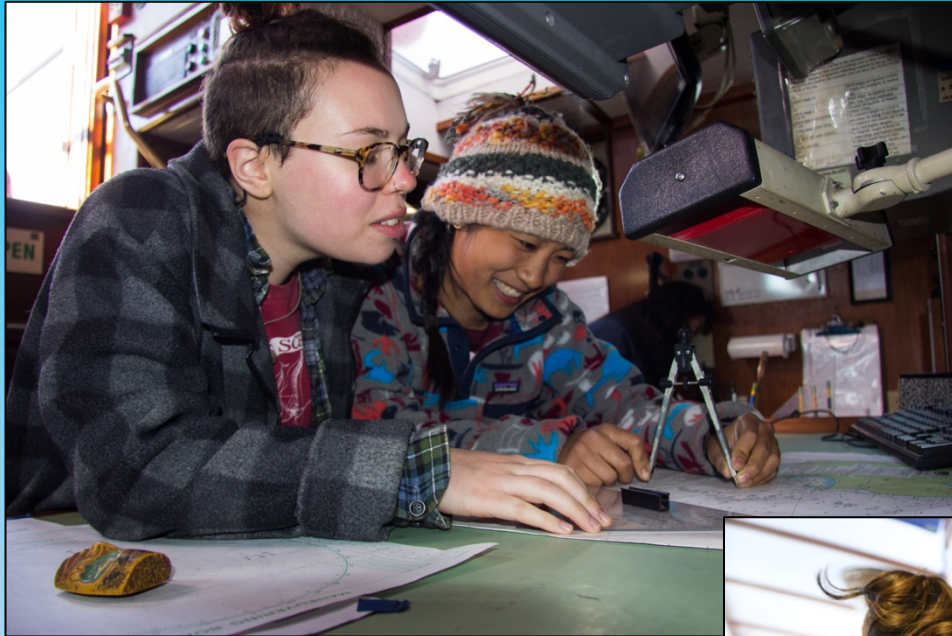
Medusa jelly



Salp



# SEA Semester: An Interdisciplinary Approach





# SEA Semester: Global Ocean & the Ocean Health Index

Leadership in a Dynamic Environment

Oceans and Global Change

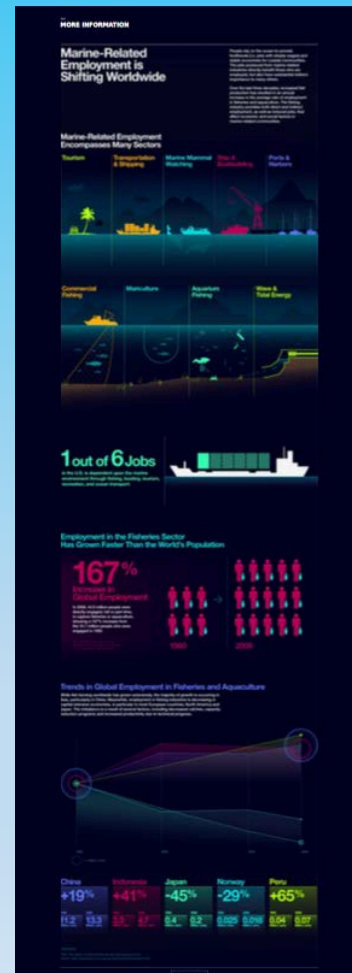
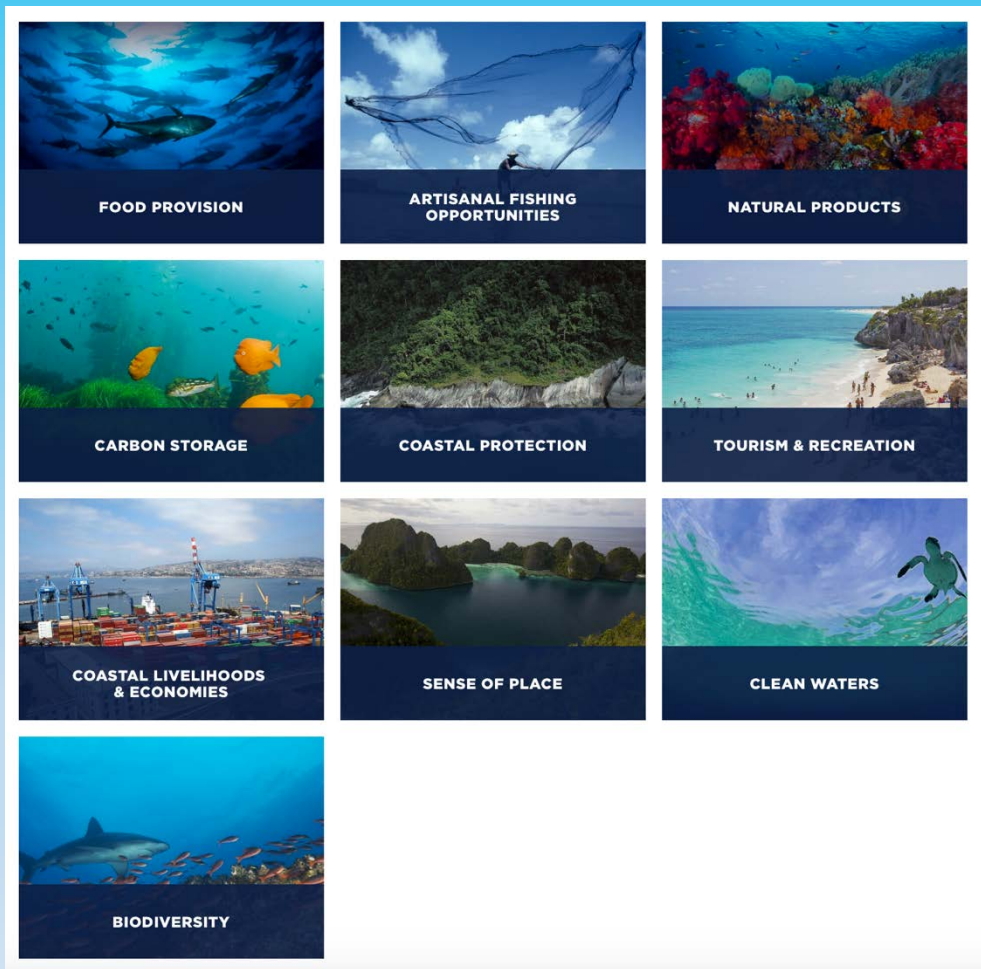
Maritime History and Culture

Conservation and Management

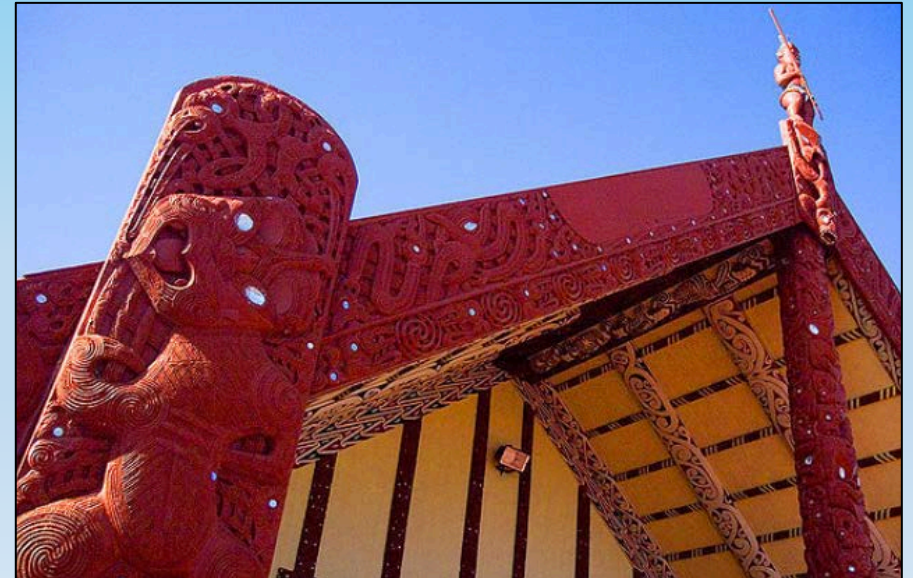
Sense of Place

Directed/Practical Oceanographic Research

Data Communication & Visualization



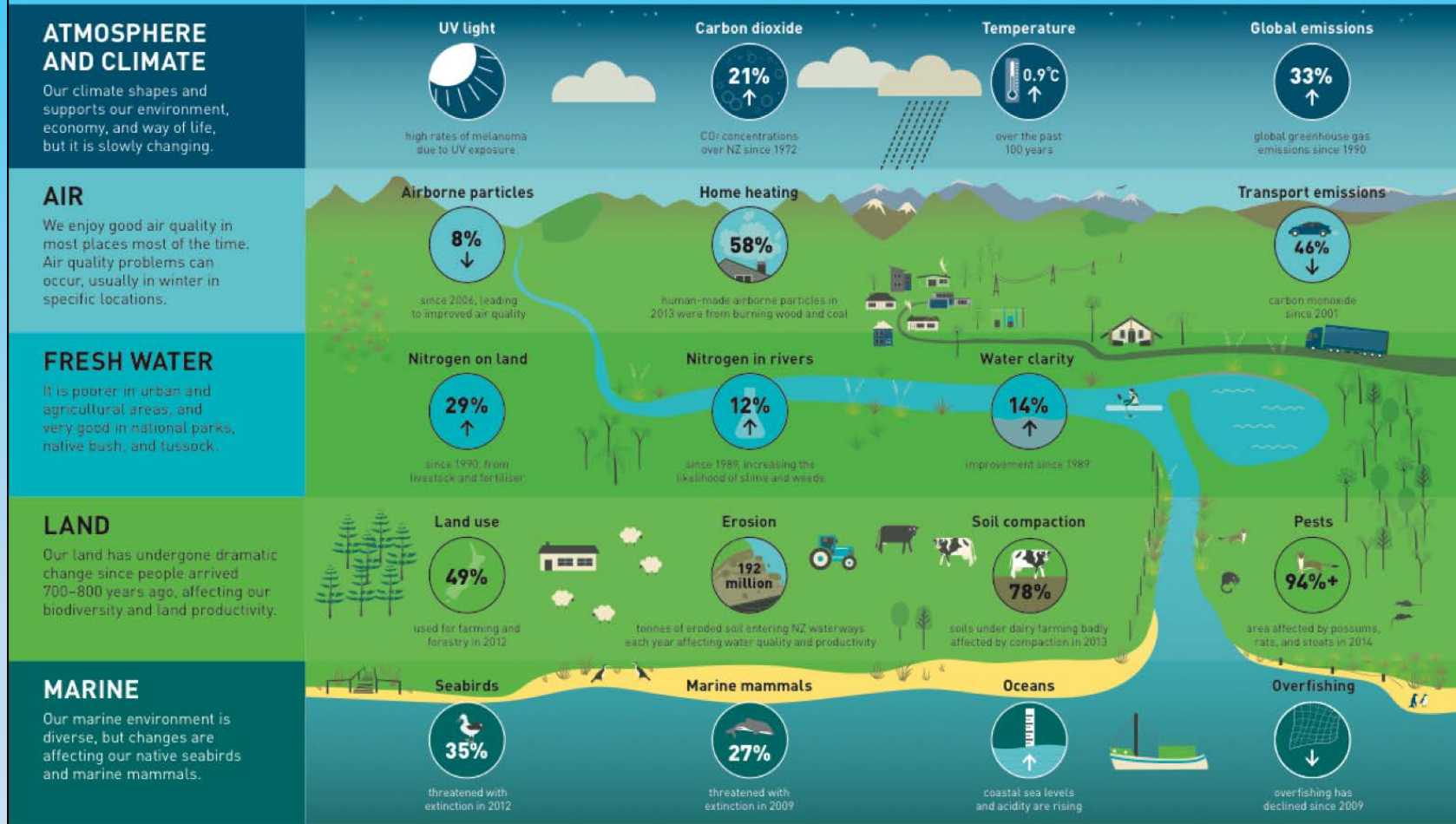
# Why New Zealand?



# Why New Zealand?

## New Zealand's environment at a glance

Key findings from *New Zealand's Environmental Reporting Series: Environment Aotearoa 2015*



For more information visit [www.mfe.govt.nz](http://www.mfe.govt.nz) or [www.stats.govt.nz](http://www.stats.govt.nz)

Published in October 2015  
INFO 747

[www.stats.govt.nz](http://www.stats.govt.nz)

# Conservation & Management: Our work in progress



## **Māori Foreshore-Seabed Debate:**

Hannah Lipstein, Alex Salesin

**New Zealand's Stance on Whaling and Role in IWC:** Eileen Bates,  
Stacie Bellairs, Anna Poholek, Maggie Smith

## **Ross Sea Marine Sanctuary planning:**

Shirley Luo, Eliza Thomas, Rachel Soudakoff

**Climate Change Adaptation:** Ella Dean,  
Alina Nakano, Tim Dooley

## **New Zealand's Biosecurity and Waste Policy:**

Madison Atterbury, Makenzie Michel



# Foreshore and Seabed Debate: Historical Background



“The Signing of the Treaty of Waitangi, February 6th, 1840’, Painting by Marcus King, 1938.” *New Zealand Electronic Text Collection*. Victoria University of Wellington Library. 2015. Web. 8 February 2016.

# Interests & Stakeholders

**Sovereignty & Tino  
Rangatiratanga**

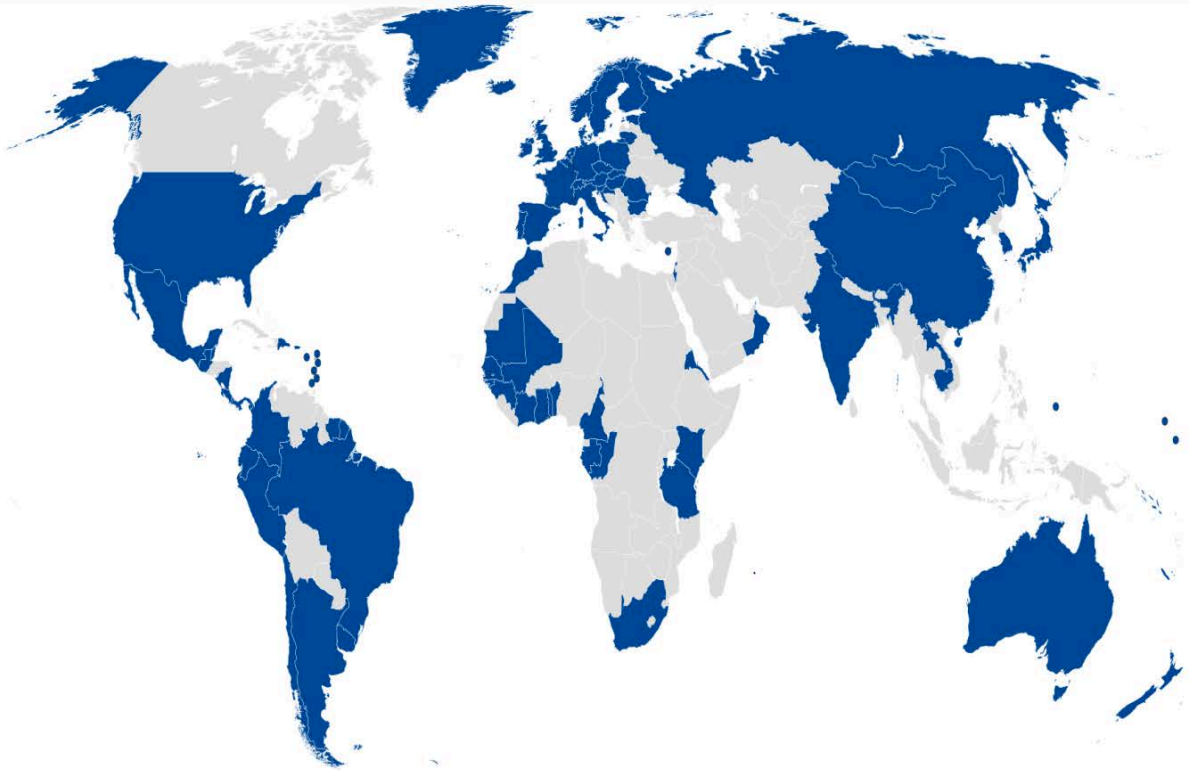
**Economic/Resource  
Control**

**Mainstream Media  
Influence**

**Political Pressures  
& Constraints**

# Whaling Policy

## The IWC & the Moratorium



# Whaling Policy

## Continuing the Moratorium



<http://the-biggest.net/blue-whale-the-largest-whale/>  
[https://en.wikipedia.org/wiki/Sperm\\_whale](https://en.wikipedia.org/wiki/Sperm_whale)  
<http://al3elm-noor.com/home/wp-content/uploads/2015/04>  
<http://www.teara.govt.nz/en/photograph/2228/paikea-the-whale-rider>  
<https://burtonworkshop.wordpress.com/tag/killer-whale/>  
<http://www.fao.org/docrep/003/W1238E/W1238E01.gif>  
<http://www.dailymail.co.uk/news/article-2162028/Just-gorgeous-A-blue-eyed-triplefin-fish-New-Zealand-features-amazing-pictures-beneath-waves.html>

# Whaling Policy

## Whale Watching



- Brings in NZ\$10 million per year
- 13 million whale watchers throughout the world per year
- Growing business that supports whale protection and scientific research

Whale watchers off the Coast of New Zealand.

<http://www.whalewatchingtours.com>

# Whaling Policy

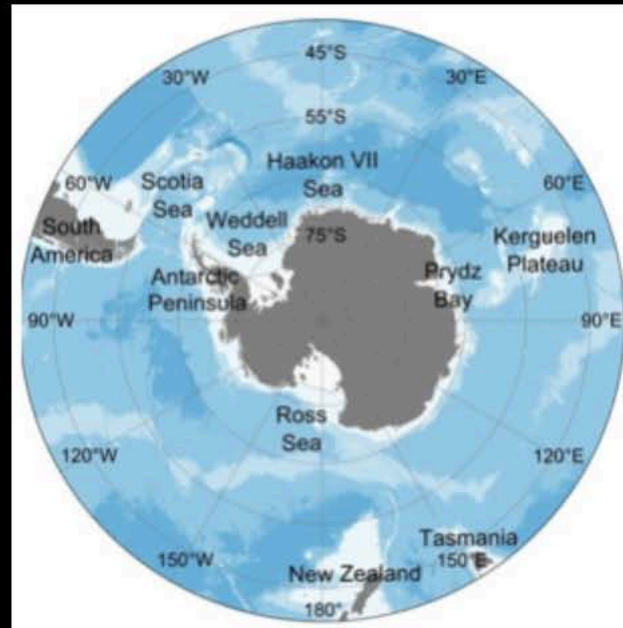
## Switching to Sustainable Harvest



- Tradable quota system
- Possible conservation benefits
- Moral dilemmas: preservation vs. conservation

# The Ross Sea

- 3,861 kilometers from New Zealand
- 1841—Discovered by a British man named James Ross
- 1923—the British gave NZ ownership of the area under the British Settlements Act
- 1959—the Antarctic Treaty was signed by 47 countries
- The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)







# Policy Recommendation

- Marine Protected Area with “No Access” level of protection
  - Protect biodiversity
  - Ban fishing
  - Allow limited scientific research

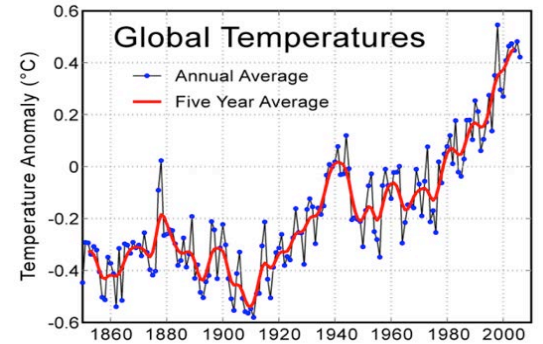


# Climate Change Adaptation

## The problem

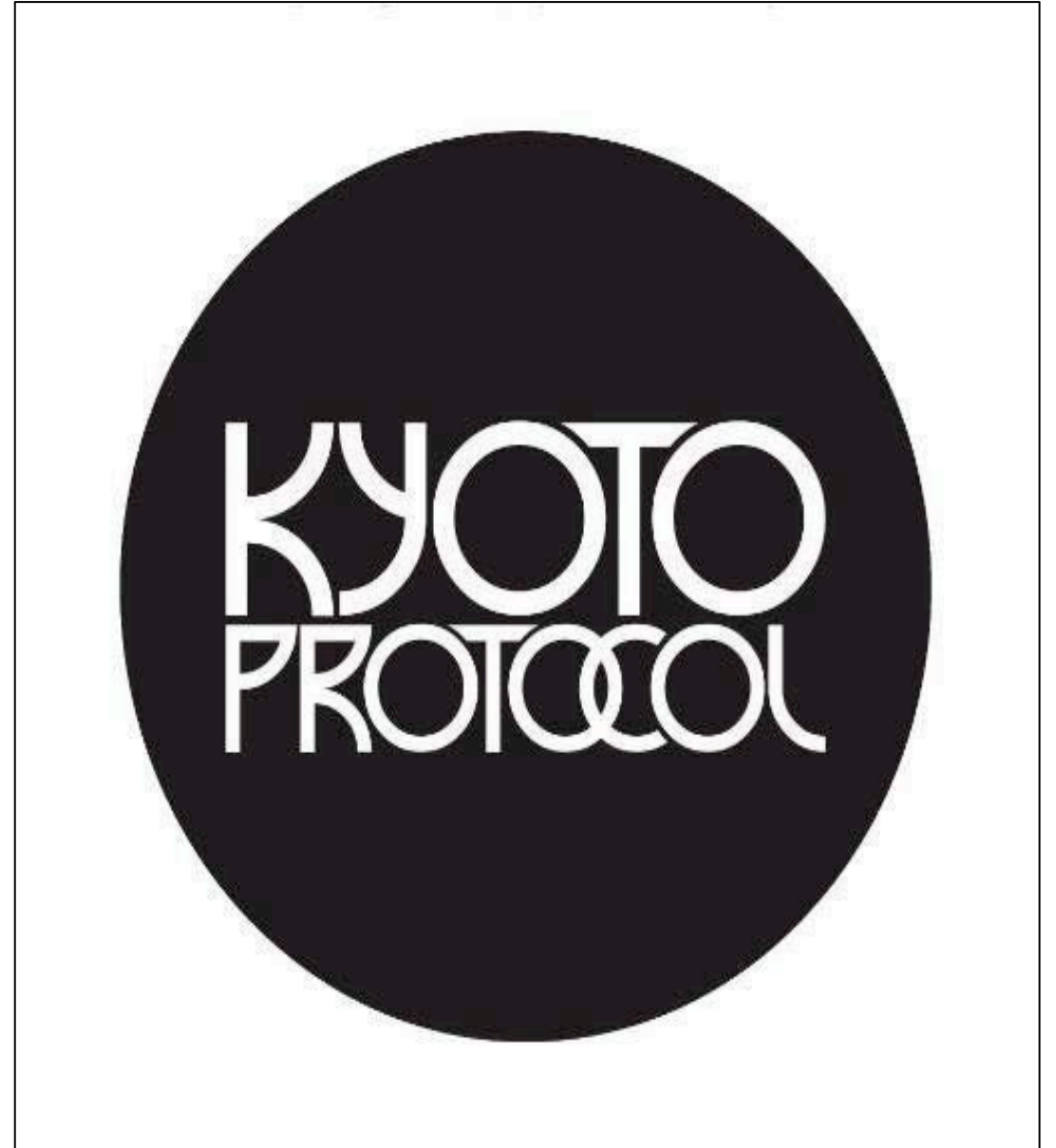


No natural buffer system to combat climate change  
Human intervention is key



# Historical Background

- Kyoto Protocol
- New Zealand's ratification and steps to reduce climate change
- Progress following treaty



Renewable  
Energy

Sea Level  
Rise

Storm-  
Proof  
&  
Flood-  
Proof

# Biosecurity and New Zealand's Marine Invaders

- What is biosecurity?
  - Biosecurity in New Zealand



Undaria



Northern Pacific Seastar



Styela Clava

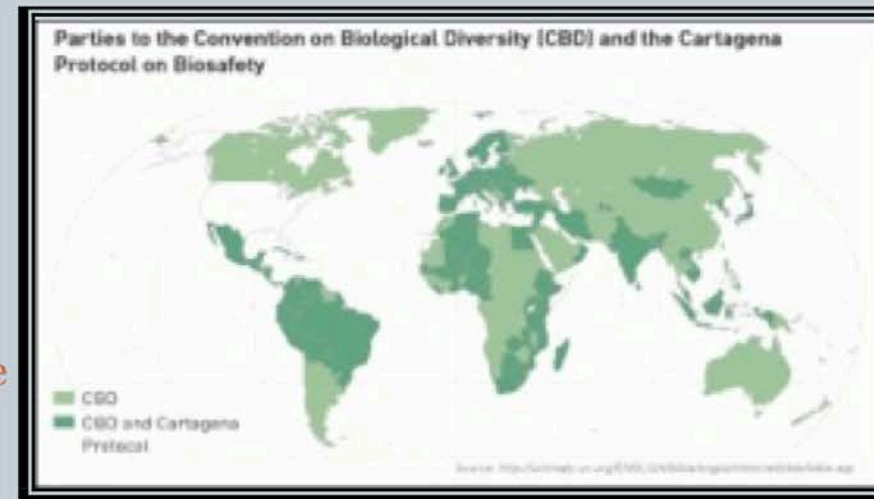
# Biosecurity and New Zealand's Marine Invaders

## • World Policies


- 1849 Sheep Ordinance (New Zealand)
- 1964 Rodent Eradication Program (New Zealand)
- 1993 Biosecurity Act (New Zealand)
- 1993 Convention on Biological Diversity (International)
- 2000 Cartagena Protocol on Biosafety to the Convention on Biological Diversity (International)

## • Conclusions

- What does the future hold?
- Ecosystem baselines



Participants in the Convention on Biological Diversity as well as the Cartagena Protocol



**Goals: identify key issues in local, regional and global ocean conservation and management; understand complexity; engage broader community**

**Results: policy briefs with recommendations for further action, stakeholder engagement, and policy revision; build issue awareness**

**Leadership and teamwork skills, knowledge and experience applicable to futures in ocean advocacy and chosen careers**

**For SEA, building relationships with communities, organizations, and academic institutions**

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"Sometimes we are lucky enough to know that our lives have been changed, to discard the old, embrace the new, and run headlong down an immutable course. It happened to me ... on that summer's day, when my eyes were opened to the sea."

**Jacques Yves Cousteau**

*dream.*

*learn more*  
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