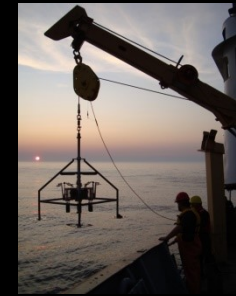
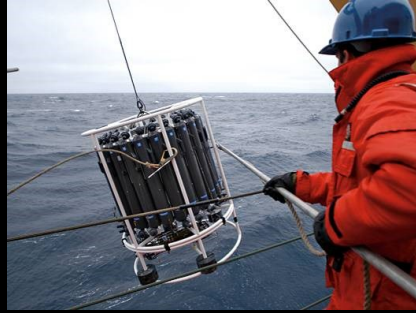


# A view across The Pond: Enhancing trans-Atlantic cooperation & opportunity



Dr. Paul Snelgrove  
Memorial University, Canada  
Director, Canadian Health Oceans Network  
Associate Director, Ocean Frontier Institute







# Global Priority at the Highest Level



**SUSTAINABLE  
DEVELOPMENT  
GOALS**

2015-2030  
SUSTAINABLE DEVELOPMENT GOALS 17  
TO 2030 FOR THE IMPLEMENTATION OF  
THE 2030 AGENDA



## GOAL 14

CONSERVE AND SUSTAINABLY USE THE  
OCEANS, SEAS AND MARINE RESOURCES FOR  
SUSTAINABLE DEVELOPMENT

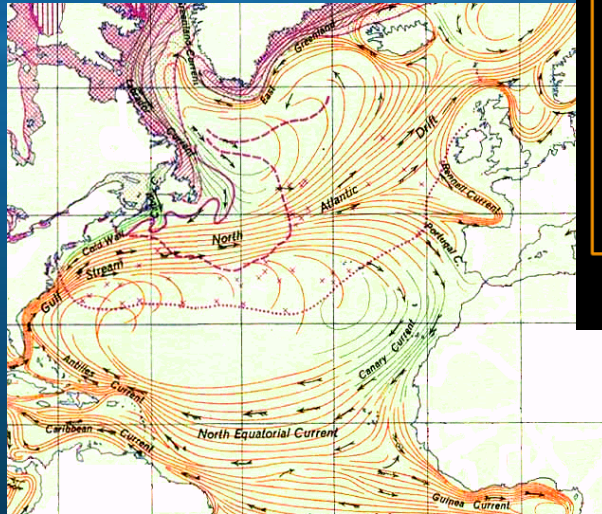
**SUSTAINABLE DEVELOPMENT GOALS**

More at [sustainabledevelopment.un.org/sdgsproposal](https://sustainabledevelopment.un.org/sdgsproposal)

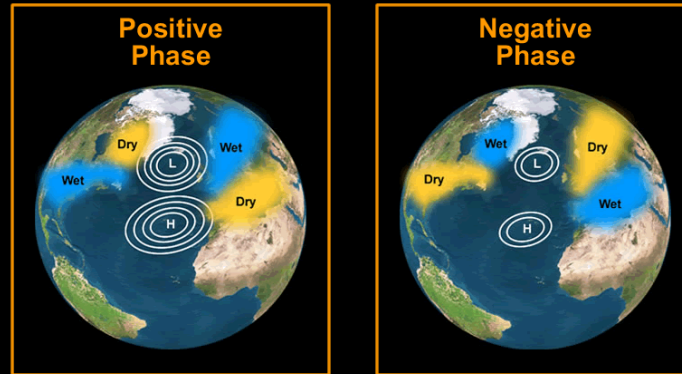
## 14 LIFE BELOW WATER



# Global Priority at the Highest Level



## The North Atlantic Oscillation

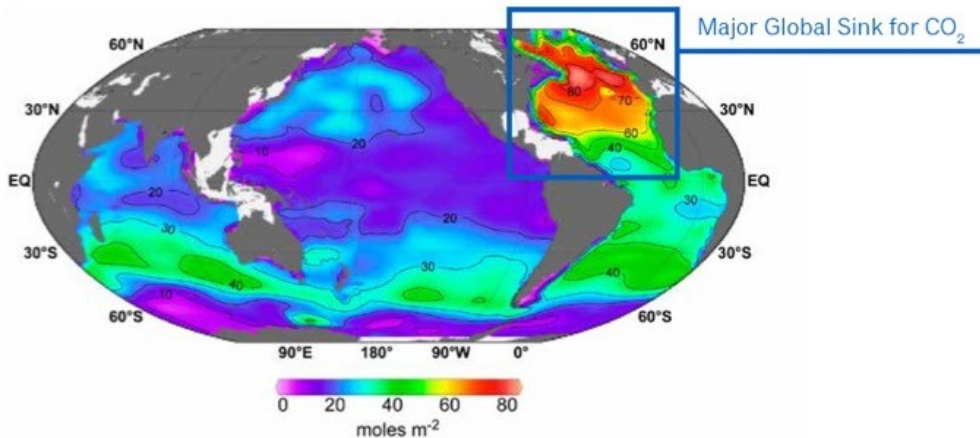


- Climate
- Fisheries
- Ecosystem change
- Pollutants

## 2013 Galway Statement

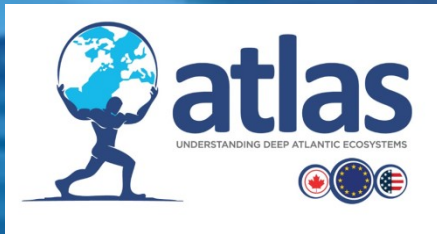
“cooperation is intended to increase our knowledge of the Atlantic Ocean and its dynamic systems. . . By aligning our ocean observation efforts to improve ocean health and stewardship and promote sustainable management of its resources.”

Signatories include Canada, the European Union, and the United States





# Major Programs and Opportunities



A trans-Atlantic assessment and **deep-water ecosystem-based spatial management** plan for Europe (ATLAS)



**Deep-sea Sponge Grounds** Ecosystems of the North Atlantic: an integrated approach towards their **preservation and sustainable exploitation**



Protecting the ocean: Supporting the development of **cost-effective ocean literacy** in Europe



To establish a **fundamental “Sea Change”** in how European citizens view their relationship with the sea, by empowering them, as **Ocean Literate citizens**



Focuses on **restoration of degraded marine habitats** using different technologies, quantifying socio-economic impacts & defining legal policy frameworks.



To **improve and innovate Atlantic observing** by obtaining an international, more sustainable, more efficient, more integrated, and fit-for-purpose system

# Major Programs and Opportunities



## Themes/ Work Packages

- Ocean Literacy
- Seabed and Habitat Mapping
- Shared Access to Research Marine Infrastructures
- Knowledge Sharing Platform
- **Ecosystem Approach to Ocean Health and Stressors**
- Ocean Observation
- Marine Biotechnology
- Aquaculture

# Major Programs and Opportunities



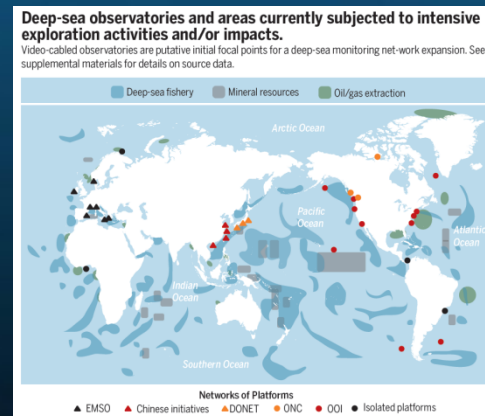
Biodiversity science for sustainability of Canada's three oceans...conservation strategies and cumulative impacts



Predict the export and fate of ocean Net Primary Production (NPP) from satellite and other observations



Coordinating observations in the deep ocean to address grand societal issues of climate change prediction & adaptation, ecosystem conservation & sustainable management in the deep ocean



Danovaro et al. 2017  
*Science*

ASPIRE: Atlantic Seafloor Partnership for Integrated Research & Exploration

# The Ocean Frontier Institute: Reimagining North Atlantic Research

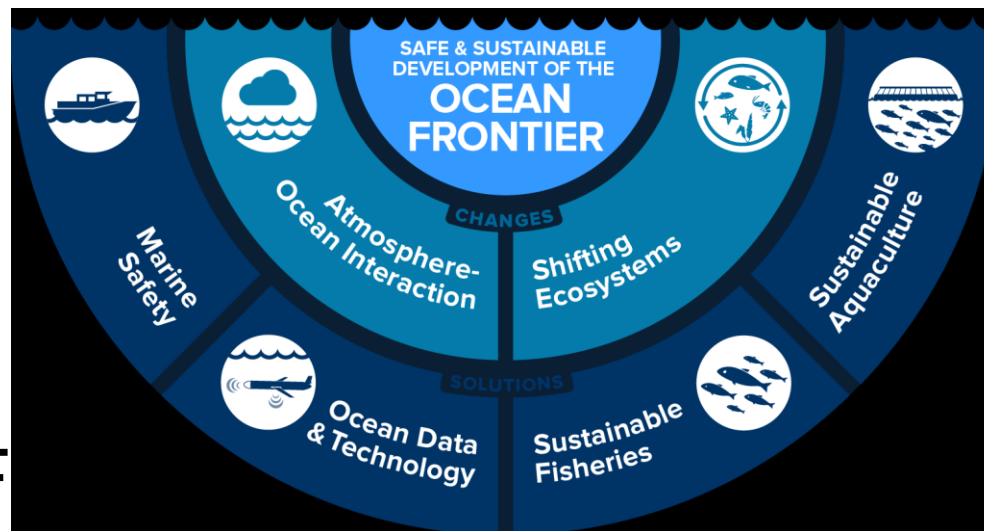


**International Partners - *The World's Best***



# The Ocean Frontier Institute: Reimagining North Atlantic Research

## Novel Partnering for the Changing North Atlantic



Initial F

- Changes in Atmosphere Ocean Interactions
- Sustainable Aquaculture
- Marine Safety
- Ocean Data Analytics
- Shifting Ecosystems
- Sustainable Fisheries

# The Ocean Frontier Institute: Reimagining North Atlantic Research



## Significant Canadian Initiative

CFREF AWARD	\$ 93.7M
Funds from Partners	\$ 32.8M
Funds from Other Sources	\$ 17.0M
In Kind Contributions	\$ 75.8M
<b>TOTAL</b>	<b>\$ 219.3M</b>

*\* Also largest contribution from a single donor - \$25M CAD*



# The Ocean Frontier Institute: Reimagining North Atlantic Research

## *The North Atlantic & Arctic Gateway*



### Scientific Relevance

- Meridional overturning circulation
- CO<sub>2</sub> uptake
- Atmosphere-Ocean heat exchange
- Productive but shifting ecosystems
- Arctic to Atlantic connectivity
- Changing sea ice cover
- Ocean acidification, warming

### Social/Economic Importance

- Energy & minerals
- Fishing
- Aquaculture
- Trade and shipping
- Security
- Marine tourism
- Coastal communities
- Gateway to the Arctic

# The Ocean Frontier Institute: Reimagining North Atlantic Research

## Focus of Activities | RESEARCH

- Frontier Scholars  
Faculty Hires | 16 @ Dal, 11 @ Memorial
- Large Research Projects  
~ \$200-\$1M each (approx.)
  - ✓ Phase 1: 2017-2022 (Targeted)
  - ✓ Phase 2: 2019-2024
- Small Seed Fund Total  
~\$120K/a
- New Opportunities Fund Total  
~\$430K/a
- Technical Support  
Technician/Analyst Hires: 16 @ Dal

- New Research Infrastructure

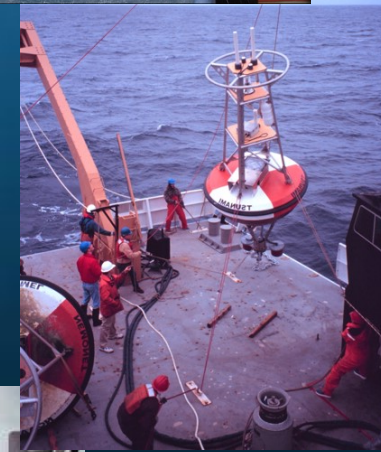
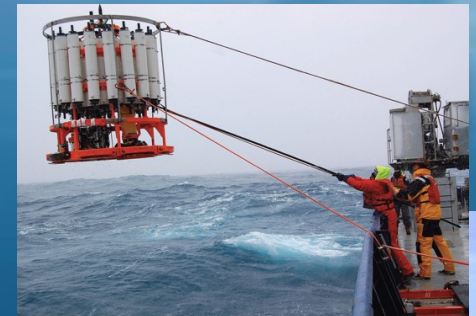




# The Ocean Frontier Institute: Reimagining North Atlantic Research

## Focus of Activities | PEOPLE EXCHANGE

- International Post-Doctoral Fellow Program
  - ✓ 10 PDFs are funded in any given year
  - ✓ 2-3 year terms
  - ✓ Spend time at partner institutions
  - ✓ Promote cross-disciplinary collaboration
- International Visiting Fellows Program
  - ✓ Principal Investigators
  - ✓ Funds to support extended interaction with Dalhousie
  - ✓ Multiple shorter stays or several longer stays
  - ✓ Promote cross-disciplinary collaboration
- Bilateral Graduate Schools



# Across the pond....

## In summary...

- One ocean, many shared challenges
- Numerous good reasons to work together
  - nature ignores borders
  - scales of problems large
  - shared infrastructure maximizes efficiency
  - Areas Beyond National Jurisdiction often ignored
- Multiple efforts underway
- Typically funds do not cross borders
- People are the most efficient currency