

# Observing Assets on the Northwest Atlantic Continental Shelf

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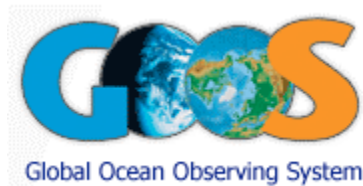
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# Ocean Observing Systems



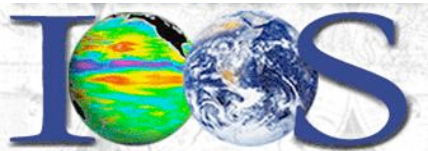
## **GEO and GEOSS**

Group on Earth Observations,  
Global Earth Observation System  
of Systems



## **GOOS**

Global Ocean Observing System



## **IOOS**

Integrated Ocean Observing  
System



## **ORION**

Ocean Research Interactive  
Observatory Network

# Ocean Observing Systems

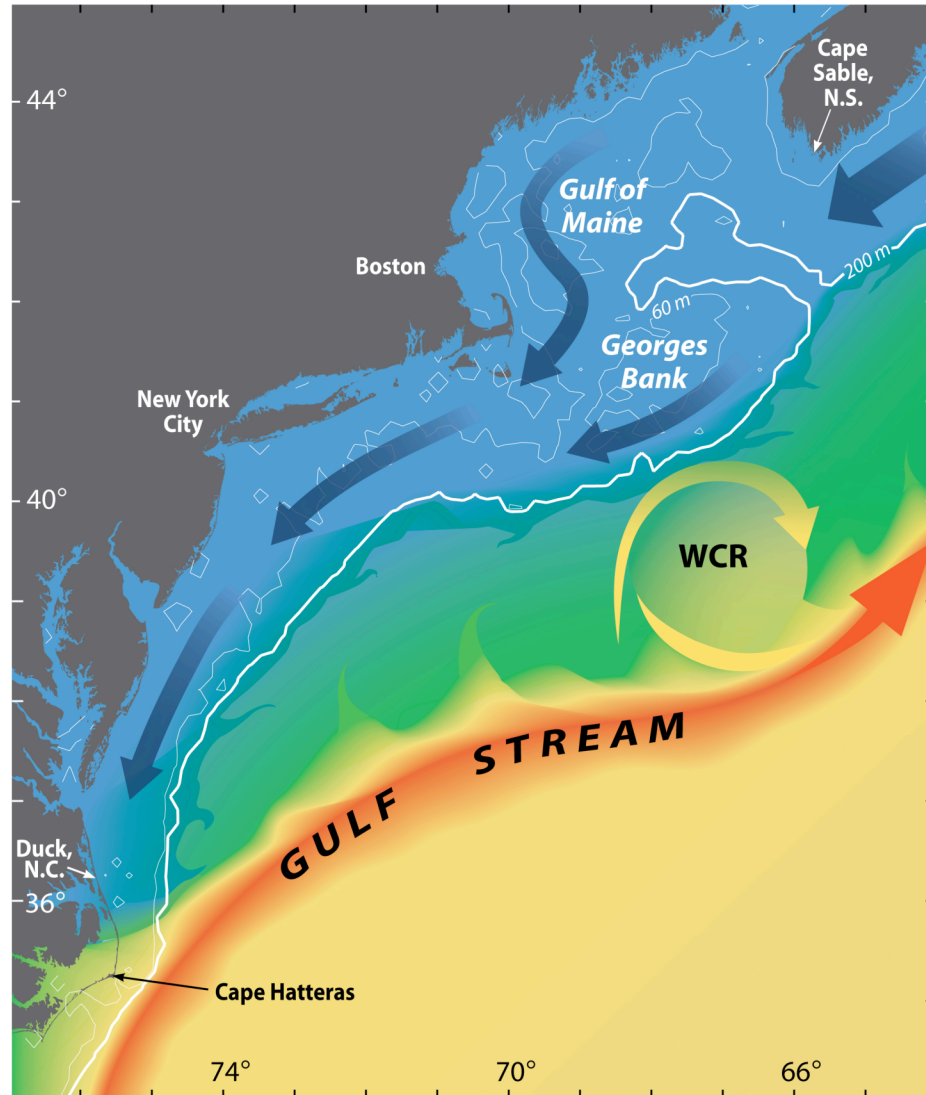


# Region of Interest

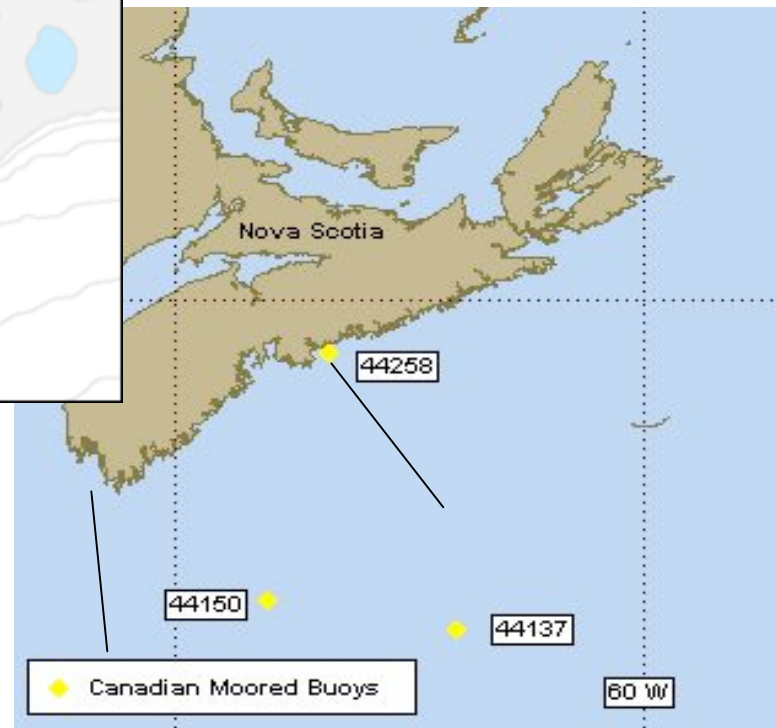
The Initiative focuses on the northwest Atlantic continental shelf from Nova Scotia to Cape Hatteras

This predominantly advective system is fed from the Labrador Shelf and bounded on the seaward side by the shelf break front

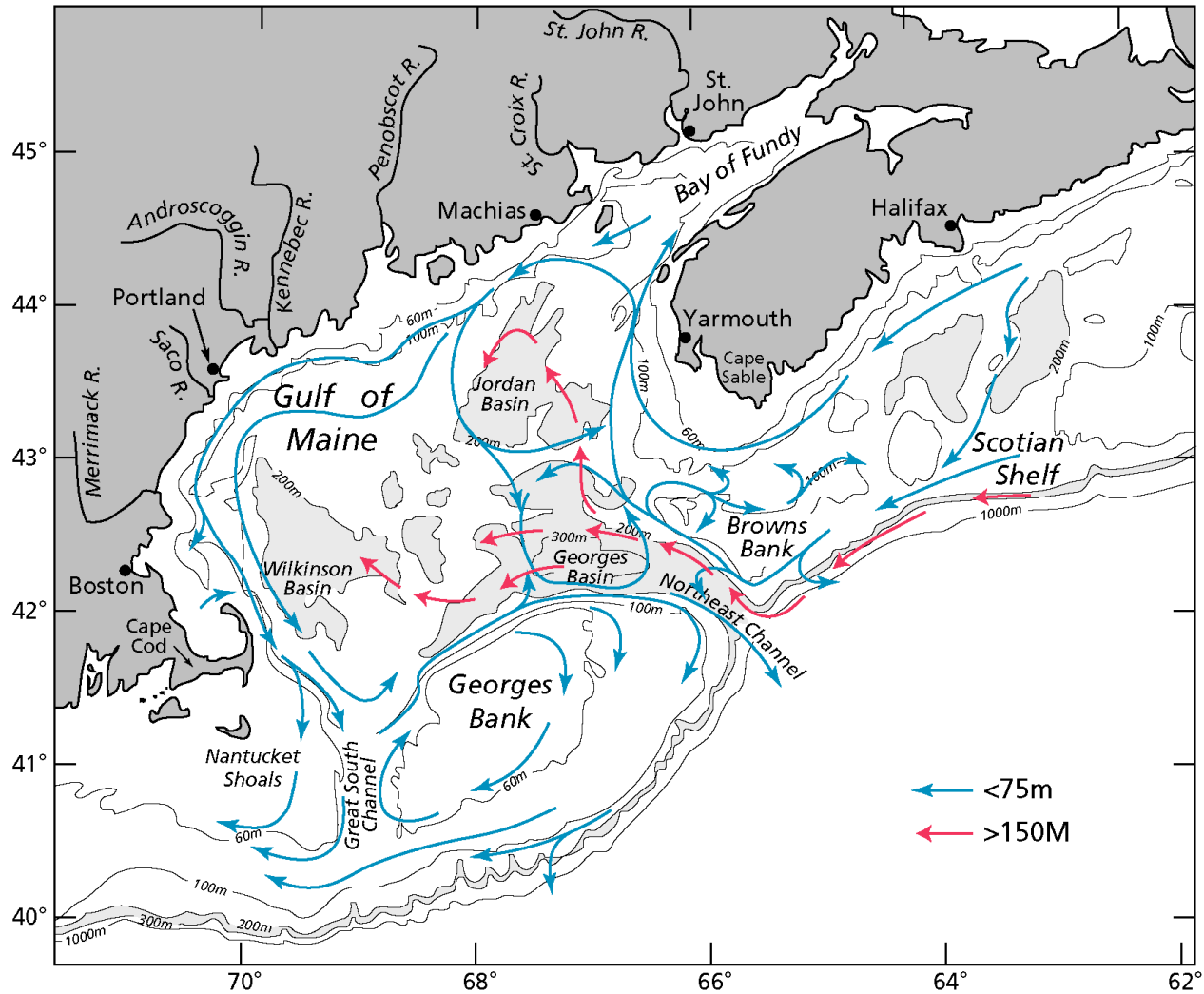
Understanding property exchange across this front is challenging due to variability of the front itself and the influence of mesoscale features (e.g. Warm Core Rings)



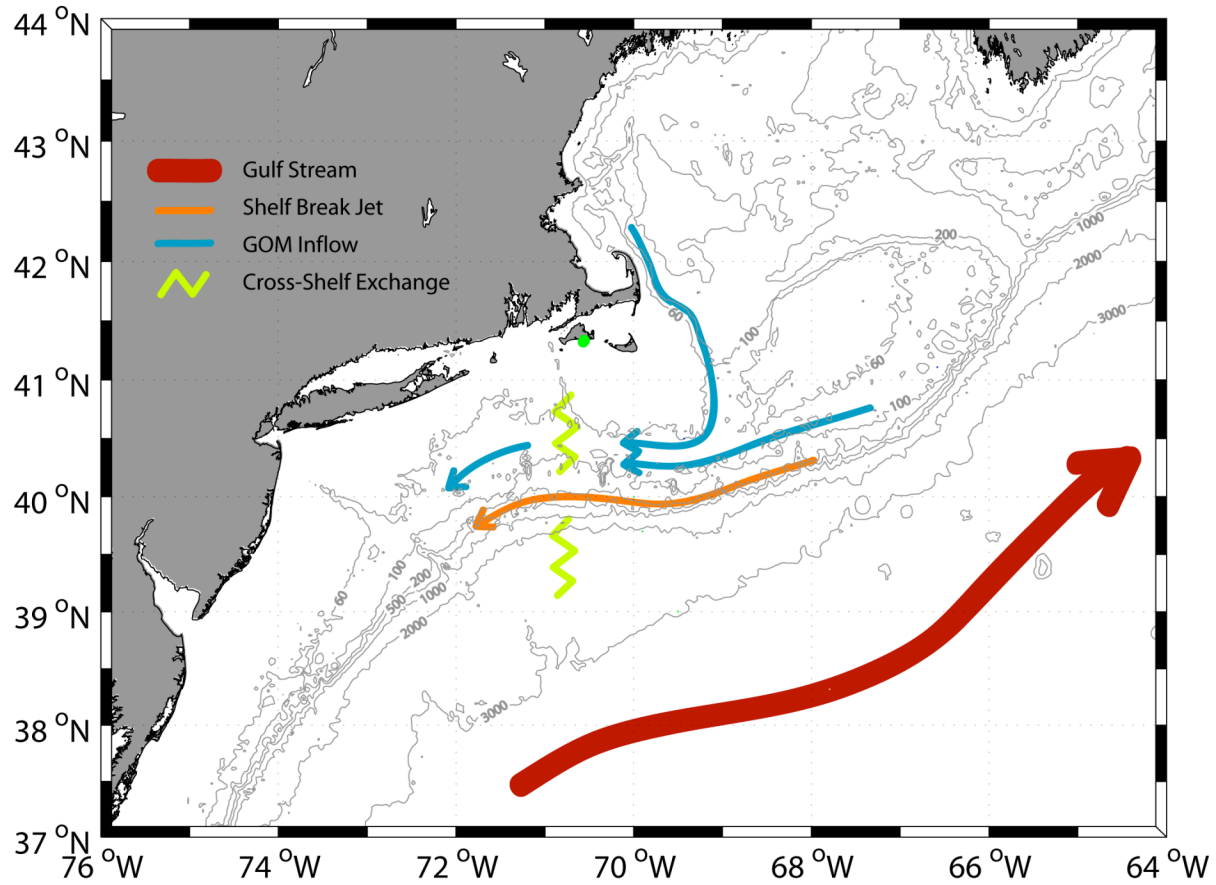
# The Scotian Shelf and GoM



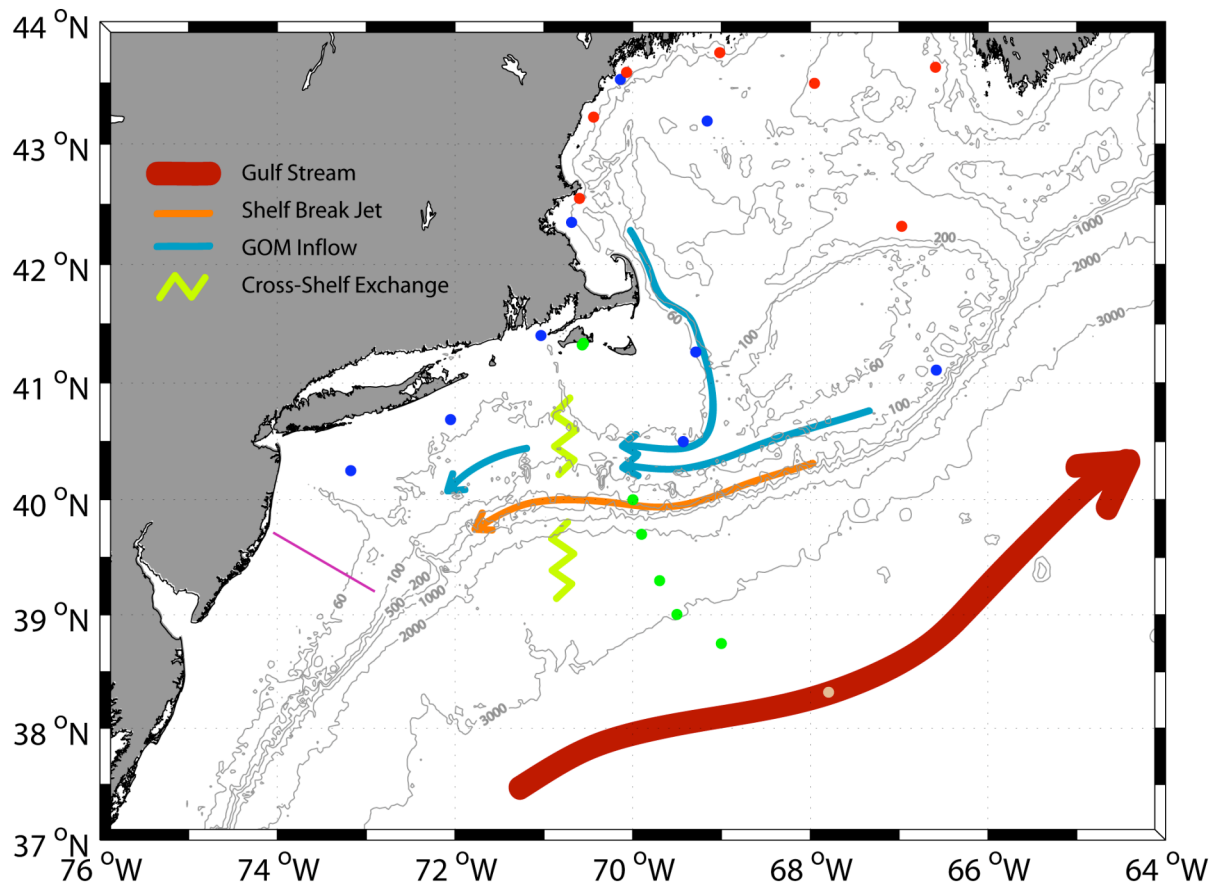
# Gulf of Maine Circulation



# The Middle-Atlantic Bight



# MAB Observing Assets

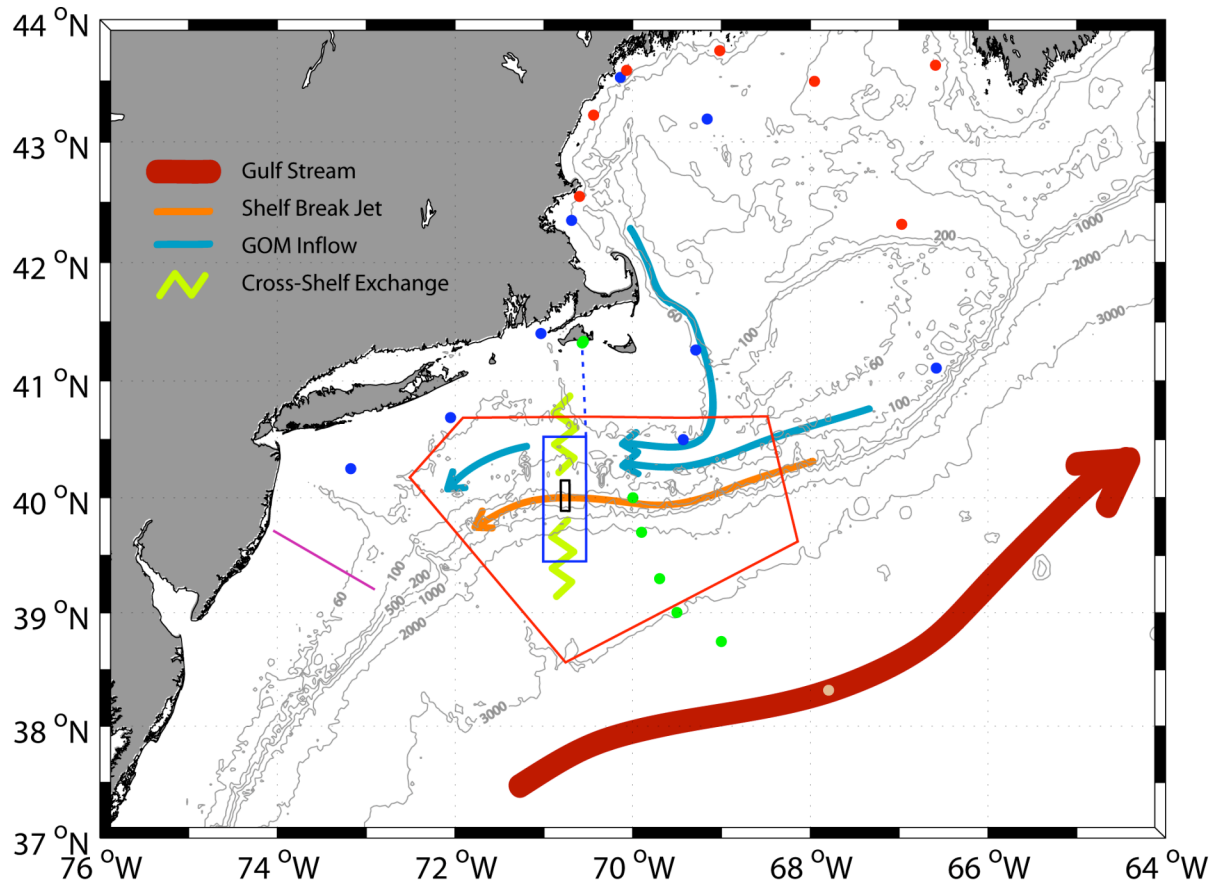


## Existing Observational Assets

- NDBC
- GoMOOS
- Line W
- CLIMODE
- Rutgers glider



# ORION Shelfbreak Pioneer Array



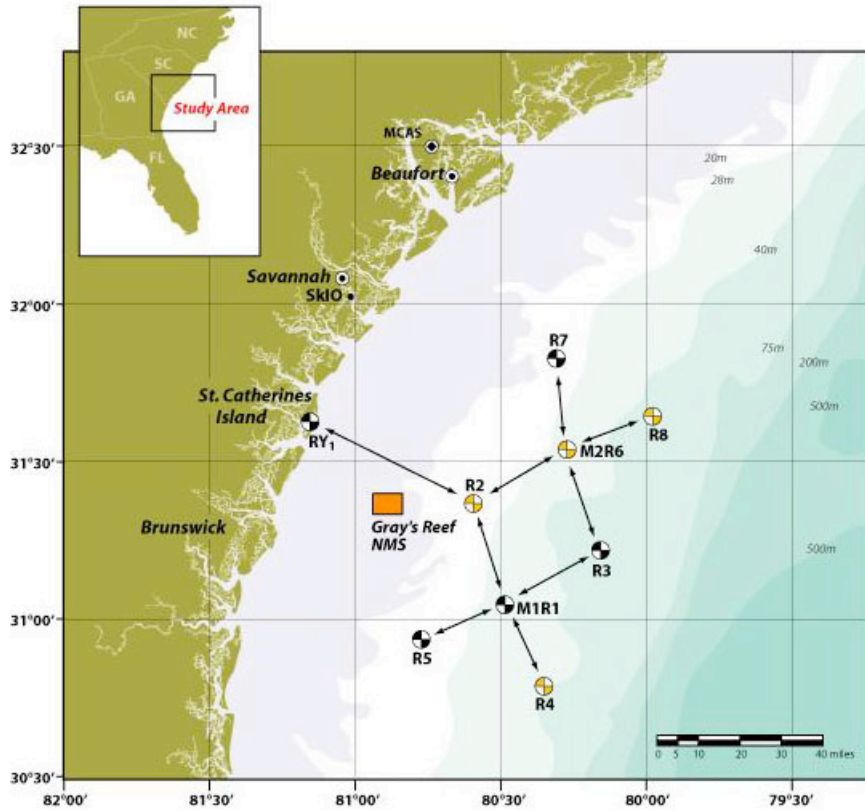
## Pioneer Array

- Mesoscale Array (Gliders)
- Adaptive Array (AUVs)
- Frontal Array (Moorings)

## Existing Observational Assets

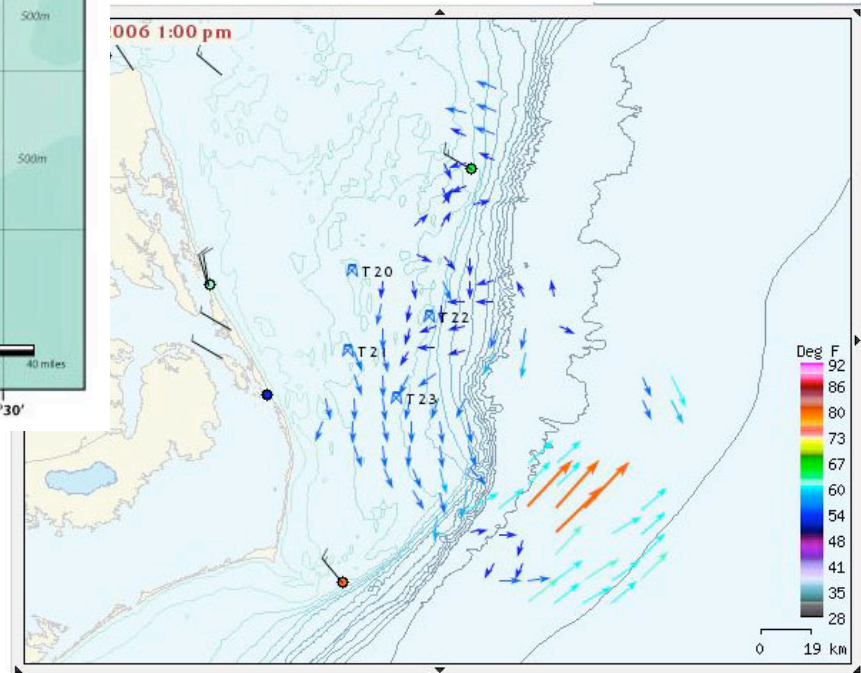
- NDBC
- GoMOOS
- Line W
- CLIMODE
- Rutgers glider

# SAB Observing Assets



SABSOON

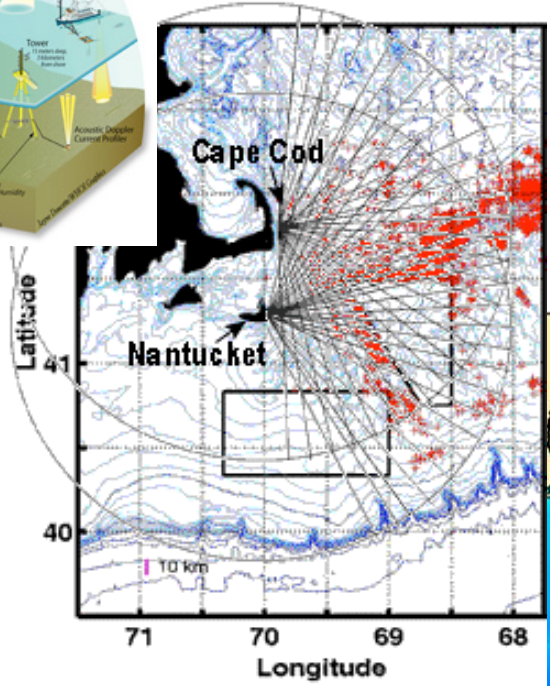
NC COOS



# Sub-Regional Observations

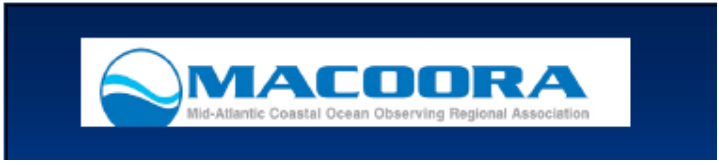
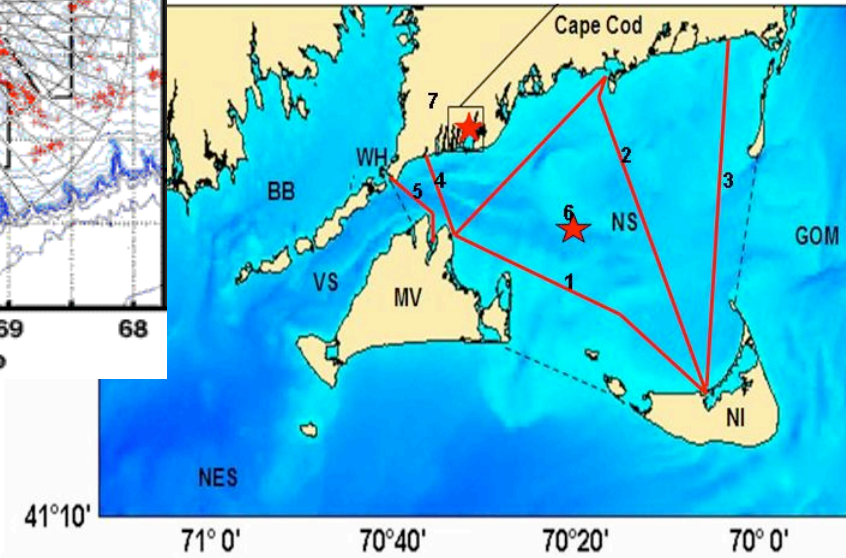


MVCO  
LEO-15/NJSOS

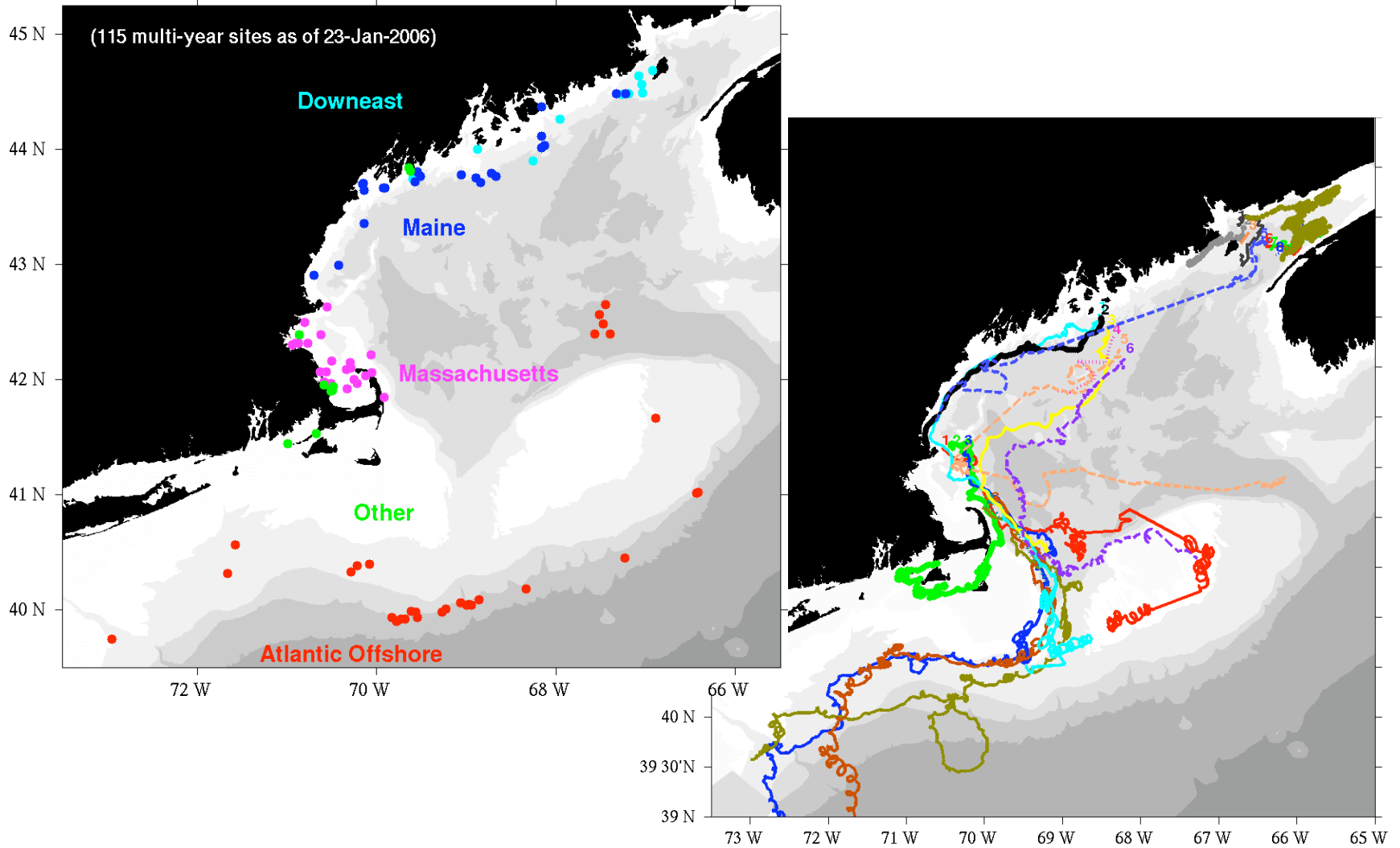


SMAST  
CODAR

Nantucket Sound  
Ferry EMS



# Innovative Solutions: eMOLT



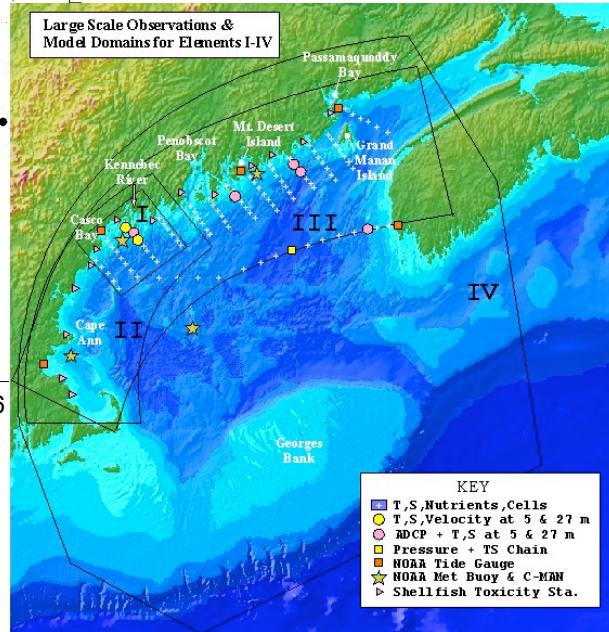
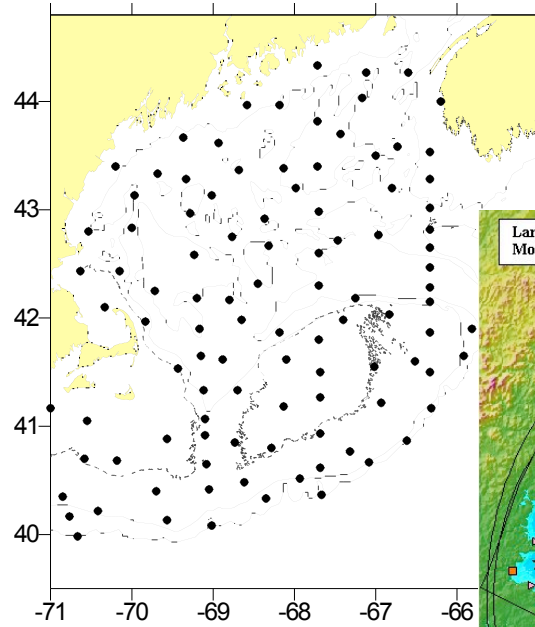
# Questions

- What existing regional assets have we missed?
- What are the most important observational gaps that need to be filled?
- How can the existing assets be used to advance a research agenda?
- How can the sub-regional systems be used to best advantage?
- Innovative solutions will be necessary, what other non-conventional opportunities might exist?
- What level of coordination is appropriate?





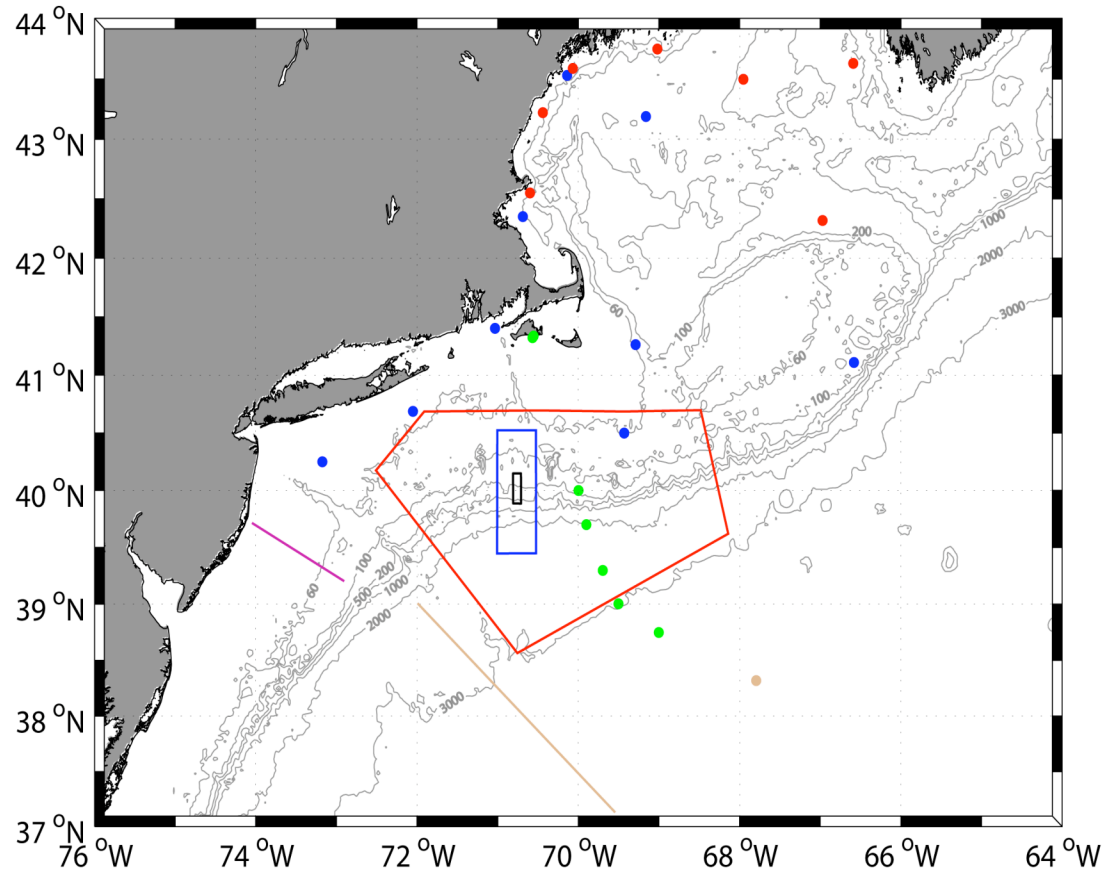
# Historical Data



CMO-  
PRIMER

# Regional Observing Assets

- NDBC, NOS
- Environment Canada
- MVCO, LEO-15
- NMFS Surveys
- CODAR Network
- Station W, Line W
- Glider Lines
- Oleander Line
- Pioneer Array
- ...



## Pioneer Array

- Mesoscale Array (Gliders)
- Adaptive Array (AUVs)
- Frontal Array (Moorings)

## Existing Observational Assets

- NDBC
- GoMOOS
- Line W
- CLIMODE
- Rutgers
- Oleander



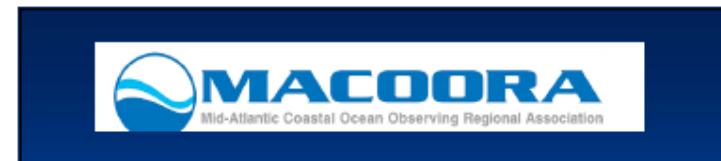
# Related Programs



ECOM, ECCO, ...

**GLOBEC**

CMO, Primer, ...



NERACOOS, NEOS, ECCOO