

Scientific Vision for Coastal Ecosystem Research (A Review)

Presentation at the WHOI Workshop on Coastal Ecosystem Research in the Northwest Atlantic

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Overview:

- 2005 CICOR/NMFS workshop
- Representative observing schemes for
 - Gulf of Maine
 - Massachusetts Shelf
 - Middle Atlantic Bight

2005 CICOR/NEFSC Workshop on Planning Coordinated Research on Ecosystems, Climate & Policy in the Northeast

- Focus on 4 topics:
 - harmful algal blooms
 - nutrients & contaminants
 - fisheries
 - biodiversity conservation
- Selected key recommendations:
 - assess the horizons of predictability & management
 - establish a baseline for identifying ecosystem change
 - develop improved prediction capabilities
 - build the Northeast observing system
- Phased 15-year implementation plan

Gulf of Maine Observing Array

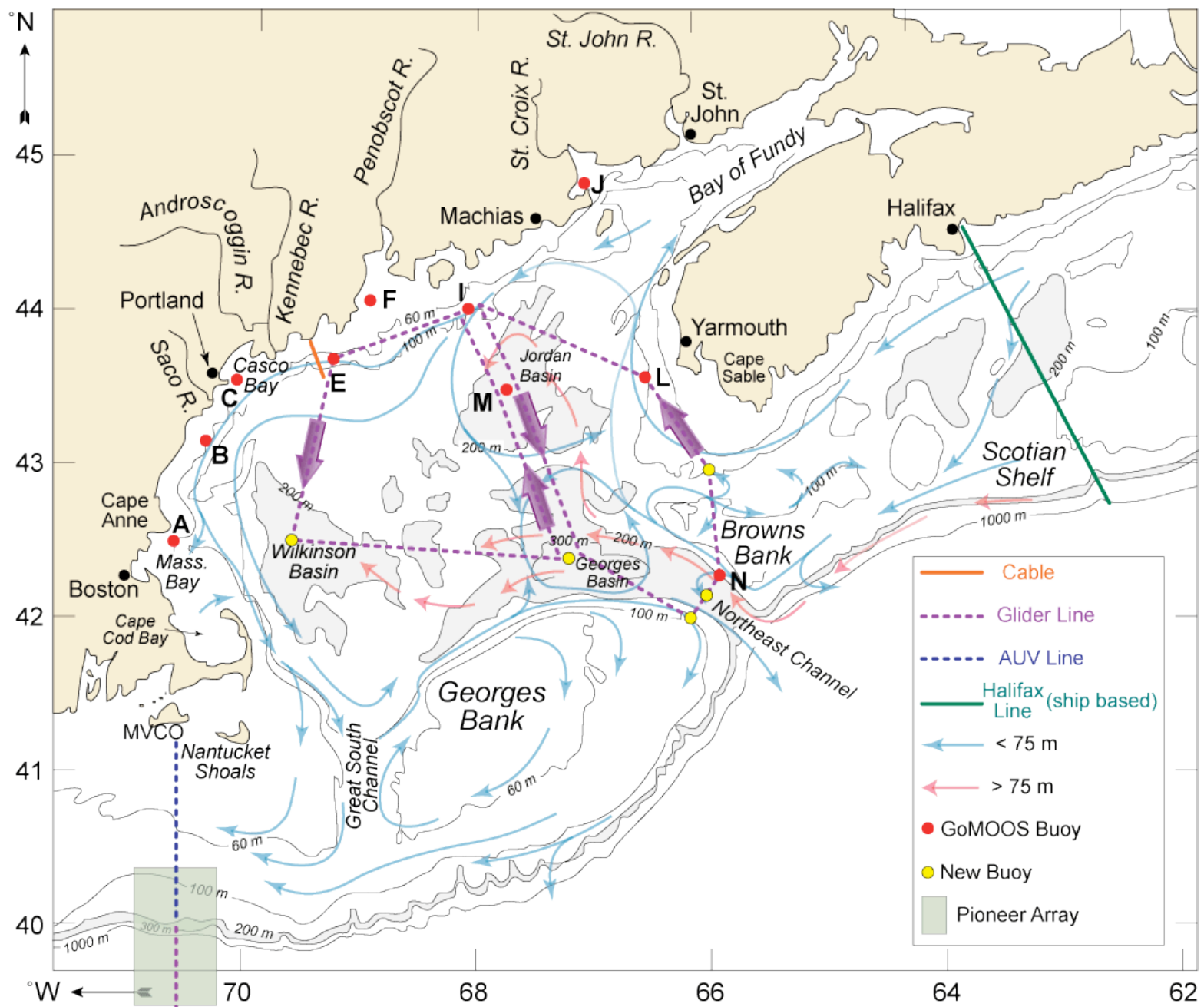
(Jumars et al. 2005 ORION RFA Response)

Over-arching question:

Response of primary productivity & benthic-pelagic coupling to climate change

Selected subissues:

- Response of phytoplankton community composition to stability & nutrient ratios
- Ecosystem response to episodic events
- Coastal current dynamics
- Reef effects



Massachusetts Continental Shelf

June 2006 WHOI Workshop on MA Observing Systems

Working Group #1

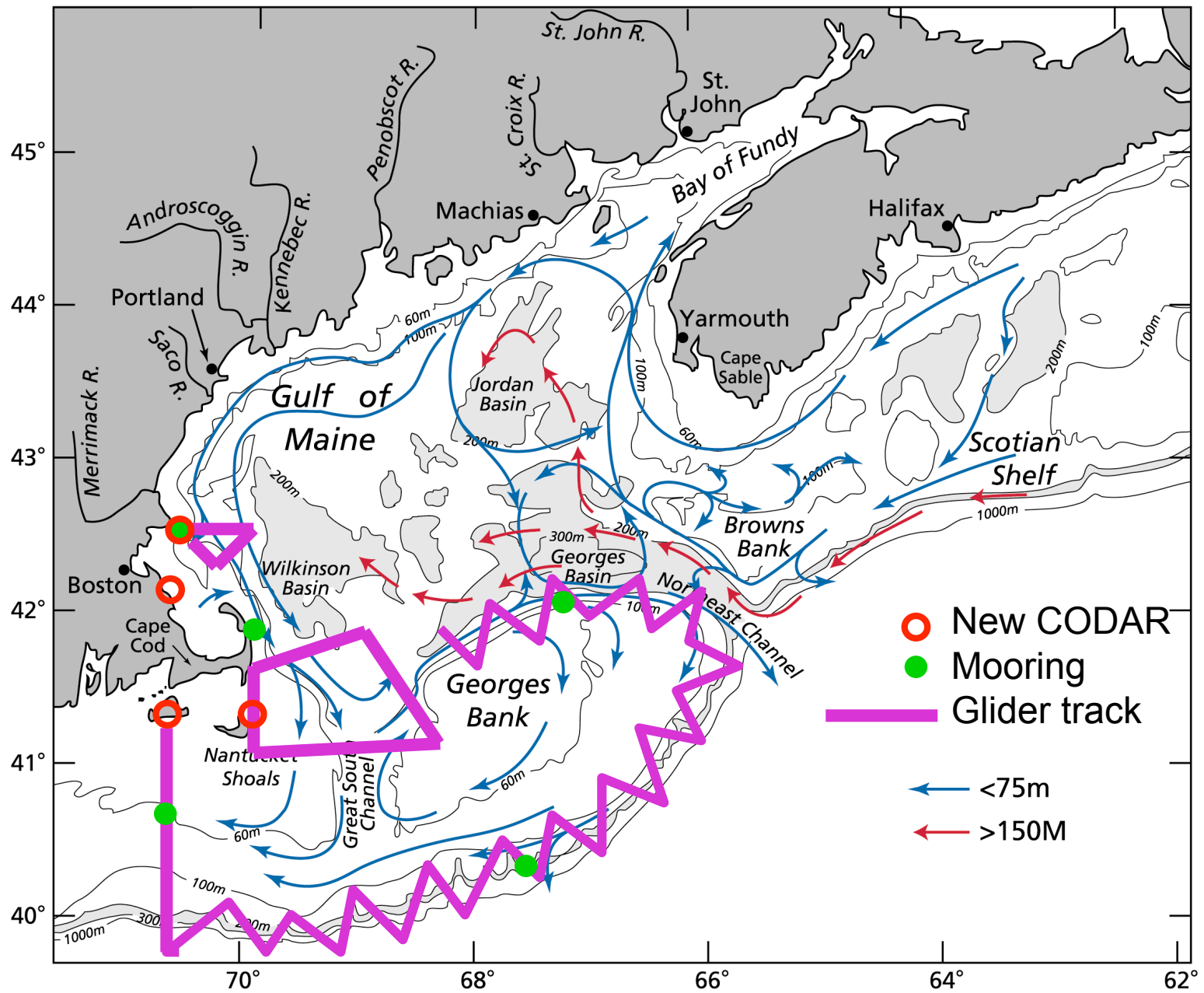
Focus on knowledge gaps in currents & transport

Two critical bifurcation points:

- GoM coastal current east of Cape Ann
- Outer Cape to Great South Channel

Other issues:

- Entrance to Nantucket Sound
- Flow around Georges Bank
- Flow into Middle Atlantic Bight



Jahnke et al. 2003

CoOP CORA Workshop Report

Middle Atlantic Bight Observing System

Selected scientific issues:

- shelf-slope frontal exchange processes and ecosystem dynamics
- evolution, impact and fate of estuarine discharges
- cross-shelf variability of physical processes and ecosystem response

