

# Ocean Acidification Research in the Northeastern Pacific

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## National Level:

NSF dedicated call for proposals 2010; awards made  
NSF funds Ocean Carbon and Biogeochemistry Program  
NOAA funds activities consistent with their mission  
And coordinates among federal agencies (ONR, NASA)





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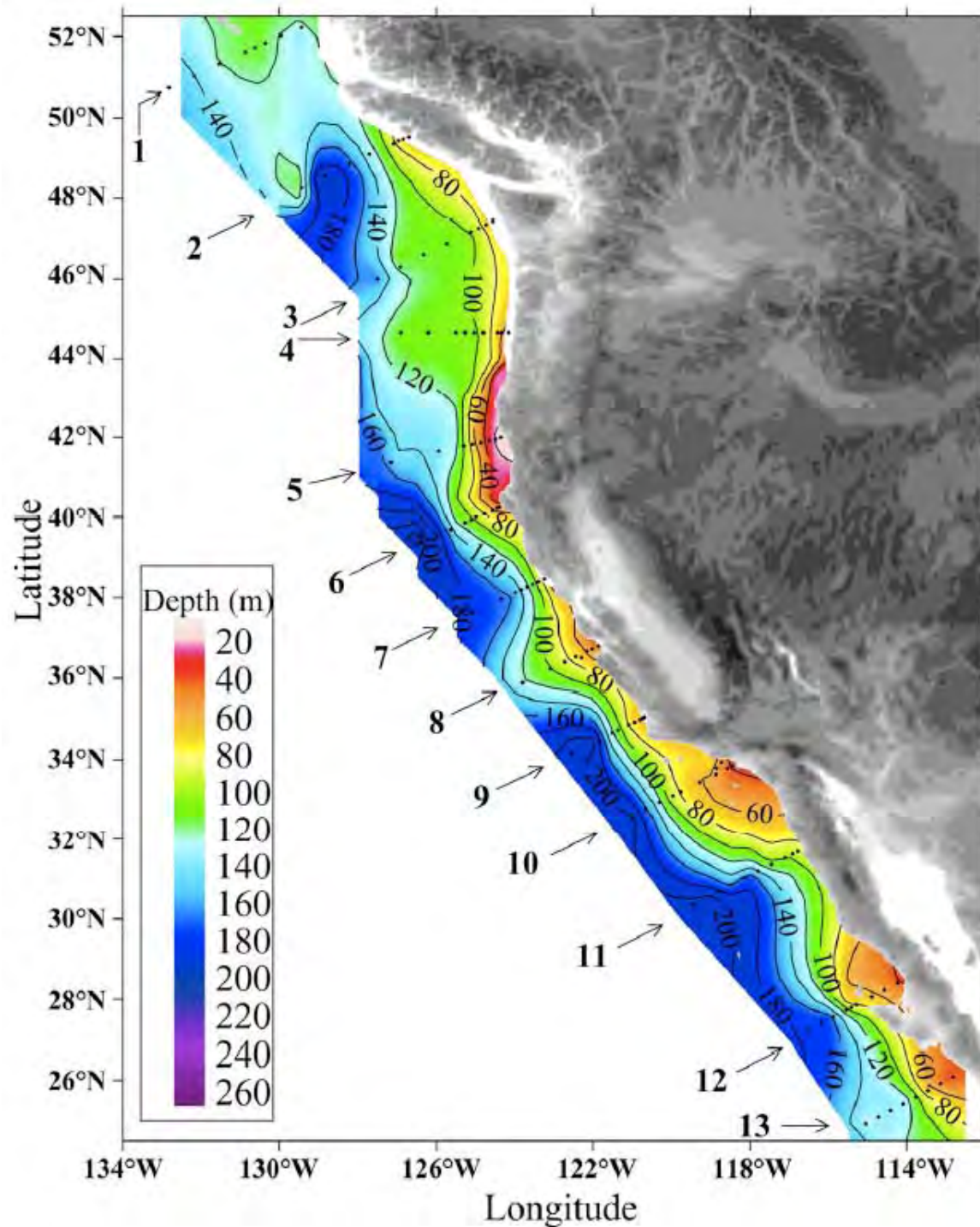


No coordinated program of research

# Surface Circulation



Seasonal upwelling  
brings  
undersaturated water  
to the surface  
in the California Current



Feely et al. 2008

Estuarine circulation  
typical of inland waters

Strongly influenced by  
Fraser River and others

Inland waters exhibit  
low oxygen, pH,  $\Omega$

can be highly  
undersaturated  
and anoxic



# Impacts on fisheries of regional importance



Wild stocks of Pacific salmon are of particular interest

# Impacts on commercial aquaculture, esp. oysters

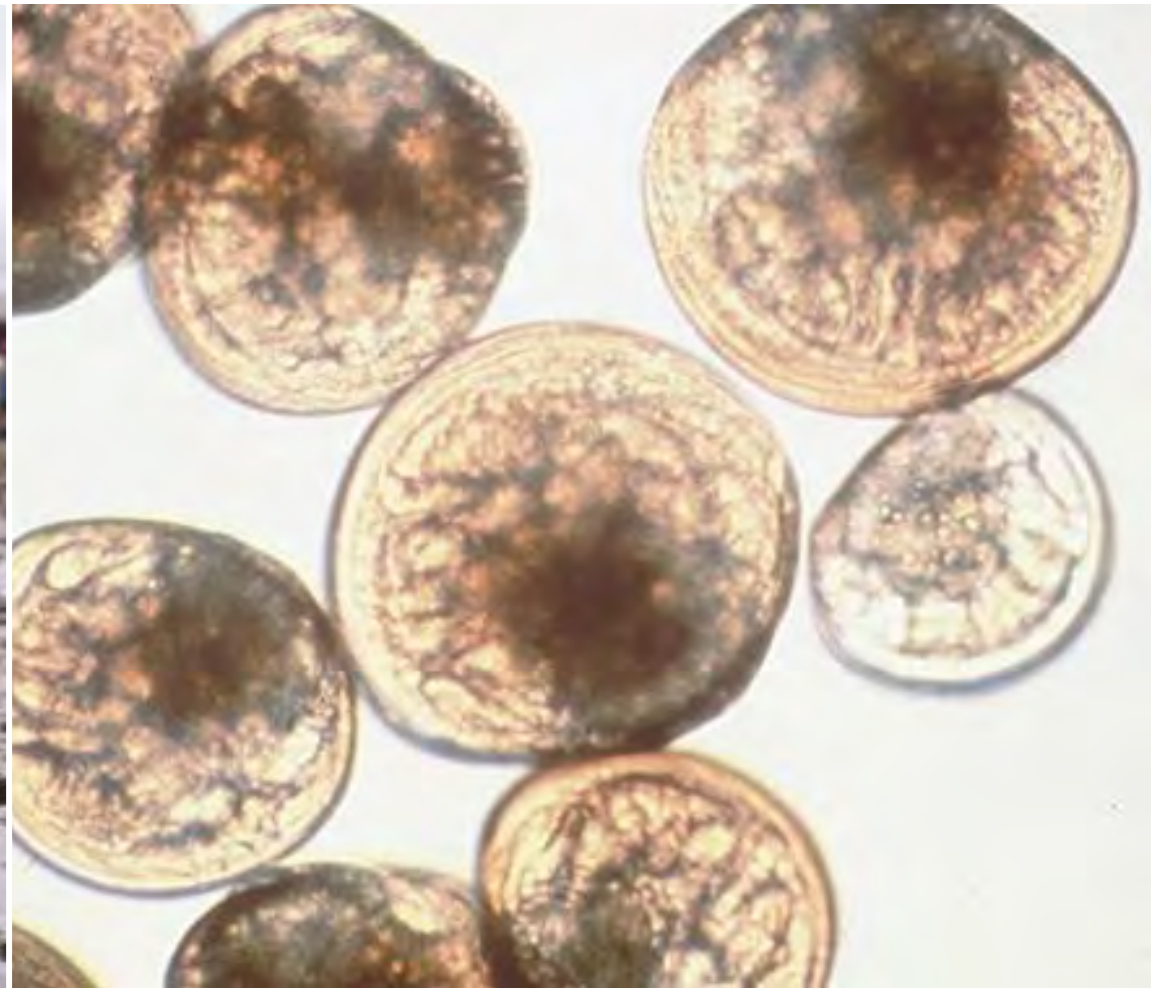


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Shellfish aquaculture is of economic and cultural importance



# Impacts on commercial aquaculture, esp. oysters



Widespread, persistent larval mortality over past 5 years appears associated with upwelling of corrosive water

# Influence on primary production and carbon cycling among key habitat-forming species



Seagrasses in semi-enclosed bays and estuaries

University of Washington

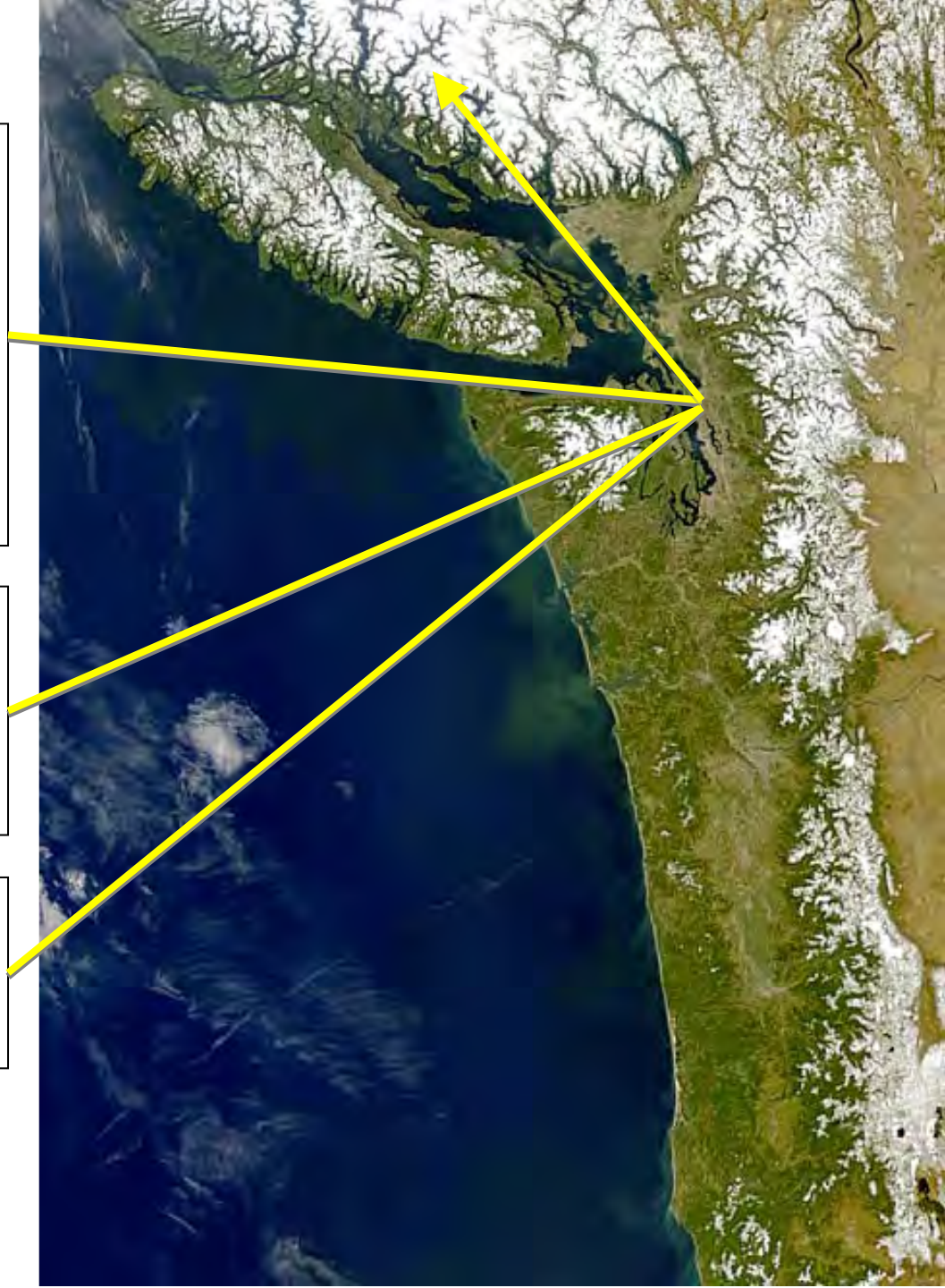
Experimental studies on organisms  
Ocean observing  
Ecosystem modeling  
Genome studies  
Policy Studies  
Integrative graduate education

Northwest Fisheries Science Center

Experimental studies of  
commercially-important species  
Food web and ecosystem modeling

Pacific Marine Environmental Lab

Carbon cycle research  
Ocean observing



University of Washington

Friday Harbor Laboratories

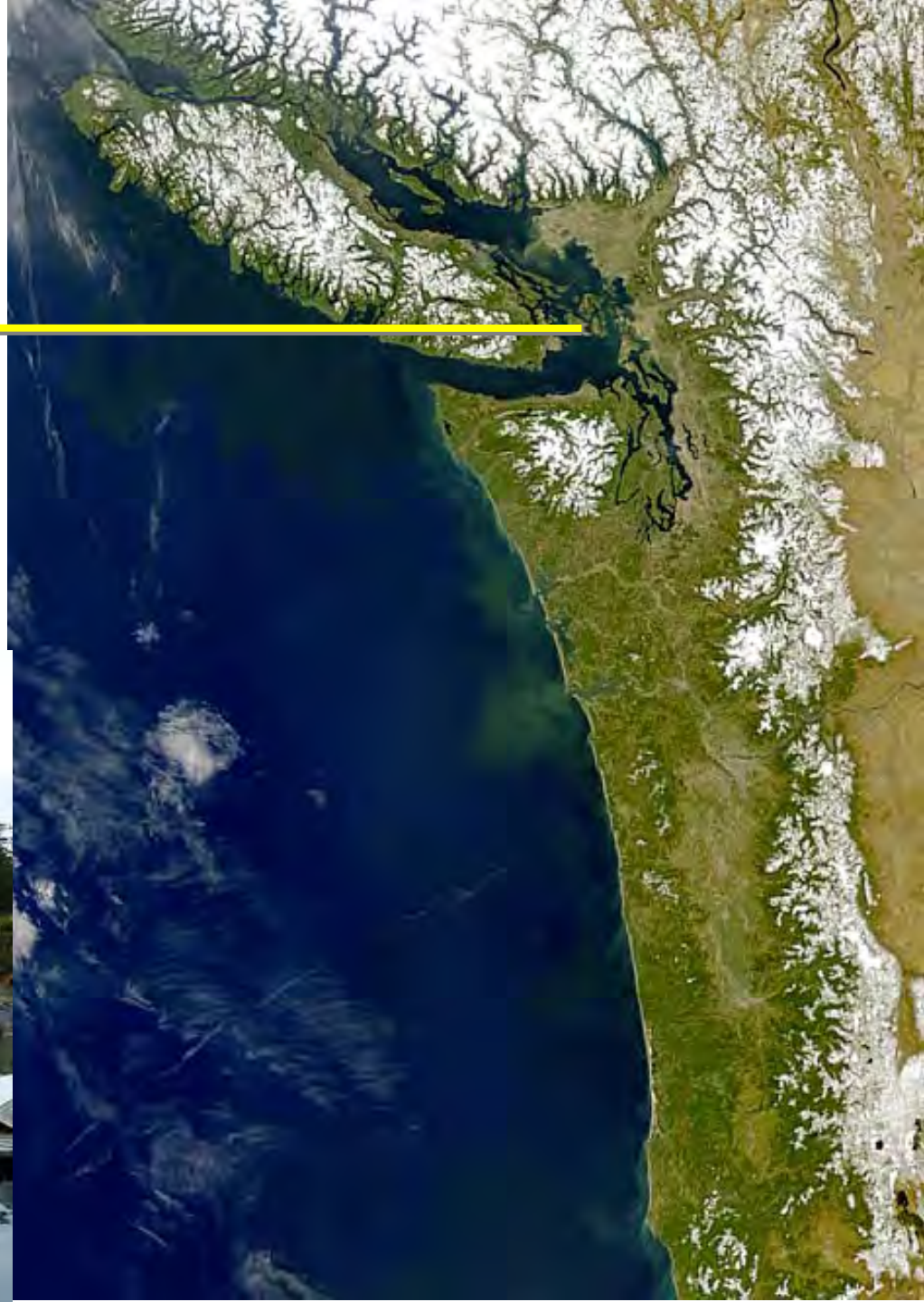
In-water mesocosm facility

OA experimental and analytical  
laboratories

Locus for graduate OA training

First course Summer 2011

**Center for Ecology of the Changing  
Ocean**





Worldwide Universities Network

Proposed Collaboration on  
Ocean Acidification  
UW Lead: Jim Murray

## Adapting to Climate Change



UK Member Universities:  
Southampton, Sheffield, Leeds, Bristol, York

Proposed:

NSF Integrative Graduate Education and Research Traineeship

Topic: Ocean Change

Benefits: Graduate student support for cross-disciplinary and international training



# Acknowledgments

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