

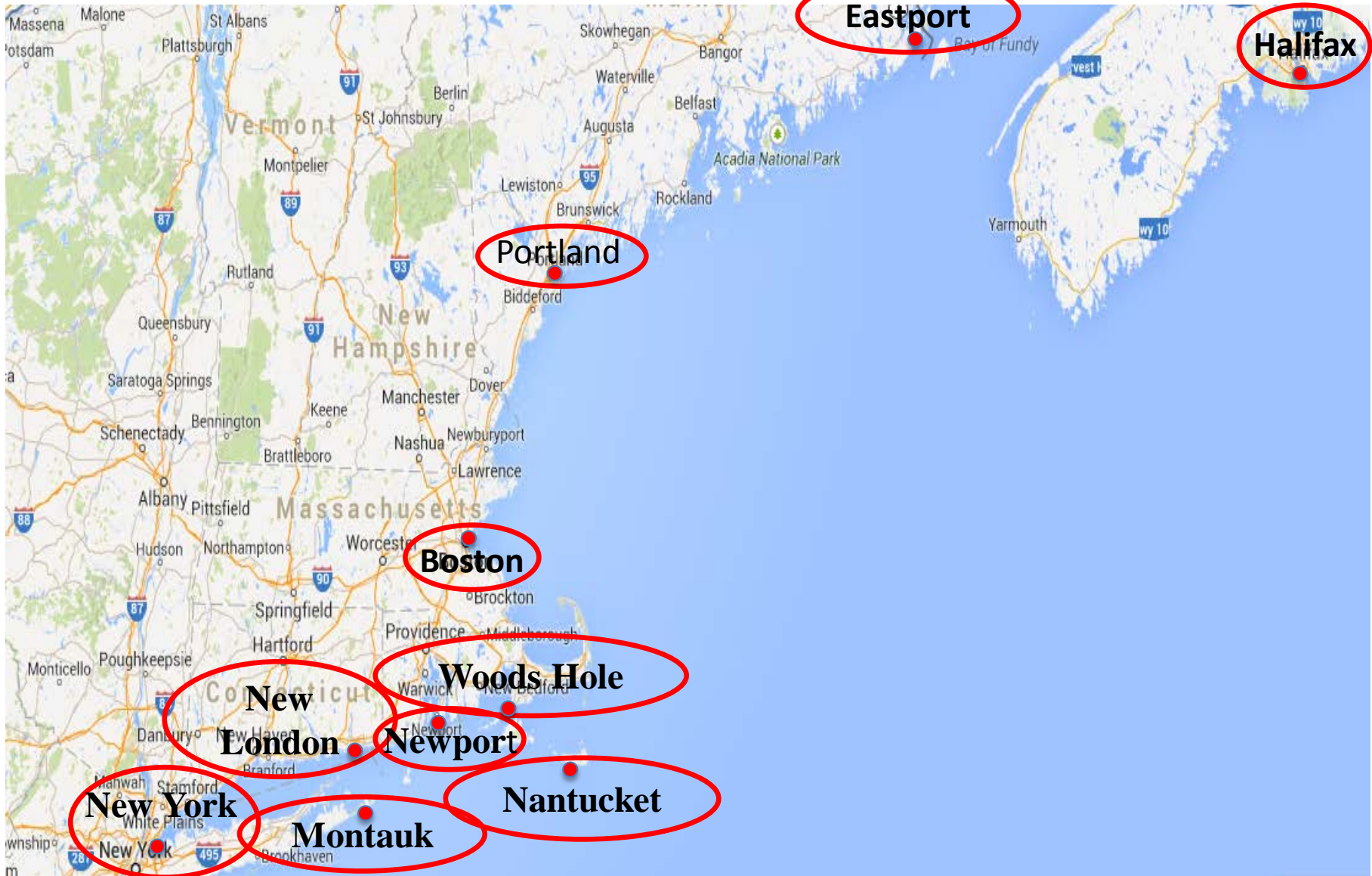
FVCOM: A New Model to Forecast Coastal Inundation Driven by Regional-to-Local Scale Change in Atmospheric and Ocean Forcing due to Climate Change

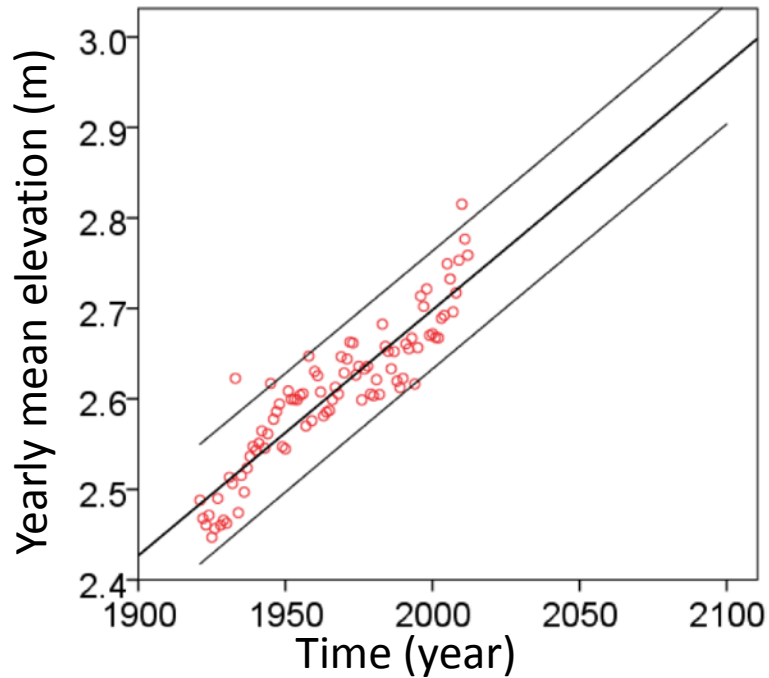
Robert C. Beardsley¹ and Changsheng Chen²

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²School for Marine Science and Technology, University of Massachusetts-Dartmouth
University of Massachusetts School of Marine Science

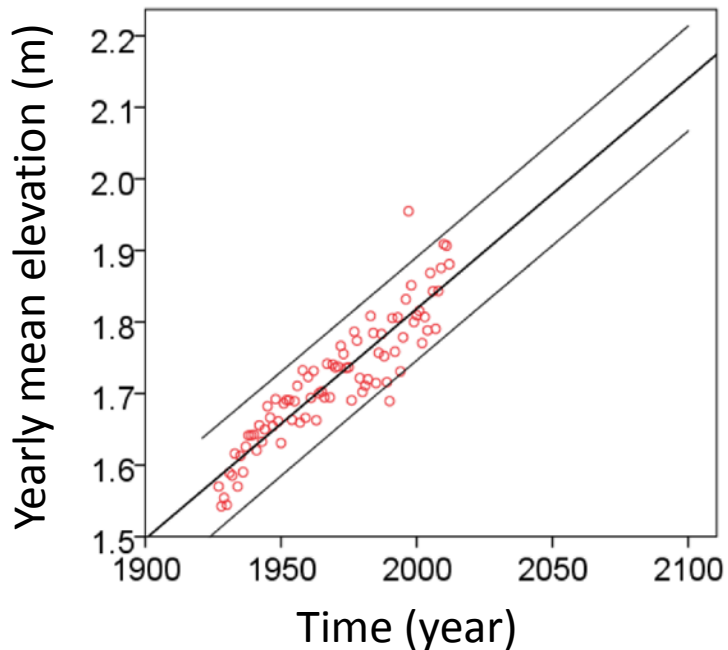
Tidal gauge stations





Year	Mean Elevation Projection (m)
1927	2.49
2012	2.76
2100	2.97

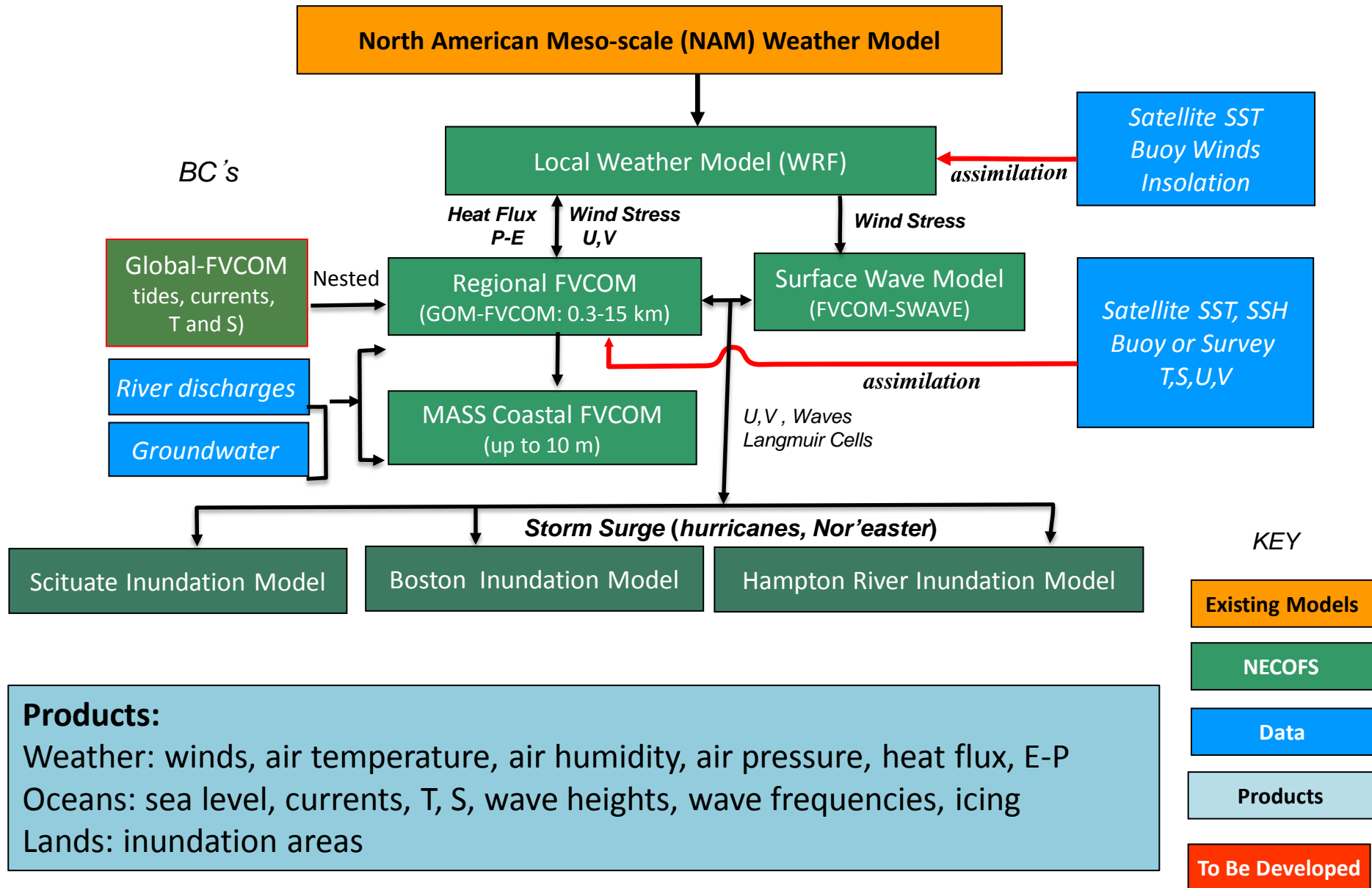
Boston



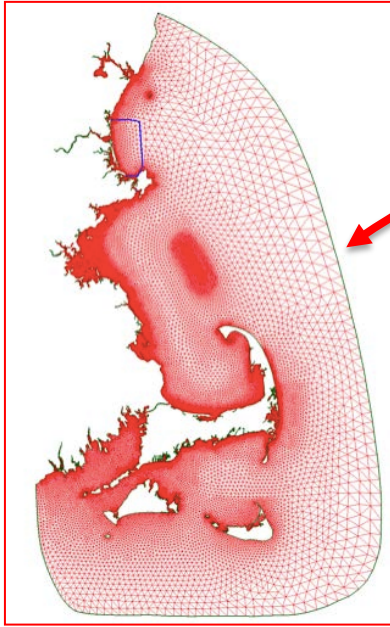
Year	Mean Elevation Projection (m)
1927	1.57
2012	1.88
2100	2.12

New York

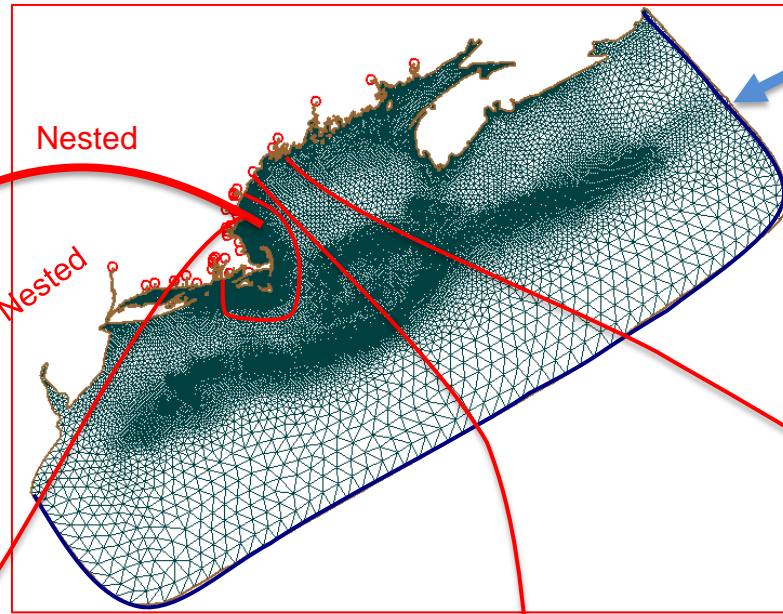
Northeast Coastal Ocean Forecast System (NECOFS)



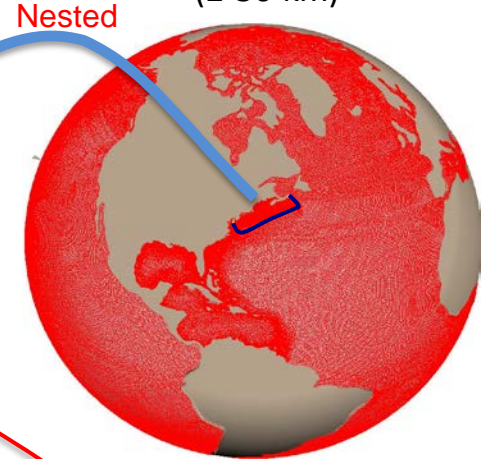
**Mass-Coastal FVCOM
(10 m-5 km)**



GOM-FVCOM (0.3-15 km)



**Global-FVCOM
(2-50 km)**



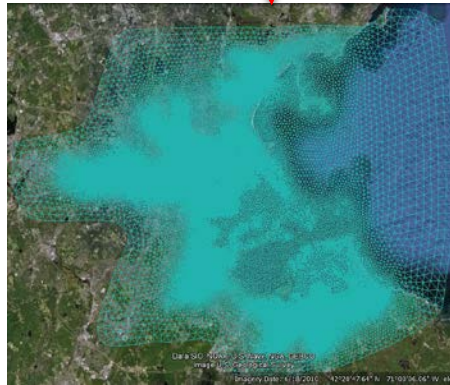
Nested

Nested

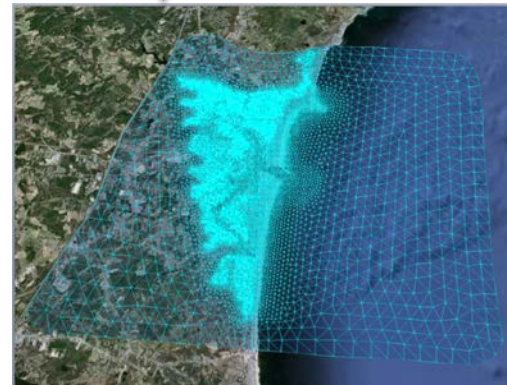
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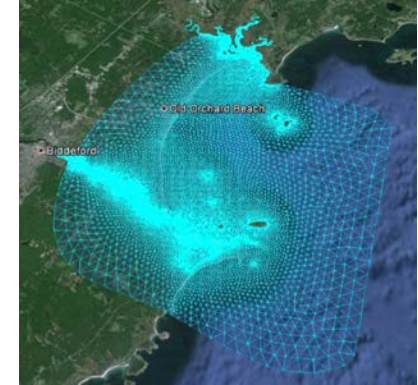
Scituate, MA (up to 10 m)



Boston Harbor, MA (up to 10 m)



Hampton, NH (up to 10 m)



Saco Bay (up to 10 m)

Contents of Today's Presentation

Examples of using NECOFS to examine the impact of climate change-caused sea level rise on the storm-induced coastal inundation:

Part I: Historical tidal gauge elevation data analysis and comparison with the IPCC projection

Part II: A case study of Hurricane Bob

Part III: Brief description of on-going experiments for Nor'easters

Part IV: Examples of Global-FVCOM animations.