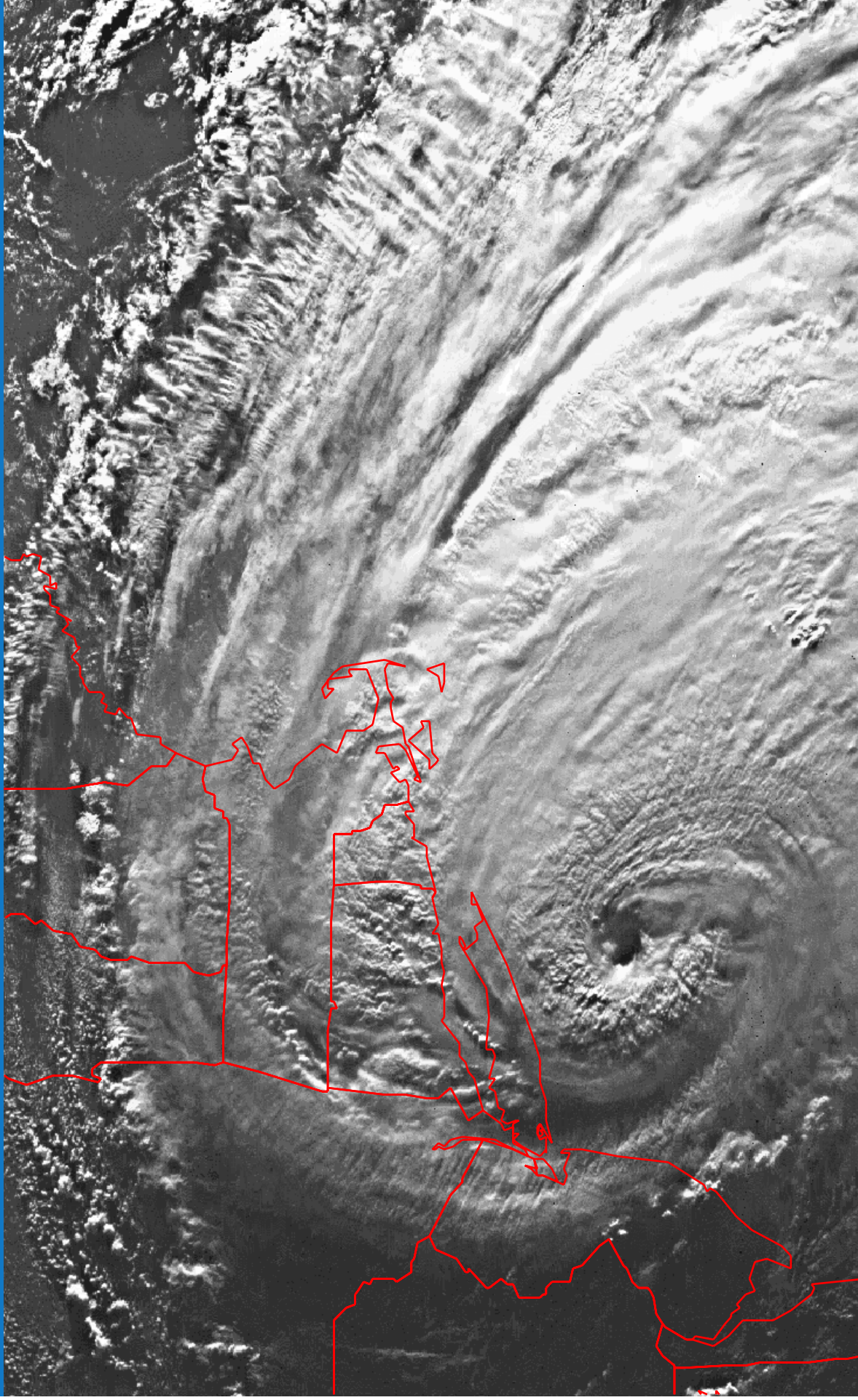


Climate Change and Cape Cod: Coastal Impacts and Adaptation Strategies

Jeff Donnelly, Woods Hole Oceanographic Institution



Outline



Geological context

Water availability

Changes in sea level

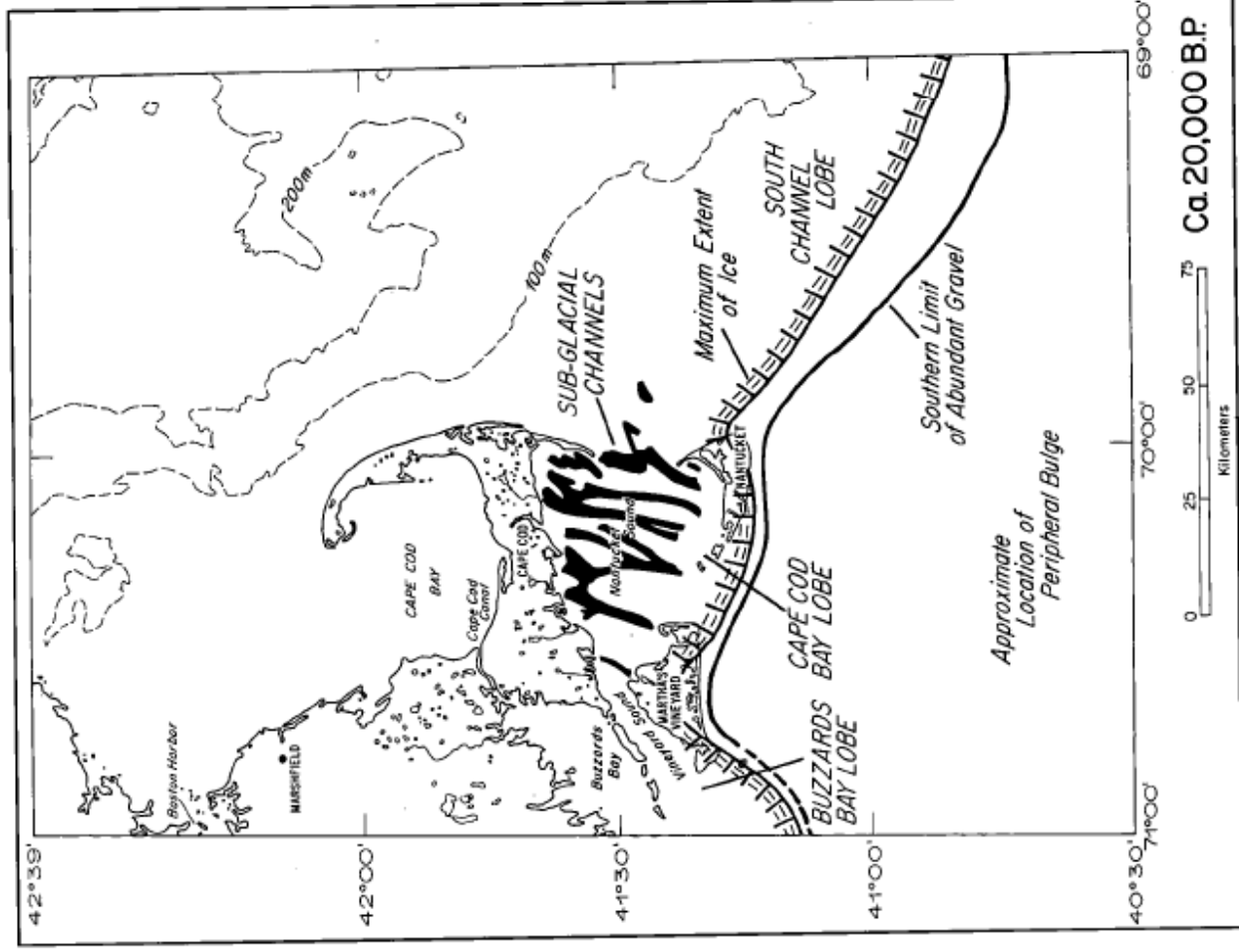
Changes in storminess
focusing primarily on hurricanes

Landscape and Ecosystem Responses

The Geological Foundations: ice sheets, sediments, and the rising sea

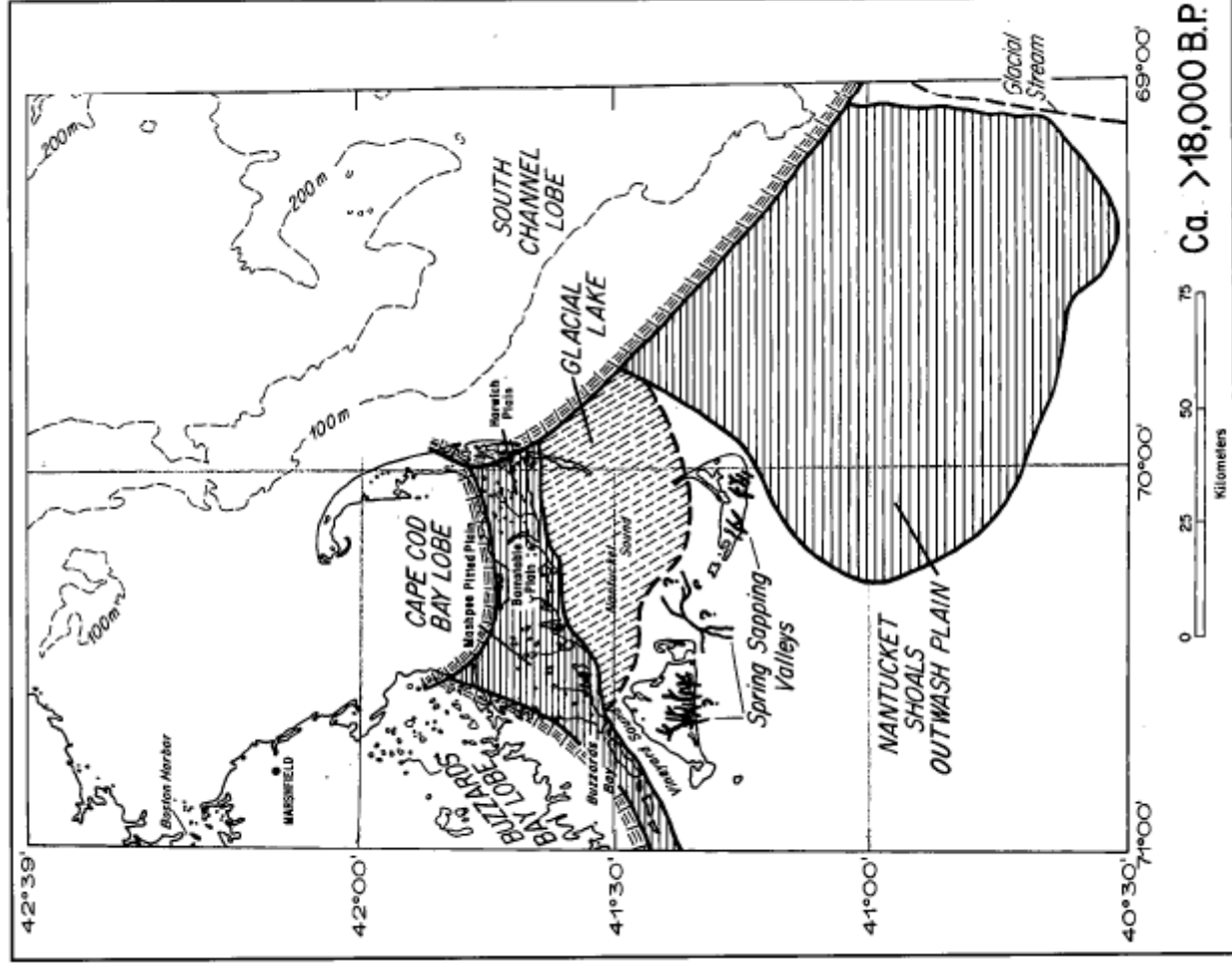


from
Uchupi et al. 1996

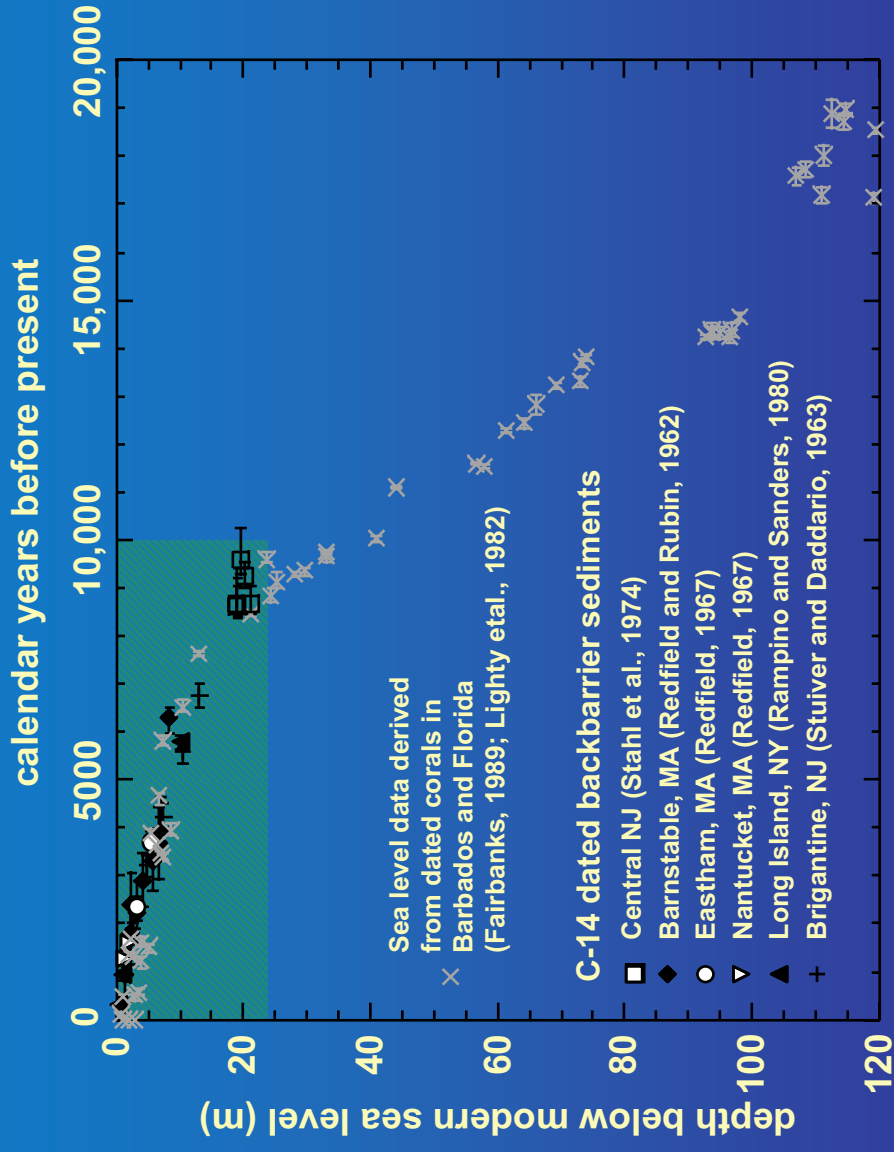


The Geological Foundations: ice sheets, sediments, and the rising sea

from
Uchupi et al. 1996

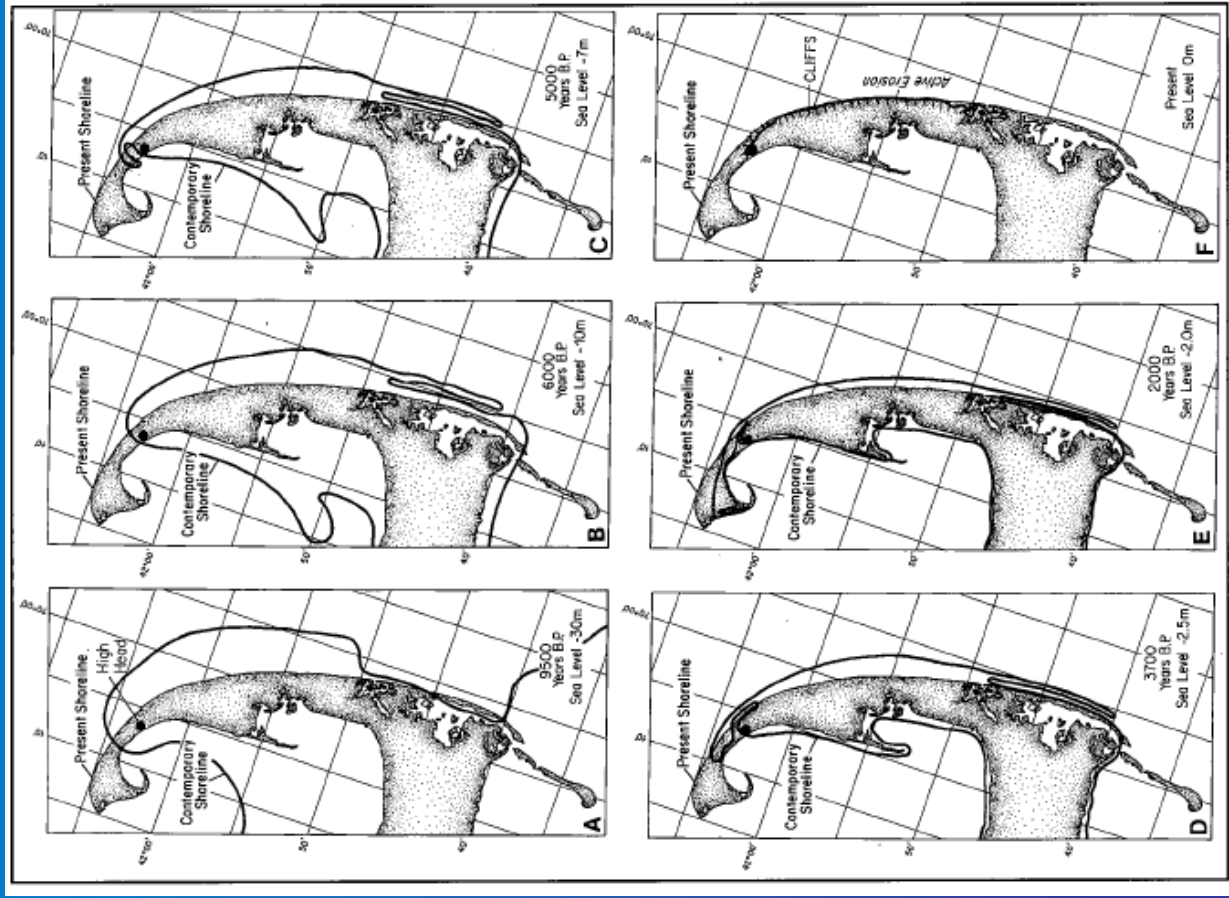


The Geological Foundations: ice sheets, sediments, and the rising sea



from Donnelly and Webb, 2004

The Geological Foundations: ice sheets, sediments, and the rising sea



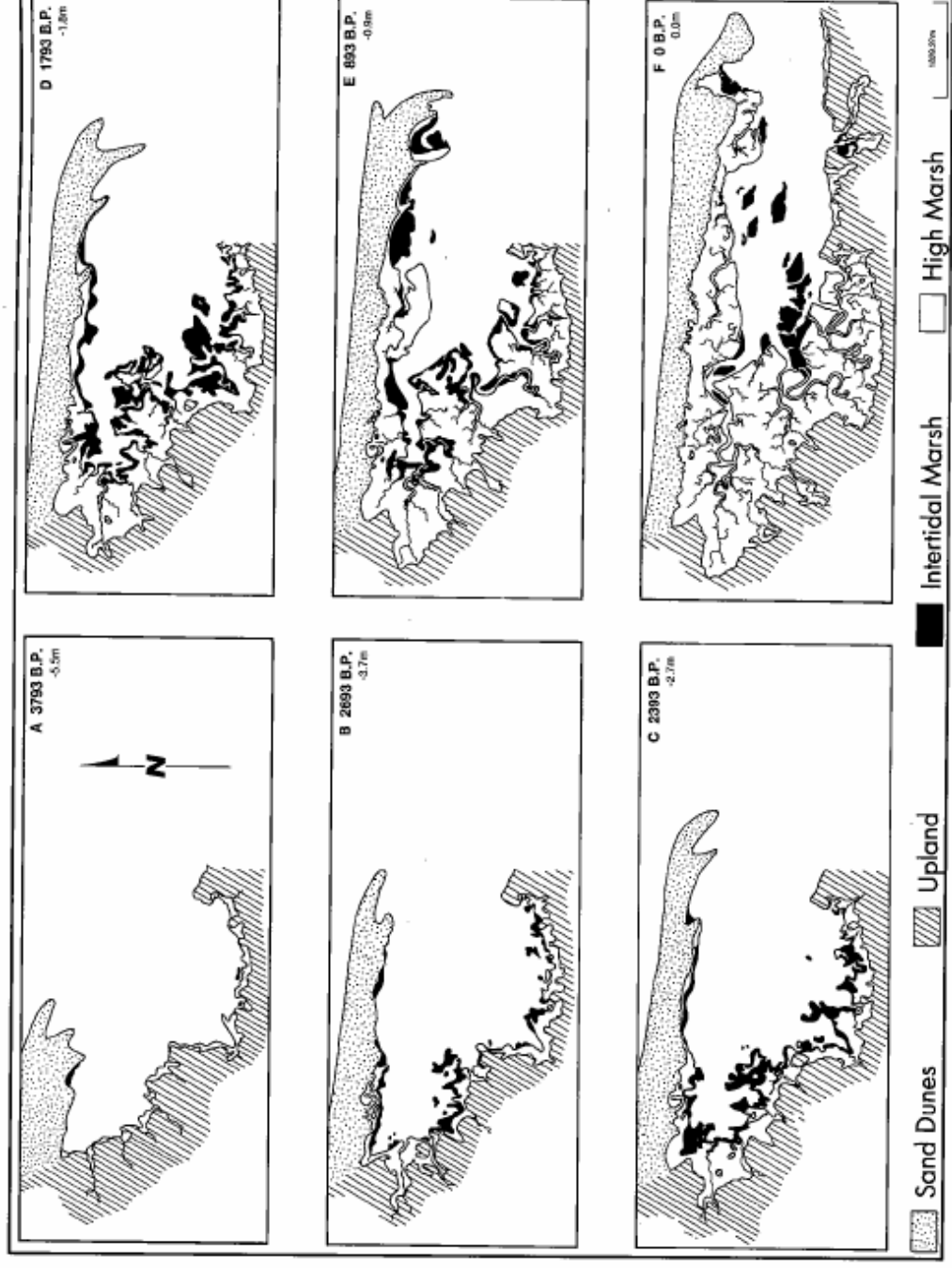
from
Uchupi et al. 1996

The Geological Foundations: ice sheets, sediments, and the rising sea



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E. Uchupi and Others



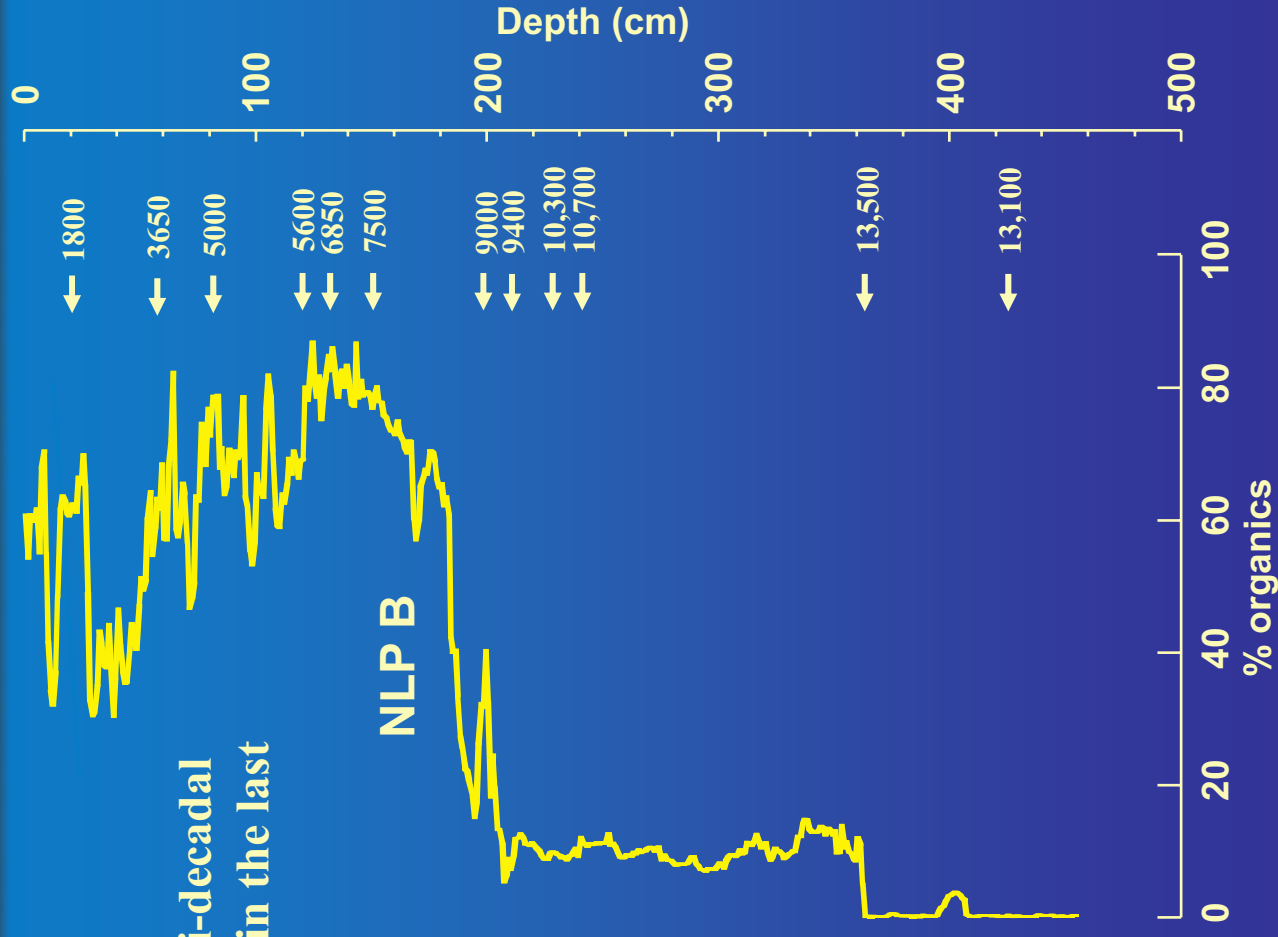
from
Uchupi et al. 1996
(after Redfield)

Changes in water availability – records from local lakes



Changes in water availability – records from local lakes

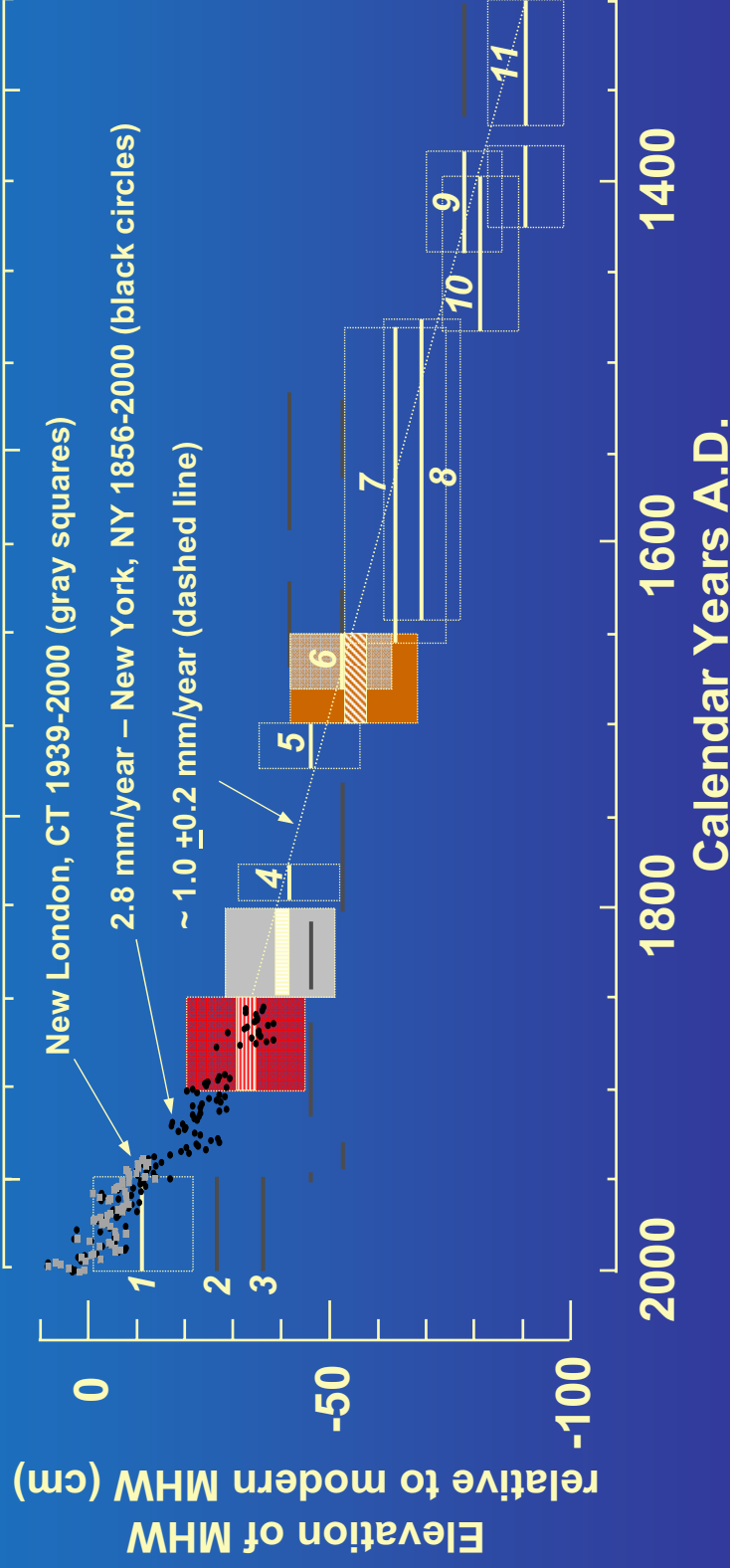
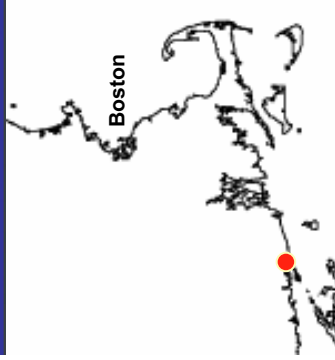
Increased frequency of multi-decadal to centennial scale droughts in the last 5000 years



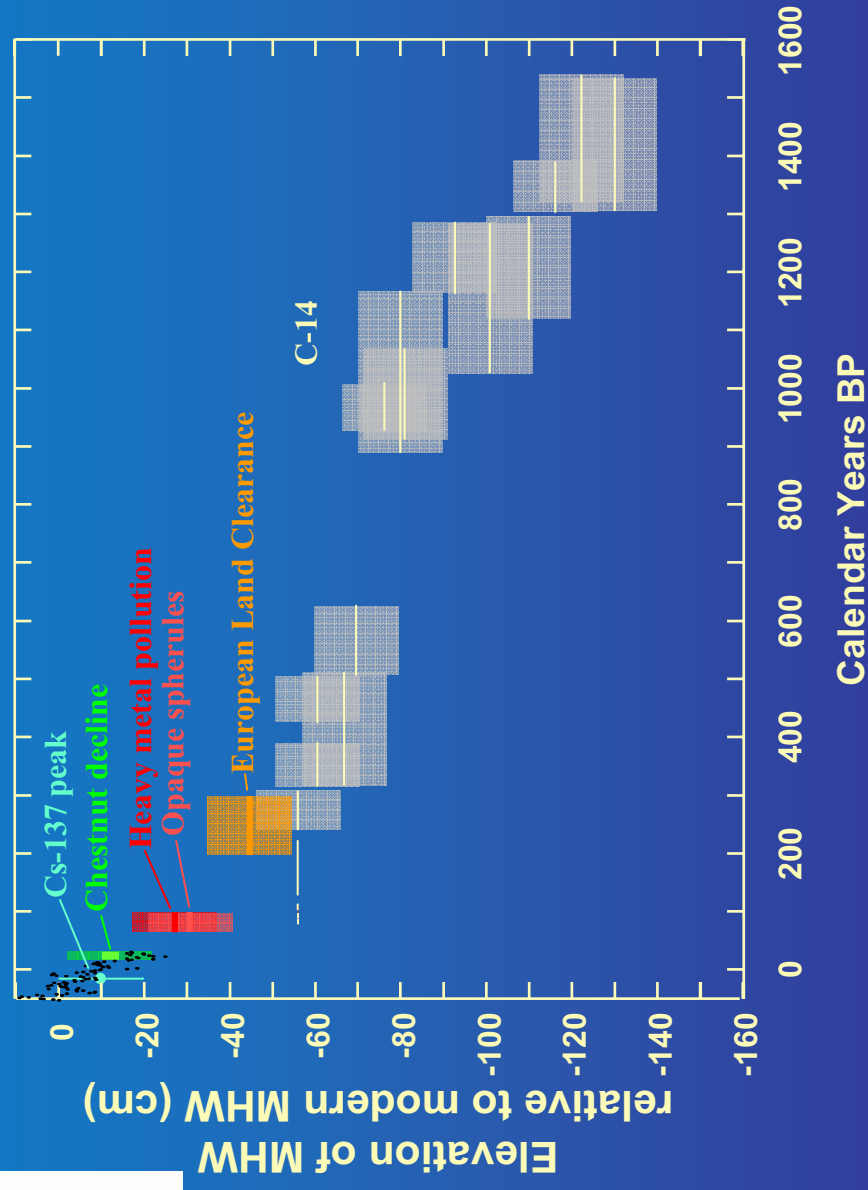
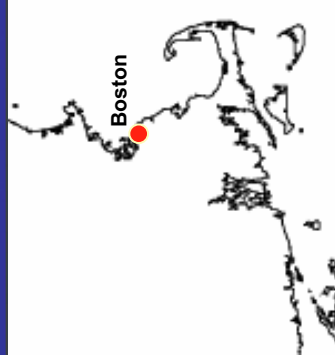
Sea level change over the last 1500 years



Barn Island, Stonington, CT, Sea Level Reconstruction



Wood Island, Scituate, MA, Sea Level Reconstruction



Donnelly et al., in prep