

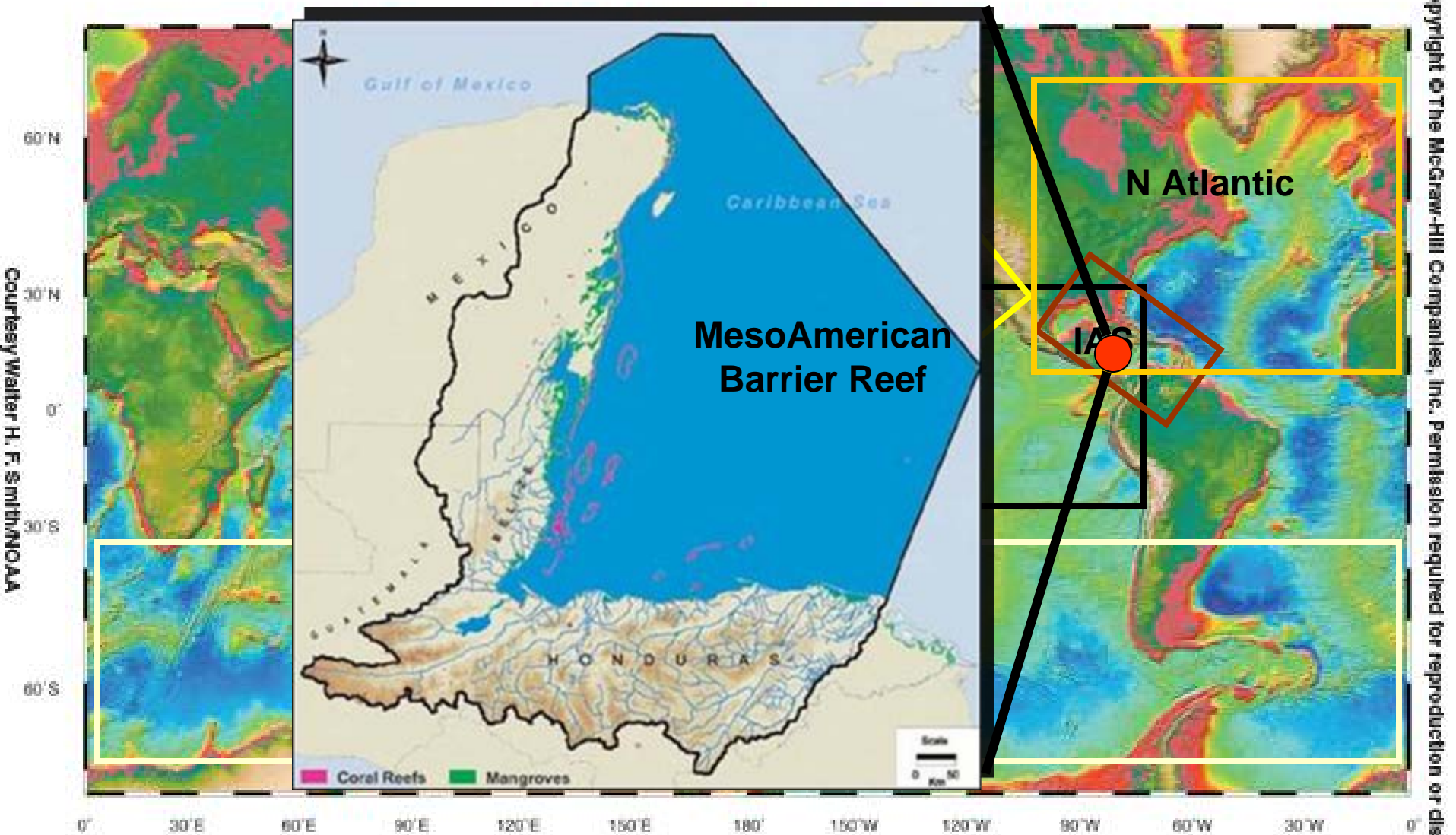
Andy Moore

Ocean Sciences Department
UC Santa Cruz

Research Interests

- Ocean and climate dynamics
- Stochastic systems
- Physical-biological interactions
- Data assimilation
- Prediction
- Predictability

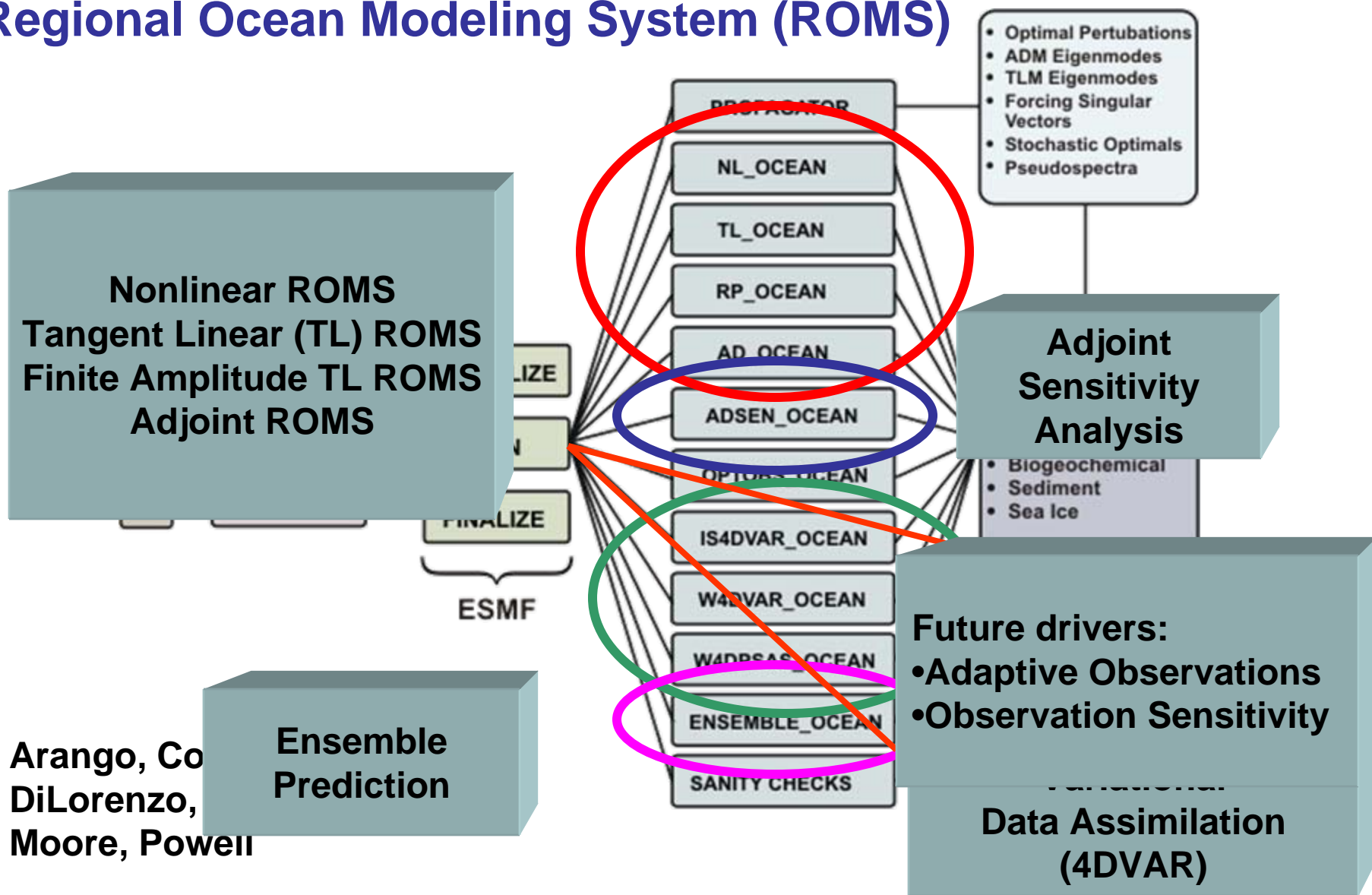
Current Regions of Interest



Courtesy Walter H. F. Smith/NOAA

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Development of Community Tools for the Regional Ocean Modeling System (ROMS)



Science Questions

1. Factors that limit predictability of ocean
(climate → gyre → boundary current → wakes)
2. Role of stochastic processes on ocean circulation and biology
3. Information content of observations

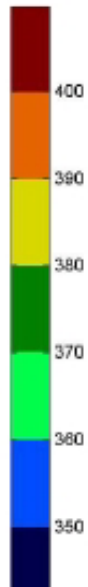
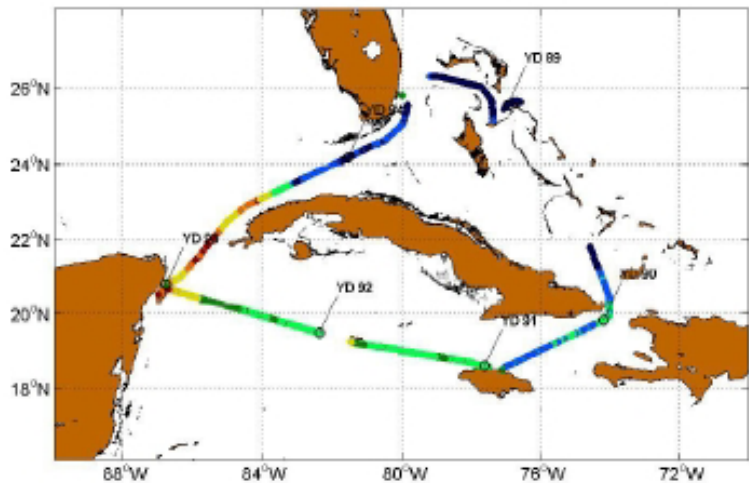
Recent Examples

- Coupled model data assimilation – ENSO
(Moore, Weaver, Harrison)
- Data assimilation and ensemble prediction
in the IAS (Powell, Moore, Arango, Milliff, DiLorenzo)

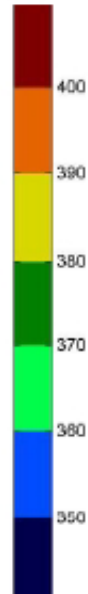
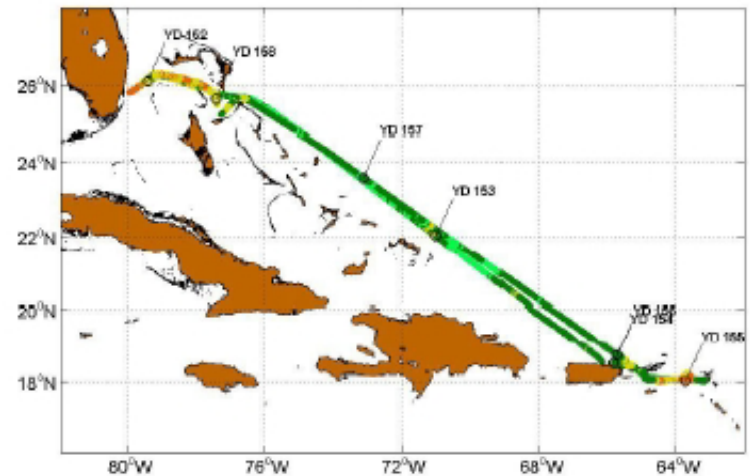
Explorer of the Seas (Royal Caribbean CL) Ship of Opportunity



EX0413W ICO_2W InSitu 3/27/04 - 4/3/04



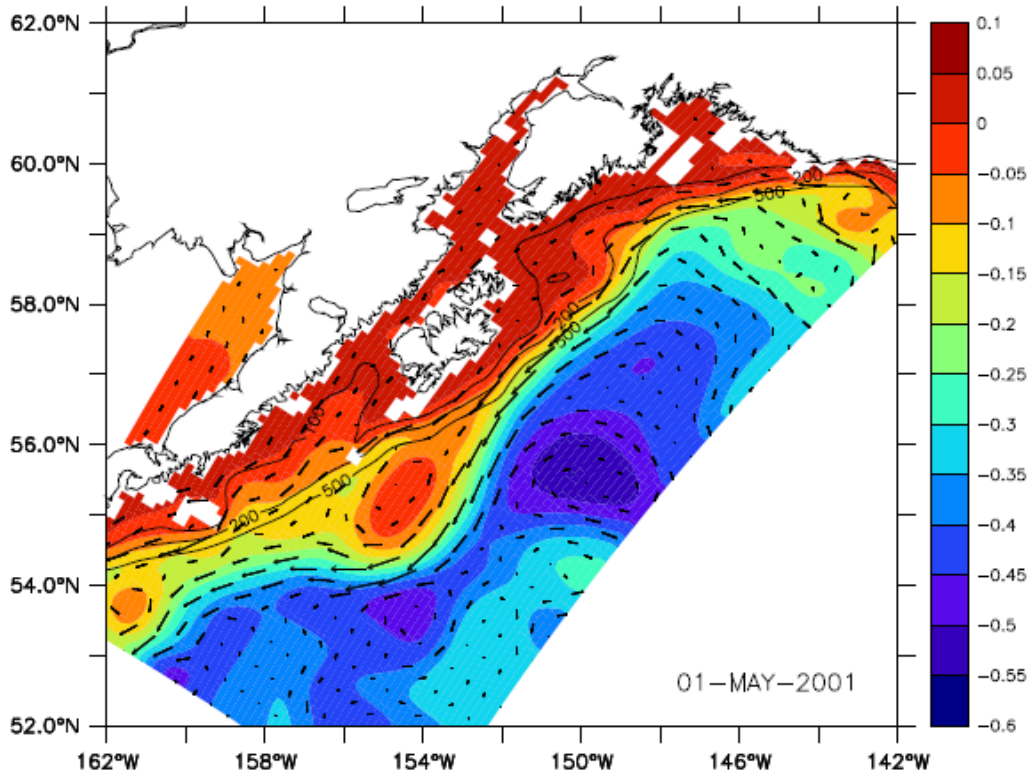
EX0422E ICO_2W InSitu 5/30/04 - 6/06/04



Recent Examples

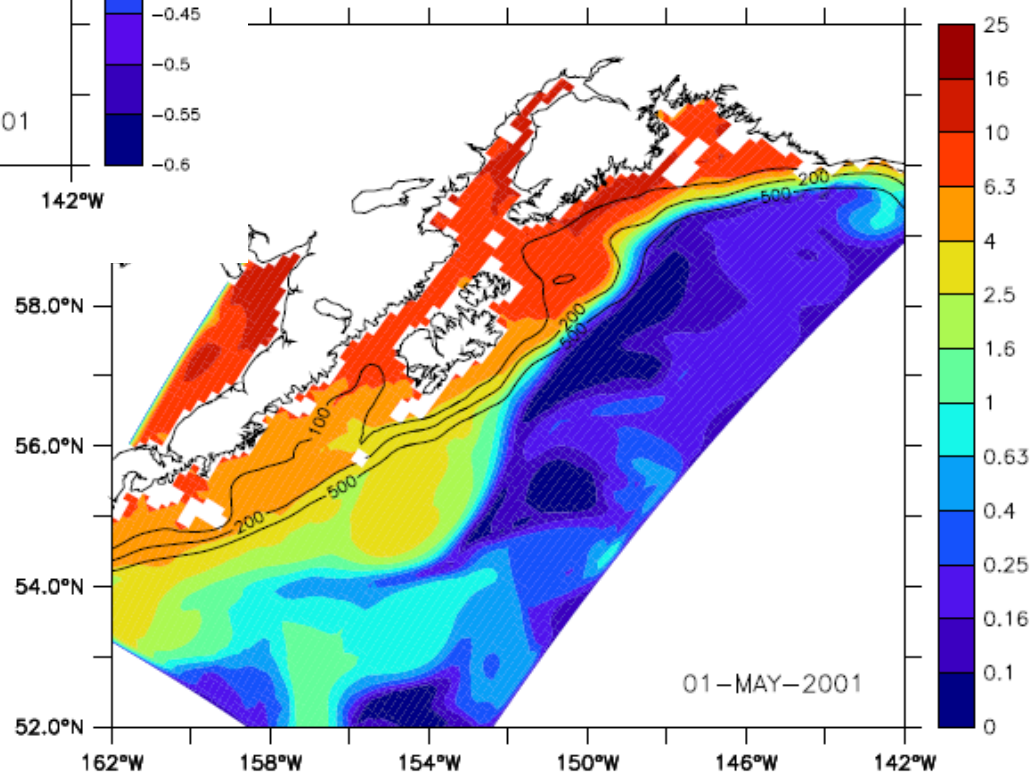
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- Coupled physical-biological modeling – CCS, CGOA (Edwards, Fiechter, Broquet, Moore, Powell, DiLorenzo)

SEA SURFACE HEIGHT AND CURRENTS



Coastal Gulf of Alaska (CGOA) ROMS-NEMURO

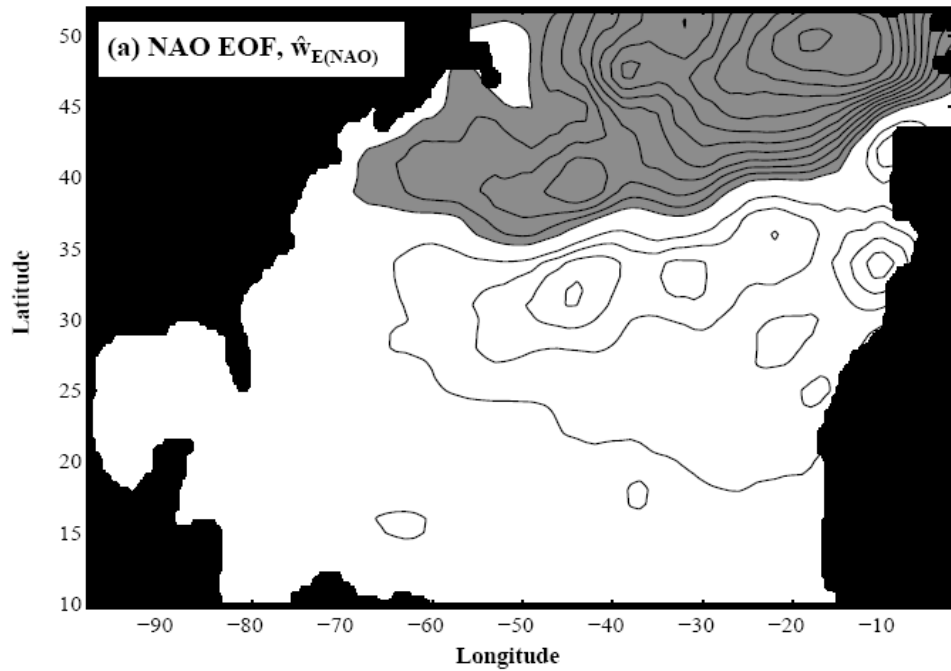
SEA SURFACE CHLOROPHYLL



Jerome Fiechter, UCSC

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- Influence of NAO on N Atlantic circulation – (Chhak, Moore, Milliff)



NAO Wind Stress Curl
(c.i. $5 \times 10^{-8} \text{ N m}^{-3}$)

**Wintertime deep ocean
rectified circulation in
a 1/6 degree QG model**
(c.i. 0.2 Sv)

