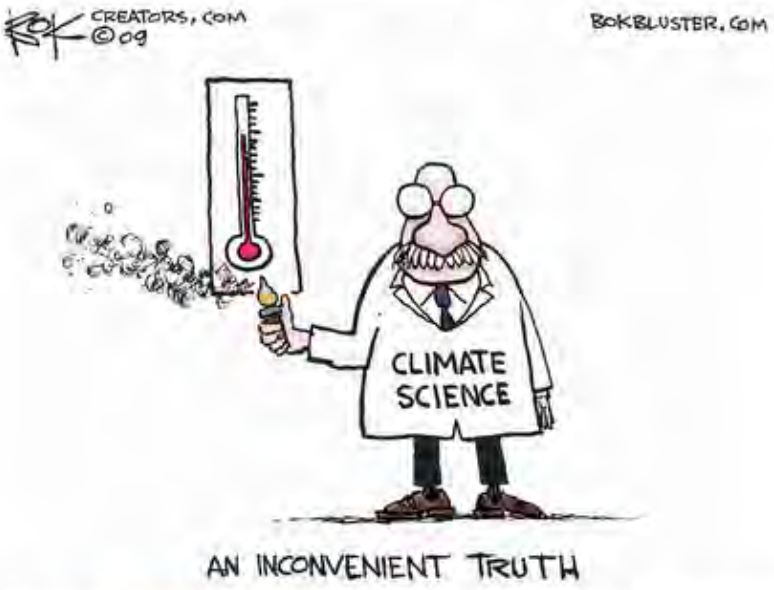
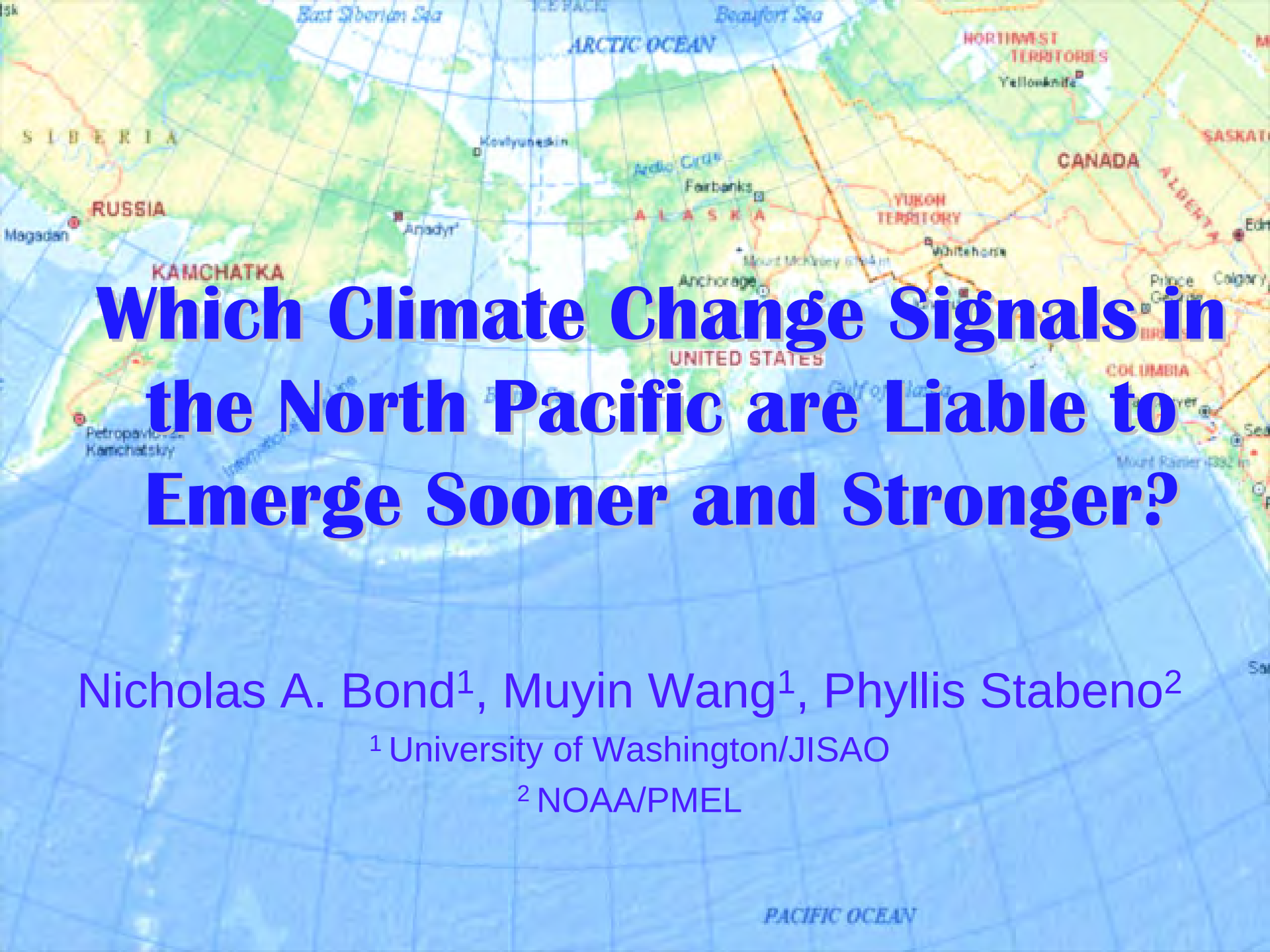
Rasmussen poll: 69% Say It's Likely Scientists Have Falsified Global Warming Research

Posted on August 3, 2011 by Anthony Watts



From Rasmussen Reports, some bad news for Al Gore and the Hockey Team:



Which Climate Change Signals in the North Pacific are Liable to Emerge Sooner and Stronger?

Nicholas A. Bond[1], Muyin Wang[1], Phyllis Stabeno[2]

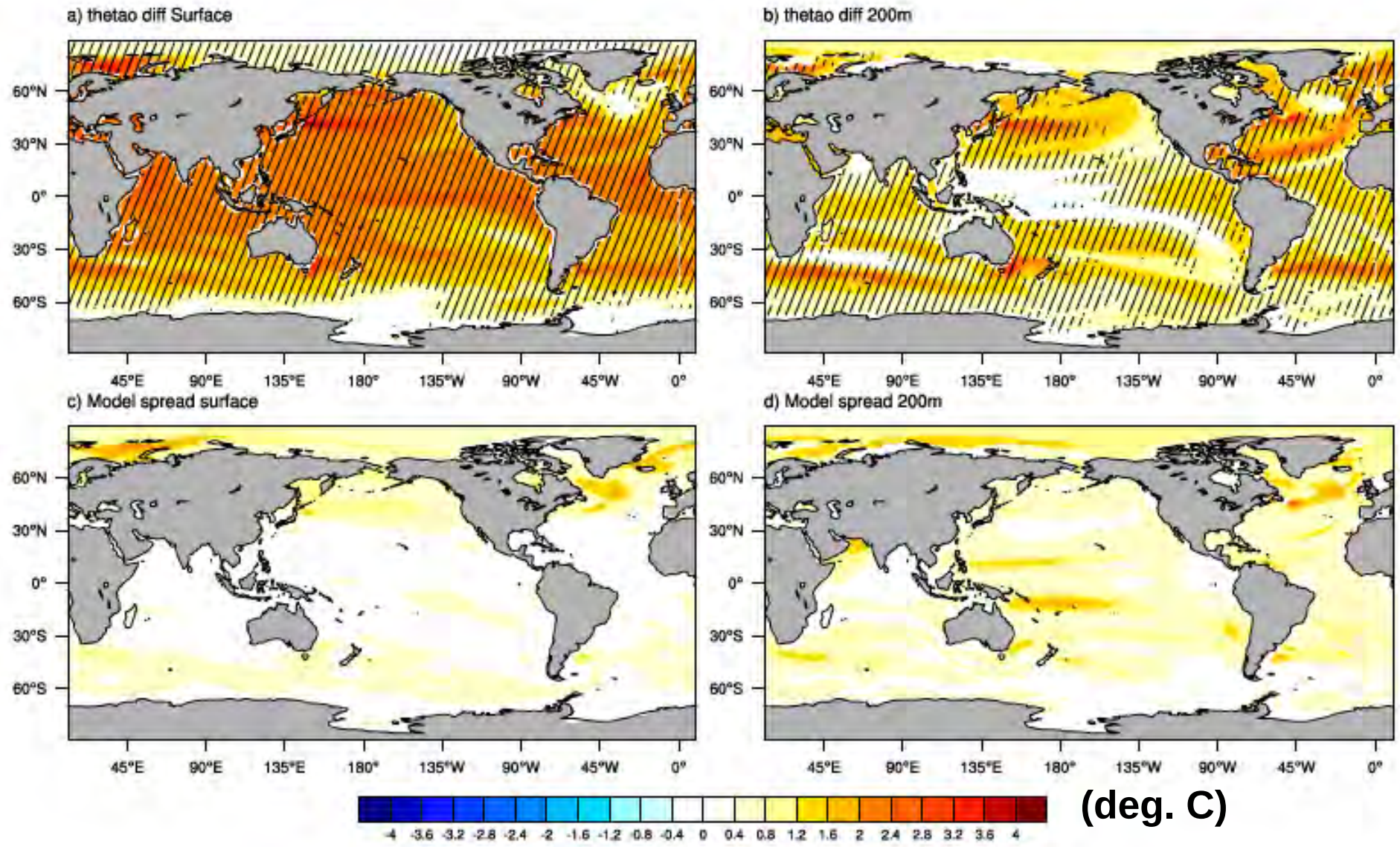
[1] University of Washington/JISAO

[2] NOAA/PMEL

Outline

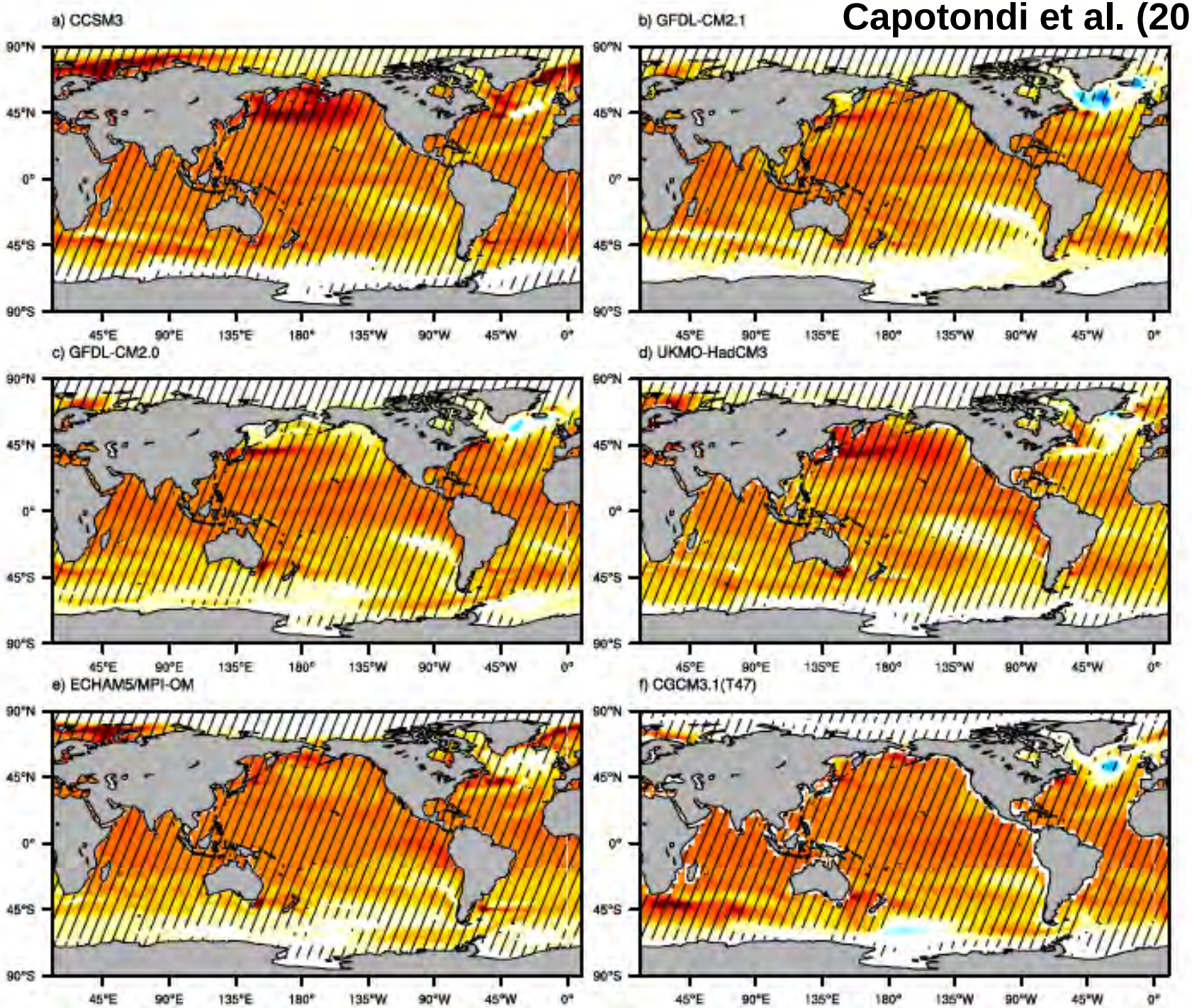
- Excerpts from Capotondi et al. (2012) and others
- Results from 4 new climate models under the RCP8.5 scenario
- Preliminary findings

Modeled Changes from 1950-1999 to 2050-2099 (A2 scenario)

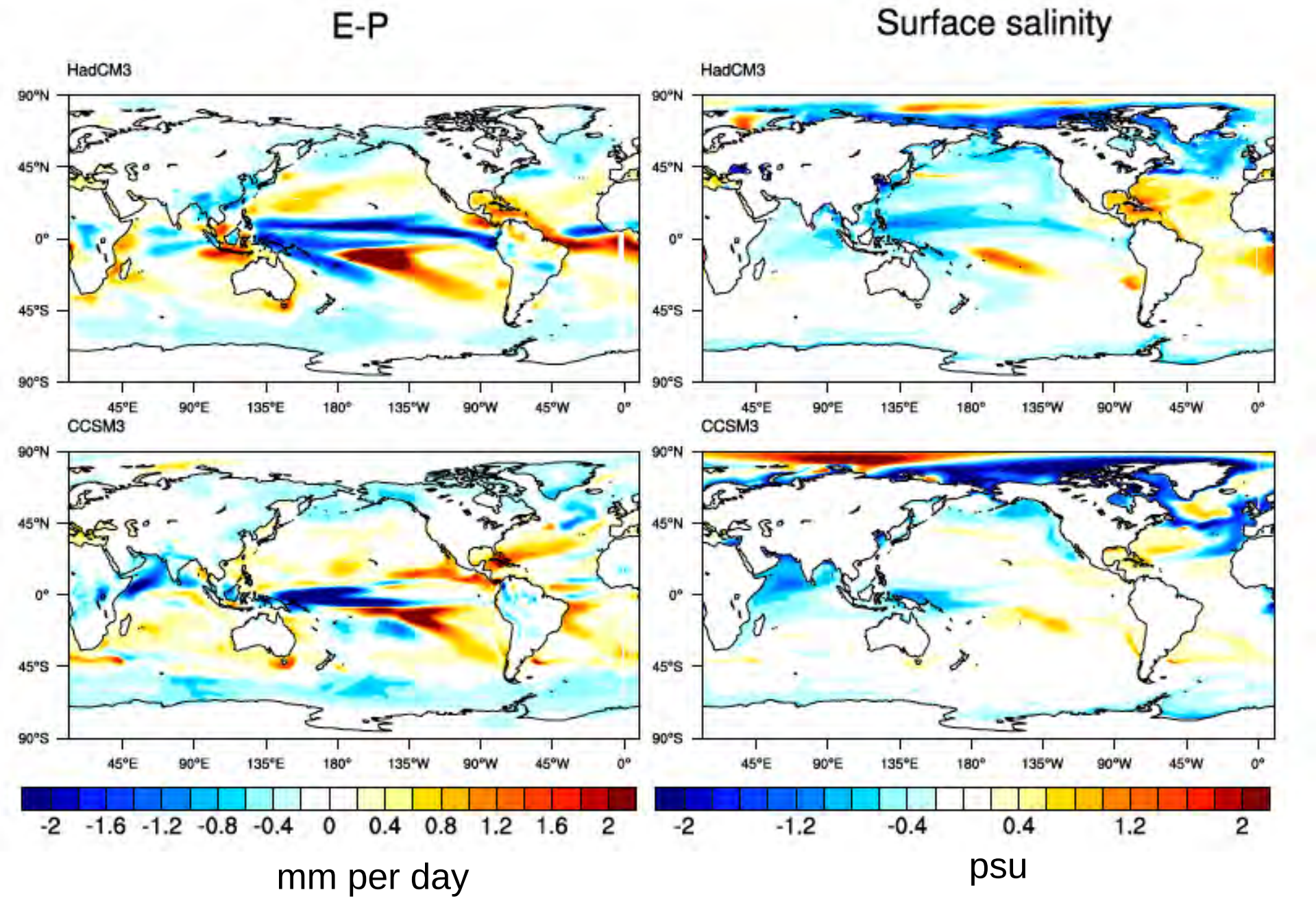


Capotondi et al. (2012)

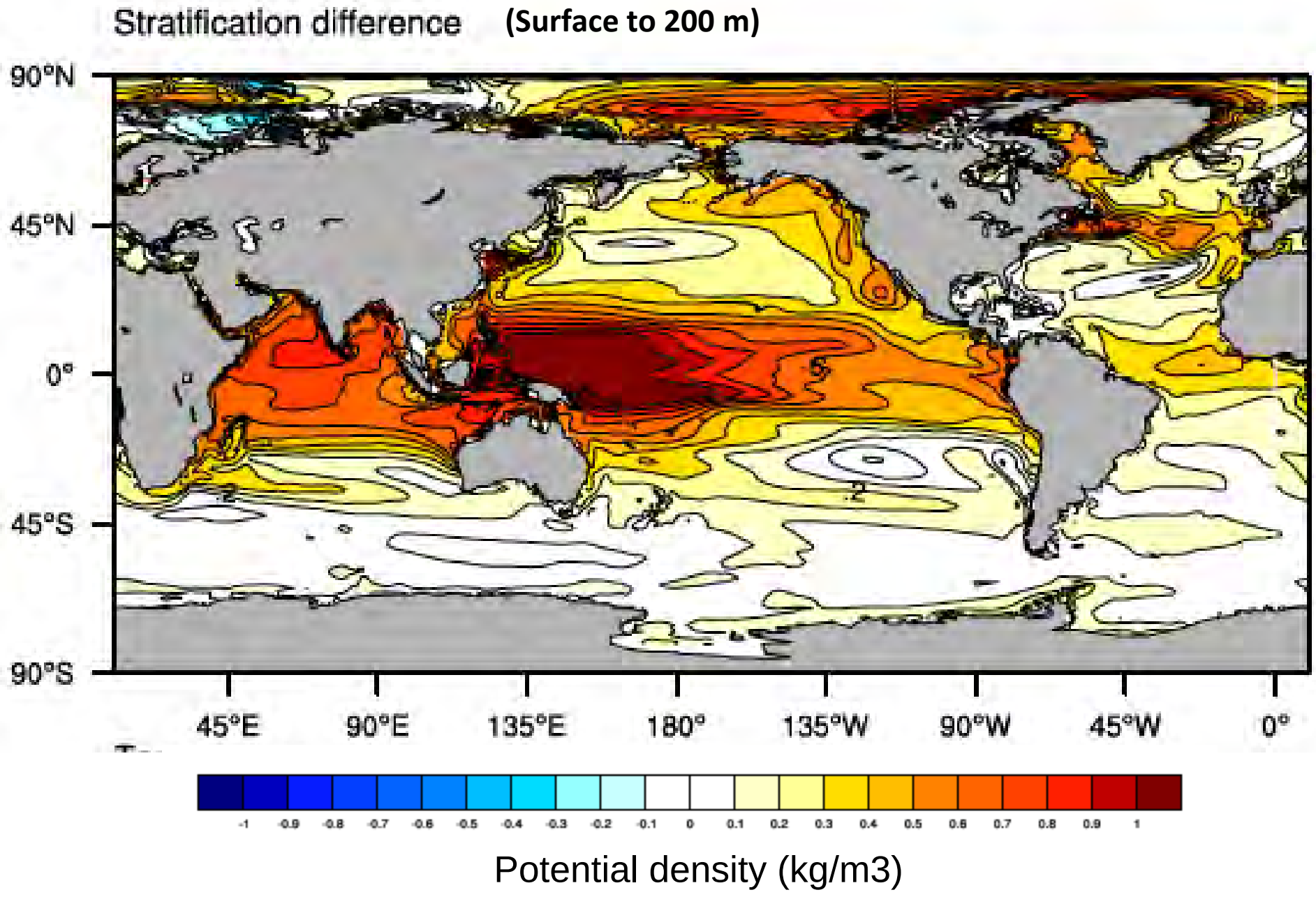
Capotondi et al. (2012)

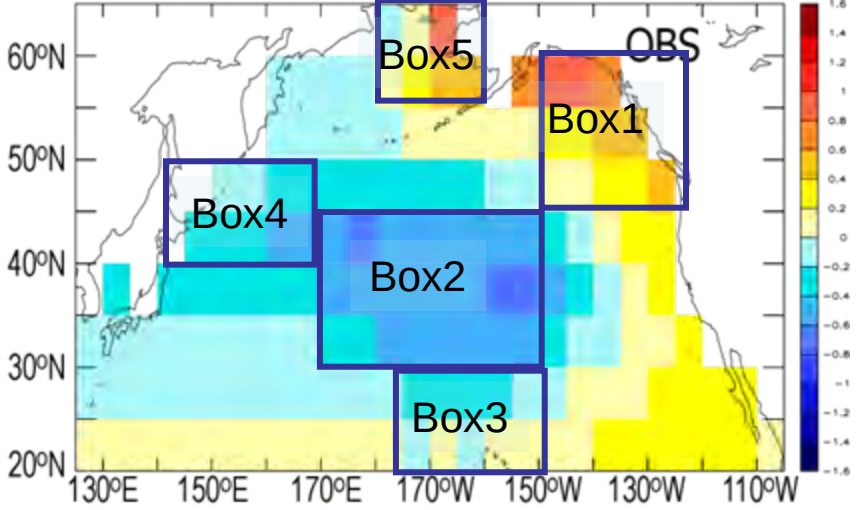


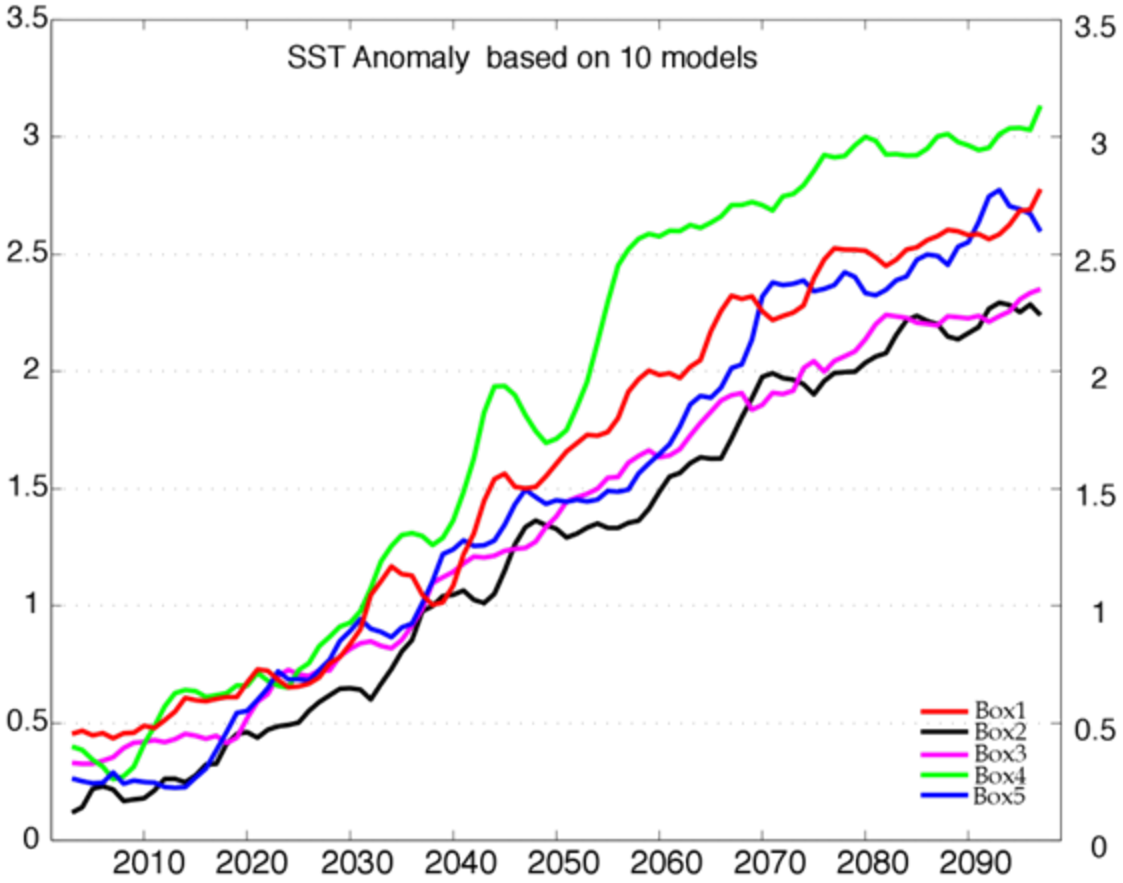
Capotondi et al. (2012)



Capotondi et al. (2012)




OBS
Box5
Box1
Box4
Box2
Box3
60ºN
50ºN
40ºN
30ºN
20ºN
130ºE
150ºE
170ºE
170ºW
150ºW
130ºW
110ºW

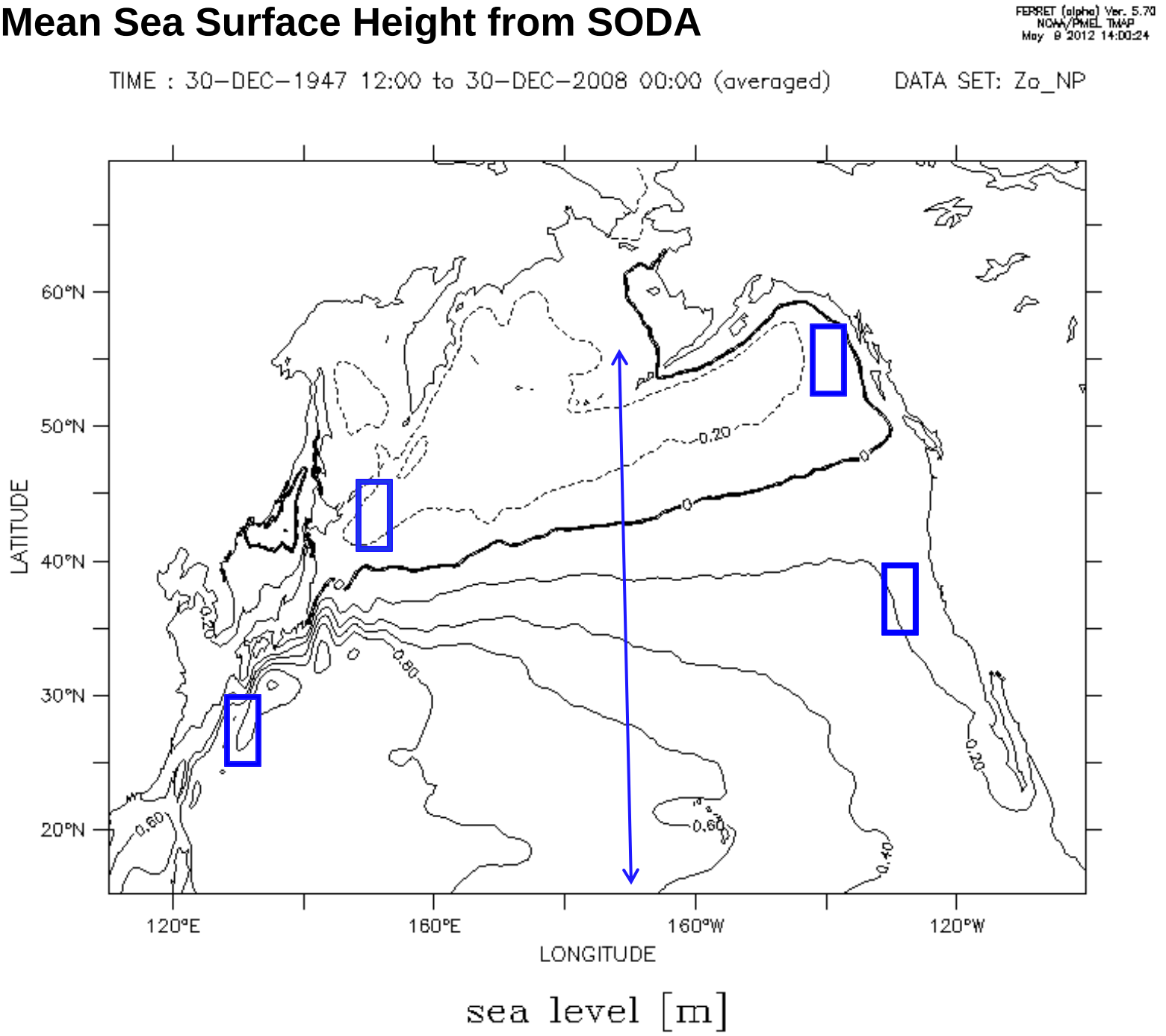

SST Anomaly based on 10 models
3.5
3
2.5
2
1.5
1
0.5
0
2010
2020
2030
2040
2050
2060
2070
2080
2090
Box1
Box2
Box3
Box4
Box5

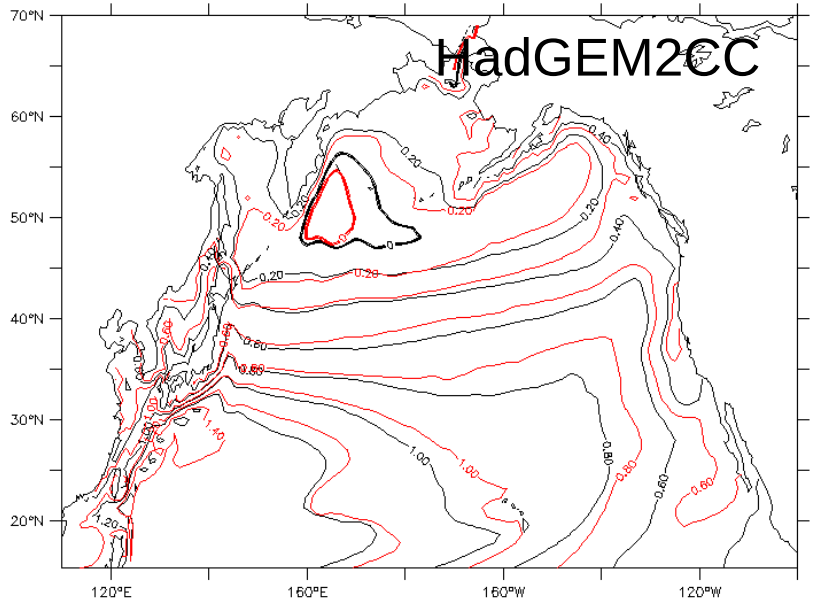
Sources of Information

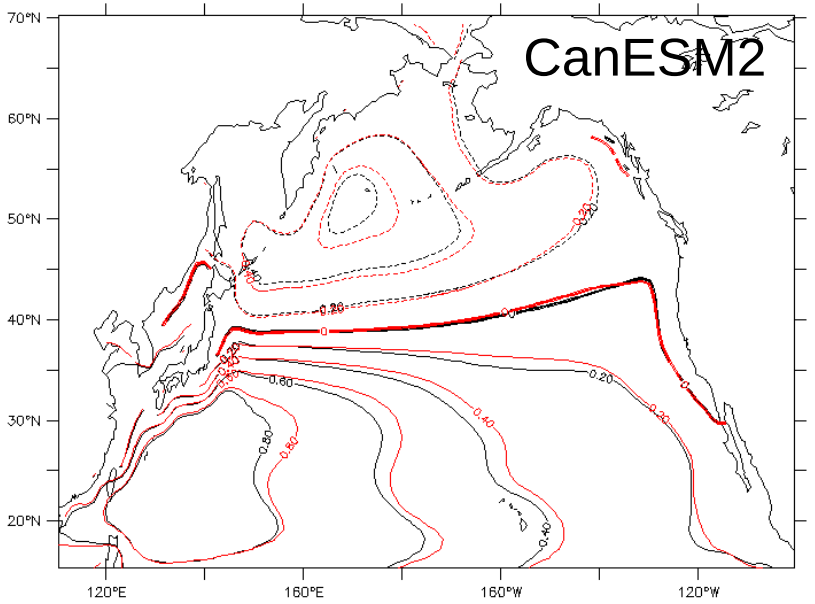
- Past Conditions – Simple Ocean Data Assimilation (SODA)
- Models – CanESM2, GFDLESM2G, HadGEM2CC, MIROCESM

(Using 20th century hindcasts & 21st century forecasts with a focus on changes from present to 2040s in parameters of importance to the marine ecosystem)

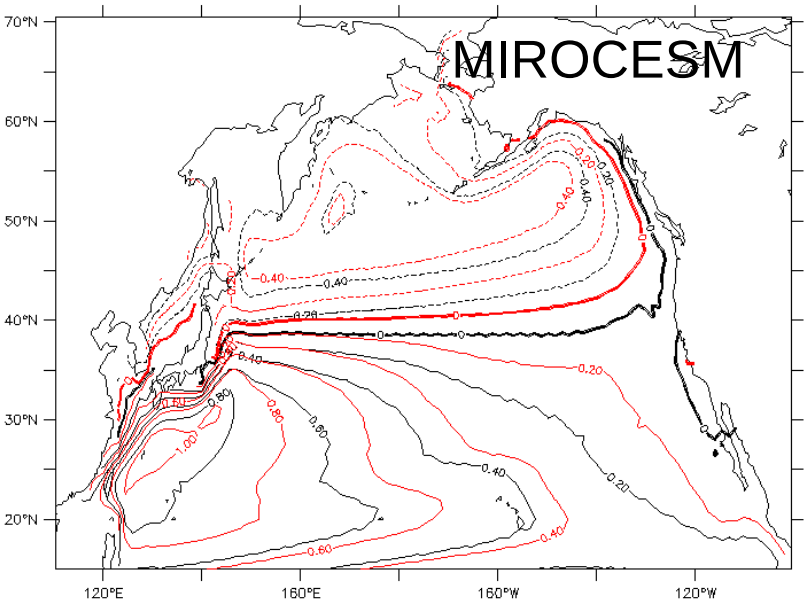
Mean Sea Surface Height from SODA

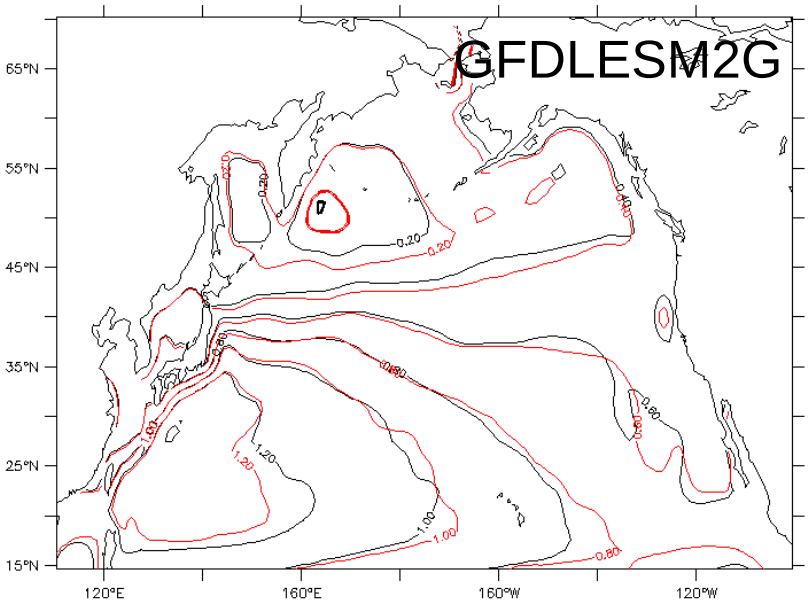


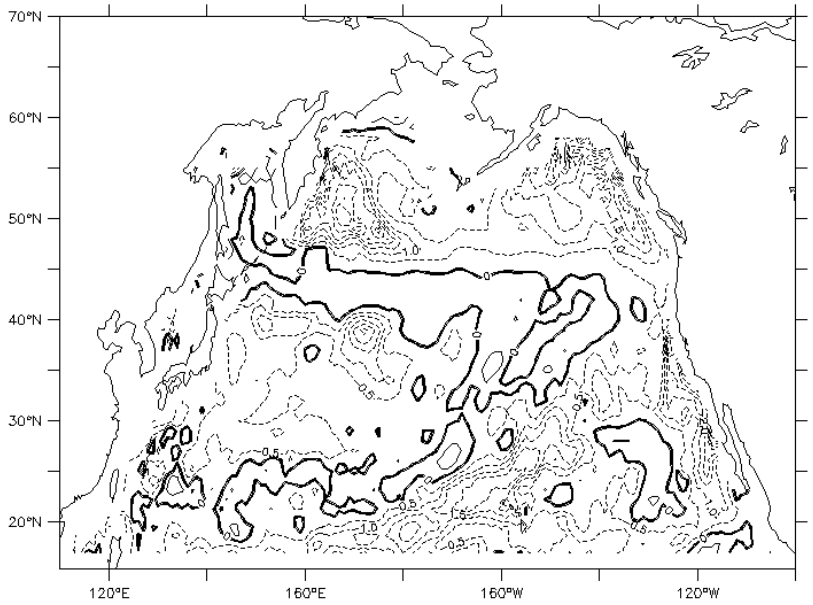


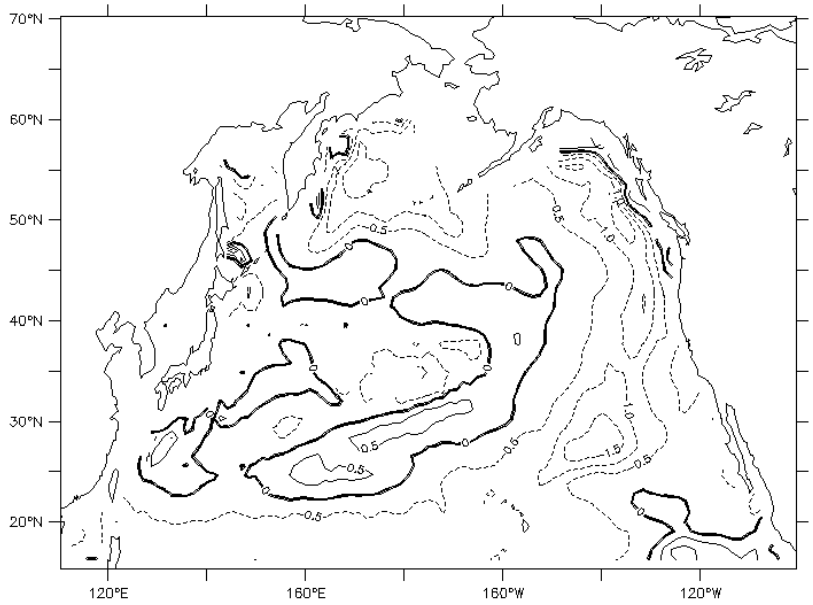


Mean Sea Surface Height (m) during the Present and 2040s

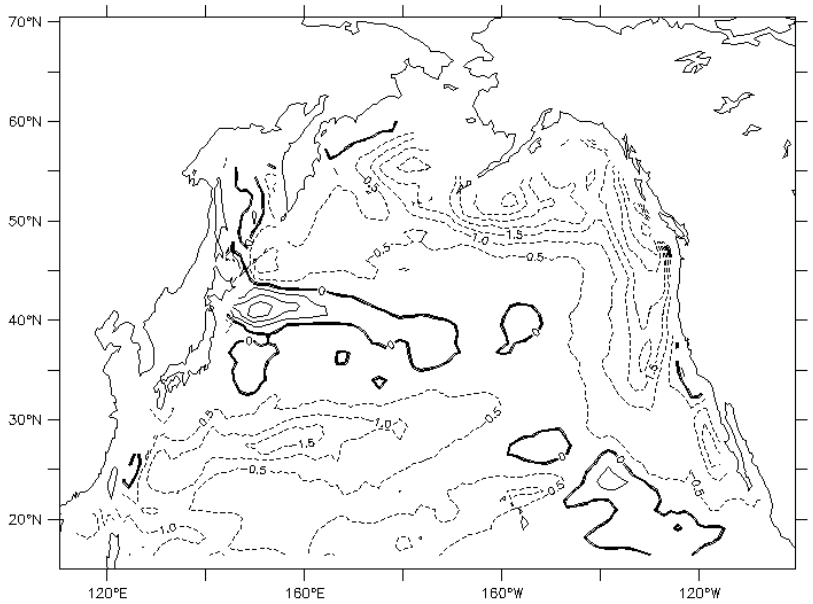


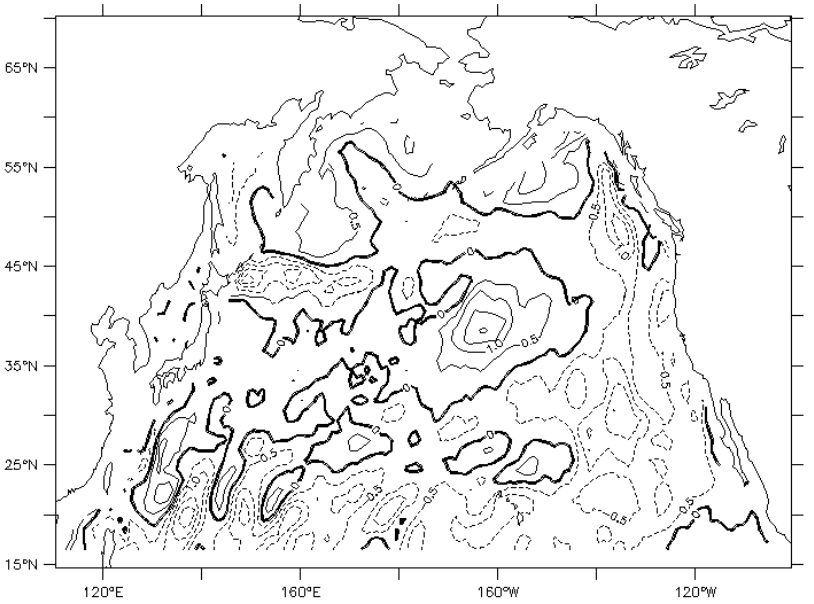


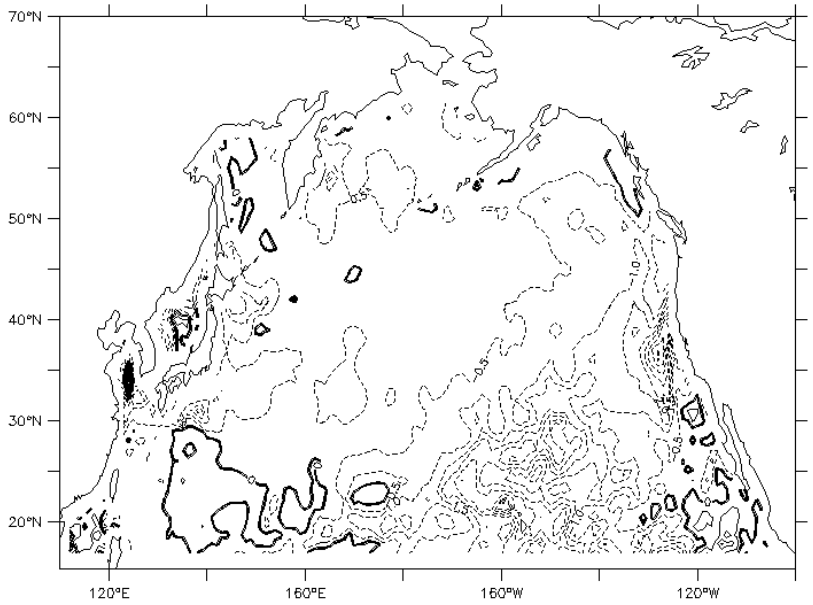


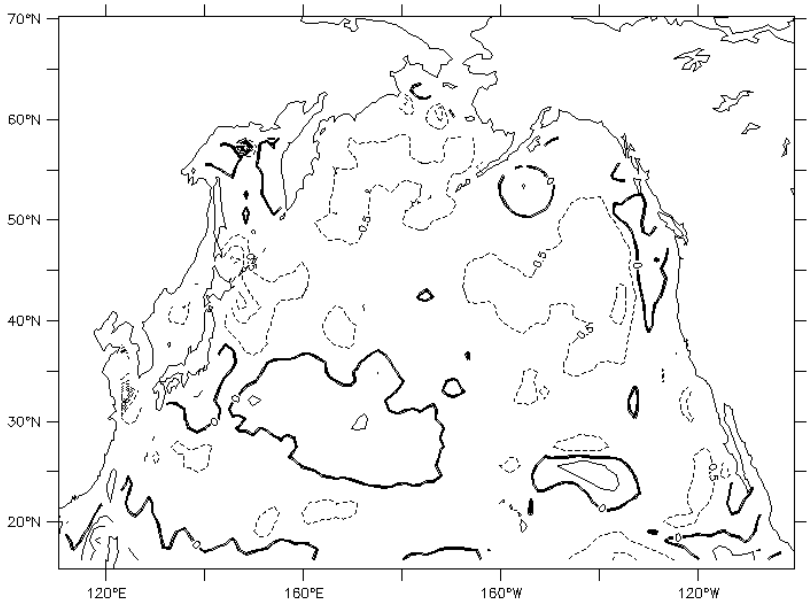


Changes in February Mixed Layer Depth from Present to 2040s (standard deviations)

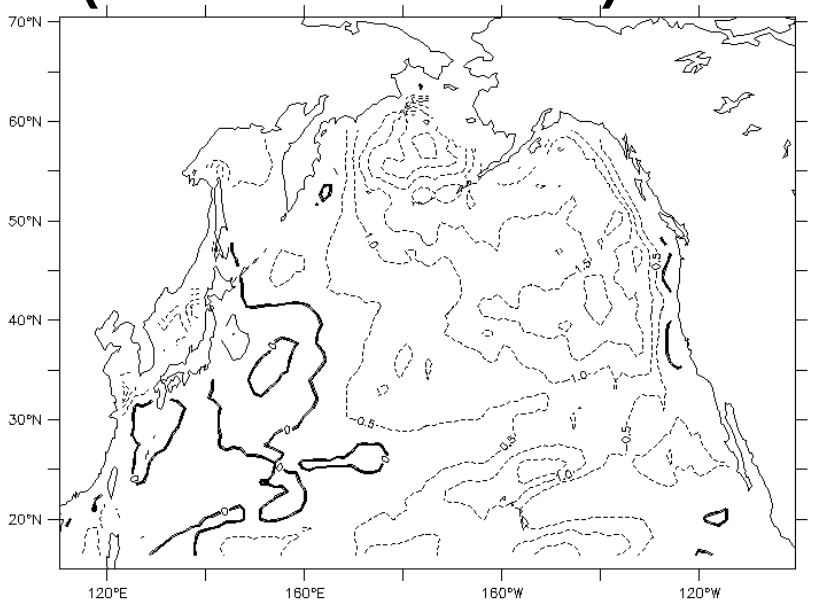


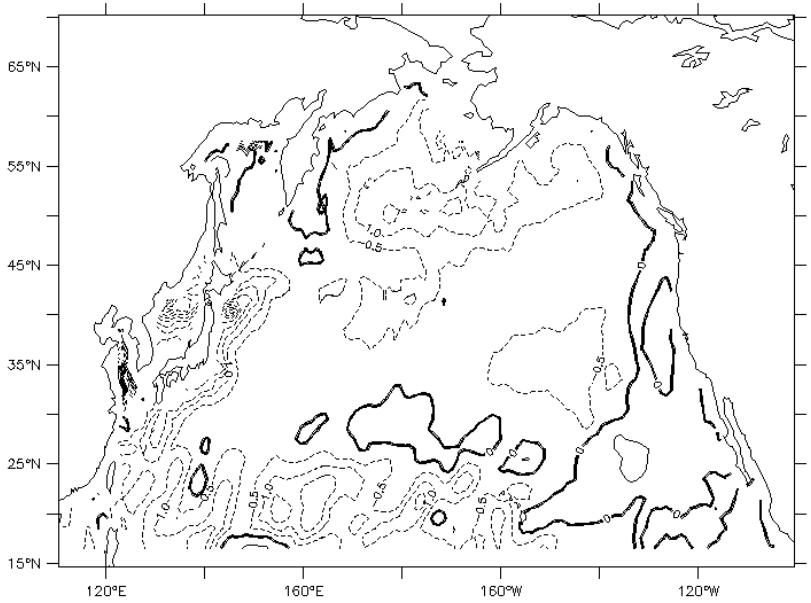




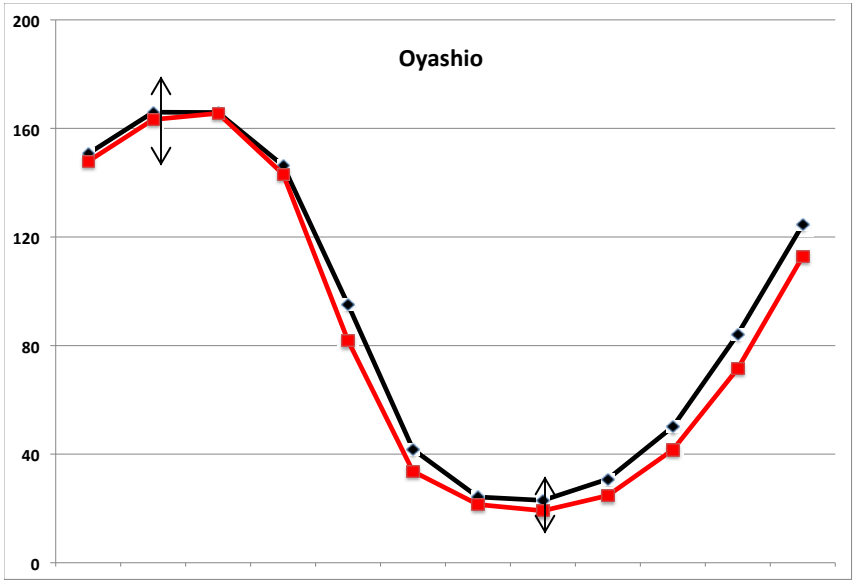


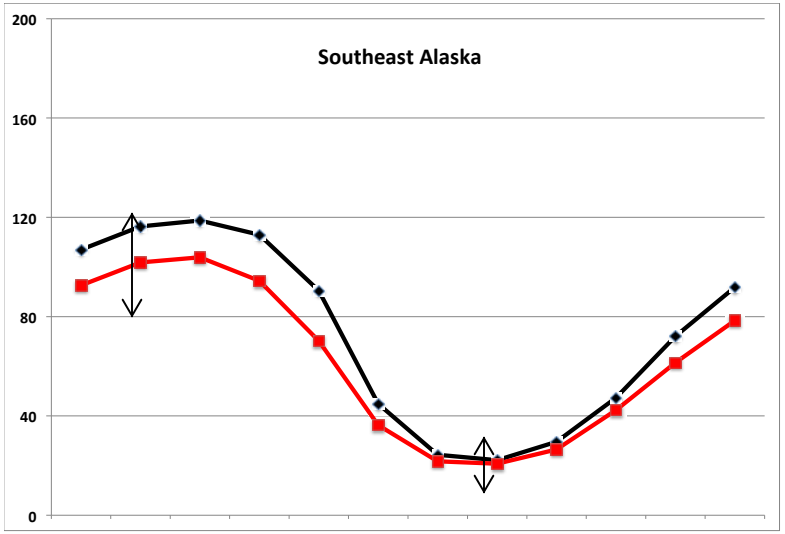
Changes in Mean August Mixed Layer Depth from Present to 2040s (standard deviations)

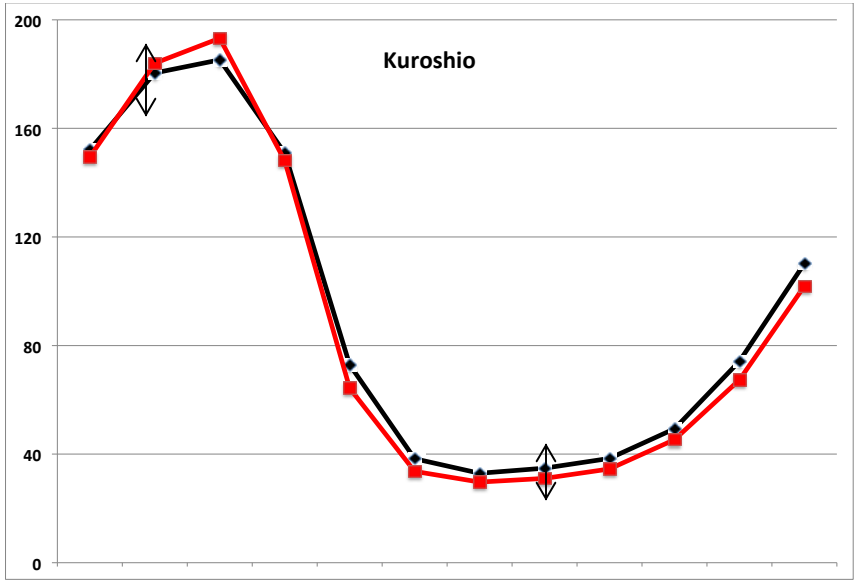


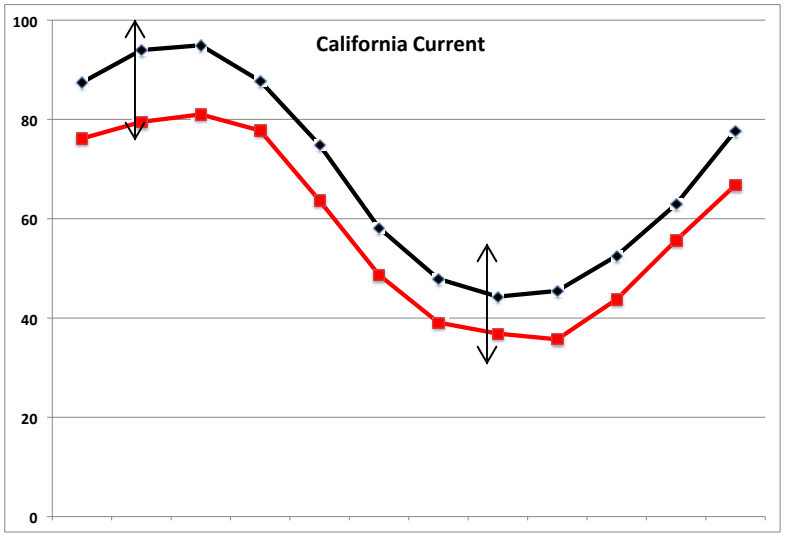


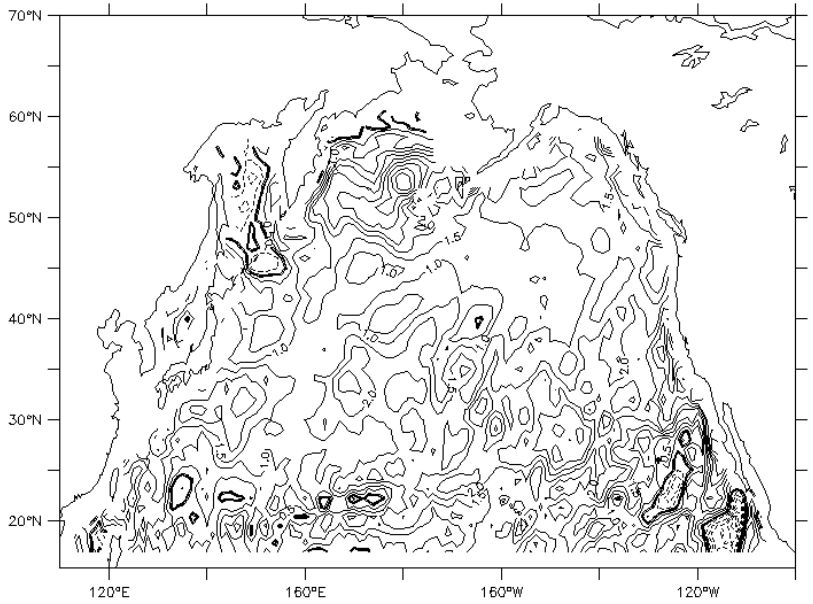
Model Mean Seasonal Cycle in ML Depth (Present versus 2040s)

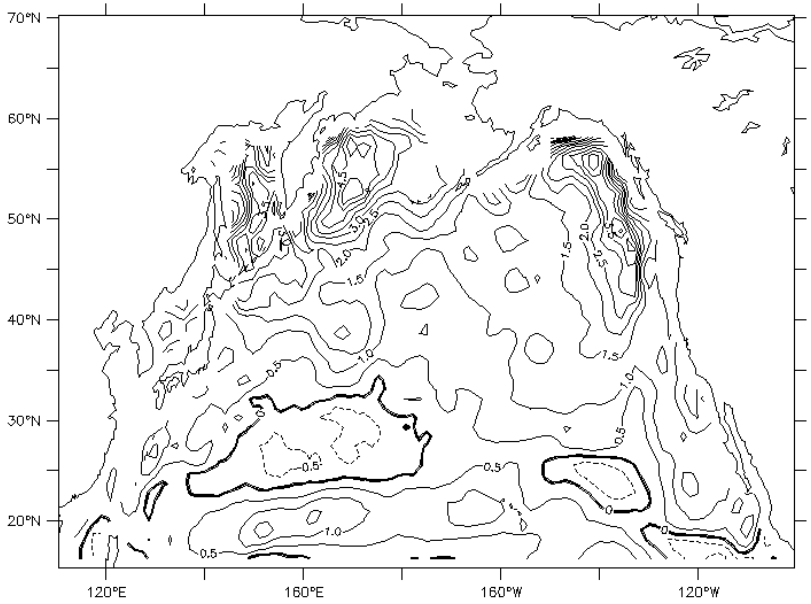




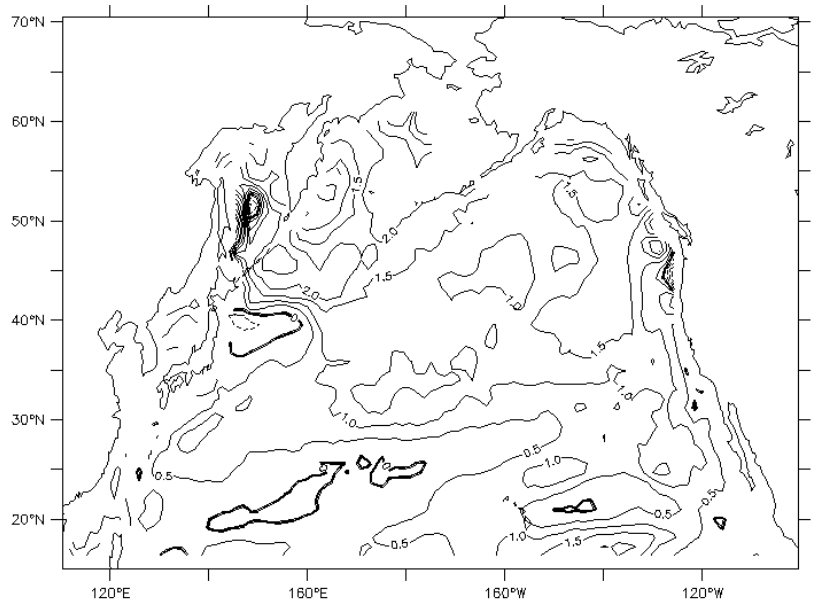


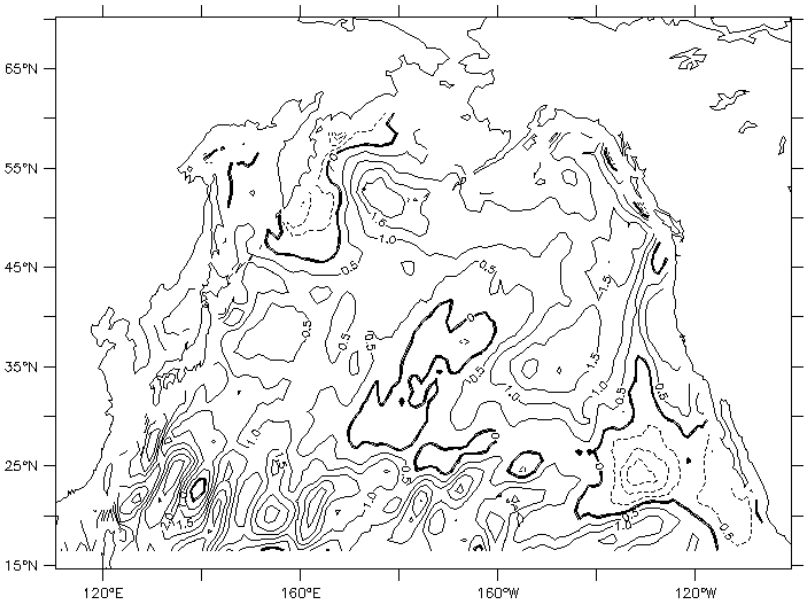




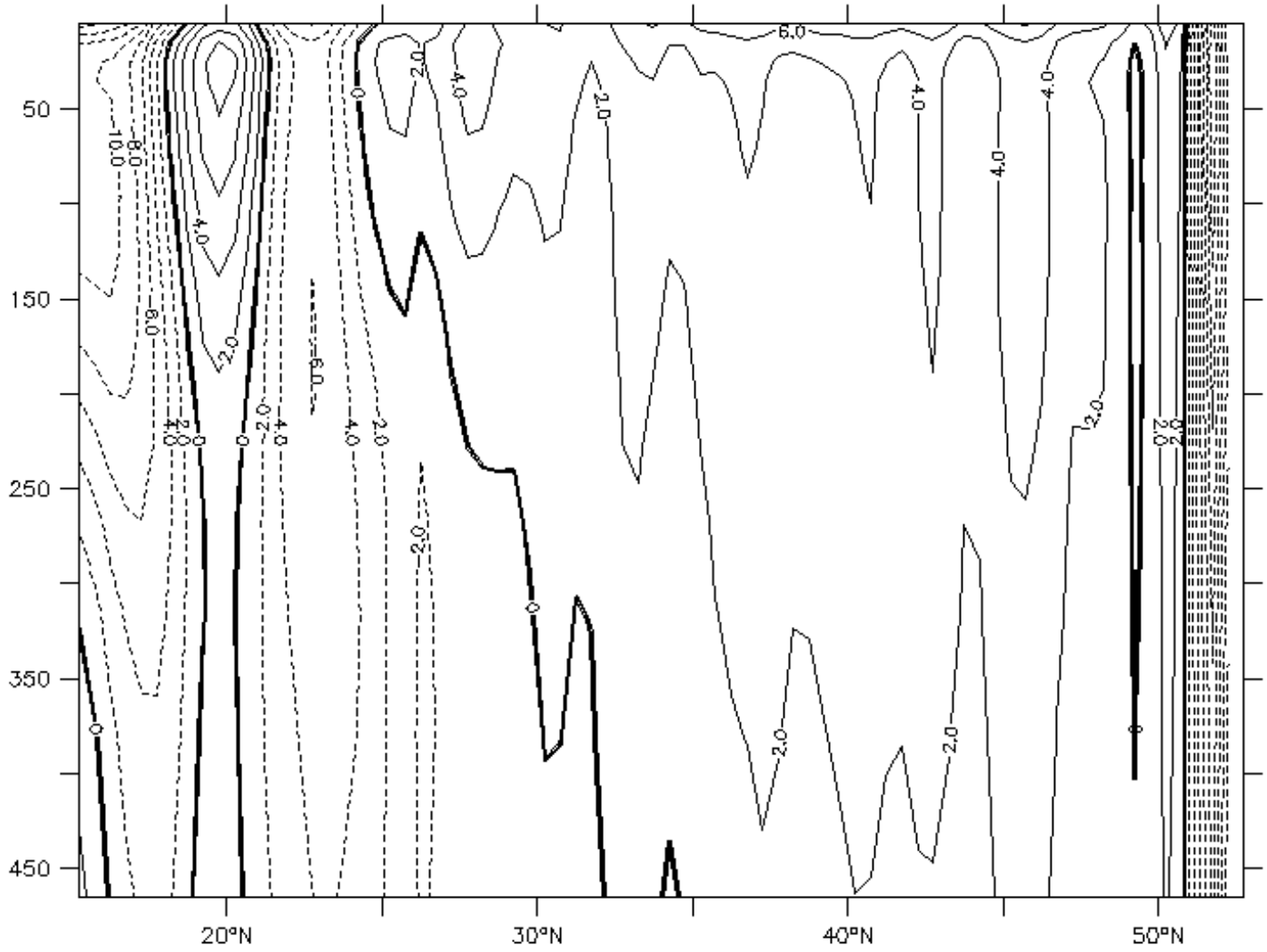


Changes in August Density Stratification (0-100 m) from Present to 2040s (normalized units)

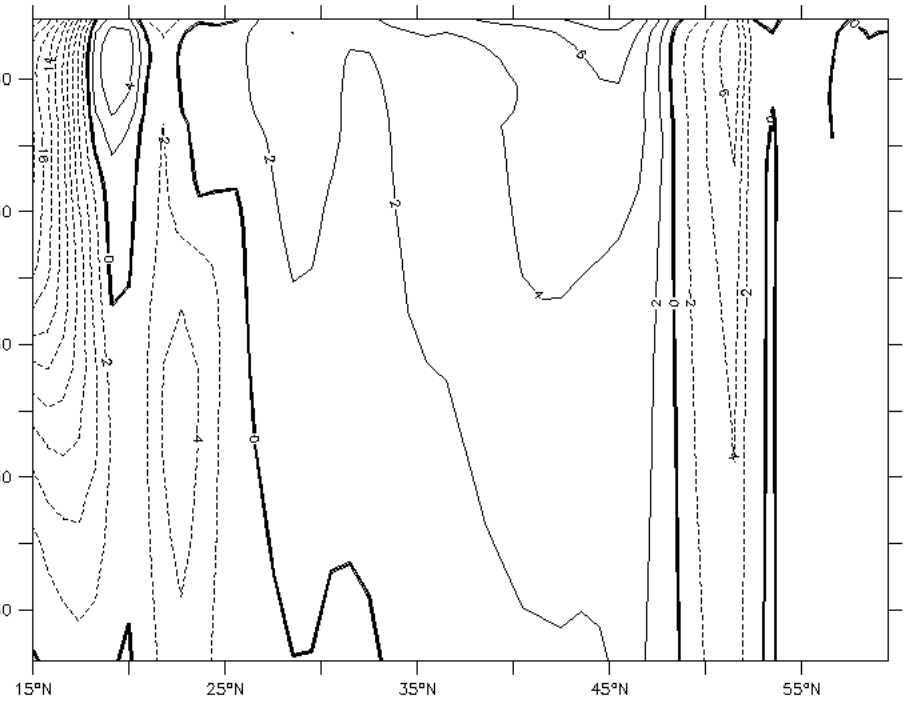


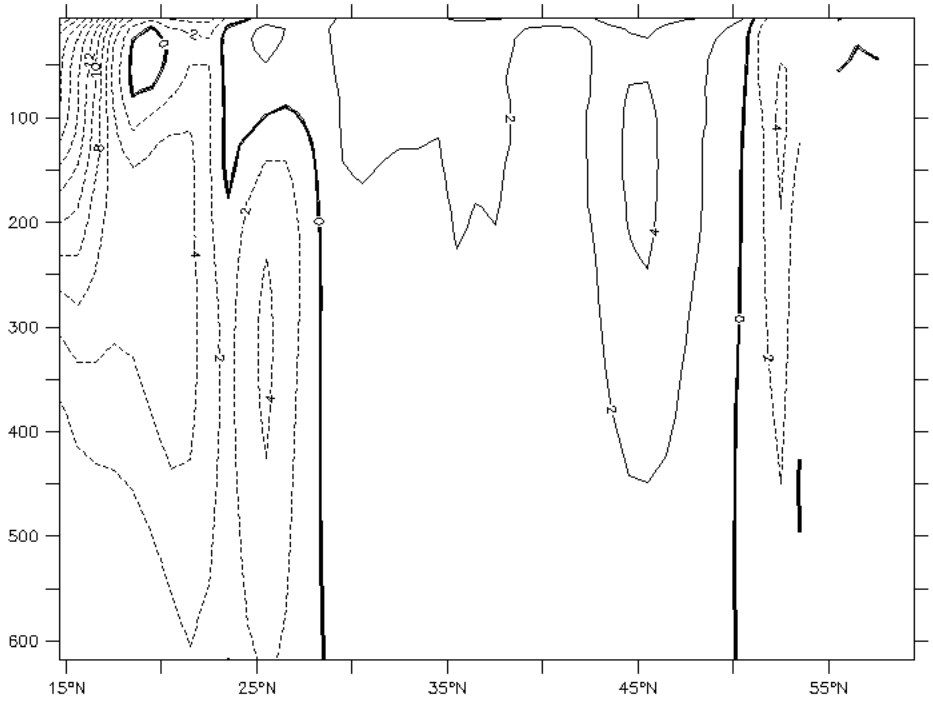


Mean Zonal Currents in Vertical Plane along 170 W from SODA

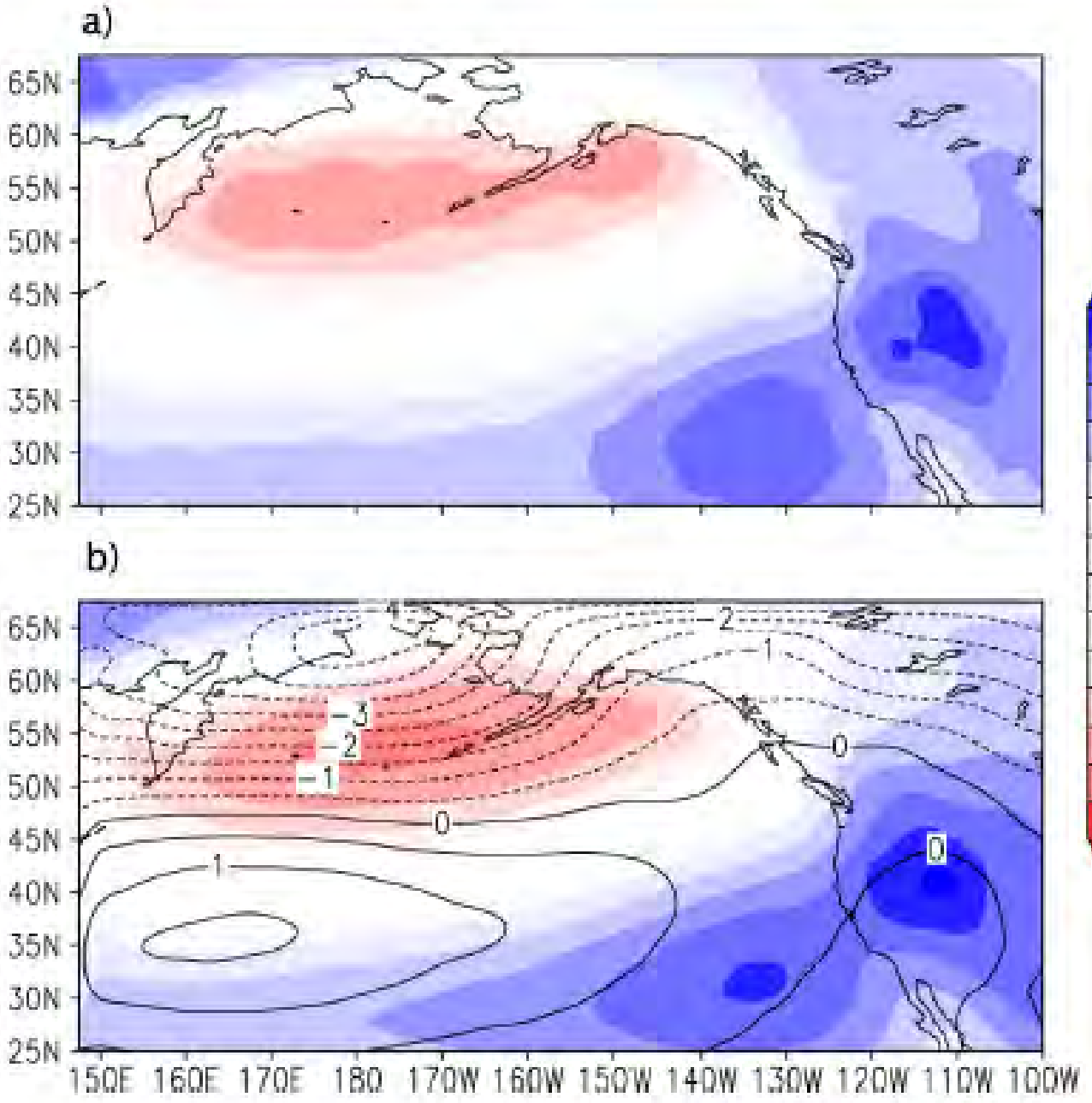


Mean Zonal Currents in Vertical Plane along 170 W
From HadGEM2CC and GFDLESM2G models



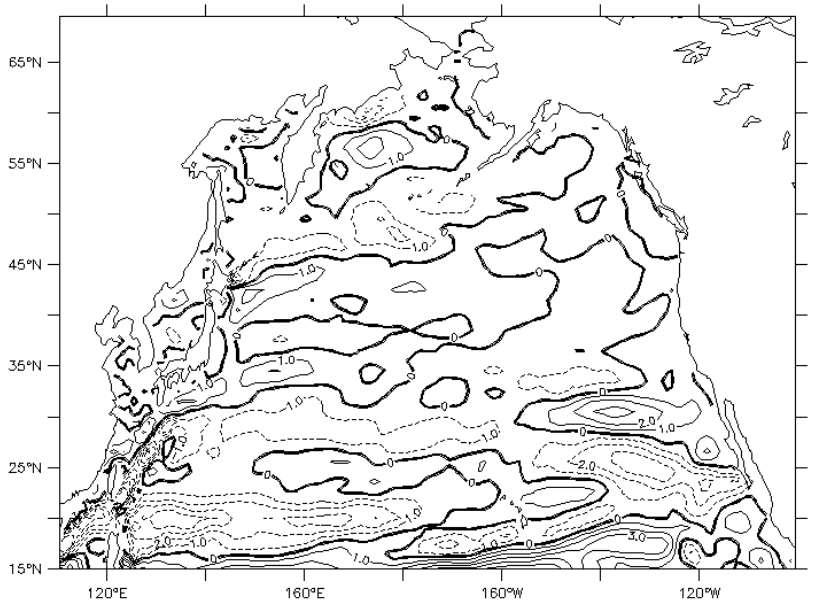


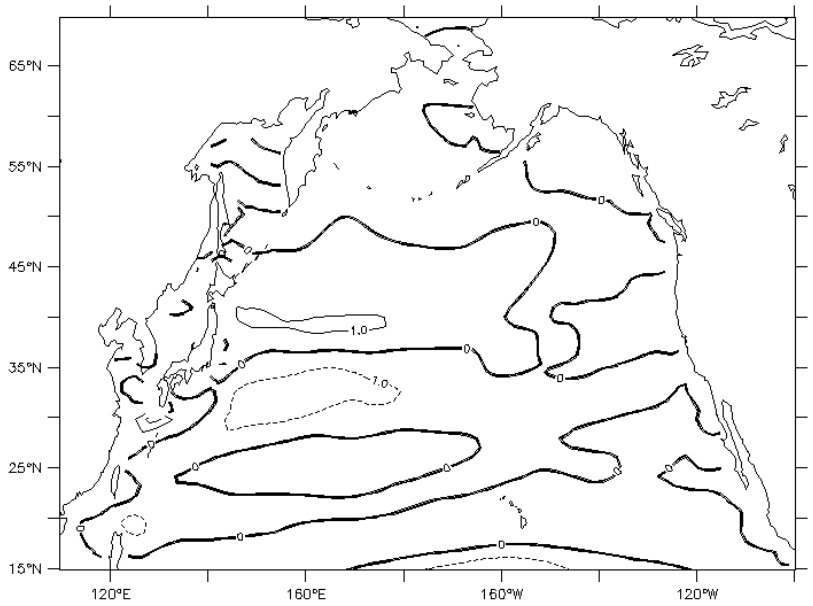
Salathe (2006)



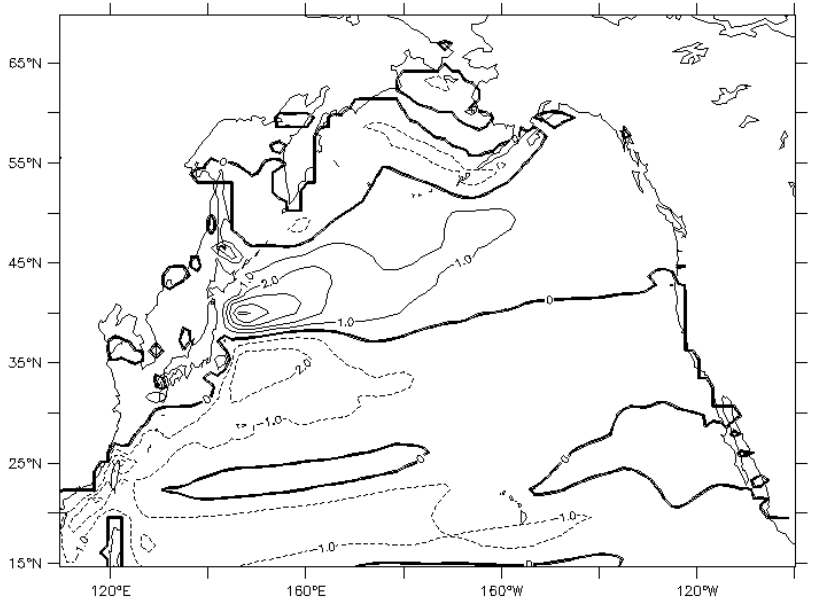
Mean SLP during Winter 1950-2000

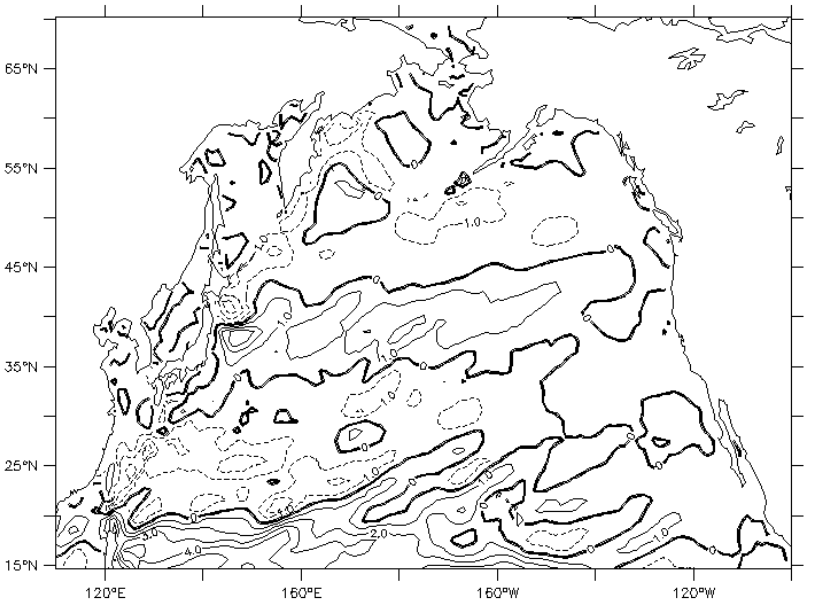
Hindcast SLP during 1950-2000; projected changes for 2050-2100 (contours)

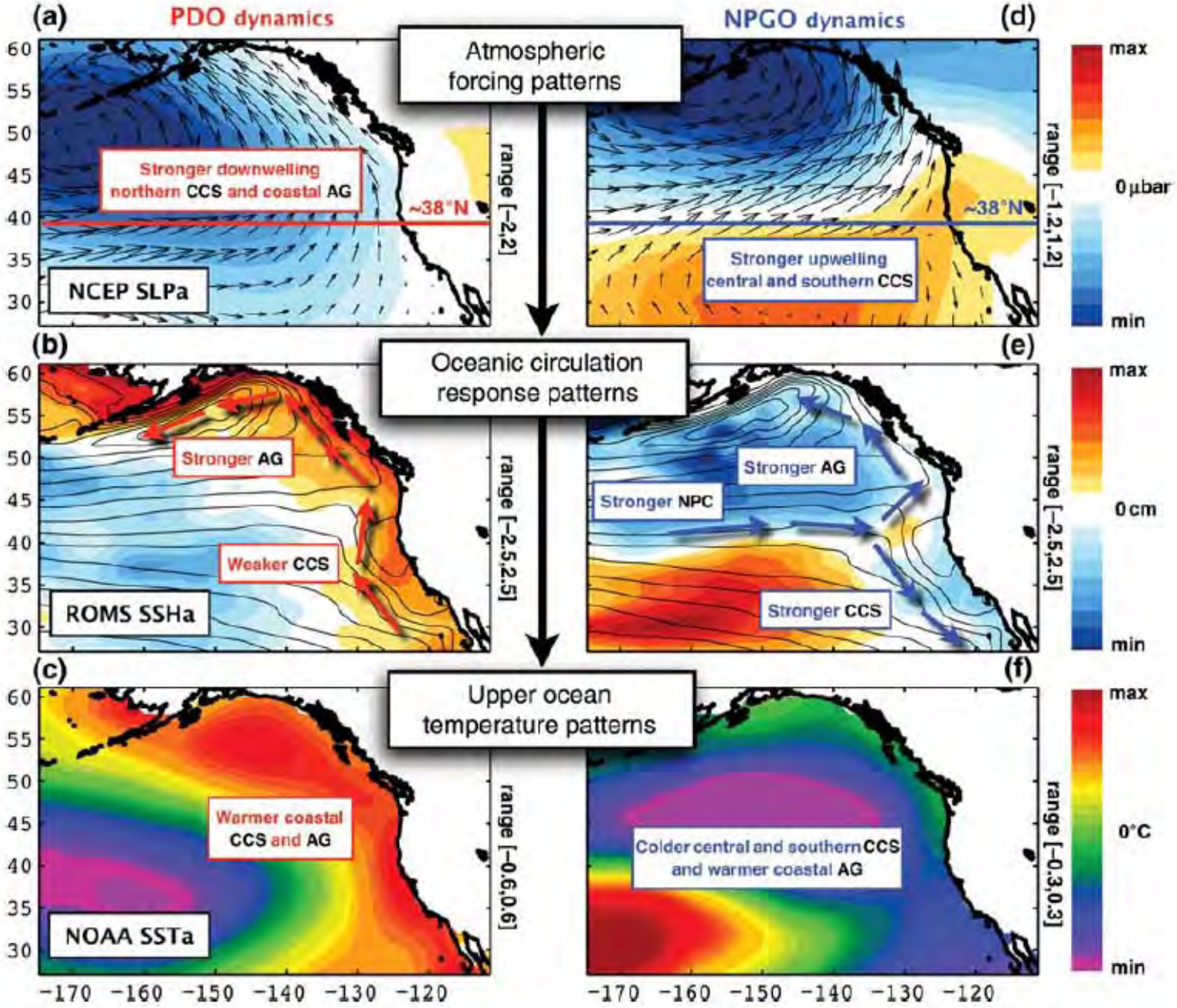




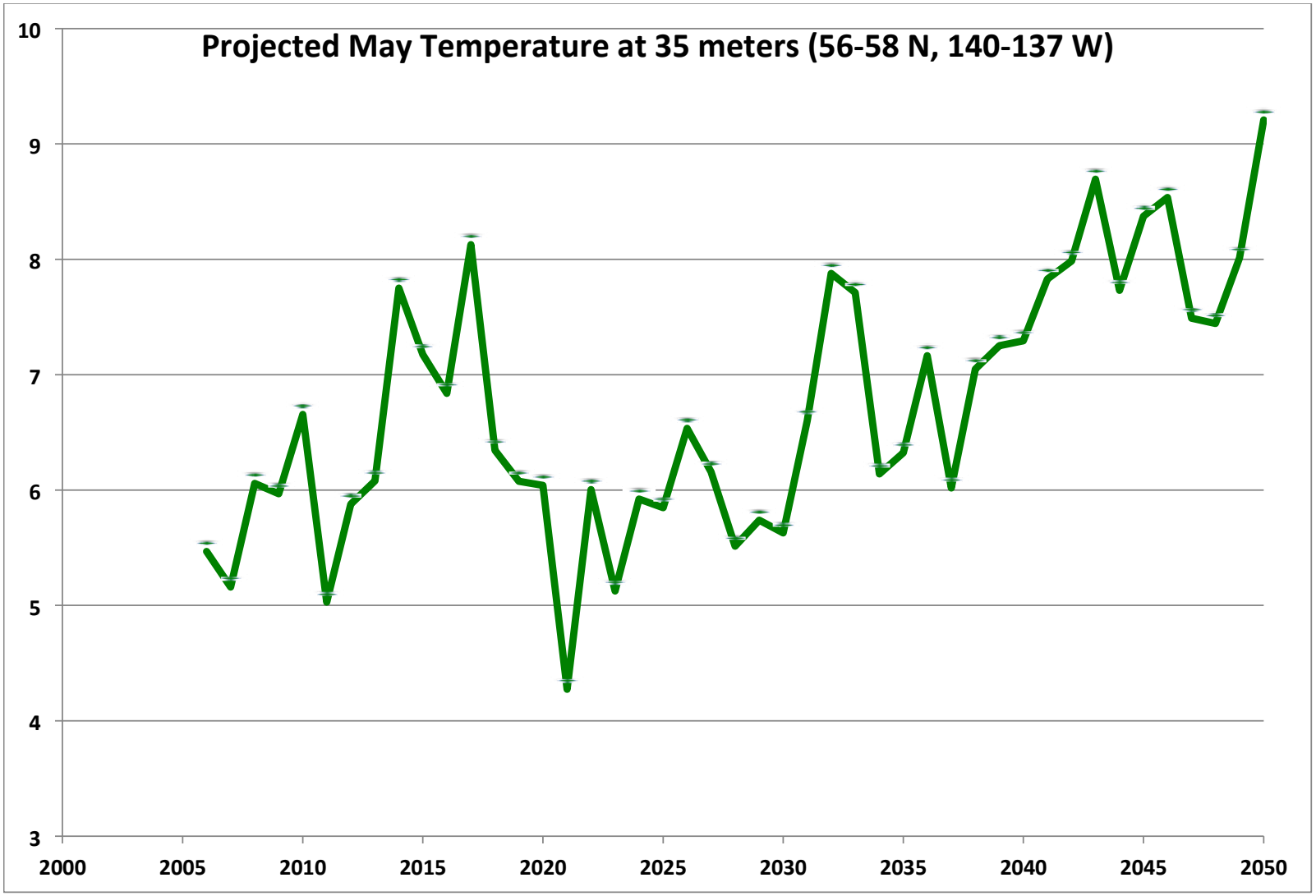
Changes in Surface to 200m Zonal Currents (cm/s) from Present to 2040s



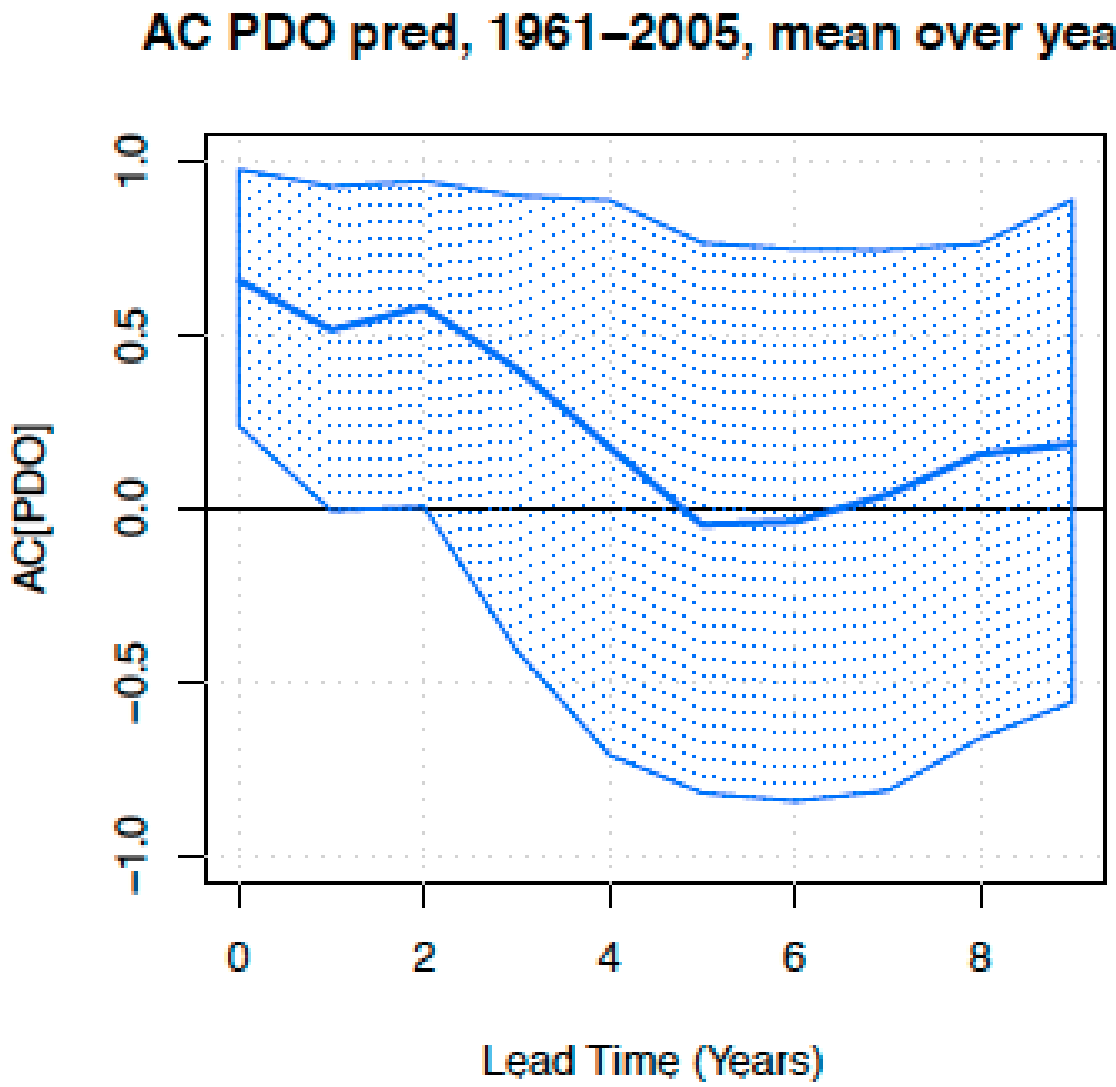




4. The atmospheric forcing and oceanic response of the Northeast Pacific during the positive phases of the PDO and NPGO.



From CanESM2 Model



Skill of Global Climate Model (DHFP1) for PDO Prediction
Lienert (Ph.D., 2011)

Global Climate Model Capabilities

Parameter	Rationale	Reliability
Large-scale mean pressure/wind patterns	Upper ocean advection; Surface forcing for Models	Very Good
Large-scale upper ocean T/S and currents	Direct estimates; Lateral BCs for Models	Good
Precipitation	Run-off; Freshwater habitat	Mixed
Spring bloom timing	LTL Community; Fish sp. Recruitment?	Fair/Poor
Summer SST	Stratification; Mixed layer depth	Fair
Summer wind mixing	Stratification; Nutrient re-supply	Good

Final Remarks

- Simulations from the latest global climate models are becoming available to project probable changes in North Pacific waters
- Systematic changes in thermodynamic properties are apt to occur before those in weather patterns or the ocean circulation
- Results to date indicate the following changes by the 2040s: shallower mixed layers in east Pacific, much greater summer stratification in the north and east Pacific, a northward shift in the Kuroshio Extension

The year in which the net change in winter SST due
to the trend exceeds the natural variability (2 std. deviations)