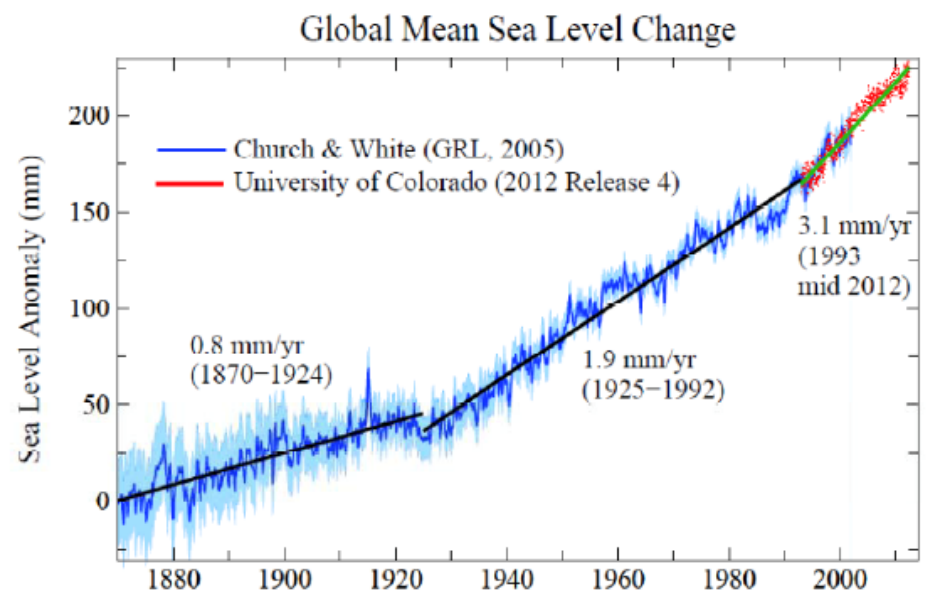
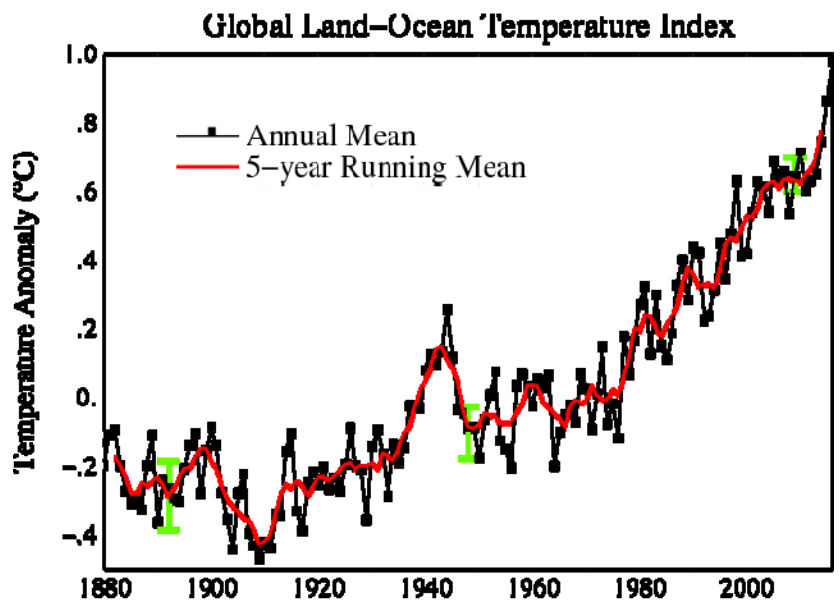


Influence of internal climate variability on mitigating the projected future regional sea level rise

Aixue Hu and Susan Bates

CESM workshop, 06/20/2017



Ensemble mean sea level rise and decadal trend

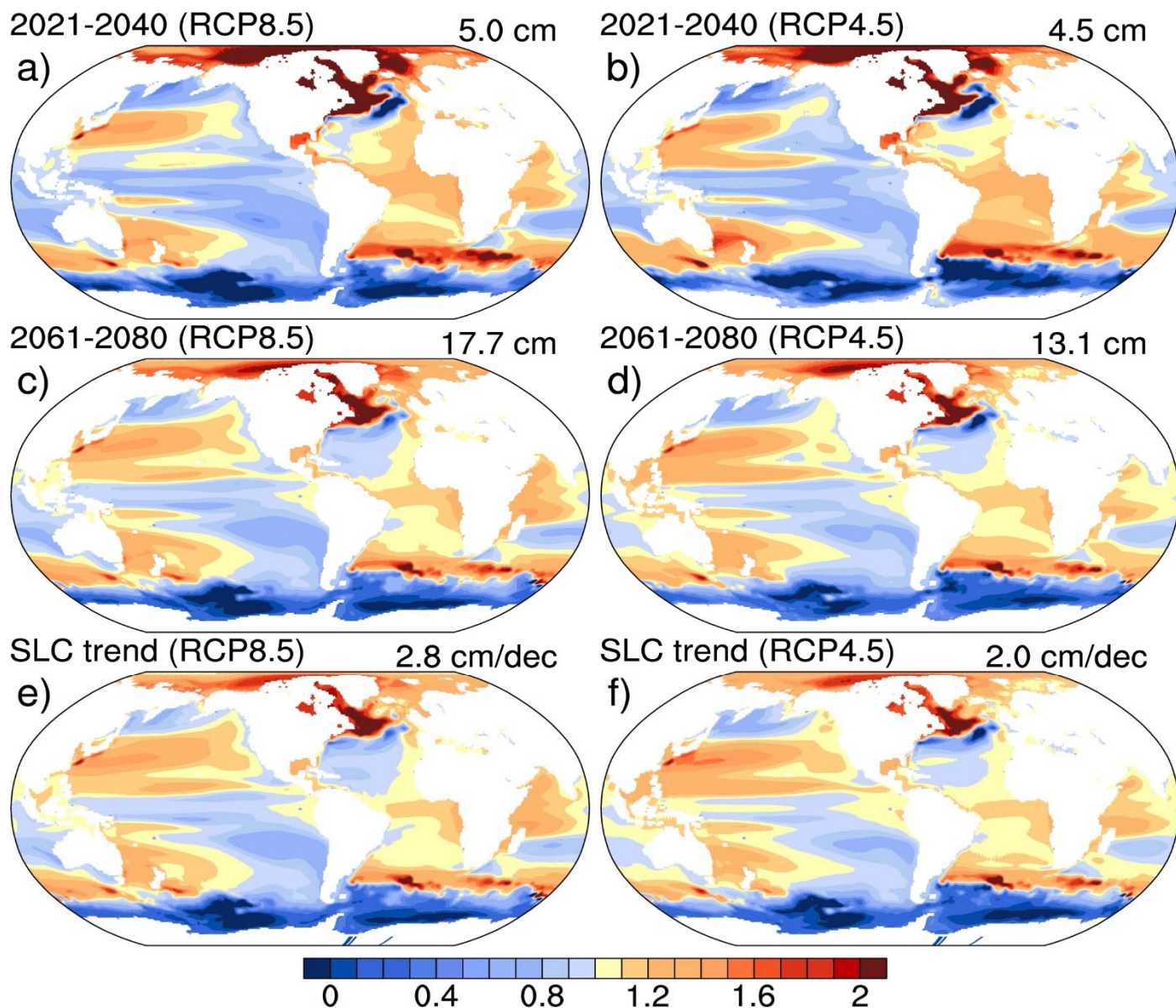
Model and Experiments:

CESM1, 1 degree for all components.

RCP8.5 large ensemble (40)

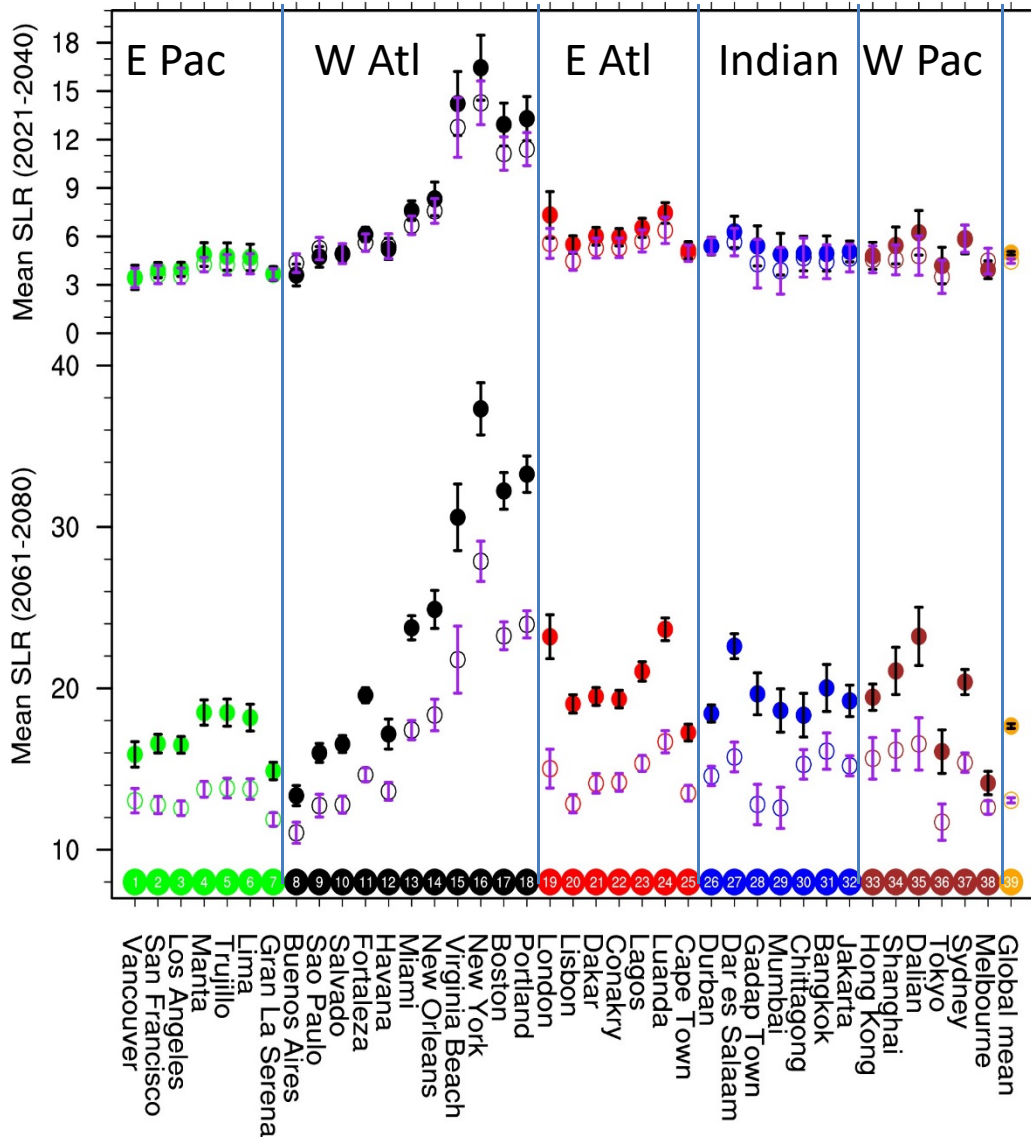
RCP4.5 medium ensemble (15)

2006-2080

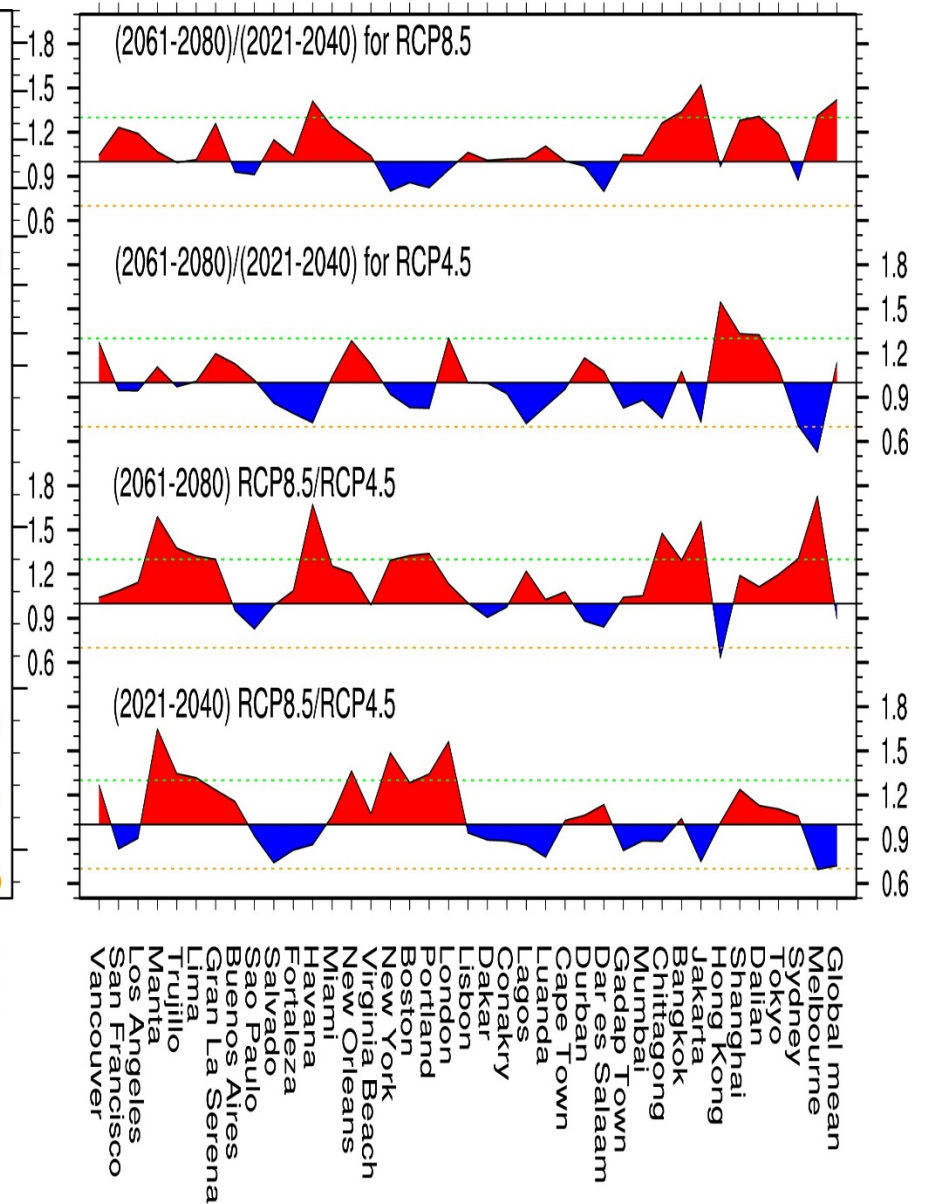


Sea Level rise in coastal cities in near to long term

20-year mean SLR for selected coastal cities



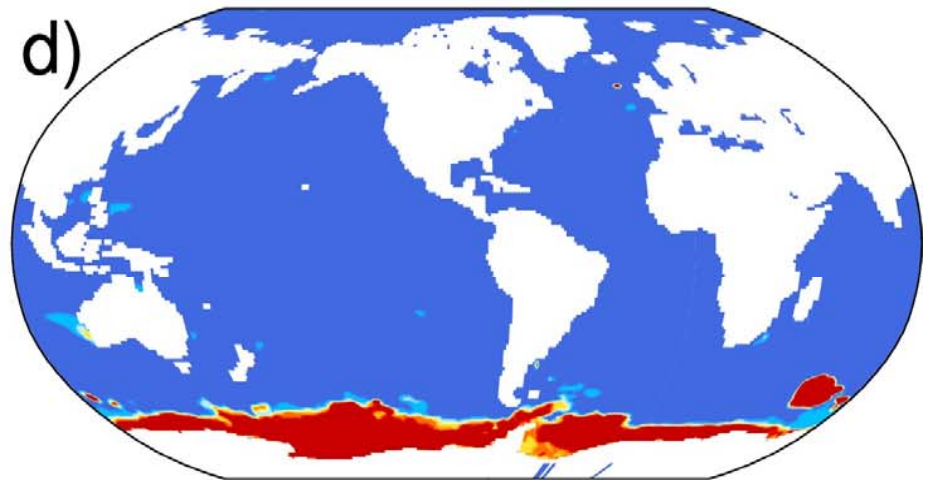
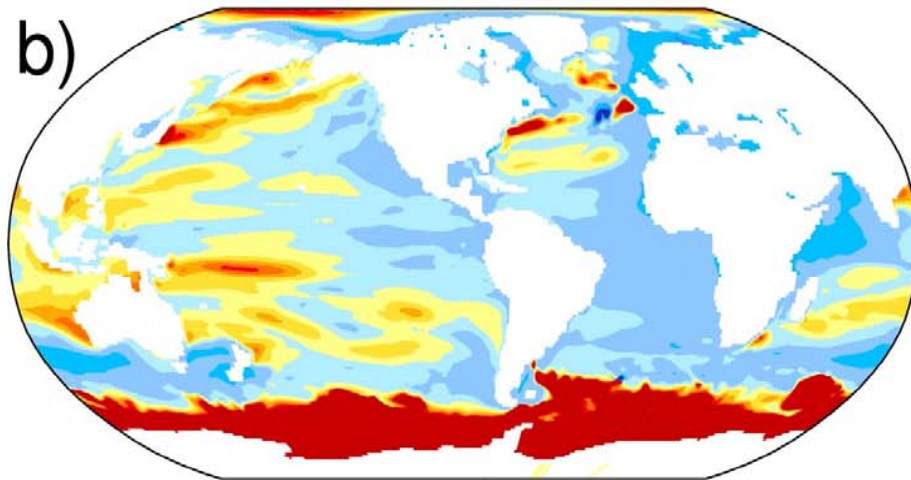
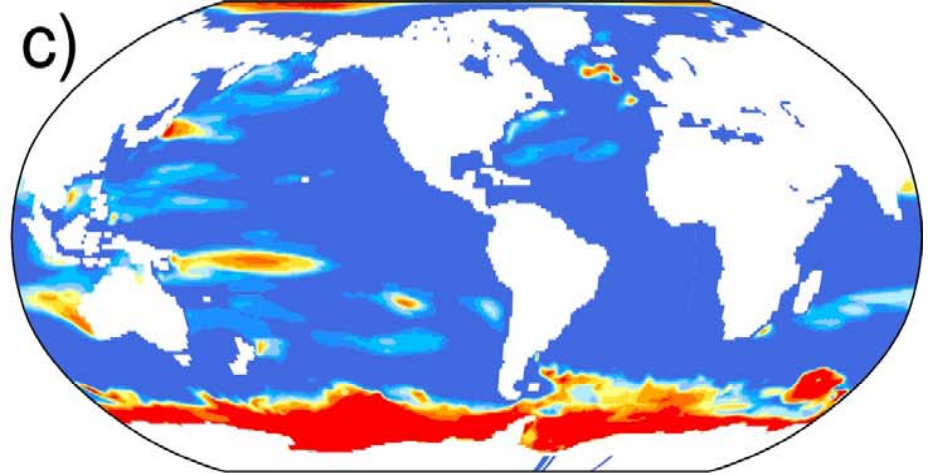
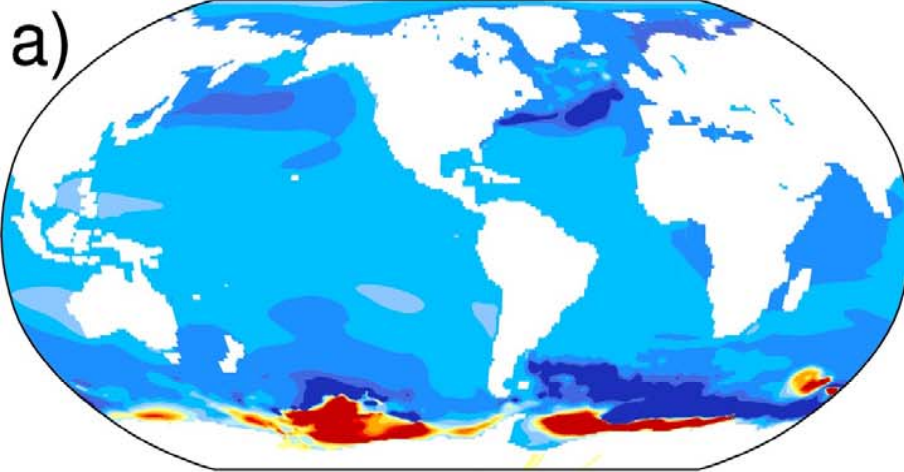
SLR standard deviation ratio for selected coastal cities



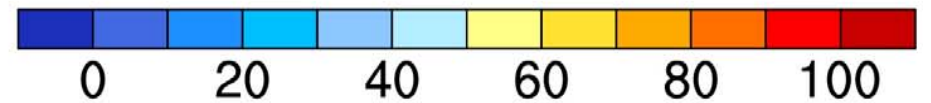
Sea level change decadal trend

Ens mean RCP4.5/Ens Mean RCP8.5

Percent of RCP4.5 greater than Min RCP8.5



Max RCP4.5/Min RCP8.5

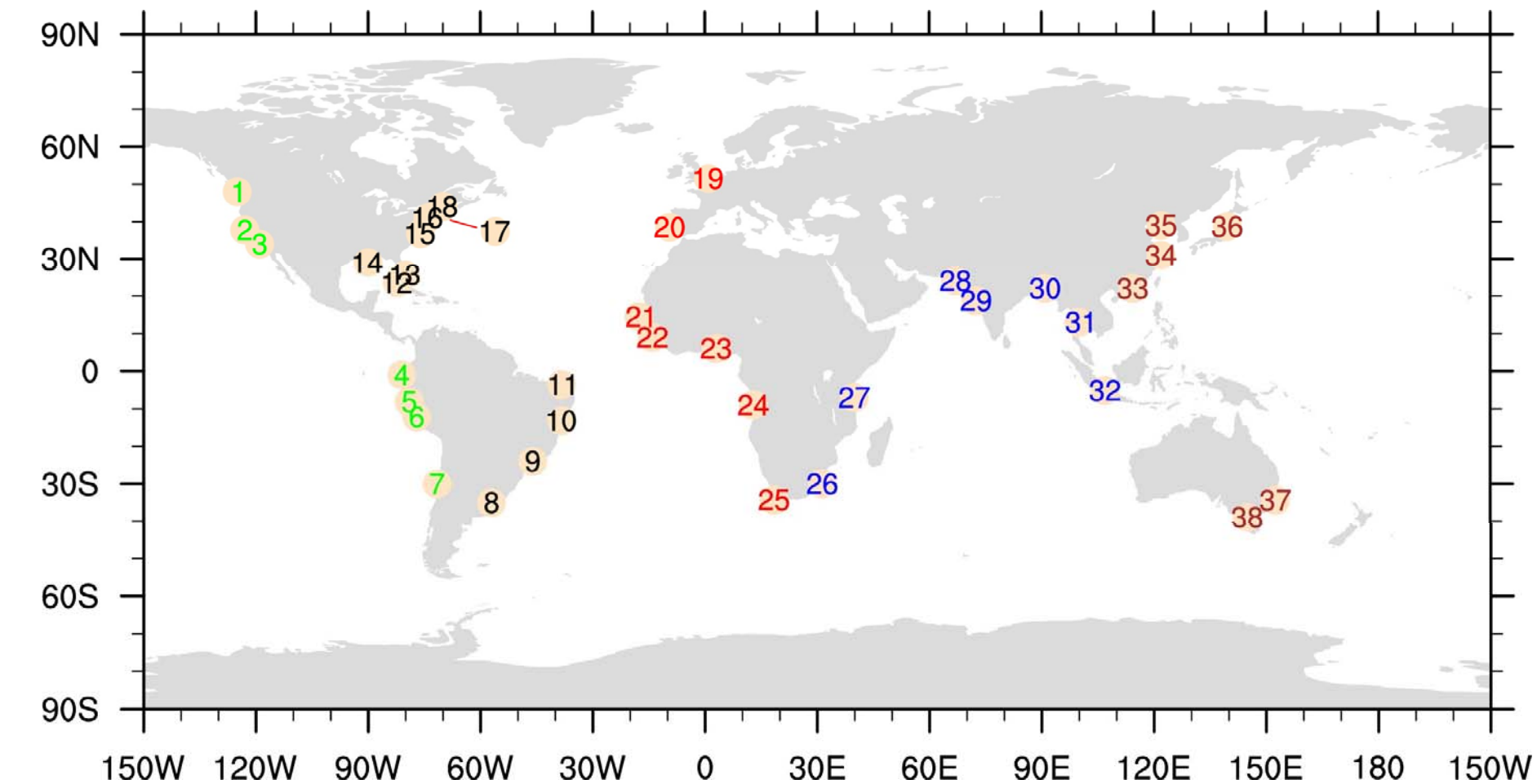


Percent of RCP4.5 greater than Ens mean RCP8.5



Summary

1. Ensemble mean patterns of regional sea level rise and trends are similar among different scenarios.
2. Regional sea level rise are not too different between RCP8.5 and RCP4.5 in 2021-2040, but significantly different in 2061-2080.
3. Ensemble mean sea level rise is higher in RCP8.5 than in RCP4.5 for most regions. Regional sea level rise in many RCP4.5 ensemble members can be higher than minimum sea level rise in RCP8.5 ensemble, a sign indicating the potential influence of internal variability on sea level rise.



- 1 Global mean
- 2 Melbourne
- 3 Sydney
- 4 Tokyo
- 5 Dalian
- 6 Shanghai
- 7 Hong Kong
- 8 Jakarta
- 9 Bangkok
- 10 Chittagong
- 11 Mumbai
- 12 Gadap Town
- 13 Dar es Salaam
- 14 Durban
- 15 Cape Town
- 16 Luanda
- 17 Lagos
- 18 Conakry
- 19 Dakar
- 20 Lisbon
- 21 London
- 22 Portland
- 23 Boston
- 24 New York
- 25 Virginia Beach
- 26 New Orleans
- 27 Miami
- 28 Havana
- 29 Fortaleza
- 30 Salvador
- 31 Sao Paulo
- 32 Buenos Aires
- 33 Gran La Serena
- 34 Lima
- 35 Trujillo
- 36 Manta
- 37 Los Angeles
- 38 San Francisco
- 39 Vancouver