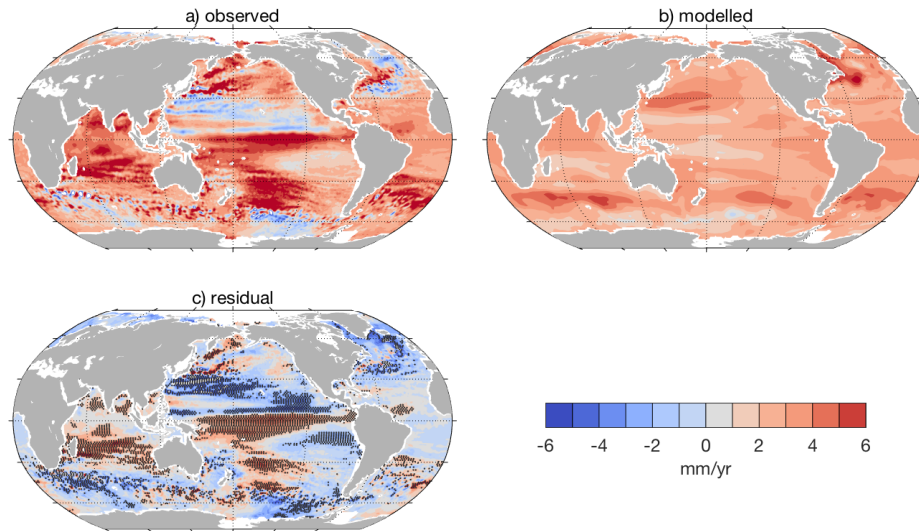


## Supplementary tables

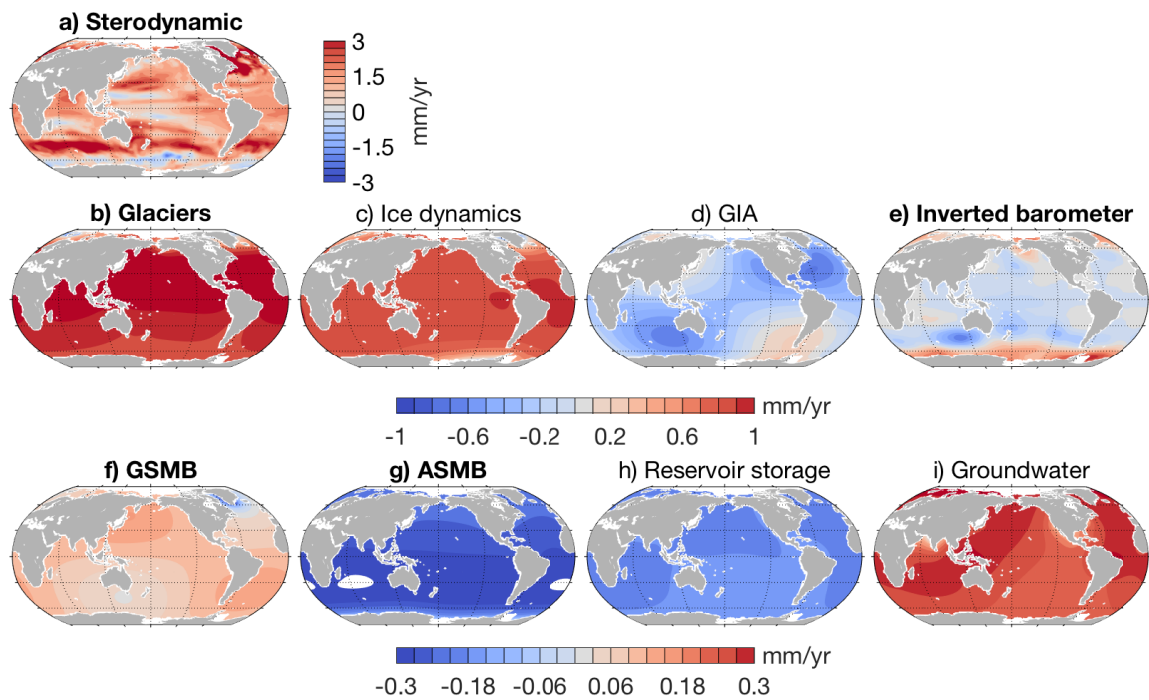
**Table 1:** CMIP5 climate models used in this study

<b>Model</b>	<b>Institute, country</b>
CanESM2	Canadian Centre for Climate Modelling and Analysis, Canada
CCSM4	National Center for Atmospheric Research, United States
CNRM-CM5	Météo-France/Centre National de Recherches Météorologiques, France
GFDL-CM3	National Oceanic and Atmospheric Administration/Geophysical Fluid Dynamics Laboratory, United States
GISS-E2-R	National Aeronautics and Space Administration Goddard Institute for Space Studies, United States
HadGEM2-ES	Met Office Hadley Centre, United Kingdom
IPSL-CM5-LR	Institut Pierre Simon Laplace, France
MIROC5	The University of Tokyo, Japan
MIROC-ESM	The University of Tokyo, Japan
MPI-ESM-LR	Max Planck Institute for Meteorology, Germany
MRI-CGCM3	Meteorological Research Institute, Japan
NorESM1-M	Norwegian Climate Centre, Norway

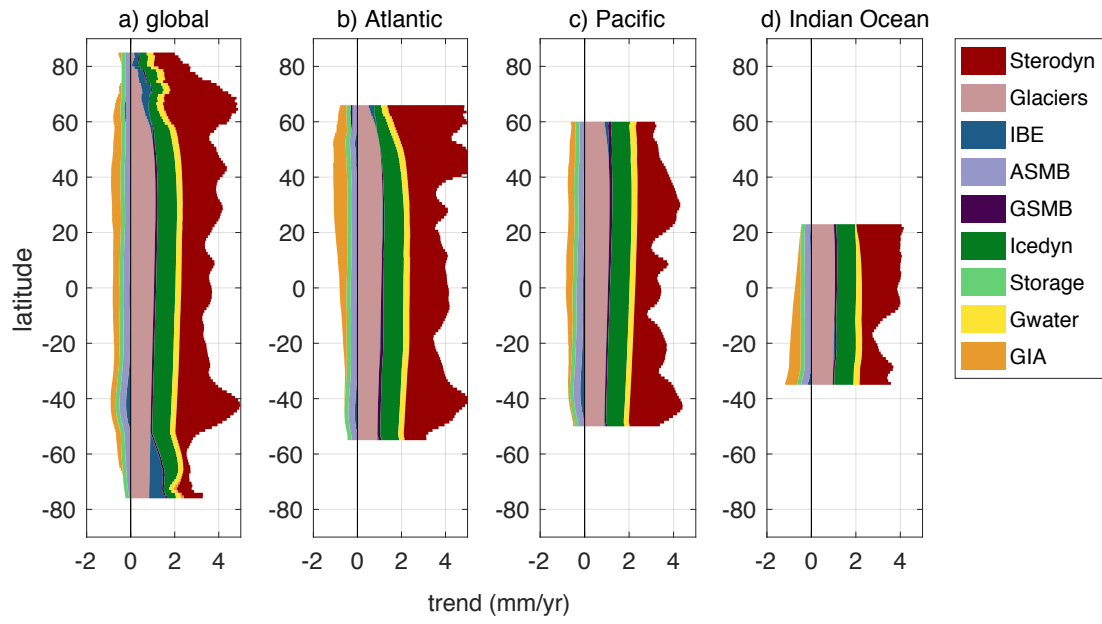
## Supplementary figures



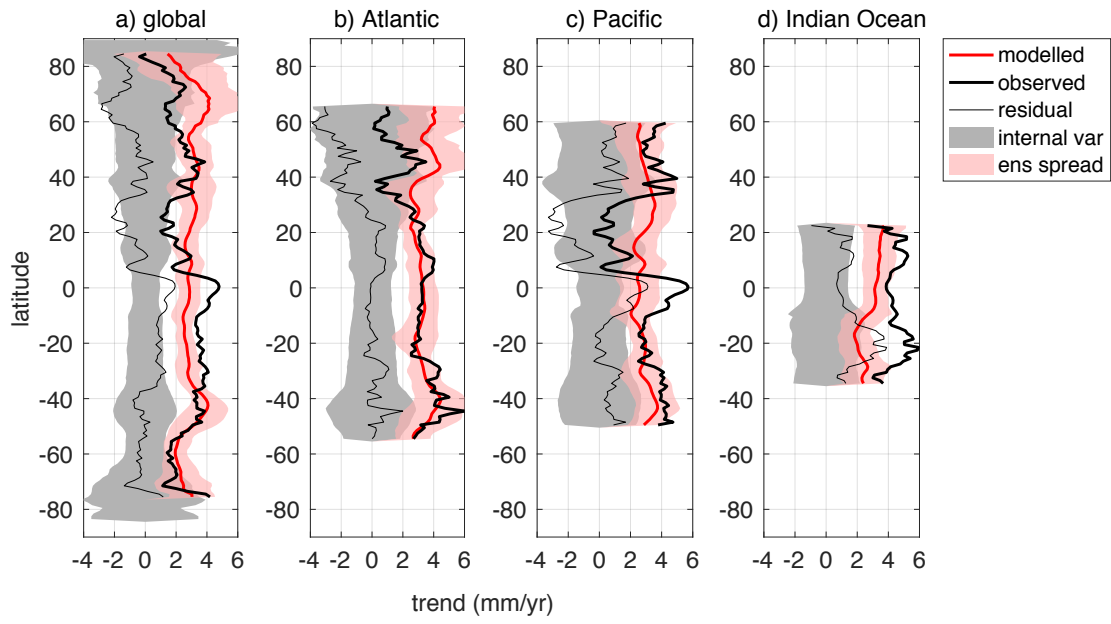
**Figure 1:** a) Observed and b) simulated total sea-level trend over the period 1998-2015. c) Residual (observed minus simulated) sea-level trend. Hatched areas denote regions where the residual sea-level trend is outside the simulated internal variability in steric sea level.



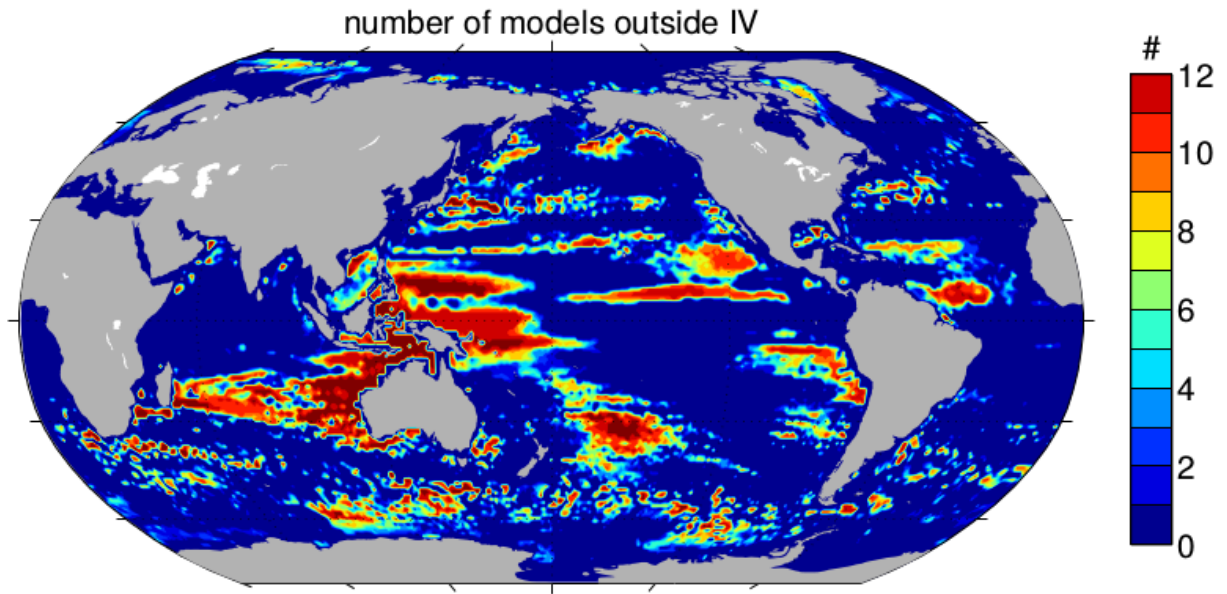
**Figure 2:** Contributions to total sea-level trend over the period 1998-2015. Contributions derived from process-based models (ensemble mean) in are shown in bold. Note the different colour scales.



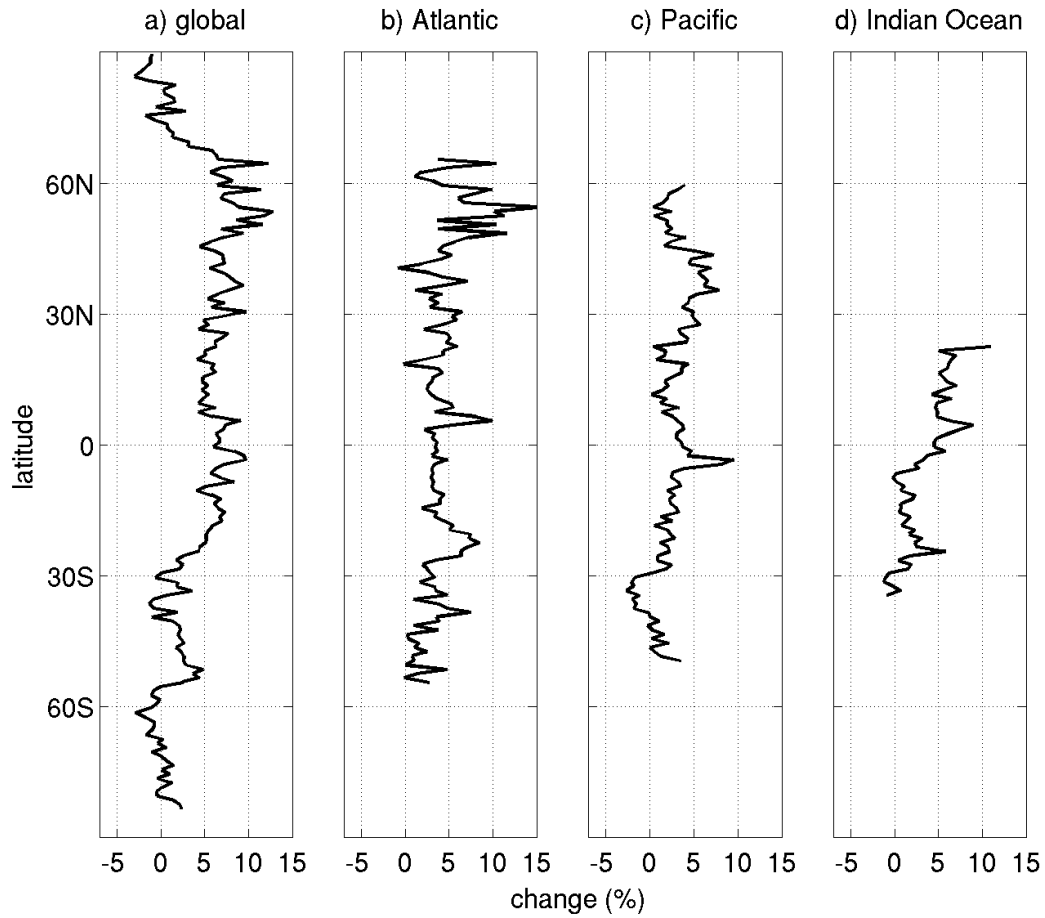
**Figure 3:** Stacked contributions to linear trends in zonally-averaged sea level over the period 1998-2015 for a) averaged over all longitudes, b) the Atlantic Ocean, c) the Pacific Ocean and d) the Indian Ocean.



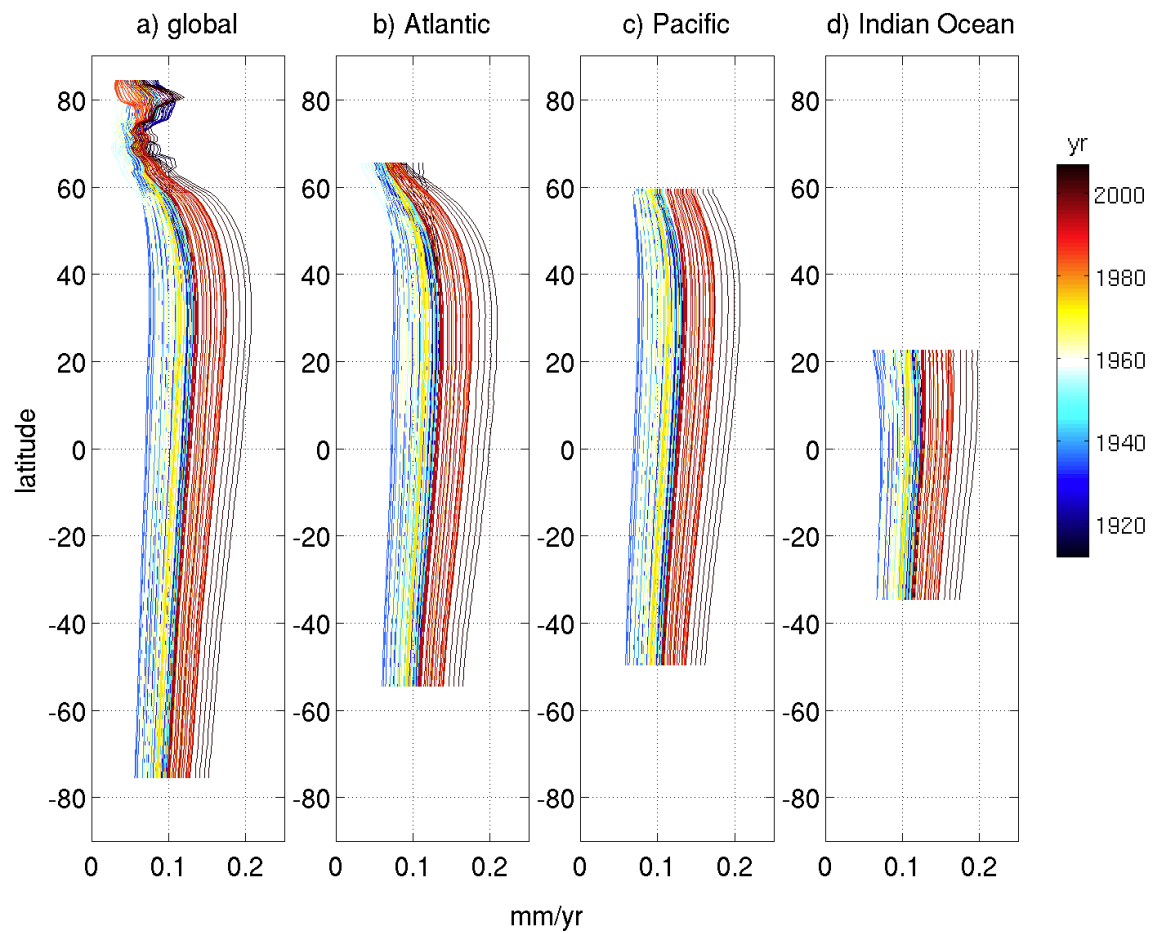
**Figure 4:** Linear trends of zonally-averaged observed and simulated total sea level. The red shading represents the standard deviation around the ensemble mean. The grey shading represents the ensemble mean size of internal variability in the sterodynamic sea-level contribution as derived from control simulations.



**Figure 5:** Number of models where the residual sea-level trends in Figure 1c are outside the range (5th to 95th percentile) of internal variability (IV) in steric dynamic sea level. The maximum number of models is 12.

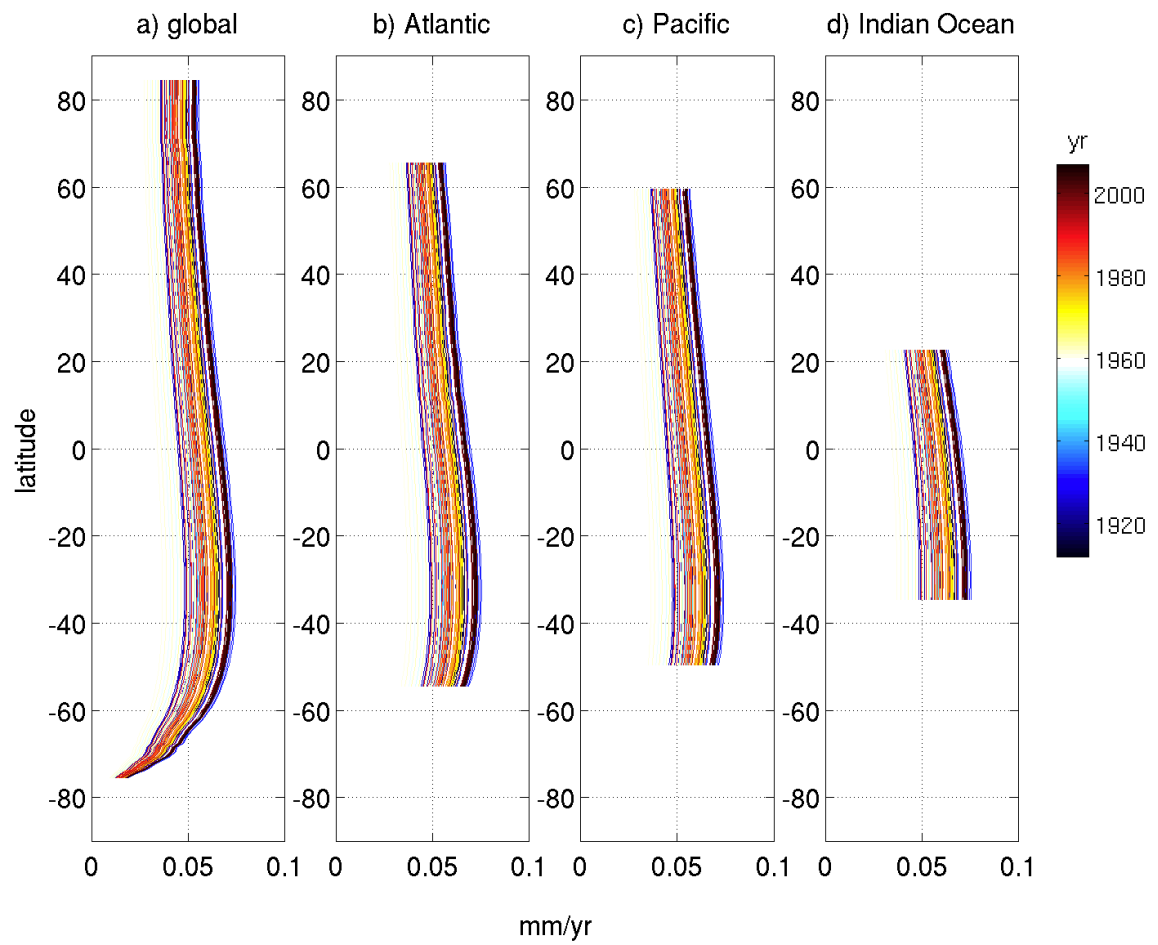


**Figure 6:** Change in magnitude of 25-yr trends as generated by internal variability when glacier contribution is taken into account in addition to steric sea level. Data is from Richter et al. (2017) The change in trends applies to relative sea-level as computed in Richter et al. (2017) (see their Figure 1b)

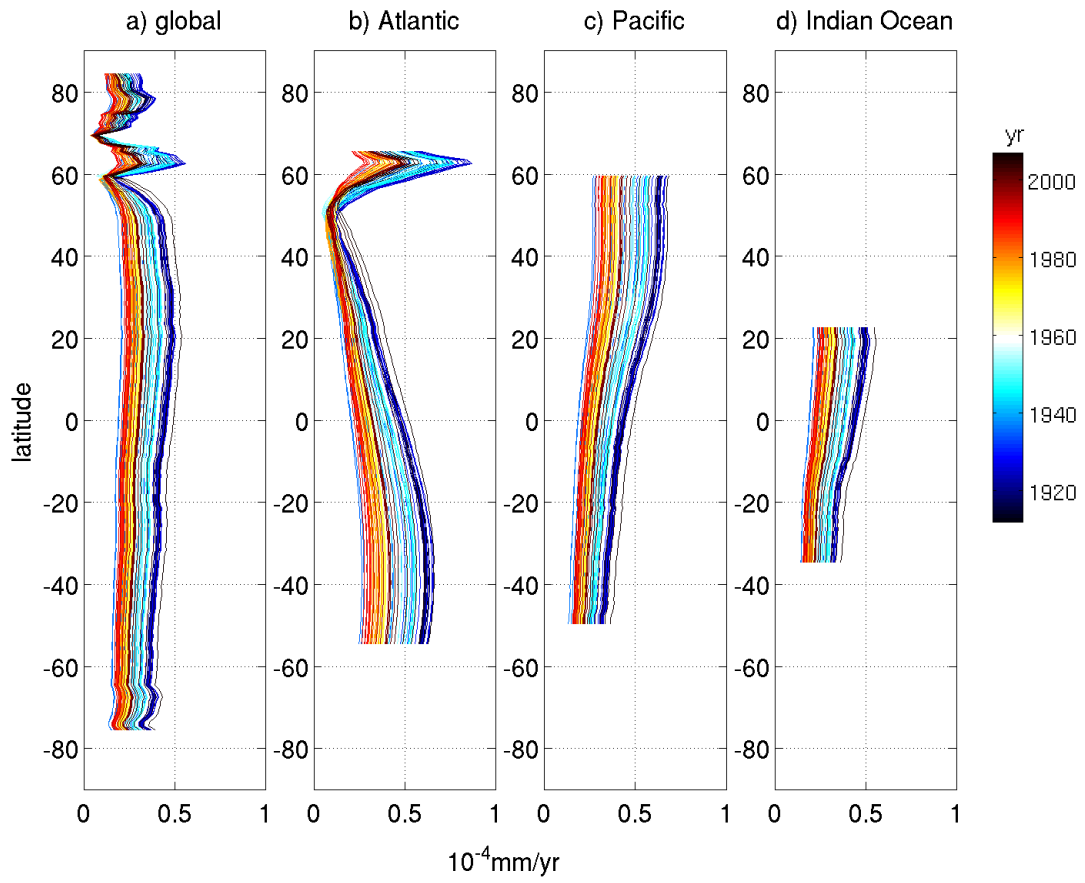


**Figure 7:** Ensemble standard deviation in 22-yr linear trends in zonally averaged sea-level change due to glacier mass change. The ensemble standard deviations of running trends are shown for the period 1900-2015. The colors denote the central year of each 22-yr period.





**Figure 8:** Same as Figure 7 but for Antarctic surface mass balance.



**Figure 9:** Same as Figure 7 but for Greenland surface mass balance.