

Supplementary Materials:

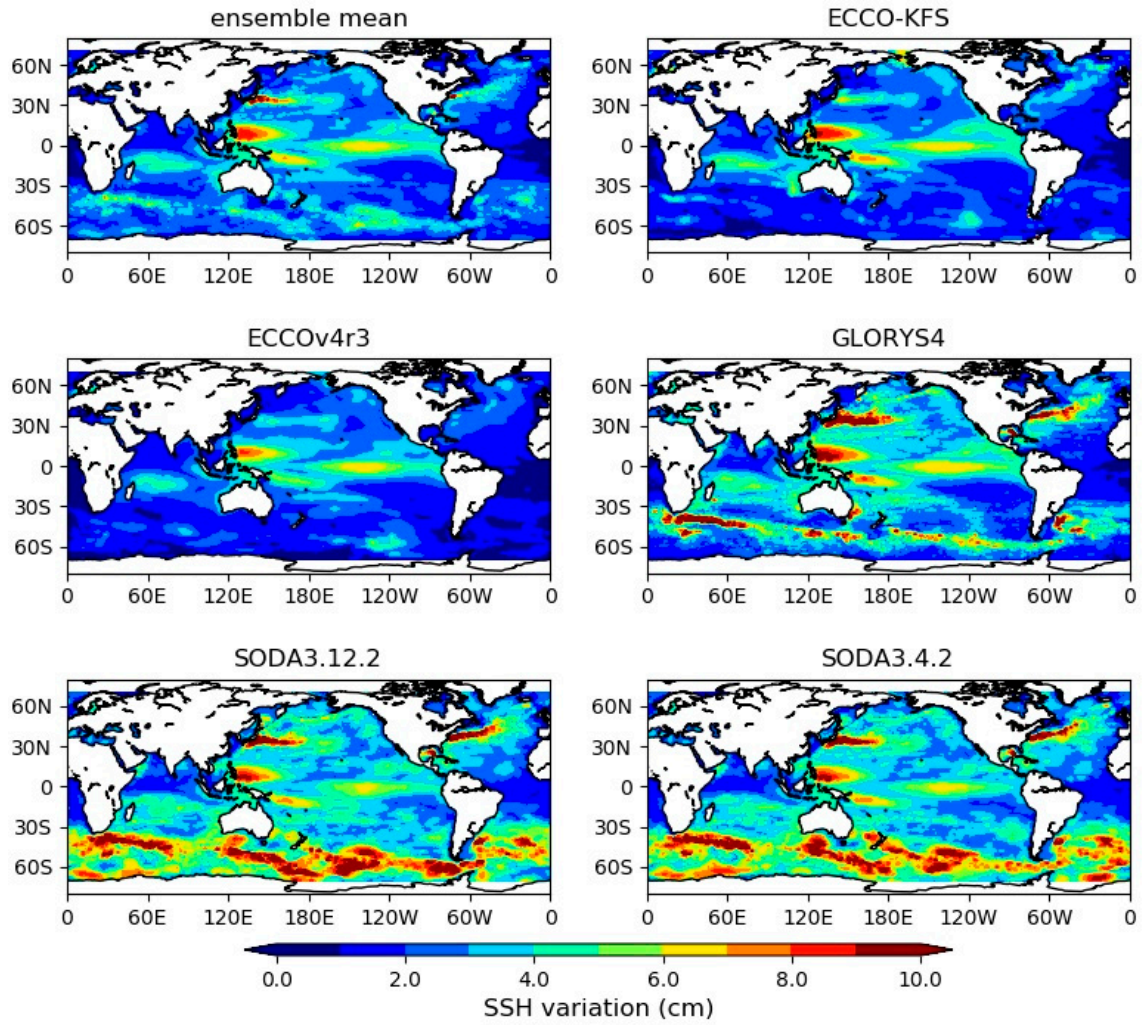


Figure S1. SSH inter-annual variations (cm) from multi-product ensemble mean during 1993–2015. SSH inter-annual variations (cm) from ECCO-KFS, ECCOv4r3, GLORYS4, SODA3.12.2 and SODA 3.4.2, respectively, during 1993–2015.

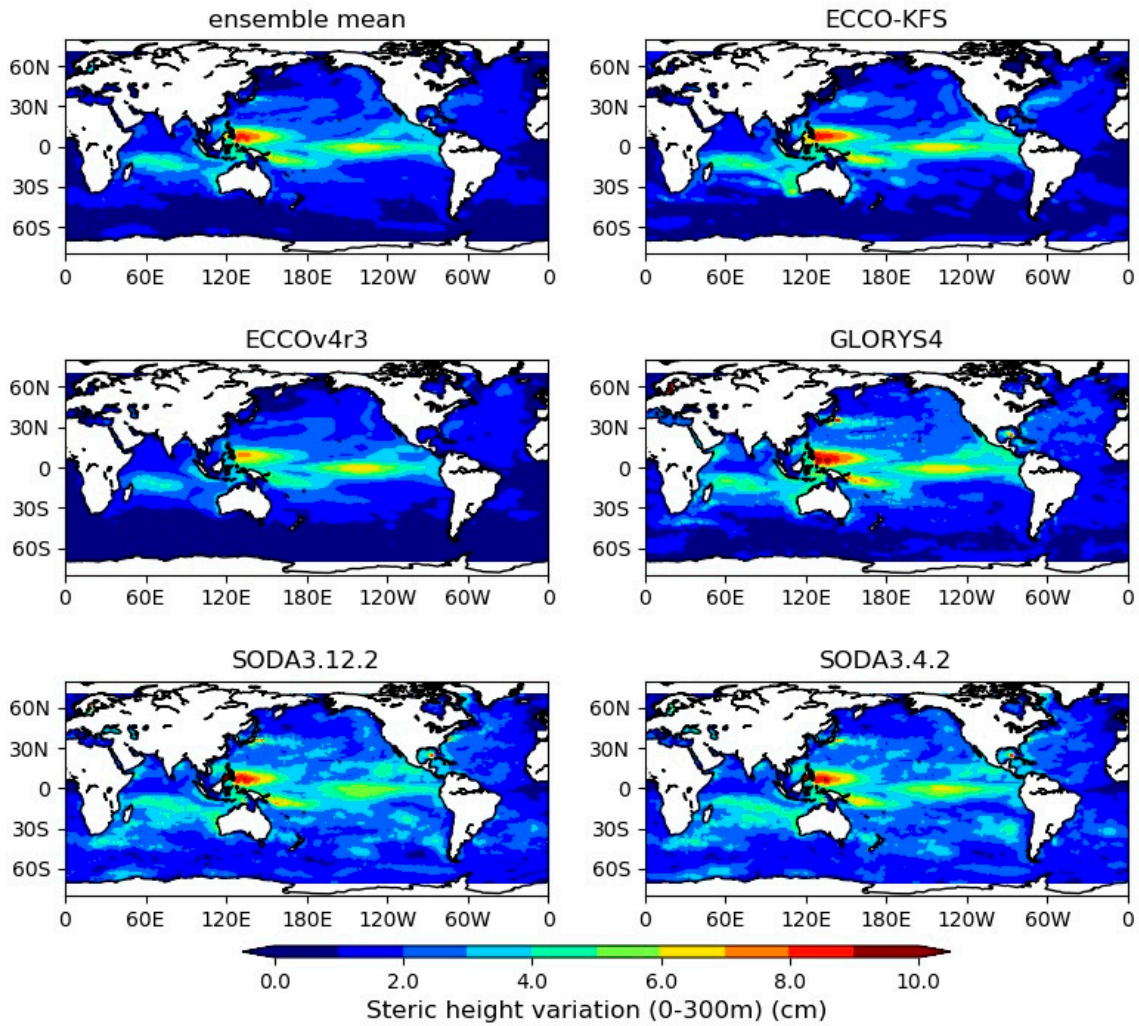


Figure S2. Inter-annual variations (cm) of steric height above 300 m depth from multi-product ensemble mean during 1993–2015. Inter-annual variations (cm) of steric height above 300 m depth from ECCO-KFS, ECCOv4r3, GLORYS4, SODA3.12.2 and SODA 3.4.2, respectively, during 1993–2015.

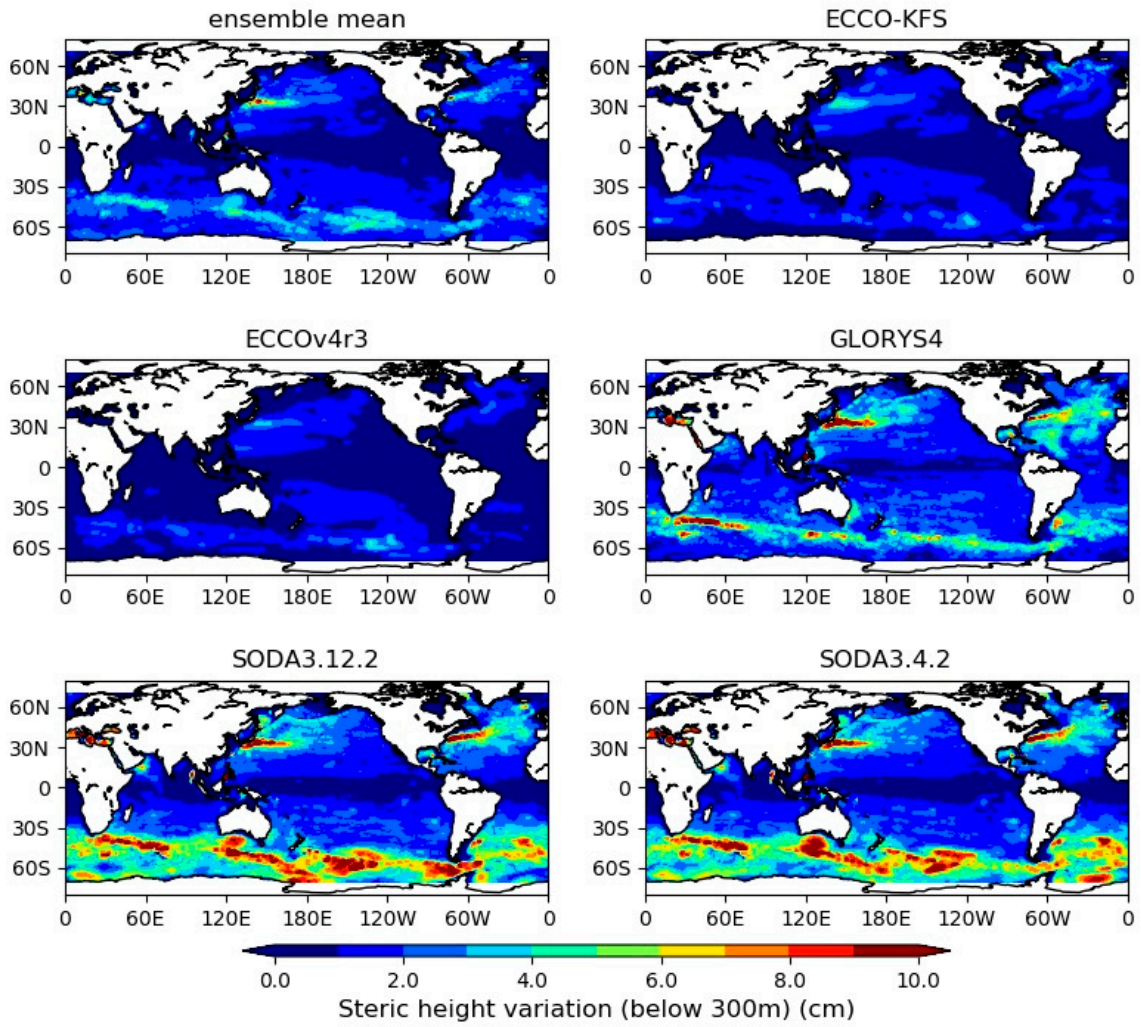


Figure S3. Same as Figure S2, but for steric height below 300 m of depth (300-bottom).

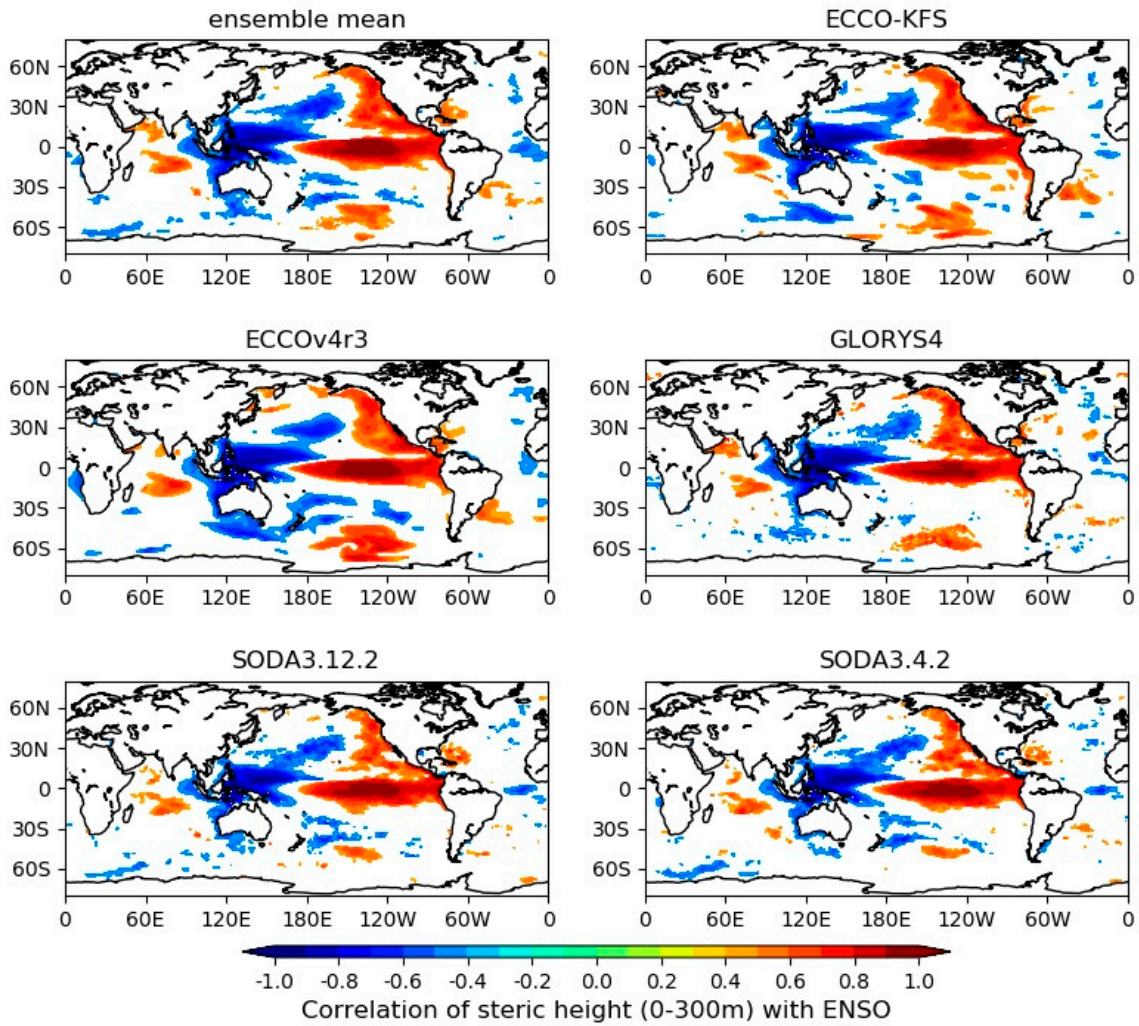


Figure S4. Correlation of steric height above 300 m depth from multi-product ensemble mean with ENSO during 1993–2015. Correlation of steric height above 300m depth from ECCO-KFS, ECCOv4r3, GLORYS4, SODA3.12.2 and SODA 3.4.2, respectively, with ENSO during 1993–2015. Blank areas show the correlations that are not significant at 95% confidence level.

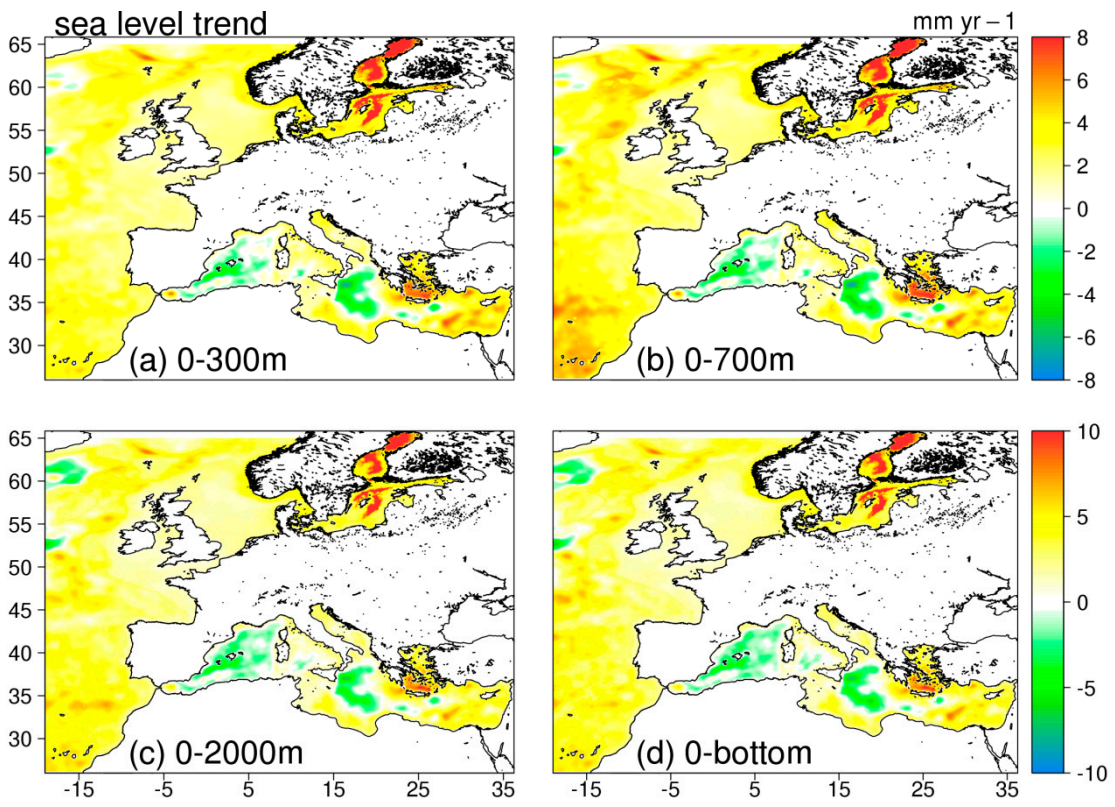


Figure S5. As Figure 10, but using data from the GLORYS12V1 global reanalysis.

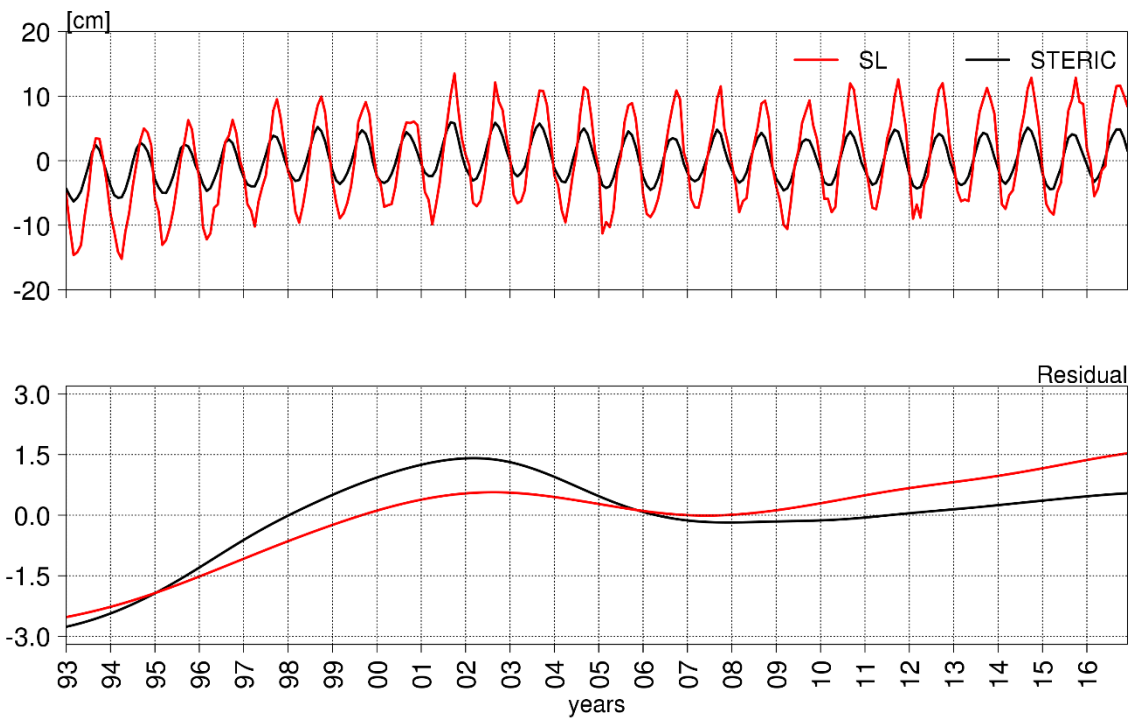


Figure S6. As Figure 11, but using data from the GLORYS12V1 global reanalysis.