



Supplement of

Dynamically downscaled future projections of the Northwest Atlantic Ocean across low to high emissions scenarios

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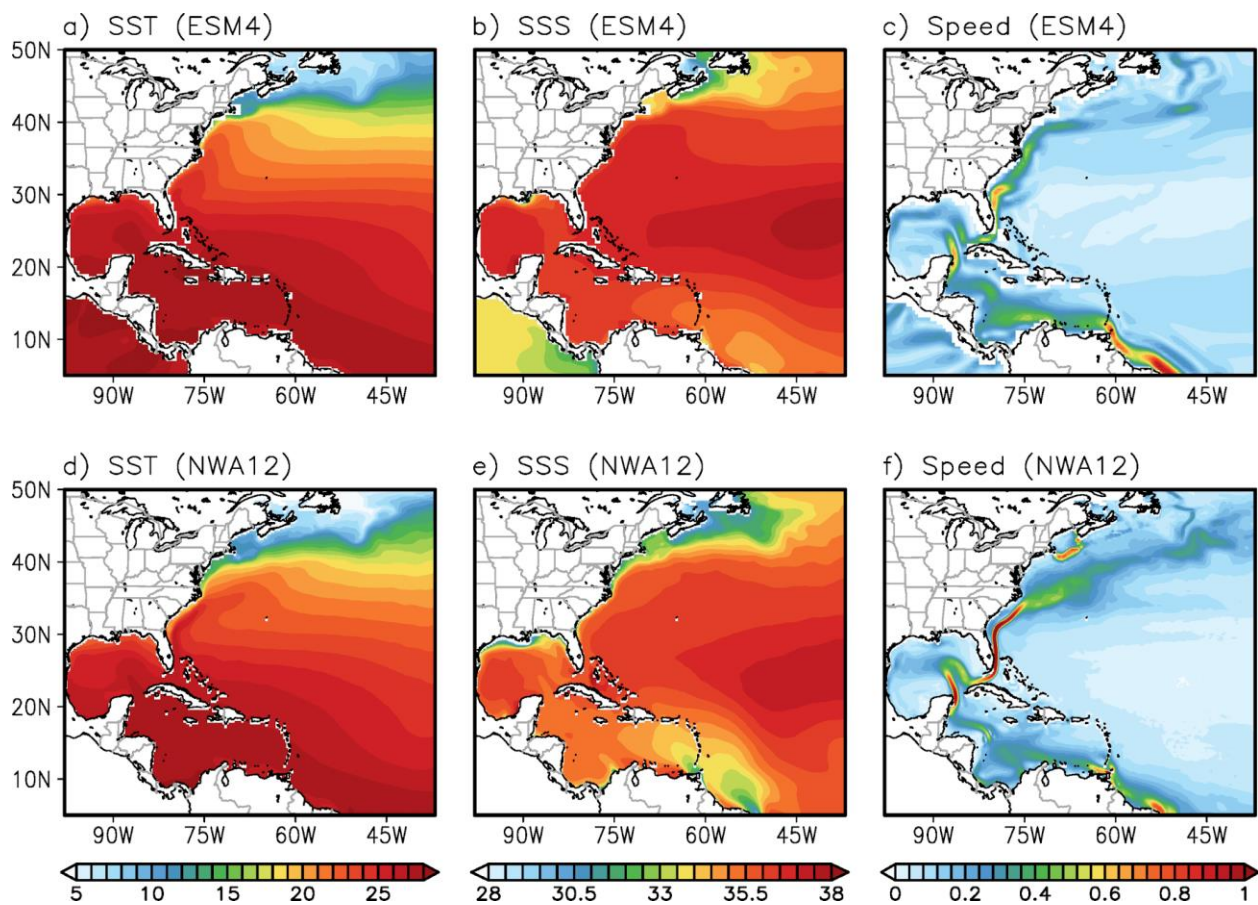


Fig. S1. Spatial pattern of the historical (1993-2020) mean (a) sea surface temperature (SST, °C), (b) Sea surface salinity (SSS, psu), and (c) surface current speed (m s^{-1}) in GFDL-ESM4.1. (d)-(f) are the same as (a)-(c) but for MOM6-NWA12.

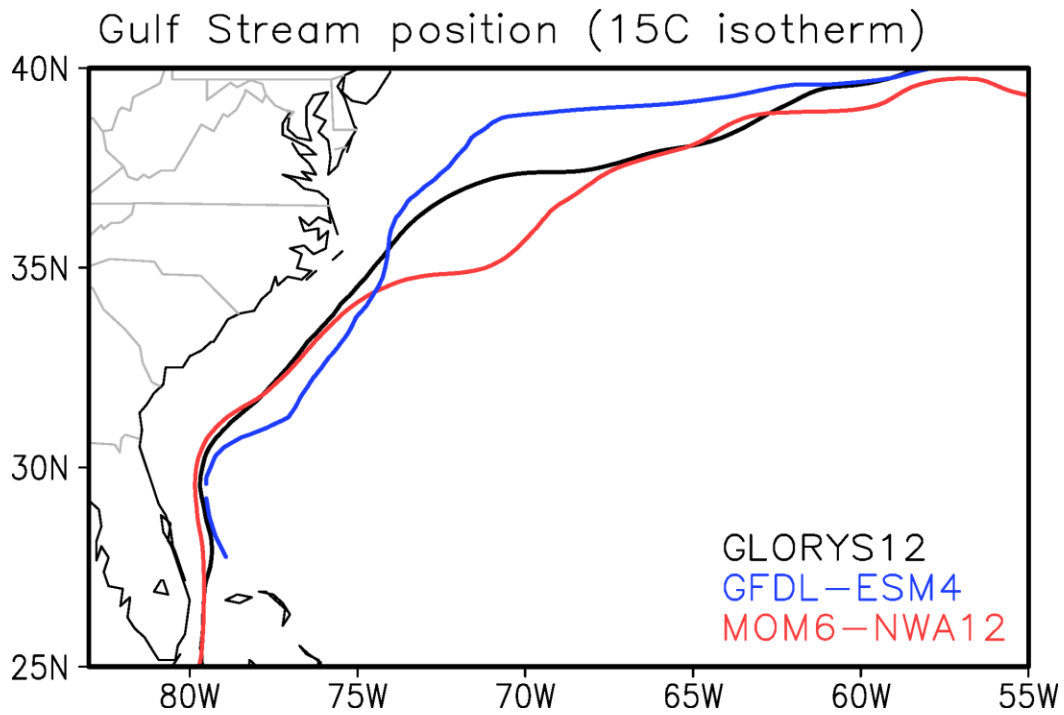


Fig. S2. The historical mean (1993-2020) position of the Gulf Stream (GS) in GLORYS12 (black line), GFDL-ESM4.1 (blue line), and MOM6-NWA12 (red line). The GS position is defined by the 15 °C isotherm at 200 m depth.

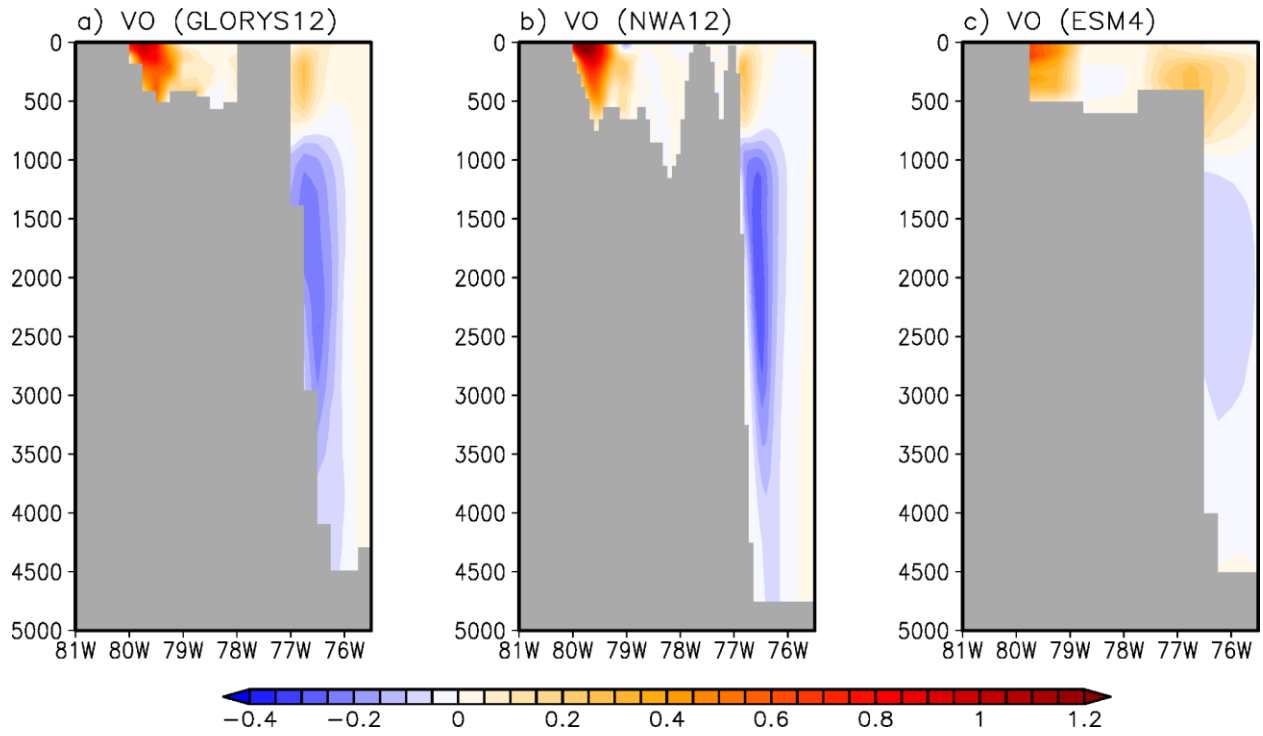


Fig. S3. The vertical cross section of meridional ocean speed at 26.5°N derived from (a) GLORYS12, (b) GFDL-ESM4.1 and (c) MOM6-NWA12

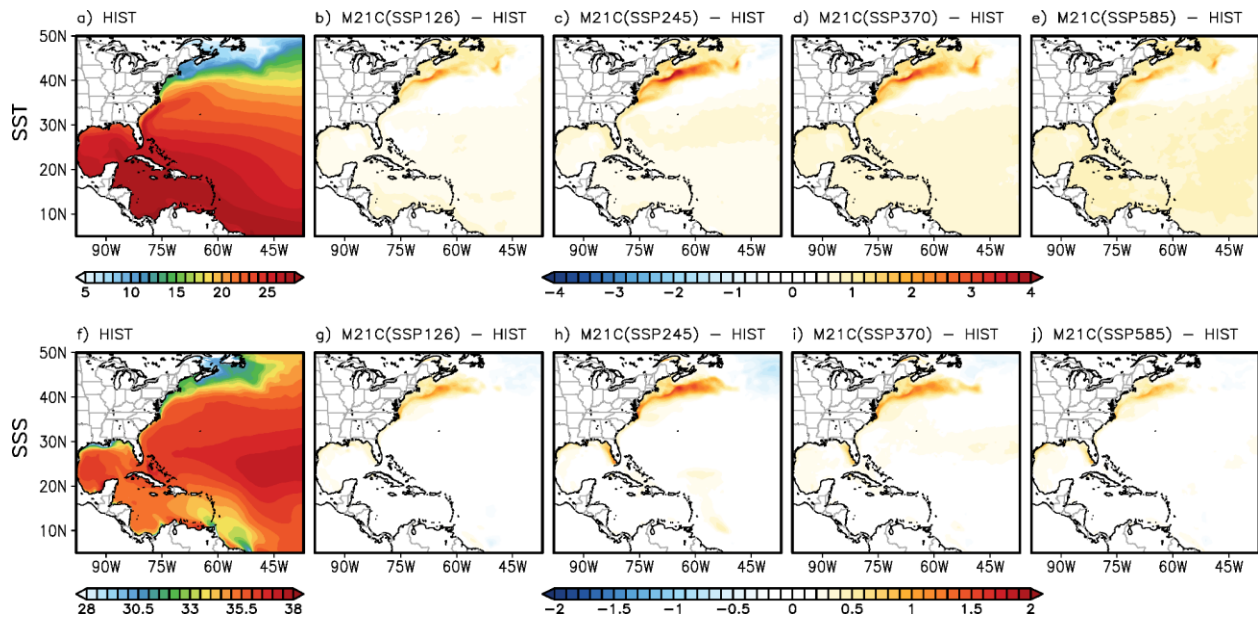


Fig. S4. (a) Spatial patterns of sea surface temperature (SST, °C) derived from MOM6-NWA12 during (a) historical period (1993-2020). The differences in SST between the mid 21st century (2025-2055) and historical periods in the (b) SSP-126, (c) SSP-245, (d) SSP-370 and (e) SSP-585 simulations. (f)-(j) are the same (a)-(e) but for sea surface salinity (SSS, psu).

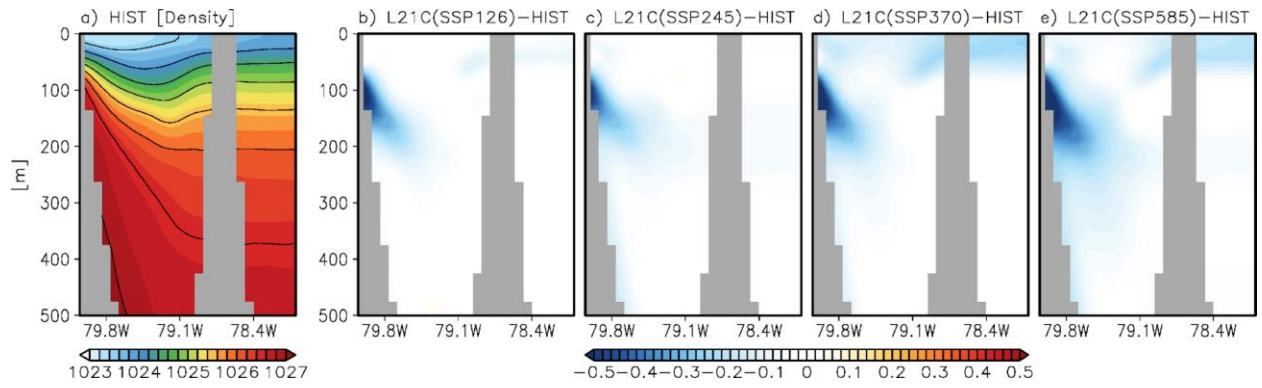


Fig. S5. (a) The vertical cross-sections of the mean density in the east coast of Florida (26.5°N , 79.7°W - 78.0°W) during the historical period (1993-2020). The difference in density between the future and historical periods from (b) SSP-126, (c) SSP-245, (d) SSP-370, and (e) SSP-585 simulations, respectively.