Supplementary Material for:

Are long-term changes in mixed layer depth influencing North Pacific marine heatwaves?

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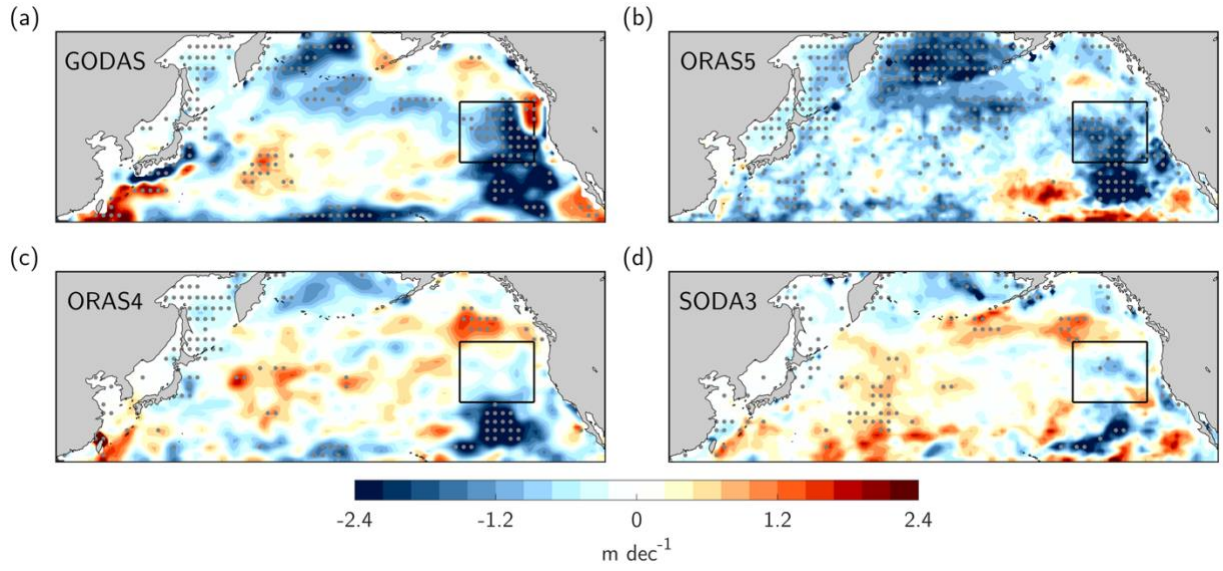
Supplemental Table 1 CMIP5 models used in this study. Mixed layer depth was calculated using monthly means on the native model grid. Data were then interpolated to a common 1.0˚ x 1.0˚ grid before taking JJA average. For each model, the MLD trend for 1980-2015 and 2016-2099 are reported, with the latter in parenthesis. Significant trends are bolded and are based on a 95% Mann Kendall test. These models were chosen because they offered monthly mean ocean temperature and salinity profiles for both the historical and future warming periods.

CMIP5 Model	***Institution***	***Native lat/lon resolution***	***NEPac MLD Trends (m dec^{-1})***
			Trend for 1980-2015 (2016-2099)
ACCESS1-0	CSIRO and BOM, Australia	0.6˚ x 1.0˚	-0.22 (**-0.68**)
ACCESS1-3			-0.07 (**-0.95**)
CESM1-BGC	National Center for Atmospheric Research	0.5˚ x 1.125˚	-0.41 (-0.13)
CESM1-CAM5			-0.1 (**-0.46**)
CNRM-CM5	Centre National de Recherches Meteorologiques	0.6˚ x 1.0˚	0.47 (**-0.3**)
GFDL-CM3	Geophysical Fluid Dynamics Laboratory	0.9˚ x 1.0˚	**-0.56** (**-0.62**)
GFDL-ESM2M			-0.08 (**-0.31**)
GISS-E2-R	NASA Goddard Institute for Space Studies	2.0˚ x 2.5˚	-0.43 (**-0.41**)
IPSL-CM5A-LR	Institute Pierre-Simon Laplace	1.2˚ x 2.0˚	-0.21 (**-0.29**)
IPSL-CM5A-MR			-0.30 (**-0.34**)
IPSL-CM5B-LR			-0.12 (**-0.26**)
MPI-ESM-LR	Max Planck Institute for Meteorology	0.8˚ x 1.4˚	-0.17 (**-0.52**)
MPI-ESM-MR			-0.44 (**-0.49**)



Supplemental Figure 1 Individual JJA MLDA trend maps for the ocean reanalysis products outlined in Table 1. Stippling represents 95% significance for a Mann-Kendall test.