Supplementary figures

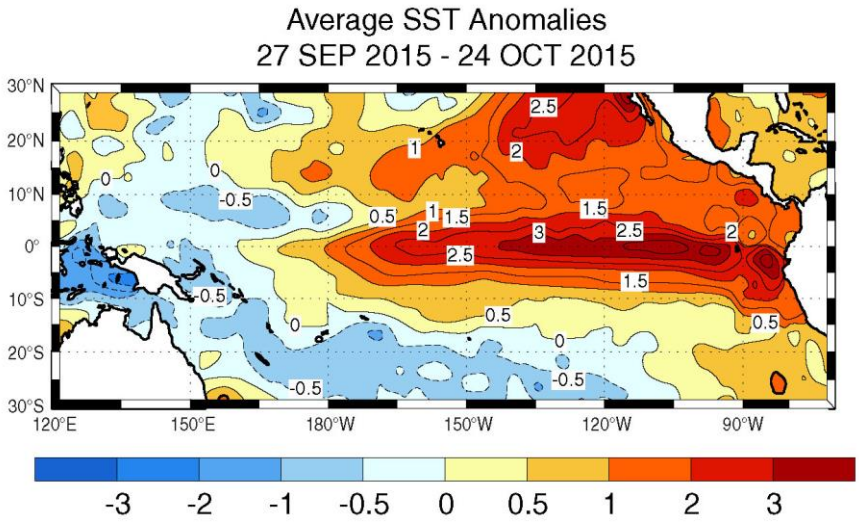

Fig. S1. Average sea surface temperature anomalies in °C for the period 27 September 2015 to 24 October 2015. Image with permission from NOAA extracted from http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf file version from 26 October 2015, redrawn with very minor modifications to improve the figure quality.

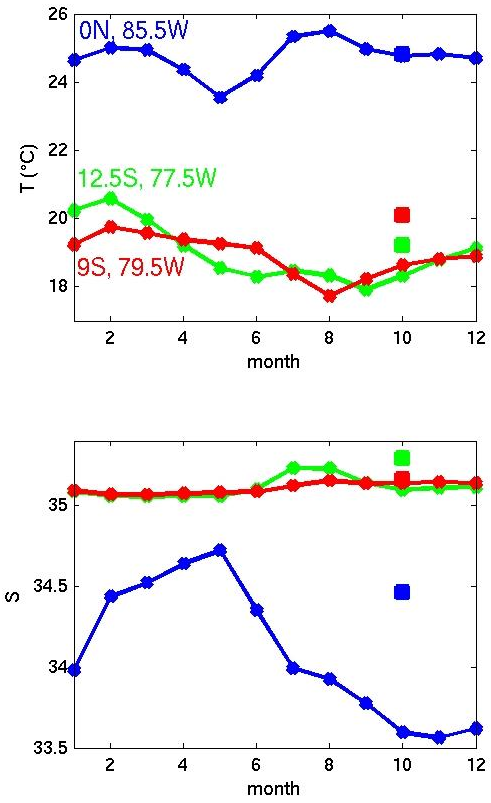

Fig. S2. Sea surface temperature in °C (top) and sea surface salinity (bottom) from the MIMOC climatology (Schmidtko et al., 2013) for 0°N, 85°30'W (blue line), 9°S, 79°30'W (red line) and 12°30'S, 77°30'W (green line) and surface values from CTD profiles in October 2015 at 0°N 85°30'W (blue square), 9°10'S, 79°28'W (red square) and 12°21'S, 77°25'W (green square).

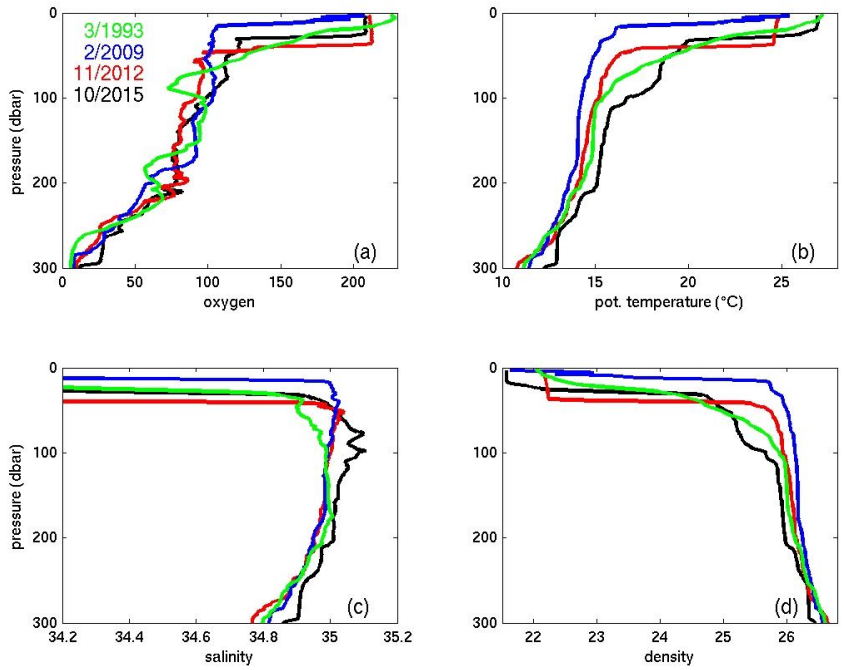

Fig. S3. Upper 300 m profiles at 1°N, 85°50'W for 31 March 1993 (green), 13 February 2009 (blue), 2 November 2012 (red) and at 85°30'W for 7 October 2015 (black) for **(a)** oxygen in μmol kg^{-1}, **(b)** potential temperature in °C, **(c)** salinity and **(d)** potential density in kg m^{-3}.

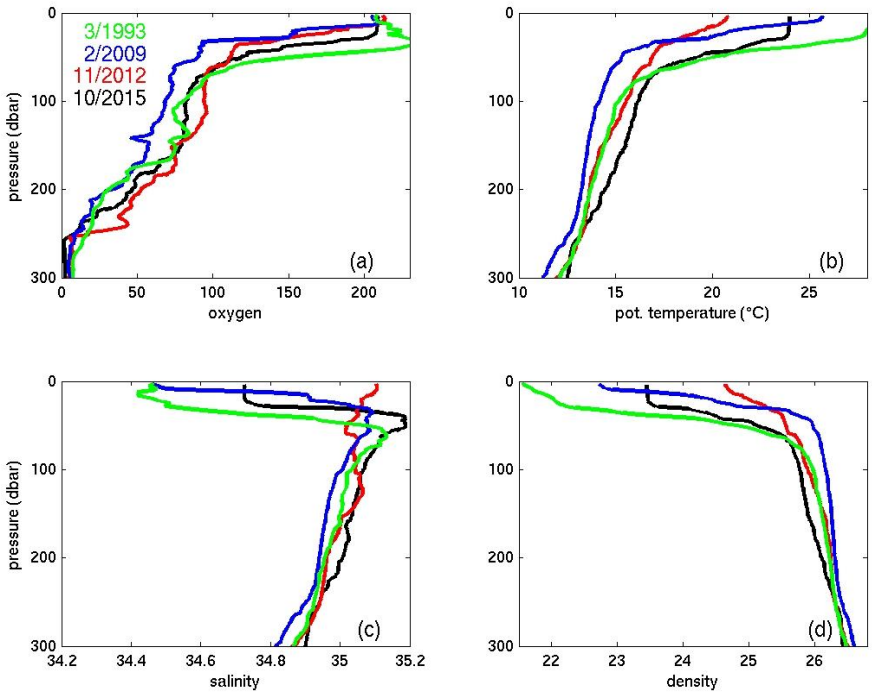

Fig. S4. Upper 300 m profiles at 2°30'S, 85°50'W for 29 March 1993 (green), 11 February 2009 (blue), 3 November 2012 (red) and at 85°30'W for 8 October 2015 (black) for **(a)**

oxygen in µmol kg^{-1}, **(b)** potential temperature in °C, **(c)** salinity and **(d)** potential density in kg m^{-3}.

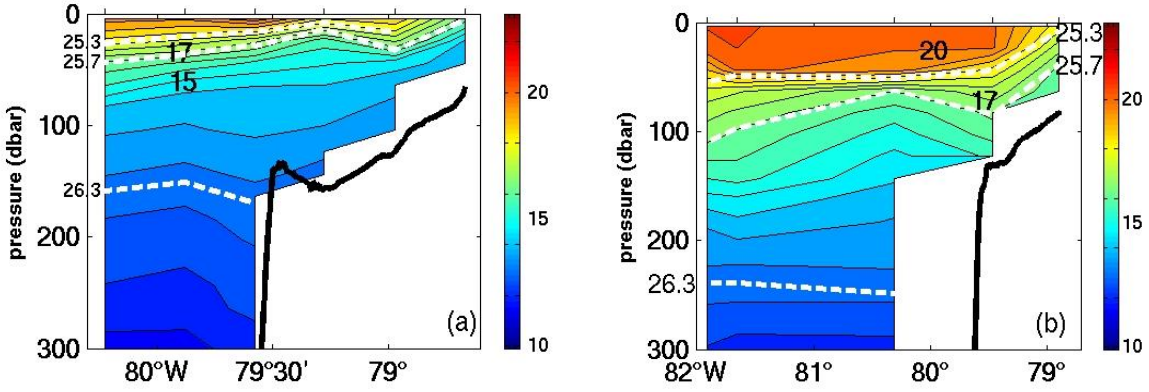

Fig. S5. Temperature section (color; in °C; same color-scale on both frames) at ~9°S off the Peruvian shelf for December 2012 **(a)** and October 2015 **(b)**. Three selected isopycnals are included as white dashed lines.

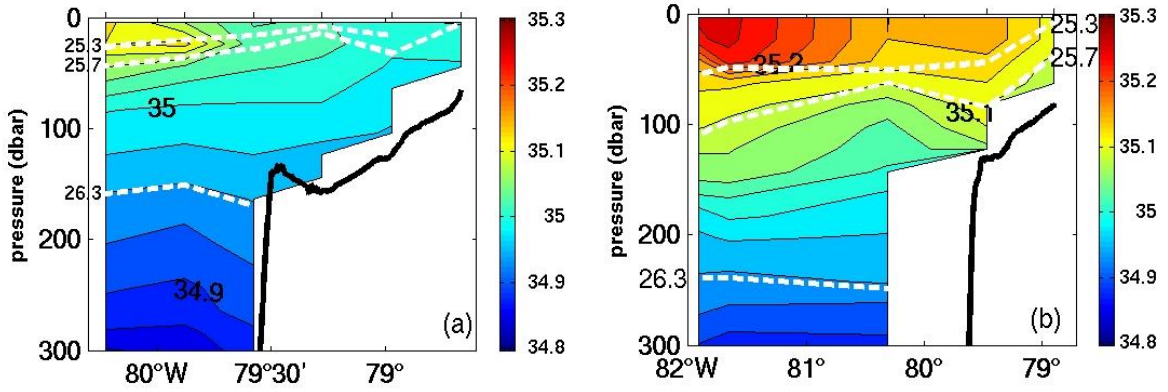

Fig. S6. Salinity section (color; same color-scale on both frames) at ~9°S off the Peruvian shelf for December 2012 **(a)** and October 2015 **(b)**. Three selected isopycnals are included as white dashed lines.

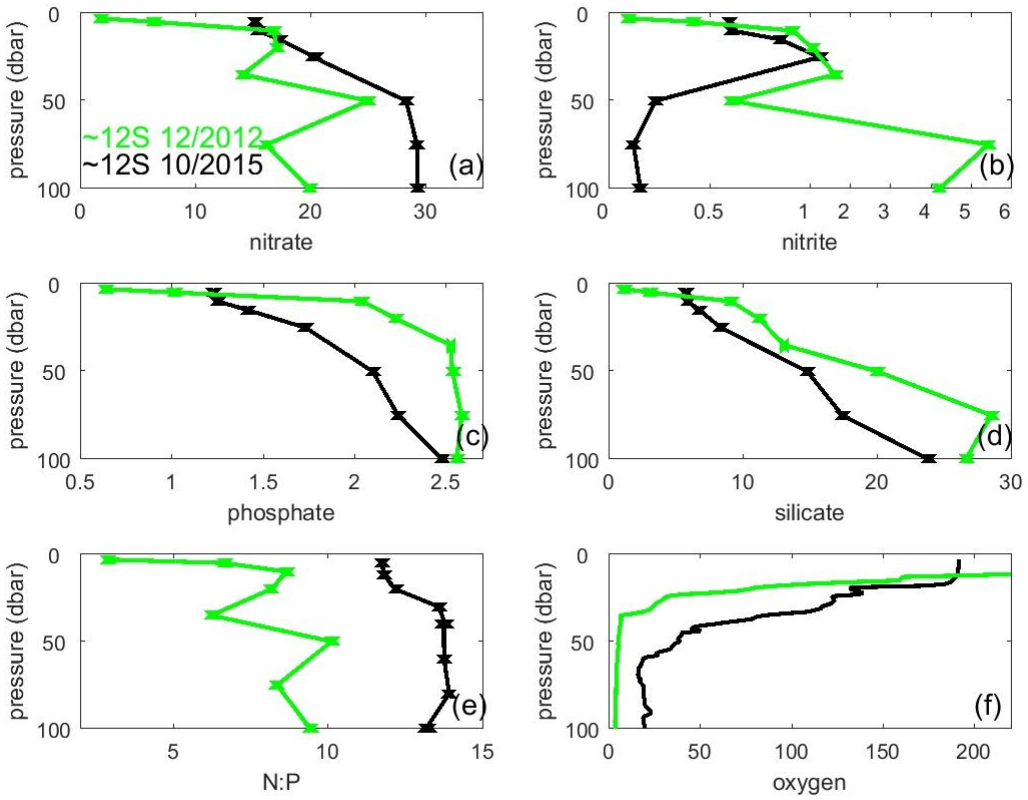

Fig. S7. Nutrient profiles at shelf stations with water depth of slightly more than 100 m in December 2012 at 12°15'S, 77°31'W (green) and in October 2015 at 12°21'S, 77°25'W (black) for **(a)** nitrate in μmol L^{-1}, **(b)** nitrite in μmol L^{-1}, (scale change at 1 μmol L^{-1}), **(c)** phosphate in μmol L^{-1}, **(d)** silicate in μmol L^{-1}, **(e)** N:P ratio and **(f)** CTD-oxygen in μmol kg^{-1}.

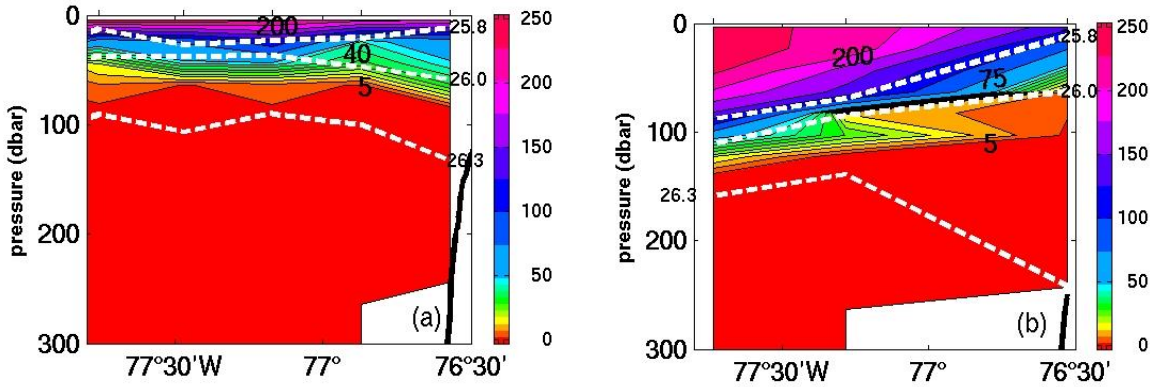

Fig. S8. Oxygen section (color; in µmol kg^{-1}; same color-scale on both frames) at ~14°S off the Peruvian shelf for December 2012 **(a)** and October 2015 **(b)**. Three selected isopycnals are included as white dashed lines.

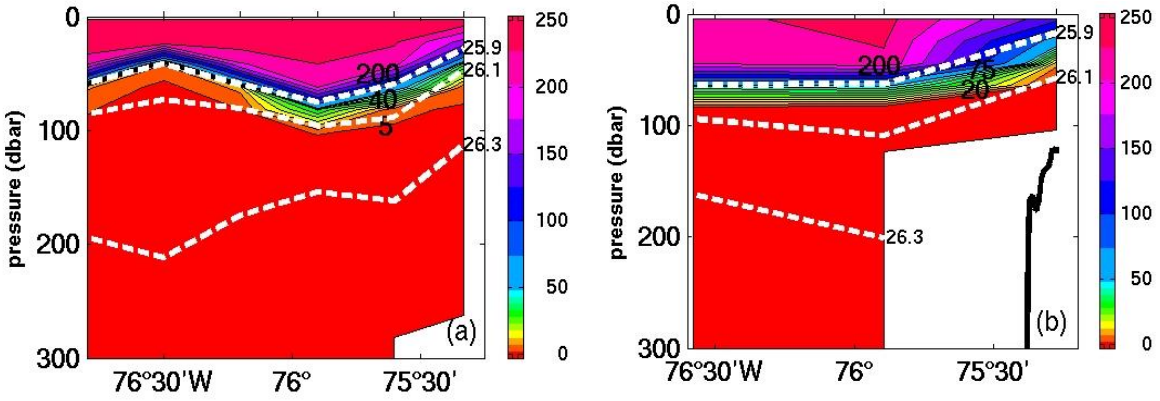

Fig. S9. Oxygen section (color; in µmol kg^{-1}; same color-scale on both frames) at ~16°S off the Peruvian shelf for December 2012 **(a)** and October 2015 **(b)**. Three selected isopycnals are included as white dashed lines.