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Supporting Information for

**Impacts of the 2015-2016 El Niño on the California Current System: Early assessment and comparison to past events**

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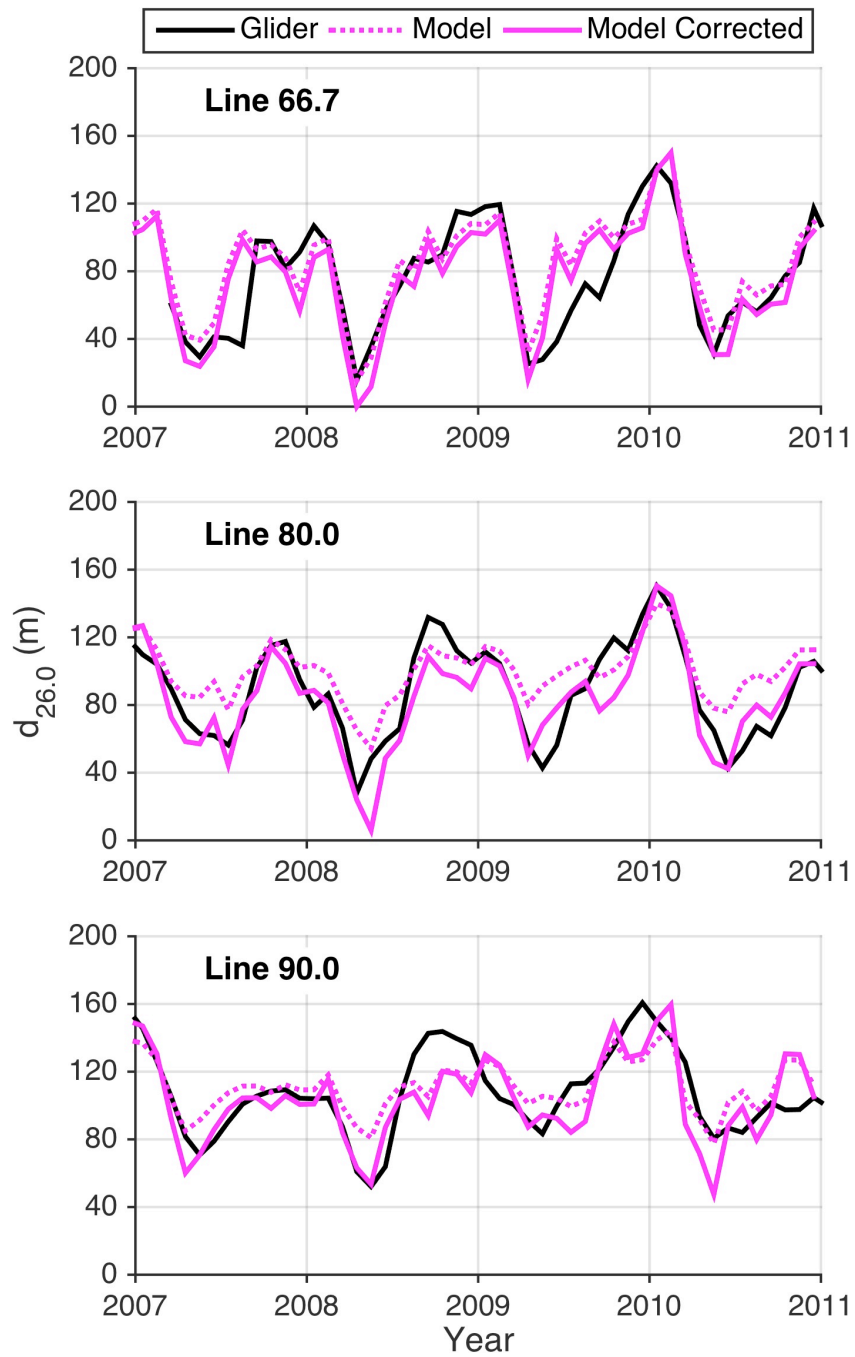


Figure S1: Glider and ROMS estimates of  $d_{26.0}$  for the overlapping period (2007-2010). Isopycnal depths were averaged within 50 km of the coast. The corrected model time series has the same mean and variance as the glider data (see Section 2.3).

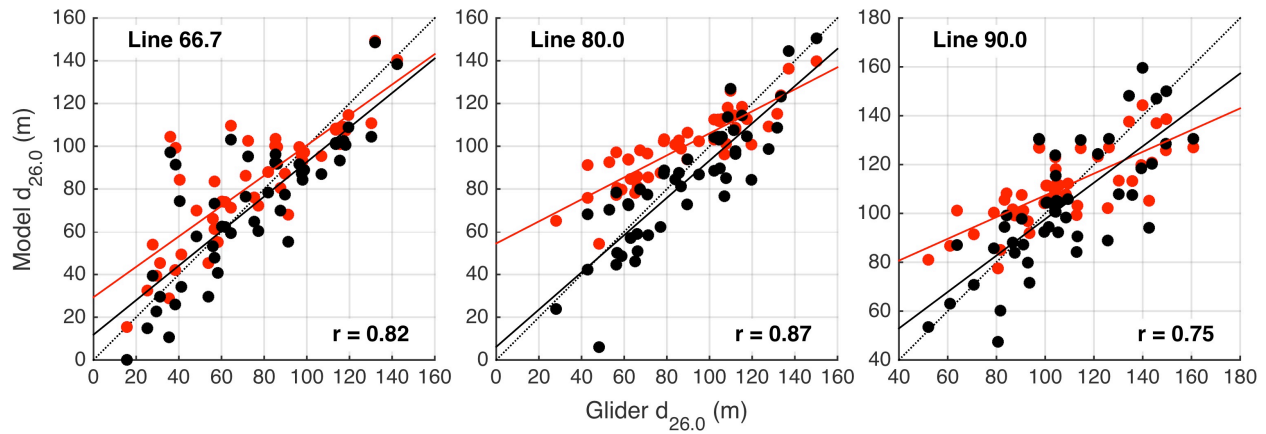


Figure S2: Comparison of monthly averaged glider and model-derived estimates of  $26.0 \text{ kg m}^{-3}$  isopycnal depth, averaged within 50 km of the coast, for each glider line in the period of model/glider overlap (2007-2010). Red markers show uncorrected model output while black markers use bias- and variance-corrected model estimates. Solid lines are linear fits to the data; dotted line is 1:1. Note that bias and variance correction does not change the correlation coefficient,  $r$ .

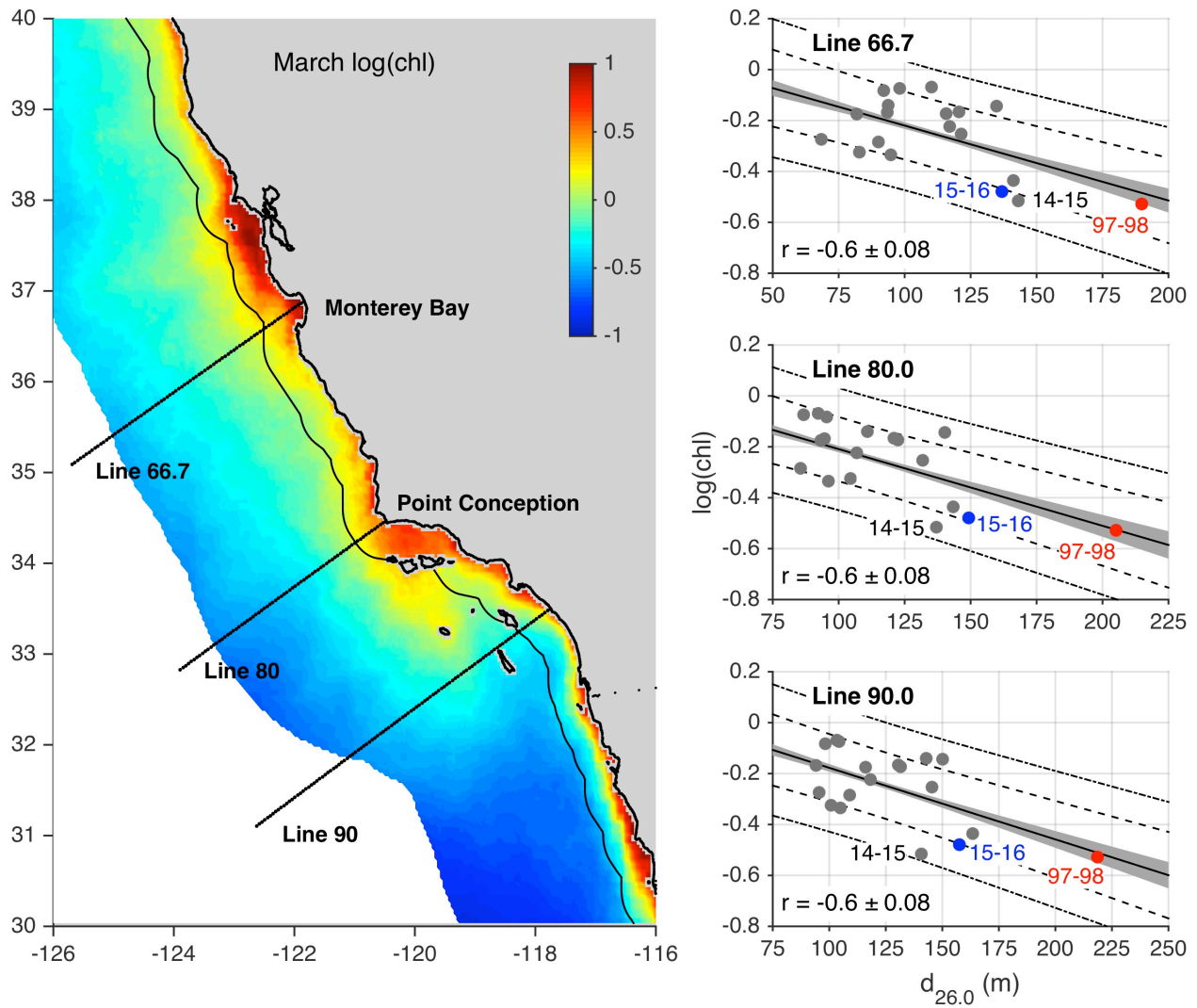


Figure S3: (left) Mean of 1998-2016 log-transformed surface chlorophyll for March, calculated over 30-40°N and 0-300 km from shore as in Fig. 6. (right) Log-transformed March chlorophyll plotted against December-February mean  $d_{26.0}$ , averaged within 50 km of shore for each glider line. Solid black lines are linear fits to the data, dashed and dash-dotted lines are  $\pm 1$  and  $\pm 2$  standard deviations about regression lines. 95% confidence intervals for correlation coefficients and linear regressions (gray shading) were determined from a bootstrap analysis (see Methods). Scatter plots describe relationships between winter  $d_{26.0}$  and March chlorophyll (e.g., '97-98' is  $\log(\text{chl})$  for March 1998 plotted against  $d_{26.0}$  for Dec. 1997-Feb. 1998).