*Model Approach*

We used the Vectorized Auto-Regressive Spatio-Temporal model framework (Thorson, 2019; Thorson and Barnett, 2017) to model average length-at-age of female sablefish for each year at each survey station. A survey station is a unique combination of latitude and longitude from which fish were sampled each year. indicates that Alaska and the California Current utilized length-stratified sampling, where fished were binned into pre-specified 1 cm bins from which equal numbers of fish were aged. We corrected for the stratified-sampling aging effect for these regions as in **Bettoli and Miranda (2001).** This corrected mean length becomes our response variable, which is then modeled as a continuous function, which assumes a lognormal error distribution of this response.

Bettoli, P.W., Miranda, L.E., 2001. Cautionary Note about Estimating Mean Length at Age with Subsampled Data. North Am. J. Fish. Manag. https://doi.org/10.1577/1548-8675(2001)021<0425:CNAEML>2.0.CO;2

Thorson, J.T., 2019. Guidance for decisions using the Vector Autoregressive Spatio-Temporal (VAST) package in stock, ecosystem, habitat and climate assessments. Fish. Res. https://doi.org/10.1016/j.fishres.2018.10.013

Thorson, J.T., Barnett, L.A.K., 2017. Comparing estimates of abundance trends and distribution shifts using single- and multispecies models of fishes and biogenic habitat. ICES J. Mar. Sci. https://doi.org/10.1093/icesjms/fsw193