

Quiz 3 - Process vs. Observation Error

My name is: _____

1. If you have a time-series of population counts to which you'd like to fit a geometric growth model, and the primary source of variation from the expected growth rate on any given year is observer error, then you can fit a regression of:
 - (a) $\log(N_t/N_{t+1})$ vs. N
 - (b) N_t vs. λ
 - (c) It is impossible to estimate the growth rate with observer error.
 - (d) $\log(N_t)$ vs. time
 - (e) λ vs. $\log(N_t)$
2. If you have a data set of annual growth estimates for a population where there is substantial process error, then a good estimate for the variance due to process error would be?
 - (a) Residual variance from a model fit of $\log(N_{t+1}/N_t)$ vs. N_t
 - (b) The standard deviation of N_t
 - (c) The standard deviation of $N_{t+1} - N_t$
 - (d) Residual variance from a model fit of $\log(N_t)$ vs. time
 - (e) $\frac{1}{T} \sum_{t=1}^T (N_{t+1} - N_t)$