

# EE 509 – Applied Env Stats

## Preliminary Analysis

DUE Friday April 22<sup>nd</sup>, 5 pm

20 points

1-3 pages, double spaced

Synopsis: ~1-3 pages text *plus* R/JAGS code and data *plus* a minimum of 5 results figures or tables with legends. Ideally this would be an Rmd file that combines the code, text, figures, and tables *plus* the knitted html or pdf. Text should briefly summarize the **results** of the analysis and any modifications of the model description (i.e. what you actually ended up doing).

At this point the analysis of your model should be mostly complete. The objective of this assignment is to generate a complete analysis, including model results and code. This assignment needs to be **on-time** as Lab 12 will focus on peer review.

**Code & Data:** You should turn in the code that you used to analyze the model. Code should be well documented so that someone else (e.g. your classmates) can figure out what you did and repeat the analysis and recreate your figures based just on the script. If it's not huge (too big to email), data should be included either as a text file or RData object, and should have sufficient meta-data so that someone else can understand it (variable names, units, range of allowable values, etc.). The goal here is reproducibility – I or your classmate should be able to knit the code to reproduce your results.

**Results:** The text to turn in does not need to be long and should read like a **Results** section to a scholarly journal. Remember that Results sections present the results but generally do not focus on interpretation (that will go in the Discussion). As such, this section can be fairly brief (1-3 pages double spaced). *Reminder: Format for final project is based on Ecology Letters guidelines, with the exception that Rmd format is also acceptable (but not required).*

**Figures and Tables:** For this assignment you should turn in at least 5 figures and tables that summarize or support your Results. Figures and tables should **include legends** that are sufficiently detailed to allow the figures to STAND ALONE. These figures and tables should focus on RESULTS – i.e. they should provide the answers to the questions you posed in your proposal/Introduction. They should NOT just be plots of the raw data without model fits. They should NOT be MCMC diagnostic plots (those would go in Supplementary material). That said, the Results text should provide enough information that an external reviewer would feel confident that the modeling was done correctly (e.g. convergence was achieved, sufficient samples were taken after burn-in and thinning, etc.)

**Peer Review:** The lab on April 27<sup>th</sup> will focus on peer review. Each person will be paired with someone else and will have to explain their model and results. You may want to bring in your project proposals and model descriptions to facilitate this. The reviewer should let the presenter know if there are things they don't understand (anything unclear in the results, figures, or code), offer suggestions about how the analysis could be improved, and let them know if they spot any errors or bugs. This review should first be provided verbally so that the presenter can start to make changes as needed. It is also due in written form the following week as the Lab 12 lab report (and should be emailed both to me and your reviewee).