

# Today

- Miscellaneous
  - HW feedback – in this weeks HW
  - Stan installs – Mac all OK?
- Questions from homework?
- Vectorized code
- An example to work on

# Where are we at?

- Frequentist
  - sampling distribution, SSQ, lm, optim
- Likelihood
  - the likelihood, MLE via optim, likelihood ratios
- Bayesian
  - posterior distribution, prior, MCMC, sampost, map2stan, rstanarm
- Simple linear model

# Where are we going?

- GLM
  - glm, stan\_glm
- GLMM
  - multilevel models, stan\_glmer
- Prediction
  - cross-validation, AIC
  - segue to machine learning

# Dataset to analyze

## Scientific questions:

How different is species richness between habitats?

How does species richness vary with latitude?

Is this relationship different between habitats?

