Exercise 12. Logistic Regression
Due: 2013/11/26

Note:
E-mail a single Word document with your results to both Instructors. All analytical work needs to be done in R (unless otherwise noted). Scripts and output from R should be included in the Word document for full credit.

Bolger et al. (1997) evaluated the presence/absence of all species of native rodents (RODENTSP) against three predictor variables: distance to the nearest source canyon (DISTX), age in years since a fragment was isolated by urbanization (AGE), and percentage of fragment area covered in shrubs (PERSHRUB).

1. Calculate all possible models using these variables (*without* any interaction terms), and rank them using AIC (2 points).

2. Present the coefficient estimates, the significance values and the confidence intervals for the most informative model. Plot your results as shown in class, and calculate *p* (predicted probability of rodent presence) for an area with 50% shrub cover (3 points).

3. Evaluate the most informative model with a Bayesian approach and calculate *p* (predicted probability of rodent presence) for an area with 50% shrub cover (3 points).

4. Interpret the biological significance of these results (2 points).