

Homework 5
Due Thursday October 18, 2018

1. Problem 3.18 on page 96 Agresti (2007) and
(c) Fit a model using a Negative Binomial distribution. Compare the results of the Poisson and Negative Binomial model (a table of results is helpful). Which is a better model for the data and why?
2. Before starting to analyze the data for the next three problems (i.e., 3.13., 3.14 and zero inflated, do a little bit of exploratory data analysis:
 - (a) Compute the mean and variance of number of satellites. Compare.
 - (b) Plot a histogram of the number of satellites. Comment.
 - (c) Look at the relationship between number of satellites (or log of the number) by weight. Comment.
3. Problem 3.13 on page 94 of Agresti (2007).
4. Problem 3.14 on page 94 of Agresti (2007).
5. Fit a zero inflated Poisson regression using weight as a predictor of the mean and width as a predictor in a logit model for the mixing probability. Which model (i.e., Poisson from 3.13, Negative binomial from 3.14, or the ZIP model in this problem) do you think is the best one for the data and why?