Wiley et al Petrel

Notes:

Tukey test:

Basically a t-test, but is best for when sample sizes are not equal and you are doing all pairwise comparisons

Can do it separately, or with an ANOVA like they did in this paper

Requires:

1. The observations (or isotope values) being tested are [independent](http://en.wikipedia.org/wiki/Statistical_independence) within and among the groups (each sample tested is independent, must be a different individual).
2. The groups associated with each mean in the test are [normally distributed](http://en.wikipedia.org/wiki/Normal_distribution) (typical requirement in biology).
3. The amount of variance within each group is the same across all the groups ([homogeneity of variance](http://en.wikipedia.org/wiki/Homoscedasticity)).

Interpreted like the p value you are used to: a value of <0.05 is considered a significant difference

**Activity**: assign bins for each of the values in Fig 3, then show which comparisons are significant with the Tukey test

Questions:

* Why are hatch-year Maui and Kauai lower C than Hawaii?
* Why do adults have lower C than chicks (except Hawaii chicks)
* Why do Hawaii (adults and chicks) and Lanai have higher N values?
* How do we now that climate change is not the cause of the decline in N we see
* What evidence supports the claim that the decline in N started <100 years ago?