Dear Adam and Abhishek:

Attached are files related to the coral reef fish survey data we have collected during our Lawrence University Marine Program (LUMP) from 1998-2018. I apologize for the delay in getting these data to you. I had to spend a few days work with the various data sets to make sure the data were consistent across all years. The REEF Foundation changed numbering after our 2012 data, so I had to reformat the data from the years after that to be consistent with the earlier years. That took longer than I had hoped.

The attached Excel file has one sheet with the data and another with the metadata. I have also attached a file from the REEF Foundation that explains how the fish density index values are calculated based on our diver survey data. The other file is a copy of a student paper that provides nice descriptions of many of the sites we have sampled and a description of our methods. The attached map of Grand Cayman shows the locations of the sites (NOTE: Edens Rock is located just north of Devils Grotto, and is not listed separately on the map).

As you will see, the data contains rows of data for 246 species of fish that are known to occur in the Caribbean. We have not observed all of them over the 20 year period, so some rows contain all zeros. The columns contain the average density index value for that year at a given site. You will need to rearrange the data for use in R.

There are a number of sites we have sampled consistently across the years, and I will be very interested to see what patterns you find related to sites as well as years.

Please let me know if there are any questions or issues with the data. As we discussed, the Biology Major Sr Experience is not very restrictive with the kind of project you perform, so it is fine to have Prof. Chakraborty as your instructor for the IS credits and still use what you find for the paper required in the Sr Experience. If it turns out that you eventually move towards doing an Honors Thesis, we can talk about how the committee would need to be structured (but that is separate from the Sr Experience, so there is no need to think about that at this time).

I hope your summer is going well.  
  
All the best,

Bart