

Problems Week 1

Due Thursday, September 29, 2016

1. **Statistics of sea surface temperature.** Download the 2016 sea surface temperature data for the Scripps Pier from the SCCOOS web site:
<http://sccoos.org/thredds/catalog/autoss/catalog.html>.
 - a. Read the temperature data, and produce a line plot of the 2016 temperatures with appropriately labeled axes. What do you observe in this plot?
 - b. Compute the mean and standard deviation for the sea surface temperature data. What do these statistics tell you about the temperature in 2016?
 - c. Compute an empirical probability density function for sea surface temperature. Does it look like any of the distributions that we discussed in class?
2. **Extending the record.** Now extend your record for the temperature from 2005-2016 and repeat the calculations from the first exercise. (This is a good time to practice using a loop to go through each of the data files.) What do you observe in these results? In what ways are the 2016 results different from the 2005-2016 results?
3. **Commit to learning something new.** Everyone starts this class with different expertise, and the class is a great opportunity for you to practice something you haven't learned before. If you've never programmed, then this is your opportunity to learn Matlab. If you're an expert in Matlab, this is an opportunity to learn python, or work on version control with github, or develop shell scripting tools, or work on making publication-quality plots instead of hacked together quick plots. Find an on-line tutorial to get yourself started. Please articulate (in writing) what you've decided. (We can renegotiate later, but please set a goal that will help you learn something new.)