Data Exercise 1

**Explore the datasets and analytical tools available at the IRIDL and the information on the climate data guide.**

*Assigned – 2-6-2018*

*Due – 2-15-2018 (by 6:00 PM)*

Relevant websites

<http://iridl.ldeo.columbia.edu/>

<https://climatedataguide.ucar.edu/>

1. Find a dataset from reanalysis product that you are interested in, for research or personal reasons, and…

1. Briefly describe why you’re picking this product, and this dataset.
2. Using the UCAR climate data guide, describe it’s pros and cons, and why it’s a good choice for your question/interests

2. Open the dataset in IRIDL, and restrict the ranges of the data to hone in on a particular detail (by space or time, or both)

3. Calculate the yearly climatology, and produce an animation. Save the .gif file and the web link.

4. Calculate the anomalies from the climatology to look at interannual variability.

 a. And produce a timeseries plot [(here’s an example),](http://iridl.ldeo.columbia.edu/SOURCES/.NOAA/.NCDC/.ERSST/.version4/.sst/X/%2840E%29/%28270E%29/RANGEEDGES/Y/%2830N%29/%2830S%29/RANGEEDGES/T/%28Jan1960%29/%28Dec2000%29/RANGEEDGES/yearly-climatology/SOURCES/.NOAA/.NCDC/.ERSST/.version4/.sst/X/%2840E%29/%28270E%29/RANGEEDGES/Y/%2830N%29/%2830S%29/RANGEEDGES/T/%28Jan1960%29/%28Dec2000%29/RANGEEDGES/sub/%5BX/Y%5D/average/figviewer.html?plottype=line) and save the figure and link.

 *note: you may need to use “[X] average” and “[Y] average” to create a timeseries if you have 3-D product.*

5. Use the [Function Index](http://iridl.ldeo.columbia.edu/dochelp/Documentation/funcindex.html) (<http://iridl.ldeo.columbia.edu/dochelp/Documentation/funcindex.html>)

to select a more advanced technique to apply to your data, and save your output appropriately (format will depend on analysis). Save the web link to your results.

6. Repeat steps 2-6 on the same variable (e.g., temperature) from a different dataset (e.g., NOAA vs UEA) and produce the same plots. How similar/different are your results? Are there major differences between the two data or reanalysis products (for the variable you examined)?

**To turn in this assignment, email me:**

1) The **two** .gif animations of the climatology

2) The **two** timeseries figures

3) The **two** appropriately saved results of the advanced technique (will vary by analysis)

4) In the text of the email, the answers to **#1a and b, and the question in 6**, and the full html link to the analyses (just copy and paste the URLs with the question number).