datadir = r'C:\Users\enyad\Documents\NRL\SummerSch\RMU2019\lab\SatLabEx\_Py/'

%**matplotlib** inline

**import numpy as np**

**import matplotlib.pyplot as plt**

**import pandas as pd**

lon = pd.read\_csv(datadir+'smap.atl.lon.dat',header=None)

lat = pd.read\_csv(datadir+'smap.atl.lat.dat',header=**None**)

tjan = pd.read\_csv(datadir+'smap.atl.sss.Jan2017.dat',header=**None**)

taug = pd.read\_csv(datadir+'smap.atl.sss.Aug2017.dat',header=**None**)

data = pd.read\_csv(datadir+'smap.nwgog.sss.Jan16Dec18.TimeSeries.SeasAnom.dat',header=**None**)

data = data.drop(columns=0)

ctime = np.arange(12)

plt.figure(figsize=(12,8))

plt.subplot(221)

X,Y = np.meshgrid(lon,lat)

plt.pcolor(X,Y,tjan,cmap='jet',vmin=32,vmax=38)

plt.yticks(FontSize=12)

plt.xticks(FontSize=12)

plt.text(-55,-15,'(a)',FontSize=22,FontWeight='bold',FontName='Times New Roman')

plt.text(5,15,'Jan',FontSize=22,FontWeight='bold',FontName='Times New Roman')

plt.colorbar()

plt.subplot(222)

plt.pcolor(X,Y,taug,cmap='jet',vmin=32,vmax=38)

plt.yticks(FontSize=12)

plt.xticks(FontSize=12)

plt.text(-55,-15,'(b)',FontSize=22,FontWeight='bold',FontName='Times New Roman')

plt.text(5,15,'Aug',FontSize=22,FontWeight='bold',FontName='Times New Roman')

plt.colorbar()

plt.subplot(2,2,(3,4))

plt.plot(ctime,data,LineWidth=4,color='k')

plt.axhline(0,LineStyle='dashed',color='grey')

plt.grid()

plt.ylim(-0.8,0.8)

xlabels = ['Jan','Feb','Mar','Apr','May','Jun','Jul','Aug','Sep','Oct','Nov','Dec']

plt.xticks(np.arange(12),xlabels,FontSize=14)

plt.xlim(0,11)

plt.yticks(FontSize=12)

plt.ylabel('SSS (psu)',FontSize=14)

plt.text(0.5,.6,'Seas Anom',FontSize=22,FontWeight='bold',FontName='Times New Roman')

plt.text(0.3,-.75,'(c)',FontSize=22,FontWeight='bold',FontName='Times New Roman')

plt.savefig(datadir+'Fig\_SSS\_JanAug\_SeasAnom\_TimeSeries.tif')