

Python_example_lab3

August 21, 2018

```
In [1]: %matplotlib inline
import matplotlib.pyplot as plt
import numpy as np
from netCDF4 import Dataset
```

1 Import data

```
In [2]: # This is the path to where your data is stored on your computer
datadir = r'C:\Users\STUDENT\SATELLITE_DATA/'
data = Dataset(datadir+'20180802000000-OSISAF-L3C_GHRSSST-SSTsubskin-SEVIRI_SST-ssteqc_me
```

```
In [3]: #print(data.variables) <-- use this print statement to print out detailed info about the
# I have commented this cell out due to the large amount of output it prints
```

```
In [4]: # Print the names of all of the variables in "data"
print(data.variables.keys())
```

```
odict_keys(['time', 'lat', 'lon', 'sea_surface_temperature', 'sst_dtime', 'sses_bias', 'sses_sta
```

2 Define variables

```
In [5]: sst = data.variables['sea_surface_temperature']
lon = data.variables['lon']
lat = data.variables['lat']
print('Shape of sst is ',sst.shape)
print('Shape of lon is ',lon.shape)
print('Shape of lat is ',lat.shape)
```

```
Shape of sst is (1, 2400, 2400)
```

```
Shape of lon is (2400,)
```

```
Shape of lat is (2400,)
```

3 Convert from Kelvin to Celsius

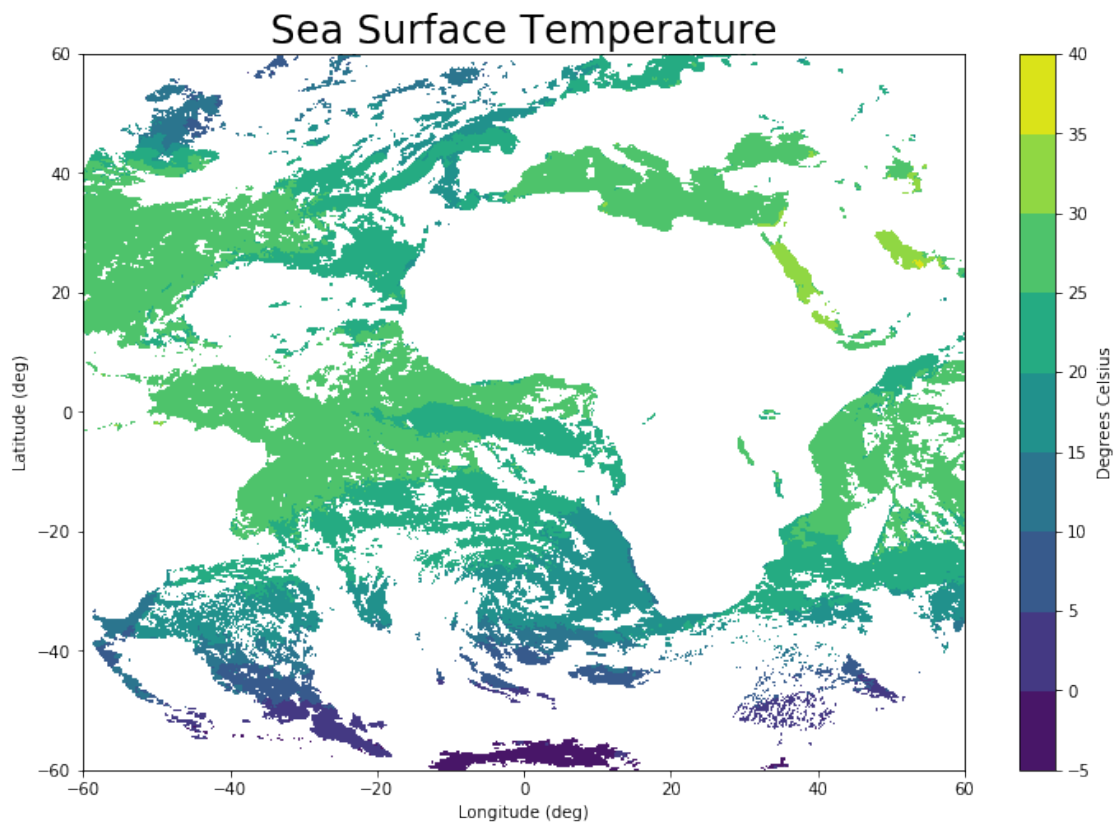
```
In [6]: sst_C = sst[:, :, :] - 273
```

4 Plot the data!

```
In [7]: LON,LAT = np.meshgrid(lon,lat)
```

```
plt.figure(figsize=(12,8))  
plt.contourf(LON,LAT,sst_C[0,:,:])  
plt.colorbar(label='Degrees Celsius')  
plt.title('Sea Surface Temperature',fontsize=24)  
plt.xlabel('Longitude (deg)')  
plt.ylabel('Latitude (deg)')  
plt.savefig('Figures/SST_satellite_COESSING.jpg')
```

```
Out [7]: <matplotlib.text.Text at 0x1166eb358>
```



```
In [ ]:
```