1. Global Earthquakes
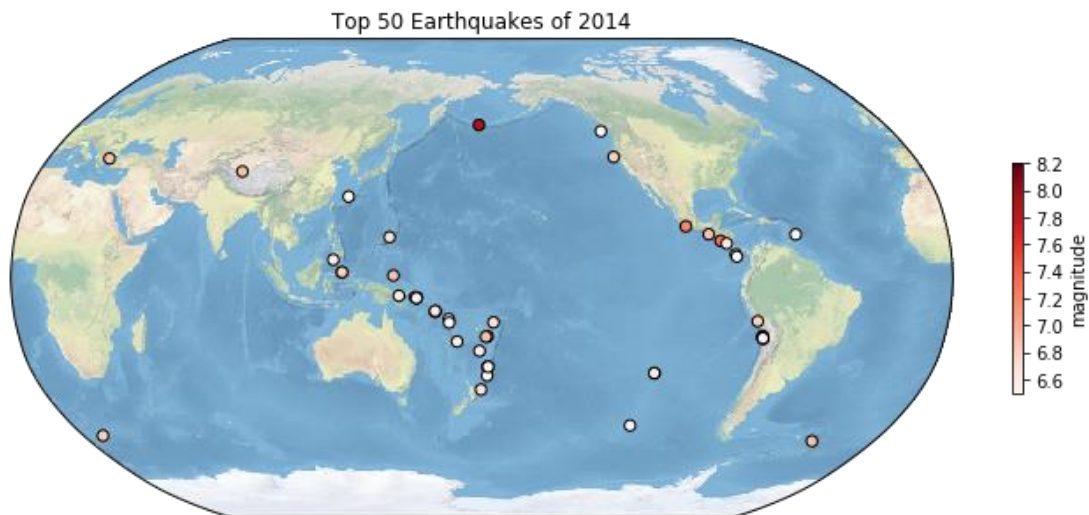
In this problem set, we will use this file from the USGS Earthquakes Database. The dataset is similar to the one you use in Assignment 02. Use the file provided (`usgs_earthquakes.csv`) to recreate the following map. Use the `mag` column for magnitude. **[10 points]**



```
s1 = pow(data['mag'], 6) / 800  # 计算散点大小


ax = plt.axes(projection=ccrs.Robinson())  # 创建地图投影

ax.set_global()  # 设置地图范围为全球

ax.coastlines(resolution='110m')  # 绘制海岸线


ax.stock_img()  # 绘制地图背景

sc = ax.scatter(data['longitude'], data['latitude'],

c=data['mag'], cmap='OrRd',vmin=6, s=s1,

alpha=0.7,edgecolors='black',

            transform=ccrs.PlateCarree())  #
```

使用 pow 函数让不同级别之间的差距扩大，为的是让不同的点除了颜色不同，大小也有明显差距，这样更直观一点

Top 50 Earthquakes Magnitude of 2014
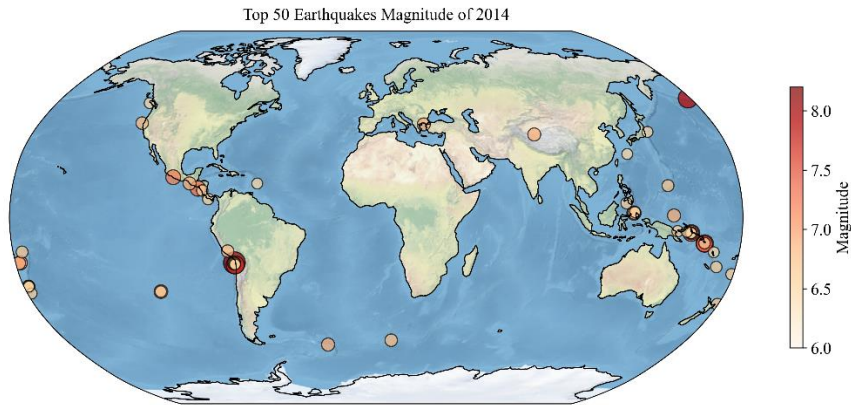
2. Explore a `netCDF` dataset

Browse the NASA's Goddard Earth Sciences Data and Information Services Center (GES DISC) [website](#). Search and download a dataset you are interested in. You are also welcome to use data from your group in this problem set. But the dataset should be in `netCDF` format. For this problem set, you are welcome to use the same dataset you used in [Assignment 03](#).

2.1 [10 points] Make a global map of a certain variable. Your figure should contain: a project, x label and ticks, y label and ticks, title, gridlines, legend, colorbar, masks or features, annotations, and text box (**1 point each**).
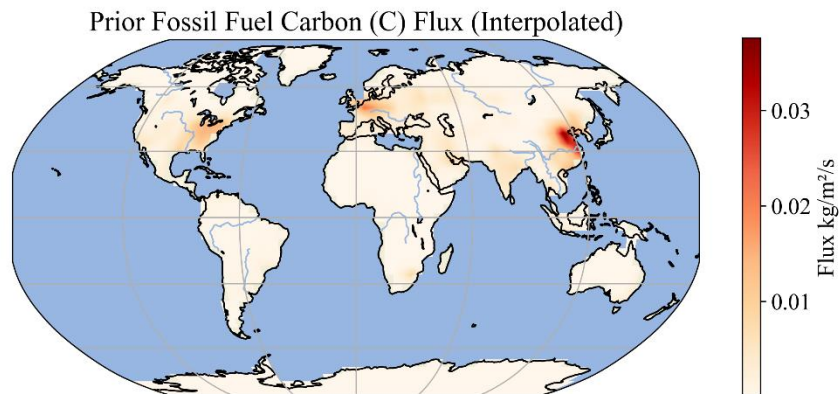
原数据分辨率太低，使用：

```python
flusx=ds_combined['flux'].mean(dim='time')

flusx_interp =

flusx.interp(lon=np.linspace(flusx['lon'].min(),

flusx['lon'].max(), 1000),

                          lat=np.linspace(flusx['lat'].

min(), flusx['lat'].max(), 1000))


# 绘制插值后的图像
```

进行插值，提高分辨率

Prior Fossil Fuel Carbon (C) Flux (Interpolated)

2.2 [10 points] Make a regional map of the same variable. Your figure should contain: a different project, x label and ticks, y label and ticks, title, gridlines, legend, colorbar, masks or features, annotations, and text box (**1 point each**).

绘制了中国区域的图

Prior Fossil Fuel Carbon (C) Flux (Interpolated)in China