poc_navigation

November 7, 2021

1 Running a optimum path finder as navigation tool across ice of certain thickness

[1]:
```
from polar_bearings.configuration import Location
from polar_bearings.data_ingest import import_nc_to_pandas, single_data_df,␣
↪clean_ice_thickness_df
from polar_bearings.heatmap import plot_heatmap
```

[2]:
```
start_location = Location(
    name = 'Ulukhaktok',
    longitude=70.746225,
    latitude=-117.821145
)
```

[3]:
```
destination_location = Location(
    name = "Sachs Harbor",
    longitude = 71.985805,
    latitude = -125.370926
)
```

[4]:
```
data =␣
↪import_nc_to_pandas(file='cmems_mod_arc_phy_anfc_nextsim_hm_1636224873602.
↪nc')
```

[5]:
```
single_day = single_data_df(data)
```

[6]:
```
single_day = clean_ice_thickness_df(single_day)
```

[7]:
```
single_day.head()
```

[7]:

	longitude	latitude	sithick
0	-113.818954	70.620667	0.645520
1	-111.100403	72.683083	1.953785
2	-111.064499	72.707161	1.953785
3	-111.028503	72.731232	1.953785
4	-110.992401	72.755295	1.594041

[8]:
```
plot_heatmap(single_day,
        axis_min_lat = single_day.latitude.mean(),
        axis_max_lon = single_day.longitude.mean(),
        start_location = start_location,
        destination_location = destination_location)
```

[8]:
```
<folium.folium.Map at 0x7faac258eed0>
```

[1]:

[ ]: