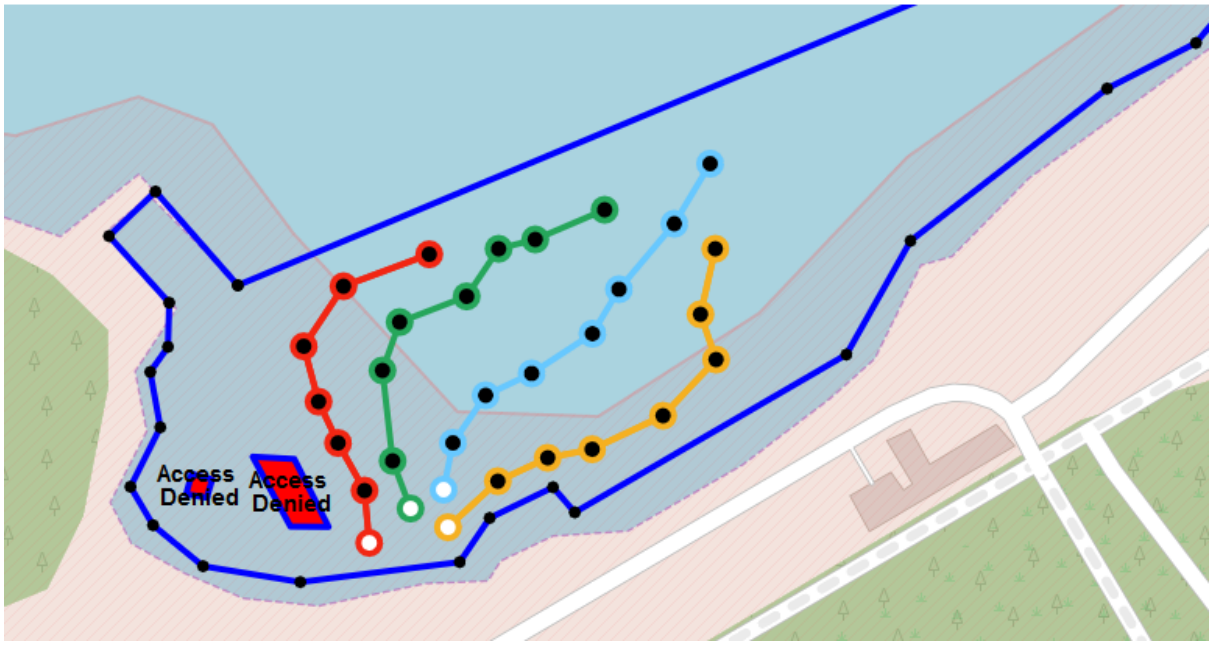
GNFUV: Glasgow Network Functions for Unmanned Vehicles

Live Experiment in Athens@Skaramangkas Testbed

The GNFUV Infrastructure experiment was conducted in Athens, Greece March 2018 using four USV inside the water.

- Three USVs PladyFleet
- One USV MST

The following route is illustrated below:



Route of USVs in Athens testbed

The script illustrates the routes for the four USVs and contains their relative waypoints references to Geo Location: (+37.9979916666667, +23.5816055555556)

```
Experiment
    Requirements
       Nodes 4
       TestbedArea HMOD_Skaramagkas_main_area
       Location(+37.9979916666667, +23.5816055555556)
    ~Requirements
    Execution
       Node
             ID hmod.unizgfer.pladypos.usv.1
                   Route[
                         WP<0, +124.23, -123.29, +0.0>
                         WP<1, +129.88, -95.06, +0.0>
                         WP<2, +149.65, -66.35, +0.0>
                         WP<3, +177.41, -53.18, +0.0>
                         WP<4, +214.12, -29.18, +0.0>
                         WP<5, +230.12, -2.35, +0.0>
                         WP<6, +263.53, +37.18, +0.0>
                         WP<7, +285.17, +73.41, +0.0>
                   ]
       ~Node
       Node
             ID hmod.unizgfer.pladypos.usv.3
                   Route[
                         WP<0, +126.87, -145.96, +0.0>
                         WP<1, +156.99, -118.19, +0.0>
                         WP<2, +187.11, -104.07, +0.0>
                         WP<3, +213.94, -98.89, +0.0>
                         WP<4, +256.75, -78.66, +0.0>
                         WP<5, +288.76, -44.78, +0.0>
                         WP<6, +279.35, -17.48, +0.0>
                         WP<7, +288.28, +22.05, +0.0>
                   ]
      ~Node
       Node
             ID hmod.mst.asv.2
                   Route[
                         WP<0, +79.34, -155.37, +0.0>
                         WP<1, +76.52, -123.83, +0.0>
                         WP<2, +60.52, -95.13, +0.0>
                         WP<3, +48.75, -70.19, +0.0>
                         WP<4, +39.81, -36.77, +0.0>
                         WP<5, +63.82, -0.54, +0.0>
                         WP<6, +115.58, +18.75, +0.0>
```

```
                ]
        ~Node
        Node
                ID hmod.unizgfer.pladypos.usv.2
                        Route[
                                WP<0, +104.29, -134.66, +0.0>
                                WP<1, +93.47, -105.95, +0.0>
                                WP<2, +87.34, -51.36, +0.0>
                                WP<3, +97.70, -22.18, +0.0>
                                WP<4, +138.16, -6.66, +0.0>
                                WP<5, +157.46, +22.04, +0.0>
                                WP<6, +179.58, +27.70, +0.0>
                                WP<7, +221.46, +45.58, +0.0>
                        ]
        ~Node
    ~Execution
~Experiment
```

The real USVs of the GNFUV platform.

USVs in Athens testbed for GNFUV project

The assignment of USVs towards the Raspberry Pis is the following:

- **MST ASV/USV equipped with Raspberry Pi 3 (http://www.oceanscan-mst.com/)**
  - **Device ID: gnfuv-temp-exp1-55d487b85b-2bl8b**
- **PladyFleet 1 USV equipped with Raspberry Pi 2 (http://pladyfleet.fer.hr/pladyfleet)**
  - **Device ID: gnfuv-temp-exp1-55d487b85b-5g2xh**
- **PladyFleet 2 USV equipped with Raspberry Pi 4**
  - **Device ID: gnfuv-temp-exp1-55d487b85b-xcl97**
- **PladyFleet 3 USV equipped with Raspberry Pi 5**
  - **Device ID: gnfuv-temp-exp1-55d487b85b-5ztk8**

Experiment ID	Sending Raw Data	Parameters Setting
1	(temperature, humidity) over the sea surface	Reporting Interval = **10 seconds**