

WRSC 2018

WORLD ROBOTIC SAILING
CHAMPIONSHIP 2018

BRAVE

BATEAU ROBOT À VOILE DE
L'ENSTA BRETAGNE



Sensors

- Furuno WS200 Weather Station (Wind Sensor, GPS, Compass)



- GoPro Camera for obstacle detection



- Razor IMU (Compass and tilt angle)



Actuators

- Servo-motor to steer the rudder



- Two RMG servo-winches to sheet the jib and the main sail



Main characteristics

- 2.6 metres long
- 1 metre draught
- 22 Kilograms mass
- Carbon fibre composite

Embedded computer

- Intel Compute Stick



Communication

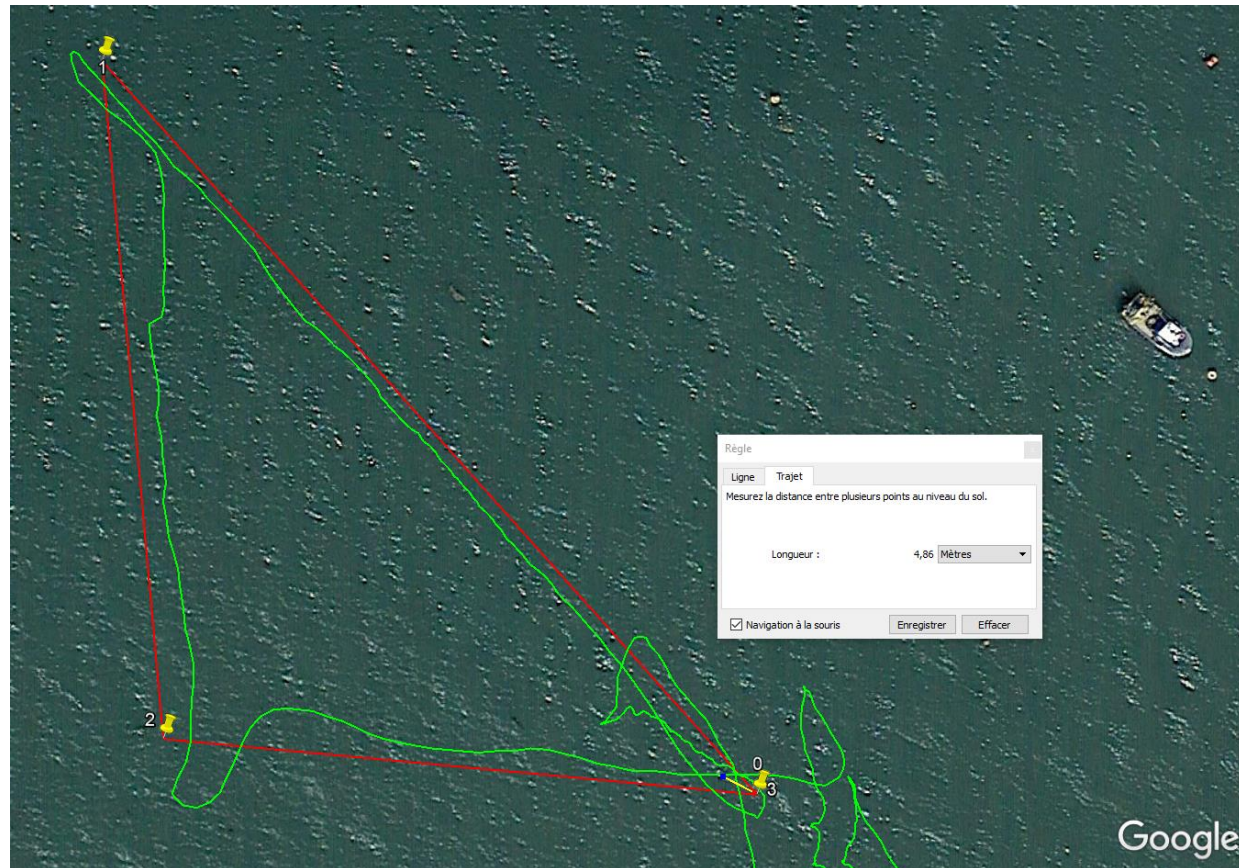
- Wifi & 4G - Monitoring with OpenCPN



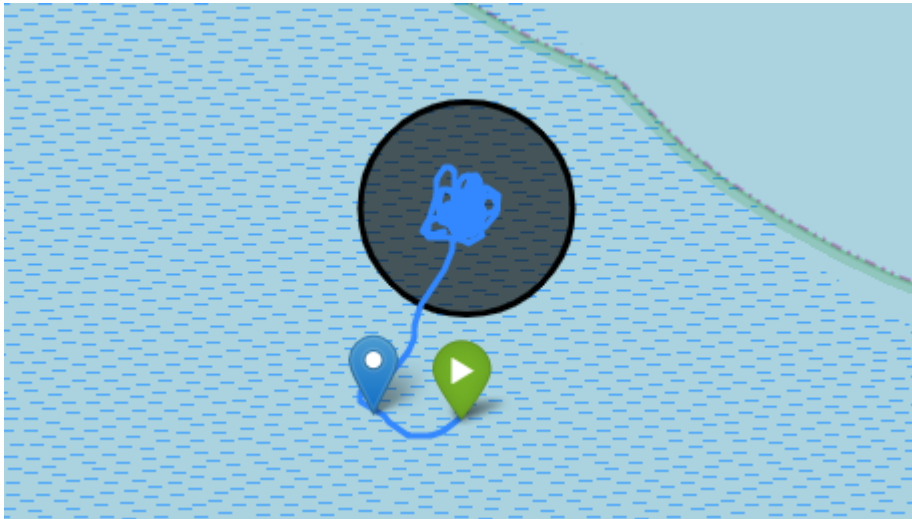
- RC controlled



WRSC 2018 - Fleet Race



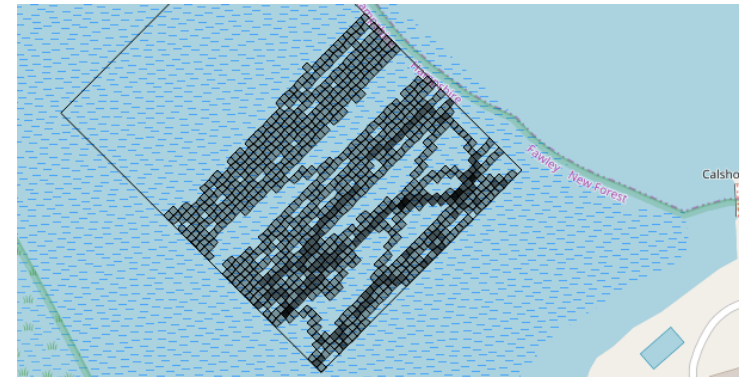
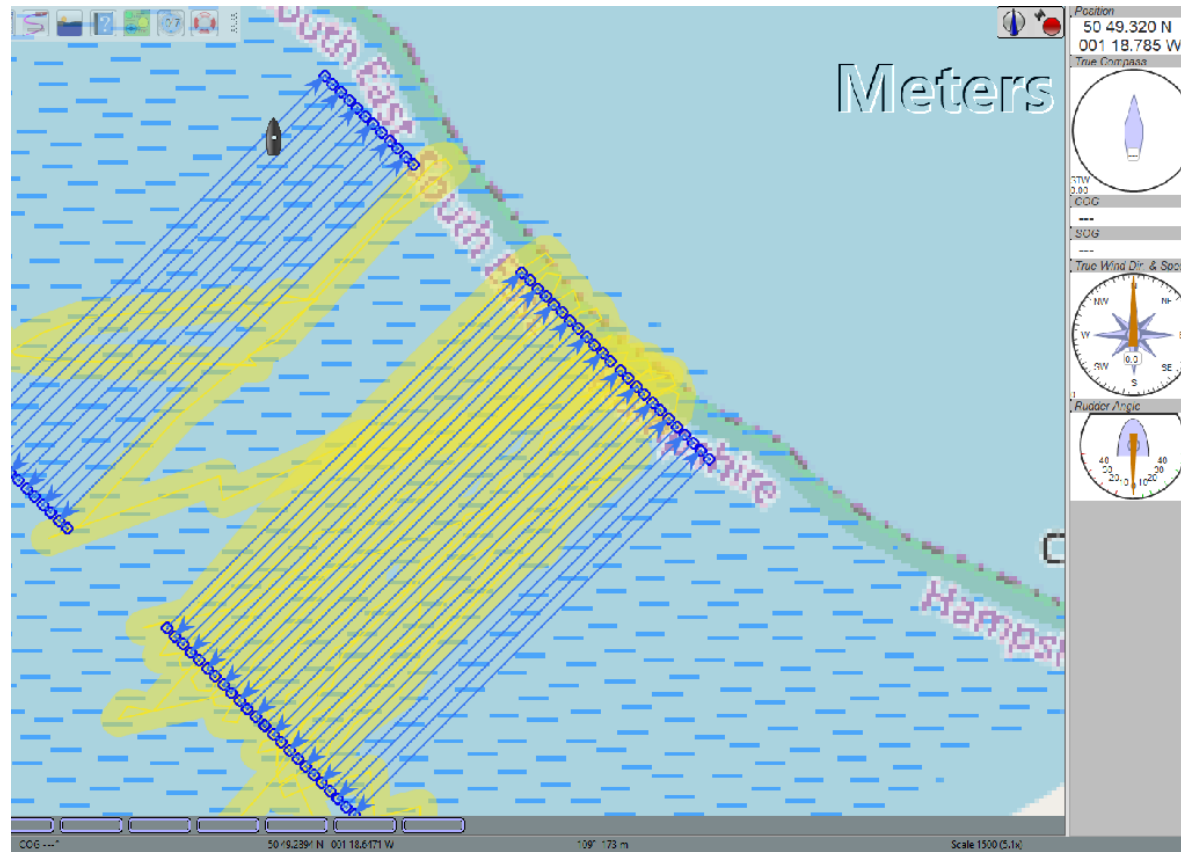
WRSC 2018 - Station Keeping



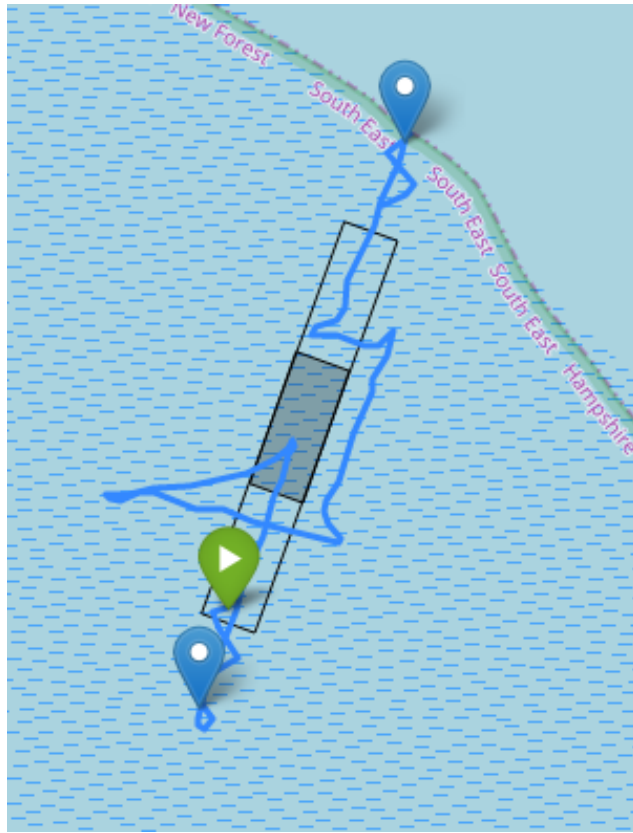
Boat position during 5 min
Inside a circle of radius 4.8m

Wave estimation
Height and frequency

WRSC 2018 - Area Scanning



WRSC 2018 - Obstacle Avoidance



Demonstration on Polytechnique Lake



Links

Videos

[ENSTA Bretagne autonomous sailboat at WRSC 2018](#)

[Obstacle avoidance at WRSC 2018](#)

[BRAVE sur le lac de Polytechnique](#)

WRSC & IRSC 2018

<https://www.roboticsailing.org/2018/>

<https://github.com/WRSC/coordinates2018>