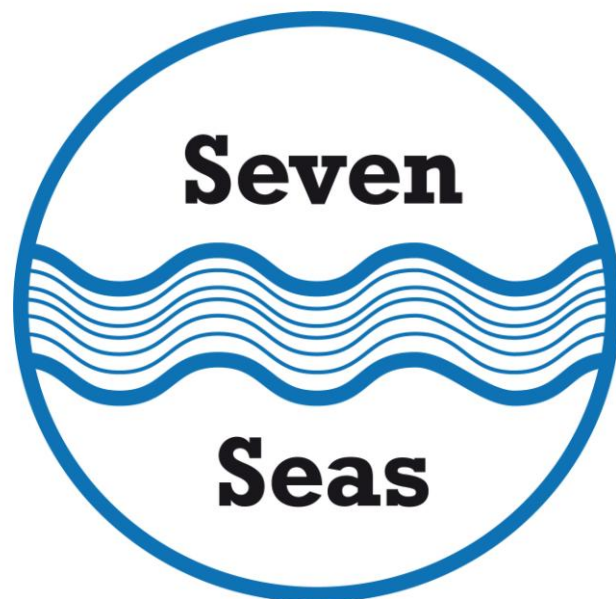


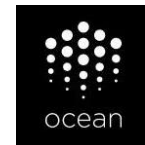


Malta Summer School 2018  
Operational Oceanography for Blue Growth



## **TEAM 7: Project 2 – Extreme Events-Warnings Dashboard**

**Maria del Mar Chaves**  
**Ghada Neji**  
**Samuel Teka**  
**Katherine Higgin**







**`We need to be alerted when our parameters reach dangerous levels so we can respond rapidly and effectively`**



# How we propose to help users with the problem

- Develop a tool which will be easy to use on any platform
- Allow the users to select where they are and what parameter they are interested in
- Create a caution, then warning system once the value of the parameter reaches a certain level



# How will we achieve this

- Use python and its associated packages and HTML (JAVASCRIPT) to create a web dashboard
- Use the data from the Copernicus model data
- The dashboard will include an interactive map and a region where users can input their threshold values
- Create an alarm system so if a parameter reaches over a certain value, the user is alerted



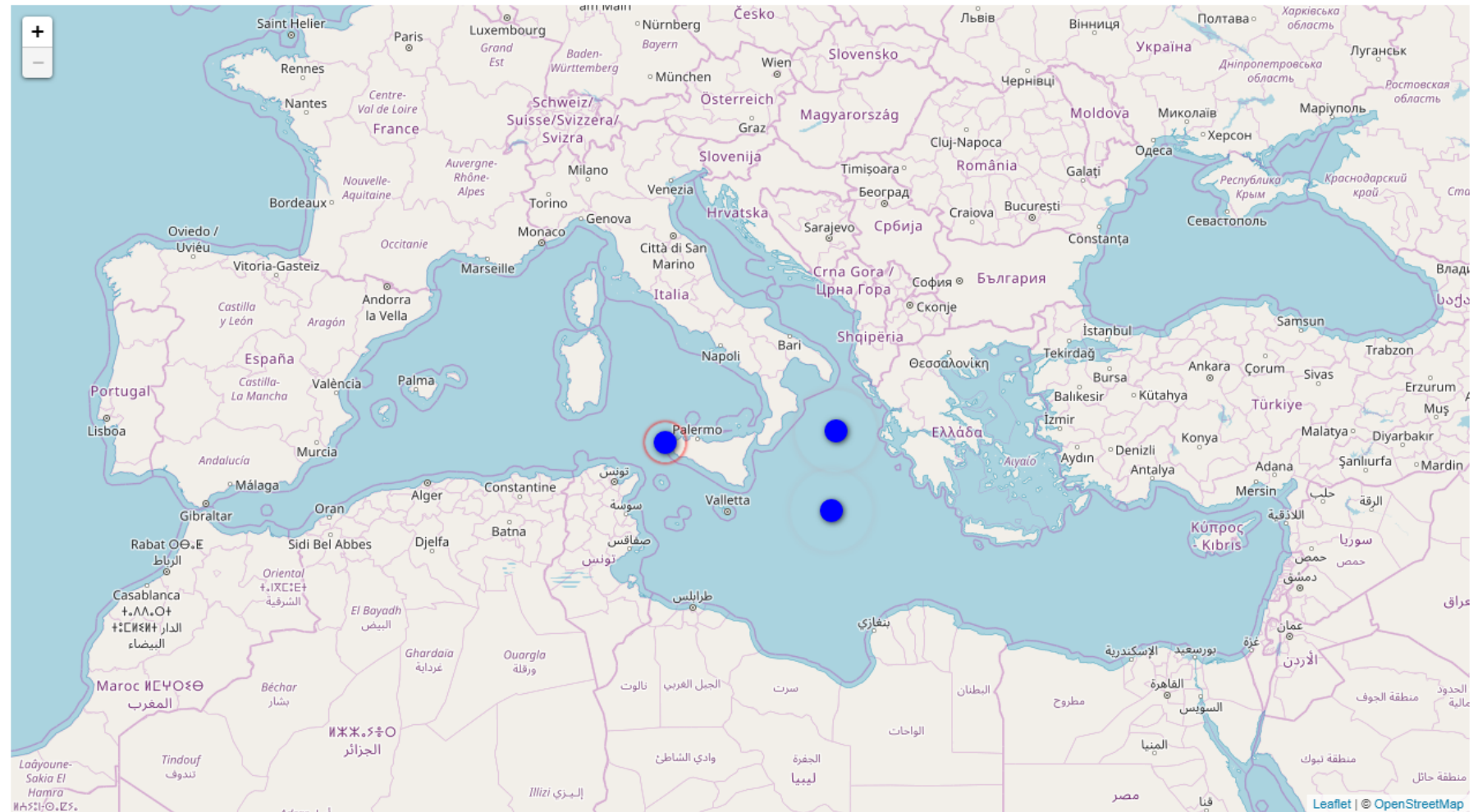
## **Our Minimum Viable Product looks like:**

- An interactive map with forecast data for wave height data with the warning threshold and danger threshold in a e.g. RAG (Red Amber Green) system with predetermined values

## **Our Stretch Target is:**

- To look at 48 hr of real time data from platforms and for the users to choose their own thresholds or use default ones.





Filename

Submit

```
import json

class MyHandler(BaseHTTPRequestHandler):

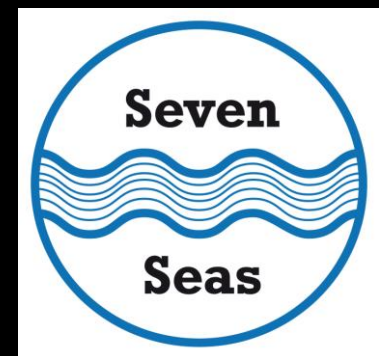
    def getJson(self, varname, pointname, lat, lon, min, max):
        dataset = xarray.open_dataset("sv04-med-hcmr-wav-an-fc-h_1531468862793.nc")
        myvar = dataset[varname]
        ts = myvar[:,lat,lon]
        if ts.any() > max or ts.any() < min:
            state = "{iconSize:[20,20], fillColor: 'red'}"
        else:
            state = "{iconSize:[20,20], fillColor: 'grey', animate: 'false'}"
        return state;

    def do_GET(self):
        try:
            print self.path;
            query = urlparse(self.path).query
            print query;
            query_components = dict(qc.split("=") for qc in query.split("&"))
            varname = query_components["varname"]
            pointname = query_components["pointname"]
            lat = query_components["lat"]
            lon = query_components["lon"]
            min = query_components["min"]
            max = query_components["max"]

            self.send_response(200)
            self.send_header("Content-type", "application/json")
            self.end_headers()
            self.wfile.write( self.getJson(varname, pointname, lat, lon, min, max))
            return

        except IOError:
            self.send_error(404, 'File Not Found: %s' % self.path)

if __name__ == '__main__':
    from BaseHTTPServer import HTTPServer
    server = HTTPServer(('localhost', 8080), MyHandler)
    print 'Starting server at http://localhost:8080'
    server.serve_forever()
```



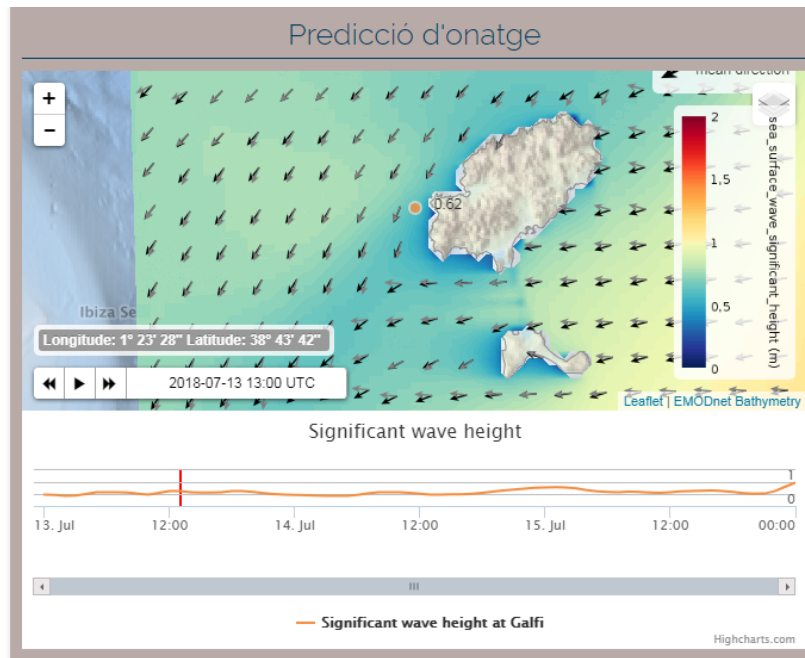


# Our Ideal Endpoint



## Observació i predicció costanera d'Eivissa i Formentera

Aquest visor de SOCIB ([www.socib.es](http://www.socib.es)) mostra dades en temps real i prediccions marítimes del Canal d'Eivissa, zona d'interès científic pel seu gran valor ecològic.



### Predicció del temps

No precipitation throughout the week, with high temperatures peaking at 30°C on Monday.

Day	Summary	Temp	Wind	Humidity	Pressure
Today	Partly cloudy until afternoon.	29.6 °C 23.5 °C	14.8 km/h (NE)	74 %	1014.9 hPa
Saturday	Humid throughout the day and part	28.6 °C 24.6 °C	5.3 km/h (W)	77 %	1015.9 hPa
Sunday	Partly cloudy starting in the evening	28.8 °C 24.8 °C	19.6 km/h (S)	73 %	1014.6 hPa
Monday	Breezy until afternoon and mostly c	30.0 °C 25.3 °C	17.6 km/h (SW)	64 %	1013.0 hPa

Powered by Dark Sky

# Issues and Successes

## Issues

- Low level of python knowledge before starting
- Django did not work
- Map element did not work

## Successes

- Read wave data (height, direction, period)



# Improvements

- Make the Dashboard
- Choose/Add different types of variables
- More data types grouped in themes e.g. for fisheries who need a more complete picture
- Text/email alerts when thresholds are high
- Consult with clients to get prototype feedback





## The 7 principles of Seven Seas *'Ride the Wave of Blue Growth'*

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**THANK YOU VERY MUCH – ANY QUESTIONS?**

**THANK YOU TO:  
JERICO – NEXT**

**ALDO DRAGO AND THE STAFF AT MALTA  
UNIVERSITY FOR THEIR KIND HOSPITALITY**

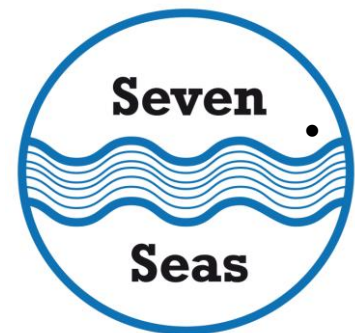
**THE PRESENTERS THIS WEEK**

**PAZ ROTLLAN GARCIA AND GRAHAM WORLEY  
(FOR AMAZING HELP DURING THE HACKATHON)**



## The 7 principles of Seven Seas *'Ride the Wave of Blue Growth'*

- Adaptive – we will create solutions for any of your data types
- Reactive – we will provide, where possible, real-time forecasts straight to your device of choice
- Interactive – access everything you want on your smartphone, tablet or PC
- Evolving – We will always take advantage of new technologies to benefit our customers
- Sustainable – your data and metadata will be tagged, held and backed up allowing you instant, and future access
- Respectful – We will use the latest technologies to ensure your data remains your property and you keep your IP when it is shared
- Diverse – We are open to new data types and ways of working. Our opportunities are your opportunities





THANK YOU ANY QUESTIONS

THANK JERICO°NEXT AND UNIERSITY OF MALTA FOR HOSTING  
US











