TEAM 7: Project 2 – Extreme Events-Warnings Dashboard

Maria del Mar Chaves
Ghada Neji
Samuel Teka
Katherine Higgie
The data don’t predict a tsunami with absolute certainty. I still say we wait.
`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.
import json

class MyHandler(BaseHTTPRequestHandler):
    def getJson(self, varname, pointname, lat, lon, min, max):
        dataset = xarray.open_dataset("sv04-med-hcmr-wav-an-rc-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 = urllib.parse(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) mostra dades en temps real i prediccions marítimes del Canal d'Eivissa, zona d'interès científic pel seu gran valor ecologí.č.
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’
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 ROTLLLAN 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 UNIVERSITY OF MALTA FOR HOSTING US