2017, Dec 19th

Step-by-step Guideline DISPLACE version 0.9.10 (Windows & Ubuntu)

Creating scenario files by designing spatial restrictions (tested by Francois Bastardie)

1. Specifications e.g. for Ionian Sea

In this tutorial we will be creating the existing closures to add to the default parameterisation. So it will concern adding the existing aquaculture sites and the existing closures specific to the OTB gear type with different timing depending on the closed polygon. Example of specifications is:

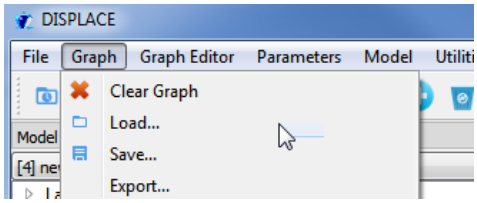
> The inner part of Patraikos gulf where trawling is banned from: 1 March - 30 November. b) The
> Korinthiakos gulf and c) the gulf of Kerkyra where trawling is banned from: 1 April –30 November.) you can include the abovementioned banning periods and for all the other areas you can include the temporal pause from 1 June to 30 September.

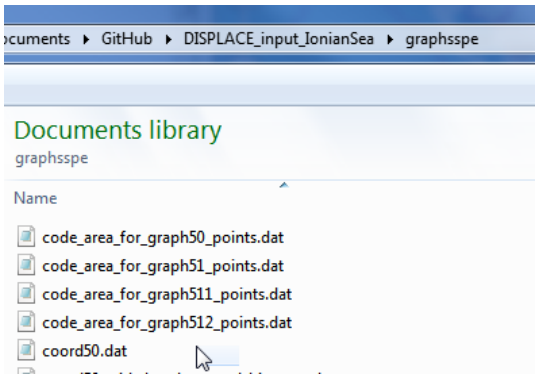
Scenarios 1 and 2 will be done derived later on from the same basis but will not be shown in this tutorial. For info, scenario 1 and 2 could be:

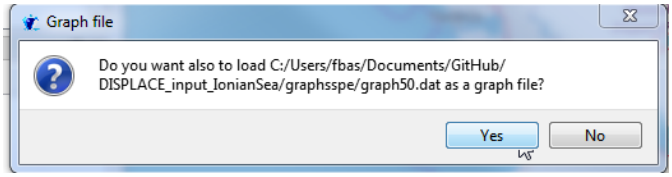
> Scenario 1: Suitable areas for future aquaculture development (based on a national aquaculture management plan). In this scenario the métier that mainly can be affected are GNS, GTR and LLS (and in a lower level the PS and OTB).
>
> Scenario 2: European hake nursery ground- excluding OTB for 2 more months (i.e. April & May). In this point I would like to remind you that in Greece there is already a temporal banning for OTB from the 1st of June up to 30 of September.

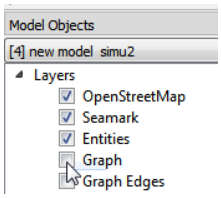
2. Including procedure into DISPLACE

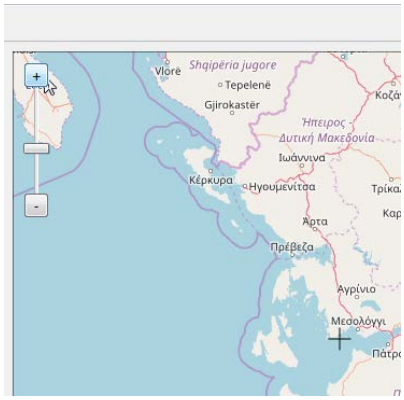
First we load an existing graph (here, graph 50 of the Ionian Sea application) into DISPLACE:

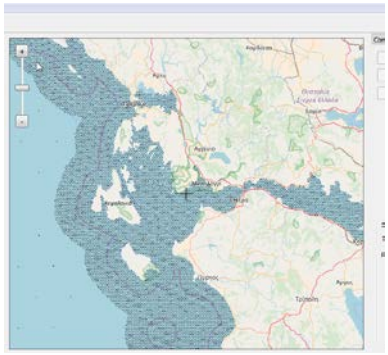



cuments ▸ GitHub ▸ DISPLACE_input_IonianSea ▸ graphsspe
Documents library
graphsspe
Name
code_area_for_graph50_points.dat
code_area_for_graph51_points.dat
code_area_for_graph511_points.dat
code_area_for_graph512_points.dat
coord50.dat

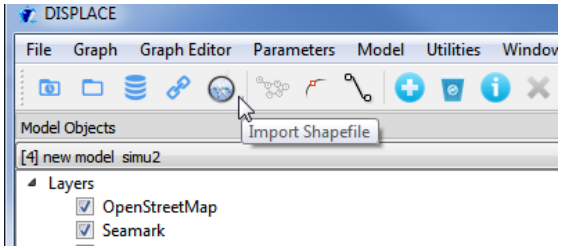

Graph file
Do you want also to load C:/Users/fbas/Documents/GitHub/
DISPLACE_input_IonianSea/graphsspe/graph50.dat as a graph file?
Yes
No

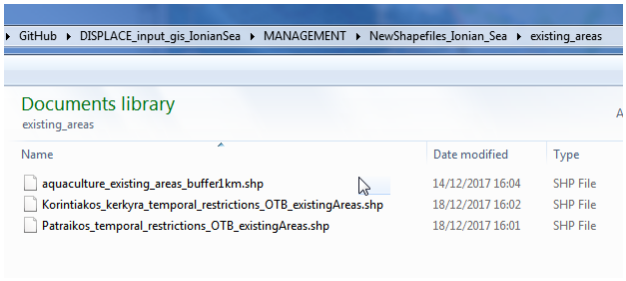

Model Objects
[4] new model simu2
Layers
OpenStreetMap
Seamark
Entities
Graph
Graph Edges

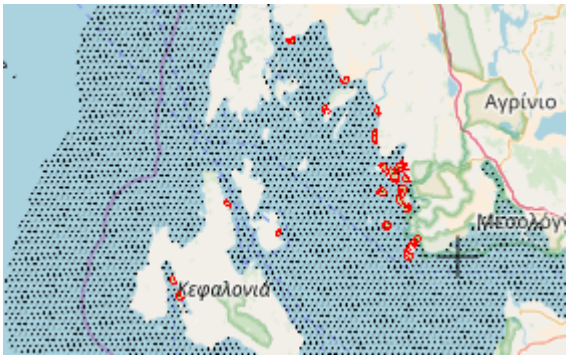

Vlorë
Shqipëria jugore
Tepelenë
Gjirokastër
Ήπειρος
Δυτική Μακεδονία
Ιωάννινα
Κέρκυρα
Ηγουμενίτσα
Άρτα
Πρέβεζα
Αγρίνιο
Μεσολόγγι

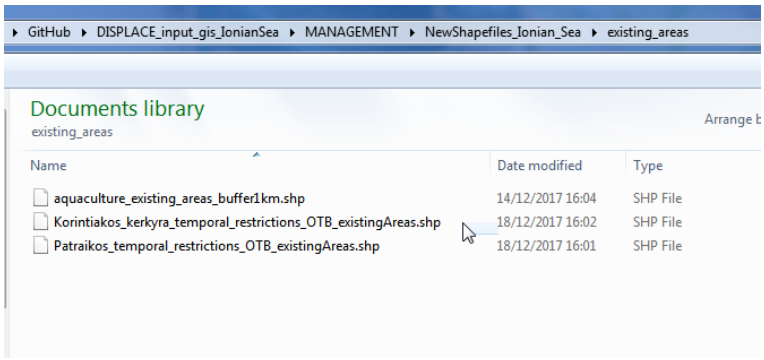


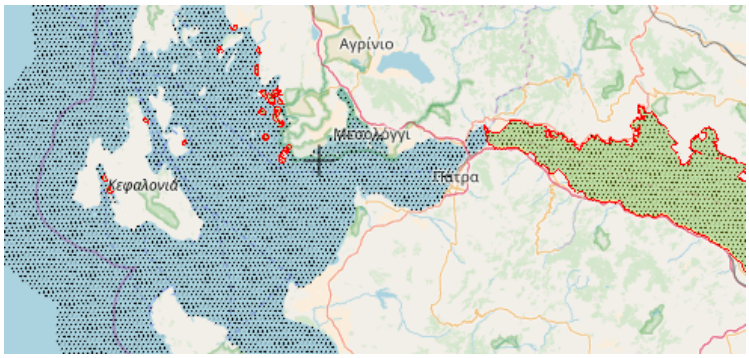
We load the WGS84 GIS shape files into the platform:

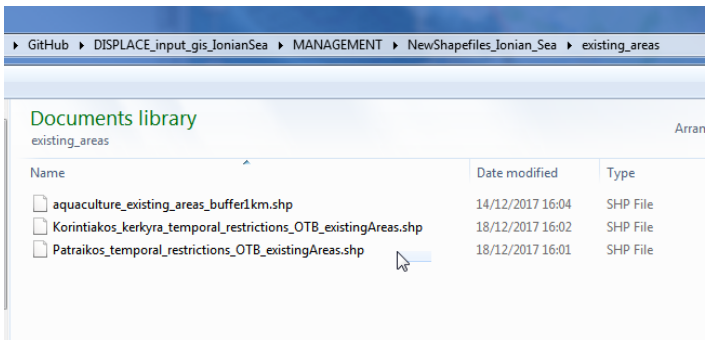


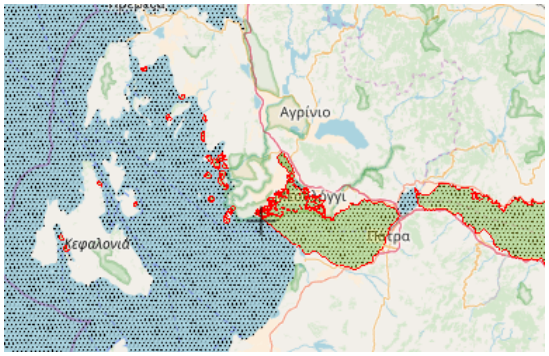








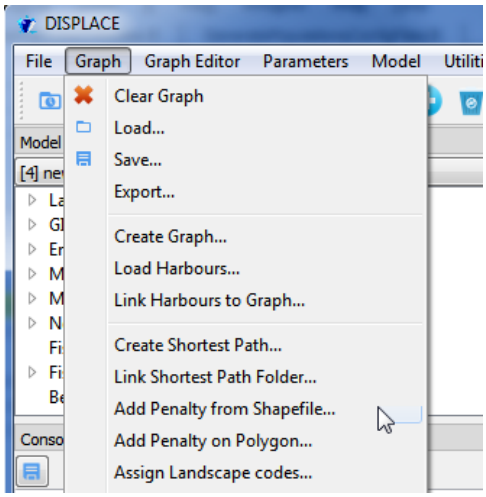


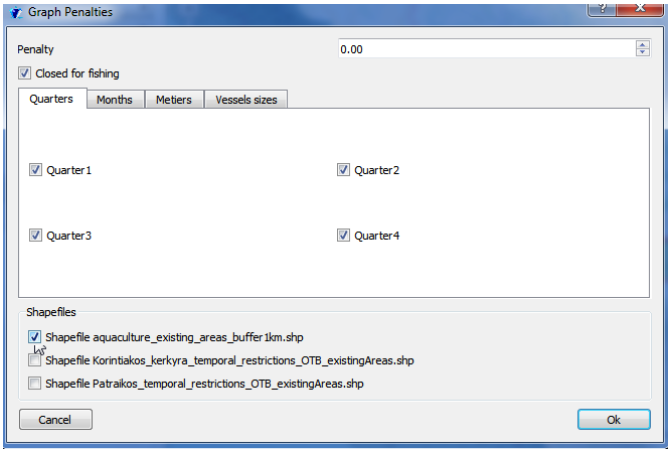


Then we apply the spatial restriction:

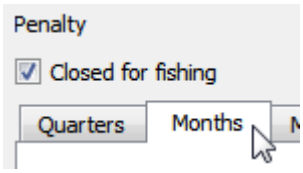
But be aware you´ll need to fill in the specification for each GIS shape file in case the timing and/or the metier and vessel size is different between them.

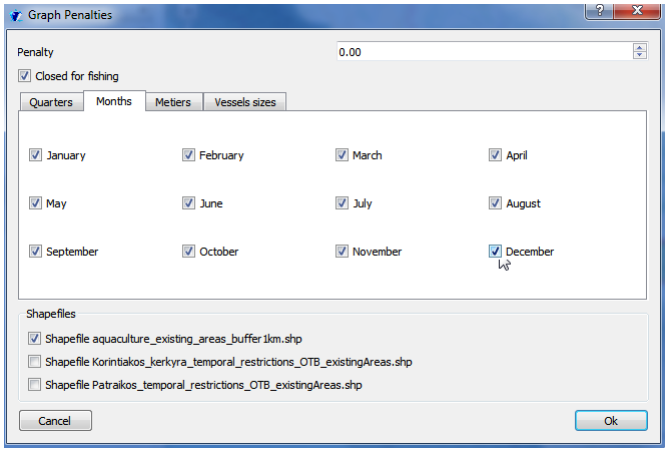
So here we start with the aquaculture site that affect all metiers during all the months of the year:



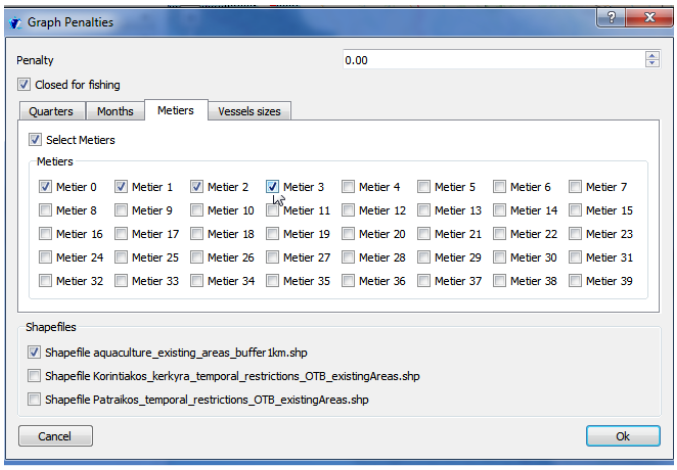


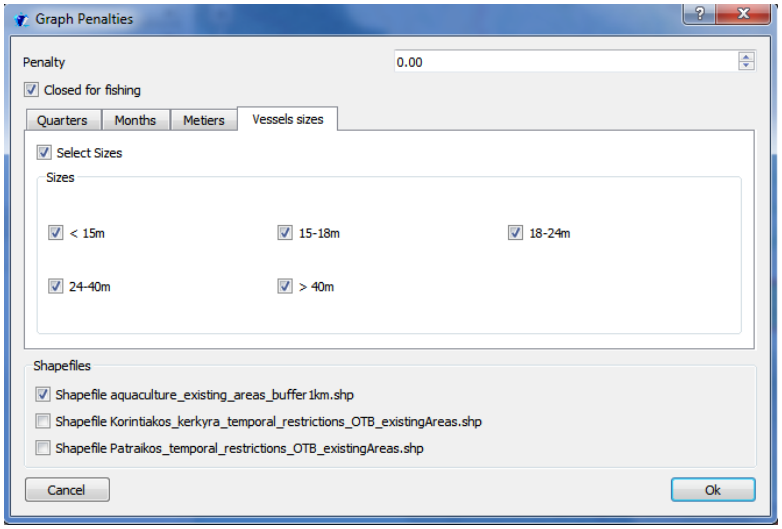
(Note that Quarter-based info is to be used with the “area_closure” dynamic allocation informed in the scenario .dat file)

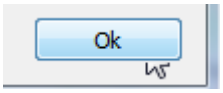




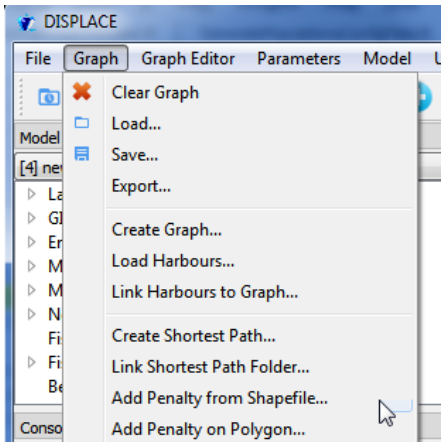
(Note that monthly-based info is to be used with the “area_monthly_closure” dynamic allocation informed in the scenario .dat file)

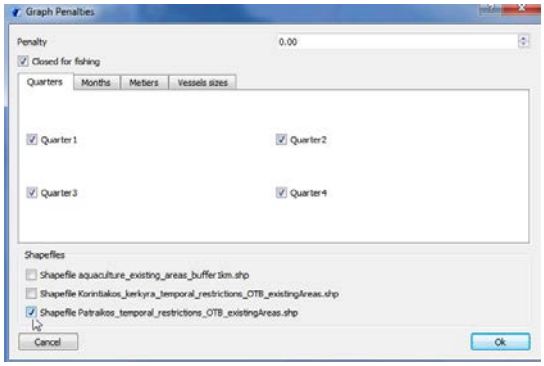


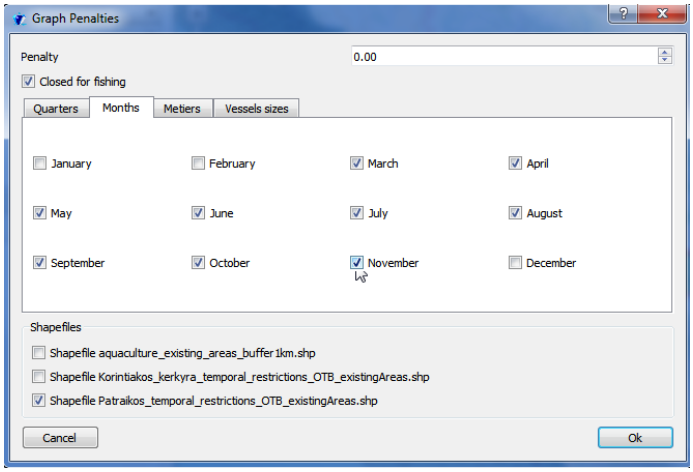




We need to continue for the second GIS shape file:


DISPLACE
File
Graph
Graph Editor
Parameters
Model
Clear Graph
Load...
Save...
Export...
Create Graph...
Load Harbours...
Link Harbours to Graph...
Create Shortest Path...
Link Shortest Path Folder...
Add Penalty from Shapefile...
Add Penalty on Polygon...


Graph Penalties
Penalty
0.00
Closed for fishing
Quarters
Months
Metiers
Vessels sizes
Quarter 1
Quarter 2
Quarter 3
Quarter 4
Shapefiles
Shapefile aquaculture_existing_areas_buffer1km.shp
Shapefile Korintiakos_kerkyra_temporal_restrictions_OTB_existingAreas.shp
Shapefile Patraikos_temporal_restrictions_OTB_existingAreas.shp
Cancel
Ok


Graph Penalties
Penalty
0.00
Closed for fishing
Quarters
Months
Metiers
Vessels sizes
January
February
March
April
May
June
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August
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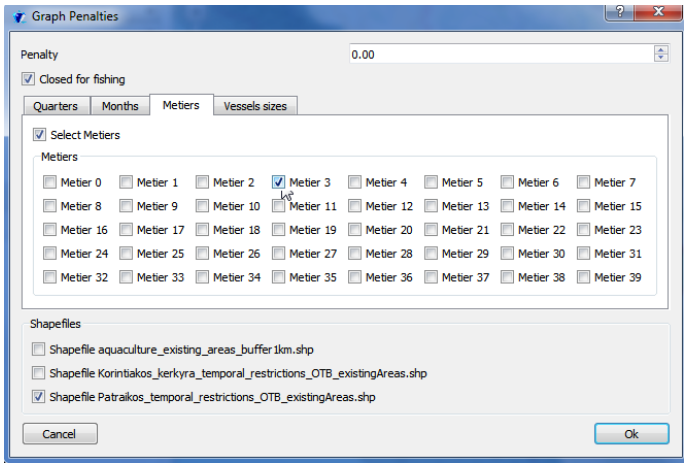
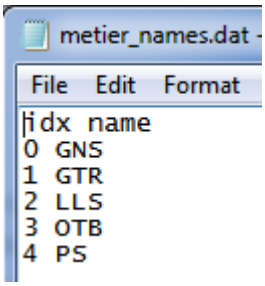
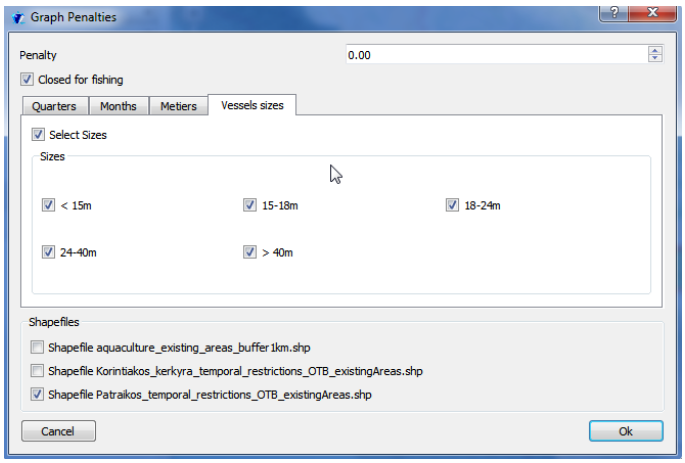
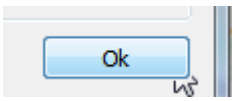
November
December
Shapefiles
Shapefile aquaculture_existing_areas_buffer1km.shp
Shapefile Korintiakos_kerkyra_temporal_restrictions_OTB_existingAreas.shp
Shapefile Patraikos_temporal_restrictions_OTB_existingAreas.shp
Cancel
Ok



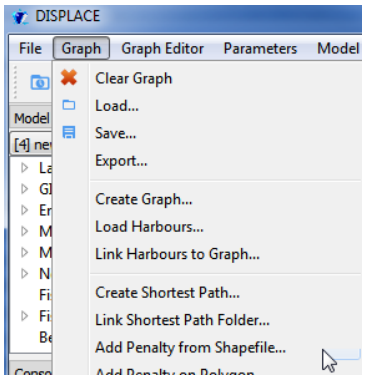
Knowing that:

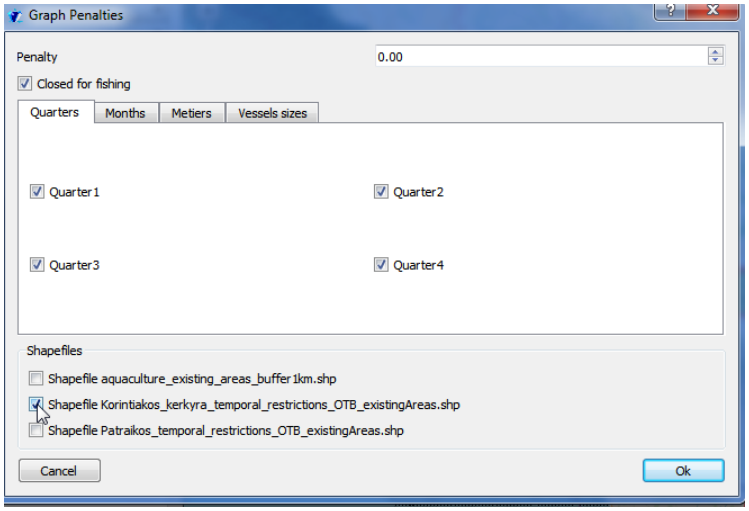


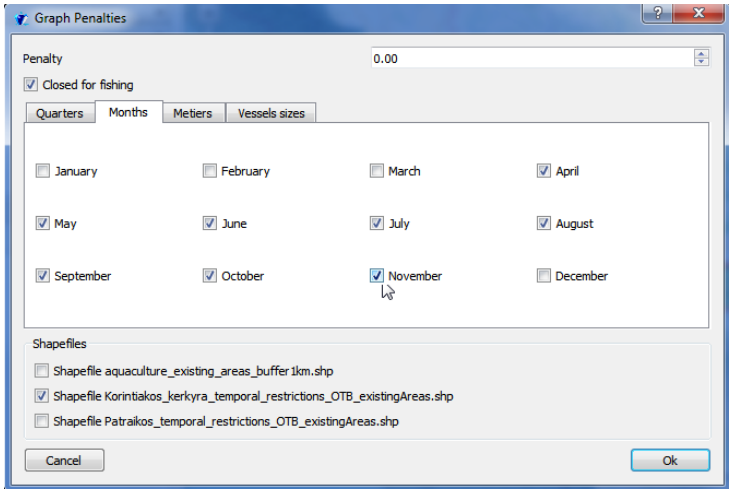




Then the last GIS shape file:


DISPLACE
File
Graph
Graph Editor
Parameters
Model
Clear Graph
Load...
Save...
Export...
Create Graph...
Load Harbours...
Link Harbours to Graph...
Create Shortest Path...
Link Shortest Path Folder...
Add Penalty from Shapefile...


Graph Penalties
Penalty
0.00
Closed for fishing
Quarters
Months
Metiers
Vessels sizes
Quarter1
Quarter2
Quarter3
Quarter4
Shapefiles
Shapefile aquaculture_existing_areas_buffer1km.shp
Shapefile Korintiakos_kerkyra_temporal_restrictions_OTB_existingAreas.shp
Shapefile Patraikos_temporal_restrictions_OTB_existingAreas.shp
Cancel
Ok


Graph Penalties
Penalty
0.00
Closed for fishing
Quarters
Months
Metiers
Vessels sizes
January
February
March
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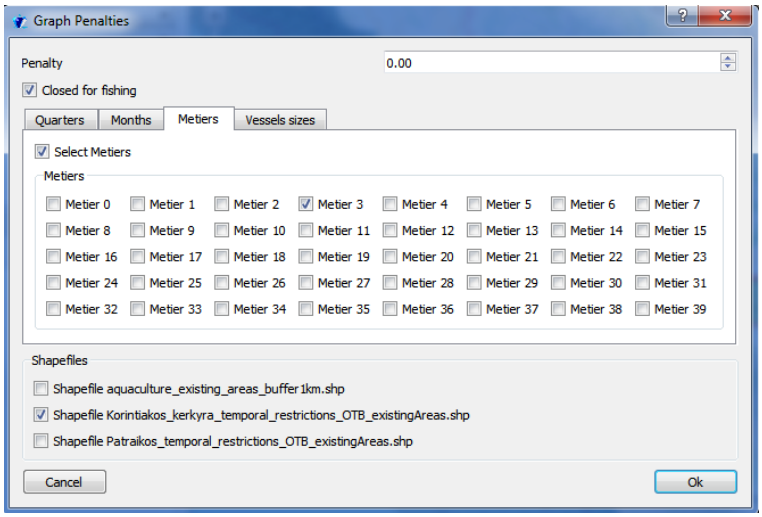
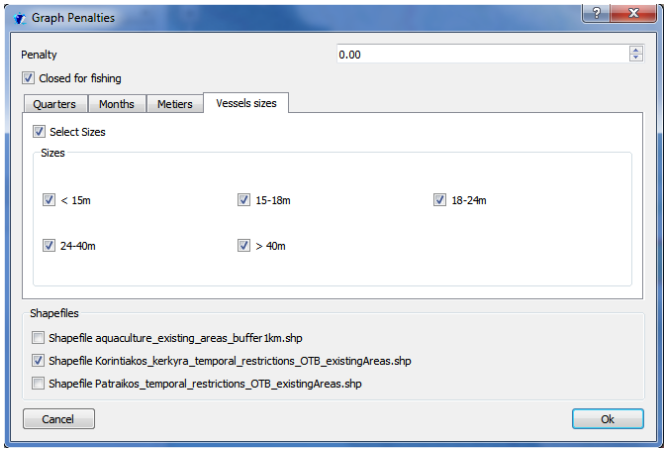
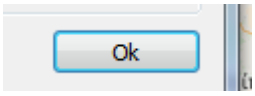
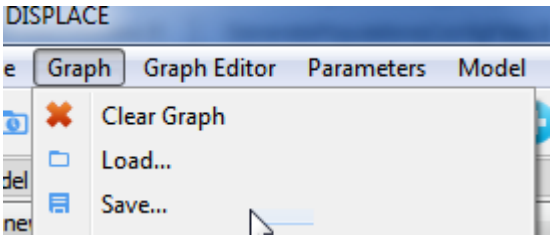
November
December
Shapefiles
Shapefile aquaculture_existing_areas_buffer1km.shp
Shapefile Korintiakos_kerkyra_temporal_restrictions_OTB_existingAreas.shp
Shapefile Patraikos_temporal_restrictions_OTB_existingAreas.shp
Cancel
Ok

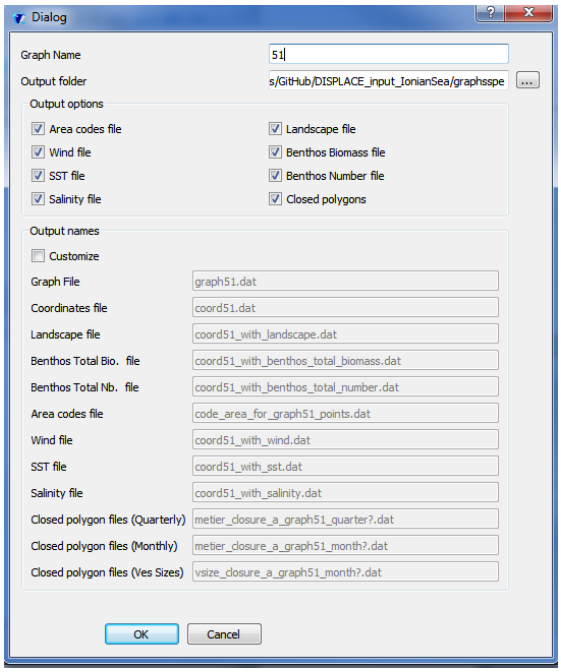




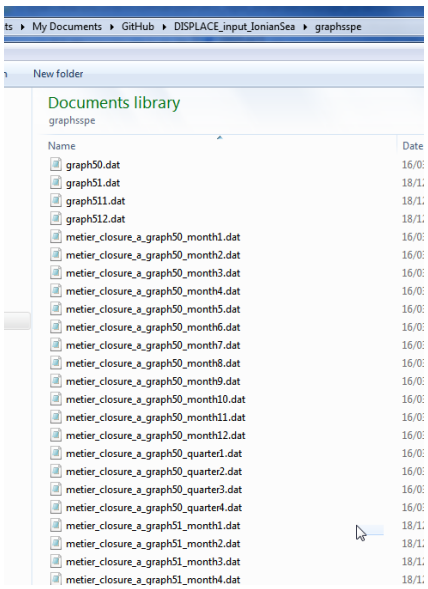


At the end (i.e. after having done the job for the 3 GIS files one by one like showed....) we can save the affected graph with a derived name, here 51:

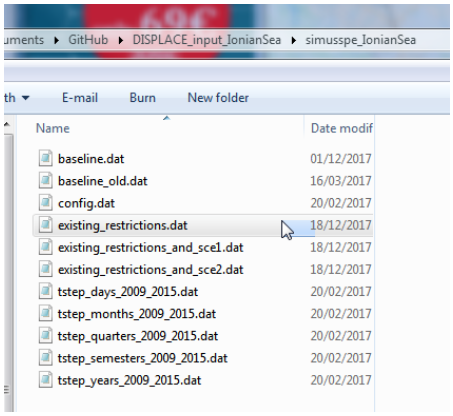




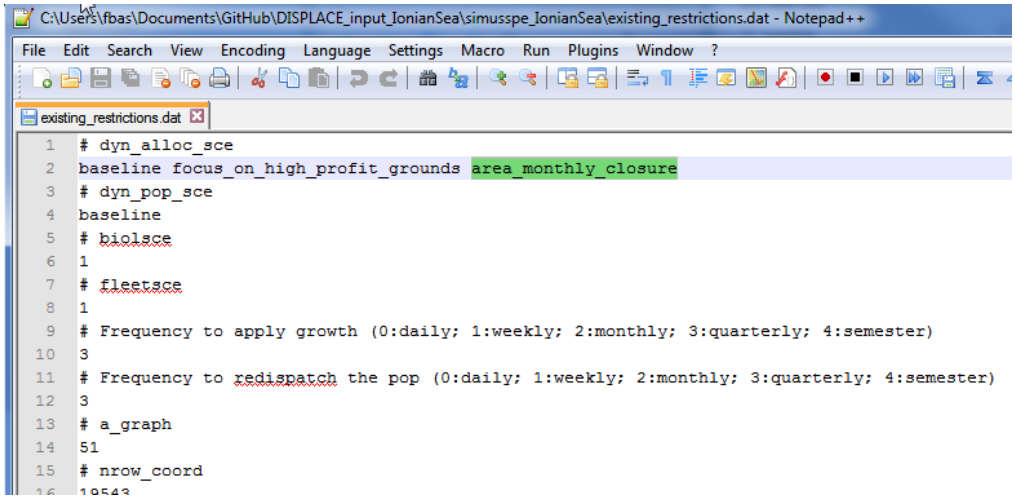
Then look at /graphsspe folder to see the new created files:



We also need a new scenario file:

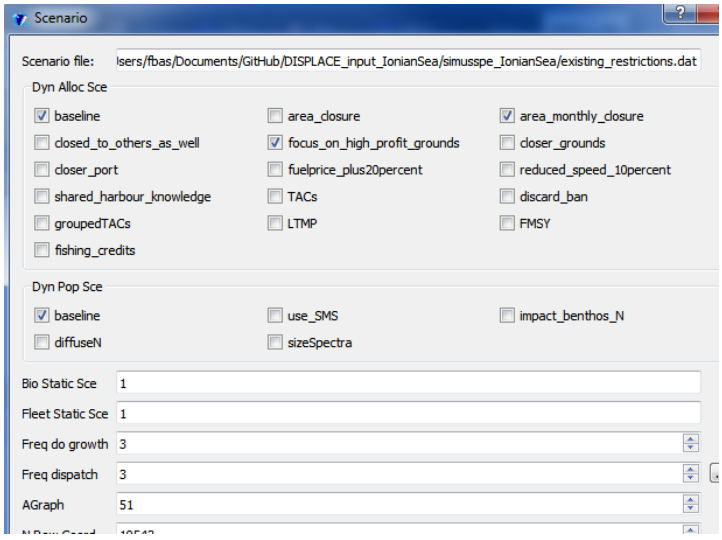


With content (for example):

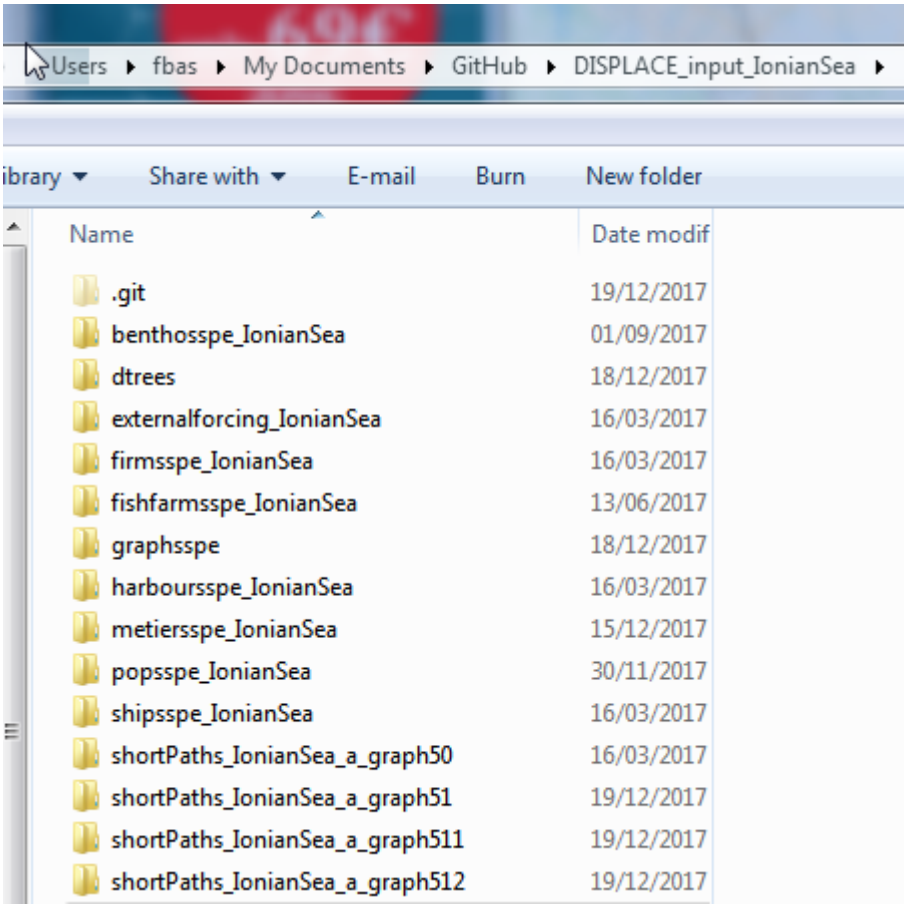


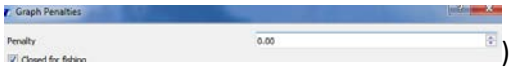
The important info is the graph name i.e. 51 here. Also we added the option “area_monthly_closure” in this file.

Same info here displayed from within DISPLACE:

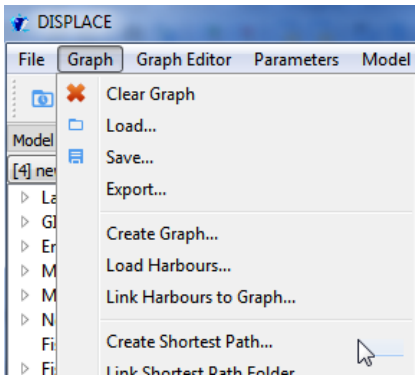
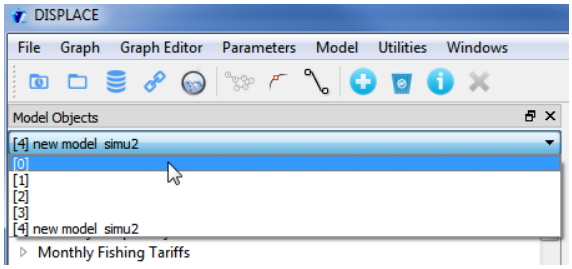
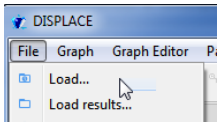
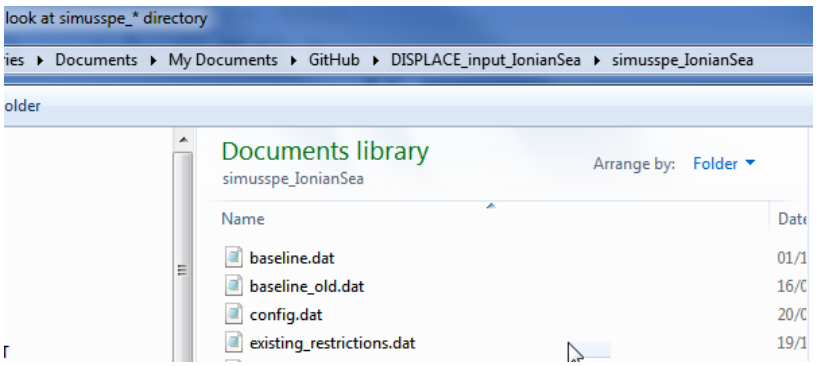
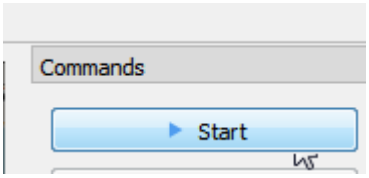


And last we need the short paths library:



Because the step ”Adding Penalities From Shape File” did actually NOT add penalties on the path () In this particular case it is enough to copy/paste the shortPaths_IonianSea_a_graph50 folder into a new folder called shortPaths_IonianSea_a_graph51

If penalities is chosen different from 0.00 then the shortest paths library need a rebuilding with:



Finally we can load and run the new scenario: