



THE ORFISH PROJECT

A platform for exchange of knowledge on low-impact offshore fishing techniques among outermost regions

The project pursues three main objectives: developing and optimizing fishing techniques in order to alleviate fishing pressure on coastal fish resources; raising awareness of the opportunities to develop innovative low-impact fishing techniques for small-scale fisheries; and creating alternative sustainable fishing opportunities that will help consolidate jobs in the fishing industry.

The ORFISH partners come from French, Portuguese and Spanish outermost regions. The European project ORFISH is coordinated by the Guadeloupe Region.

ORFISH WORKSHOP #3 IN CANARIES

16th-19th October, Santa Cruz de Tenerife

The third workshop of the ORFISH project took place in Santa Cruz de Tenerife, Canary Islands. The group was very well received at the superb Spanish Oceanographic Institute (IEO).

The Regional Director of Canary Islands' Fisheries warmly welcomed the ORFISH group. The exchanges were rich in common reflections, knowledge sharing, and working sessions.

The work already carried out, for example collecting data and launching the MFAD (moored fish aggregating device) in the Azores (Faial Island), was presented to the rest of the participants.

The next steps, such as studying the potential for diversification of small-scale fishing or carrying out experiments in Guadeloupe, were also discussed during participatory working sessions organised by the Vertigo Lab team.



Working session at the IEO



Results of a participatory working session



Bruno Marcel, fisherman and vice-president of the Guadeloupe Fisheries Committee, shares his experience on MFADs

THE LIBRARY IS GROWING!

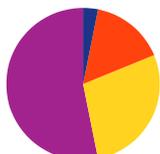
ORFISH project open repository on small-scale fisheries

The **Library** is the ORFISH open repository of free documents on small-scale fisheries. 64 documents are already available, in english, portugues, spanish and french. Special thanks to partners of Madeira for this update.

Interested in the **evolution** of the management of fisheries with regard to conservation of biodiversity in the Canary Sea? Or by the **strategic measures** for the fisheries sector of the Azores? The **paleobotany** of Madeira?

ORFISH tells you **everything!**

Contributions of everyone are welcome! **Contact us** if you are interested.



■ English ■ Portuguese
■ Spanish ■ French

NEW TESTIMONIALS

2 new testimonials from Madeira

The ORFISH project is continuing its collection effort of **testimonials**.



Interview of **José Agostinho dos Reis**
Black scabbardfish fisherman of Porto Moniz, **Madeira**



Interview of **José Luis**
Fisherman of Calheta, **Madeira**

Contributions of everyone are welcome! **Contact us** if you are interested.

DIGITAL EXPERIMENT

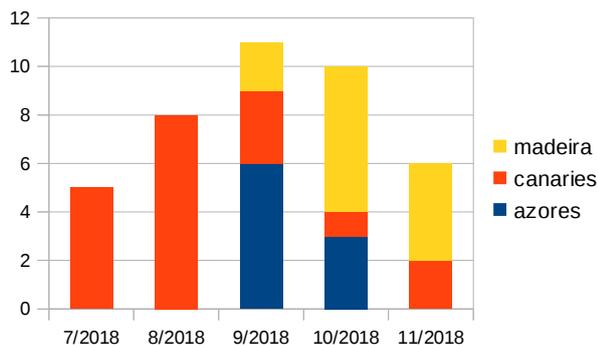
Fishing Activity Data Collection

The purpose of this **experiment** is to provide geotracking devices to a sample of voluntary fishing vessels in different outermost regions. The data collected will improve the knowledge on the distribution and nature of their fishing activity. The digital experiment will focus on two essentials dimensions of the fishing activity: the spatial distribution and the logbooks.

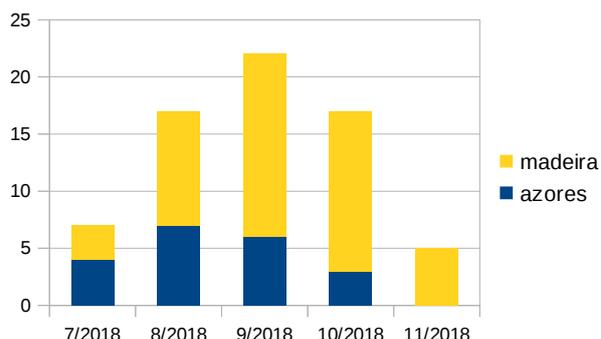
Data collected to date

The data are collected through through low-end tablets (*WeMake* : gps tracking and logbooks, in green in the following table) and/or navloc beacons (*Ifremer*, gps tracking, in orange in the table; see also next section). At the time of writing, 2 vessels of Canaries, 1 vessel of Azores and 1 vessel of Madeira have been equipped.

	Azores	Canaries	Madeira	Guadeloupe
Total number of trips Tablets / Navloc	9 / 17	19	12 / 32	205
Total number of Logbooks	1	9	25	
Fisherman	Fisher #1	Fisher #1	Fisher #2	Fisher #1
Number of trips Tablets / Navloc	9 / 17	6	13	12 / 32
Number of Logbooks	1	4	5	25



Monthly number of trips by region (through tablets)



Monthly number of trips by region (through beacons)

FIRST RESULTS OF THE BEACONS INSTALLED ABOARD THREE VOLUNTEERS FROM MACARONESIA AND GUADELOUPE

Three beacons have been installed, in the beginning of July 2018, aboard 3 boats volunteer to collaborate with the ORFISH project: one in the Canaries, one in Madeira and one in the Azores. Two beacons from Macaronesian are still working well and started to provide their first GPS data. Two others fishers from Guadeloupe participate in the project.

Ifremer is receiving the raw data and using an Ifremer's software, called AlgoPesca, rebuild the fishing trips and provide an estimate of daily fishing effort. A first automatical syntesis of the GPS data has been proposed the 10th of September for the volunteer based in Horta (Azores). The results will permit to follow and study the distribution of their daily fishing activities.



Resumo dos dados da atividade do período

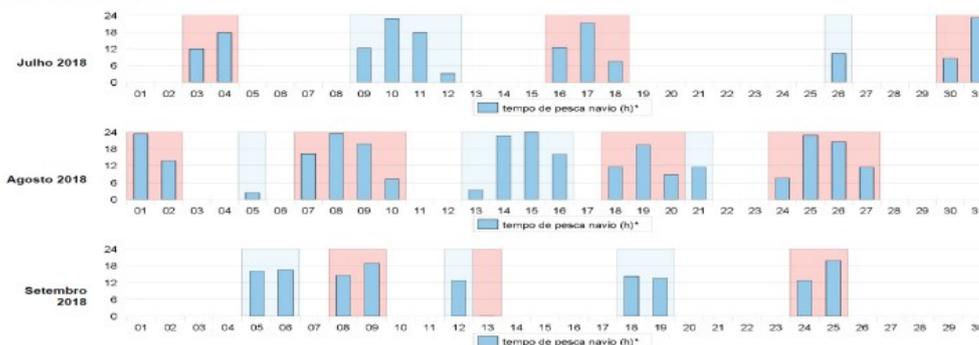
Este formulário de devolução lista e caracteriza todas as marés para as quais um tempo de pesca navio ou uma operação de pesca foram detectados. Marés com tempo de pesca zero não são representadas.

Estatísticas

Período	Número de marés	Número de dias no mar	Número de dias de pesca
Julho 2018	4	10	10
Agosto 2018	7	21	21
Setembro 2018	6	10	10

Indicadores	Mínimo	Média	Máximo
Número de dias no mar por maré	1	2,4	4
Número de dias de pesca por maré	0	2,4	4

Calendário das saídas



*estimativa do tempo de pesca baseada num limiar de velocidade média de 4,5 nd abaixo do qual o navio é considerado pescando.

Second page of the quarterly individual feed back to volunteer fisher



Resumo da atividade por mês

Julho 2018

Estatísticas

Informações dos dados de geolocalização			
Número de marés	Número de dias no mar	Número de dias de pesca	Estimativa do tempo de pesca navio (horas)*
4	10	10	137-12

Indicadores gerais	Mínimo	Média	Máximo
Número de dias no mar por maré	1	2,5	4
Número de dias de pesca por maré	1	2,5	4
Estimativa do tempo de pesca navio por maré (horas)*	13-18	34-10	55-55

Calendário das saídas



*estimativa do tempo de pesca baseada num limiar de velocidade média de 4,5 nd abaixo do qual o navio é considerado pescando.

Resumo da atividade por setor

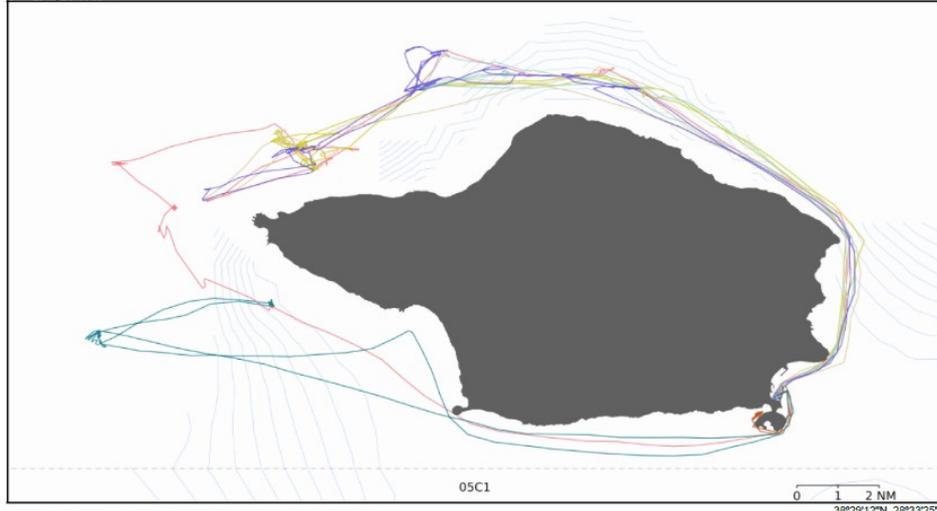
Sector	Número de dias de presença no sector	Estimativa do tempo de pesca navio total (horas)*
06C1	10	137-12

*estimativa do tempo de pesca baseada num limiar de velocidade média de 4,5 nd abaixo do qual o navio é considerado pescando.

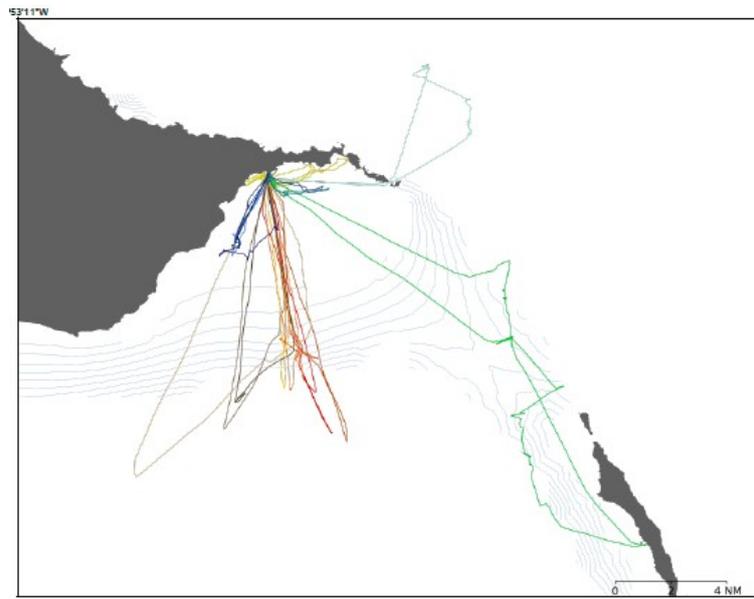
Summary of the monthly activity

Mapa das marés do mês

38°41'23"N, 28°55'59"W



Mapas baseados em dados de SHOM®, NOAA / NGDC © (Morai) y GEBCO © (batimetria)



MOORED FADS EXPERIMENTS

Second exit for the monitorisation of the MFAD, 12th of September 2018

The **second monitoring** of the MFAD in the Azores took place on the 12th of September 2018. As usual, the master and ORFISH partners were onboard, ready for another day at sea.

At 4am Tatiana started sailing to the Condor Bank. Was still dark but very good weather, with light SW winds and calm sea conditions, with the water at some comfortable 23° C. Before arriving, the boat stopped in front of the coastal area of Varadouro where, along 1h, 24 Bluejack mackerel (*Trachurus picturatus*) were caught and remained alive for the vertical longline experience around the MFAD.

At 8am Tatiana reached the MFAD (38°33'267" N and 028°54'775" W). The structure was floating in perfect conditions and in the surroundings of the MFAD it was possible to watch some Dolphinfish (*Coryphaena hippurus*) while the echosounder showed the occurrence of small pelagic fish, deep and next to the structure. The current was from East to the West and there were no birds around, not a very good sign.

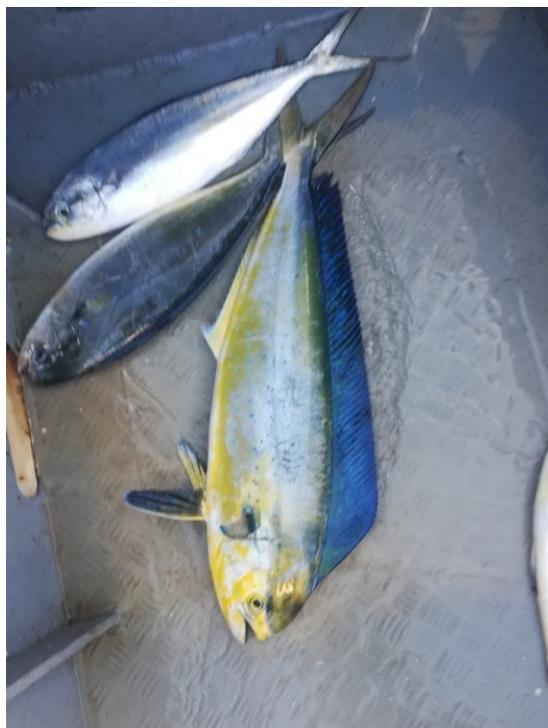
Three vertical longlines were set and launched in the water at an upper current distance from the MFAD in between 250 and 600m, testing different depth: 25, 50 and 100 fathoms. One line, one hook, one live bait. This experience was replicated for 6 times along the day. At the end of each drifting, the live mackerels were still alive, totally untouched, all of them. Not very exciting but this is all about fishing and searching.

While the previous vertical longlines were drifting, a total of 10 Dolphinfish were caught using surface trawling line.

Also during the day, it was possible to go on the water and take a better look around at the structure itself as well as to the aggregated fish. The MFAD was working perfectly, exception made to the connection point in between the two combination ropes at the surface. Something to be solved in future actions and returns to the MFAD.



Eduardo Santos with a Dolphinfish



Dolphinfish

At 10pm, after a very long, exhausting and unsuccessful day, Tatiana and its crew were back at Horta's harbour, with some Dolphinfish and Mackerel to take home and to sell it next day, at the fish auction.

A total of 18.3 kg of Dolphinfish were sold for the incredible amount of 58.19€ (3.18€/kg) at the fish market. It is still not a so valuable species in the Archipelago.

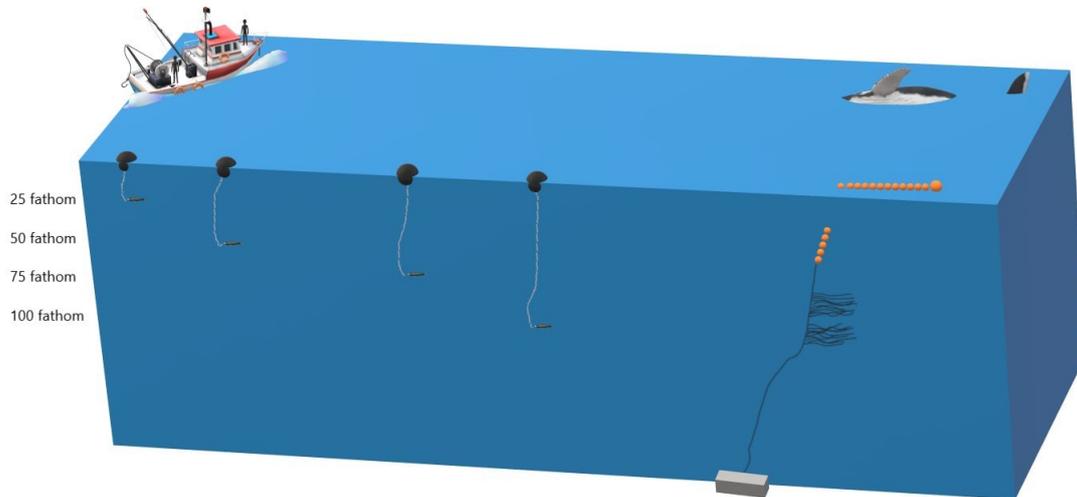
MOORED FADS EXPERIMENTS

Third exit for the monitorisation of the MFAD, 30th of October 2018

The **third monitoring** took place on the 30th of October 2018, with the master and seaExpert onboard.

At 4am Tatiana left the harbour on its way to Varadouro for live bait. The weather was a bit rough on this day, with N – NW winds, waiving at 10-12 knots. After one hour of fishing in Varadouro, only 10 Bluejack Mackerel (*Trachurus picturatus*) were caught and was about time to head to the MFAD. At 8.05am Tatiana reached the position (38°33'31.2" N and 028°54'19.6' W) and the scenario was not the most favourable – no birds, no fish, no mammals, no signal at the echosounder. The expectations were low but after the arrival were able to decrease even more!

Four vertical longlines have been launched in the water in different positions (approx. at 1000 m upper current from the MFAD) and testing different depth (25, 50, 75 and 100 fathoms). In the meantime, surface trawling was trying to catch lunch for the crew.



Different depths surveyed on the 3rd monitoring

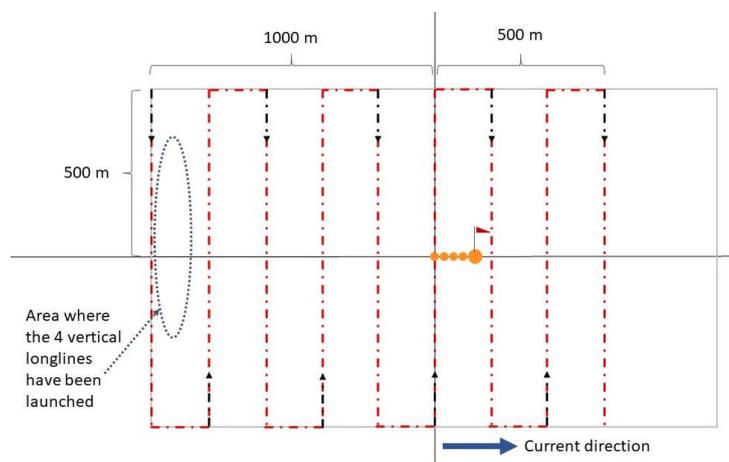
Transects have been made with the echosounder (as shown in the figure below), looking for a possible school of fish that could indicate where to target the experience.

Apart from some random small pelagic signal, the echosounder did not show anything. Due to the very slow current, the vertical longlines took hours to reach the MFAD and to overcome it by about 500 meters. Unfortunately, any fish was caught during the all day, neither with the surface trawling line, the sea was empty. All the bait used for the vertical longlines were untouched and still alive when it was hauled.

During the break the MFAD was improved with a strong plastic bottle firmly linked between the 2 lines of buoys in order to avoid overlapping. Moreover, a jute bag has been tied to the flag buoy in order to increase the effect of the surface current, to make the device completely elongated and, hence, to avoid overlapping.

Due to sea-weather conditions, the monitoring had to stop at 5.30pm and at 7.40pm Tatiana came back to Horta.

Not very promising results yet, but, as it is use to say, "better a bad day at sea than a good day at the office!"



ALL THE ORFISH PARTNERS WISH YOU A WONDERFUL END OF YEAR!