

Application for Consent to conduct
Marine Scientific Research

Date: _01/03/2015

1. General Information

1.1 Cruise name and/or number: EVHOE 2015

1.2 Sponsoring Institution(s):IFREMER	
IFREMER	Institut Français de Recherche pour l'Exploitation de la Mer
Address:	155, rue Jean-Jacques Rousseau 92138 ISSY LES MOULINEAUX FRANCE
Name of Director:	François JACQ

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1.4 Entity(ies)/Participant(s) from coastal State involved in the planning of the project:	
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2. Description of Project

2.1 Nature and objectives of the project:
French Bottom Trawl Surveys in Bay of Biscay and Celtic Sea (survey code : EVHOE) <i>a) Purpose of survey</i> The main objectives of the survey are : - to obtain abundance indices per age group and annual recruitment estimates for the sampled species ; - to build a reliable time series of those indices ; - to follow the evolution of the demographic structures of the main exploited

fish populations ;

- to map the spatio-temporal distribution of the fisheries resources per age group.

b) Area surveyed

This French survey began in 1987. The area was limited to 48°30' N in the north and to the northern margin of Gouf de Cap Breton in the south (ICES divisions VIIh, VIIla,b,c and d). In 1990, the survey area was extended towards the north (51°15' N) to cover the grounds of the Celtic Sea deeper than 100 meters (ICES divisions VIIe,f,g,h and j).

c) Methodology

The GOV 36/47 bottom trawl is used with a 20 mm mesh codend liner. The trawl is deployed with plane oval trawl boards of 1300 kg and with 10-20 cm rubber discs on the footrope.

The haul duration is 30 minutes and the towing speed 4 knots. Trawling is carried out during day time only.

In the Bay of Biscay (ICES divisions VIIla,b,c and d) and in the Celtic Sea (ICES divisions VIIe,f,g,h and j), a stratified sampling scheme is used. The area is divided according to latitude into 5 blocks and the hauls were distributed in seven depth zones (15-30, 31-80, 81-120, 121-160, 161-200, 201-400, 401-600 m). 160 stations will be occupied at locations given in fig. 2.

Catch weight and catch numbers are recorded for all species, only selected finfish and shellfish are measured.

d) Extension of the study area in 1999 and 2000

Following the European contract DG XIV 98/057 " International Program of Standardised Bottom Trawl Surveys off Northwestern Europe", a comparative study of the different fish species catchabilities to the French/Irish and Irish/Scottish fishing boats/gears has been conducted in the Irish and U.K. waters (fig. 2). Following the SESITS program (1997-1998) involving the French, Spanish and Portuguese surveys, the whole study has led to the integration of the different data collected during surveys covering the area from Northern Scotland to the Strait of Gibraltar into a common international data base.

e) Improvement of knowledge on meso and bathy pelagic species

In 2001, 2002, 2003, 2007- 2011, 2013 several hauls using a pelagic trawl have been carried out in the northern part of Bay of Biscay and in 2014 in the south of Celtic sea at immersions above 1500 m, in order to collect

information on species which show a vertical migration during the night and can potentially be preys of marine mammals.

f) Observations of fishing grounds

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The available datasets of habitat mapping in the Celtic Sea are very scarce. The Pagure sled could be used to add missing information. This tool is to be used to get qualitative information (photo and video) of the nature of the seafloor for the different strata visited during the survey. A module using a laser beam and video is used to acquire supplementary information on granulometry and seafloor structure.

2.2 If designated as part of a larger scale project, then provide the name of the project and the Organisation responsible for coordinating the project:

2.3 Relevant previous or future research projects:

The survey was conducted in the fourth quarter (October-November) of each year from 1987 to 1990, in 1992 and 1994, 1995, 1997-2014 and also in the second quarter (May-June) of 1988 and 1991. The survey is intended to be carried in the future at least in 2015 and 2016 as the objective is the construction and the maintaining a long time series.

2.4 Previous publications relating to the project:

2.

Travaux de recherches déjà publiés par l'équipe scientifique sur ce sujet / *Previously published research date related to the project*

		Nombre
1	Publications d'articles originaux dans des revues avec comité de lecture référencées dans JCR (<i>Journal Citation Reports</i>) (ajouter des lignes si nécessaire)	86
	Année n+1 :	
	Année n+2 :	
	Année n+3 :	
	Année n+4 :	
	Année n+5 :	
	Année n+6 :	
	Année n+7 :	
	Total	
2	Publications dans d'autres revues ou ouvrages scientifiques faisant référence dans le domaine	25
3	Publications électroniques sur le réseau Internet	
4	Publications sous forme de rapports techniques	29
5	Articles dans des revues ou journaux « grand public »	1
6	Communications dans des colloques internationaux	59
7	Communications dans des colloques nationaux	8
8	Nouvelles espèces (animales, végétales, microorganismes) décrites	1
9	Rapports de contrats (Union européenne, FAO, Convention, Collectivités ...)	13
10	Applications (essais thérapeutiques ou cliniques, AMM ...)	
11	Brevets	
12	Publications d'atlas (cartes, photos)	1
13	Documents vidéo-films	
14	DEA ou MASTER 2 ayant utilisé les données de la campagne	14
15	Thèses ayant utilisé les données de la campagne	13

R1 - De Cardenas E., O. Cendrero, J.C. Quero & M.H. Du Buit, 1988. Record of *Cyttopsis roseus* (Pisces, Zeiformes, Zeidae) North of 49 degree N, a new species for the Celtic Sea and a new record of *Chaunax pictus* (Pisces, Lophiiformes, Chaunacidae). *Cybum* 12 (2): 168-169.

R1 - Du Buit M.H. & J.C. Quero, 1989. Extension of the known geographical area for three teleost species from the North-East Atlantic ocean. *Cybum* 13 (4): 388.

- R1 - Du Buit M.H., C. Ozouf Costaz & J.C. Quero, 1989. Records of *Cryptosaras couesi* and *Ceratias* sp. (Pisces, Lophiiformes, Ceratiidae), new species for the French slope of the Atlantic Ocean. Distribution in the north-eastern Atlantic. *Cybium* 13 (2): 192.
- R1 - Burgeot T., G. Bocquené, P. Truquet, L. Le Déan, J.C. Poulard, D. Dorel, A. Souplet & F. Galgani, 1993. The dragonet (*Callionymus lyra*) a target species used for evaluation of the biological effects of chemical contaminants on French coasts. *Mar. Ecol. Prog. Ser.* 97: 309-316.
- R1 - Bez N., J. Rivoirard & J.C. Poulard, 1995. Approche transitive et densité de poissons. *Cah. géostatistiques. Ecole des Mines, Paris* 5: 161-177.
- R1 - Quérou J.C. & O. Cendrero, 1996. Incidence de la pêche sur la biodiversité ichthyologique marine : le bassin d'Arcachon et le plateau continental. *Cybium* 20 (4): 323-356.
- R1 - Amara R., J.C. Poulard, F. Lagardère & Y. Désaunay, 1998. Comparison between the life cycles of two Soleidae, the common sole, *Solea solea*, and the thickback sole, *Microchirus variegatus*, in the Bay of Biscay (France). *Environmental Biology of Fishes* 53: 193-209.
- R1 - Pelletier D., 1998. Intercalibration of research survey vessels in fisheries: A review and an application. *Can. J. Fish. Aquat. Sci.* 55 (12): 2672-2690.
- R1 - Petitgas P., 1998. Biomass-dependent dynamics of fish spatial distributions characterized by geostatistical aggregation curves. *ICES J. Mar. Sci.* 55: 443-453.
- R1 - Quero J.C., M.H. Du Buit & J.J. Vayne, 1998. Les observations de poissons tropicaux et le réchauffement des eaux dans l'Atlantique européen. *Oceanol. Acta* 21 (2): 345-351.
- R1 - Rochet M.J., 1998. Short-term effects of fishing on life history traits of fishes. *ICES Journal of Marine Science* 55: 371-391.
- R1 - Cornillon P.A. & M.J. Rochet, 1999. Mixture models and comparative analysis of life history traits of teleost fishes. *C. R. Acad. Sci. Ser. 3 Sci. Vie* 322 (1): 71-74.
- R1 - Lundy CJ, Moran P, Rico C, Millner R, Hewitt G (1999) Macrogeographic population differentiation in oceanic environments: a case study of European hake (*Merluccius merluccius*), a commercially important fish. *Molecular Ecology*, 8, 1889-1898
- R1 - Moran P, Lundy C, Rico C (1999) Isolation and characterisation of microsatellite loci in European hake *Merluccius merluccius* (Merlucidae, Teleostei). *Molecular Ecology*, 8, 1352-1362
- R1 - Lundy CJ, Rico C, Hewitt GM (2000) Temporal and spatial genetic variation in spawning grounds of European hake (*merluccius merluccius*) in the Bay of biscay. *Molecular Ecology*, 9, 2067-2079.
- R1 - Galgani F., J.P. Léauté, P. Moguedet, A. Souplet, Y. Vérin, A. Carpentier, H. Goraguer, D. Latrouite, D. Andral, Y. Cadiou, J.C. Mahé, J.C. Poulard & P. Nérissou, 2000. Litter on the sea floor along European coasts. *Mar. Pollut. Bull.* 40 (6): 516-527.

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- R1 - Blanchard F., 2001. Fishing effects on the diversity dynamics of demersal fish communities. Comparative analysis of the role of the interactions between species in the Bay of Biscay and in the Gulf of Lion (France). *CYBIUM* 25 (3) : 293-294
- R1 - Blanchard F., 2001. The effect of fishing on demersal fish community dynamics : an hypothesis. *ICES J. Mar. Sci.* 58(3): 711-718.
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- R1 - Petitgas, P., 2001. Geostatistics in fisheries survey design and stock assessment: models, variances and applications. *Fish and Fisheries* 2, 231-249.
- R1 - Souissi, S., Ibanez, F., Ben Hamadou, R., Boucher, J., Cathelineau, A.C., Blanchard, F., Poulard, J.-C., 2001. A new multivariate mapping method for studying species assemblages and their habitats: example using bottom trawl surveys in the Bay of Biscay (France). *Sarsia* 86, 527-542.
- R1 - Poulard, J.-C., Léauté, J.-P., 2002. Interaction between marine populations and fishing activities: temporal patterns of landings of La Rochelle trawlers in the Bay of Biscay. *Aquat. Living Resour.* 15, 197-210.
- R1 - Rochet, M.-J., Péronnet, I., and Trenkel, V. M. 2002. An analysis of discards from the French trawler fleet in the Celtic Sea. *ICES Journal of marine Science*, 59: 538-552.
- R1 - Pelletier D, M. Verdoit M., R. Bellail, 2003. Are Commercial Logbook and Scientific CPUE Data Useful for Characterizing the Spatial and Seasonal Distribution of Exploited Populations? The Case of the Celtic Sea Whiting.(Sous presse: Aquatic Living Resources)
- R1 - Petitgas, P., Poulard, J.-C., Biseau, A., 2003. Comparing commercial and research survey catch per unit of effort: megrim in the Celtic Sea. *ICES J. Mar. Sci.* 60, 66-76.
- R1 - Poulard, J.-C., Blanchard, F., Boucher, J., Souissi, S., 2003. Variability in the demersal fish assemblages of the Bay of Biscay during the 1990s. *ICES Marine Science Symposia* 219, 411-414.
- R1 - Rochet, M.-J. and Trenkel, V. 2003. Which community indicators can measure the impact of fishing? A review and proposals. *Can. J. Fish. Aquat. Sci.*, 60: 86-99.
- R1 - Rochet, M. J., and Trenkel, V. M. 2005. Factors for the variability of discards: assumptions and field evidence. *Canadian Journal of Fisheries and Aquatic Sciences*, 62: 224-235.
- R1 - Trenkel, V., Rochet, M.-J., 2003. Performance of indicators derived from abundance estimates for detecting the impact of fishing on a fish community. *Can. J. Fish. Aquat. Sci.* 60, 67-85.

- R1 - Kacher, M. & Amara, R., 2004. Distribution and growth of 0-group European hake in the Bay of Biscay and Celtic Sea : a spatial and inter-annual analyses. Fisheries Research, Volume 71, Issue3, March 2005, Pages 373-378.
- R1 - Puillat, I., Lazure, P., Jégou, A.-M., Lampert, L. and Miller, P. I. 2004. Hydrographical variability on the French continental shelf in the Bay of Biscay, during the 1990s. Continental Shelf Research, 24: 1143-1163.
- R1 - Trenkel, V. M., Pinnegar, J., Rochet, M. J., and Rackham, B. 2004. Different surveys provide similar pictures of trends in a marine fish community but not of individual fish populations. ICES Journal of marine Science, 61: 351-362.
- R1 - Blanchard, F; Vandermeirsch, F, 2005. Warming and exponential abundance increase of the subtropical fish *Capros aper* in the Bay of Biscay (1973-2002). Comptes rendus Biologies [C. R. Biol.]. Vol. 328, no. 5, pp. 505-509.
- R1 - Désaunay, Y., Guérault, D., Le Pape, O. and Poulard, J.-C. 2005. Changes in occurrence and abundance of northern / southern flatfishes over a 20-year period in a coastal nursery area (Bay of Vilaine) and on the eastern continental shelf of the Bay of Biscay. Scientia Marina, In press.
- R1 - Poulard, J.-C. and Blanchard, F. 2005. The Impact of climate change on the fish community structure of the eastern continental shelf of the Bay of Biscay. ICES Journal of Marine Science, 62: 1436-1443.
- R1 - Rochet, M.-J., Trenkel, V., Bellail, R., Coppin, F., Le Pape, O., Mahé, J.-C., Morin, J., Poulard, J. C., Schlaich, I., Souplet, A., Vérin, Y., and Bertrand, J. A. 2005. Combining indicator trends to assess ongoing changes in exploited fish communities: diagnostic of communities off the coasts of France. ICES Journal of Marine Science, 62: 1647-1664.
- R1 - Charrier G., Chenel T., Durand J.-D., Girard M., Quiniou L., Laroche J. 2006. Discrepancies in phylogeographical patterns of two European anglerfishes (*Lophius budegassa* and *Lophius piscatorius*). Molecular Phylogenetics and Evolution. 38(3) : 742-754
- R1 - Chen, C. S., Pierce, G. J., Wang, J., Robin, J. P., Poulard, J. C., Pereira, J., Zuur, A. F., Boyle, P. R., Bailey, N., Beare, D. J., Jereb, P., Ragonese, S., Mannini, A. and Orsi Relini, L. 2006. The apparent disappearance of *Loligo forbesi* from the south of its range in the 1990s: Trends in *Loligo* spp. abundance in the northeast Atlantic and possible environmental influences. Fish. Res. 78(1): 44 - 54
- R1 - Lahaye V., Bustamante P., Spitz J., Das K., Meynier L., Magnin V. Dabin W. & Caurant F., 2005. Long-term preferences of common dolphins (*Delphinus delphis*) in the bay of Biscay using cadmium (Cd) as a metallic tracer. Marine Ecology Progress Series, 305: 275-285.
- R1 - Trenkel, V.M. et Skaug, H. 2005. Disentangling the effects of trawl efficiency and population abundance on catch data using random effects models. ICES Journal of Marine Science, 62: 1543-1555.
- R1 - Lahaye V., Bustamante P., Dabin W., Van Canneyt O., Dhermain F., Cesarini C., Pierce

G.J., & Caurant F., 2006. New insights from age determination on toxic element accumulation in striped and bottlenose dolphins from Atlantic and Mediterranean waters. *Marine Pollution Bulletin*, 52, 1219-1230.

R1 - Teletchea, F. V. Laudet and C. Hänni. 2006. Phylogeny of the Gadidae (sensu Svetovidov, 1948) based on their morphology and two mitochondrial genes. *Molecular Phylogenetics and Evolution*, Volume 38, Issue 1, January 2006, Pages 189-199.

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R1 - Poulard J.-C. and Trenkel V., 2007, Do survey design and wind conditions influence survey indices ? *Can. J. Fish. Aquat. Sci.* 64, 1551-1562.

R1 - Spitz J., Quéro J.C. & Vayne J.J., 2007. Contributions à l'étude du genre *Pseudoscopus* (Pisces : Chiasmodontidae) avec une espèce nouvelle, *P. pierbartus* n. sp., deux synonymies junior et une clé d'identification des espèces valides. *Cybio*, 31(2): 333-339.

R1 - Trenkel, V. M., Rochet, M.-J., and Mesnil, B. 2007. From model-based prescriptive advice to indicator-based interactive advice. *ICES Journal of marine Science*, 64: 768-774.

R1 - Woillez, M., Poulard, J.-C., Rivoirard, J., Petitgas, P., and Bez, N. 2007. Indices for capturing spatial patterns and their evolution in time, with application to European hake (*Merluccius merluccius*) in the Bay of Biscay. *ICES Journal of Marine Science* 64: 537-550.

R1 - Cherel, Y., Ridoux, V., Spitz, J., & Richard, P. (2009). Stable isotopes document the trophic structure of a deep-sea cephalopod assemblage including giant octopus and giant squid. *Biology Letters*, 5(3), 364-367. doi:10.1098/rsbl.2009.0024

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R1 - Persohn C., Lorange P., Trenkel V.M., (2009). Habitat preferences of selected demersal fish species in the Bay of Biscay and Celtic Sea, North-East Atlantic. *Fisheries Oceanography*, 18(4), 268-285. <http://dx.doi.org/10.1111/j.1365-2419.2009.00515.x>

R1 - Drouineau H., Mahevas S., Bertignac M., Duplisea D., (2010). A length-structured spatially explicit model for estimating hake growth and migration rates. *ICES Journal Of Marine Science*, 67(8), 1697-1709. Publisher's official version: <http://dx.doi.org/10.1093/icesjms/fsq042>, Open Access version: <http://archimer.ifremer.fr/doc/00016/12714/>

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- R1 - Rochet, M. J., Trenkel, V. M., Carpentier, A., Coppin, F., Gil de Sola, L., Léauté, J.-P., Mahé, J.-C., Maiorano, P., Mannini, A., Murenu, M., Piet, G. J., Politou, C.-Y., Reale, B., Spedicato, M. T., Tserpes, G. & Bertrand, J. A. (2010) Do changes in environmental pressures impact marine communities? An empirical assessment. *Journal of Applied Ecology*, 47.
- R1 - Spedicato M.T., Poulard J.-C., Politou C.-Y., Radtke K., Lembo G., Petitgas P. (2010). Using the ALADYM simulation model for exploring the effects of management scenarios on fish population metrics. *Aquatic Living Resources*, 23(2), 153-165. Publisher's official version : <http://dx.doi.org/10.1051/alr/2010015>, Open Access version : <http://archimer.ifremer.fr/doc/00011/12226/>
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- R1 - Spitz J., Mourocq E., Leaute J.-P., Quero J.-C., Ridoux V. (2010). Prey selection by the common dolphin: Fulfilling high energy requirements with high quality food. *Journal of Experimental Marine Biology And Ecology*, 390(2), 73-77. DOI: /10.1016/j.jembe.2010.05.010, <http://archimer.ifremer.fr/doc/00011/12221/>
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- R1 - Lassalle G., Lobry J., Le Loc'h F., Bustamante P., Certain G., Delmas D., Dupuy C., Hily C., Labry C., Le Pape O., Marquis E., Petitgas P., Pusineri C., Ridoux V., Spitz J., Niquil N. (2011). Lower trophic levels and detrital biomass control the Bay of Biscay continental shelf food web: Implications for ecosystem management. *Progress In Oceanography*, 91(4), 561-575. DOI: 10.1016/j.pocean.2011.09.002, Open Access version: <http://archimer.ifremer.fr/doc/00057/16851/>
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- R1-Brind'Amour Anik, Laffargue Pascal, Morin Jocelyne, Vaz Sandrine, Foveau Aurelie, Le Bris Herve (2014). Morphospecies and taxonomic sufficiency of benthic megafauna in scientific bottom trawl surveys. *Continental Shelf Research*, 72, 1-9. Publisher's official version : <http://dx.doi.org/10.1016/j.csr.2013.10.015> , Open Access version : <http://archimer.ifremer.fr/doc/00162/27309/>
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- R1-Gascuel Didier, Coll Marta, Fox Christopher, Guenette Sylvie, Guitton Jerome, Kenny Andrew, Knittweis Leyla, Nielsen J Rasmus, Piet Gerjan, Raid Tiit, Travers-Trolet Morgane, Shephard Samuel **Fishing impact and environmental status in European seas: a diagnosis from stock assessments and ecosystem indicators.** *Fish and Fisheries* IN PRESS. <http://dx.doi.org/10.1111/faf.12090>
- R1-Lassalle G., Chouvelon Tiphaine, Bustamante Paco, Niquil N. (2014). **An assessment of the trophic structure of the Bay of Biscay continental shelf food web: Comparing estimates derived from an ecosystem model and isotopic data.** *Progress In Oceanography*, 120, 205-215. <http://dx.doi.org/10.1016/j.pocean.2013.09.002>
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3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in

Latitude and longitude in decimal degrees, including coordinates of cruise/track/way points/sampling stations). Please provide coordinates in a separate excel spreadsheet.

Operations	Latitude	Longitude	Profondeur <i>Water depth</i>
bottom trawl	43°20' N to 52°30 N	1°20' W to 12°00' W	600 m
Pelagic trawl	43°20' N to 52°30 N	1°20' W to 12°00' W	2000 m
Pagure	43°20' N to 52°30 N	1°20' W to 12°00' W	<400 m

3.2 Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical

Areas of the intended work and, as far as practicable, the location and depth of sampling

Stations, the tracks of survey lines, and the locations of installations and equipment.

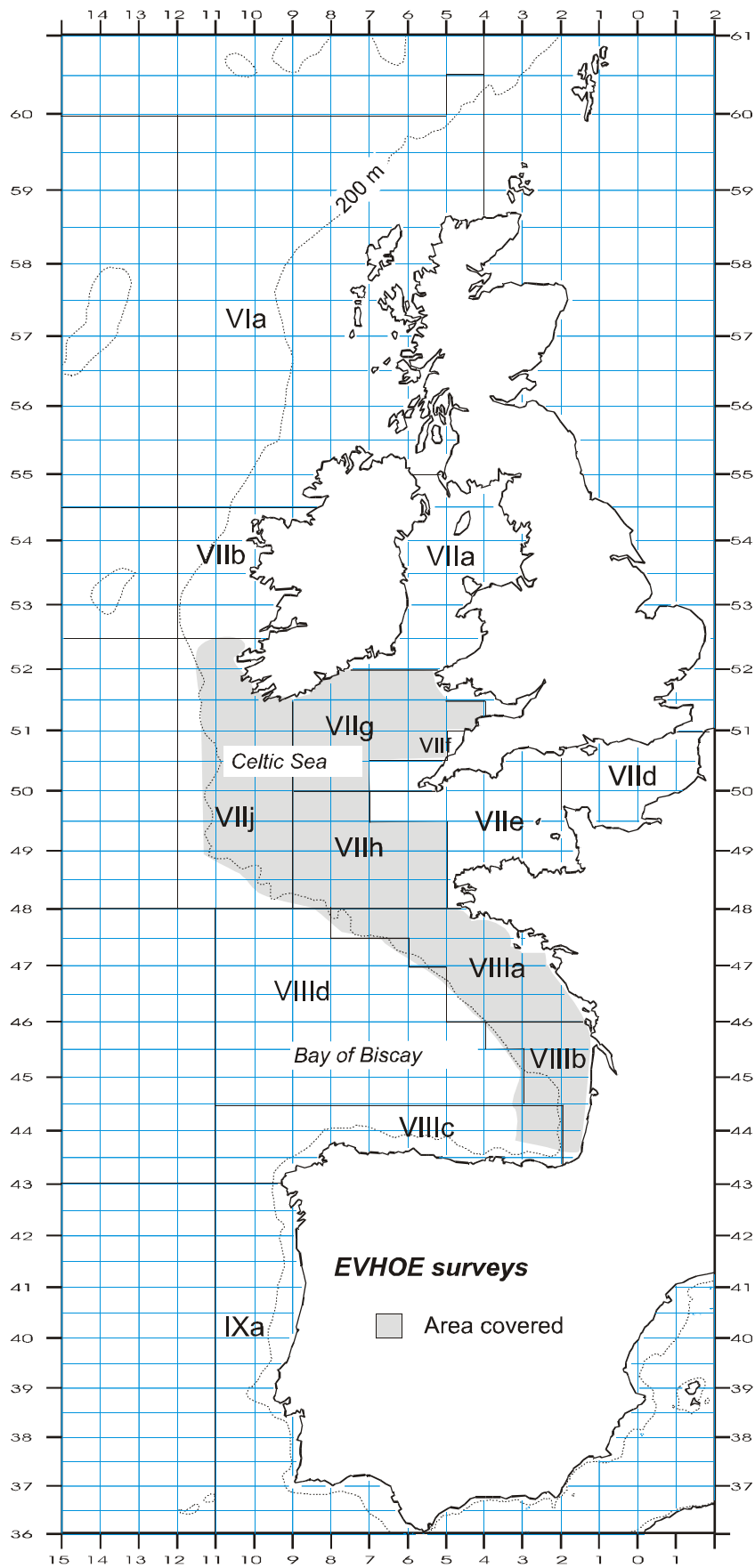
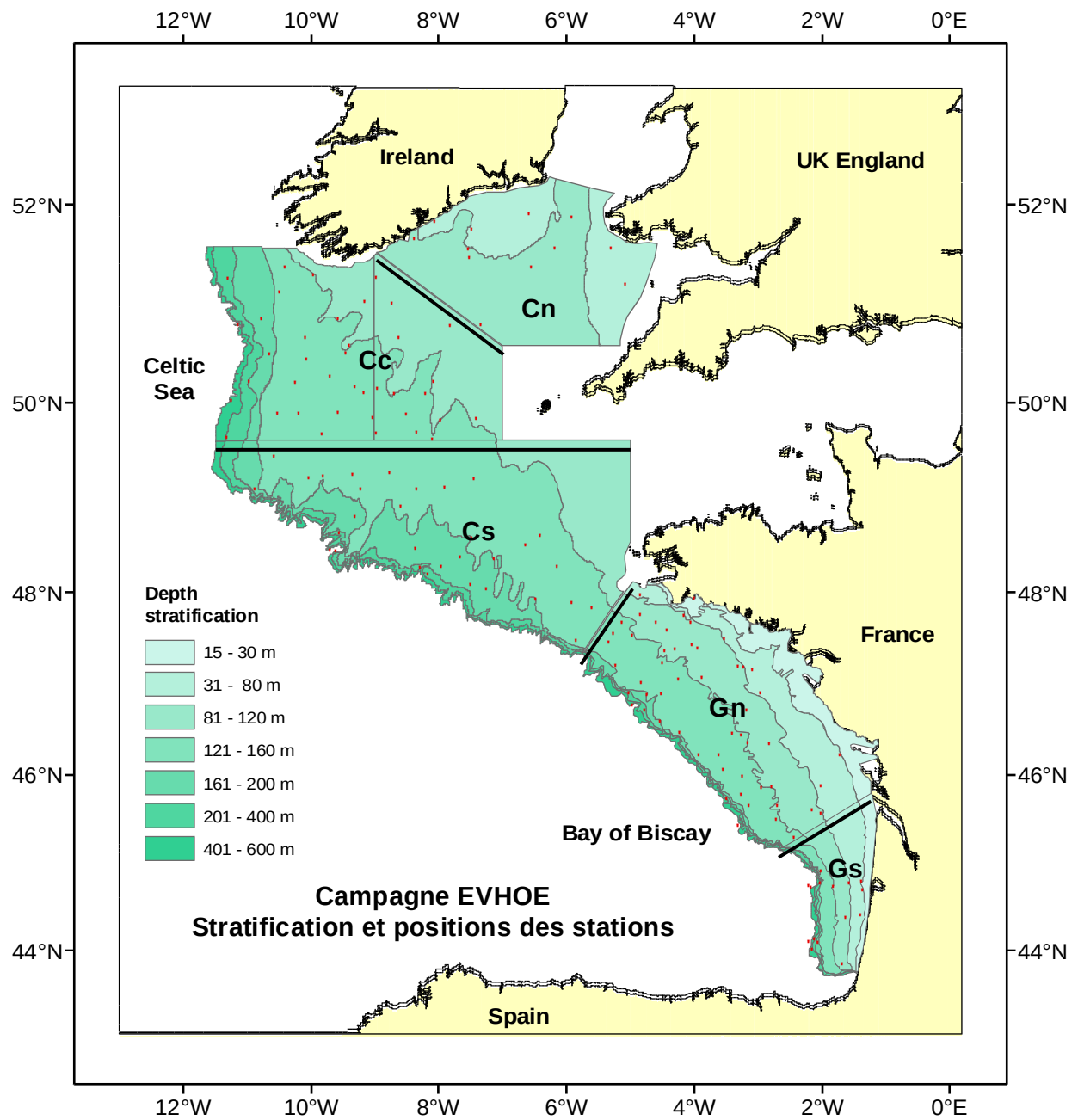


Fig. 1. - North-Eastern Atlantic ICES Statistical Areas and area covered during the EVHOE surveys.



4. Methods and means to be used

4.1 Particulars of vessel:

Name:	THALASSA
Type/Class:	Research vessel
Flag	French
Identification Number (IMO/Lloyds No.):	IMO=9070307
Owner:	IFREMER
Operator:	GENAVIR
Overall length (meters):	74,5 m
Maximum draught:	6,10 m
Displacement/Gross Tonnage:	2 803 UMS
Propulsion:	Diesel Electric
Cruising & maximum speed:	11 knots
Call sign:	FNFP
INMARSAT number and method and capability of communication (including emergency frequencies):	Method and capability of communication (including telex, frequencies) : - GSM : 33.6.07.32.44.87 (bridge) - 33.6.16.87.10.69 (captain) - Fax : 33.6.20.18.50.20 - Inmarsat :Tel : 00.870.7.731.600.16 (bridge) - Fax : 00.870.7.831.600.57 - Vsat : Tel : 33.2.98.22.48.05 (bridge) - Fax : 33.2.98.22.48.06 - Telex Inmarsat C1 : 058x.4.227.297.10 - Telex Inmarsat

	C2 : 058x.4.227.297.11 (Codes: East Atlantic: 0581 - West Atlantic: 0584 - Pacific : 0582 - Indian Ocean: 0581) email : TL.Commandant@thalassa.ifremer.fr Email Telex C1 : ThalassaC1@skyfile-c.com Email Telex C2 : ThalassaC2@skyfile-c.com
Name of Master:	Loïc PROVOST
Number of Crew:	25
Number of Scientists on board:	25

4.2 Particulars of Aircraft:	
Name:	
Make/Model:	
Nationality (flag State):	
Website for diagram & Specifications:	
Owner:	
Operator:	
Overall Length (meters):	
Propulsion:	
Cruising & Maximum speed:	
Registration No.:	
Call Sign:	

Method and capability of communication (including emergency frequencies):	
Name of Pilot:	
Number of crew:	
Number of scientists on board:	
Details of sensor packages:	
Other relevant information:	

4.3 Particulars of Autonomous Underwater Vehicle (AUV):	
Name:	
Manufacturer and make/model:	
Nationality (Flag State):	
Website for diagram & Specifications:	
Owner:	
Operator:	
Overall length (meters):	
Displacement/Gross tonnage:	
Cruising & Maximum speed:	
Range/Endurance:	
Method and capability of communication (including emergency frequencies):	
Details of sensor packages:	

Other relevant information:	
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4.4 other craft in the project, including its use:

4.5 Particulars of methods and full description of scientific instruments to be used(for fishing gear specify type and dimension)			
Types of samples and Measurements:		Methods to be used:	Instruments to be used:
	biological observations on fish	trawling	bottom trawl GOV 36/47 Echo sounders
	hydrographic observations	Temperature and salinity	Sonde NKE 300m and 600 m
	Video observations	Submarine camera	PAGURE

4.6 Indicate nature and quantity of substances to be released into the marine environment:

4.7 Indicate whether drilling will be carried out. If yes, please specify:
NIL

4.8 Indicate whether explosives will be used. If yes, please specify type and trade name,

Chemical content, depth of trade class and stowage, size, depth of detonation, frequency of Detonation, and position in latitude and longitude:
NIL

5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and Anticipated timeframe for recover, as far as possible exact locations and depth, and Measurements):
NIL

6. Dates

6.1 Expected dates of first entry into and final departure from the research area by the research vessel and/or other platforms:
October 17 ,2015
December 1, 2015
6.2 Indicate if multiple entries are expected:
YES

7. Port Calls

7.1 Dates and Names of intended ports of call:
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7.2 Any special logistical requirements at ports of call:

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7.3 Name/Address/Telephone of shipping agent (if available):
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8. Participation of the representative of the coastal State

8.1 Modalities of the participation of the representative of the coastal State in the research Project:
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8.2 Proposed dates and ports for embarkation/disembarkation:
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9. Access to Data, Samples and Research Results

9.1 Expected dates of submission to coastal State of preliminary report, which should include

The expected dates of submission of the data and research results:

Cruise report within two months of the cruise ending

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Proposed means for access by national scientists to data and samples

Research data will be available on ASCII files two months after the cruise ending.

9.2 Anticipated dates of submission to the coastal State of the final report:

Research data will be available on ASCII files two months after the cruise ending.

9.3 Proposed means for access by coastal State to data (including format) and samples:

All information will be available through the ICES International Bottom Trawl Surveys Working Group.

9.4 Proposed means to provide coastal State with assessment of data, samples and
Research results:

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9.5 Proposed means to provide assistance in assessment or interpretation of data, samples
And research results:

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9.6 Proposed means of making results internationally available:

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10. Other permits Submitted

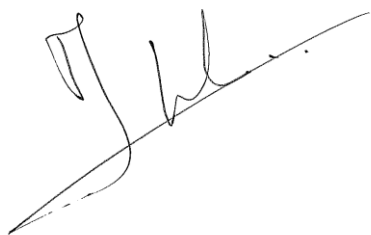
10.1 Indicate other types of coastal state permits anticipated for this research (received or
Pending):

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11. List of Supporting Documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.:

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A handwritten signature in black ink, appearing to be 'M. Salaun', written over a horizontal line.

Signature:

Contact information of the focal point:

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