

2016 French oceanographic cruises report



1	<i>Those involved</i>	4
1.1	French Oceanographic Fleet JSU joint service unit and national assessment commissions	4
1.2	SISMER	5
2	<i>Oceanographic cruises</i>	7
2.1	Definition	7
2.2	Cruise listing	7
2.3	Chief scientists' rules and duties	7
2.4	Transmission of summaries	7
3	<i>Access to cruises and data</i>	8
3.1	Cruise management system (SGC)	8
3.2	Cruise database	8
4	<i>Cruises report</i>	11
4.1	Background.....	11
4.2	Year 2016.....	13
4.2.1	Breakdown of cruises by managing organization	13
4.2.2	Breakdown of cruises by client organization	13
4.3	Cruises by vessel	14
4.3.1	Cruises referenced at SISMER.....	14
4.3.1.1	Cruises by RV <i>Alis</i>	15
4.3.1.2	Cruises by RV <i>Antea</i>	17
4.3.1.3	Cruises by RV <i>Côtes de la Manche</i>	19
4.3.1.4	Cruises by RV <i>Haliotis</i>	21
4.3.1.5	Cruises by RV <i>L'Astrolabe</i>	23
4.3.1.6	Cruises by RV <i>L'Atalante</i>	25
4.3.1.7	Cruises by RV <i>L'Europe</i>	27
4.3.1.8	Cruises by RV <i>Marion Dufresne</i>	29
4.3.1.9	Cruises by RV <i>Pourquoi pas ?</i>	31
4.3.1.10	Cruises by RV <i>Téthys II</i>	33
4.3.1.11	Cruises by RV <i>Thalassa</i>	35
4.3.1.12	Cruises by RV <i>Thalia</i>	37
4.3.1.13	Cruises aboard other vessels	39
4.3.2	Cruises not referenced at SISMER (teaching and station vessels)	40
4.3.2.1	Training cruises aboard inshore vessels	40
4.3.2.2	Cruises conducted aboard station boats	41
4.4	List of cruises	42
4.5	Cruises not received	52
5	<i>Contacts</i>	53
6	<i>Acronyms</i>	54



Introduction

This document reports on the French oceanographic cruises conducted in 2016. It was drawn up by IFREMER, and more specifically by the SISMER (French acronym for Scientific information systems for the SEA) department which oversees managing the metadata and data produced by French research cruises.

It provides a detailed description of the role of the various players managing French ocean-going facilities and of the means to archive cruise information and oceanographic data. It presents the fleet's activity in 2016 and provides dynamic access to cruise information through the new research cruise catalogue: <http://campagnes.flotteoceanographique.fr/>.

The electronic version of this document is available at the following address:

<http://doi.org/10.13155/49966>.

Clicking on the hypertext links gives direct access to the cruise descriptions.

The reports for French oceanographic cruises are also available via IFREMER's institutional archive, Archimer, whose address is: <http://archimer.ifremer.fr/>.

SISMER thanks:

- ✓ the chief scientists of 2016 cruises
- ✓ GENAVIR,
- ✓ Aurélie Feld and Sylvie Van Iseghem (IFREMER/DMON),
- ✓ Yves Gouriou and Dominique Lopes (IRD),
- ✓ Hélène Léau and Valérie Hadoux (IPEV),
- ✓ Malika Oudia and Pascal Morin (CNFC), and
- ✓ Viviane Bout-Roumazeilles (CNFH).

They have enabled us to collect the information needed to draft this report and have thus contributed to enhancing the usability and value of the measurements at sea effort.

1 Those involved

The main ocean research vessels are managed by the following organizations:

- **CNTD/INSU** (French national scientific research center / national institute for sciences of the universe),
- **IFREMER** (French research institute for exploitation of the sea),
- **IPEV** (French polar institute – Paul Emile Victor),
- **IRD** (French research institute for cooperative development, formerly ORSTOM),
- **FRENCH NAVY/SHOM** (French Navy's hydrographic and oceanographic service).

The first 4 organizations are grouped together in a joint service unit, FRENCH OCEANOGRAPHIC FLEET JSU (UMS-FOF in French) whose objective is the coordinated management of the French oceanographic fleet very large Research Infrastructure (TGIR) giving priority to serving the scientific community, in compliance with the specificities of its members, specifically based on the assessment of proposals for scientific and technological research cruises carried out by the national assessment committees (CNFH and CNFC).

The French scientific community also has access to other European vessels (United Kingdom, Germany, Spain, The Netherlands, Norway) through the OFEG (Ocean Facilities Exchange Group) of which IFREMER is one of the 6 members.

Finally, SISMER ensures that the data related to these cruises are permanently stored.

1.1 FRENCH OCEANOGRAPHIC FLEET JSU JOINT SERVICE UNIT AND NATIONAL ASSESSMENT COMMISSIONS

Since 2008, the French sea-going facilities for oceanographic research from CNRS, IFREMER, IPEV and IRD have made up the French oceanographic very large Research Infrastructure called TGIR FOF.

A significant step was made for integration of French ocean-going resources in March 2011, under the aegis of the Ministry of Higher Education and Research, when the French oceanographic fleet joint service unit was created, initially for a 4-year period, then extended to the end of 2017.

The unit's assigned objective is to improve the management of the French ocean research fleet, which was until now distributed amongst these four operators.

The setting up of this UMS Joint Service Unit with unified governance should enable the public authorities to have an overarching view of this very large Research Infrastructure (TGIR) in the context of supervising public policies and clear the way for a comprehensive strategic vision which is currently lacking.

To meet this objective, **three missions** have been defined:

- develop integrated scheduling of vessels and large-scale equipment open to national calls for tender (offshore and inshore),
- ensure foresight, defining and coordinating the fleet development plan, taking into account the requirements of national public-sector operators who are not members of the UMS (TAAF, FRENCH NAVY),
- coordinate investment policies.

On the UMS FLEET website (<http://www.flotteoceanographique.fr/>) are descriptions and activity of all vessels and vehicles of all USM members, cruise schedules and information about cruise applications and cruises conducted.

In deciding on the scheduling for seagoing facilities, the FLEET JSU steering committee relies, amongst other things, on the assessments of ocean research cruise proposals made by two national commissions following the national call for ocean-going and coastal cruises:

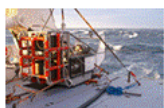
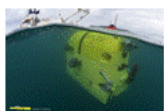
- the **National ocean-going fleet commission (CNFH)**, for cruise projects requiring ocean research vessels from the French offshore oceanographic fleet.
- the **National coastal fleet commission (CNFH)**, for cruise projects requiring ocean research vessels from the French inshore oceanographic fleet.

The role of these commissions is also to:

- to assess, a posteriori, the results from inshore oceanographic cruises performed using French oceanographic resources;
- to respond to requests from the Scientific and strategic orientations committee (COSS) to take part in drawing up advice concerning the sea-going resources for oceanographic research.

The diagram below shows how the cruise process functions, from application to achievement.

The scheduling process



Steps of the process:

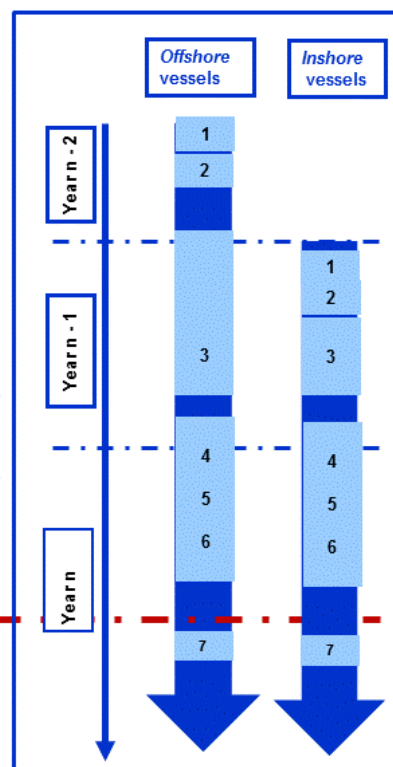
1. *Call for tender*
2. *Evaluation by CNFC – CNFH*

3. JSU fleet scheduling

If cruise is scheduled

4. Chief scientist informed about the various regulations
5. Request filed for studies in foreign waters
6. Preparation of the cruise
7. Cruise report

Cruise is conducted




1.2 SISMER

It has been proved that without permanent archiving, done following well established standards, 30% of the acquired data is lost by the end of 10 years. The cost of using facilities for data acquisition at sea is so high that it is essential to implement the resources and means necessary for good data preservation.

SISMER (<http://data.ifremer.fr/SISMER>) is an IFREMER department located at its Brittany center. It is part of the IDM (marine information systems and data) unit of the IMN (marine and digital infrastructure) department.

It acts as an NODC (National Oceanographic Data Center). It recently received accreditation (March 2017) as NODC from the IODE (International Oceanographic Data and Information Exchange) programme of



UNESCO's Intergovernmental Oceanographic Commission. As such, it maintains the catalogue of French oceanographic cruises and has the remit to database all data acquired aboard French research vessels.

To meet the needs of the scientific community, it both develops, working with the ISI (Information systems engineering) service in the IDM (IT and marine data) department, and utilizes marine-related information systems and databases. The service manages and archives the data collected during French oceanographic cruises and keeps an inventory of them. It also manages real-time data from various operational oceanographic systems (Coriolis database).

SISMER manages the French national oceanographic database, which saves, standardizes and under very specific rules disseminates data from various fields of marine science, like hydrology, marine biochemistry, currentometry, gravimetry, magnetometry, seismics, bathymetry, acoustic imaging, physical-chemical seabed characteristics, biology and the deep-sea environment. The data can also come from French research laboratories taking part in surveys at sea.

It archives the data, along with information about its source, the experimental conditions and the methods of collection used (metadata). It applies quality control inspections in accordance with international standards and distributes the data and metadata using standardized formats.

It makes an active contribution to French, European and international working groups devoted to standardization and exchange of data. It coordinates the SeaDataNet pan-European network marine data center which aims to link the main European oceanographic data centers and thus give users access on line to distributed databases through a single portal.

Data which is incorrectly archived or not archived will ultimately be lost for good.

Cruise data which is incorrectly referenced (CSR sheet incorrectly or not completed) are inaccessible and therefore ultimately lost.

The value of data acquired at sea, in both scientific and financial terms represents a legacy which must be preserved.

2 Oceanographic cruises

2.1 DEFINITION

An "oceanographic cruise" is a set of days during which a vessel acquired observational data. This can be outings of one day (station vessels), several days (inshore vessels) or several weeks (offshore vessels).

"French cruise" means a cruise for which the home organization of the client (chief scientist) - or of the contracting authority - is French.

Any cruise classified « Confidential Defence » or considered as such and protected is not visible on line. Those cruises are taken into account for the historical report, but are not counted in the yearly report.

2.2 CRUISE LISTING

Taking inventory of cruises is done in several steps:

- Based on scheduled ocean cruise programmes. This is done with the help of the fleet operators' scheduling services;
- At the end of each cruise, in compliance with the procedure in effect, the chief scientist sends a description of the cruise to SISMER. The summary can be completed directly on line (<http://forms.ifremer.fr/sismer/csr/>).

A template (called a CSR – Cruise Summary Report sheet) is also part of the [Compte-rendu de la campagne](#) page made available on the UMS FLOTTE website for vessels of the JSU FLEET.

This action is carried out in compliance with the procedure followed aboard the vessels of the JSU (<http://www.flotteoceanographique.fr/Campagnes-scientifiques>) and with the "Vade-Mecum for inshore oceanographic vessels users' guide" (<http://cir.dt.insu.cnrs.fr/docfiches.html>) for INSU, IFREMER and IRD.

- The information thus gathered is then archived in the SISMER database. Each cruise is given a track number (single identifier).

A DOI (Digital Object Identifier) is also assigned to each non-confidential cruise performed aboard a vessel of the Fleet JSU and whose chief scientist is clearly identified. These DOI enable the cruises to be reliably and lastingly cited in scientific publications. Their main objective is to describe the cruises as scientific experiments and highlight the French fleet.

2.3 CHIEF SCIENTISTS' RULES AND DUTIES

In keeping with the protocol in effect, once the chief scientist has been notified that the cruise has been scheduled, he or she must learn about a number of regulations and inform all the members of the scientific team who will embark about them. These texts especially deal with: the [rights and obligations in terms of archiving and disseminating data](#) acquired aboard vessels, and the [role the chief scientist is expected to play](#) on board the vessel.

The process for carrying out cruises, along with the protocols and related documents for [ocean-going](#) and [coastal](#) cruises can be accessed on the JSU FLEET website.

2.4 TRANSMISSION OF SUMMARIES

In the framework of the European SeaDataNet – pan-European Infrastructure for marine data programme (<http://www.seadatanet.org/>), these cruise summaries are sent to BSH/DOD (German data center) which ensures that the European CSR are disseminated worldwide, particularly to [ICES/CIEM](#) (International Council for Exploration of the Sea).

3 Access to cruises and data

3.1 CRUISE MANAGEMENT SYSTEM (SGC)

The steering group of the French Oceanographic Fleet Joint Service Unit decided to develop the Cruise management system IT tool (French acronym SGC) at its 12 November 2013 meeting. The tool must enable all the cruise data to be centralized in a database and structure the steps followed by various stakeholders and fleet users during the life cycle of research cruises via a single interface which can be accessed by all of them.

The plan is to develop it one module at a time:

- Pre-cruise module: creating the database and the interface and setting up the workflow, from Call for tender to performing the cruise,
- Planning module: drawing up and disseminating fleet schedules,
- Administration module: system administration and management of access rights,
- Post-Cruise module: entering end-of-cruise documents.

Today, the SGC tool has been made available to the offshore research community to enter cruise proposal documents and to enter and manage scientific assessments.

The SGC is in the emergence phase. Soon it will provide all stakeholders in the French Oceanographic Fleet with a single interface enabling everyone's approaches to be simplified and optimized in the steps of the process to prepare cruises, from submitting a proposal to the completion of the cruise.

3.2 CRUISE DATABASE

The full inventory of *oceanographic surveys* in the French database and *their related data* contains information covering almost a century of measurements taken at sea.

It can be accessed at the following URL:


<http://campagnes.flotteoceanographique.fr/>

The screenshot shows the website interface for 'French Oceanographic Cruises'. At the top, there is a navigation bar with 'EN', 'About', and 'My basket' links. Below the navigation bar is a search bar with the text 'Search everywhere' and 'Search cruise'. The main content area displays '8416 Result(s)' and a pagination control showing 'Order by date' and page numbers '1', '2', '3', and '421'. The results are organized into three sections, each with a filter for 'YEAR' and 'SHIP'.

MOOSE-GE 2016
Responsable(s) : COPPOLA Laurent
The main objective of the MOOSE project is to observe the long-term evolution of the Northwestern Mediterranean Sea in the context of the climate change and anthropogenic pressure (over 10 years) in order to be able to detect and identify long-term environmental trend and anomalies of the marine ecosystem. The annual cruise focuses on moorings maintenance and hydrology, biogeochemistry and biology monitoring of the Northwestern Mediterranean basin. It aims to follow variability of water masses properties [...]
19/05/2016 - 09/06/2016, L'Atlantique, Mediterranean Sea, Western Basin, Golfe du Lion et Mer Ligurie

PELGAS 2016
Responsable(s) : DORAY Mathieu, DUHAMEL Erwan, HURET Martin, PETITGAS Pierre
La série de campagne PELGAS répond à la nécessité d'évaluer l'abondance des petits pélagiques du golfe de Gascogne, afin d'assurer la durabilité de leur exploitation par la pêche. L'Europe cofinance la campagne PELGAS afin d'assurer la fourniture des indices d'abondances d'anchois et sardine aux groupes de travail internationaux chargés de l'évaluation de ces stocks. Le second objectif des campagnes PELGAS est de surveiller l'écosystème pélagique du golfe de Gascogne au printemps. Cette surveillance [...]
29/04/2016 - 02/06/2016, Thalassa, Bay of Biscay

DYNAMOSEINE 2016
Responsable(s) : HUGUET Arnaud



This portal provides cartographic and interactive consultation and search functions for cruise data. It also enables data to be retrieved or ordered on line, using the check-out and form to be completed on the server, in compliance with the degree of confidentiality.

French research cruises and their data are incorporated in the SeaDataNet project's European catalogues (<http://www.seadatanet.org/>). Information about the cruises can be found at: http://seadata.bsh.de/csr/retrieve/sdn2_index.html, and their data is on the SeaDataNet http://seadatanet.maris2.nl/v_cdi_v3/search.asp website.

The database which can be accessed from the international POGO server: <http://www.pogo-oceancruises.org/> gives the scheduled cruises of research vessels over 60 m LOA for a dozen countries. SISMER sends it the planned cruise schedules for its largest vessels. These plans are also included in the EU Eurofleets 2 project.

Along with the cruise inventory, data from various fields of ocean research are also archived. They include marine physics, chemistry, biology, geology and geophysics, as well as exploratory fisheries and technology.

In accordance with the rules in effect, SISMER archives and disseminates the data collected aboard French research vessels - primarily those of JSU FLEET vessels and observation systems.

The data are transmitted following one of the following patterns:

Sent directly to SISMER at the end of the mission:

- Raw data acquired using French facilities managed by IFREMER (major facilities),
- Single- and multi-beam bathymetric data,
- Gravimetry data,
- Magnetometry data
- Seismic reflection data,
- Sonar imaging data (sidescan sonars, multibeam echo sounders),
- Navigational data,
- Shipboard ADCP data from RV *L'Atalante*, *Thalassa*, *Le Suroît*, *Beautemps-Beaupré*, *Pourquoi Pas ?*,
- Data from underwater vehicles,
- Fisheries data.

Data requiring laboratory processing:

These data are transmitted once measurements have been validated or samples analyzed:

- Marine biochemical and physical data collected at hydrological stations (CTD and bottle casts),
- Eulerian or Lagrangian time series (currentometry, temperature, deep sea tide gauges),
- Geological samples and analyses.


Data transmitted in real time:

When the ship is so equipped, data can be sent directly in real time for the needs of modeling experts in the framework of operational oceanographic projects:

- CTD and XBT from some cruises,

Data compilations:

SISMER manages and disseminates an archive of data and data compilation products: theme-based databases, digital elevation models (DEM), maps and atlases which are created in partnership with other scientific centers and laboratories, in the framework of French, European and international programs.



The Sextant portal (marine and coastal geographical data infrastructures) provides a catalogue of baseline reference data related to the marine environment: <http://sextant.ifremer.fr/fr/>

4 Cruises report

Each year, the cruise database is enriched with new data. Sometimes we also recover information about older cruises, particularly when a link to a bibliography or to data is requested.

4.1 BACKGROUND

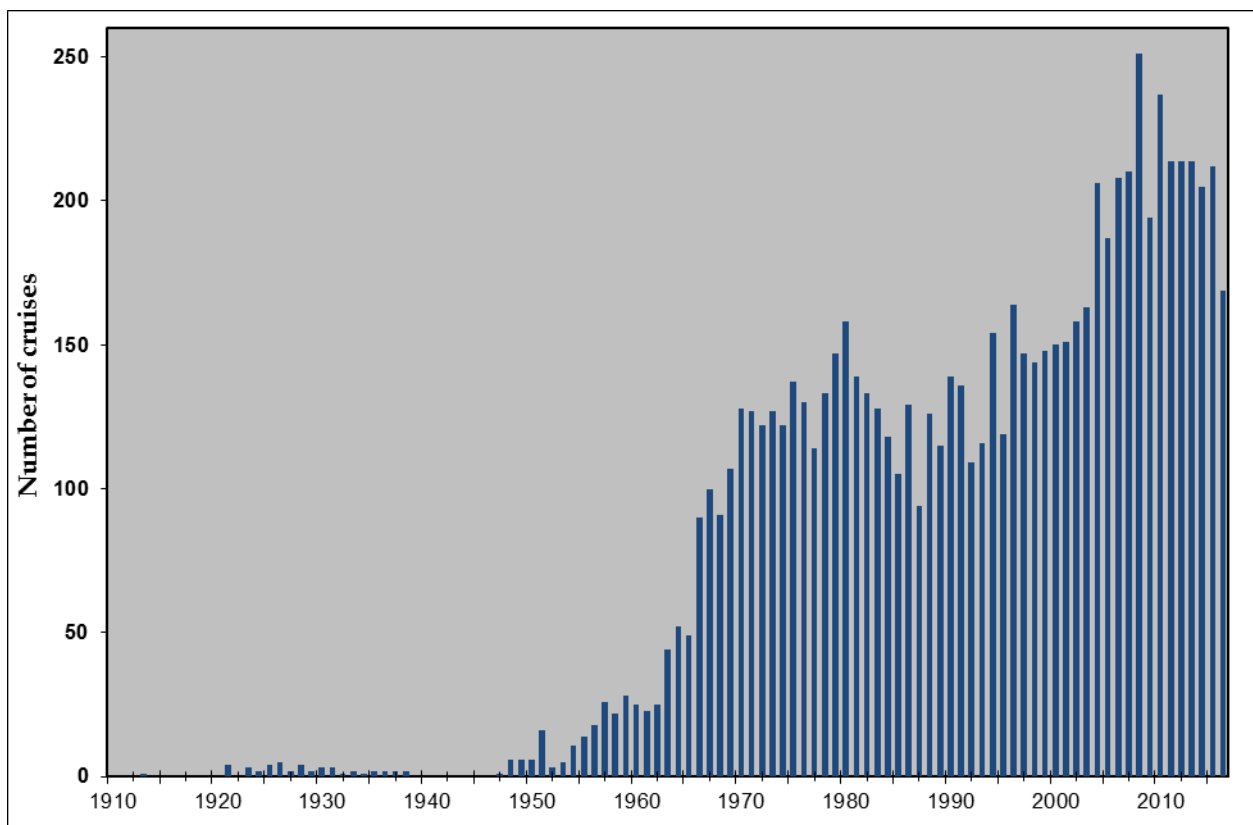
In all, SISMER has catalogued 8,119 French oceanographic cruises (broadly speaking, without any confidentiality criteria) since 1913, including:

- ✓ 6,904 cruises (strictly speaking),
- ✓ 743 simple or piggyback transits,
- ✓ 361 sea-trials or shake-down cruises,
- ✓ 56 service provisions,
- ✓ 55 other cruises.

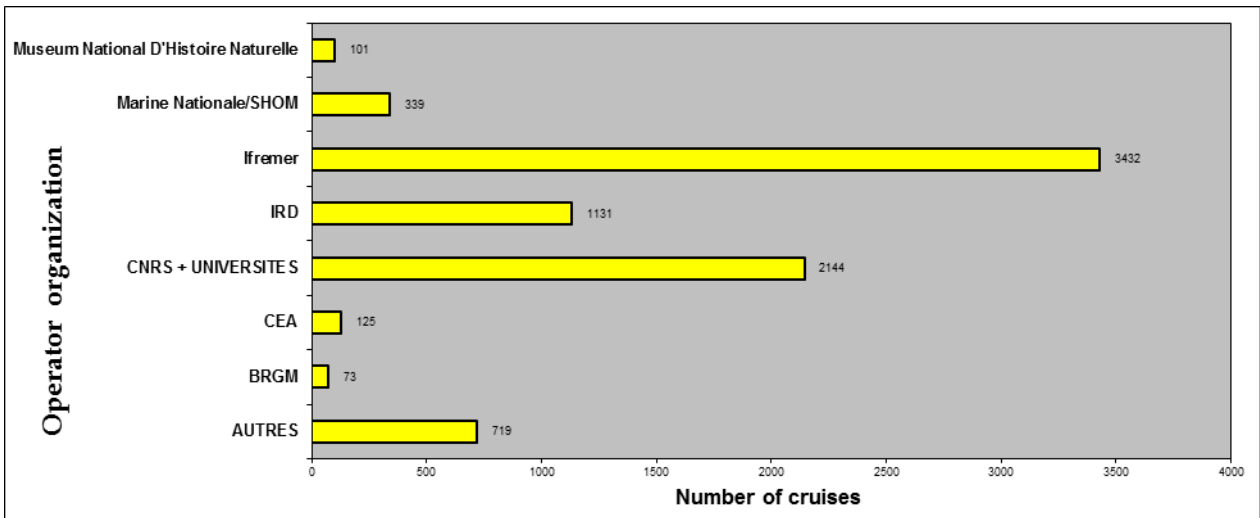
Only 8,064 cruises (not including these "other cruises") are covered in this report's statistics.

In the past, cruises were generally conducted by the former Scientific and technical fisheries institute (ISTPM) and by the French Navy's hydrographic and oceanographic service (FRENCH NAVY/SHOM). Later, other organizations like the CNRS, IRD (formerly ORSTOM), IPEV (formerly IFRTP), the National museum of natural history (MNHN), CNEXO (National center for exploitation of the oceans) and then IFREMER (created by merging ISTPM-CNEXO) greatly contributed to the efforts to collect measurements at sea, using their own facilities. Currently, the growing number of European projects and international programs for ship time sharing mean that a number of French cruises are made aboard foreign vessels.

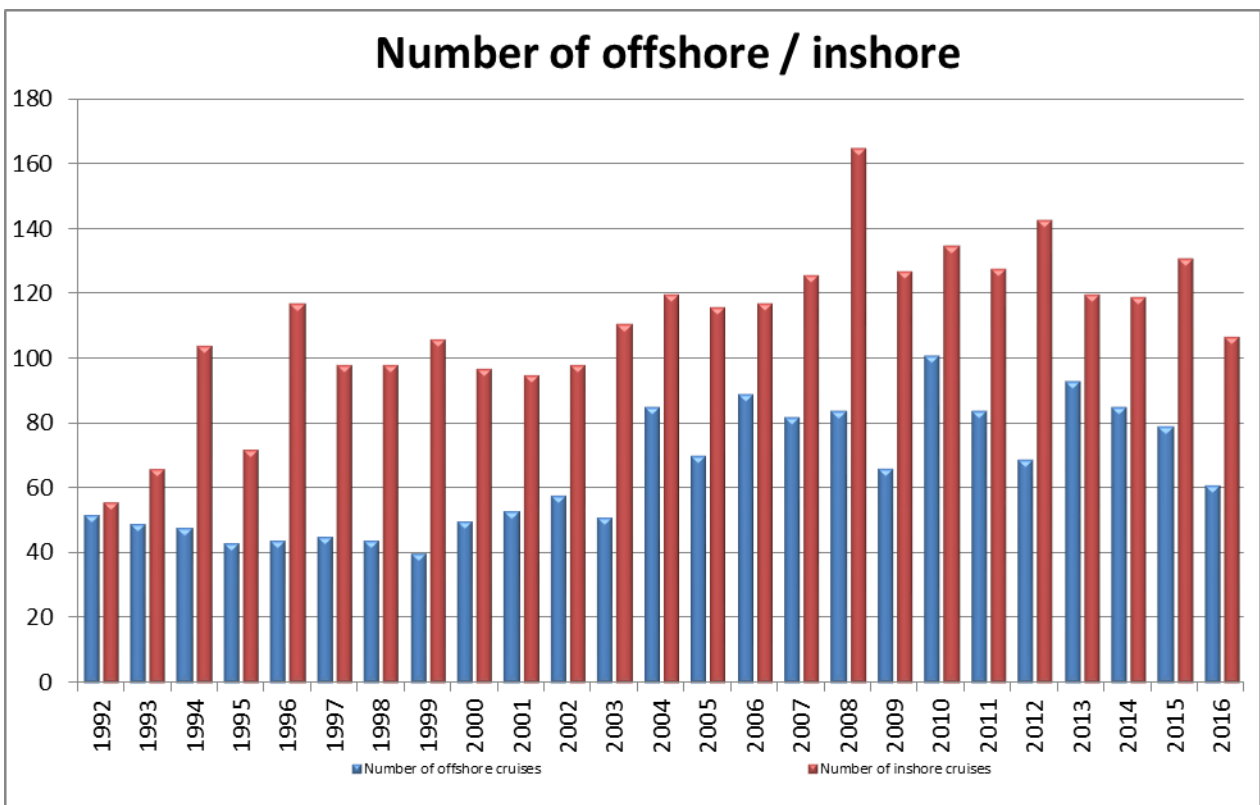
The 8,064 French cruises (comprising the ocean research cruises, simple transit and piggyback missions, shakedown and sea trial cruises, as well as commercial service provision) can be broken down over time, since 1913 as follows:



The main client organizations (usually the organization which the chief scientist belongs to) for these cruises were:



The graph below shows trends for offshore (ship >= 50 m LOA) and inshore (ship <= 50 m LOA) cruises over the past 25 years.



The number of both ocean-going and coastal cruises grew significantly in the early 2000s, to reach the highest level around 2008-2010 (with over 160 offshore cruises in 2008 and a hundred inshore cruises in 2010). However, a drop in the number of these cruises has been noted over the past few years (just over 100 offshore cruises and 60 inshore cruises in 2016).

4.2 YEAR 2016

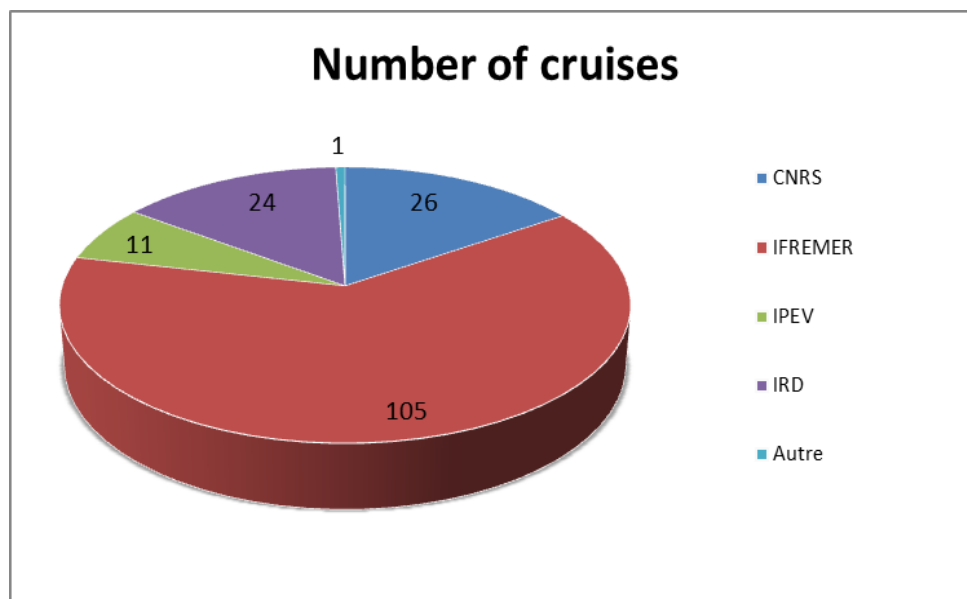
In 2016, 167 French cruises (oceanographic cruises, shakedown and trials, transits and commercial services – not classified as "Confidential") were recorded at SISMER aboard both offshore and inshore vessels.

This is not entirely representative of the French fleet, since there were also cruises conducted on station vessels, but these have not been referenced at SISMER for the moment. However, the schedules for these vessels can be accessed on line:

<http://www.flotteoceanographique.fr/Calendriers-des-campagnes/Calendriers-navires-de-station>

4.2.1 Breakdown of cruises by managing organization

The managing organization is the shipowner.



4.2.2 Breakdown of cruises by client organization

The client organization is the entity which has requested the cruise (generally represented by the 1st chief scientist).

Chief scientist's organization	Number of cruises
BRGM	1
CEA	1
CNES	1
CNRS+UNIVERSITIES	43
IPEV	1
IRD	9
Ifremer	97
Earth physics institute in Paris (IPGP)	4
FRENCH NAVY/SHOM	2
National museum of natural history	2
Other organizations	6
TOTAL	167

As regards the chief scientists, the same main organizations are present each year. Other organizations appear on a more occasional basis.

4.3 CRUISES BY VESSEL

This report presents the activity of vessels in the French fleet as comprehensively as possible.

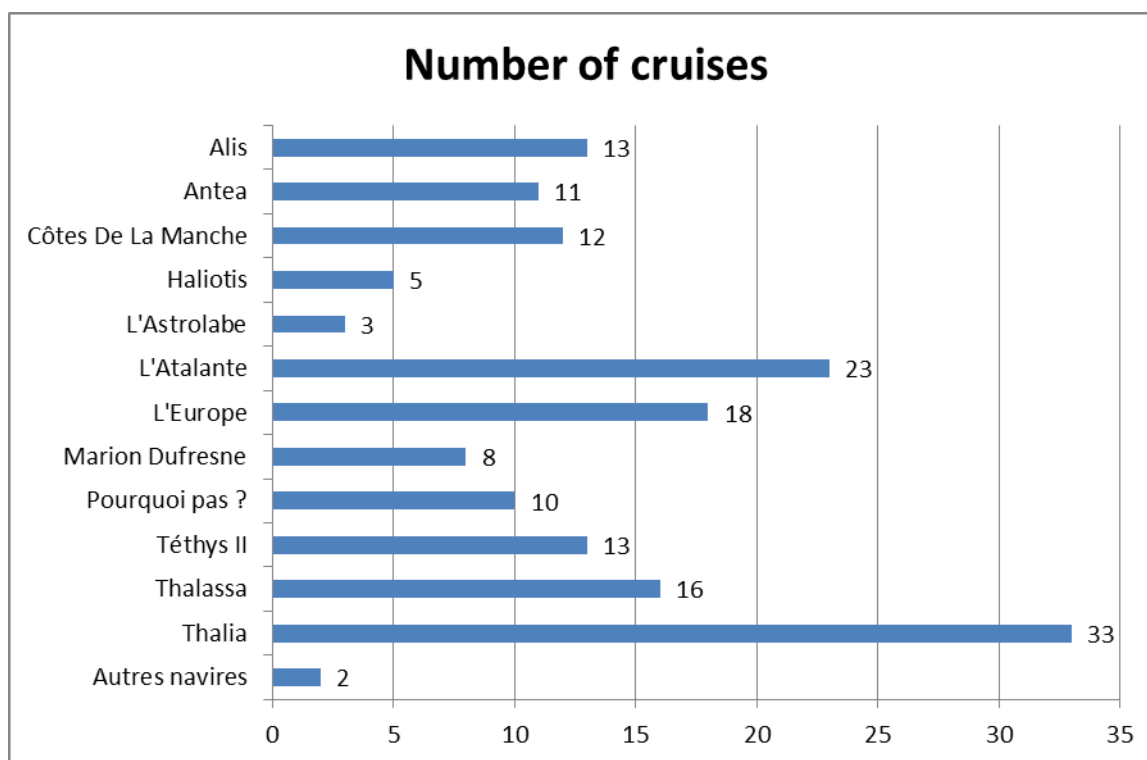
Some of the cruises have been referenced at SISMER, meaning that their chief scientist sent us their data at the end of the cruise by filling out the CSR sheet.

Training or teaching cruises are not referenced at SISMER, so they are listed in paragraph 4.3.2.1 *Training cruises aboard inshore vessels*

Steps are being taken to try and obtain the same outcome for station boats, but some time is still needed to achieve this.

4.3.1 Cruises referenced at SISMER

The 167 cruises in 2016 referenced at SISMER were carried out aboard 5 ocean-going research vessels, 8 inshore research vessels and two underwater vehicles (*NAUTILE* and *ROV VICTOR 6000*). The website of the JSU <http://www.flotteoceanographique.fr/La-flotte/Navires> describes the make-up of its fleet in detail.



In 2016, there was a significant drop in the number of cruises referenced at SISMER (38 fewer cruises). This drop is largely due to the decommissioning of the *Le Suroît* vessel and a breakdown of *RV Beautemps-Beaupré* in 2016. However, the utilization of some vessels (*Pourquoi Pas ?*, *Côtes de la Manche*, *Téthys II* and *Haliotis*) also decreased considerably. Contrary to this, *RV Atalante* and *RV Marion Dufresne* were used more.

The 2016 cruises are presented below, listed by vessel and indicating spatial location and the time period. A full list of cruises in alphabetical order and for all vessels is also provided at the end of the document.

4.3.1.1 Cruises by RV Alis

RV Alis is a 28.50 m trawler operating in the South-West Pacific Ocean from French Polynesia to Papua-New Guinea. The vessel is based in New Caledonia. It is operated by IRD.

It performs oceanographic missions for physics (umbilical cable, shipboard ADCP, etc.), biology (trawling, ER 60 4 frequency echo-sounder, Scanmar sensors, etc.) and bathymetrics (EM1002 multibeam echo-sounder). It is also used as a support ship for diving missions (studying biodiversity, etc.).

Here are its main characteristics:



Coastal vessel
NODC code: 35AY
Call sign: FHQB
Length 28m
Crew: 12
Scientists and technicians: 6

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Alis>

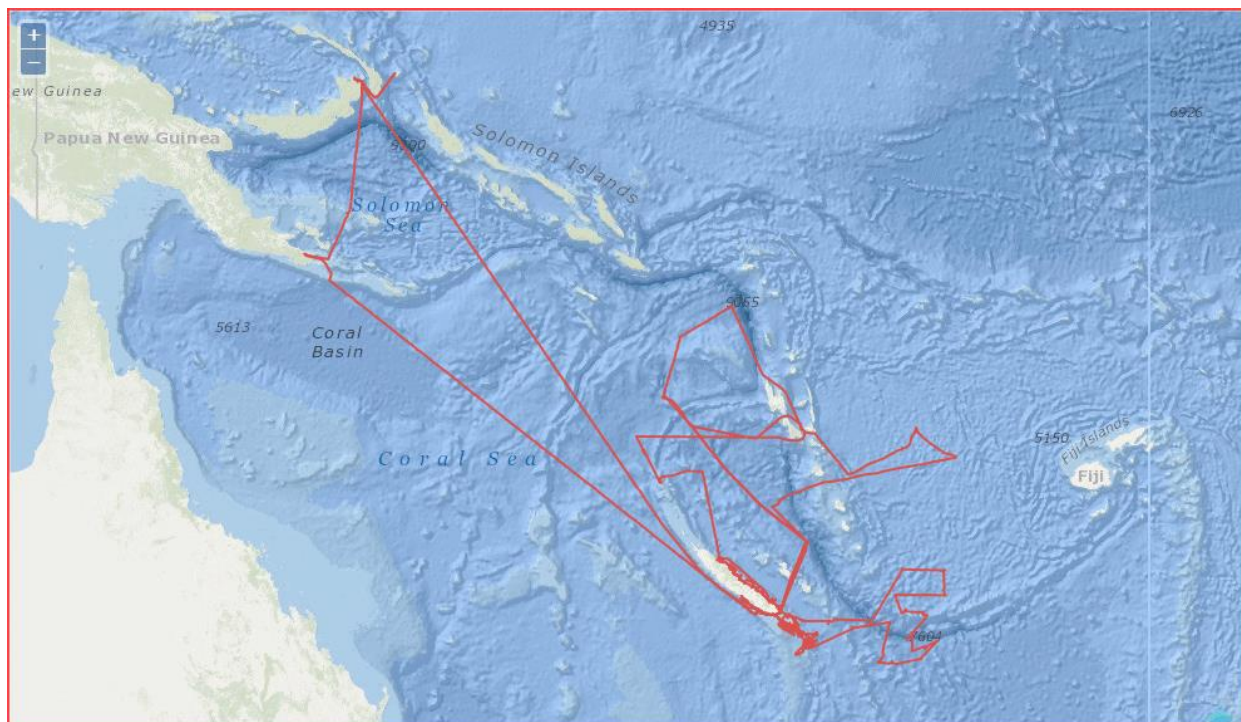


Figure 1 — Tracks of 13 cruises and legs in transit by L'Alis in 2016

CALIOPE 03

DUPOUY Cécile
08/03/2016 - 21/03/2016

COMEVA 1

MENKES Christophe
25/03/2016 - 10/04/2016

SPOT2016 (13)

BIEGALA Isabelle
13/04/2016 - 18/04/2016

OLZO

SOUS Damien
20/04/2016 - 09/05/2016

ESS_NAV

28/07/2016 - 29/07/2016

OLZO RETRAIT

FOLCHER Éric
01/08/2016 - 06/08/2016

KANACONO

PULLANDRE Nicolas, SAMADI Sarah
08/08/2016 - 31/08/2016

TR_NMARAB (Transit)

30/08/2016 - 10/09/2016

CARIOCA

RODOLFO METALPA Riccardo
10/09/2016 - 25/09/2016

TR_ALONMA (Transit)

25/09/2016 - 01/10/2016

COMEVA 2

RODIER Martine
05/10/2016 - 22/10/2016

ESS_EM1002

BISQUAY Hervé
18/11/2016 - 21/11/2016

NECTALIS-5

ALLAIN Valérie, MENKES Christophe
22/11/2016 - 07/12/2016

4.3.1.2 Cruises by RV Antea

RV Antea is a 35 m-long catamaran operating in the Atlantic and Indian Oceans. The vessel is based in France. It is operated by IRD.

It performs oceanographic missions for physics (umbilical cable, shipboard ADCP, etc.) and biology (trawling, ER 60 4-frequency echosounder, Scanmar sensors, etc.). It is also used as a support ship for diving missions (studying biodiversity, etc.).



Here are its main characteristics:

Coastal vessel
NODC code: 35A8
Call sign: FNUR
Length 35m
Crew: 12
Scientists and technicians: 10

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Antea>

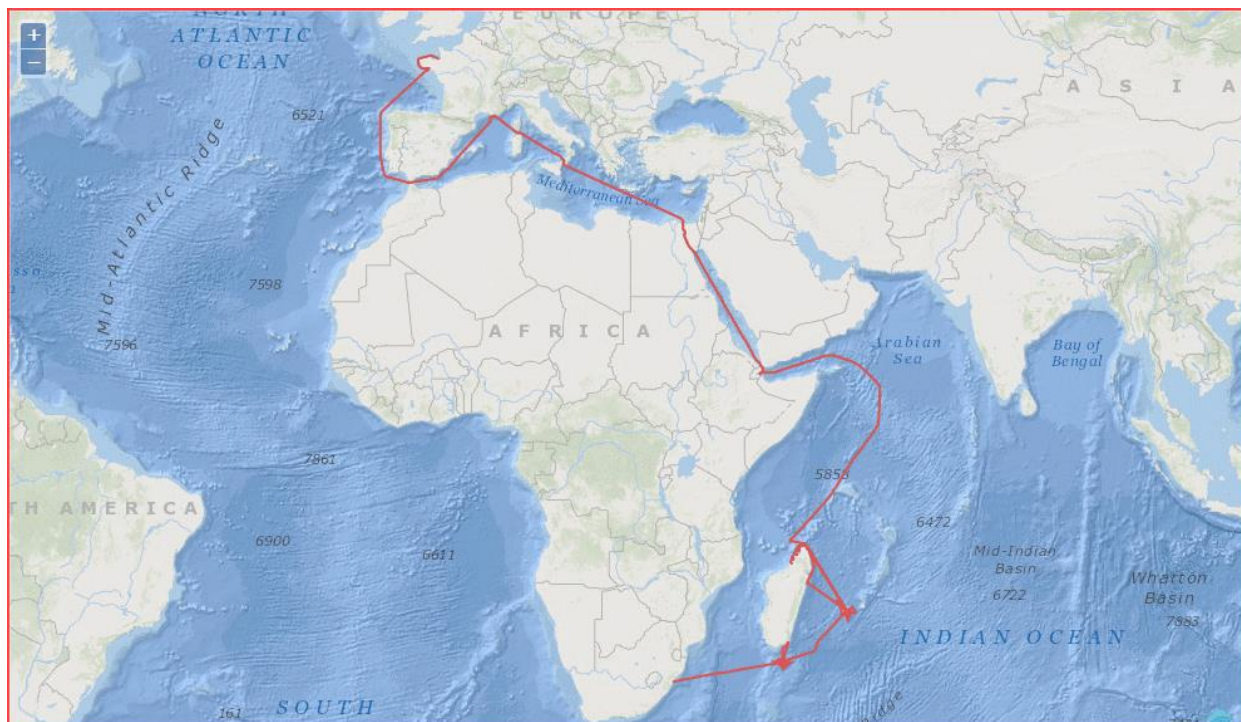


Figure 2 — Tracks of 11 cruises and legs in transit of Antea in 2016

TR_SMALOR (Transit)
08/06/2016 - 11/06/2016
RODAGE_AT_16AN02
GOULOUZELLE Loïc
08/07/2016 - 12/07/2016
ESS_Tech_16AN02
DANJON Frédéric
14/07/2016 - 16/07/2016
TR_LORCDS (Transit)
16/07/2016 - 03/08/2016
TR_CDSLPO (Transit)
03/08/2016 - 30/08/2016

RUN
SORIA Marc
01/09/2016 - 12/09/2016
LA PEROUSE
MARSAC Francis
15/09/2016 - 30/09/2016
IOTA
JAQUEMET Sébastien
03/10/2016 - 13/10/2016
MAD
MAGALON Hélène
15/10/2016 - 05/11/2016

MAD-RIDGE-1
TERNON Jean-François
08/11/2016 - 24/11/2016
MAD-RIDGE-2
TERNON Jean-François
25/11/2016 - 14/12/2016

4.3.1.3 Cruises by RV Côtes de la Manche

This oceanographic vessel performs scientific research missions, mainly in the Atlantic English Channel area. It can conduct missions lasting about ten days, at distances reaching 200 nautical miles from harbour. This inshore vessel is fitted with instruments and meets the needs of researchers in the fields of marine geosciences, physical and biological oceanography, biogeochemistry and ocean chemistry. It also contributes to long-term marine environmental observation missions and to research and trials missions in various marine technology fields. The vessel can also carry out teaching missions for graduate and post-graduate university levels.

Here are its main characteristics:



Coastal vessel
NODC code: 35C4
Call sign: FQBE
Length 25m
Crew: 7
Scientists and technicians: 8

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-cotiers/Cotes-de-la-Manche>

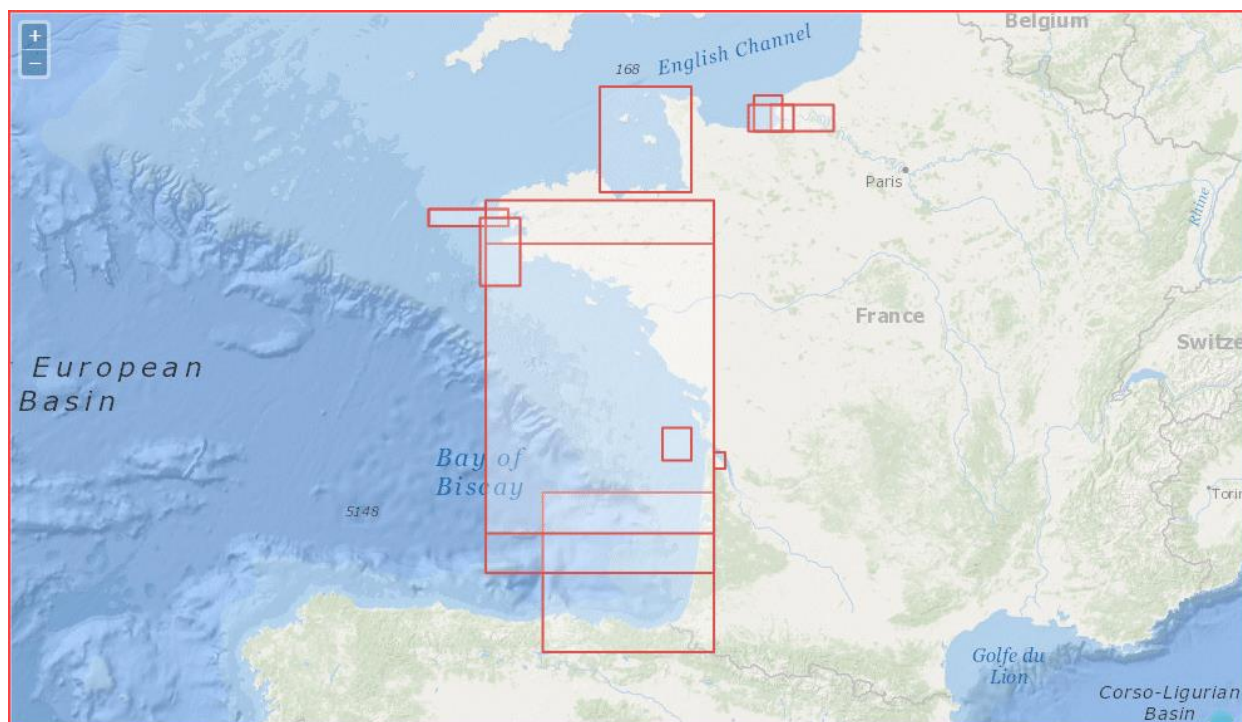


Figure 3 — Tracks of 12 cruises by *Côtes de la Manche* in 2016

SOGIR 16

DERRIENNIC Hervé
18/01/2016 - 07/11/2016

TURBISEINE

VERNEY Romaric, JACQUET Matthias,
CHAPALAIN Marion
25/01/2016 - 21/12/2016

PECTOW 16

THIEBAUT Éric
05/02/2016 - 15/02/2016

TRAMAT

LAGUIONIE Philippe
30/03/2016 - 11/04/2016

DYNAMOSEINE 2016

HUGUET Arnaud
22/04/2016 - 27/04/2016

PLUME

LAZURE Pascal
20/05/2016 - 29/05/2016

M2BIPAT LEG1

MARIE Louis
30/05/2016 - 03/06/2016

EUSO-BALLOON

EVARD Jean
02/07/2016 - 26/07/2016

M2BIPAT LEG2

MARIE Louis
25/08/2016 - 28/08/2016

GEOBREST 2016

GRAINDORGE David
11/09/2016 - 16/09/2016

JERICOBENT-1

DEFLANDRE Bruno
22/10/2016 - 02/11/2016

ORHAGO 16

COUPEAU Yann
09/11/2016 - 29/11/2016

4.3.1.4 Cruises by RV Haliotis

The oceanographic launch Haliotis provides a mapping platform, based first and foremost on acoustic imaging which makes it possible to obtain accurate and reliable information about the nature and the morphology of this very shallow coastal fringe. GENAVIR is in charge of its management.



Here are its main characteristics:

Coastal vessel
NODC code: 35HL
Call sign: FGF5958
Length 10m
Crew: 2
Scientists and technicians: 1

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-cotiers/Haliotis>

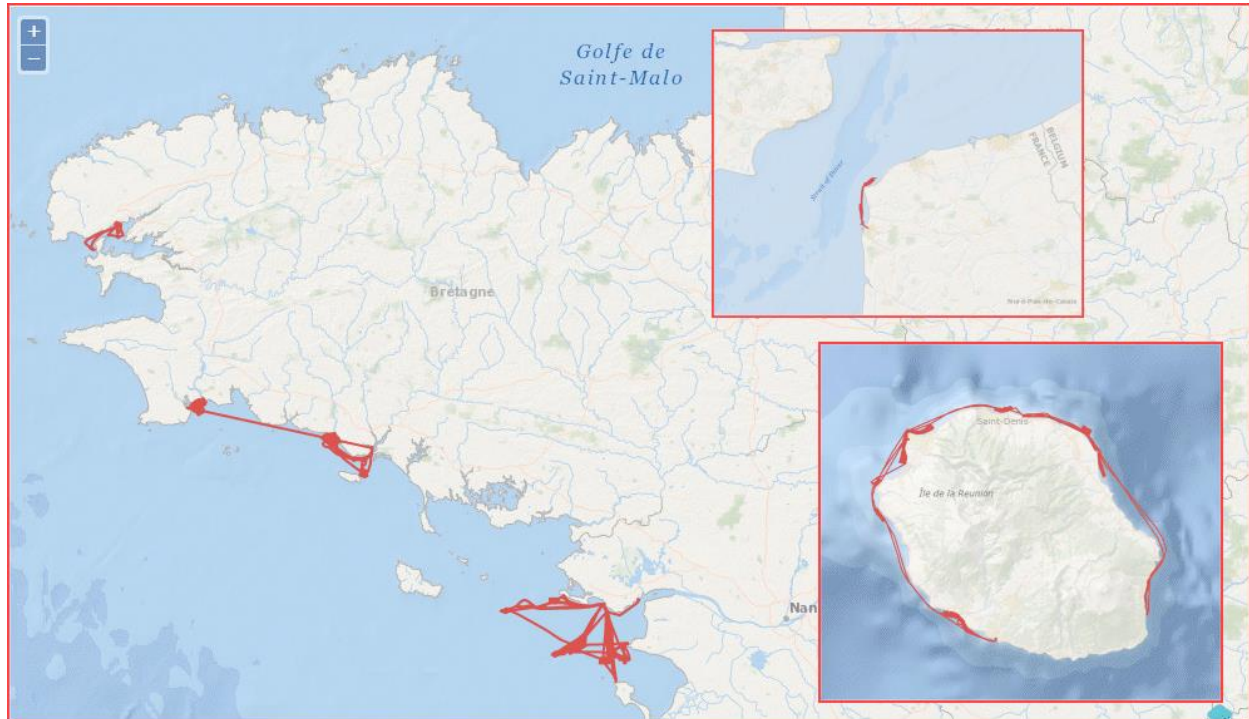


Figure 4 — Tracks of 5 cruises by *Haliotis* in 2016

BATHYBAB4

BABONNEAU Nathalie
 04/01/2016 - 20/01/2016
ESSTECH-GEN-16-HA
 BISQUAY Hervé
 20/04/2016 - 21/04/2016

POPCORE

BALTZER Agnès
 27/04/2016 - 20/05/2016
FISSEL 2016
 HENAFF Alain
 23/05/2016 - 17/06/2016

BDW

TRENTESAUX Alain, HEQUETTE
 Arnaud, SENTCHEV Alexei
 20/06/2016 - 30/06/2016

4.3.1.5 Cruises by RV L'Astrolabe

L'Astrolabe is a 65 m-long "ice strengthened" supply ship serving the Dumont d'Urville base in Adélie Land. It can embark 49 passengers and several hundreds of tons of food supplies, fuel and equipment. Each year, it is used by IPEV for 120 days, regularly ensuring 5 return trips (November to March) over a distance of 2,700 km between Tasmania and the Antarctic continent.

L'Astrolabe is also used for coastal oceanographic surveys of short duration in the Antarctic.



Here are its main characteristics:

Ocean-going vessel
NODC code: 35AC
Call sign: FHZI
Length 65m
Crew: 12
Scientists and technicians: 48

Co-owned by TAAF / IPEV - Managed by IPEV

For more details: <http://www.institut-polaire.fr/ipev/infrastructures/les-navires/lastrolabe/>

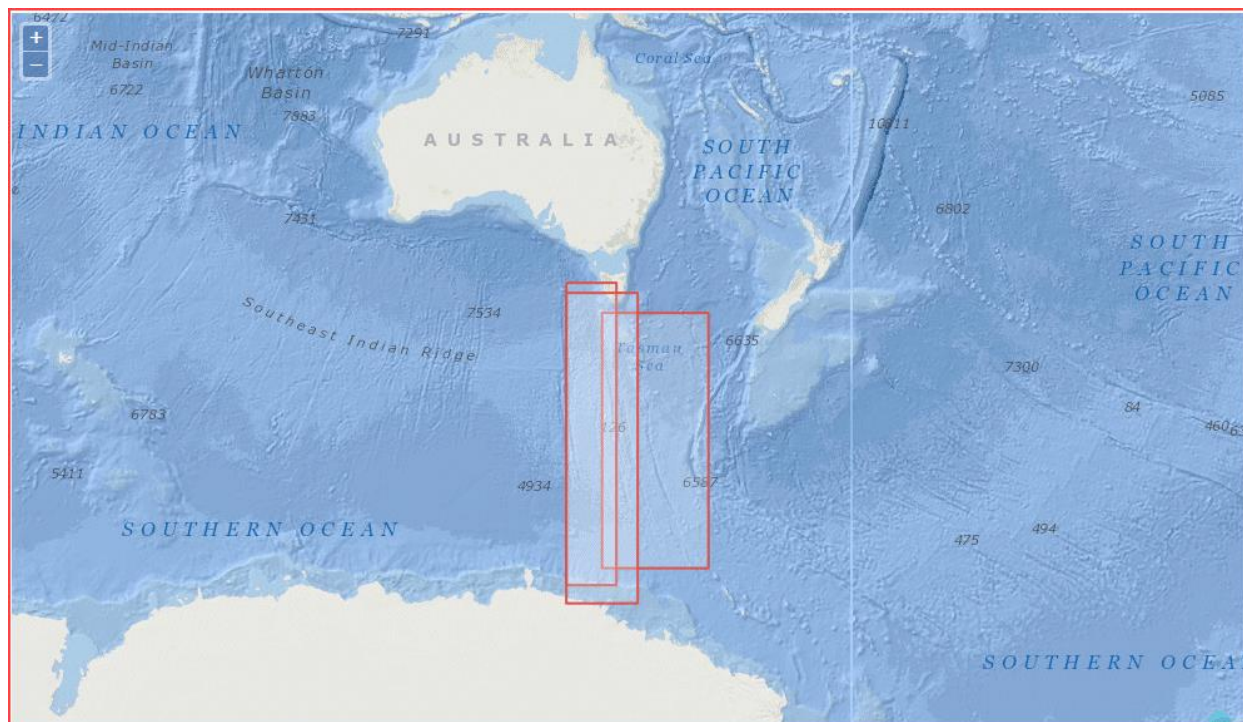


Figure 5 — Tracks of 3 cruises by *L'Astrolabe* in 2016

TACT 2016

DYMENT Jérôme
20/02/2016 - 05/03/2016

SURVOSTRAL 2016/2017

MORROW-GREINER Rosemary
22/10/2016 - 07/03/2017

MINERVE 2016/2017

TOURATIER Franck, GOYET Catherine
15/12/2016 - 04/01/2017

4.3.1.6 Cruises by RV *L'Atalante*

The multidisciplinary research vessel *L'Atalante* is intended for work in marine geosciences, physical oceanography and marine biology.



Here are its main characteristics:

Ocean-going vessel
NODC code: 35A3
Call sign: FNCM
Length 85m
Crew: 17/30
Scientists and technicians: 30

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/L-Atalante>

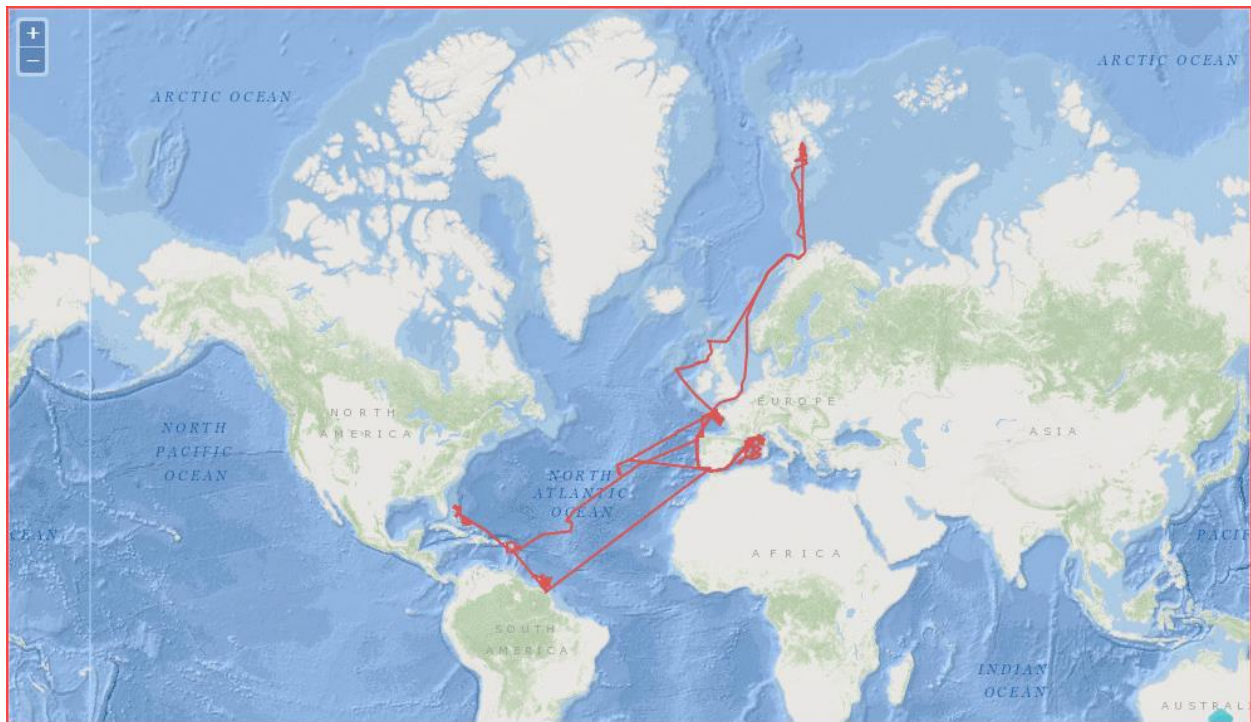


Figure 6 — Tracks of 23 cruises and legs in transit by *L'Atalante* in 2016

SHOMANTILLES_2016

IPA THEUILLON Gwladys
02/01/2016 - 27/01/2016

LEVE_SMF

PELLETIER Ewan
29/01/2016 - 17/02/2016

ESS_K-16-ATA

WOERTHER Patrice
18/02/2016 - 23/02/2016

ESS_SISM

PACAULT Anne
03/03/2016 - 10/03/2016

DYNSEDIM 2016

IPA THEUILLON Gwladys
11/03/2016 - 20/03/2016

TR_BRESEY (Transit)

22/03/2016 - 29/03/2016

ESSNAUT 2016

JUSTINIANO Jean-Paul
30/03/2016 - 18/04/2016

WESTMEDFLUX

POORT Jeffrey, LUCAZEAU Francis
20/04/2016 - 15/05/2016

MOOSE-GE 2016

COPPOLA Laurent
19/05/2016 - 09/06/2016

TR_SEYBRE (Transit)

12/06/2016 - 19/06/2016

MINGULAY ROCKALL

ELLIOT Mary
22/06/2016 - 04/07/2016

TR_LERTRO (Transit)

03/07/2016 - 07/07/2016

STEP 2016

MICHEL Elisabeth, VIVIER Frédéric
11/07/2016 - 22/07/2016

TR_TROBRE (Transit)

23/07/2016 - 30/07/2016

ESSROV16-1

SIMEONI Patrick
04/08/2016 - 15/08/2016

TR_BRELHA (Transit)

18/08/2016 - 23/08/2016

MOMARSAT2016

CANNAT Mathilde, SARRADIN Pierre-Marie

24/08/2016 - 13/09/2016

TR_LHACAD (Transit)

15/09/2016 - 19/09/2016

TR_CADCAY (Transit)

06/10/2016 - 19/10/2016

MARGATS

GRAINDORGE David,
KLINGELHOEFER Frauke

21/10/2016 - 15/11/2016

TR_CAYPAP (Transit)

17/11/2016 - 20/11/2016

TR_PAPNAS (Transit)

25/11/2016 - 30/11/2016

CARAMBAR 2

MULDER Thierry
30/11/2016 - 03/01/2017

4.3.1.7 Cruises by RV L'Europe

This oceanographic research vessel is a 29.60 m-long catamaran operating in the Mediterranean Sea. The outcome of cooperation between IFREMER and ICRAM (the Italian Central institute for applied marine research), it was built in 1993 at Sables d'Olonnes (OCEA).

It is designed to perform a range of missions, in particular related to fisheries research and the coastal environment. It is used for conventional deep-sea trawling (reaching 1,300 meters), pelagic and experimental trawling, deploying set gear (gill nets, longlines, pots, etc.), seismic and sedimentology studies and hydrological sampling.



Here are its main characteristics:

Coastal vessel
NODC code: 35EU
Call sign: FKJB
Length 30m
Crew: 8
Scientists and technicians: 8

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-cotiers/L-Europe>

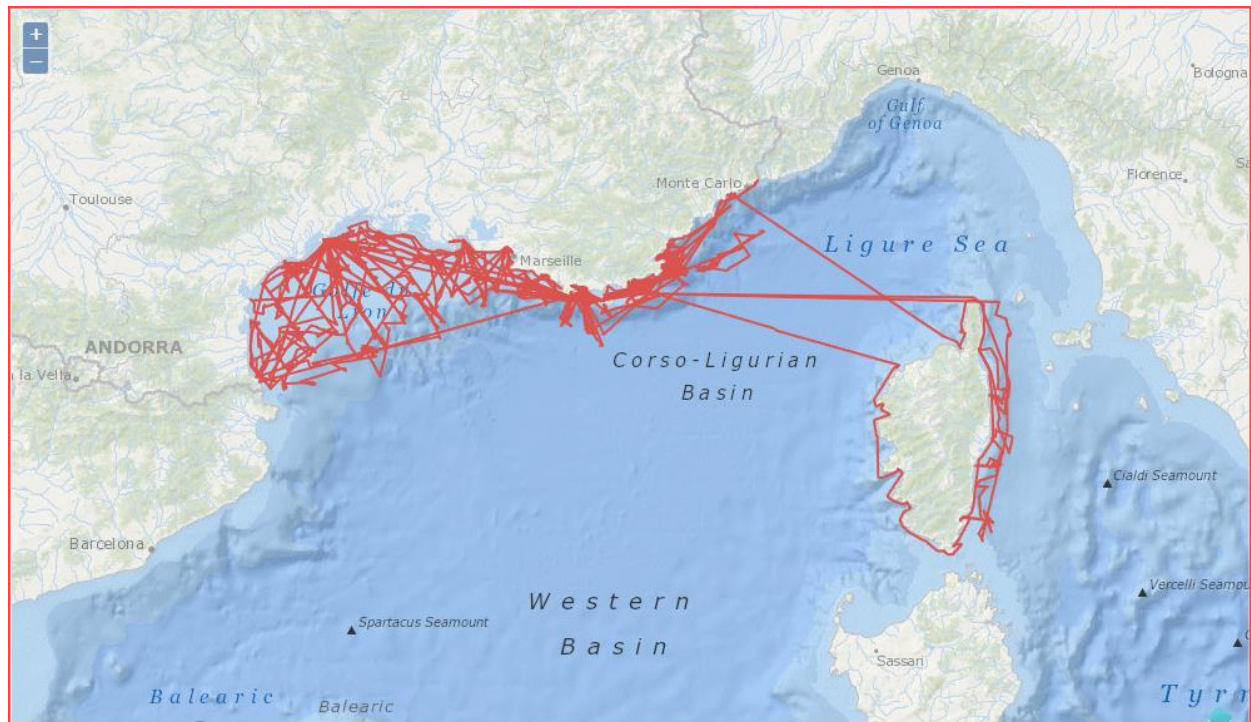


Figure 7 — Tracks of 18 cruises by L'Europe in 2016

TR_SEYMAR (Transit)

05/01/2016 - 05/01/2016

ESS_MER

LOSSOUARN Hubert

09/02/2016 - 09/02/2016

ESSTECH16-EU

LOSSOUARN Hubert, BISQUAY Hervé

29/02/2016 - 09/03/2016

BATMAN

SCHINTU JACQUET Stéphanie

10/03/2016 - 16/03/2016

GRAVIMOB

MAIA Marcia

18/03/2016 - 24/03/2016

BATHYCOR2

FABRI Marie-Claire

26/03/2016 - 11/04/2016

ROCCHSED16

CHIFFOLEAU Jean-François

12/04/2016 - 24/04/2016

COCASCAN LEG1

MENAGE Olivier

25/04/2016 - 29/04/2016

MEDITS 2016

JADAUD Angélique, MELLON

Capucine

20/05/2016 - 25/06/2016

PELMED 2016

BOURDEIX Jean-Hervé

26/06/2016 - 31/07/2016

DIVACOU 9

BOUHIER Marie-Edith

26/08/2016 - 31/08/2016

COCASCAN LEG2

MENAGE Olivier

01/09/2016 - 05/09/2016

SELIMED

AKCHA Farida

06/09/2016 - 14/09/2016

ESSHROV4

RAUGEL Ewen

16/09/2016 - 04/10/2016

ESSAUV16

JAUSSAUD Patrick

05/10/2016 - 15/10/2016

AUV COURANTO

PAIRAUD Ivane

16/10/2016 - 21/10/2016

CANHROV

RAUGEL Ewen

22/10/2016 - 16/11/2016

TRANSFERT_HROV

RAUGEL Ewen

17/11/2016 - 29/11/2016

4.3.1.8 Cruises by RV Marion Dufresne

RV Marion Dufresne is a multi-purpose research vessel launched in 1995, commissioned by CMA-CGM, and jointly chartered by TAAF and IPEV. It provides two main functions:

- **oceanographic research:** on every ice-free ocean, under the responsibility of IPEV - 217 days a year.
- **logistics for French sub-Antarctic islands:** Crozet, Kerguelen, Amsterdam/Saint-Paul, under the responsibility of TAAF – 120 days per year (4 x 30 days).



Here are its main characteristics:

Ocean-going vessel
NODC code: 35MF
Call sign: FNIN
Length 120.50m
Crew: 18/29
Scientists and technicians: 60/110

Owned by TAAF - Managed by IPEV

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Marion-Dufresne>

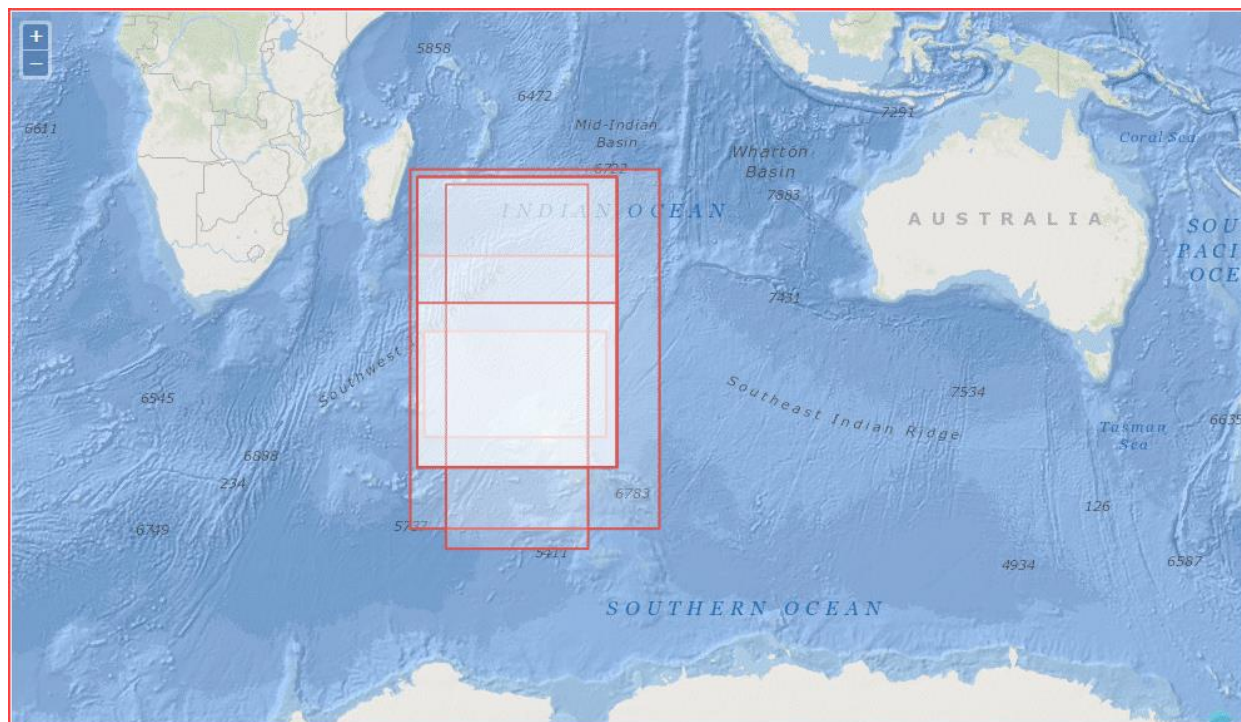


Figure 8 — Tracks of 8 cruises and piggybacking in transit by *Marion Dufresne* in 2016

MD 201 / OBSAUSTRAL

SANGIARDI Pierre
04/01/2016 - 01/02/2016

VT 146 / OHA-SIS-BIO-8

ROYER Jean-Yves
04/01/2016 - 01/02/2016

VT 147 / OISO-25

METZL Nicolas, LO MONACO Claire
04/01/2016 - 01/02/2016

VT 148 / MDCPR

PRUVOST Patrice
04/01/2016 - 01/02/2016

VT 149 / THEMISTO

COTTE Cédric
04/01/2016 - 01/02/2016

VT 150 / FOAM

CALZAS Michel
04/01/2016 - 01/02/2016

VT 151 / NIVMER16

GUILLOT Antoine
08/04/2016 - 03/05/2016

MD 205 / SOCLIM

BLAIN Stéphane
05/10/2016 - 01/11/2016

4.3.1.9 Cruises by RV Pourquoi pas ?

This multidisciplinary vessel is designed for the following missions:

- Offshore and inshore hydrography with deployment of hydrographic survey launches
- Exploring the water column, currents
- Underwater mapping using its sounders and sub-seabed characterization (seismics, gravimetry, magnetism)
- Multi-scale study of physical, biological or geological processes
- Surveying of sites using acoustic equipment, deployment of towed (SAR), remotely operated (Victor 6000) or autonomous (Nautile) vehicles, positioning heavy equipment near the seabed using cable (Penfeld)
- Collecting and analyzing samples of water, living matter, sediments or rocks (coring, dredge)
- Deploying the Navy's Newtsuit assistance system to rescue submarines in difficulty



Here are its main characteristics:

Ocean-going vessel
NODC code: 35PP
Call sign: FMCY
Length 108m
Crew: 35
Scientists and technicians: 40

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Pourquoi-pas>

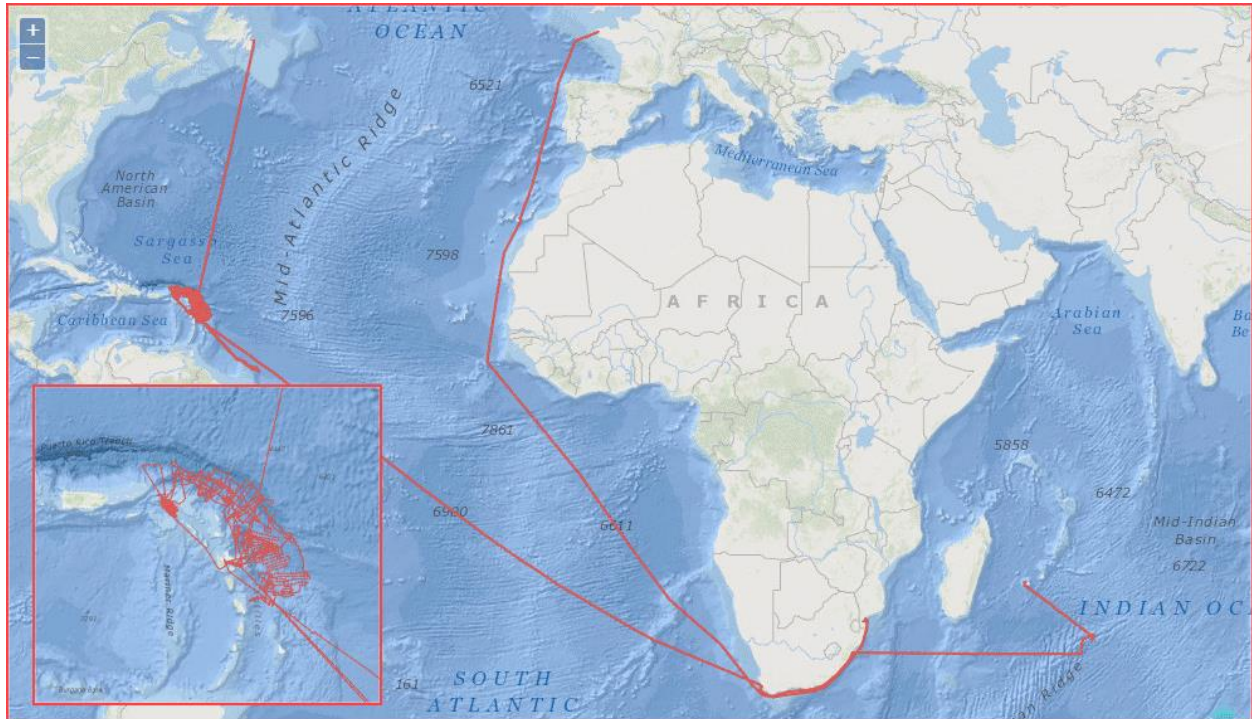


Figure 9 — Tracks of 10 cruises and legs in transit by *Pourquoi Pas ?* in 2016

PAMELA-MOZ03

MOULIN Maryline, ASLANIAN Daniel
11/02/2016 - 16/03/2016

PAMELA-MOZ05

MOULIN Maryline, EVAIN Mikael
19/03/2016 - 03/04/2016

TR_MAPPAP (Transit)

04/04/2016 - 02/05/2016

ANTITHESIS 3

MARCAILLOU Boris, KLINGELHOEFER
Frauke

06/05/2016 - 24/05/2016

CASEIS

FEUILLET Nathalie
28/05/2016 - 05/07/2016

DRADEM

BASILE Christophe
10/07/2016 - 20/07/2016

TR_PAPJOH (Transit)

22/07/2016 - 30/07/2016

ESSROV16-2

SIMEONI Patrick
02/11/2016 - 08/11/2016

TR_LPMDUR (Transit)

09/11/2016 - 28/11/2016

ROVSMOOTH

CANNAT Mathilde
30/11/2016 - 05/01/2017

4.3.1.10 Cruises by RV Téthys II

This oceanographic vessel performs scientific research missions, mainly in the Mediterranean Sea. It can conduct missions lasting about ten days, at distances reaching 200 nautical miles from harbour. This inshore vessel is fitted with instruments and meets the needs of researchers in the fields of marine geosciences, physical and biological oceanography, biogeochemistry and ocean chemistry. It also contributes to long-term marine environmental observation missions and to research and trials missions in various marine technology fields. The vessel can also carry out teaching missions for graduate and post-graduate university levels



Here are its main characteristics:

Coastal vessel
NODC code: 35TT
Call sign: FGTO
Length 24m
Crew: 7
Scientists and technicians: 8

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-cotiers/Tethys-II>

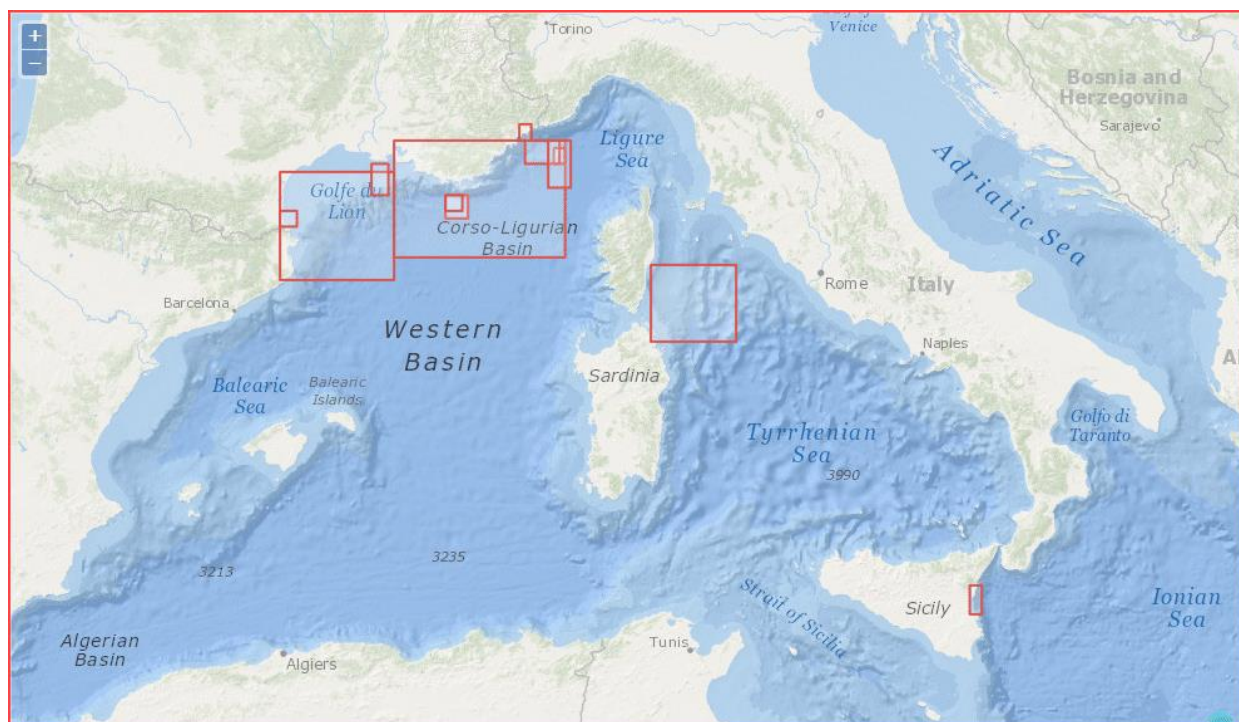


Figure 10 — Tracks of 13 cruises by *Téthys II* in 2016

MOOSE (ANTARES) 2016

BHAIRY Nagib, LEFEVRE Dominique,
GUILLEMAIN Dorian
08/01/2016 - 07/12/2016

MOOSE (DYFAMED) 2016

DIAMOND-RIQUIER Emilie, COPPOLA
Laurent
09/01/2016 - 10/12/2016

MATUGLI LEGS 1 ET 2

BOURRIN François, VERNEY Romaric
14/01/2016 - 27/01/2016

BOUSSOLE 2016

GOLBOL Melek, VELLUCCI Vincenzo,
ANTOINE David
04/02/2016 - 10/12/2016

MATUGLI LEGS 3 A 6

BOURRIN François, VERNEY Romaric
11/02/2016 - 11/11/2016

MUG_OBS 2016 LEG1

HELLO Yann
23/02/2016 - 10/03/2016

SOMBA-GE-2016

MORTIER Laurent
24/02/2016 - 27/02/2016

ESSMVP

DOGLIOLI Andrea, ROSAZZA Franck
06/05/2016 - 08/05/2016

MEUST 2016 LEG1

LEFEVRE Dominique
04/06/2016 - 05/06/2016

CRACK

GUTSCHER Marc-André
18/08/2016 - 03/09/2016

MEUST 2016 LEG2

LEFEVRE Dominique
27/10/2016 - 29/10/2016

MUG_OBS 2016 LEG2

HELLO Yann
25/11/2016 - 26/11/2016

BILLION 41

KUNESCH Stéphane
28/11/2016 - 05/12/2016

4.3.1.11 Cruises by RV Thalassa

This fisheries research vessel is designed for the following missions:

- Population ecology
- Exploited species assessments
- Studying the spatial-temporal distribution of resources
- Catch and seafood processing techniques
- Physical oceanography
- Occasional deployment of remote operated vehicle Victor 6000

This vessel is the outcome of cooperation between IFREMER and IEO (Spanish oceanographic institute).



Here are its main characteristics:

Ocean-going vessel
NODC code: 35HT
Call sign: FNFP
Length 74m
Crew: 16/25
Scientists and technicians: 25

Co-owned by IEO (SPAIN) – IFREMER

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Thalassa>



Figure 11 — Tracks of 16 cruises and legs in transit by *Thalassa* in 2016

IBTS 2016

VERIN Yves
19/01/2016 - 20/02/2016

TV_BRUIT

DUDUYER Sarah
21/02/2016 - 23/02/2016

TR_BREMEN (Transit)

26/02/2016 - 06/03/2016

PIRATA FR26

BOURLES Bernard
07/03/2016 - 13/04/2016

TR_MINBRE (Transit)

15/04/2016 - 23/04/2016

PELGAS 2016

DORAY Mathieu, DUHAMEL Erwan,
HURET Martin, PETITGAS Pierre
29/04/2016 - 02/06/2016

TR_BREPDA (Transit)

01/06/2016 - 10/06/2016

HYDROMOMAR

PERROT Julie
10/06/2016 - 20/06/2016

TR_PDACOR (Transit)

23/06/2016 - 27/06/2016

VOLT 1 RECUP LEG2

SILVA JACINTO Ricardo
27/06/2016 - 01/07/2016

BREST 2016

LEFORT Olivier
19/07/2016 - 19/07/2016

VOLT 2

SILVA JACINTO Ricardo
20/07/2016 - 30/07/2016

ESS_SISM_HR3D

PACAULT Anne
08/09/2016 - 19/09/2016

TR_BREBOU (Transit)

19/09/2016 - 23/09/2016

CGFS2016

TRAVERS-TROLET Morgane
23/09/2016 - 15/10/2016

EVHOE 2016

LEAUTE Jean-Pierre, PAWLOWSKI
Lionel, GARREN François
17/10/2016 — 01/12/2016

4.3.1.12 Cruises by RV *Thalia*

RV *Thalia* is a 24.50 m-long oceanographic vessel operating in the English Channel and the Bay of Biscay. It was built in Cherbourg in 1978.

It is a multi-purpose research vessel used for coastal environmental cruises and fisheries resource assessments. It is designed to perform shallow-water multibeam echo-sounder mapping, take hydrological measurements, film underwater videos, take samples using grab and dredge, as well as performing acoustic or seismic trials.



Here are its main characteristics:

Coastal vessel
NODC code: 35TC
Call sign: FPCS
Length 24m
Crew: 6
Scientists and technicians: 6

For more details: <http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-cotiers/Thalia>

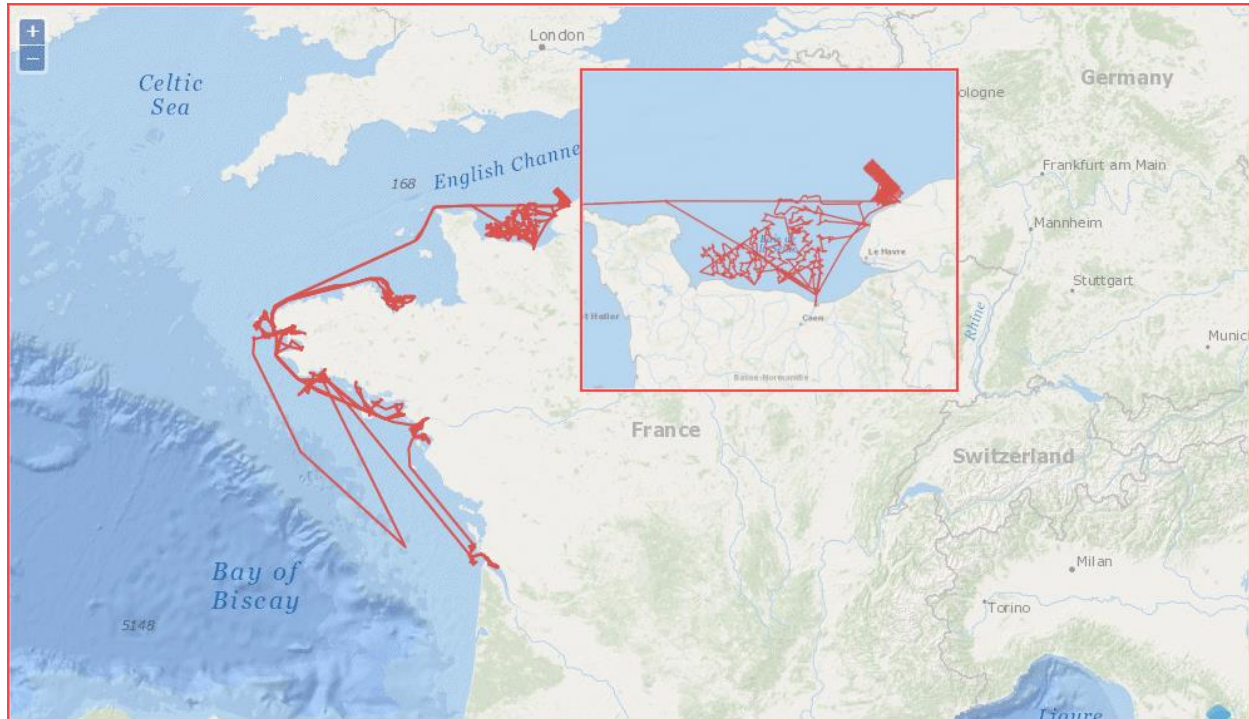


Figure 12 — Tracks of 33 cruises and legs in transit by Thalia in 2016

TR_CONLAT (Transit)
14/02/2016 - 16/02/2016
CARMOLIT 2016 LEG1
QUEMENER Loïc
16/02/2016 - 18/02/2016
TR_LATLOR (Transit)
18/02/2016 - 18/02/2016
REBENT 2016
BROUDIN Caroline
21/02/2016 - 03/03/2016
EDO-16
BLANCHET-AURIGNY Aline
04/03/2016 - 08/03/2016
ESSTECH16-TH
BISQUAY Hervé
11/03/2016 - 12/03/2016
TR_BRESQP (Transit)
13/03/2016 - 14/03/2016
16TH08 (BREBENT-05)
CARLIER Antoine
15/03/2016 - 19/03/2016
TR_SQPBRE (Transit)
20/03/2016 - 21/03/2016
VOLT 1 RECUP LEG1
SILVA JACINTO Ricardo
22/03/2016 - 01/04/2016
ESS_FLUTE PLATEAU
MARSSET Bruno
01/06/2016 - 07/06/2016

ESS_TECH
BISQUAY Hervé
08/06/2016 - 09/06/2016
REM2040-01
BERGER Laurent, LE GALL Yves
10/06/2016 - 16/06/2016
TR_BRECON01 (Transit)
17/06/2016 - 17/06/2016
ASPEX8
MARIE Louis
28/06/2016 - 30/06/2016
TR_BREOUI (Transit)
30/06/2016 - 02/07/2016
COMOR 46
FOUCHER Eric, SCHLAICH Ivan,
GOASCOZ Nicolas
04/07/2016 - 22/07/2016
TR_OUIFEC (Transit)
23/07/2016 - 23/07/2016
CHALKWAVE 2016
PAQUET Fabien
25/07/2016 - 28/07/2016
TR_FECLOC (Transit)
29/07/2016 - 30/07/2016
TR_LOCVER (Transit)
11/08/2016 - 12/08/2016
NURSE 2016
BRIND'AMOUR Anik
12/08/2016 - 26/08/2016

TR_SNZBRE (Transit)
27/08/2016 - 28/08/2016
TR_BRESQP (Transit)
29/08/2016 - 31/08/2016
COSB2016
CAROFF Nicolas
01/09/2016 - 10/09/2016
TR_SQPBRE (Transit)
10/09/2016 - 12/09/2016
BBWAVES 2016
SUTHERLAND Peter
21/09/2016 - 27/09/2016
TR_BRECON02 (Transit)
29/09/2016 - 29/09/2016
TR_CONLTU (Transit)
11/10/2016 - 11/10/2016
CARMOLIT 2016 LEG2
QUEMENER Loïc
12/10/2016 - 13/10/2016
TR_LTUBRE (Transit)
14/10/2016 - 15/10/2016
PAGURE-NEXT
CARLIER Antoine
16/10/2016 - 20/10/2016
TR_BRELOC (Transit)
21/10/2016 - 22/10/2016

4.3.1.13 Cruises aboard other vessels

This year, 2 cruises were performed aboard vessels which do not belong to the JSU fleet. They were inshore cruises using other means made available by other organizations.



CARMOR

Neomysis

EHRHOLD Axel

22/09/2016 - 23/09/2016



VIDEO GALION

Juliath

VAZ Sandrine

05/09/2016 - 07/09/2016

4.3.2 Cruises not referenced at SISMER (teaching and station vessels)

Some cruises are not listed at SISMER. This is notably the case for:

- training cruises aboard JSU vessels
- cruises conducted aboard station vessels

4.3.2.1 Training cruises aboard inshore vessels

Training cruises make up a non-negligible proportion of the annual sea outings of the INSU's inshore vessels.

The following tables give the list of training cruises made aboard *Téthys II* and *Côtes de la Manche*, indicating the number of days at sea for each of the cruises:

Téthys II

Cruise	Dates	Zone	Chief scientist	Chief scientist's lab	Number of days
GEONICE	28-29/01/16	Ligurian Sea	François MICHAUX	GEOAZUR	2
IPGP	30/01-02/02/16	Ligurian Sea	Alexandre NERCESSIAN	IPGP	4
MAGIRAA	15-18/03/16	Ligurian Sea	Sylvain PICHAT	ENS LYON	4
GRE-M1	19-21/03/16	Ligurian Sea	Pierre BOUE	University of Grenoble	3
PHYBIO	24-30/03/16	Gulf of Lion	Thibaut WAGENER	M.I.O.	6
PHYOCE	01-05/04/16	Saint-Tropez	Bruni ZAKARDJIAN	M.I.O.	5
M1-P6	23-26/05/16	Ligurian Sea	François MICHAUX	GEOAZUR	4
IADO	18-21/09/16	Ligurian Sea	Laure MOUSSEAU	UPMC - OOV	4
LASALLE-BEAUVAIS	25-29/09/16	Ligurian Sea	Julien BAILLEUL	Inst. Polytechnique Lasalle Beauvais	4
MAST-ENS	30/09-03/10/16	Ligurian Sea	Nicolas CHAMOT-ROOKE	ENS PARIS	4
GEOMAST	05-09/10/16	Ligurian Sea	François MICHAUX	GEOAZUR	5
PERSIS	19-24/10/16	Port-Vendres - Leucate	Hebert BERTIL	University of Perpignan	6
				Total	51

For *Téthys II*, 51 days were used for training or teaching cruises.

Côtes de la Manche

Cruise	Dates	Zone	Chief scientist	Chief scientist's lab	Number of days
TPINT	09-19/03/16	Bay of Cherbourg	Emmanuel POIZOT	CNAM INTECHMER	10
MSTURL	31/08-04/09/16	Zone of Pertuis Charentais	Eric CHAUMILLON	University of La Rochelle	4
GEOBREST	11-16/09/16	Bay of Audierne	Pascal LE Roy	IUEM	6
GEOBAS	29/09-05/10/16	Dieppe-Cap Gris-Nez-Cap-Blanc-Nez	Virginie GAULLIER	University of Lille	7
TPGIRONDE	14-21/10/16	Gironde estuary	Bertrand LUBAC	University of Bordeaux.	8
TPINT	04-12/12/16	Bay of Cherbourg	Emmanuel POIZOT	CNAM INTECHMER	9
Total					44

For *Côtes de la Manche*, 44 days were used for training or teaching cruises.

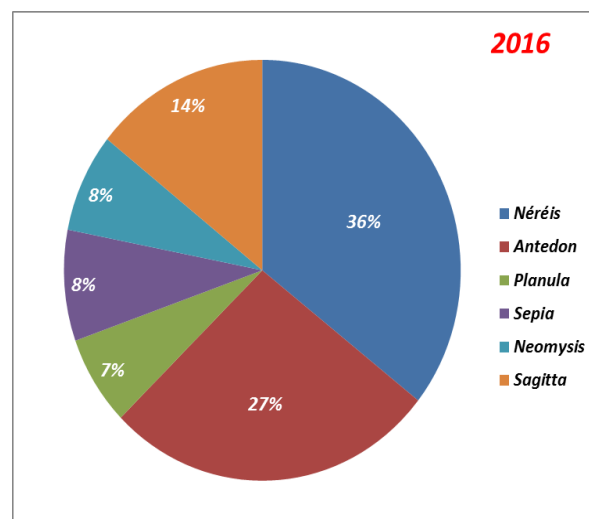
4.3.2.2 Cruises conducted aboard station boats

The 7 station vessels go out for the day, or even for just a few hours. However, their activity is far from negligible. While awaiting the information required to reference them at SISMER, the CNFC has the following results.

The breakdown of the number of requests and outings per station boats in 2016 is as follows:

Vessel	Requests	Outings
<i>Albert Lucas</i>	23	248
<i>Antedon II</i>	38	469
<i>Neomysis</i>	26	132
<i>Néréis II</i>	46	618
<i>Planula IV</i>	24	120
<i>Sagitta III</i>	16	191
<i>Sepia II</i>	21	148
Total	194	1926

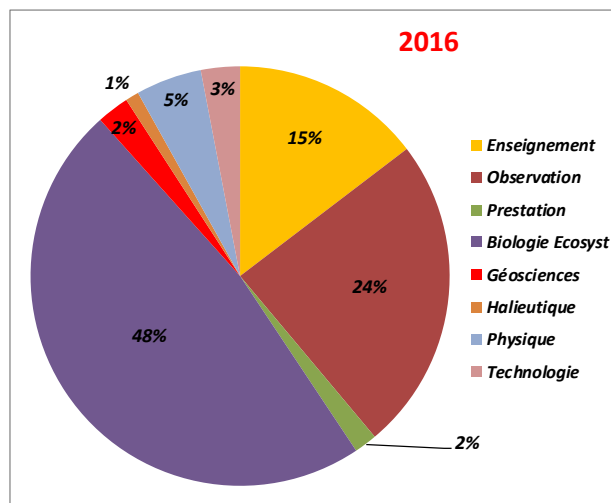
The graph below shows the distribution of the percentage of sea outings by station vessel for the year 2016:



The table below gives the 2016 breakdown of number of outings per field of activity for station boats:

	Outings
Teaching	282
Observing	467
Service provision	34
Ecosystem biology	919
Geosciences	48
Fisheries science	20
Physics	98
Technology	58
	1926

The distribution of the percentage of outings per field of activity in 2016 for station boats is as follows:



4.4 LIST OF CRUISES

The alphabetical list of cruises performed in 2016 is given below.

Information about each of the cruises is available on the cruise catalogue site <http://campagnes.flotteoceanographique.fr/> by clicking [CTRL + left CLICK] on the name of the cruise.

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
ANTITHESIS 3	<i>Pourquoi Pas ?</i>	06 05 2016	24 05 2016	NE Atlantic (40 W boundary)	MARCAILLOU Boris	GEOSCIENCES AZUR - SOPHIA ANTIPOLIS (GEOAZUR), CNRS
ASPEX8	<i>Thalia</i>	28 06 2016	30 06 2016	Bay of Biscay	MARIE Louis	PHYSICAL AND SPACE OCEANOGRAPHY LABORATORY (LOPS), Ifremer
AUV COURANTO	<i>L'Europe</i>	16 10 2016	21 10 2016	Western Mediterranean basin	PAIRAUD Ivane	LERPAC - TOULON, Ifremer
BATHYBAB4	<i>Haliotis</i>	04 01 2016	20 01 2016	Indian ocean	BABONNEAU Nathalie	UMR 6538 CNRS OCEAN DOMAINS (LDO) - IEUM University of Western Brittany (UBO)
BATHYCOR2	<i>L'Europe</i>	26 03 2016	11 04 2016	Western Mediterranean basin	FABRI Marie-Claire	LERPAC - TOULON, Ifremer
BATMAN	<i>L'Europe</i>	10 03 2016	16 03 2016	Ligurian Sea	SCHINTU JACQUET Stéphanie	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - LUMINY (MIO) UMR 7294, CNRS
BBWAVES 2016	<i>Thalia</i>	21 09 2016	27 09 2016	Bay of Biscay	SUTHERLAND Peter	PHYSICAL AND SPACE OCEANOGRAPHY LABORATORY (LOPS), Ifremer
BDW	<i>Haliotis</i>	20 06 2016	30 06 2016	English Channel	TRENTESAUX Alain	OCEANOLOGY AND GEOSCIENCES LABORATORY - UMR 8187 LOG, CNRS
BILLION 41	<i>Téthys II</i>	28 11 2016	05 12 2016	Western Mediterranean basin	KUNESCH Stéphane	MARINE ENVIRONMENTAL TRAINING AND RESEARCH CENTRE-CEFREM, University of Perpignan
BOUSSOLE 2016	<i>Téthys II</i>	04 02 2016	10 12 2016	Ligurian Sea	GOLBOL Melek	OCEANOGRAPHY LABORATORY OF VILLEFRANCHE (LOV), University of Paris VI - UPMC
BREST 2016	<i>Thalassa</i>	19 07 2016	19 07 2016	Celtic Sea	LEFORT Olivier	DMON-DIVISION OF SEAGOING FACILITIES AND OPERATIONS, Ifremer
CALIOPE 03	<i>Alis</i>	08 03 2016	21 03 2016	SW Pacific (140 W boundary)	DUPOUY Cécile	MEDITERRANEAN INSTITUTE OF OCEANOLOGY (UMR 235 MIO) - NOUMEA, IRD
CANHROV	<i>L'Europe</i>	22 10 2016	16 11 2016	Western Mediterranean basin	RAUGEL Ewen	UNDERWATER SYSTEMS UNIT - TOULON, Ifremer
CARAMBAR 2	<i>L'Atalante</i>	30 11 2016	03 01 2017	Atlantic Ocean	MULDER Thierry	EPOC - DEPARTMENT OF GEOLOGY AND OCEANOGRAPHY (DGO), University of Bordeaux I
CARIOCA	<i>Alis</i>	10 09 2016	25 09 2016	Pacific Ocean	RODOLFO METALPA Riccardo	UMR ENTROPIE, IRD
CARMOLIT 2016 LEG1	<i>Thalia</i>	16 02 2016	18 02 2016	Bay of Biscay	QUEMENER Loïc	RDT - DPT TECHNOLOGICAL RESEARCH & DEVELOPMENT, Ifremer
CARMOLIT 2016 LEG2	<i>Thalia</i>	12 10 2016	13 10 2016	Bay of Biscay	QUEMENER Loïc	RDT - DPT TECHNOLOGICAL RESEARCH & DEVELOPMENT, Ifremer
CARMOR	<i>Neomysis</i>	22 09 2016	23 09 2016	English Channel	EHRHOLD Axel	GM- MARINE GEOSCIENCES, Ifremer

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
CASEIS	<i>Pourquoi Pas ?</i>	28 05 2016	05 07 2016	Caribbean Sea	FEUILLET Nathalie	IPGP EARTH PHYSICS INSTITUTE IN PARIS, Institut de Physique du Globe De Paris
CGFS2016	<i>Thalassa</i>	23 09 2016	15 10 2016	English Channel	TRAVERS-TROLET Morgane	HMMN- ENGLISH CHANNEL-NORTH SEA FISHERIES SCIENCES DEPARTMENT, Ifremer
CHALKWAVE 2016	<i>Thalia</i>	25 07 2016	28 07 2016	English Channel	PAQUET Fabien	BUREAU OF GEOLOGICAL & MINING RESEARCH/GEO (BRGM, ORLEANS), BRGM
COCASCAN LEG1	<i>L'Europe</i>	25 04 2016	29 04 2016	Western Mediterranean basin	MENAGE Olivier	PHYSICAL AND SPACE OCEANOGRAPHY LABORATORY (LOPS), Ifremer
COCASCAN LEG2	<i>L'Europe</i>	01 09 2016	05 09 2016	Western Mediterranean basin	MENAGE Olivier	PHYSICAL AND SPACE OCEANOGRAPHY LABORATORY (LOPS), Ifremer
COMEVA 1	<i>Alis</i>	25 03 2016	10 04 2016	SW Pacific (140 W boundary)	MENKES Christophe	IRD NOUMEA CENTER, IRD
COMEVA 2	<i>Alis</i>	05 10 2016	22 10 2016	SW Pacific (140 W boundary)	RODIER Martine	IRD PAPEETE CENTER, IRD
COMOR 46	<i>Thalia</i>	04 07 2016	22 07 2016	English Channel	FOUCHER Éric	HMMN- ENGLISH CHANNEL-NORTH SEA FISHERIES SCIENCES DEPARTMENT, Ifremer
COSB2016	<i>Thalia</i>	01 09 2016	10 09 2016	English Channel	CAROFF Nicolas	STH- FISHERIES SCIENCES AND TECHNOLOGIES DEPARTMENT, Ifremer
CRACK	<i>Téthys II</i>	18 08 2016	03 09 2016	Mediterranean	GUTSCHER Marc-André	UMR 6538 CNRS OCEAN DOMAINS (LDO) - IEUM University of Western Brittany (UBO)
DIVACOU 9	<i>L'Europe</i>	26 08 2016	31 08 2016	Western Mediterranean basin	BOUHIER Marie-Edith	UNDERWATER SYSTEMS UNIT - TOULON, Ifremer
DRADEM	<i>Pourquoi Pas ?</i>	10 07 2016	20 07 2016	North Atlantic Ocean	BASILE Christophe	INSTITUTE OF EARTH SCIENCES (ISTERRE), University of Grenoble 1 - UJF (Joseph Fourier)
DYNAMOSEINE 2016	<i>Côtes De La Manche</i>	22 04 2016	27 04 2016	English Channel	HUGUET Arnaud	UMR 7619 - METIS, University of Paris VI - UPMC
DYNSEDIM 2016	<i>L'Atalante</i>	11 03 2016	20 03 2016	Atlantic Ocean	IPA THEUILLON Gwladys	SHOM - BREST CENTER, French Navy/SHOM
EDO-16	<i>Thalia</i>	04 03 2016	08 03 2016	Celtic Sea	BLANCHET-AURIGNY Aline	DYNECO-LEBCO COASTAL BENTHIC ECOLOGY LABORATORY, Ifremer
ESSAUV16	<i>L'Europe</i>	05 10 2016	15 10 2016	Western Mediterranean basin	JAUSSAUD Patrick	UNDERWATER SYSTEMS UNIT - TOULON, Ifremer
ESS EM1002	<i>Alis</i>	18 11 2016	21 11 2016	SW Pacific (140 W boundary)	BISQUAY Hervé	GENAVIR BREST, Ifremer
ESS FLUTE PLATEAU	<i>Thalia</i>	01 06 2016	07 06 2016	Celtic Sea	MARSSET Bruno	GM- MARINE GEOSCIENCES, Ifremer
ESSHROV4	<i>L'Europe</i>	16 09 2016	04 10 2016	Western Mediterranean basin	RAUGEL Ewen	UNDERWATER SYSTEMS UNIT - TOULON, Ifremer

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
ESS_K-16-ATA	<i>L'Atalante</i>	18 02 2016	23 02 2016	Bay of Biscay	WOERTHER Patrice	RDT - DPT TECHNOLOGICAL RESEARCH & DEVELOPMENT, Ifremer
ESS_MER	<i>L'Europe</i>	09 02 2016	09 02 2016	Western Mediterranean basin	LOSSOUARN Hubert	GENAVIR BREST, Ifremer
ESSMVP	<i>Téthys II</i>	06 05 2016	08 05 2016	Western Mediterranean basin	DOGLIOLI Andrea	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - LUMINY (MIO) UMR 7294, CNRS
ESSNAUT 2016	<i>L'Atalante</i>	30 03 2016	18 04 2016	Western Mediterranean basin	JUSTINIANO Jean-Paul	GENAVIR CENTRE IFREMER LA SEYNE SUR MER, Ifremer
ESS_NAV	<i>Alis</i>	28 07 2016	29 07 2016	South Pacific	Transit with no chief scientist.	GENAVIR BREST, Ifremer
ESSROV16-1	<i>L'Atalante</i>	04 08 2016	15 08 2016	Celtic Sea	SIMEONI Patrick	UNDERWATER SYSTEMS UNIT - TOULON, Ifremer
ESSROV16-2	<i>Pourquoi Pas ?</i>	02 11 2016	08 11 2016	Atlantic Ocean	SIMEONI Patrick	UNDERWATER SYSTEMS UNIT - TOULON, Ifremer
ESS_SISM	<i>L'Atalante</i>	03 03 2016	10 03 2016	Bay of Biscay	PACAULT Anne	NSE - VESSELS AND SHIPBOARD SYSTEMS DEPARTMENT, Ifremer
ESS_SISM_HR3D	<i>Thalassa</i>	08 09 2016	19 09 2016	Bay of Biscay	PACAULT Anne	NSE - VESSELS AND SHIPBOARD SYSTEMS DEPARTMENT, Ifremer
ESS_TECH	<i>Thalia</i>	08 06 2016	09 06 2016	Celtic Sea	BISQUAY Hervé	GENAVIR BREST, Ifremer
ESSTECH-GEN-16-HA	<i>Haliotis</i>	20 04 2016	21 04 2016	NE Atlantic (40 W boundary)	BISQUAY Hervé	GENAVIR BREST, Ifremer
ESS_TECH_16AN02	<i>Antea</i>	14 07 2016	16 07 2016	NE Atlantic (40 W boundary)	DANJON Frédéric	BIODIVERSITY, GENES AND COMMUNITIES - UMR 1202 BIOGECO, National agronomic research institute (INRA)
ESSTECH16-EU	<i>L'Europe</i>	29 02 2016	09 03 2016	Western Mediterranean basin	LOSSOUARN Hubert	GENAVIR BREST, Ifremer
ESSTECH16-TH	<i>Thalia</i>	11 03 2016	12 03 2016	Celtic Sea	BISQUAY Hervé	GENAVIR BREST, Ifremer
EUSO-BALLOON	<i>Côtes De La Manche</i>	02 07 2016	26 07 2016	Bay of Biscay	EVARD Jean	TOULOUSE SPACE CENTER, CNES
EVHOE 2016	<i>Thalassa</i>	17 10 2016	01 12 2016	Bay of Biscay	LEAUTE Jean-Pierre	IFREMER LA ROCHELLE-L'HOUMEAU STATION, Ifremer
FISSEL 2016	<i>Haliotis</i>	23 05 2016	17 06 2016	Bay of Biscay	HENAFF Alain	GEOMER - UMR 6554 LETG (LITTORAL, ENV., REMOTE SENSING.GEOMAT.), University of Western Brittany (UBO)
GEOBREST 2016	<i>Côtes De La Manche</i>	11 09 2016	16 09 2016	Celtic Sea	GRAINDORGE David	UMR 6538 CNRS OCEAN DOMAINS (LDO) - IEUM University of Western Brittany (UBO)
GRAVIMOB	<i>L'Europe</i>	18 03 2016	24 03 2016	Western Mediterranean basin	MAIA Marcia	UMR 6538 CNRS OCEAN DOMAINS (LDO) - IEUM University of Western Brittany (UBO)

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
HYDROMOMAR16	<i>Thalassa</i>	10 06 2016	22 06 2016	North Atlantic Ocean	PERROT Julie	UMR 6538 CNRS OCEAN DOMAINS (LDO) - IEUM University of Western Brittany (UBO)
IBTS 2016	<i>Thalassa</i>	19 01 2016	20 02 2016	English Channel	VERIN Yves	HMMN- ENGLISH CHANNEL-NORTH SEA FISHERIES SCIENCES DEPARTMENT, Ifremer
IOTA	<i>Antea</i>	03 10 2016	13 10 2016	Indian Ocean	JAQUEMET Sébastien	UMR ENTROPIE - UNIVERSITÉ DE LA RÉUNION, University of Reunion Island
JERICOBENT-1	<i>Côtes De La Manche</i>	22 10 2016	02 11 2016	Bay of Biscay	DEFLANDRE Bruno	EPOC - DEPARTMENT OF GEOLOGY AND OCEANOGRAPHY (DGO), University of Bordeaux I
KANACONO	<i>Alis</i>	08 08 2016	31 08 2016	Coral Sea	PULLANDRE Nicolas	SYSTEMATICS & EVOLUTION DEPARTMENT, National Museum of natural history MNHN
LA PEROUSE	<i>Antea</i>	15 09 2016	30 09 2016	Indian ocean	MARSAC Francis	IRD SETE CENTER, IRD
LEVE_SMF	<i>L'Atalante</i>	29 01 2016	17 02 2016	North Atlantic Ocean	PELLETER Ewan	GM- MARINE GEOSCIENCES, Ifremer
MAD	<i>Antea</i>	15 10 2016	05 11 2016	Indian Ocean	MAGALON Hélène	UMR ENTROPIE - UNIVERSITÉ DE LA RÉUNION, University of Reunion Island
MAD-RIDGE-1	<i>Antea</i>	08 11 2016	24 11 2016	Indian ocean	TERNON Jean-François	MARBEC SÈTE - UMR 2548, UMR Multi organizations
MAD-RIDGE-2	<i>Antea</i>	25 11 2016	14 12 2016	Indian ocean	TERNON Jean-François	MARBEC SÈTE - UMR 2548, UMR Multi organizations
MARGATS	<i>L'Atalante</i>	21 10 2016	15 11 2016	Atlantic Ocean	GRAINDORGE David	UMR 6538 CNRS OCEAN DOMAINS (LDO) - IEUM University of Western Brittany (UBO)
MATUGLI LEGS 1 ET 2	<i>Téthys II</i>	14 01 2016	27 01 2016	Western Mediterranean basin	BOURRIN François	MARINE ENVIRONMENTAL TRAINING AND RESEARCH CENTRE-CEFREM, University of Perpignan
MATUGLI LEGS 3 A 6	<i>Téthys II</i>	11 02 2016	11 11 2016	Western Mediterranean basin	BOURRIN François	MARINE ENVIRONMENTAL TRAINING AND RESEARCH CENTRE-CEFREM, University of Perpignan
MD 201 / OBSAUSTRAL	<i>Marion Dufresne</i>	04 01 2016	01 02 2016	Indian ocean	SANGIARDI Pierre	PAUL-EMILE VICTOR FRENCH POLAR INSTITUTE (IPEV), IPEV
MD 205 / SOCLIM	<i>Marion Dufresne</i>	05 10 2016	01 11 2016	Antarctic Ocean	BLAIN Stéphane	OCEANOLOGICAL OBSERVATORY OF BANYULS (OSU-OOB), University of Paris VI - UPMC
MEDITS 2016	<i>L'Europe</i>	20 05 2016	25 06 2016	Western Mediterranean basin	JADAUD Angélique	IFREMER SETE STATION, Ifremer
MEUST 2016 LEG1	<i>Téthys II</i>	04 06 2016	05 06 2016	Western Mediterranean basin	LEFEVRE Dominique	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - LUMINY (MIO) UMR 7294, CNRS
MEUST 2016 LEG2	<i>Téthys II</i>	27 10 2016	29 10 2016	Western Mediterranean basin	LEFEVRE Dominique	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - LUMINY (MIO) UMR 7294, CNRS
MINERVE 2016/2017	<i>L'Astrolabe</i>	15 12 2016	04 01 2017	Antarctic Ocean	TOURATIER Franck	IMAGES-INSTITUTE FOR MODELING AND ANALYSIS OF MARINE GEO-ENVIRONMENT, University of Perpignan

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
MINGULAY ROCKALL	<i>L'Atalante</i>	22 06 2016	04 07 2016	North Atlantic Ocean	ELLIOT Mary	PLANETOLOGY AND GEODYNAMICS LABORATORY UMR 6112, University of Nantes
MOMARSAT2016	<i>L'Atalante</i>	24 08 2016	13 09 2016	North Atlantic Ocean	CANNAT Mathilde	IPGP EARTH PHYSICS INSTITUTE IN PARIS, Institut de Physique du Globe De Paris
MOOSE (ANTARES) 2016	<i>Téthys II</i>	08 01 2016	07 12 2016	Western Mediterranean basin	BHAIRY Nagib	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - LUMINY (MIO) UMR 7294, CNRS
MOOSE (DYFAMED) 2016	<i>Téthys II</i>	09 01 2016	10 12 2016	Western Mediterranean basin	DIAMOND-RIQUIER Emilie	OCEANOGRAPHY LABORATORY OF VILLEFRANCHE (LOV), University of Paris VI - UPMC
MOOSE-GE 2016	<i>L'Atalante</i>	19 05 2016	09 06 2016	Western Mediterranean basin	COPPOLA Laurent	OCEANOLOGICAL OBSERVATORY OF VILLEFRANCHE SUR MER (OOV), University of Paris VI - UPMC
MUG_OBS_2016_LEG1	<i>Téthys II</i>	23 02 2016	10 03 2016	Western Mediterranean basin	HELLO Yann	GEOSCIENCES AZUR - SOPHIA ANTIPOLIS (GEOAZUR), CNRS
MUG_OBS_2016_LEG2	<i>Téthys II</i>	25 11 2016	26 11 2016	Western Mediterranean basin	HELLO Yann	GEOSCIENCES AZUR - SOPHIA ANTIPOLIS (GEOAZUR), CNRS
M2BIPAT_LEG1	<i>Côtes De La Manche</i>	30 05 2016	03 06 2016	Celtic Sea	MARIE Louis	PHYSICAL AND SPACE OCEANOGRAPHY LABORATORY (LOPS), Ifremer
M2BIPAT_LEG2	<i>Côtes De La Manche</i>	25 08 2016	28 08 2016	Celtic Sea	MARIE Louis	PHYSICAL AND SPACE OCEANOGRAPHY LABORATORY (LOPS), Ifremer
NECTALIS-5	<i>Alis</i>	21 11 2016	07 12 2016	SW Pacific (140 W boundary)	ALLAIN Valérie	SECRETARIAT GENERAL DE LA COMMUNAUTÉ DU PACIFIQUE CPS, Secretariat General of the Pacific Community
NURSE 2016	<i>Thalia</i>	12 08 2016	26 08 2016	Bay of Biscay	BRIND'AMOUR Anik	EMH- ECOLOGY AND MODELS FOR FISHERIES SCIENCE DEPARTMENT, Ifremer
OLZO	<i>Alis</i>	20 04 2016	09 05 2016	SW Pacific (140 W boundary)	SOUS Damien	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - MIO (TOULON SITE), IRD
OLZO RETRAIT	<i>Alis</i>	01 08 2016	06 08 2016	South Pacific	FOLCHER Éric	IRD NOUMEA CENTER, IRD
ORHAGO 16	<i>Côtes De La Manche</i>	09 11 2016	29 11 2016	Bay of Biscay	COUPEAU Yann	IFREMER LA ROCHELLE-L'HOUMEAU STATION, Ifremer
PAGURE-NEXT	<i>Thalia</i>	16 10 2016	20 10 2016	NE Atlantic (40 W boundary)	CARLIER Antoine	DYNECO-LEBCO COASTAL BENTHIC ECOLOGY LABORATORY, Ifremer
PAMELA-MOZ03	<i>Pourquoi Pas ?</i>	11 02 2016	16 03 2016	Mozambique Channel	MOULIN Maryline	GM- MARINE GEOSCIENCES, Ifremer
PAMELA-MOZ05	<i>Pourquoi Pas ?</i>	19 03 2016	03 04 2016	Mozambique Channel	MOULIN Maryline	GM- MARINE GEOSCIENCES, Ifremer
PECTOW 16	<i>Côtes De La Manche</i>	05 02 2016	15 02 2016	English Channel	THIEBAUT Éric	ROSCOFF BIOLOGICAL STATION (OSU-SBR), CNRS
PELGAS 2016	<i>Thalassa</i>	29 04 2016	02 06 2016	Bay of Biscay	DORAY Mathieu	EMH- ECOLOGY AND MODELS FOR FISHERIES SCIENCE DEPARTMENT, Ifremer

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
PELMED 2016	<i>L'Europe</i>	26 06 2016	31 07 2016	Western Mediterranean basin	BOURDEIX Jean-Hervé	IFREMER SETE STATION, Ifremer
PIRATA FR26	<i>Thalassa</i>	07 03 2016	13 04 2016	Atlantic Ocean	BOURLES Bernard	IRD BRITTANY CENTER, IRD
PLUME	<i>Côtes De La Manche</i>	20 05 2016	29 05 2016	Bay of Biscay	LAZURE Pascal	PHYSICAL AND SPACE OCEANOGRAPHY LABORATORY (LOPS), Ifremer
POPCORE	<i>Haliotis</i>	27 04 2016	20 05 2016	Bay of Biscay	BALTZER Agnès	LETG - LITTORAL ENVIRONMENT REMOTE SENSING GEOMATICS, University of Nantes
REBENT 2016	<i>Thalia</i>	21 02 2016	03 03 2016	NE Atlantic (40 W boundary)	BROUDIN Caroline	ROSCOFF BIOLOGICAL STATION (OSU-SBR), CNRS
REM2040-01	<i>Thalia</i>	10 06 2016	16 06 2016	Celtic Sea	BERGER Laurent	NSE - VESSELS AND SHIPBOARD SYSTEMS, Ifremer
ROCCHSED16	<i>L'Europe</i>	12 04 2016	24 04 2016	Western Mediterranean basin	CHIFFOLEAU Jean-François	DPT RBE / UR BIOGEOCHEMISTRY & ECOTOXICOLOGY (NANTES), Ifremer
RODAGE AT 16AN02	<i>Antea</i>	08 07 2016	12 07 2016	NE Atlantic (40 W boundary)	GOULOUZELLE Loïc	GENAVIR BREST, Ifremer
ROVSMOOTH	<i>Pourquoi Pas ?</i>	30 11 2016	05 01 2017	Indian Ocean	CANNAT Mathilde	IPGP EARTH PHYSICS INSTITUTE IN PARIS, Institut de Physique du Globe De Paris
RUN	<i>Antea</i>	01 09 2016	12 09 2016	Indian Ocean	SORIA Marc	UMR MARBEC, UMR Multi organizations
SELIMED	<i>L'Europe</i>	06 09 2016	14 09 2016	Western Mediterranean basin	AKCHA Farida	DPT RBE / UR BIOGEOCHEMISTRY & ECOTOXICOLOGY (NANTES), Ifremer
SHOMANTILLES 2016	<i>L'Atalante</i>	02 01 2016	27 01 2016	Atlantic Ocean	IPA THEUILLON Gwladys	SHOM - BREST CENTER, French Navy/SHOM
SOGIR 16	<i>Côtes De La Manche</i>	18 01 2016	07 11 2016	Bay of Biscay	DERRIENNIC Hervé	EPOC - DEPARTMENT OF GEOLOGY AND OCEANOGRAPHY (DGO), University of Bordeaux I
SOMBA-GE-2016	<i>Téthys II</i>	24 02 2016	27 02 2016	Tyrrhenian Sea	MORTIER Laurent	OCEANOGRAPHY AND CLIMATE LABORATORY (LOCEAN), UMR 7159, University of Paris VI - UPMC
SPOT2016 (13)	<i>Alis</i>	13 04 2016	18 04 2016	Coral Sea	BIEGALA Isabelle	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - LUMINY (MIO) UMR 235, CNRS
STEP 2016	<i>L'Atalante</i>	11 07 2016	22 07 2016	NE Atlantic (40 W boundary)	MICHEL Elisabeth	CLIMATE AND ENVIRONMENTAL SCIENCES LABORATORY (LSCE), CEA
SURVOSTRAL 2016/2017	<i>L'Astrolabe</i>	22 10 2016	07 03 2017	Antarctic Ocean	MORROW-GREINER Rosemary	GEOFYSICS AND OCEANOGRAPHY SPACE STUDIES (LEGOS), CNRS
TACT 2016	<i>L'Astrolabe</i>	20 02 2016	05 03 2016	Antarctic Ocean	DYMENT Jérôme	IPGP EARTH PHYSICS INSTITUTE IN PARIS, Institut de Physique du Globe De Paris
TR ALONMA	<i>Alis</i>	25 09 2016	01 10 2016	SW Pacific (140 W boundary)	Transit with no chief scientist.	GENAVIR BREST, Ifremer

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
TRAMAT	<i>Côtes De La Manche</i>	30 03 2016	11 04 2016	English Channel	LAGUIONIE Philippe	INSTITUTE FOR RADIOPROTECTION AND NUCLEAR SAFETY, Institut de Radioprotection et de Sécurité Nucléaire
TRANSFERT HROV	<i>L'Europe</i>	17 11 2016	29 11 2016	Western Mediterranean basin	RAUGEL Ewen	UNDERWATER SYSTEMS UNIT - TOULON, Ifremer
TR BREBOU	<i>Thalassa</i>	19 09 2016	23 09 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BRECON01	<i>Thalia</i>	17 06 2016	17 06 2016	Celtic Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BRECON02	<i>Thalia</i>	29 09 2016	29 09 2016	Celtic Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BRELHA	<i>L'Atalante</i>	18 08 2016	23 08 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BRELOC	<i>Thalia</i>	21 10 2016	22 10 2016	Celtic Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BREMIN	<i>Thalassa</i>	26 02 2016	06 03 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BREOUJ	<i>Thalia</i>	30 06 2016	02 07 2016	English Channel	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BREPDA	<i>Thalassa</i>	01 06 2016	10 06 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BRESEY	<i>L'Atalante</i>	22 03 2016	29 03 2016	NE Atlantic (40 W boundary)	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BRESQP	<i>Thalia</i>	29 08 2016	31 08 2016	English Channel	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR BRESQP	<i>Thalia</i>	13 03 2016	14 03 2016	English Channel	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR CADCAY	<i>L'Atalante</i>	06 10 2016	19 10 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR CAYPAP	<i>L'Atalante</i>	17 11 2016	20 11 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR CDSLPO	<i>Antea</i>	03 08 2016	30 08 2016	Indian ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR CONLAT	<i>Thalia</i>	14 02 2016	16 02 2016	Bay of Biscay	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR CONLTU	<i>Thalia</i>	11 10 2016	11 10 2016	Celtic Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR FECLOC	<i>Thalia</i>	29 07 2016	30 07 2016	Celtic Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
TR_LATLOR	<i>Thalia</i>	18 02 2016	18 02 2016	Bay of Biscay	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_LERTRO	<i>L'Atalante</i>	03 07 2016	07 07 2016	Norwegian Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_LHACAD	<i>L'Atalante</i>	15 09 2016	19 09 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_LOCVER	<i>Thalia</i>	11 08 2016	12 08 2016	Bay of Biscay	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_LORCDS	<i>Antea</i>	16 07 2016	03 08 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_LPMDUR	<i>Pourquoi Pas ?</i>	09 11 2016	28 11 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_LTUBRE	<i>Thalia</i>	14 10 2016	15 10 2016	Celtic Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_MAPPAP	<i>Pourquoi Pas ?</i>	04 04 2016	02 05 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_MINBRE	<i>Thalassa</i>	15 04 2016	23 04 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_NMARAB	<i>Alis</i>	30 08 2016	10 09 2016	SW Pacific (140 W boundary)	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_OUIFEC	<i>Thalia</i>	23 07 2016	23 07 2016	English Channel	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_PAPJOH	<i>Pourquoi Pas ?</i>	22 07 2016	30 07 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_PAPNAS	<i>L'Atalante</i>	25 11 2016	30 11 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_PDACOR	<i>Thalassa</i>	23 06 2016	27 06 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_SEYBRE	<i>L'Atalante</i>	12 06 2016	19 06 2016	Western Mediterranean basin	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_SEYMAR	<i>L'Europe</i>	05 01 2016	05 01 2016	Mediterranean Region	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_SMALOR	<i>Antea</i>	08 06 2016	11 06 2016	English Channel	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_SNZBRE	<i>Thalia</i>	27 08 2016	28 08 2016	Celtic Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR_SQPBRE	<i>Thalia</i>	20 03 2016	21 03 2016	Atlantic Ocean	Transit with no chief scientist.	GENAVIR BREST, Ifremer

Cruise	Vessel	Start date	End date	Geographical area	Name of chief scientist	Chief scientist's laboratory
TR SQPBRE	<i>Thalia</i>	10 09 2016	12 09 2016	English Channel	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TR TROBRE	<i>L'Atalante</i>	23 07 2016	30 07 2016	Norwegian Sea	Transit with no chief scientist.	GENAVIR BREST, Ifremer
TURBISEINE	<i>Côtes De La Manche</i>	25 01 2016	21 12 2016	English Channel	VERNEY Romaric	DYNECO/DHYSED - HYDRO-SEDIMENTARY DYNAMICS LABORATORY, Ifremer
TV BRUIT	<i>Thalassa</i>	21 02 2016	23 02 2016	NE Atlantic (40 W boundary)	DUDUYER Sarah	NSE - VESSELS AND SHIPBOARD SYSTEMS, Ifremer
VIDEO GALION	<i>Juliath</i>	05 09 2016	07 09 2016	Western Mediterranean basin	VAZ Sandrine	IFREMER SETE STATION, Ifremer
VOLT 1 RECUP LEG1	<i>Thalia</i>	22 03 2016	01 04 2016	Bay of Biscay	SILVA JACINTO Ricardo	GM- MARINE GEOSCIENCES, Ifremer
VOLT 1 RECUP LEG2	<i>Thalassa</i>	27 06 2016	01 07 2016	Bay of Biscay	SILVA JACINTO Ricardo	GM- MARINE GEOSCIENCES, Ifremer
VOLT 2	<i>Thalassa</i>	20 07 2016	30 07 2016	Bay of Biscay	SILVA JACINTO Ricardo	GM- MARINE GEOSCIENCES, Ifremer
VT 146 / OHA-SIS-BIO-8	<i>Marion Dufresne</i>	04 01 2016	01 02 2016	Indian Ocean	ROYER Jean-Yves	MARINE OBSERVATORY OSU-IUEM) University of Western Brittany (UBO)
VT 147 / OISO-25	<i>Marion Dufresne</i>	04 01 2016	01 02 2016	Indian ocean	METZL Nicolas	OCEANOGRAPHY AND CLIMATE LABORATORY (LOCEAN), UMR 7159, University of Paris VI - UPMC
VT 148 / MDCPR	<i>Marion Dufresne</i>	04 01 2016	01 02 2016	Indian Ocean	PRUVOST Patrice	UMR BOREA BIOLOGY ORGANISMS AND AQUATIC ECOSYSTEMS, National Museum of natural history MNHN
VT 149 / THEMISTO	<i>Marion Dufresne</i>	04 01 2016	01 02 2016	Indian Ocean	COTTE Cédric	OCEANOGRAPHY AND CLIMATE LABORATORY (LOCEAN), UMR 7159, University of Paris VI - UPMC
VT 150 / FOAM	<i>Marion Dufresne</i>	04 01 2016	01 02 2016	Indian Ocean	CALZAS Michel	CNRS/INSU TECHNICAL DIVISION FIELD OFFICE, CNRS
VT 151 / NIVMER16	<i>Marion Dufresne</i>	08 04 2016	03 05 2016	Indian Ocean	GUILLOT Antoine	CNRS/INSU TECHNICAL DIVISION FIELD OFFICE, CNRS
WESTMEDFLUX	<i>L'Atalante</i>	20 04 2016	15 05 2016	Western Mediterranean basin	POORT Jeffrey	INSTITUTE OF EARTH SCIENCES IN PARIS - UMR 7193 ISTEP, University of Paris VI - UPMC
16TH08 (BREBENT-05)	<i>Thalia</i>	15 03 2016	19 03 2016	English Channel	CARLIER Antoine	DYNECO-LEBCO COASTAL BENTHIC ECOLOGY LABORATORY, Ifremer



4.5 CRUISES NOT RECEIVED

In 2016, only one cruise could not be included in the marine research cruise catalogue. No information or summary for it was sent to SISMER.

Name	Vessel	Chief scientist	Laboratory	Organization	Start	End
SEAQUEST MVP	<i>Téthys II</i>	ROSS Oliver Nicolas	MEDITERRANEAN INSTITUTE OF OCEANOLOGY - LUMINY (MIO) UMR 7294	CNRS	06/04/16	10/04/2016

Therefore, no data acquired during this cruise can be accessed via the databases managed by SISMER, and no DOI will be attributed to this cruise.



5 Contacts

IFREMER / SISMER

Marine scientific information systems

Brest Center

CS 10070 – 29280 Plouzané

France

Tel. (33)2 98 22 49 16

Fax (33)2 98 22 46 44

E-mail: csr_sismer@ifremer.fr

sismer@ifremer.fr

Website: <http://data.ifremer.fr/SISMER>

Nolwenn DANIoux

IDM/SISMER

Tel. (33) 2 98 22 44 04

E-mail: Nolwenn.Danioux@ifremer.fr

Published by IFREMER/IDM/SISMER

ISSN 1967-5542

@Copyright IFREMER

6 Acronyms

ADCP	Acoustic Doppler Current Profiler
BRGM	Bureau of geology and mining research
BSH/DOD	German Federal Maritime and Hydrographic Agency /Oceanographic Data Center
CEA	French atomic energy commission
ICES	International Council for the Exploration of the Sea
Cnexo	National center for ocean exploitation
CNFC	National coastal fleet commission
CNFH	National ocean-going fleet commission
CNRS	National centre for scientific research
CODIR	Steering committee
COSS	Strategic and scientific orientation council
CSR	Cruise Summary Report (formerly called ROSCOP)
CTD	Conductivity Temperature Depth
DEM	Digital Elevation Model
DMON	Division of seagoing facilities and operations
DOI	Digital Object Identifier
GENAVIR	Research vessel management (IFREMER group)
ICRAM	Italian Central institute for applied marine research
IDM	IT and Marine Data Department
IEO	Spanish oceanography institute
IFREMER	French research institute for exploitation of the sea (formerly ISTPM-CNEXO)
IFRTP	French polar research and technology institute
IMN	Marine and digital infrastructure department
INSU	National institute for sciences of the universe
IODE	International Oceanographic Data and Information Exchange
IPEV	Paul Emile Victor French polar institute
IRD	French research institute for cooperative development (formerly ORSTOM)
ISI	Information systems engineering
ISTPM	Scientific and technical institute for marine fisheries
JSU	Joint service unit
MNHN	National museum of natural history
NODC	National Oceanographic Data Center
OFEG	Ocean Facilities Exchange Group
ROV	Remote Operated Vehicle
RV	Research Vessel
SGC	Cruises management system
SHOM	French navy hydrographic and oceanographic service
SISMER	Marine scientific information systems
TAAF	French southern and Antarctic lands
TGIR	Very large Research Infrastructure
UNESCO	United Nations Educational, Scientific and Cultural Organization
XBT	Expendable BathyThermograph