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Introduction

This document reports on the French oceanographic cruises conducted in 2015. It was drawn up by IFREMER, and more specifically by the SISMER (French acronym for Scientific information systems for the SEA) department which is in charge of 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 2015 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/10.13155/45362.
Clicking on the hypertext links gives direct access to the cruise descriptions.

Previous years’ reports for French oceanographic cruises are also available via the Archimer website IFREMER’s institutional archive, at: http://archimer.ifremer.fr/.

SISMER thanks:
✓ the chief scientists of 2015 cruises,
✓ GENAVIR,
✓ Aurélie Feld, Sylvie Van Iseghem and Jean-Xavier Castrec (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 information required for this report, in particular, and to contribute to increasing the value of the sea measurements effort.
1 Those involved

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

- CNRS/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 (Institute of research and development),
- FRENCH NAVY/SHOM (French Navy’s hydrographic and oceanographic service).

The first 4 organizations are grouped together in a joint service unit, JSU FRENCH OCEANOGRAPHIC FLEET or UMS-FOF, whose objective is the coordinated management of the French oceanographic fleet major research infrastructure (MRI) 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) which IFREMER belongs to.

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

1.1 FRENCH OCEANOGRAPHIC FLEET UMS JOINT SERVICE UNIT AND ASSESSMENT COMMISSIONS

Since 2008, the French sea-going facilities for oceanographic research from CNRS, IFREMER, IPEV and IRD have made up the French oceanographic fleet major research infrastructure (FOF MRI).

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

The JSU’s assigned objective is to improve the management of the French ocean research fleet, shared by the four operators up until then.

Setting up this Joint Service Unit with unified governance should give the public authorities an overarching view of this Major Research Infrastructure (MRI) in the framework 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 JSU (i.e. TAAF, FRENCH NAVY),
- and coordinate investment policies.

On the JSU FLEET WEBSITE (http://www.flotteoceanographique.fr/) are descriptions and activity of all vessels and vehicles of all JSU 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:
  – assess, a posteriori, the results from coastal oceanographic cruises performed using French oceanographic resources; and
  – 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

1.2 SISMER

It has been proved that without permanent archiving, done following well established standards, 30% of data acquired 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 is an IFREMER department located at its Brittany center. It is part of the IDM (marine information systems and data) unit of the IMN department of Marine and Digital Infrastructure.

It is France’s national coordinator for international data exchanges in the framework of the "International Oceanographic Data and Information Exchange" (IODE) programme of UNESCO’s Intergovernmental Oceanographic Commission (IOC).
To meet the needs of the scientific community, it works with the ISI (Information systems engineering) service in the IDM (IT and marine data) department to develop and use 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 under very specific rules protects, standardizes and disseminates, data from various fields of marine science, like hydrology, marine biochemistry, currentometry, gravimetry, magnetometry, seisms, bathymetry, acoustic imaging, physical-chemical seabed characteristics and the deep sea environment. The data can also come from French research laboratories taking part in surveys at sea.

Sismer archives the data, along with information about its source, the experimental conditions and collection methodology (metadata). It applies quality control 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 marine data center network, whose aim is 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 or not archived will ultimately be lost for good.**

**Cruise data which is incorrectly referenced (CSR sheet incorrectly or not completed) cannot be accessed and are therefore ultimately lost.**

**The value, in both scientific and financial terms, of data acquired at sea 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 is not listed in this document. 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:

- Using the scheduled ocean cruise programs. This is done with the help of the people in charge of ship management;

  - At the end of each cruise, the chief scientists are requested to send a description of their cruise to SISMER. The summary can be completed directly on line (http://forms.ifremer.fr/sismer/csrm/).

A template (called a CSR – Cruise Summary Report sheet) is also available on the SISMER website found here: http://www.ifremer.fr/sismer/FR/catal/campagne/Fiche_CSR_FR.htm or, for vessels of the JSU, in the Compte-rendu de la campagne report made available on the FLEET JSU website.

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 offshore and inshore cruises can be accessed on the FLEET JSU 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 CIEM/ICES (International Council for Exploration of the Sea).
3 Access to cruises and data

The full inventory of oceanographic cruises 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/

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-oceanacruises.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. SISMER archives and disseminates part of the data collected aboard French research vessels - primarily those of FLEET JSU 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, Beaufemps-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 physical and biochemical 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 distributes archives of data and data compilation products: theme-based databases, digital terrain models (MNT), 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/](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 7,911 French oceanographic cruises (broadly speaking, without any confidentiality criteria) since 1913, including:

- 6,761 cruises (strictly speaking),
- 704 simple or piggy-back transits,
- 337 sea-trial or shake-down cruises,
- 54 service provisions,
- 55 other cruises.

Only 7,856 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 IFREMER), 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 7,856 French cruises (including ocean research cruises, simple transit and piggyback missions, sea trial cruises and 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 inshore cruises has been growing over these 25 years. However, this seems to have stabilized over the past ten years or so at around 130 cruises per year for inshore vessels and those belonging to stations and 80 cruises per year for offshore vessels.

4.2 YEAR 2015

In 2015, 205 French cruises (oceanographic, trials, transits and commercial service performance, not classified as "Confidential") were recorded at SISMER for offshore and inshore vessels.
This is not entirely representative of the French fleet, since there were also cruises conducted on station vessels, but they 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.

![Number of cruises](image)

4.2.2 Breakdown of cruises by client organization

The client organization is the contracting authority requesting the cruise (generally represented by the 1st chief scientist).

<table>
<thead>
<tr>
<th>Chief scientist's organization</th>
<th>Number of cruises</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRGM</td>
<td>2</td>
</tr>
<tr>
<td>CEA</td>
<td>2</td>
</tr>
<tr>
<td>CNRS + UNIVERSITIES</td>
<td>56</td>
</tr>
<tr>
<td>Directorate for industry, mines and energy</td>
<td>1</td>
</tr>
<tr>
<td>IPEV</td>
<td>1</td>
</tr>
<tr>
<td>IRD</td>
<td>8</td>
</tr>
<tr>
<td>IFREMER</td>
<td>102</td>
</tr>
<tr>
<td>Institut Francais du Petrole</td>
<td>1</td>
</tr>
<tr>
<td>French Navy/SHOM</td>
<td>26</td>
</tr>
<tr>
<td>Ministry of ecology and sustainable development</td>
<td>3</td>
</tr>
<tr>
<td>National museum of natural history</td>
<td>1</td>
</tr>
<tr>
<td>Secretariat general of the Pacific community</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>205</strong></td>
</tr>
</tbody>
</table>

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 cruises are not referenced at SISMER, so they are listed in paragraph 4.3.2.

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 205 cruises from 2015 referenced at SISMER were carried out aboard 9 offshore ocean research vessels, 5 inshore oceanographic vessels, 2 station boats and 2 underwater vehicles (NAUTILE and ROV VICTOR 6000). The website of the JSU [http://www.flotteoceanographique.fr/La-flotte/Navires](http://www.flotteoceanographique.fr/La-flotte/Navires) provides a detailed description of the fleet.

The 2015 cruises are presented below, listed by vessel and indicating spatial location and 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 L’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 sensor, 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 12 cruises and legs in transit by Alis in 2015

SPOT2015-LEG4 (09)
DOUILLET Pascal
From 22/05/15 to 28/05/15

ESS_MOTEUR
From 11/07/15 to 12/07/15

ESSTECH
TREDUNIT Gilles
From 15/07/15 to 15/07/15

ESSAIS CHALUTS
ALLAIN Valérie
From 14/08/15 to 18/08/15

TR_NMAPAG (Transit)
From 18/08/15 to 28/08/15

SAMOA-SPT
SCHNEIDER Jean-Luc
From 27/08/15 to 10/09/15

TR_APINMA (Transit)
From 11/09/15 to 17/09/15

SPOT2015-LEG3 (11)
BIEGALA Isabelle
From 21/09/15 to 26/09/15

CORALCAL-5
PAYRI Claude
From 28/09/15 to 15/10/15

NECTALIS-4
ALLAIN Valérie
From 19/10/15 to 26/10/15

CHEST
MAGALON Hélène
From 05/11/15 to 25/11/15

SPOT2015-LEG4 (12)
DUPOUY Cécile
From 29/11/15 to 02/12/15
4.3.1.2 Cruises by L’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 46-frequency echo-sounder, scanmar sensor, 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](http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Antea)
Figure 2 — Tracks of 13 cruises and legs in transit by Anteo in 2015

**TR_SMABRE** (Transit)
From 10/01/15 to 11/01/15

**TR_BREPAP** (Transit)
From 14/01/15 to 03/02/15

**ANTITHESIS2 DEPLO**
MARCAILLOU Boris
From 02/02/15 to 07/02/15

**PACOTILLES-1**
FAUVELOT Cécile
From 21/04/15 to 10/05/15

**TR_PAPFDF** (Transit)
From 12/05/15 to 13/05/15

**PACOTILLES-2**
PEREZ Thierry
From 13/05/15 to 02/06/15

**TR_FDFPAP** (Transit)
From 03/06/15 to 05/06/15

**KARUBENTHOS 2**
BOUCHET Philippe
CORBARI Laure
From 06/06/15 to 30/06/15

**ANTITHESIS2 RECUP**
MARCAILLOU Boris
LEBRUN Jean Frédéric
From 02/07/15 to 09/07/15

**TR_PAPNAT** (Transit)
From 15/09/15 to 27/09/15

**ABRACOS**
BERTRAND Arnaud
From 29/09/15 to 21/10/15

**TR_RECBRE** (Transit)
From 22/10/15 to 17/11/15

**TR_BRESMA** (Transit)
From 18/11/15 to 19/11/15
4.3.1.3 Cruises by Beautemps-Beaupré

The hydrographic and oceanographic ship (BHO) *Beautemps-Beaupré* carries out both military missions and general hydrographic studies on behalf of the French Navy’s hydrographic and oceanographic service (SHOM).

Here are its main characteristics:

- Ocean-going vessel
- NODC code: 35B5
- Call sign: FABB
- Length 80m
- Crew: 26
- Scientists and technicians: 25

For more details: [http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Anuta](http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Anuta)
Figure 3 — Tracks of 19 cruises and legs in transit by Beautemps-Beaupré in 2015

**TV_BREST_NOUAKCHOTT**
IETA Adélaide MISSAULT
From 30/01/15 to 07/02/15

**TV_NOUAKCHOTT_DAKAR**
IETA Adélaide MISSAULT
From 09/02/15 to 23/02/15

**MAURITANIE_LEG1**
IETA Adélaide MISSAULT
From 12/02/15 to 21/02/15

**TV_DAKAR_MINDELO**
IETA Adélaide MISSAULT
From 27/02/15 to 12/03/15

**MAURITANIE_LEG2**
IETA Adélaide MISSAULT
From 28/02/15 to 10/03/15

**TV_MINDELO_DAKAR**
IETA Adélaide MISSAULT
From 17/03/15 to 29/03/15

**MAURITANIE_LEG3**
IETA Adélaide MISSAULT
From 19/03/15 to 27/03/15

**TV_DAKAR_TARRAGONE**
IETA MOUTON
From 02/04/15 to 12/04/15

**PROTEUS_2015**
IETA MOUTON
From 16/04/15 to 02/05/15

**POSA**
IETA MOUTON
From 05/05/15 to 17/05/15

**TV_TOULON_MESSINE**
IETA MOUTON
From 22/05/15 to 29/05/15

**SHOMED**
IETA MOUTON
From 23/05/15 to 28/05/15

**TV_TOULON_CADIX**
IETA MOUTON
From 29/05/15 to 04/06/15

**TV_CADIX_FUNCHAL**
IETA MOUTON
From 08/06/15 to 22/06/15

**TV_FUNCHAL_FUNCHAL**
IETA MOUTON
From 27/06/15 to 10/07/15

**TV_FUNCHAL_BREST1**
IETA MOUTON
From 15/07/15 to 25/07/15

**TV_BREST_FUNCHAL**
IETA Adélaide MISSAULT
From 01/08/15 to 05/08/15

**TV_FUNCHAL_BREST2**
IETA Adélaide MISSAULT
From 24/09/15 to 27/09/15

**DUNES_2015**
IETA Adélaide MISSAULT
From 12/10/15 to 21/10/15
4.3.1.4 Cruises by RV Côtes de la Manche

This oceanographic vessel performs scientific research missions, mainly in the Atlantic 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
SOGIR 15
DERRIENNIC Hervé
SOTTOLICHIO Aldo
From 12/01/15 to 05/11/15
SYNAPSES LEG1
JACQUET Matthias
VERNEY Romaric
From 20/01/15 to 07/02/15
ESS_ET_PO
DE SAINT LEGER Emmanuel
From 11/02/15 to 11/02/15
CARMOLIT 2015 LEG1
QUEMENER Loïc
From 06/03/15 to 07/03/15
H2O LEG1
LESOURD Sandric
From 15/03/15 to 20/03/15
C2FN-KULLENBERG-ARMORIC
MACE Eric
From 07/04/15 to 09/04/15
ELFIC LEG1
COMTET Thierry
From 20/04/15 to 21/04/15

DYNAMOSEINE LEG1
HUGUET Arnaud
From 25/04/15 to 30/04/15
H2O LEG2
LESOURD Sandric
From 01/05/15 to 03/05/15
TRACES 2015
LAGUIONIE Philippe
From 22/05/15 to 29/05/15
REMNANTAS
RINNERT Emmanuel
From 14/06/15 to 20/06/15
ELFIC LEG2
COMTET Thierry
From 22/06/15 to 24/06/15
ASPEX7
MARIE Louis
From 01/07/15 to 03/07/15
SYNAPSES LEG2
JACQUET Matthias
VERNEY Romaric
From 13/07/15 to 31/07/15

H2O LEG3
LESOURD Sandric
From 01/08/15 to 03/08/15
ELFIC LEG3
COMTET Thierry
From 07/08/15 to 09/08/15
IPARO
COLAS Florent
From 10/09/15 to 15/09/15
DYNAMOSEINE LEG2
HUGUET Arnaud
From 25/09/15 to 30/09/15
H2O LEG4
LESOURD Sandric
From 01/10/15 to 02/10/15
VAGUES LB
ACCENSI Mickaël
ARDHUIN Fabrice
From 22/10/15 to 28/10/15
ORHAGO 15
BIAIS Gérard
COUPEAU Yann
From 24/11/15 to 13/12/15
4.3.1.5 Cruises by RV l’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 as been entrusted with managing the vessel.

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 5 — Tracks of 9 cruises by Ḥaliotis in 2015

SERABEQ-02 LEG1
GREGOIRE Gwendoline
LE ROY Pascal
EHRHOLD Axel
From 16/02/15 to 23/02/15

ESSTECH15-HA
BISQUAY Hervé
From 17/03/15 to 20/03/15

SERABEQ-02 LEG2
EHRHOLD Axel
GREGOIRE Gwendoline
LE ROY Pascal
From 25/03/15 to 27/03/15

DYNAMO
CHAUMILLON Eric
From 19/05/15 to 29/05/15

FISSEL 2015 LEG1
HENAFF Alain
From 01/06/15 to 09/06/15

FISSEL 2015 LEG2
HENAFF Alain
From 13/06/15 to 17/06/15

FISSEL 2015 LEG3
HENAFF Alain
From 19/06/15 to 30/06/15

FISSEL 2015 LEG4
HENAFF Alain
From 01/07/15 to 03/07/15

DARSE
LE DOARE Jacques
From 11/10/15 to 11/10/15
4.3.1.6 Cruises by 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/bases_et_navires/l_astrolabe](http://www.institut-polaire.fr/ipev/bases_et_navires/l_astrolabe)
MINERVE 2015
TOURATIER Franck
From 01/03/15 to 19/03/15

SURVOSTRAL 2015/2016
MORROW-GREINER Rosemary
From 23/10/15 to 05/03/16

MINERVE 2015/2016
GOYET Catherine
TOURATIER Franck
From 28/11/15 to 05/03/16

Figure 6 — Tracks of 3 cruises by L’Astrolabe in 2015
4.3.1.7 Cruises by 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](http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/L-Atalante)
Figure 7 — Tracks of 17 cruises and legs in transit by L’Atalante in 2015

STORM
BRIAIS Anne
From 01/01/15 to 04/02/15
TR_HOBNMA (Transit)
From 04/02/15 to 06/02/15
OUTPACE
BONNET Sophie
MOUTIN Thierry
From 18/02/15 to 03/04/15
POLYPLAC2
LOUBRIEU Benoit
From 21/04/15 to 06/05/15
TR_PPTNMA (Transit)
From 08/05/15 to 18/05/15
VESPA
PATRIAT Martin
MORTIMER Nick
From 22/05/15 to 17/06/15

TV_SHOMCAL
LAMARRE (IETA)
From 18/06/15 to 14/07/15
SHOMCAL_GRAND_LAGON_NORD
LAMARRE (IETA)
From 21/06/15 to 25/06/15
SHOMCAL_CHESTERFIEDS
LAMARRE (IETA)
From 27/06/15 to 08/07/15
SHOMCAL_SARCELLE
LAMARRE (IETA)
From 10/07/15 to 13/07/15
CASSIOPEE
CRAVATTE Sophie
MARIN Frédéric
From 18/07/15 to 24/08/15

ESS_SMT
From 28/08/15 to 09/09/15
TECTA
COLLOT Julien
SUTHERLAND Rupert
ROEST Walter
From 02/09/15 to 10/10/15
TR_NMAPPT / ESSK (Transit)
From 13/10/15 to 27/10/15
NODULE 2015
PELLEAU Pascal
From 30/10/15 to 01/12/15
TR_MANCOL (Transit)
From 05/12/15 to 15/12/15
CARACALHIS / HAÏTI-BGF
ELLOUZ-ZIMMERMANN Nadine
BEAUFORT Luc
From 16/12/15 to 26/12/15
4.3.1.8 Cruises by 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), France.

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 8 — Tracks of 15 cruises by L’Europe in 2015

**ESSTECH15-GEN-EU**
RAILLARD Jean-Michel  
From 14/01/15 to 14/01/15

**BOUSSOLE 2015 (155)**
GOLBOL Melek  
From 19/01/15 to 23/01/15

**MOOSE (ANTARES)**
LEFEVRE Dominique  
BHAIRY Nagib  
From 07/02/15 to 07/02/15

**ESSTECH15-IFR-EU**
LE BOUFFA NT Naïg  
From 23/03/15 to 29/03/15

**DCE 4-1**
TOMASINO Corinne  
From 30/03/15 to 21/04/15

**STEP 2015**
APRIQUAOUAL Roman  
THOMAS Yannick  
From 23/04/15 to 07/05/15

**ESSHROV3**
RAUGEL Ewen  
From 08/05/15 to 21/05/15

**MEDITS 2015**
METRAL Luísa  
JADAUD Angélique  
From 22/05/15 to 27/06/15

**PELVED 2015**
BOURDEIX Jean-Hervé  
From 28/06/15 to 02/08/15

**POSIDCORSE**
PERGENT Gérard  
CLABAUT Philippe  
From 04/08/15 to 29/08/15

**DCE 4-2**
TOMASINO Corinne  
From 08/09/15 to 14/09/15

**MEDBIONET**
ANDRAL Bruno  
From 15/09/15 to 10/10/15

**DIVACOU 8 HROV**
DROGOU Michèle  
BOUHIER Marie-Edith  
From 13/10/15 to 23/10/15

**ESSAUV15-EU**
JAUSSAUD Patrick  
From 25/10/15 to 04/11/15

**RECUPLONCEAU**
KUNESCH Stéphane  
From 11/11/15 to 13/11/15
4.3.1.9 Cruises by Le Suroît

Built in 1975, Le Suroît was upgraded in 1999. The refitting of the ship was the opportunity to totally upgrade all its scientific equipment. The performances of this equipment are consistent with refocused cruises on the continental shelf, to the bottom of the slope, limited to depths of 4,000/4,500 m.

- bathymetry
- core sampling, dredging, beam trawling
- high and very high resolution seismics
- CTD/hydrology
- towed SAR-type vehicles
- moorings, station work

Here are its main characteristics:

- Ocean-going vessel
- NODC code: 35LU
- Call sign: FZVN
- Length 56m
- Crew: 16/23
- Scientists and technicians:

For more details: [http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Le-Suroit](http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Le-Suroit)
Figure 9 — Tracks of 3 cruises and legs in transit by Suroît in 2015

**BAMBI**
SALVATERRA Christian
From 03/03/15 to 11/03/15

**ESSHROV2**
SIMEONI Patrick
From 14/03/15 to 27/03/15

**MOOSE-GE**
TESTOR Pierre
COPPOLA Laurent
MORTIER Laurent
From 10/07/15 to 27/07/15
4.3.1.10 Cruises by 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](http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Marion-Dufresne)
Figure 10 — Tracks of 5 cruises and piggybacking legs in transit by Marion Dufresne in 2015

**MD 200 / LOGIPEV**  
SANGIARDI Pierre  
From 06/01/15 to 10/02/15

**VT 141 / OHA-SIS-BIO-7**  
ROYER Jean-Yves  
From 06/01/15 to 10/02/15

**VT 142 / OISO-24**  
METZL Nicolas  
LO MONACO Claire  
From 06/01/15 to 10/02/15

**VT 143 / MDCPR**  
KOUBBI Philippe  
From 06/01/15 to 10/02/15

**VT 144 / MYCTO**  
ROUDAUT Gildas  
From 06/01/15 to 10/02/15
4.3.1.11 Cruises by Pourquoi pas?

This multidisciplinary vessel is intended 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 (Nautil) 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

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Figure 11 — Tracks of 18 cruises and legs in transit by *Pourquoi pas ?* in 2015

**PROTEVS_2015**
LOUAZEL Stéphanie
From 09/01/15 to 23/01/15
**TR_SEYBRE** (Transit)
From 25/01/15 to 01/02/15
**TR_BREGDA** (Transit)
From 02/02/15 to 08/02/15

**ESS_MER**
LE BLIGUET Patrick
From 15/03/15 to 15/03/15
**TR_GDABRE** (Transit)
From 16/03/15 to 22/03/15

**ESS_PENCAR**
DUSSUD Loïc
From 28/03/15 to 03/04/15
**TR_BRELHA** (Transit)
From 03/04/15 to 08/04/15

**MOMARSAT2015**
CANNAT Mathilde
SARRADIN Pierre-Marie
From 08/04/15 to 29/04/15

**DYNSEDIM 2015**
ASC MARCHES
From 10/07/15 to 19/07/15

**ESS_PENCARSYSROV**
DUSSUD Loïc
From 21/07/15 to 30/07/15

**ESS_SISMHR**
DUDUYER Sarah
From 31/07/15 to 02/08/15

**GITAN**
TOUCANNE Samuel
From 05/08/15 to 15/08/15

**TR_SANCOS** (Transit)
From 16/08/15 to 28/08/15

**GHASS**
KER Stéphan
RIBOULOT Vincent
From 31/08/15 to 30/09/15
**TR_COSSEY** (Transit)
From 02/10/15 to 09/10/15

**ESSPENF50**
DUSSUD Loïc
From 10/10/15 to 16/10/15
**TR_SEYLON** (Transit)
From 19/10/15 to 09/11/15

**PAMELA-MOZ04**
DEVILLE Eric
JOUET Gwenaël
From 12/11/15 to 22/12/15
4.3.1.12 Cruises by 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 12 — Tracks of 18 cruises by Téthys II in 2015

MOOSE (DYFAMED)
DIAMOND-RIQUIER Emilie
From 02/01/15 to 21/12/15
MOOSE (ANTARES)
LEFEVRE Dominique
BHAIRY Nagib
From 26/01/15 to 16/12/15
PLUMRHO LEG1
GANGLOFF Aurélien
BOURRIN François
VERNEY Romaric
From 31/01/15 to 06/02/15
BOUSSOLE 2015
ANTOINE David
VELLUCCI Vincenzo
GOLBOL Melek
From 09/02/15 to 14/12/15
PLUMRHO LEG2
BOURRIN François
VERNEY Romaric
GANGLOFF Aurélien
From 23/02/15 to 01/03/15
PARTICULE LEG1
PULIDO-VILLENA Elvira
From 13/04/15 to 13/04/15
MEUST 2015 LEG1
GOJAK Carl
From 22/04/15 to 24/04/15
BIO-ARGO-MED
TAILLANDIER Vincent
D’ORTENZIO Fabrizio
From 12/05/15 to 02/06/15
MEUST 2015 LEG2
GOJAK Carl
From 04/06/15 to 06/06/15
ALTEO
LUCCIONI Marc
From 10/06/15 to 11/06/15
GEODESEA
ROYER Jean-Yves
From 17/06/15 to 22/06/15
PARTICULE LEG2
PULIDO-VILLENA Elvira
From 24/06/15 to 24/06/15
PARTICULE LEG3
PANAGIOTOPoulos Christos
From 23/07/15 to 23/07/15
BOUSS-PROV
LEYMARIE Edouard
From 30/08/15 to 30/08/15
AMOR-BFLUX
RABOUILLE Christophe
From 04/09/15 to 14/09/15
OSCAHR
DOGLIOLO Andrea
From 29/10/15 to 06/11/15
MUG_OBS_LIGUTRE
HELLO Yann
From 19/11/15 to 27/11/15
BILLION 39
KUNESCH Stéphane
From 01/12/15 to 04/12/15
4.3.1.13  Cruises by Thalassa

This fisheries research vessel is intended for the following missions:

- Population ecology
- Assessment of caught species
- Study of the distribution of resources over time and space
- Techniques for catching and processing of seafood
- Physical oceanography
- Occasional deployment of remotely 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:** 3SHT
- **Call sign:** FNFP
- **Length:** 74m
- **Crew:** 16/25
- **Scientists and technicians:** 25

**Co-owned IEO (SPANISH) – IFREMER**

For more details: [http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Thalassa](http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-hauturiers/Thalassa)
Figure 13 — Tracks of 13 cruises and legs in transit by *Thalassa* in 2015

**IBTS 2015**  
VERIN Yves  
From 10/01/15 to 11/02/15

**TV_MARPORT**  
NOKIN Marc  
From 12/02/15 to 16/02/15

**ESS SISM**  
PACAUT Anne  
From 19/02/15 to 23/02/15

**TR_BREMIN** (Transit)  
From 05/03/15 to 18/03/15

**PIRATA FR25**  
BOURLES Bernard  
From 18/03/15 to 16/04/15

**TR_MINBRE** (Transit)  
From 17/04/15 to 27/04/15

**PELGAS 2015**  
DORAY Mathieu  
DUHAMEL Erwan  
From 29/04/15 to 02/06/15

**RREX**  
THIERRY Virginie  
From 05/06/15 to 10/07/15

**TR_BREBOU** (Transit)  
From 19/09/15 to 23/09/15

**CGFS2015**  
TRAVERS-TROLET Morgane  
From 23/09/15 to 15/10/15

**EVHOE 2015**  
PAWLOWSKI Lionel  
SALAUN Michèle  
LEAUTE Jean-Pierre  
From 17/10/15 to 01/12/15

**TR_BRECON** (Transit)  
From 01/12/15 to 02/12/15

**TR_CONBRE** (Transit)  
From 22/12/15 to 23/12/15
4.3.1.14 Cruises by Thalia

*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](http://www.flotteoceanographique.fr/La-flotte/Navires/Navires-cotiers/Thalia)
Figure 14 — Tracks of 37 cruises and legs in transit by Thalia in 2015

TR_CONLOR (Transit)
From 03/01/15 to 04/01/15
TR_LORBRE (Transit)
From 21/02/15 to 22/02/15
ESSTECH15-TH
BISQUAY Hervé
From 22/02/15 to 25/02/15
TR_BREBAE (Transit)
From 26/02/15 to 01/03/15
MGTS 2015 LEG1
COYNEL Alexandra
SCHAFFER Jorg
From 02/03/15 to 09/03/15
TR_BAELOR (Transit)
From 09/03/15 to 10/03/15
HABENT
BROUDIN Caroline
THIEBAUT Eric
From 13/03/15 to 22/03/15
TR_ROSBRE (Transit)
From 22/03/15 to 23/03/15
SIMEO1
WOERTHER Patrice
From 26/03/15 to 27/03/15
TR_BREDOU (Transit)
From 26/03/15 to 26/03/15
RECUPIEZO
EHRHOLD Axel
From 01/04/15 to 01/04/15
TR_CONBRE (Transit)
From 15/04/15 to 16/04/15
SERABEQ-03
GREGOIRE Gwendoline
EHRHOLD Axel
From 17/04/15 to 28/04/15
SPEEDUNES
LE DANTEC Nicolas
From 29/04/15 to 17/05/15
REM2040-01
DUDUYER Sarah
LURTON Xavier
From 18/05/15 to 24/05/15
TR_BRECON (Transit)
From 25/05/15 to 25/05/15
THAPENFROM 2015
EHRHOLD Axel
DUPERRET Anne
From 26/05/15 to 06/06/15
ROCHSEDD15
CHIFFOLEAU Jean-François
From 07/06/15 to 16/06/15
TV_RECUP
LE DANTEC Nicolas
From 18/06/15 to 19/06/15
MERCAUX 2015
PAQUET Fabien
From 20/06/15 to 05/07/15
COMOR 45
FOUCHER Eric
From 07/07/15 to 24/07/15
CHALKWAVE 2015
PAQUET Fabien
From 25/07/15 to 29/07/15
TR_OUICON (Transit)
From 31/07/15 to 01/08/15
VOLT 1
SIMPLET Laure
From 14/08/15 to 17/08/15
TR_BAYCDB (Transit)
From 17/08/15 to 20/08/15
NURSE 2015
BRIND’AMOUR Anik
From 20/08/15 to 05/09/15
TR_SNZSQP (Transit)
From 05/09/15 to 10/09/15
COSB2015
CAROFF Nicolas
From 10/09/15 to 23/09/15
TR_SQPNAN (Transit)
From 23/09/15 to 26/09/15
CAMELIA 4
BRACH-PAPA Christophe
CHIFFOLEAU Jean-François
From 30/09/15 to 09/10/15
TR_SNZBOR (Transit)
From 10/10/15 to 11/10/15
<table>
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<tr>
<th>Event</th>
<th>Name</th>
<th>Dates</th>
<th>Code</th>
<th>Notes</th>
</tr>
</thead>
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<tr>
<td><strong>MGTS 2015 LEG2</strong></td>
<td>COYNEL Alexandra</td>
<td>From 12/10/15 to 20/10/15</td>
<td>TR_BORLTU (Transit)</td>
<td></td>
</tr>
<tr>
<td><strong>CARMOLIT 2015 LEG2 / SIMEO-02</strong></td>
<td>QUEMENER Loïc</td>
<td>From 22/10/15 to 24/10/15</td>
<td>TR_DOUBRE (Transit)</td>
<td></td>
</tr>
<tr>
<td><strong>REM2040-02</strong></td>
<td>PACAULT Anne</td>
<td>From 29/10/15 to 04/11/15</td>
<td>TR_BRECON (Transit)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>From 24/10/15 to 24/10/15</td>
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<td>From 05/11/15 to 06/11/15</td>
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</tbody>
</table>
4.3.1.15 Cruises aboard other vessels (not including FLEET-JSU)

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.

**BREBENT-CRUSTACÉS-JUIN2015**

*Small vessel Le Pépère*
CARLIER Antoine
LAURANS Martial
From 25/06/15 to 27/06/15

**HAWKEYE3-GDM**

*Sepiola (University Rennes 1)*
CORDIER Céline
BAJJOUK Touria
From 08/09/15 to 09/09/15
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**

<table>
<thead>
<tr>
<th>Cruise</th>
<th>Dates</th>
<th>Zone</th>
<th>Chief scientist</th>
<th>Chief scientist's laboratory</th>
<th>Number of days</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEEM 2015</td>
<td>18 to 20/03/15</td>
<td>Ligurian Sea</td>
<td>MOUSSEAU Laure</td>
<td>LOV, Oceanology observatory in Villefranche</td>
<td>3</td>
</tr>
<tr>
<td>DIMAPLAN 2015</td>
<td>06 to 07/07/15</td>
<td>Ligurian Sea</td>
<td>MOUSSEAU Laure</td>
<td>LOV, Oceanology observatory in Villefranche</td>
<td>2</td>
</tr>
<tr>
<td>GEOMAST</td>
<td>20 to 24/10/15</td>
<td>Ligurian Sea</td>
<td>DESSA Jean-Xavier</td>
<td>UMR GeoAzur, UPMC</td>
<td>5</td>
</tr>
<tr>
<td>GEONICE-2015</td>
<td>18 to 21/02/15</td>
<td>Ligurian Sea</td>
<td>Petit Carole</td>
<td>Geoazur, Univ Nice</td>
<td>4</td>
</tr>
<tr>
<td>GRE-M1</td>
<td>15 to 17/03/15</td>
<td>Ligurian Sea</td>
<td>Doan Mai-Linh</td>
<td>UJF, ISTERRE-OSUG</td>
<td>3</td>
</tr>
<tr>
<td>IAO 2015</td>
<td>16 to 20/09/15</td>
<td>Ligurian Sea</td>
<td>MOUSSEAU Laure</td>
<td>LOV, Oceanology observatory in Villefranche</td>
<td>5</td>
</tr>
<tr>
<td>IPGP2015</td>
<td>13 to16/02/15</td>
<td>Ligurian Sea</td>
<td>Cogné Jean-Pascal</td>
<td>Paleomagnetism team, IPGP</td>
<td>4</td>
</tr>
<tr>
<td>LASALLE-BEAUVAIS 2015:01</td>
<td>26 to 29/09/15</td>
<td>Ligurian Sea</td>
<td>BAILLEUL Julien</td>
<td>Geosciences Dept, Institut Polytechnique LaSalle-Beauvais</td>
<td>4</td>
</tr>
<tr>
<td>LILLE 1</td>
<td>29 to 30/04/15</td>
<td>Ligurian Sea</td>
<td>WITT César</td>
<td>Lecturer, University of Lille 1</td>
<td>2</td>
</tr>
<tr>
<td>M1-P6</td>
<td>01 to 04/05/15</td>
<td>Ligurian Sea</td>
<td>MIGEON Sébastien</td>
<td>Hazards and vulnerability team, Géozaur</td>
<td>4</td>
</tr>
<tr>
<td>MAGIRAA</td>
<td>11 to 14/03/15</td>
<td>Ligurian Sea</td>
<td>PICHAT Sylvain</td>
<td>Dept of Earth Sciences, Ecole normale superieure de Lyon</td>
<td>4</td>
</tr>
<tr>
<td>MAST-ENS</td>
<td>30/09 to 03/10/15</td>
<td>Ligurian Sea</td>
<td>CHAMOT-ROOKE Nicolas</td>
<td>UMR 8538, CNRS</td>
<td>4</td>
</tr>
<tr>
<td>PHYBIO_2015</td>
<td>23 to 28/03/15</td>
<td>Gulf of Lion</td>
<td>WAGENER Thibaut</td>
<td>MIO - UM 110, University AIX-MARSEILLE - OSU Institut Pytheas</td>
<td>6</td>
</tr>
<tr>
<td>PHYOCE</td>
<td>01 to 04/04/15</td>
<td>St Tropez</td>
<td>ZAKARDJIAN Bruno</td>
<td>UFR Sciences &amp; Technologies, Univ Toulon (MIO UMR7294)</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total**                                   | **54**

For RV Téthys II, 54 days were used for training cruises.
For RV Côtes de la Manche, 34 days were used for training cruises.

### 4.3.2.2 Cruises aboard station boats

The 6 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 assessment of these vessels' activity (in number of days at sea, except for RV Néréïs where the number of outings were taken into account) over the past 6 years shows that the utilization of each boat can vary from one year to another. However, the total number of outings is fairly constant (1,051 outings per year on average).

For 2015, the activity of station boats can be broken down as follows:
The table below shows the distribution of days at sea by vessel and by field of activity for the year 2015. For RV Néréis, this is given in the number of outings at sea (and not the number of days).

<table>
<thead>
<tr>
<th>Marine Station</th>
<th>Ship</th>
<th>Year</th>
<th>Research</th>
<th>Observation</th>
<th>Teaching</th>
<th>Technology</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banyuls</td>
<td>Néréis</td>
<td>2015</td>
<td>174</td>
<td>63</td>
<td>84</td>
<td>23</td>
<td>43</td>
<td>387</td>
</tr>
<tr>
<td>Marseille</td>
<td>Antodon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>168</td>
</tr>
<tr>
<td>Arcachon</td>
<td>Planula</td>
<td></td>
<td>81</td>
<td>25</td>
<td>30</td>
<td></td>
<td>4</td>
<td>140</td>
</tr>
<tr>
<td>Wimereux</td>
<td>Sopia</td>
<td></td>
<td>23</td>
<td>27</td>
<td>12</td>
<td>3</td>
<td>4</td>
<td>60</td>
</tr>
<tr>
<td>Roscoff</td>
<td>Neomysis</td>
<td></td>
<td>58</td>
<td>59</td>
<td>32</td>
<td>1</td>
<td>1</td>
<td>151</td>
</tr>
<tr>
<td>Grest</td>
<td>Albert Lucas</td>
<td></td>
<td>71</td>
<td>30</td>
<td>29</td>
<td>2</td>
<td>2</td>
<td>134</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>496</td>
<td>248</td>
<td>205</td>
<td>31</td>
<td>57</td>
<td>1037</td>
</tr>
</tbody>
</table>

The following graphs show the distribution of days at sea by vessel (or outings for RV Néréis) broken down by field of activity. The great majority by far of sea outings is devoted to research and marine observations.
4.4 LIST OF CRUISES

The alphabetical list of cruises performed in 2015 is given below. Information about each of the cruises is available on the cruise catalogue site http://www.ifremer.fr/sismerData/jsp/campagnesALaMer.jsp by clicking [CTRL + left CLICK] on the name of the cruise.
<table>
<thead>
<tr>
<th>Cruise</th>
<th>Vessel</th>
<th>Start date</th>
<th>End date</th>
<th>Geographical area</th>
<th>Name of chief scientist</th>
<th>Chief scientist’s laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABRACOS</td>
<td>Antea</td>
<td>29 09 2015</td>
<td>21 10 2015</td>
<td>SW Atlantic (20 W boundary)</td>
<td>BERTRAND Arnaud</td>
<td>IRD SETE CENTER, IRD</td>
</tr>
<tr>
<td>ALTEO</td>
<td>Téthys II</td>
<td>10 06 2015</td>
<td>11 06 2015</td>
<td>Western Mediterranean Basin</td>
<td>BOUCHOUCHA Marc</td>
<td>IFREMER TOULON CENTER, Ifremer</td>
</tr>
<tr>
<td>AMOR-BFLUX</td>
<td>Téthys II</td>
<td>04 09 2015</td>
<td>14 09 2015</td>
<td>Western Mediterranean Basin</td>
<td>RABOUILLE Christophe</td>
<td>LSCE CLIMATE AND ENVIRONMENTAL SCIENCES LABORATORY, CEA</td>
</tr>
<tr>
<td>ANTITHESIS2 DEPLO</td>
<td>Antea</td>
<td>02 02 2015</td>
<td>07 02 2015</td>
<td>Caribbean Sea</td>
<td>MARCAILLOU Boris</td>
<td>IRD - UMR 082 GEOAZUR, IRD</td>
</tr>
<tr>
<td>ANTITHESIS2 RECUP</td>
<td>Antea</td>
<td>02 07 2015</td>
<td>09 07 2015</td>
<td>Caribbean Sea</td>
<td>LEBRUN Jean Frédéric</td>
<td>UMR 5243 - GEOSCIENCES MONTPELLIER - UNIVERSITÉ ANTILLES, University of the French West Indies and Guiana</td>
</tr>
<tr>
<td>ASPEX7</td>
<td>Côtes De La Manche</td>
<td>01 07 2015</td>
<td>03 07 2015</td>
<td>Bay of Biscay</td>
<td>MARIE Louis</td>
<td>OPS/LPO- OCEAN PHYSICS LABORATORY, Ifremer</td>
</tr>
<tr>
<td>BAMBI</td>
<td>Le Suroît</td>
<td>03 03 2015</td>
<td>11 03 2015</td>
<td>Western Mediterranean Basin</td>
<td>SALVATERRA Christian</td>
<td>SHOM - BREST CENTER, French Navy/SHOM</td>
</tr>
<tr>
<td>BILLION 39</td>
<td>Téthys II</td>
<td>01 12 2015</td>
<td>04 12 2015</td>
<td>Western Mediterranean Basin</td>
<td>KUNESCH Stéphane</td>
<td>CEFREM MARINE ENVIRONMENT RESEARCH AND TRAINING CENTER, University of Perpignan</td>
</tr>
<tr>
<td>BIO-ARGO-MED</td>
<td>Téthys II</td>
<td>12 05 2015</td>
<td>02 06 2015</td>
<td>Eastern Mediterranean Basin</td>
<td>D’ORTENZIO Fabrizio</td>
<td>OCEANOGRAPHY LABORATORY OF VILLEFRANCHE (LOV), University of Paris VI - UPMC</td>
</tr>
<tr>
<td>BOUSSOLE 2015</td>
<td>Téthys II</td>
<td>09 02 2015</td>
<td>14 12 2015</td>
<td>Ligurian Sea</td>
<td>GOLBOL Melek</td>
<td>OCEANOGRAPHY LABORATORY OF VILLEFRANCHE (LOV), University of Paris VI - UPMC</td>
</tr>
<tr>
<td>BOUSSOLE 2015 (155)</td>
<td>L’Europe</td>
<td>19 01 2015</td>
<td>23 01 2015</td>
<td>Ligurian Sea</td>
<td>GOLBOL Melek</td>
<td>OCEANOGRAPHY LABORATORY OF VILLEFRANCHE (LOV), University of Paris VI - UPMC</td>
</tr>
<tr>
<td>BOUSS-PROV</td>
<td>Téthys II</td>
<td>30 08 2015</td>
<td>30 08 2015</td>
<td>Western Mediterranean Basin</td>
<td>LEYMARIE Edouard</td>
<td>OCEANOGRAPHY LABORATORY OF VILLEFRANCHE (LOV), University of Paris VI - UPMC</td>
</tr>
<tr>
<td>BREBENT-CRUSTACÉS-JUIN2015</td>
<td>Other vessel</td>
<td>25 06 2015</td>
<td>27 06 2015</td>
<td>English Channel</td>
<td>CARLIER Antoine</td>
<td>DYNECO-LEBCO COASTAL BENTHIC ECOLOGY LABORATORY, Ifremer</td>
</tr>
<tr>
<td>CAMELIA 4</td>
<td>Thalia</td>
<td>30 09 2015</td>
<td>09 10 2015</td>
<td>Bay of Biscay</td>
<td>CHIFFOLEAU Jean-François</td>
<td>DPT RBE / UR BIOGEOCHEMISTRY &amp; ECOTOXICOLOGY (NANTES), Ifremer</td>
</tr>
<tr>
<td>CARACALHIS / HAÏTI-BGF</td>
<td>L’Atalante</td>
<td>16 12 2015</td>
<td>26 12 2015</td>
<td>Caribbean Sea</td>
<td>ELLOUZ-ZIMMERMANN Nadine</td>
<td>FRENCH PETROLEUM INSTITUTE (IFP), Institut français du pétrole</td>
</tr>
<tr>
<td>CARMOLIT 2015 LEG1</td>
<td>Côtes De La Manche</td>
<td>06 03 2015</td>
<td>07 03 2015</td>
<td>Bay of Biscay</td>
<td>QUEMENER Loic</td>
<td>RDT - DPT TECHNOLOGICAL RESEARCH &amp; DEVELOPMENT, Ifremer</td>
</tr>
<tr>
<td>Cruise</td>
<td>Vessel</td>
<td>Start date</td>
<td>End date</td>
<td>Geographical area</td>
<td>Name of chief scientist</td>
<td>Chief scientist's laboratory</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------</td>
<td>------------</td>
<td>-----------</td>
<td>-------------------------------------</td>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CARMOLIT 2015 LEG2 / SIMEO-02</td>
<td>Thalia</td>
<td>22 10 2015</td>
<td>24 10 2015</td>
<td>Bay of Biscay</td>
<td>QUEMENER Loïc</td>
<td>RDT - DPT TECHNOLOGICAL RESEARCH &amp; DEVELOPMENT, Ifremer</td>
</tr>
<tr>
<td>CASSIOPEE</td>
<td>L’Atalante</td>
<td>18 07 2015</td>
<td>24 08 2015</td>
<td>SW Pacific (140 W boundary)</td>
<td>MARIN Frédéric</td>
<td>LEGOS SPATIAL GEOPHYSICS AND OCEANOGRAPHY LABORATORY, CNRS</td>
</tr>
<tr>
<td>CGFS2015</td>
<td>Thalassa</td>
<td>23 09 2015</td>
<td>15 10 2015</td>
<td>English Channel</td>
<td>TRAVERS-TROLET Morgane</td>
<td>HMMN- ENGLISH CHANNEL-NORTH SEA FISHERIES SCIENCES DEPARTMENT, Ifremer</td>
</tr>
<tr>
<td>CHALKWAVE 2015</td>
<td>Thalia</td>
<td>25 07 2015</td>
<td>29 07 2015</td>
<td>English Channel</td>
<td>PAQUET Fabien</td>
<td>BUREAU OF GEOLOGY &amp; MIN. RESEARCH/GEO (BRGM, ORLEANS), BRGM</td>
</tr>
<tr>
<td>CHEST</td>
<td>Alis</td>
<td>05 11 2015</td>
<td>25 11 2015</td>
<td>Pacific Ocean</td>
<td>MAGALON Hélène</td>
<td>UMR ENTROPIE, University of Réunion island</td>
</tr>
<tr>
<td>COMOR 45</td>
<td>Thalia</td>
<td>07 07 2015</td>
<td>24 07 2015</td>
<td>English Channel</td>
<td>FOUCHER Eric</td>
<td>HMMN- ENGLISH CHANNEL-NORTH SEA FISHERIES SCIENCES DEPARTMENT, Ifremer</td>
</tr>
<tr>
<td>CORALCAL-5</td>
<td>Alis</td>
<td>28 09 2015</td>
<td>15 10 2015</td>
<td>SW Pacific (140 W boundary)</td>
<td>PAYRI Claude</td>
<td>UMR ENTROPIE, IRD</td>
</tr>
<tr>
<td>COSB2015</td>
<td>Thalia</td>
<td>10 09 2015</td>
<td>23 09 2015</td>
<td>English Channel</td>
<td>CAROFF Nicolas</td>
<td>STH- FISHERIES SCIENCES AND TECHNOLOGIES DEPARTMENT, Ifremer</td>
</tr>
<tr>
<td>C2FN-KULLENBERG-ARMORIC</td>
<td>Côtes De La Manche</td>
<td>07 04 2015</td>
<td>09 04 2015</td>
<td>Celtic Sea</td>
<td>MACE Eric</td>
<td>ROSCOFF BIOLOGICAL STATION (OSU-SBR), CNRS</td>
</tr>
<tr>
<td>DARSE</td>
<td>Haliotis</td>
<td>11 10 2015</td>
<td>11 10 2015</td>
<td>Western Mediterranean Basin</td>
<td>LE DOARE Jacques</td>
<td>GENAVIR BREST, Ifremer</td>
</tr>
<tr>
<td>DCE 4-1</td>
<td>L’Europe</td>
<td>30 03 2015</td>
<td>21 04 2015</td>
<td>Western Mediterranean Basin</td>
<td>TOMASINO Corinne</td>
<td>IFREMER TOULON CENTER, Ifremer</td>
</tr>
<tr>
<td>DCE 4-2</td>
<td>L’Europe</td>
<td>08 09 2015</td>
<td>14 09 2015</td>
<td>Western Mediterranean Basin</td>
<td>TOMASINO Corinne</td>
<td>IFREMER TOULON CENTER, Ifremer</td>
</tr>
<tr>
<td>DIVACOU 8 HROV</td>
<td>L’Europe</td>
<td>13 10 2015</td>
<td>23 10 2015</td>
<td>Western Mediterranean Basin</td>
<td>BOUHIER Marie-Edith</td>
<td>IFREMER TOULON CENTER, Ifremer</td>
</tr>
<tr>
<td>DYNAMO</td>
<td>Haliotis</td>
<td>19 05 2015</td>
<td>29 05 2015</td>
<td>Bay of Biscay</td>
<td>CHAUMILLON Eric</td>
<td>LITTORAL ENVIRONMENT &amp; SOCIETIES (LIENSS) - UMR 7266, University of La Rochelle</td>
</tr>
<tr>
<td>DYNAMOSEINE LEG1</td>
<td>Côtes De La Manche</td>
<td>25 04 2015</td>
<td>30 04 2015</td>
<td>English Channel</td>
<td>HUGUET Arnaud</td>
<td>UMR 7619 - METIS, University of Paris VI - UPMC</td>
</tr>
<tr>
<td>DYNAMOSEINE LEG2</td>
<td>Côtes De La Manche</td>
<td>25 09 2015</td>
<td>30 09 2015</td>
<td>English Channel</td>
<td>HUGUET Arnaud</td>
<td>UMR 7619 - METIS, University of Paris VI - UPMC</td>
</tr>
<tr>
<td>Cruise</td>
<td>Vessel</td>
<td>Start date</td>
<td>End date</td>
<td>Geographical area</td>
<td>Name of chief scientist</td>
<td>Chief scientist’s laboratory</td>
</tr>
<tr>
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<tr>
<td>ELFIC LEG1</td>
<td>Côtes De La Manche</td>
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<td>21 04 2015</td>
<td>English Channel</td>
<td>COMTET Thierry</td>
<td>ROSCOFF BIOLOGICAL STATION (OSU-SBR), CNRS</td>
</tr>
<tr>
<td>ELFIC LEG2</td>
<td>Côtes De La Manche</td>
<td>22 06 2015</td>
<td>24 06 2015</td>
<td>English Channel</td>
<td>COMTET Thierry</td>
<td>ROSCOFF BIOLOGICAL STATION (OSU-SBR), CNRS</td>
</tr>
<tr>
<td>ELFIC LEG3</td>
<td>Côtes De La Manche</td>
<td>07 08 2015</td>
<td>09 08 2015</td>
<td>English Channel</td>
<td>COMTET Thierry</td>
<td>ROSCOFF BIOLOGICAL STATION (OSU-SBR), CNRS</td>
</tr>
<tr>
<td>ESS SISM</td>
<td>Thalassa</td>
<td>19 02 2015</td>
<td>23 02 2015</td>
<td>NE Atlantic (40°W boundary)</td>
<td>PACAULT Anne</td>
<td>NSE - VESSELS AND SHIPBOARD SYSTEMS, Ifremer</td>
</tr>
<tr>
<td>ESSAIS CHALUTS</td>
<td>Alis</td>
<td>14 08 2015</td>
<td>18 08 2015</td>
<td>SW Pacific (140°W boundary)</td>
<td>ALLAIN Valérie</td>
<td>SECRETARIAT GENERAL OF THE PACIFIC COMMUNITY, CPS</td>
</tr>
<tr>
<td>ESSAUVE15-EU</td>
<td>L’Europe</td>
<td>25 10 2015</td>
<td>04 11 2015</td>
<td>Western Mediterranean Basin</td>
<td>JAUSSAUD Patrick</td>
<td>IFREMER TOULON CENTER, Ifremer</td>
</tr>
<tr>
<td>ESS_ET_PO</td>
<td>Côtes De La Manche</td>
<td>11 02 2015</td>
<td>11 02 2015</td>
<td>NE Atlantic (40°W boundary)</td>
<td>DE SAINT LEGER Emmanuel</td>
<td>INSU TECHNICAL DIVISION, CNRS</td>
</tr>
<tr>
<td>ESSHROV2</td>
<td>Le Suroît</td>
<td>14 03 2015</td>
<td>27 03 2015</td>
<td>Western Mediterranean Basin</td>
<td>SIMEONI Patrick</td>
<td>IFREMER TOULON CENTER, Ifremer</td>
</tr>
<tr>
<td>ESSHROV3</td>
<td>L’Europe</td>
<td>08 05 2015</td>
<td>21 05 2015</td>
<td>Western Mediterranean Basin</td>
<td>RAUGEL Ewen</td>
<td>IFREMER TOULON CENTER, Ifremer</td>
</tr>
<tr>
<td>ESS_MER</td>
<td>Pourquoi pas?</td>
<td>15 03 2015</td>
<td>15 03 2015</td>
<td>Baltic Sea</td>
<td>LE BLIGUET Patrick</td>
<td>GENAVIR BREST, Ifremer</td>
</tr>
<tr>
<td>ESS_MOTEUR</td>
<td>Alis</td>
<td>11 07 2015</td>
<td>12 07 2015</td>
<td>Pacific Ocean</td>
<td>Transit with no chief scientist</td>
<td>GENAVIR BREST, Ifremer</td>
</tr>
<tr>
<td>ESS_PENCAR</td>
<td>Pourquoi pas?</td>
<td>28 03 2015</td>
<td>03 04 2015</td>
<td>Celtic Sea</td>
<td>DUSSUD Loïc</td>
<td>RDT - DPT TECHNOLOGICAL RESEARCH &amp; DEVELOPMENT, Ifremer</td>
</tr>
<tr>
<td>ESS_PENCARSYSROV</td>
<td>Pourquoi pas?</td>
<td>21 07 2015</td>
<td>30 07 2015</td>
<td>Celtic Sea</td>
<td>DUSSUD Loïc</td>
<td>RDT - DPT TECHNOLOGICAL RESEARCH &amp; DEVELOPMENT, Ifremer</td>
</tr>
<tr>
<td>ESSPENF50</td>
<td>Pourquoi pas?</td>
<td>10 10 2015</td>
<td>16 10 2015</td>
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### 6 Acronyms

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