

Bibliometrics: a new feature for institutional repositories

In addition to its promotion and conservation objectives, Archimer, Ifremer's institutional repository, offers a wide range of bibliometric tools described in this document.

As early as the recording stage, numerous automatic operations homogenize the information (author's name, research body, department...), thus proving the quality of the bibliometric analyses.

Now, Archimer enables, among others, the automatic calculation of several indicators defined by Ifremer and the different ministries in charge in the framework of its four-year contract. It also offers various criteria aimed at analysing its document production (eg. distribution of the value of the journals' impact factors, evolution of the number of quotations in other publications, presentation of international collaborations...).

As a consequence, the centralisation of Ifremer's document production in Archimer will replace a number of different systems currently used by its research units to carry out such tasks. This should therefore result in an increase in Ifremer's productivity as well as in a greater reliability of the archived documents.

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1. Introduction

Despite its reputed tendency to skew results, bibliometrics has taken on considerable importance over recent years, in the world of research.

Bibliometrics is, for example, used by the French government as a support system for steering public research. In this perspective, all the French public research bodies must define a set of indicators that enable their performances in their different assignments to be assessed.

Within the scope of its four-year contract from 2009-2013, Ifremer has therefore defined 58 indicators with its supervising ministries. Several of these 58 indicators pay witness to the level of production of documents by Ifremer:

- Number of international publications.
- Joint publications with European partners.
- Joint publications with French universities.
- Joint publications with French research bodies on the 187 programme.
- Joint publications with partners in the developing world
- Number of export reports / opinions published in response to an official public order
- ...

Since 2002, the Ifremer documentation department has developed a *Bibliometrics* database in order to index the articles published by Ifremer personnel in international reviews. Furthermore, the references of these publications are have been used, since 2004, to consolidate the results obtained by the OST (*Observatoire des Sciences et des Techniques* - observatory of science and technology), whose mission is to design and produce quantitative indicators on French research.

In 2010, this *Bibliometrics* database was moulded into a new version of Archimer, the Ifremer institutional archive, which now meets a three-fold objective of conservation, promotion and bibliometric analysis of the Ifremer's scientific and technological output.

In this document, we will present how this institutional archive works, with specific detail about the bibliometric tools.

2. Overview of how it works

Archimer is built around a central filing system (Figure 1) which allows interconnection between all the players in the project (authors, structures, management, library personnel). The filing system feeds the Internet and Intranet versions of Archimer.

The main objective of the Internet¹ version is to promote the scientific and technological output of Ifremer on the national and international stage, including, in particular, its articles published in refereed journals, by publishing them for full access on the World Wide Web.

The Intranet version of Archimer allows all the documents that Ifremer produces to be conserved, especially grey literature², by centralising it. This Intranet version is also a response to the need for internal promotion of this documentation: Archimer facilitates its visibility, its sharing and its reuse amongst all the Ifremer teams, whilst providing control of access rights. Lastly, centralisation of documentation enables this Intranet version to automatically supply elements of bibliometric analysis for all the types of document (publications, reports, appraisals / opinions, etc.).

The authors themselves save their grey literature in Archimer. On filing a document, they specify a level of visibility (Internet, Intranet, confidential, etc.) consistent with its degree of confidentiality and its copyright. The different levels of visibility available in Archimer make it possible to file the text in its entirety: all the references in Archimer are accompanied as a matter of course by the full text of the document in the form of one or more PDF files.

International publications are saved in Archimer by the library personnel (unlike grey literature).

¹ <http://archimer.fremer.fr>

² Reports, proceedings of conferences, posters, appraisals / opinions, theses, HDR, works, chapters of works

Some authors inform us themselves of their publications, but they are especially identified by weekly monitoring of articles in the Web Of Science (WOS) database in order to achieve collection of all the publications written by Ifremer.

The records of Ifremer publications are exported from WOS then saved in Archimer. These records are processed, standardised, enhanced and associated automatically to a set of bibliometric indicators.

The final version of the publication is systematically filed with a level of visibility limited to the Ifremer Intranet. A system of pre-drafted automatic messages enables the library personnel to contact the authors to obtain the latest draft of the publication which is then published, if the authorised by the publisher, in open access on the Internet³.

³ This method is, of course, far from being perfect, mainly because it is time consuming, **but it has allowed 80% of Ifremer's international publications to be published in open access on the internet** since 2005 (<http://archimer.ifremer.fr/open-access2010.htm>).

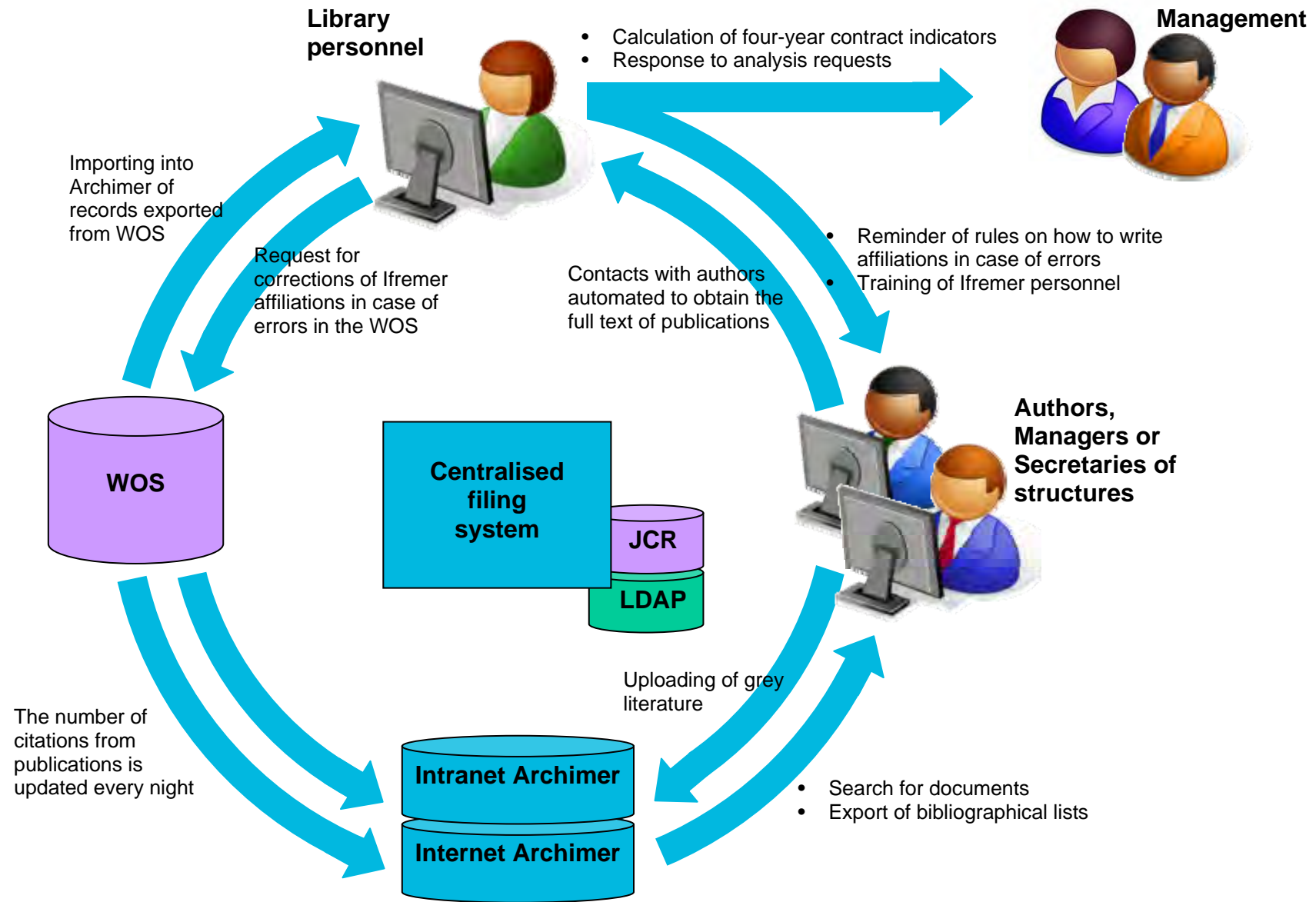


Figure 1: Overview of how Archimer works

3. International publications


3.1. Identifying publications

Following a series of analyses, the Web Of Science database was chosen as the information source for identifying Ifremer publications that have appeared in international refereed journals. The choice of WOS as the sole identification source was made possible due to the fact that there are very few social science publications amongst the documents produced by Ifremer. Regular comparisons with other databases and checks made by various teams have since reinforced the relevance of this choice.

This method helps to avoid having to rely on the willingness of the authors and their availability in order to draw up all the bibliometric analysis linked to international publications. Identifying Ifremer publications in the WOS also provides more reliable figures than a compilation of laboratory activity reports: doublets caused by joint publications by two or more departments are eliminated, multiple indications of a same publication several years running in different statuses (in press, published) are removed.

The references of Ifremer publications located in WOS are consequently recorded in Archimer. Using an automatic search function on the Institute's LDAP directory, backed up a search of the directory's logs to identify authors who have recently left Ifremer, Ifremer authors are automatically identified in these references (Figure 2-1). Each of the Ifremer authors, and therefore each of the publications, is not only associated to a laboratory but also to all the pyramid and cross-organisational structures of Ifremer: site, department, research unit, etc.

The possibility of connecting to the Institute's LDAP directory is one of the advantages of an institutional repository in relation to a central archive. The association of author and structures is automatic and reliable: since the declaration of the laboratory is not the responsibility of the person filing the record, this allows for gains in reliability and productivity. In fact, the simplicity and speed of the filing system are amongst the main qualities of Archimer that the Ifremer personnel appreciate. Furthermore, changes linked to regular reorganisation are automatically carried over into Archimer.



Nom	Prénom	Email	Organisme	Site	Sigle LDAP équipe
LUCAS	Ronan	Ronan.Lucas@ifremer.	IFREMER	NANTES	PDG-RBE-AGSAE-LGP
COURTIES	Claude				
MARTEAU	Anne-Laure				
LEMONNIER	Hugues	Hugues.Lemonnier@ifi	IFREMER	SAINT VINCI	PDG-RBE-LEADNC-LAC

Figure 2: Automatic identification of Ifremer authors in the files imported from the WOS

The e-mail addresses of all the Ifremer authors are also collected from the LDAP directory. It is thus possible to automatically send them messages throughout the publication processing process (reminder of rules on writing affiliations in case of mistakes, requests for latest drafts, proposal of quotes including the URL of the version filed in Archimer, supply of viewing statistics, etc.).

Identification of Ifremer authors also helps to pinpoint any ambiguity that may arise. For example, if no Ifremer employees are identified in a publication whilst Ifremer is mentioned in the affiliation field, it is possible that the publication has been produced by an UMR with which Ifremer is associated. If no employee of this UMR has taken part in writing the publication, the article is rejected and is not taken into account in the Ifremer indicators⁴.

These references are also compiled each year and put forward for verification to the heads of the research units (always by means of the LDAP author/structure combination). The research units also inform us of any publications which may have been overlooked when, for example, Ifremer is absent or incorrectly spelled in the affiliation field.

⁴ In other words, in Archimer, we only retain what the IRD refers to as its "strict production scope" as opposed to its "UMR production scope" (Cavet et al 2010).

Each of these publications is finally automatically enhanced by the review's impact factor value (see Figure 3-1) as well as the number of citations (see Figure 3-2). This information is updated every night via an automatic connection to the WOS.

Geological overview of the Angola-Congo margin, the Congo deep-sea fan and its submarine valleys

Type de document: Publication

Date de publication: 2009-11

Langue(s): Anglais

Doc(s) complet(s): <http://w3.ifremer.fr/bipintra/doc/00000/11128/6718.pdf> (Version officielle éditeur, 1.25 Mo)
<http://archimer.ifremer.fr/doc/00000/11128/7848.pdf> (Version "auteur", 1.73 Mo)

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Auteur(s): Savoye Bruno², Babonneau Nathalie^{1, 3}, Dennielou Bernard², Bez Martine⁴

Affiliation(s): 1 : Univ Brest, CNRS, UMR Domaines Ocean 6538, IUEM, F-29280 Plouzane, France.
 2 : IFREMER, Environm Sedimentaires Lab, F-29280 Plouzane, France.
 3 : Univ Européenne Bretagne, F-29280 Plouzane, France.
 4 : TOTAL, F-64018 Pau, France.

Source: **1** Deep Sea Research Part II Topical Studies In Oceanography (0967-0645) (Pergamon-elsevier Science Ltd), 2009-11 , Vol. 56 , N. 23 , P. 2169-2182

Facteur d'impact: 1.965 (valeur de l'année 2009, voir son [évolution](#))

WOS® Times Cited: **5** **2**

DOI: [10.1016/j.dsr2.2009.04.001](http://dx.doi.org/10.1016/j.dsr2.2009.04.001)

Indicateurs: 2009/2-copubli-univ-france : Co-publications avec des universités françaises ([Plus d'info.](#))
 WOS : Publications Ifremer référencées dans le WOS ([Plus d'info.](#))
 2009/2-copubli-france : Co-publications associant des partenaires français ([Plus d'info.](#))

Thème(s): Géologie

Mot-Clé(s): Congo Angola margin, Congo channel, Sedimentary deposits, Turbidite

Résumé: The Congo deep-sea fan is one of the largest fans in the world still affected by presently active turbidity currents. The present activity of deep-sea sedimentary processes is linked to the existence of a direct connection between the Congo River estuary and the Congo canyon head that allows relatively continuous sediment feeding of the deep-sea environment, in spite of a wide continental shelf (150 km). Because of this important activity in terms of sedimentary processes, the deep-sea environment of the Congo-Angola margin presents major interests concerning physical, chemical and biological studies near the seafloor. The main aim of this paper is to present the initial geological context of the BioZaire Program, showing a synthesis of the major results of the ZaiAngo Project including (1) the brief geological setting of the Congo-Angola margin, (2) the structure of the modern Congo deep-sea fan, (3) the sedimentary architecture of the recent Congo turbidite system (from the canyon to the distal lobes) and (4) the recent and present turbidite sedimentation. In order to provide useful information and advice relevant to biological and geochemical studies across the Congo sedimentary system, this article is particularly focused on the present sedimentary processes and the present activity of turbidity current along the Congo canyon and channel. Crown Copyright (C) 2009 Published by Elsevier Ltd. All rights reserved.

Numéro système: 11128

Comment citer ce document:

Savoye Bruno, Babonneau Nathalie, Dennielou Bernard, Bez Martine (2009). **Geological overview of the Angola-Congo margin, the Congo deep-sea fan and its submarine valleys**. *Deep Sea Research Part II Topical Studies In Oceanography*, 56(23), 2169-2182. Publisher's official version : <http://dx.doi.org/10.1016/j.dsr2.2009.04.001> , Open Access version : <http://archimer.ifremer.fr/doc/00000/11128/>

Auteur(s) Ifr.: SAVOYE Bruno : IFREMER ,BREST ,PDG-DOP-DCB-GM-LES
 BABONNEAU Nathalie : IFREMER ,BREST ,PDG-DOP-DCB-GM-LES
 DENNIELOU Bernard : IFREMER ,BREST ,PDG-DOP-DCB-GM-LES

Figure 3: Example of a record in the Intranet version of Archimer

3.2. Standardisation of addresses

Processing publication author affiliations is one of the major problems in bibliometrics. Our analysis is based on the hypothesis that the authors of a publication respect the following rule for specifying an affiliation:

Main organisation, laboratory name, address, Country

Examples:

IFREMER, UMR AMURE, Dept Econ Maritime, F-29280 Plouzane, France.
 INRA, Ecodev Unit, F-84914 Avignon 9, France.

The name of the main organisation (normally found before the first comma) and the country (after the last comma) are amongst the most significant pieces of information in an affiliation. In general, this

information is processed by computer programmes, like the processing used by WOS for example (Hologne and al, 2007), to establish international classifications such as the Shanghai classification.

Observing writing instructions and the uniformity of the organisation's name are therefore essential to avoid degrading the position of Ifremer in these classifications. Indeed, for a computer program, "Ifremer", "Ifremer Centre de Brest", "Inst Fr Rech Exp Mer", "Inst Francais Rech Exploitat Mer", "French Inst Exploitat Sea IFREMER" are all considered to be different organisations.

In this perspective, the documentation department has provided Ifremer's scientists with a series of instructions to be observed for writing affiliations. Furthermore, steps are being taken with the company that publishes the WOS to correct all the incorrect Ifremer affiliations. Lastly, today, with a new version of Archimer, we have an automated contact module which makes it possible to remind Ifremer authors, when mistakes are made, of the affiliation writing instructions (Figure 4). **Thanks to all these initiatives, only 6% of Ifremer publications in 2010 contained affiliation writing errors!**

Envoyer un message

Type de message :

Destinataire(s) :

Titre du message : Rappel

PS: Avano français Avano anglais Envoyez-nous vos publi! Enregistrez vous-même vos rapports! Info. embargo

Message:

Bonjour,

Nous avons repéré votre publication dans le Web of Sciences (WOS) et nous allons l'enregistrer dans Archimer. Pour vos prochaines publications, merci de respecter les règles d'écriture des affiliations ! Ainsi, dans votre publication, votre affiliation (**Inst Francais Rech Exploitat Mer**, Ctr Brest, F-29280 Plouzane, France) aurait dû être construite de la façon suivante : **Ifremer**, Ctr Brest, F-29280 Plouzane, France.

En effet tous les outils bibliométriques de l'ISI s'appuient sur l'intitulé de "l'organisation principale" qui est celui nommé avant la première virgule dans chaque ligne d'adresse. Il n'y a pas d'équivalence et seules les références dont le nom de l'organisme est "Ifremer" suivi d'une virgule, sont attribuées à notre Institut. Pour contribuer à une bonne visibilité des travaux de notre Institut, pour vos prochains articles, merci de :

- nommer l'adresse de l'organisme : Ifremer,....., France
- et si vous appartenez à une UMR inscrivez une ligne spécifique pour l'Ifremer.

D'avance merci pour votre attention.

Bien cordialement,
Frederic MERCEUR

Votre publication:
Rozenfeld Alejandro F., Amaud-Haond-s Sophie, Hernandez-Garcia Emilio, Eguiluz Victor M., Serrao Ester A., Duarte Carlos M. (2008). **Network analysis identifies weak and strong links in a metapopulation system**. *Proceedings Of The National Academy Of Sciences Of The United States Of America*, 105(48), 18824-18829. <http://dx.doi.org/10.1073/pnas.0805571105>

Figure 4: Automated contact system containing a set of pre-written messages (in this case, a reminder of affiliation writing rules)

These affiliation writing issues not only raise problems with regard to visibility for an organisation, but also complicate the study of collaborations between institutes. To calculate the four-year contract indicators which measure Ifremer collaborations with external organisations (e.g., with French universities, 187 group organisations or organisations in other European countries, etc.), all the affiliations for all Ifremer publications need to be standardised. When a publication is loaded, Archimer opens an affiliation standardisation module (see Figure 5). This module offers automatic standardisation (see Figure 5-2) based on an equivalence file enhanced every week. In the example presented in Figure 5, "Inst Rech Dev" is automatically transformed into "IRD" and "New Caledonia" to "France". The system also proposes manual standardisation with assistance, in the case where automatic standardisation is not satisfactory (see Figure 5-3).

Type	Titres	Général	Auteurs	Mots-clés	Résumés	Thématiques	Ensembles	Fichiers	Validation
Auteurs Affiliations Associations Auteurs / Affiliations Collectivités d'auteurs									
Adresses complètes				Organisme normalisé			Pays		
1.	Inst Francais Rech Exploitat Mer, Dept Halieut Manche Mer Nord, F-62321 Boulogne S Mer, France			IFREMER			FRANCE		
2.	Inst Rech Dev, Noumea 98848, New Caledonia			IRD			FRANCE		
3.	Paris Jussieu, Inst Phys Globe, Lab Mineral Cristallog, F-75252 Paris 05, France			UNIV PARIS 06			FRANCE		
4.									
5.									

Ajouter de nouvelles lignes

Normaliser l'adresse

Figure 5: Affiliation standardisation module

3.3. Association of publications with four-year contract indicators

3.3.1. Manual association

Once the affiliations have been standardised, the library personnel associate the publication with the relevant indicators in the four-year contract. This weekly processing of Ifremer publications provides, at the year's end, the value of these indicators in several clicks, using the analysis module presented in paragraph 5.1.2.

Adresses complètes		Organisme normalisé	Pays
1.	Univ Brest, CNRS, UMR Domaines Ocean 6538, IUEM, F-29280 Plouzané, France.	UBO	FRANCE
2.	IFREMER, Environm Sedimentaires Lab, F-29280 Plouzané, France.	IFREMER	FRANCE
3.	Univ Européenne Bretagne, F-29280 Plouzané, France.	UEB	FRANCE
4.	TOTAL, F-64018 Pau, France.	TOTAL	FRANCE

Ajouter de nouvelles lignes

Normaliser l'adresse

Indicateurs :

- WOS : Co-publi. Ifremer référencées dans le WOS
- 2009/2-copubli-france : Co-publi. avec des partenaires français
- 2009/2-copubli-p187 : Co-publi. avec les organismes de recherche du programme 187
- 2009/2-copubli-europe : Co-publi. avec les partenaires européens
- 2009/2-copubli-univ-france : Co-publi. avec les universités françaises
- 2009/2-copubli-int-hors-europe : Co-publi. internationales hors Europe
- 2009/7 : Co-publi. avec des partenaires des pays du sud

Figure 6: Manual association with four-year contract indicators

3.3.2. Batch association

Archimer also enables batches of documents to be associated to bibliometric indicators. This function is especially useful for initialising a new indicator. It also allows us to swiftly check, at the year's end, the accuracy of each of our indicators.

Figure 7 shows verification of the "Publications with French universities" indicator. The screen is therefore configured to manage this indicator (Figure 7-1). The search function (Figure 7-2) makes it possible to list all the publications in 2010 that are supposed to correspond with this indicator (articles referenced in the WOS, published in 2010 containing the words "univ" and "France" in the same affiliation line). The system makes it possible to hide the references already associated to or dissociated from the selected indicator (Figure 7-4). As a result, this makes it easier to identify publications missed out during manual assignment of the indicators (Figure 7-3). In the case where the references presented correspond to these missed publications, it is possible to assign the

references one by one (Figure 7-3) or by batch (Figure 7-5). In this example, the first reference is effectively a missed publication. However, the second is an error in the WOS.

The screenshot displays a web interface for managing indicators. At the top, there are tabs for 'Vos ensembles', 'Rechercher', 'Indicateurs', and 'Ensembles'. A red box labeled '1' highlights the 'Rechercher' tab. Below the tabs, the 'Gestion de l'indicateur' is set to '2009/2-copubli-univ-france'. A red box labeled '4' highlights the 'Masquer les fiches déjà' section, which includes checkboxes for 'Associées' (checked) and 'Dissociées'. Below this, there are three filter sections: 'Publications liées référencées dans le WOS' (with a red box labeled '2' on the left), 'Année de publication', and 'Adresse ligne'. The search results section shows two entries. The first entry is 'Efficacy and environmental acceptability of two ballast water treatment chemicals and an alkylamine based-biocide' with a red box labeled '3' on the right. The second entry is 'Deep-Sea Biodiversity in the Mediterranean Sea: The Known, the Unknown, and the Unknowable'. At the bottom, there is a section for 'Associer / Dissocier l'ensemble des documents (max. 100)' with a red box labeled '5' on the right, containing 'Associer' and 'Dissocier' buttons.

Figure 7: Assignment and verification of indicators by batch

4. Reports and expert reports / opinions

To gauge activity that does not result in writing of international publications, Ifremer has defined, along with its supervising ministries, a set of indicators within the scope of its four-year contract in order to evaluate its production of reports⁵ and expert reports / opinions. Up to 2009, these indicators were calculated by compiling the figures provided by the research units.

To enable automatic calculation of these indicators, we obtained acceptance from the Directorate General to make filing in Archimer compulsory⁶ in July 2010. **The bibliometric functions of Archimer led to the implementation of this obligation**, which also have had positive effects on the objectives of conservation and promotion. Indeed, as a result, we have been able to collect a large amount of documents which Archimer missed out on previously. Even if the majority of these documents are recorded with reduced visibility (e.g. on the Intranet), some documents are visible on the Internet and consequently they contribute, in the same way as international publications, to the visibility of Ifremer on the web. Furthermore, via a ripple effect, the filing of conference proceedings, posters and chapters of works has markedly increased even though these documents are not concerned by compulsory filing.

This mandate is applicable to expert reports / opinions published in 2009, requiring retroactive filing work. However, for reports, this obligation is only fully applicable from January 2011 onwards. For documents published in 2010, the departments still had the choice to account for their document production by means of a list of references (8 of the 24 Ifremer departments already chose to file all their reports in Archimer in 2010).

Centralisation of 2009 and 2010 expert reports / opinions in Archimer has already enabled more reliable calculation of indicators linked to this type of document: documents written in collaboration with several departments have only been counted once. Compulsory filing of the full text has also helped eliminate a set of references that did not correspond with the specifications for the type of document expected (e.g., filing of slides).

Eventually, Archimer will allow the abandonment of a multitude of different systems currently used by the different research units to perform these functions (e.g., Endnote, Access, specific developments, etc.). Therefore, gains in both productivity and quality are expected.

Centralisation of expert reports / opinions in Archimer also enables automatic calculation of the new indicator "Number of expert reports published in response to an official public order" defined by the French Budget Ministry with the scope of the French Finance law of 2010 for the 187 programme. The P187 research organisations⁷ must each year supply to the Observatory of Science and Technology (OST) tasked by the government to compile this indicator, the list of all their expert reports / opinions that correspond with this definition. These organisations must also guarantee access to these documents. Filing of expert reports / opinions in Archimer therefore simultaneously satisfies these obligations of accessibility and referencing.

5. Using bibliometric data

5.1. The tools available to Ifremer personnel

5.1.1. Several data export formats

5.1.1.1. RTF

Archimer allows its users to export data in several formats. RTF, for example, is a format compatible with MS Word and Open Office. **This format is useful for writing the bibliography section of activity reports.** It displays the documents in standardised quote form classified by type of document (see Figure 8). Using identification of Ifremer authors performed automatically via an interconnection with the Ifremer LDAP directory, each instance of filing is accounted for in all the pyramid and cross-organisational structures of Ifremer: site, department, research unit, laboratory,

⁵ Contract, trial, campaign, mission reports; briefing notes, strategic or prospective monitoring; quality documents and technical documents...

⁶ <http://archimer.ifremer.fr/depot.htm>

⁷ BRGM, Cemagref, Cirad, Ifremer, Inra, IRD

etc... Each of these structures can thus reliably isolate the documents it produces in Archimer and export its bibliography at any time during the year.

Publications
 Alvarez Marta, Gourcuff Claire (2010). **Uncoupled transport of chlorofluorocarbons and anthropogenic carbon in the subpolar North Atlantic**. *Deep-sea Research Part I-oceanographic Research Papers*, 57(7), 860-868. Publisher's official version : <http://dx.doi.org/10.1016/j.dsr.2010.03.009> , Open Access version : <http://archimer.ifremer.fr/doc/00009/11994/>

Arnaud Haond Sophie, Marba Nuria, Diaz-Almela Elena, Serrao Ester A., Duarte Carlos M. (2010). **Comparative Analysis of Stability-Genetic Diversity in Seagrass (Posidonia oceanica) Meadows Yields Unexpected Results**. *Estuaries And Coasts*, 33(4), 878-889. Publisher's official version : <http://dx.doi.org/10.1007/s7-9-9238-9> , Open Access version : <http://archimer.ifremer.fr/doc/00006/11693/>
 ...

Expertises/avis
 Larnaud Pascal (2010). **Amélioration de la sélectivité des chaluts pélagiques capturant du thon rouge**. CNPMM (Comité National des Pêche Maritimes et des Elevages marins), Ref. PDG/AB/10-062, p.4

Lespagnol Patrick, Sacchi Jacques (2010). **Détermination d'un maillage maximal autorisé pour les filets maillants dérivants de moins de 2,5 km**. DPMA (Direction des Pêches Maritimes et de l'Aquaculture), Ref. 09-2693, p.4, p.4, p.20
 ...

Figure 8: Example of exported references in RTF format

5.1.1.2. Excel

The **MS Excel** format allows references of documents to be exported into a spreadsheet. As a result, sorting and further analysis of documents filed in Archimer can be conducted. Spreadsheet 1 for example, shows a part of this information, exported in MS Excel format, for articles published in 2008. Sorting of the "WOS citations" column allows speedy identification of the most quoted Ifremer publications from 2008.

Spreadsheet 1: Example of references exported in Excel format

Title (s)	Source	Ifremer Author(s)	Impact factor	WOS citations
The Phaeodactylum genome reveals the evolutionary history of diatom genomes	Nature (0028-0836) (Nature), 2008-11 , Vol. 456 , N. 7219 , P. 239-244	Cadoret Jean-Paul	31.434	83
Age, spreading rates, and spreading asymmetry of the world's ocean crust	Geochemistry Geophysics Geosystems - G3 (1525-2027) (American Geophysical Union), 2008-04 , Vol. 9 , P. NIL_18-NIL_36	Roest Walter R.	2.979	56
Increasing genomic information in bivalves through new EST collections in four species: development of new genetic markers for environmental studies and genome evolution	Gene (0378-1119) (Elsevier), 2008 , Vol. 408 , N. 1-2 , P. 27-36	Bierne Nicolas Bachere Evelyne Bonhomme Francois Boudry Pierre Boulo Viviane Huvet Arnaud Lapegue Sylvie Moal Jeanne Samain Jean-Francois	2.578	37
Use of biotic indices in semi-enclosed coastal ecosystems and transitional waters habitats - Implications for the implementation of the European Water Framework Directive	Ecological Indicators (1470-160X) (Elsevier), 2008-07 , Vol. 8 , N. 4 , P. 360-372	Lavesque Nicolas Sauriau Pierre-Guy Desroy Nicolas	1.984	29

This type of export is useful within the scope of evaluations of Ifremer laboratories by AERES. In just a few clicks, it is possible to answer requests such as: the list of the laboratory's most quoted

publications, the list of articles published in reviews with an impact factor higher than a given value, etc.

5.1.1.3. Excel / OST

Archimer also offers several specialised export formats including an Excel multi-spreadsheet format of expert report / opinion references. This format makes it possible to provide the OST with the information required for formulating the P187 indicator “Number of expert reports published in response to an official public order” (see paragraph 4):

	B	C
1	Titre du rapport	Date de transmission
2	Avis sur un projet d'arrêté réglementant la pêche de la palourde dans la baie de Bonne Anse en 2010 pour ouverture du gisement coquillier au 1er trimestre 2011	21/12/2010
3	Rejets de cabillaud en Manche- Est / Mer du Nord	09/12/2010
4	Recommandations sur le gisement de coquilles Saint-Jacques de la baie de Saint Brieuc	17/09/2010
5	Extension et aménagement du port de la pointe Saint-Gildas sur la commune de Préfaïlles, avis 2010	11/01/2010

Figure 9: Example of an exported list of expert report / opinion references in multi-spreadsheet Excel format.

5.1.2. The analysis module

The analysis module available in Archimer is similar in terms of functions to the one proposed by the WOS. It offers the possibility of extracting a piece of information from a group of documents pre-selected by the user by means of a search. With this module, it is possible to visualise the change in four-year contract indicators year after year (see Figure 10). Many other analysis criteria are available: types of documents produced by the Ifremer, list of reviews in which the Ifremer scientists publish their work, countries and organisations with which Ifremer co-writes its publications, etc.

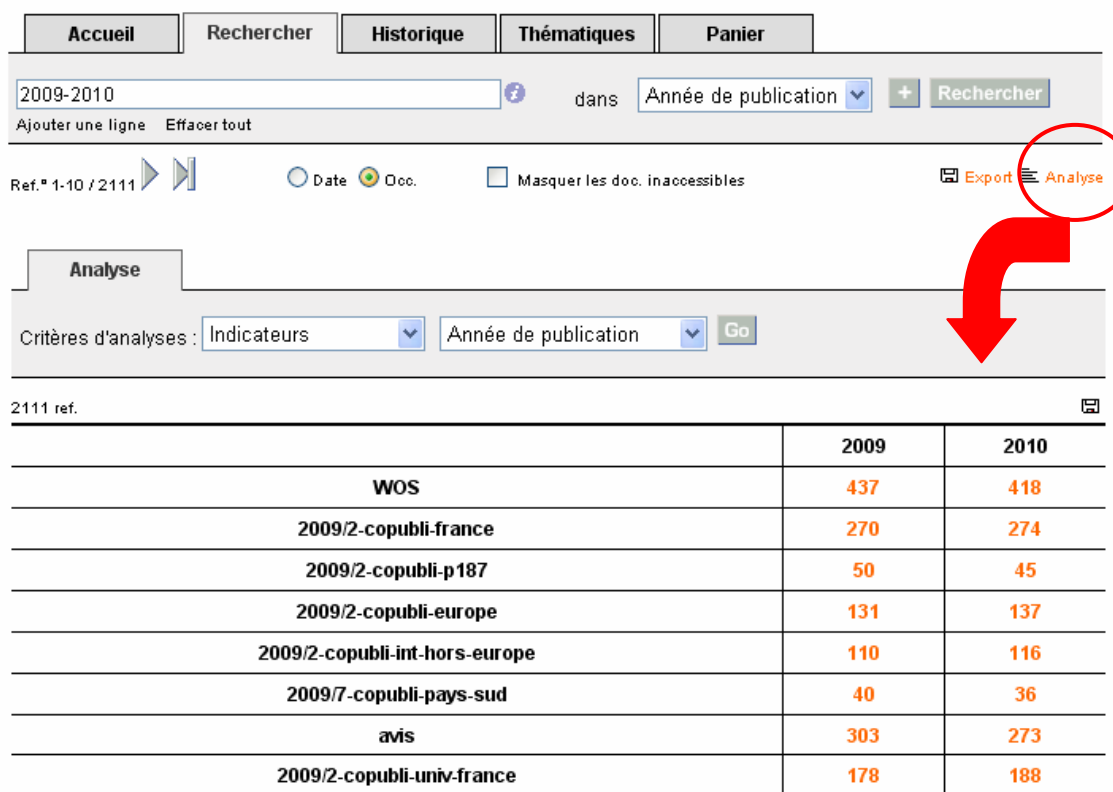


Figure 10: Data analysis module: display of change in indicators

5.2. The yearly summary report

In addition to supplying the value of the four-year contract indicators, publishing of a yearly analysis report on Ifremer's production of documents was set up in 2010, in a similar way to the report produced by the IRD for the last several years (Cavet and al, 2010). The first version of this report (Salaün and al, 2010) focuses on articles and Ifremer expert reports / opinions published in 2009. The information presented in this document is mainly taken from Archimer. It is supplemented by data from the WOS and the *Essential Science Indicators* database to provide elements for comparison between French research organisations and international organisations specialised in marine science.

The first version of this report (an extract of which is included in the Appendices) met with particular appreciation from the management of Ifremer. It allows the advantage of centralising information within an institutional archive and further data standardisation and enhancement to be highlighted.

This type of report incites the various departments to optimally populate Archimer. A comparative table, such as Table 8 in the report for example, encourages departments to ensure that the figures concerning them are complete and that the documents are correctly filed in the archive. Display of production is deliberately limited to department level and does not go down to author level so that the scientists continue to see Archimer as an opportunity to promote and/or conserve their documents and not to perceive it as another tool for checking their work.

Finally, this type of report helps to reinforce the importance of the documentation department in the Institute's bibliometric activity.

6. Conclusion

Archimer today proves to be essential for measuring the scientific and technical production of Ifremer.

Thanks to Archimer, a very significant proportion of the documents produced by Ifremer is in the process of being centralised. This represents success and recognition for the documentation department, which is gaining new activities whilst some of its traditional missions are declining markedly (e.g., management of hard copy archives and reception of the public in reading rooms). The success of Archimer is particularly linked to the fact that each party, at Ifremer, benefits from its advantages:

- For Ifremer scientists, today, with more than 10,000 documents in their full-text versions, Archimer represents a considerable source of information, and especially with regard to in-house grey literature. Furthermore, the detailed viewing statistics that we supply demonstrate the advantages of them continuing to file the documents that they produce.
- The heads of various structures (laboratories, research units, etc.) possess high-performance export functions enabling them to speedily and simply obtain the bibliography of their team to incorporate it into an activity report, display it on the web or supply information within the scope of an assessment.
- For the management of Ifremer, Archimer is a reliable and constantly readily accessible source of bibliometric data on the documents produced by the institute.

The success of the Archimer project is also partially due to its integration: using the same tool, we manage objectives related to conservation, promotion and bibliometric analysis of scientific and technical documents produced by Ifremer. Each of these three aspects participates in the success of the two others.

7. Bibliography

Salaün Annick, Merceur Frederic, Le Gall Morgane (2010). Production scientifique et technique 2009 de l'Ifremer - Articles de revues et avis/expertises.

Cavet Dominique, Lemeltier Doriane (2010). Suivi des publications IRD : rapport annuel portant sur l'année 2008 et les évolutions entre 1999 et 2008.

<https://www.mpl.ird.fr/documentation/download/rapport-2008-final.pdf>

Odile Hologne, Laure Martineau, Suzy Ramanana (2007). Analyse des recommandations pour les affiliations dans les publications scientifiques

Appendices

Examples of bibliometric data automatically exported from Archimer
(Extract from the report by Salaün et al, 2010)

1. Publications

1.1. Change in the number of publications

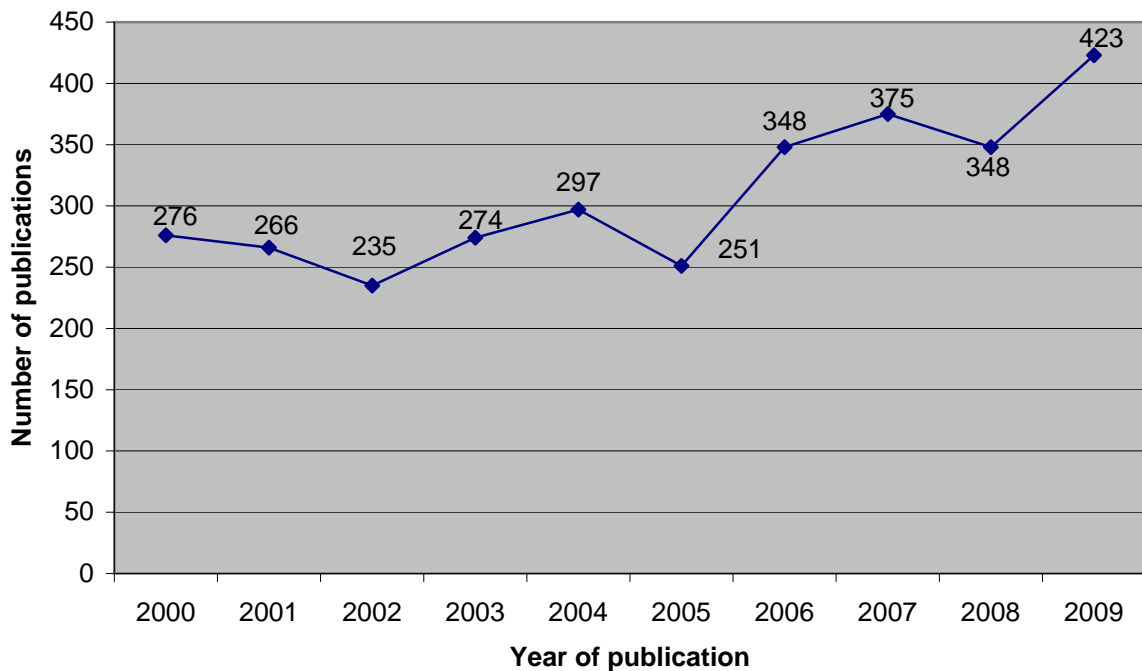


Figure 11: Yearly change in the number of Ifremer publications referenced in the WOS with at least one author employed by Ifremer

1.2. Collaboration

1.2.1. Collaboration between organisations

Table 2: List of structures with whom Ifremer has jointly published at least 10 articles in 2009

	Country	Publications
Université de Bretagne Occidentale	France	56
CNRS	France	41
Université Paris 6	France	34
INRA	France	25
Université de la Rochelle	France	21
Université de Montpellier	France	19
Université de Bordeaux	France	18
IRD	France	17
Université de Nantes	France	14
MNHM	France	12
Collecte Localisation Satellites (CLS)	France	11
Woods Hole Oceanographic Institution	USA	10
...		

1.2.2. Collaborations with countries

In 2009, Ifremer jointly published articles with partners located in 48 different countries.

Table 3: List of countries of co-signatories of Ifremer publications in 2009

Country	Publications
United Kingdom	43
Usa	39
Germany	24
Spain	22
Norway	17
Italy	15
Portugal	15
Canada	14
Australia	12
Netherlands	12
...	

1.3. The reviews

1.3.1. The main reviews

In 2009, the 423 Ifremer publications referenced in the WOS were found in 179 different reviews. The main reviews of these 179 are displayed in the following table:

Table 4: List of the leading 10 reviews in which Ifremer published in 2009

Journal	Publisher	Publications	Pourcentage
Aquatic Living Resources	EDP Sciences	33	7,80%
Deep Sea Research Part II: Topical Studies in Oceanography	Elsevier	17	4,02%
Aquaculture	Elsevier	16	3,78%
ICES Journal of Marine Science	Oxford Journals	16	3,78%
Marine Geology	Elsevier	10	2,36%
Cahiers Agricultures	John Libbey Eurotext	8	1,89%
Journal of Geophysical Research	American Geophysical Union	7	1,65%
Geophysical Research Letters	American Geophysical Union	7	1,65%
Continental Shelf Research	Elsevier	7	1,65%
Deep-Sea Research Part I: Oceanographic Research Papers	Elsevier	7	1,65%
...			

1.3.2. The main publishers

The table below shows a list of the main publishers of reviews in which Ifremer published in 2009. It illustrates the domination of the publisher Elsevier in the field of scientific publishing.

Table 5: List of the leading publishers of Ifremer articles

Publisher	Publications	Pourcentage
Elsevier	176	41,61%
Wiley / Blackwell	35	8,27%
Edp Sciences	33	7,80%
Springer	26	6,15%
Agu	20	4,73%
Oxford University Press	17	4,02%
American Meteorological Society	11	2,60%
John Libbey Eurotext	8	1,89%
The Oceanography Society	7	1,65%
Inter-Research	6	1,42%
...		

1.3.3. Impact factors

Figure 12 shows the distribution of impact factor values of the reviews for Ifremer publications in 2009.

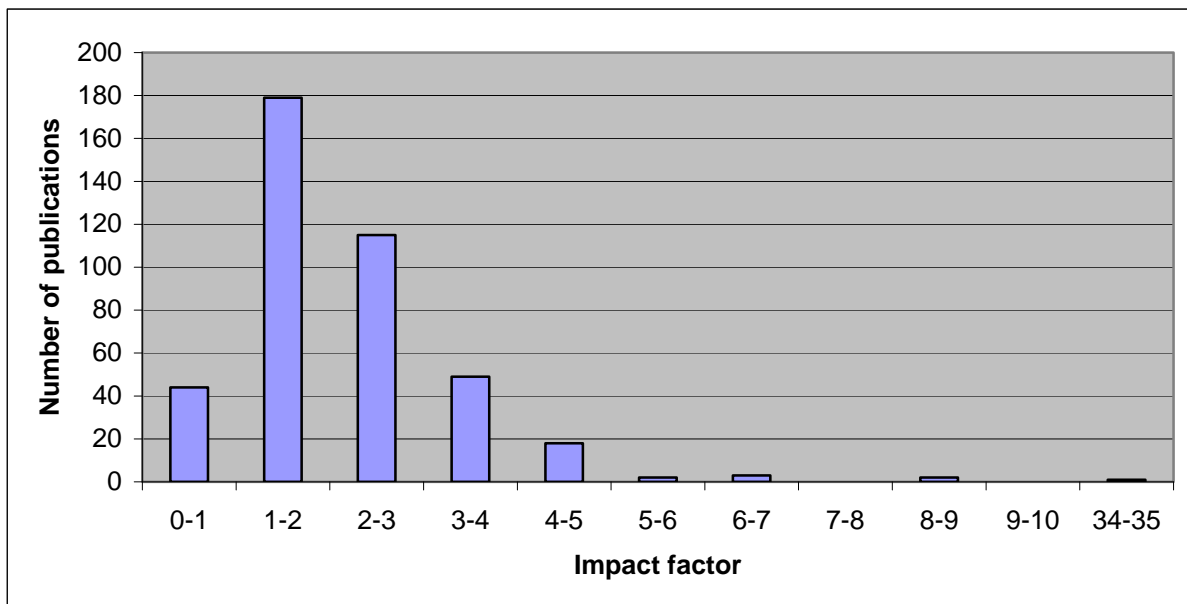


Figure 12: Distribution of IF for reviews in which Ifremer published in 2009

2. Expert reports / opinions

2.1. Status of sponsors

Table 6: Status of sponsors of expert reports / opinion in 2009

	Expert reports / opinions	National sponsors	European sponsors	International sponsors	Sponsors from developing countries
Public	268	241	17	5	4
Privé	25	20	2	2	1
Total	293	261	19	7	6

2.2. Profiles of French public sector sponsors

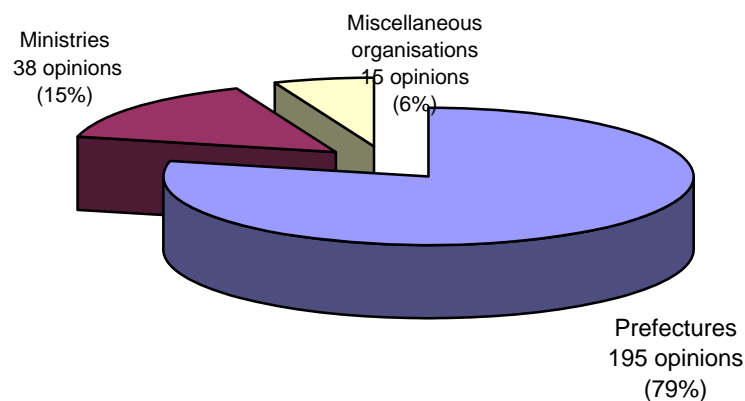


Figure 13: Distribution of French public sector sponsors

2.3. Location of prefectures that have requested the opinion of Ifremer

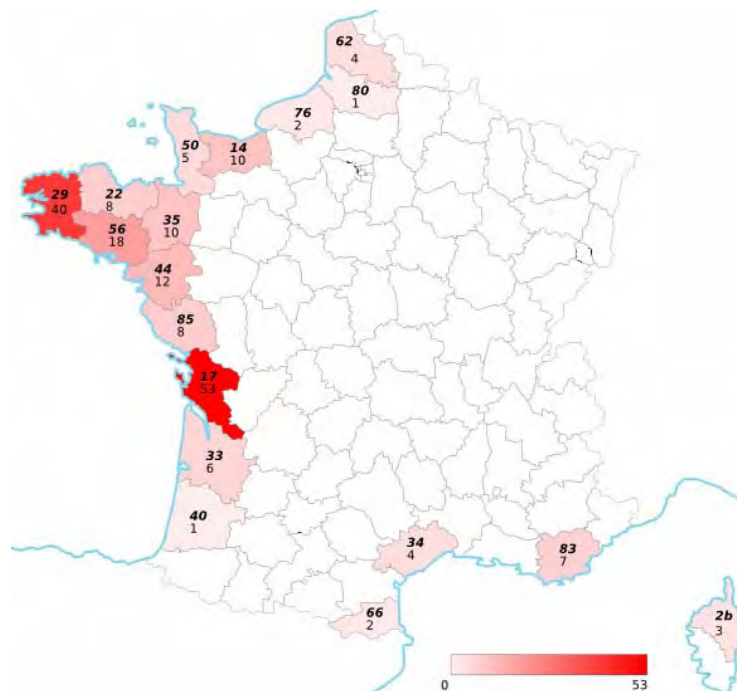


Figure 14: Location of prefectures that have requested the opinion of Ifremer.

3. Contribution of Ifremer entities and authors

Table 7: Document production on different Ifremer sites

	Publications	Opinions
Brest	262	59
La Tremblade	20	123
Nantes	70	32
...		

Table 8: Document production of Ifremer departments

Units	Sigle	Publi.	Opinions
Amélioration Génétique, Santé Animale et Environnement	AGSAE	37	93
Dynamiques de l'Environnement Côtier	DYNECO	26	21
Géosciences Marines	GM	70	16
...			

Table 9: Number of Ifremer employed authors of publications and expert reports / opinions in 2009

	Publications	Opinions
Nombre d'auteurs Ifremer	460	112