## IMIS

# INTEGRATED MARINE INFORMATION SYSTEM 

INPUT MANUAL VERSION 1.0

## December 2006



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## Flanders Marine Institute (VLIZ) Oostende, Belgium 2006

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## IMIS - A GENERAL INTRODUCTION

Information management is one of the great challenges of this day. The internet has resolved technical issues in getting access to data, and largely excluded costs associated with transferring this information. Search engines like Google make it easy to find information. The information end-user is now confronted with an overload of information. Judging the relevance and the authority becomes more of a problem. Seeing the information in context is another challenge.

IMIS, the Integrated Marine Information System, has been created to organise the information available about marine science in Flanders. It is a tool to record what work has been done by whom, from which institute, resulting in which datasets and publications. Projects describe the framework in which the work was done. Information on conferences and other events keep track of meetings. A planned module on infrastructure will allow better documentation of the instruments that were used to do the scientific research, and facilitate sharing of expensive equipment. The information stored in IMIS forms a road map, guiding the user through the marine sciences in the Flanders.

As an example, consider the following situation. We want to collate all information available about a marine research group, consisting of three scientists. They collaborate in the framework of a project dealing with the influence on sea level rise on coastal fauna. For a period of time, raw data are collected, research is conducted hypotheses are formulated and tested. The end results are published in an international journal, after scientists have presented preliminary results of the work in symposia and conferences - sometimes alone, sometimes with several co-authors. In the course of their research, they have been affiliated to several institutes, and after finalising the project they returned to their respective home institutions. Raw data, both on physical oceanography and the species distribution records, have been deposited in international archives. If we want to be able to give a complete overview of all relevant information, and keep it in its context, we have to be able to store, reproduce and interlink the following elements:

- Names and institutional affiliations of the researchers; contact addresses
- Names of institutes where the research was conducted, where data is stored, involved in other ways (e.g. sponsor) in the project
- Identification and description of the project
- Temporary project results, including datasets, reports, contributions in proceedings and other publications; final publication in peer-reviewed international journals
- Datasets, both generated by the project, and third-party-generated datasets used by the project team in their research
- Infrastructure and methods used

At the time IMIS was first conceived, no single system was able to store such a diverse array of information elements. Of course, for several of these elements, software did exist. Library catalogues especially are a subject of much software development, and several packages were available, in all grades of complexity, and ranging from freeware to very expensive applications. To keep track of institutes and people, one can use a simple address book. Likewise, alternatives did exist for the other components of the database we wanted to develop. We opted not to use these existing solutions, but to build a new system in-house. The main reasons to do so were to avoid duplication of information across the different applications, and the ease with which different the information in the different modules could be integrated.

Database developers will be familiar with the term 'normalisation' - basically making sure all relevant information is present in the system once and only once. The advantage of normalisation is that duplication and thus potential conflicting information is avoided, and, more important from the user point of view, that data and information has to be entered and updated only once. Much effort is often spend in normalising applications. Very often different applications are used for different information needs within a single institute, with little or no effort to try and normalise across applications. IMIS was our attempt to normalise all information requirements of the whole institute.

The other argument to build IMIS was to enable us to build a system in which the information would be tightly coupled across the different modules. It should be easy to find all projects and datasets in which a scientist has participated, which institute he was working on while he/she was involved in a project or
writing a paper, which instruments were used... Building those links is easier if one has complete control over the system.

The structure of IMIS is highly atomised to enable all this interlinking. A couple of examples to illustrate this:

- Names of multiple authors on a publication are not stored in a simple text field, but in a series of records, with each author's name in a separate field (in technical terms, a many-to-many relationship). This increases the complexity of the database, but makes it possible to record much more information on authors, including the links to institutes, projects... Also, the spelling of author names can be standardised, so that searches for publications are more reliable; without this standardisation, each spelling variation in the name would be interpreted as a separate author.
- Again, institutes involved in a project are all stored as separate records, in a many-to-many relationship between institutes and projects. Like for authors, standard lists of institutes can be created. The role of an institute in a project can be documented, and we can for example discriminate between the scientific institute and the sponsor of the research.

The end user of the information is often not concerned on how he sees his problem solved - whether his query is resolved by consulting and expert, a book or a database, for example. But managing different types of information separately complicates such cross-cutting queries. At best it necessitates special mechanisms to bring results from different databases on one page; at worst, technical or institutional problems can make such queries impossible. In IMIS, the different information elements are described using a structure that is as uniform as possible, and using common vocabularies across elements - thesaurus terms, parameter dictionaries, taxonomic terms, gazetteer. This greatly increases the reliability of queries formulated against all information elements simultaneously.

To design the structure of the different modules, we took existing applications and standards into account. It was important, in the development of IMIS, to retain compatibility with initiatives of some of our partners, and to keep the door open for possible information exchange. Some of these compatibility considerations are listed below. A consequence of the highly atomised structure of IMIS is, that it is usually possible to use IMIS to create an output that is compatible with another format. Usually this involves concatenation of the content of several fields, which poses no problems. The converse, of course, is equally true. To import into IMIS, from many other applications, we have to split fields in their different sub-components, a task which always is difficult, and sometimes impossible, to automate.

In order to retain compatibility with the activities of some of our main collaborators, we took into account several data and information applications while designing the modules of IMIS. For the structure for people and institutes, we took into consideration the Blue pages initiative of AODC; EDMED, an initiative of the EU; and GLODir, the system used by IODE. The structure for project was compared with the one from EDMERP, a EU project. The initial structure for publication was nothing but an SQL implementation of the CDS-ISIS application used by ASFA; work for the future will be to generate OAI-compliant export. For datasets/metadata, an initial implementation was an SQL version of the GCMD standard; later this was refined and updated. The present metadata structure will be mapped to the recently defined ISO 19115 standard for geo-spatial metadata.

IMIS is a single database, supporting multiple applications. The database is the sum of overlapping subsets of records, each of which can be made selectively visible depending on the context in which the user is looking at the database. Some of the contexts that have been defined are driven by projects in which VLIZ is involved - e.g. MarBEF (Marine Biodiversity and Ecosystem Function) or the ScheldeMonitor. The first has a Europe-wide geographic scope, but is restricted to biodiversity for the subject matter. The second one is not restricted in subject matter, but is restricted in scope. A visitor to the MarBEF web site will see a different collection of information elements than a visitor to the ScheldeMonitor.

The ' $M$ ' in IMIS is a historical accident. IMIS could equally be used to support many other projects in need of information management, and is in fact already in use for information management outside marine sciences. Often this will require setting up different controlled vocabularies. But the general,
modular structure seems to be valid for several environmental science-related information management projects. Maybe the ' $M$ ' should be redefined as standing for 'Modular'.

IMIS is available under conditions of open source. It will be more formally presented under GNU license as soon as documentation and installation is further refined. It is hoped that more communities will take up the use of IMIS, and that further development of the system will be able to draw on the resources of these communities.

## IMIS - SECURITY

There are several layers of security involved in IMIS.
At the lowest level we have the logins and respective passwords on the database.
Most of the users log on to the database using Windows Security. There are several user groups defined in our Windows Domain and these groups have been given access to several databases on our MS SQL server. In this case no passwords are stored on the SQL Server.
Another option is using database users, saving a password on the SQL Server. This type of user is moreover used on the web interfaces, whereas the Windows Security type is used for input through the MS Access interface.

A second level of security, without passwords, is saved in three IMIS tables; IMISLogins, IMISUsers and IMISUse. These tables define who can edit in which module and both the web interface and access interface make use of these tables.

- IMISLogins contains a record for each user, also linking back to the persons module. Most important field in this table is 'SysUser' containing the login passed to the SQL Server by Windows. This will be <domain>/<user> in case of Windows Security, or <DB login> when using a database login. If the 'SysUser' exists in the IMISLogins table and is also recognised by the SQL Server, the person can log on.
- IMISUsers is a list of typical IMIS user types; each module has a user and power user. In short, power users can alter more on the forms (e.g. change the Checked Flag).
- IMISUse joins IMISLogins and IMISUsers, defining the user types per login

To continue on the MS Access interface, once you click on the logon button a new session will be created. Whenever you create or change a record on the main table of a module the ID of your current session will also be saved in that record. In this manner it is possible to check who created or changed (last changes only!) a certain person, institute and so on

Next to logging in another security measure has been added to the MS Access interface. Upon logging on the form will still be in 'Locked' mode, switch to 'Edit' mode by clicking on the login-lock-edit button once more. Each time you switch to another record you will be put back in 'Locked' mode. One can freely switch between Locked (click on 'Edit') and Edit (click on 'Lock') mode.

The most commonly used user in the web interface is the database login 'anyone'. This user only has datareader rights on our databases and is used for most web search interfaces. IMIS uses another db user 'IMISweb' for altering records through the web interface.
Before you can edit any record you have to enter your web account login and password.
All web accounts are stored in 'Tools' -a separate database- in which is denoted to which part of the site a certain person has access. Another thing saved in this database is the person his or her IMIS (person) ID.
In short; you log on to the site with your web account, only if you may access the IMIS part of the site and if your IMIS ID is filled in, you may enter the web interface.
Using the IMIS ID we link back to the IMISLogins table and use the security settings for the different modules again.

Future developments will allow giving people the access rights to only edit there own record (while prohibiting them to edit all other person records). It will also be possible to edit within a certain special collection (read: subset) only.

## IMIS - GENERAL MENUS, TOOLS AND FORMS

To support navigation and editing through the whole database, several general tools and menus have been added to the MS Access interface.

## Language picker



When entering the IMIS database, the first window is the "language picker". Here you can select the language in which you would like to work with the database. This function will show field labels in the chosen language where available.

## Main menu



After selecting your language, you have to log on to the system. Doing so, your name and a session ID-number appear at the bottom of the main menu screen. Each time you log on, a new session ID number is created, making it possible to retrace which person has made changes to a certain record.

## Persons-button

Gives access to the Persons module and input forms.

## Institutes-button

Gives access to the Institutes module and input forms.

## Conferences-button

Gives access to the Events module and input forms.

## Projects-button

Gives access to the Projects module and input forms.

## URLS-button

Gives access to the URLs module and input forms.

## LIBRARY-BUTTON

Gives access to the Library \& Literature module and input forms.

## DATASETS-BUTTON

Gives access to the Datasets module and input forms.

## InFRASTRUCTS-BUTTON

Gives access to the Infrastructures module and input forms.

## SELECTIONS-button

Gives access to the Selections module and input forms (not further discussed in this manual). See also in section Persons Module under Selections-tab.

## Status (pick list)



This field provides information on the status of the complete record. This list is reused in every module. From a pick list, the following possibilities are available:

- Deleted: this record contains information that should be taken out of the database. Instead of actually deleting the record, the status can be set on deleted. The record will then get a red colour, indicating that someone should check if this record can be taken out of the database, without losing any important information.
- Out of use: the record is (temporarily) not used. However, it may become valid again at a later stage and thus will not be deleted.
- Valid: is the default; a new record is always seen as a valid record.


## Edit/Lock function

$$
\begin{array}{l|l|l}
\text { Lock } & \text { OR } & \text { Edit } \\
\hline
\end{array}
$$

Upon logging on any form will still be in 'Lock' mode, switch to 'Edit' mode by clicking on the Login-Lock-Edit button once more. Each time you switch to another record you will be put back in 'Lock' mode. One can freely switch between Lock (click on 'Edit') and Edit (click on 'Lock') mode. This function has been built in as a safety measure: you cannot just start typing in afield. This way, no valuable information can be lost accidentally.

## Tick boxes



These boxes are used for various checks and controls:

- Public: ticking this box, presents the information of this (part of the) record on the VLIZ and other websites, depending on the assigned "Special collections" (see further).
- Checked: this box is used for control purposes, to indicate whether the (part of the) record has already been checked for its correctness.
- VLIZ core: this box indicates if the information in this record should be visible on the VLIZ website. This is used in combination with the 'public' flag and 'special collections.


## Clipboard

The clipboard is a window in which you can temporarily store text strings. You can find the clipboard almost anywhere in the system and it is module-independent. Information can be copied to the clipboard, minimized and re-used in the same or another module.

You can open the clipboard by pressing . This button is shown in most windows in IMIS. When opening the clipboard, following screen appears:


Within the clipboard, you have the choice between two independent parts, in which you can stock information. Close the window $(\underline{x}$ ) when you are finished. Once closed, all information stocked is lost!

## Special Collections

Special collections are collections of objects that can be grouped together according to their content, formal characteristics or other custom criteria. They are module-independent and can group everything that is described in IMIS. The advantage is that grouping certain projects, datasets, publications, persons and institutes becomes very easy.

An example: the special collection 'Marine Biodiversity and Ecosystem Functioning' groups all persons, institutes, publications and datasets that are a result of or part of the MarBEF European Network of Excellence and makes sure that their information is shown on the MarBEF website.

When using special collections and the VLIZ core and public flag, please bear in mind to:
check the 'public' flag if a record is not for internal use only check the 'VLIZ core' flag if a record can be shown on the main IMIS site select a special collection if a record can be shown on that respective site


There is also a Special Collections management form:


## Name

Give the English name of the special collection.

## Dutch Name

Give the Dutch name of the special collection.

## ShortName

Give the acronym of the special collection.

## PublicFlag

If the special collection must be available for everyone consulting the web catalogue, mark this checkbox. Otherwise, leave it blank.

## Internal Note-tab

This is a free-text field that can be used to store information regarding the special collection. This field is for internal use only.

## Public Note-tab

The same as the 'Internal Note'-tab, but can be viewed by everyone.

## Linked Items-tab

Special collections can be used overall throughout IMIS. From this field, you can check which objects from which modules are related to the special collection.

## URLs

The 'URLs'-subform, available in almost any module, can be used to define a link between a (part of a) record and a URL (Uniform Resource Locator; website-address). URLs are further handled in the 'URLs'-module. For editing of the URL, you have to go to the specific module. By pressing the 'GoTo'button, you can interact with the URL-module.


Besides entering the URL itself, the type of URL has to be defined also.

## URL

Choose the URL from the pick list. If it is not present, type the URL and press 'Enter'. Following screen will appear.


At this moment, you are in the 'URLs'-module. Keep in mind that URLs are entered as e.g. www.test.ora and not http://www.test.ora. Simply click 区 and the url you added can be chosen in the pick list.

## TYPE

Choose the type of information the URL connects to.

## Info



The 'Info'-subform, available in all forms, gives more information about who was the creator of the record and who was the last to modify it. This can be useful for control and query purposes.

## IMIS - PERSONS MODULE

## Introduction

The modules 'Persons' and 'Institutes' are two very narrowly interlinked modules. These modules aim at describing persons and institutes. The main goal of these modules is to describe the institutes and inform on the people involved in the research done at these institutes. This involvement can be very broad: from governmental institutions to nature conservation groups, from the secretary or general contact person to the actual researchers. All this information allows to describe the overall expertise, the overlapping or complementary expertise between institutes and their researchers/employees, and to decide which people are best to be contacted for certain questions or problems. The combination of both modules also serves as an address book for the user. By querying these modules, contact information is easily gathered for e.g. all institutes or persons involved in marine pollution research.

## Linked modules

As mentioned in the introduction, the person module is closely interlinked with the institute module, but there also exists a strong link with the other modules available in IMIS (publications, datasets, projects and conferences). As most of these modules contain information on the involved persons (persons responsible for a certain project or dataset, authors of a book or article), it is very important that the information contained here is entered with great care.

As the spelling of a name is not always easy, it is advised to always double-check the spelling or to search on a part of the name instead of the full name. An advantage of the structure of this module is that both the first name and the surname can be searched separately.

## General information

The upper part of the form contains information on the name of a person and how to address this person in mailings. Completing this part of the form as correctly as possible is important, as both the surname and first name fields are searchable.


## Perid

Unique identifier of the person record, assigned automatically by the database

## SURNAME

Surname of the person

## Firstaname

First name or names of the person

## Initials

Initial or initials of the person

## Title (Pick list)

Several possibilities are represented in a pick list, to indicate how this person should be addressed

## Year of Birth

Birth year of the person (if known)

## Function

If a person has a certain function for life - which is independent of the institute he or she is working at this can be entered here, e.g. governor

## Addressed as

How the person should be addressed in an email or a letter. This field is used for personalised mailings and mail merge purposes.

## Status (PICK LIST):

See section general menus under Status (pick list).

## USE HOME ADDRESS:

This flag denotes if a person prefers receiving all communication on his home address or not. If this check box is left blank, all mailings will be send out to his or her first institute address.

## Institutes-tab



If the institute is already in the database, you can enter (a part of) the name in the 'search for an institute beginning with' field and then press the 'search' button. It is strongly recommended to always check first whether an institute is already in the database or not. If it is not yet available, you have to switch to the institute module, create the institute and then perform your search in the person module again (creating an institute is discussed further on).

The database will give you a list of institute names that match your search criteria. You can select the correct institute from the list. Once this has been done, the upper field will change into a grey 'institute' field. The grey colour indicates that no changes can be made to this field.

If a person is connected to more than one institute, multiple "institute" records can be created, each with their specific information as described below. Be sure to fill in the institutes in order of importance, using the order number. This order sequence will also be used on the website and - as mentioned before - when the 'use home address' flag is not checked, the address of the first institute (orderNr = 1) will be used in mailings.

## OrderNr

If a person is only affiliated with one institute, this institute automatically receives an order number ' 1 '. If this person has connections with more than one institute, the numbers will match the order in which the institutes appear on the website. A second institute record will automatically receive an order number ' 2 '. If however, this order should change over time, the order numbers can easily be adapted manually.

## FunctionNL

The specific function of this person within the institute, in Dutch e.g. professor, wetenschappelijk medewerker, docent, secretaris, ...

## Functionen

The specific function of this person within the institute, in English e.g. professor, scientific staff member, teacher, secretary, ...

## Direct address



The direct address is defined as the direct contact address of this person at his institute. If the actual address (street and postal info) of the person is identical to the address of the institute, then the address is not entered again. The information entered here mostly involves a personal phone number and email at the institute. If the phone number would be identical to the general phone number of the institute, then this number is not entered in these direct address fields.
The notes field can be used to add extra information on the contact details of this person at the institute. These notes are not shown on the website.

## Institute address



All the fields in the 'institute address' are in a grey colour, indicating that nothing can be changed here. The institute address is automatically added, as soon as an institute has been assigned to a person. If there would be a mistake in the institute address, one can only correct this in the 'institute' module. Click on the 'go to' button to go directly to the correct record in the institute module. There you can edit the address information. This information will be updated automatically in the person record.

## Extra info



## Checkbox 'no longer working in this institute'

Checking this box indicates that this person is no longer working in this institute

## BeginDate

The date this person started working at the institute

## EndDate

The date the person stopped working at the institute

## Reason

If necessary, a reason can be given why this person is no longer connected to this institute. This reason is never shown on the website.
e.g. retirement, deceased

## URLs on Person~Institute



The institute website can host personal pages on their employees (an overview of their CV, a list of publications or projects they are working on, etc.). In this case, the URL to this personal page on the institute website can be entered here.
Keep in mind that URLs are entered as e.g. www.test.ord and not http://www.test.ord

## Home address-tab



Clicking on 'edit' makes the 'create home address' button available. When this is clicked, a new window will appear where a number of fields can be completed.
Line1 to 4 can be used for the address. The country can be selected from a pick list.
If phone, cell phone (GSM), fax numbers and email address are available, these can be entered in the respective fields. Additional information on the address can be added in the 'notes' field.
Click on 'submit' to transfer the information to the record. When information needs to be changed, this can be done directly in the home address record.

There are some specific rules for entering address information:
Phone and fax: +32-(0)57-20 7382 ; +30-(0)2810-33 7853 ; +49-(0)431 600-1200
Exception: in Italy, the zero is never put between brackets, as this number always has to be dialled (even when calling from abroad).
Cell phone (GSM): +32-(0)498-52 2645
Postal codes: 24148 Kiel ; 71003 Iraklion ; 8400 Oostende ; ...
Never put e.g. B-8400 Oostende. The postal country letter-code is not used here.

## Member data-tab



This section is created to give an overview of the VLIZ membership status of a person. Here, an indication is given of the year and type of membership (individual, institutional, student). The tick boxes show whether a person is an active member (involved in VLIZ activities, member of the scientific commission, etc.) and if this person has to pay a yearly contribution or not. Normally, when becoming a member, each person should also send a copy of his CV. When this has been done, the corresponding tick box is checked.

The member data section has been created for internal use and is not visible on the web.

## Selections-tab



Selections are used to connect a person to a certain mailing list. Upon registration for an event, a person receives a corresponding selection, making it easier to compile a list of participants or to take care of the follow-up mailings or letters.
When a publication has to be sent out, a query compiles all the necessary information on the subscribers of this publication (name and address) and through the use of mail merge, this is printed on address labels.

An extra function has been inserted to choose whether a person receives mail at his work or his home address ('use home address for this selection' tick box) or at a certain institute, using the address of that particular institute.
The selections section has been created for internal use only and is not visible on the web. There is a specific input form to create new selections (not discussed here).

## Special Collections-tab



See section general menus under Special Collections.

## URLs-tab

See section general menus under URLS.

## Keywords-tab

Keywords are seldom assigned to persons. This item will be discussed in detail in the Institutes Module section.

## Info-tab



See section general menus under $\underline{\underline{I n f o}}$.

## IMIS - INSTITUTES MODULE

## Introduction

This module is designed to capture all relevant information on institutes. The recorded data is rather extensive; an institute is - next to its employees - also linked to a set of keywords making it possible to look up an institute using topics as 'aquaculture'. Thanks to the IMIS structure, it is possible to link and display all events, projects, publications or datasets that are connected to this institute in one way or another.

In analogy with a person name, an institute name is not always easily spelled. So we strongly recommend you to double-check if the institute is already recorded in the system. In the database, within the institute module, the English name, the original name and the acronym are searchable fields.

The person and institute modules taken together can be compared with the 'yellow pages', being a very easy tool to look up directory information. The more information you make available on an institute, the more refined the search may become and the better the search results will be.

## General information



The upper part of the form only contains the English name of the institute. If the original name of the institute is not in English, the offical English name should be looked up. The English title or 'standard title' field is mandatory; when no English name is available, fill in three dashes '---'.

## INsID

Unique identifier of the institute record, assigned automatically by the database

## Status (PICK LIST):

See general menus under Status (pick list).

## Details-tab



## Parentinstitute

If the institute does not form an entity on its own, but is actually a part of a bigger institute or organisation, you have to define the 'parent' here. Make sure to fill in the highest institute part first, going on to the next part one level down. This avoids unnecessary record switching and mistakes.
E.g. "University of Aberdeen; School of Biological Sciences; Ocean lab" = the available information. Start off with searching for any of the several part of the institute full name. It is possible that the 'School of Biological Sciences' can be found, whereas 'University of Aberdeen' is lacking. Viewing the 'School of Biological Sciences'-records may reveal that 'Aberdeen' was typed wrongly in the parent record. After the search, you will know which institutes will have to be created.

## Full standard name

This field can be generated automatically by making use of one of the following buttons:

## Top-bottom level

In the case of the given example, clicking this button will generate the following: 'University of Aberdeen; Ocean lab', thus creating a full name for the institute only using the highest parent and the institute name.

## All levels

Clicking this button will generate 'University of Aberdeen; School of Biological Sciences; Ocean lab', thus creating a full name using all the upper levels.

Which button is used, depends on the official naming of the institute. However, in some cases, the topbottom level name will not be sufficient for recognizing an institute.

For example a university has several departments of which two have a Laboratory, this will result in two institutes with this generic name: <Institute>; Laboratory. On the other hand, generating a full name with all levels may result in a name filling up several lines. That is why it is possible to edit the generated name afterwards. Add another level or use the all levels name in the first case, and omit one or more levels or use acronyms in the second.

## Acronym

This is the abbreviated name of an institute.

## Part category (pick list)

If the institute is a university or part of a university structure, this specific part can be defined from a pick list with the following options:

```
Department
Faculty
University
Lab(oratory)
Section
Unit
```


## INSTITUTE TYPE (PICK LIST)

Every institute can be categorised under a certain institute type. If an institute can be classified under two or more types, you should choose the most valid type.

```
Administrative (e.g. governmental organisations)
Commercial (e.g. consultancy and assistance offices)
Education
Foundation
International (e.g. Unesco)
Scientific (e.g. universities)
Others
Unknown
```


## Check boxes:

See section general menus under Tick boxes.

## Names-tab

## Original name



Although the standard title field always has to be completed in English, the institute name is in most cases not originally English. If this is the case, the original name can be put in the 'original name' field and the original language can be selected from a pick list.
When the original title is in English, only the English or standard title field is filled in.
Original Name
The name of the institute in the original language

## LANGUAGE (PICK LIST)

Select the original language from a pick list.

## Сheckbox 'TRANSLATED by VLIZ'

If VLIZ staff has made its own translation from the original language, this box is checked.

## Full Original Name

As with the Full English name, one can form a full name using the original names of an institute. All rules for generating a full English name also apply. However, when the original name of a parent is not given, its English name will be used.

## Previous/succeeding institute



In case of name transition of an institute it is advised to change the name of the existing institute record to the new name, and create a new institute in the database using the old name. Next up is referring to the previous name of an institute in the respective tab in the old record. This way, there is no need to move all employees, projects... records to a new record bearing the new name. People looking for the old name on the website will be referred to the correct record.

## Address-tab



Clicking on 'edit' makes the 'create address' button available. A new window will appear where a number of fields can be completed.
Lines 1 to 4 are used for the address. The country can be selected from a pick list. If phone, cell phone (GSM), fax number and email address are available, these can be entered in the respective fields. The notes field can be used to add extra information on the contact details of the institute. These notes are not shown on the web.
Click on 'submit' to transfer the information to the record. When information needs to be changed or added, this can be done directly in the address record.

If an institute has a parent and resides on the same location as the parent (e.g. a department of an institute), you should only fill in the address on the parent record. Use the address form only to fill in a specific phone number or email address.

There are some specific rules for entering address information:
Phone and fax: +32-(0)57-20 7382 ; +30-(0)2810-33 7853 ; +49-(0)431 600-1200 Exception: in Italy, the zero is never put between brackets, as this number always has to be dialled (even when calling from abroad).
Cell phone (GSM): +32-(0)498-52 2645
Postal codes: 24148 Kiel ; 71003 Iraklion ; 8400 Oostende ; ...
Never put e.g. B-8400 Oostende. The postal country letter-code is not used here

## Abstracts-tab

## English abstract



## Abstract field

The abstract or summary information should aim at providing the reader with a good overview of the nature of the institute. The information covered should certainly include the domain of expertise of the institute and an overview of their main tasks or research fields. The abstract can be very synoptic or more elaborate, depending on the activities they are involved in. This information should be given in English.

Tick boxes

## Abstract was translated by VLIZ:

VLIZ staff has made a translation from the original language to English

## Abstract was composed by VLIZ:

VLIZ staff has created an abstract

## Abstract in other language



## Abstract field

If the institute is not of English origin, the abstract in the original language has to be put here. The abstract should contain the same information as described above (see English abstract).
If the institute is of English origin, this field remains blank.

## Language picker (pICK list)

The original language can be selected from the provided pick list.

## Divisions-tab



This section is filled in automatically. If a new institute is coupled to a higher level in the institute name hierarchy, this new name is automatically mentioned in the division part of its parent institute. By clicking on the 'go to' button, one can easily go to the respective division records to change or add information. This gives a good overview of all the different sub-divisions of a certain institute and it is an easy way to go to the record of the sub-division.
All the fields are in grey, and it is not possible to change anything here, but only in the corresponding record itself.

## Employees-tab



An overview of all the persons working or previously working in the institute is given. If given, their function is displayed, together with the start and end date of their employment. The person names are in grey, indicating that the names can't be changed here. For editing the person records or adding another employee, switch to the person form using the 'Go To' button.

## FunctionNL

The function of the person within the institute, in Dutch.

## Name

The (non-editable) name of the person, given in a standard format.

Go то
Clicking this button will take you to the person record; it is used for viewing or editing the particular data of the person.

## Checkbox

This box matches the 'no LONGER working in this institute' button in the person module.

## Begindate

If known, the start date of employment at the institute is filled in here.

## Enddate

If known, the end date of employment at this institute is filled in here.

## Projects-tab



The 'projects' part gives an overview of all the projects the institute is or was involved in. The grey colour of the fields indicates that no information can be added or changed here. To edit the project record, switch to the project form using the 'Go To' button.

## MemberData-tab

This section is only used on the person level. For a detailed description of the use of this, we refer to the Person Module section.
Member Data information is never assigned on the institute level.

## Special Collections-tab



See section general menus under Special Collections.

## URLs-tab



See section general menus under URLS.

## Keywords-tab



The keywords are subdivided into four categories. It is important to fill in these keywords as correctly as possible as they are all searchable fields on the website (separately or combined). An accurate enumeration of keywords also makes it possible to look for institutes with a comparable field of research.
For each of these subdivisions, more than one keyword can be assigned.
GEOGRAPHICAL TERMS (PICK LIST)
An extensive pick list of geographical locations is provided to select a number of geographical terms that are related to the area of research and/or expertise of the institute.

## Thesaurus terms (pick list)

These keywords are based on the AFSA thesaurus (see the Literature Module section for extensive description of this thesaurus). A thesaurus provides a standard language or set of terms with which to describe a subject area. Making use of these standardised keywords makes it fairly easy to look up e.g. databases or publications dealing with the same subject (e.g. shrimp).

TAXONOMIC TERMS (PICK LIST)
If an institute is working on a specific taxonomic group or species, this taxon can be defined here.

## Other TERMS (PICK LIST)

If the keyword you are looking for is not available in any of the other lists, one can search for it here or add it to the list of 'other terms'

For more detailed information on these indexing functions, see Literature Module section under Taxonomic Terms, Geoaraphical Terms, Other Terms, and ASFA-specific fields.

## Info-tab



See section general menus under Info

## IMIS - LITERATURE MODULE

## General concepts

When it comes to publications, a very specific bibliographic structure is maintained within IMIS. This structure, which is based on the ASFIS-guidelines, is explained in the paragraph 'Biblioaraphic level'.

After defining the correct bibliographic level of a publication, it has to be described on three different input levels (entity, reference and instance level). An explanation of this principle is given below in the paragraph 'Input levels'.

Part of the reference-structure is determined at the level of the indexer. For instance, bold or superscript coding has to be entered together with the data itself, using the specific html-tags.

## Specific Literature tools

## Show the reference

In the Literature forms, thisbutton is available. By pressing it, the data entered is shown as how it will appear in the user interface:

| ERHTML |  | $\times$ |
| :---: | :---: | :---: |
| Brys, R: Ysebaert, T; Escarawage, V.; Van Damme, S; Wan |  |  |
| Braeckel, A ; Vandewoorde, B; Wan Den Bergh, E. (2005). |  |  |
| Afstemmen van referentieconcities en evaluatiesystemen in |  |  |
| functie van de KRW: afleiden en beschriven van typespecifieke |  |  |
| orergangswatertype wanuit de - overeenkomstig de KRW |  |  |
| kwaliteitselementen Verslag van het Institwut voor |  |  |
| Natuurbehoud, 2005(7). Instituut woor Natuurbehoud: |  |  |
| Brussel |  | - |

This button is used to check on spelling, html-tags, etc.... without having to open the record in a browser.

## Bibliographic level

Each publication being described, has a specific bibliographic level in IMIS. This level is derived from the nature of the work (is it an article, a book or a series, or a book in a series, etc.). A combination of three codes is used to define that bibliographic level:

## A: for analytic <br> M: for monographic <br> S: for serial

Following is a description of each code, the bibliographic levels that can be formed and how to assign a bibliographic level to describe the document being catalogued.

## The analytic level (A)

The analytic level of a biographic record describes a document that is part of a larger bibliographic unit, such as a chapter in a book, an article in a journal, a map in a report or book, or a paper in a bound volume of conference proceedings. The analytic is always the lowest bibliographic level and refers to the part of the document that will not be further subdivided for bibliographic description. This level is never independent and must be combined with the monographic and/or serial levels. For example, a record that describes a chapter in a volume published within a series will contain the analytic level for the chapter, the monographic level for the volume and the serial level for the series (AMS). In this example, the monographic and serial levels are necessary for the full description of the publication in which the chapter is contained.

The worksheets for the analytic level are the following:
AS (analytic/serial), describes an article in a journal or newspaper
AM (analytic/monographic), describes a chapter in a book or report, a paper in a bound volume of conference proceedings
AMS (analytic/monographic/serial), describes a chapter in a book or in a report published in a series

## The monographic level (M)

The monographic level of a record describes a document which can either stand alone as a selfcontained bibliographic entity, or can be split (for the purpose of bibliographic description) into analytics, or can be recorded as a part of a larger bibliographic entity (such as a collection of a series). Thus, although a one-level monographic record can stand alone as an independent unit (M), it can also be combined with the analytic and serial levels.

The worksheets for the monographic level are the following
M (monographic), describes a book, a patent, a report, a map, a standard or a thesis which stands as a one-level monographic record
(monographic/serial), describes a book/volume/report/thesis or annual report published in a series

## The serial level (S)

The serial level of a record describes a publication, issued in successive parts over an indefinite period of time, usually but not always with volume and issue numbers. Publications described as a serial may be journals or periodicals, newspapers, annual report series, yearbooks, annual directories or monograph series.

The serial level can have but one worksheet:
S (serial), describes a periodical, or a collection/series of monographs, reports, annuals, etc.
In summary, the following bibliographic combinations are the levels that permit IMIS literature data entry:

## M description of a monograph

MS description of a monograph within a series
AS analytic description within a serial, such as an article in a journal
AM analytic description within a monograph, such as a chapter in a book
AMS analytic description within a monograph, issued in a serial

Two combinations, $M$ (monographic) and $S$ (serial), can exist on their own, without a second combination attached to it. If combined, the M-level (monographic) can have an analytic attached to it (AM), the S-level (serial) can have M (monographic) attached to it (MS).

The analytic levels (AS, AM and AMS) can only have a second level attached to it at a higher level. These are articles or book chapters and they must be linked to a monographic (AM, AMS) or a serial (AS).

The level MS must be linked to a series and may have an analytic attached to it (AMS).

## Input-levels

In IMIS, an abstraction is made of a bibliographic description on three levels:

```
Entity level
Reference level
Instance level
```


## The entity level

The entity level contains the most general information about a bibliographic description:

| English title | ASFA-codes |
| :--- | :--- |
| Original title | General description |
| Authors | Address data |
| Language | Special collections |
| Abstract | URLs linked to the entity as a whole |
| Keywords |  |

At this level, a virtual bibliographic entity is created from which we will work further for the description of the specific bibliographic data.
The data, contained within the entity level, don't have to apply to a specific version of a publication. An abstract, e.g. can apply to various editions of a specific book. It doesn't matter whether the first or the sixth edition is described.

## The reference level

The reference level contains the fields, applying to the actual version of the work described, for example an ISBN-number, inherent to a specific edition of a work.

```
Metadata, described on the reference level are:
Bibliographic level
Publication type
Monographic/serial data (ISBN, ISSN, paging, etc.)
URLs specific to the version/ described
Analytic/monographic parts
Cartographic data (coordinates, scale, etc.)
```


## The instance level

At this level, information is added for the instance ('physical representation) of the work. A work can have many different instances. A book can be published on the Internet, or as a paper version, but it can also be issued on a CD-ROM. An instance is the formal representation of a publication.
The instance properties are:

```
Physical medium
File format
Library
Classification
```

Shelf location<br>Storage remarks<br>URLs for the instance<br>Detailed Journal information

The instance of the work is the lowest level that can be defined.

## Note:

There exists a one-to-many hierarchy between the three levels mentioned above. One entity level can have more reference levels. A book can be published in a number of editions, which are basically all the same (except for the year, ISBN, edition).
Each reference can have many instances. A duplicate title in the library might have different shelf locations or a different medium (e.g. paper and cd-rom version). In this case, the reference of this title has two instances.

## LIBRARY MANAGEMENT AND LITERATURE INPUT

The Library menu has 17 different sections. These sections can be grouped according to their function. Nine different functions can be defined.


This screenshot shows the 17 sections present in the library menu.
These sections can be functionally grouped according to following scheme:

| Functional groups | Sections |
| :--- | :--- |
| Publications | Publications |
| Serials | Serials List <br> Serials |
| Loans | Loans List <br> Loans <br> Requests |
| Authors | Authors <br> Duplicate Author Check <br> Person Match |
| Publishers | Publishers |
| Libraries | Libraries |
| Intrinsic descriptions | Taxonomic Terms <br> Geographical Terms <br> Other Terms |
| ASFA-specific fields | ASFA Classification <br> ASFA Thesaurus |
| Special Collections | Special Collections |

## Publications

The publication section provides us with an interface from which we can create, search, open, edit and delete references in the system. When using this interface, we work in the whole publication-database, i.e. all books, journals, articles, cd's, maps, etc.

## Creating a new reference



## Create a new publication



## Standard Title

Type the English title (including subtitles), as it appears on the title page of the document.
Capitalize only the initial letter of the first word of the title and the initial letter of all the proper names, and do NOT put a full stop at the end of the title: e.g. The distribution of fish in Italian inland waters

Indicate words in the title in italics, subscript and superscript using the following standard HTML codes:

```
italics = <i>..</i> <i>Clupea harengus</i>
subscript = <sub>...</sub> H<sub>2</sub>O
superscript = <sup>..</sup> 120m<sup>3</sup>
```

Italics also apply to names of vessels, e.g. R/V <i>Fridtjof Nansen</i> and Latin expressions such as <i>ad hoc</i>, <i>in vitro</i>, <i>in situ</i>, etc.

Roman numbers quoted in the title should be converted to Arabic numbers, unless they are part of a proper name (e.g. chemical name):
Part IV = Part 4
Chromium VI $=\mathbf{C r}(\mathrm{VI})$
If the document does NOT contain an English title, the non-English title must be translated into English. The "Translated by input center"-checkbox then has to be checked at the entity-level.

If the document contains one or more non-English title(s), type these titles in the Non-English title field (instructions in the 'Original Title'-field).

## Original Title

Complete this field only when the document being described contains one or more non-English titles.
Type the non-English title(s), as appearing on the title page of the document, capitalizing in accordance with the conventions of that language.

Indicate words in the title in italics, subscript and superscript using the following standard HTML codes:

```
italics = <i>...</i>
subscript = <sub>..<</sub>
superscript = <sup>...</sup>
    <i>Clupea harengus</i>
H<sub>2</sub>O
120m<sup>3</sup>
```

Italics also apply to names of vessels, e.g. R/V <i>Fridtjof Nansen</i> and Latin expressions such as <i>ad hoc</i>, <i>in vitro</i>, <i>in situ</i>, etc.

Roman numbers quoted in the title should be converted to Arabic numbers, unless they are part of a proper name (e.g. chemical name):

## Part IV = Part 4

Chromium VI $=\mathrm{Cr}(\mathrm{VI})$
Separate two or more non-English titles by a space, an equals-sign =, and space and do not end the last title with a full-stop. In the case of more than one non-English title, type them in the order given in the document:
e.g. Bateaux de pêche et sécurité à bord = Navi da pesca e sicurezza a bordo

Transliterate non-Roman alphabets in accordance with the ISO Transliteration Standards that are available for various languages. For further details, the ISO web site on "Writing and Transliteration" may be consulted: http://www.iso.ch/cate/0114010.html

When pressing the 'Submit'-button, the system checks first if the titles are already available in the database. If so, this will be visible at the bottom navigation bar of the Publications input-form:


The screenshot shows the example for 5 records in the database with the title 'Introduction'. These are not necessarily duplicates, but they must be checked nevertheless.

## The entity-level



## Language original titie

If one ore more non-English titles are available, choose the language of the first non-English title.

## TRANSLATED BY INPUT CENTRE

Check the box when appropriate.

## Author-tab

## Link Author

The 'Link an author'-screen appears. First, search the author by his/her surname. If the author is already listed, select that one. Otherwise, create a new author by clicking 'Create new author'.


## SEARCH FOR

Search an existing author and select the author you want to assign in the list. Search by surname only. The given name is not indexed by the system at this level.

## Create new author

Pressing this button opens this form. Full description for entering new authors can be found in the Authors section.


## Responsibility-checkboxes


' $O$ '-checkbox defines the order for the authors in the reference. This field is editable.
' $E$ '-checkbox stands for editor
'C'-checkbox stands for corresponding author
'l'-checkbox stands for illustrator
'R'-checkbox stands for reviser

## Further defining the author

## More Info

The information in this box is directly linked to the relation between the author and the entity of the record you're describing. This means that this information only appends to the author in function of the work he/she has written.


## Degree

Assign a degree (MSc, PhD, Postgraduate, etc.) to the author.

## Institute

Links the author to a certain institute and allows switching to the 'Institutes'-module.

## RESPONSIBILITY-CHECKBOXES

Add certain functions to the author (editor, illustrator, etc.). If these were already added at the previous level, they must not be selected here.

## Edit Author

Returns to the Authors tab.
The filter button $\underline{\boxed{\nabla}}$ in the main author screen links to the same subsection.

Pressing the
$x!$ button will remove the author from this record. It will not delete him! To delete the author, open the Authors section.

## Abstract-tab



## Abstract in english

Enter an English abstract.

## Abstract in other language

Enter a non-English abstract.

## Translated by input centre

Mark if the English abstract is a translation, made by the input centre.

## COMPOSED BY INPUT CENTRE

Mark if the abstract has been written by the input centre.
Start from the work you're describing. If an abstract is present, enter it in the corresponding field (English abstracts in the 'Abstract in English'-textbox and non-English abstracts in the 'Abstract in other language'-textbox). If no English abstract is present and an abstract in another language is available, translate in English and type it in the 'Abstract in english'-textbox. Confirm this by marking the 'Translated by input centre'-checkbox. If no abstract at all is present, make an abstract in English and mark the 'Composed by input centre'-checkbox.

Indicate words in the title in italics, subscript and superscript using the following standard HTML codes:

```
italics = <i>...</i>
subscript = <sub>...</sub>
superscript = <sup>...</sup>
```

<i>Clupea harengus</i>
H<sub>2</sub>0
$120 \mathrm{~m}<$ sup>3</sup>

Italics also apply to names of vessels, e.g. R/V <i>Fridtjof Nansen</i> and Latin expressions such as <i>ad hoc</i>, <i>in vitro</i>, <i>in situ</i>, etc.

Roman numbers quoted in the text should be converted to Arabic numbers, unless they are part of a proper name (e.g. chemical name):
Part IV = Part 4
Chromium VI $=\mathbf{C r}(\mathrm{VI})$

## Keywords-tab



THESAURUS TERMS
Choose keywords from a fixed thesaurus. You cannot enter terms, other than those present. Read ASFA Thesaurus for further explanation.

## GEOGRAPHIC DESCRIPTORS

Choose a geographic descriptor.
It is possible to create geographic descriptors. Read Geoaraphical Terms for further explanation.

## TAXONOMIC DESCRIPTORS

Choose a taxonomic descriptor.
It is possible to create taxonomic descriptors. Read Taxonomic Terms for further explanation.

## Other descriptors

Choose another descriptor.
It is possible to create other descriptors. Read Other Terms for further explanation.

## ASFACodes-tab



The ASFA Classification System is described in ASFA Classification. To add an ASFA classification, look up the corresponding number using the ASFA Classification button.

## Description-tab



## Environment

Marine, brackish of freshwater related. More than one box can be checked.

## Document type

Choose the most appropriate type.

## Literary Style

Choose the most appropriate style.

## LANGUAGES

Choose the languages for text(s) and summary (-ies).

## Document Notes

Free text field for local notes.

## Address-tab



The 'Address'-tab in THIS FORM is specifically used for describing the AUTHOR AFFILIATION. The author affiliation provides a relation between a person and the institute he/she is affiliated with for the publication described in the record! This concept is used in the validation of scientific information.

The institute mentioned in the scientific publication should be literally copied to this address field.

## Create new address

Checks if the first author of the publication (normally also the corresponding author) has any link to an institute or a person record in IMIS.

## E吕 Address on a publication

## -

Select the fitting option...
(6) Use the address of the affiliated institute
(ivi Use the address of first author (person or institute)

* Use the address of the primary institute of the first author
(6) Use the direct address of the first author on his primary institute

『*) None of the above

```
Submit
```

Either, one can use the address of the affiliated institute, the address of the first author, the address of the primary institute of the first author, or the direct address of the first author on his primary institute. Some choices may not be available, whether or not a link exists between the author and an institute/person.
If there is no such link, choose 'None of the above' and insert the information available in the publication. In all cases the institute name and address should be exactly the same as in the publication.


Line1 to 4 can be used for the address. The country can be selected from a pick list. If phone, cell phone (GSM), fax numbers and email address are available, these can be entered in the respective fields. Additional information on the address can be added in the 'notes' field.
Click on 'submit' to transfer the information to the record. When information needs to be changed, this can be done directly in the home address record.

There are some specific rules for entering address information:
Phone and fax: +32-(0)57-20 73 82; +30-(0)2810-33 78 53; +49-(0)431 600-1200
Exception: in Italy, the zero is never put between brackets, as this number always has to be dialled (even when calling from abroad).
Cell phone (GSM): +32-(0)498-52 2645
Postal codes: 24148 Kiel ; 71003 Iraklion ; 8400 Oostende ; ...
Never put e.g. B-8400 Oostende. The postal country letter-code is not used here.

## Special Collection-tab



See section general menus under Special Collections.

## URLs-tab



See section general menus under URLS.

## Info-tab



See section general menus under $\underline{\underline{I n f o}}$.

## The reference level

Once all the entity information is entered, we can start with the references. Publication-specific information is inserted on this level. Examples are monographic/serial information, links with projects, conferences, etc...
This level also provides us with a bridge between the most abstract of all levels - the entity - and the publication as we hold it in our hands - the instance of it.

## Details-tab - part 1



Here, one of the six bibliographic levels is chosen (AM, AMS, AS, M, MS and S). For more information about the different levels, go back to Biblioaraphic level.

Depending on the choice, one of three possible input forms is selected:
Analytic level (AM, AMS or AS)
Monographic level (M, MS)
Serial level (S)

## Bibliographic level input forms

## The analytic level form

As already mentioned in Biblioaraphic level, a link must be defined to a 'higher' level.


## Pagination

For a simple, straightforward page span, enter only the range of pages:
25-42

In the case of an article, split up into various page spans, enter the page spans separately, followed by a comma and space:

5-10, 15, 18-23
For groups of pages in a monographic record, add them together and enter the total number as a single entry; list different numberings separately. Do not add pp., this is added automatically in the webinterface.
xvii, 420
$33+$ append.
$25+110+40$ pages becomes 175
If the document is not paginated, the pages should be counted (or estimated) and the total number entered between square brackets.
[154]

## Publication Date

For journal articles (AS records), books, monographs, and parts of these, only the year of publication is entered in this field

For patents, reports, and non-conventional documents (M records), i.e. those documents not published in the usual way by a commercial publisher, enter year + month + day if all three data elements are included in the document. The date of publication should then be entered in ISO-format, i.e. year + month + day

12 June 2001 enter as 20010612
When a range of dates is given (for example a multi-volume monograph published over a range of years) enter both the beginning and the end date, separated by a hyphen.

1995, 1996 and 1999 enter as 1995-1999
When preparing a record for a translation, enter the date of the translated document and not that of the original document, which should be entered in the Notes field (See detailed instructions in section Translation of documents).

If the "actual date" of publication differs from the "issue date" given on the document, enter the publication date of the document in the Date of publication field and the date of issue in the Document Notes field in the 'Description'-subsection.
e.g. issue date on the document: 1998, actually published in 2000:

Enter 2000 in field "Date of publication"
Enter "Issue 1998" in field "Document Notes"

## Look for a publication beginning with

This is the link between the analytic level and the monographic level. It shows in what book/journal issue the chapter/article has been published
Type (the first part of) the title of the publication the analytic is referring to. Press the ${ }_{d} \mid$ button, then press the $\bar{\square}$ button next to the correct title. Pressing the $X!$ button will delete the link between the Analytic and Monographic.

## The monographic level form



## ISBN

Complete this field when the "International Standard Book Number (ISBN)" is specified in the document. The ISBN takes the form of four groups of numbers, which are separated by a hyphen and no spaces:

## e.g. 979-8792-01-5

If the document has two or more ISBNs corresponding to two or more publishers or places of publication, enter the ISBN corresponding to the publisher and place of publication entered in the Imprint field.

If the document has two ISBNs, such as in the case of paperback and hardcover version of a book, enter the one corresponding to the document for which the record is being prepared.

If the document has two or more ISBNs such as in the case of a multi-volume monograph being catalogued as a single record, enter the ISBNs in the same sequence as the volumes and separate them by a semi-colon and a space. However, if a multi-volume monograph has been assigned an "overall ISBN" in addition to the separate ISBN assigned to each volume, give preference to the overall ISBN.

## Volume

Enter the number of the volume issued in the series. The "Volume" number is typed without the word "volume" or "vol" or "v.".

## e.g. volume 17, vol. 17 and v.17, entered as 17

If the document has a range of numbered volumes, enter the range.

## e.g. 1-3

For an unnumbered range, enter the total number of volumes.
e.g. 3 vols.

Convert ordinal numbers (first, second, third etc.) into cardinal numbers (1, 2, 3, etc.) and Roman numbers to Arabic numbers in the volume- and issue-field.
e.g. Issue 4, 4th issue, fourth issue, and IV issue, enter as 4

## Issue

If the book is one issue within a volume, or for an issue of a journal/magazine, the issue is entered in this field. The issue number is typed in the sub-field without the word "issue".

If there are two or more issue numbers for one record, enter them separated by a dash with no spaces.

## e.g. 1-2

If the document also has a supplement, or is divided into two or more parts, the issue number is followed by a comma, a space, and the appropriate abbreviation.
e.g. 4, suppl. 1 or 6, pt. 2

## Examples:

i. An article in a serial with volume number 1 , issue number 1 and part number 2:
enter as volume: 1
issue: 1, pt. 2
ii. An article in supplement 1 to issue 4 of volume 2 of a serial:
enter as volume: 2
issue: 4, suppl. 1
When no volume or issue number is given in journal article records (AS), enter the month of publication (e.g. January 1999) in the "Volume" field.

## Publication Date

Use the rules described in the analvtic level form for the publication date. For monographs (M records), annual reports and monographs published in a series (MS records), enter year only.
e.g. January 1999 enter as 1999

If no date is shown on the source document it is preferable to deduce a date from the content of the document and enter it enclosed in square brackets; if it is not possible to deduce a date, type [s.a.] in the field.

## Pagination

Use the rules described in the analytic level form for the pagination.

## Place

Enter the "place of publication" as cited in the source document.
Enter the name of the locality (city or town) followed by a space and then the country between brackets. Names of countries should be entered in full, except for USA or UK.
e.g. Rome (Italy) ; London (UK)

If there is also a state or province cited, separate the city name from any state or province name with a comma and space. Abbreviations may be used for states, provinces or territories of the USA, Canada and Australia.
e.g. Hobart, Tas. (Australia) ; New York, NY (USA)

Transliterate where necessary, but always cite the English form of the country name.
If no place of publication is given on the source document, supply one if it can be easily identified, otherwise enter [s.I.].

If more than one place is given for the publisher, enter the location and country of the head office, if easily identifiable; if not, enter the place given typographical prominence, or the one listed first.

## EDITION

Complete this field only when the "Edition" is specified in the document. Enter in this field information regarding the edition of the documentary unit being catalogued:

```
e.g. Second revised edition
Indian edition
Paperback edition
Revised edition
```


## Publisher

Enter the publisher as mentioned in the publication. Additions denoting corporate bodies must be omitted

e.g. John Wiley \& Sons Ltd. becomes John Wiley \& Sons

If the publisher is not present in the pick list, close the record, enter it in the 'Publishers'-section, return to the last record (by pressing e in the 'Publications'-list) and choose the publisher in the pick-list.

If no publisher is given, enter [S.n.].
If the publisher is the same as the corporate body already entered as the only name in the Corporate Author field, enter an acronym of the name in the Publisher field, if it exists, otherwise leave the field blank. This is to avoid duplication of data in the bibliographic record.

SEARCH FOR A SERIES beginning WIth
This field is mandatory when an AS, AMS, MS worksheet has been selected.
To enter the required Serial title:

- TYPE the first few letters of the Serial title in the textbox and CLICK the
$\square$ button to get to the position of the required Serial title in the serials list.
- CLICK the button next to the title required.

The Serial title in full will automatically be entered in the correct field.

## The serial level form



A serial bibliographic level can describe either a journal, magazine or series of books, maps, etc.

## ISSN

Complete this field if the "International Standard Serial Number (ISSN)"* is present in the document.

An ISSN number consists of two groups of 4 digits separated by a hyphen with no spaces:
e.g. 0182-0745

## Antilope

Antilope is a Belgian Serials Catalog. This checkbox is for specific use in Belgium; when checked, the serial title is available in the Antilope Catalog.

## Short title

Enter the abbreviated serial title in this field if available.
Do not compose own abbreviations, but use only standard abbreviated titles. An official abbreviation list can be found on http://www.efm.leeds.ac.uk/~mark/lSlabbrl.

## Publisher

Use the rules defined in the monoaraphic level form for the publisher-field.

## City

Enter in this sub-field the "place of publication" as it is cited in the source document. Use the first volume/issue of the serial that you have available as source document.

Enter the name of the locality (city or town) followed by a space and then the country between brackets. Names of countries should be entered in full, except for USA or UK.
e.g. Rome (Italy) ; London (UK)

If there is also a state or province cited, separate the city name from any state or province name with a comma and space. Abbreviations may be used for states, provinces or territories of the USA, Canada and Australia

```
e.g. Hobart, Tas. (Australia) ; New York, NY (USA)
```

Transliterate where necessary, but always cite the English form of the country name.
If no place of publication is given on the source document, supply one if it can be easily identified, otherwise enter [s.l.].

If more than one place is given for the publisher, enter the location and country of the head office, if easily identifiable; if not, enter the place given typographical prominence, or the one listed first.

## InPut centre

This field is specifically for ASFA-input. If you are a national ASFA input-centre and you are describing records in order to export them to ASFA, choose the country you are working in.

## ASFACOdE

This is also an ASFA-specific field. Enter the ASFA-code, linked to your input-centre.

## Periodicity

Choose the periodicity in which the series is published.
Use the first volume/issue from the serial as source document for this information

## Continues

If the series is continued by another series, enter the first characters of the old series and pick the title from the pick list. The field 'Continued by' will automatically be updated in the linked record. Use the filter button to go to that record.

## REMARKS

Free text field for notes concerning the described series.

## Details-tab - part 2



## Pub Type

The 'Pub Type'-field has as default value 'Original'
Original: the publication, as originally published
Other original: the publication is published in two different ways, with the same author(s)/corporate author(s)
Subsequent publication: the publication is re-published at a later date in e.g. a Collected Reprints Translation: for the separately published translation of a publication

## User Access Rights

Abstract only: only the abstract may be shown, but not the full text Full text: the full text may be consulted and downloaded by everyone
Not public: the record is not shown on the website and OPAC
Public: the record is not shown on the website and OPAC

## Look for a Conference beginning with Look for a Project beginning with

These fields link publications with the modules 'Conferences' and 'Projects' modules. Clicking the button opens the linked conference/project record; clicking the $x!$ button deletes the link with the project/conference record (not the project/conference record itself!).

Enter the first few characters of the project/conference to be linked to the publication and hit the filterbutton.

## Public and Checked

The 'Public'-checkbox shows the reference on the web interface. The 'Checked'-checkbox is for record quality control purposes.

## Status

See section general menus under Status (bick list).

## URLs Reference-tab



See section general menus under URLs.

## Parts of Series/Monographic-tab



In this tab, the possible link(s) between a serial and one or more monographs, or between a monograph and one or more analytics are shown. The filter button allows for navigation between the linked records.


## Info-tab

See section general menus under Info.

## Map-tab



This form allows detailed description of cartographic material. It contains a set of attributes and specifications that are unique to maps and charts.

## MapScaLE

Pick the appropriate scale from the pick list.

## MapType

Pick the appropriate type from the pick list.

## ReferencePlane

Enter the vertical datum of the map from the pick list.

## SurveyDate

Enter the date that the map is valid for.

## Projection

Enter the used projection of the map from the pick list

## GeoDatum

Enter the geographical datum of the map from the pick list.

## DEPICTIONTYPE

Enter the used type of map depiction from the pick list.

## Notes

Free text field for extra information.

## Coordinates

Full description for this subsection can be found in the Datasets Module.

## Map Data Themes

Select the appropriate data themes of the map from the pick list.

## The instance level

As described in Input-levels, an instance is the physical form of the publication. This can go from a book to a PDF or a Word-document.

Depending on the bibliographic level chosen, different forms are shown.
For the serial level, there are four subsections: Details, URLs Instance, Journal and Order For the monographic or analytic level, there are three subsections: Details, URLs Instance and Order.

## Details-tab



## Physical medium

Choose the medium. The default value is 'Paper'.

## File Format

Must only be entered when describing digital information.

## LIBRARY

Choose the library where the instance described will be stored. This can be a physical location, but also a more abstract form of library such as the internet or a server. Library is used in a very broad sense.
The procedure to create a new library is described in the 'Libraries'-section.

## Classification

The classification system is library specific. To define a new one, see under the 'Libraries'-section.

## Storageremarks

Free text field with data referring to the storage of a work (e.g. special storage for ancient works).

## Shelf Location

The shelf location is the place where the work is kept on the shelves in the library, and so is also library-specific.

## URLs Instance-tab

See section general menus under URLs.

## Journal-tab



This form is only available if the bibliographic level 'Serial' was chosen on the reference level.

Note that the level 'Serial' is used for journal, magazine as well as series information. The 'Journal'tab, though, is commonly used for journal- and magazine-information only.

## Details

## Next Issue

The next appearing issue in the series/journal can be entered here. This is useful as a tracking tool for subscriptions.

## Next Renewal

When a subscription has to be renewed on a regular basis, that information is stored here.

## Real Value

The real value of the subscription (on the commercial market) is stored in this field.

## Paid Value

The paid value is the actual price that was paid for the subscription. In the case of discounts, or an exchange agreement, the paid value can be much lower than the real value.

## Exchange Pub

When there is an exchange agreement, the title and the institute with which there is an agreement is noted in this field.

## Holdings

As mentioned above, this part should only be used when entering a journal/magazine. The holdings denote the volumes/issues available in the collection.

| Details | Holdi |  | Memo | Series Remarks |  | Journal Remarks |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | der: | From | m: | Vol: | Nr : | Till: | Vol: | Nr : |
|  | 10 | 200 |  | 1 | 1 | 2005 | 2 | 3 |
| . 7 | 20 | 200 |  | 3 | 1 | 2006 | 3 | 4 |
| * | 30 |  |  |  |  |  |  |  |

In the ideal situation, there is but one line in this field: from the first issue ( Nr .) of the first volume in the year the journal/magazine started to the last issue of the last volume ever published in the journal.

Often there are gaps in a collection. In the above example the last issue of 2005 in a quarterly journal is missing. The row stops at volume 2, no. 3 and a new row is entered starting at volume 3 , no. 1 .

The order defines the sequence in which the holding statements are listed in the web interface. This field is editable, allowing corrections of holdings that change over time.

## Memo

Free-text field for internal use.

## Series Remarks/ Journal Remarks

The 'Series Remarks/ Journal Remarks' has the same function as the 'Memo', but is for external use. Only use this field for remarks about series. Remarks on journals/magazine should be noted in the 'Journal Remarks'.

## Orderinfo-tab



Used for order information on all material except journal subscriptions, which is stored under 'Journals' - 'Details'.

## Order Code

Enter the unique order code for the publication.

## Order Date

Enter the order date.

## Paid Value

Enter the paid value and currency for the ordered publication.

## Journals

Apart from the section 'Publications', there are two access points to series: Serials and Serials List.

## Serials List

The Serials List is a consecutive list of all the serial titles in the database. The only search possible is on title level.


## Serials

In this section, we can manage the journals as well as the series in the database (everything that has the bibliographic level ' $S$ ').


The structure of this form is slightly different than the publications form. The title field is not editable. We can scroll through all series/journals/magazines with the record navigators.

## Loans

The Loans module is under development.

## Requests

Tool to manually manage all requests in the library (ILL, copies, scans, digital delivery, downloads, etc.).


## Date In/Date Out

The 'Date $\operatorname{In}$ ' is default the current date. The 'Date Out' is the date on which the request is fulfilled.

## LibSource

This is the library that fulfils the request.

## Notes

Free text field for remarks regarding the request.

## Status

Choose the status of the request in this field. Possible status-levels are Initiated, Finalised, Cancelled and Submitted.

## Requested Item-tab

## BREFID

Displays the Reference-ID (unique number defining a specific reference). Allows retrieving the reference requested when this ID is known.

## Standard Title

Displays the title of the reference. Use this field to search a reference by typing the title of the reference. The system will automatically append matching titles. However, RefID searching is preferred.

## LEVEL

Displays the bibliographic level of the reference.

## Pages/Num. Pages

If a part of an instance is requested, enter the pages in these fields. Use 'Pages' for the amount of pages and 'Num. Pages' for the sequence of pages that was requested. Used to calculate the cost of the request (page-based pricing).

## Client-tab



## Client

Choose the client that performed a request from the pick list. Start typing and the clients that match your query will be automatically selected. Only persons with a record in the 'Persons'-module are available in the clients list.

## Institute

Choose the institute that is attributed to the client at the time that the request was made. A client can belong to different institutes. The default value will be the primary institute of the client (Person), defined in the 'Persons'-module.

## Original Text-tab

## Original Text

Free-text field used to store the original request text (webform, email, etc.) when sent digitally.

## Authors

This section can be accessed directly through the Library menu or with the 'Create new author'-button when entering/editing a record in the 'Publications'-section.

Use following guidelines to create a new author.
Enter most compound surnames in the same sequence as they appear on the document.
Do not enter full first names (with the exception of Chinese, Icelandic, Japanese and Thai names as shown in the examples given below), but initials only, each followed by a full stop, but no space. The initials must be entered in the same order as given in the document. Separate the initials from the surname by a comma, followed by a space. An initial may consist of more than one character if the
author's first name is usually abbreviated in that way or if the initials are transliterated:

## Roosevelt, Th.

Sviridov, Ya.V.
Transpose suffixes to the end of the name and separate them from the last initial by a space.
Commonly occurring suffixes are: Jr., Sr., II, III, ifg., id., ml.

```
Hopper, D.B. II
Hamilton, J.D. Jr.
```

Academic, nobility, and other titles as well as Mr., Mrs., etc. and their equivalents in other languages are usually ignored, unless they form an integral part with the name or are otherwise indispensable for unambiguous identification of the author.

If a document has an editor, a compiler or a translator rather than an author, click on the appropriate check box in the author list.

For surnames with separately written prefixes, the format depends on the language of origin of the name. Typical prefixes are "van, van der, vander, von, le, lo, la, da, de, del, de la, della, des, do, du". Full details of the usage of the language of origin can be found in the Anglo-American Cataloguing Rules (AACR), chapter "Headings for persons". AACR should also be consulted for any other case not covered by these guidelines. In addition, the Names of Persons: National Usages for Entry in Catalogues, published by IFLA, may be consulted; this publication cites numerous examples of authoritative methods for citing names as done in a wide selection of national bibliographies.

Some examples are given here of various exceptions to the above rules which may be frequently encountered:

Spanish compound surnames should be entered under the first of the two surnames given:

## Angel Martinez Espinosa enter as Martinez Espinosa, A.

Sometimes Spanish names may appear with an initial instead of the second (matronymic) part of the name, in which case they should be entered as they appear in the document but the initial(s) representing the matronymic should be followed by a comma instead of a full stop:

```
Morales A, A.
Lopez M del C, A.
```

Portuguese names should be entered under the last element of the name (father's name). A name containing a prefix should be entered under the name following the prefix:

## Antonio Pires de Castro enter as Castro, A.P. de

Words like "Filho, Junior, Neto, Netto, Sobrinho" which follow Portuguese surnames should be treated as part of the surname. An F following the surname stands for "Filho", i.e., "son" and should be spelled out after the surname:

## Paulino Ricardo do Rosario Gomes Filho enter as Gomes Filho, P.R.R.

Chinese names should be entered in full as they appear in the document, inserting a comma after the surname, and a space after the comma. The surname is usually monosyllabic; the given name is one or two syllables and should be entered as it appears on the document:

```
Wu, Chi-Lung
Chen, Peixun
Li, Ying
```

Note: In journals from China the surname is given first, whereas in journals from Taiwan, Chinese names are given in the "Western" order, i.e. surname last.

Icelandic, Japanese and Thai names should be entered in full in the same order as they appear on the source document, with no comma after the first name:

## Gunnar Stefansson <br> Moritaka Hayashi <br> Tipparat Pongthanapanich

Malay names should be entered as any other name, i.e. last in full and all previous ones abbreviated, except when they include "bin", "binte", "binti" (son of), in which case all the names should be entered as they appear:

## Abu Khair Mohammad Mohsin enter as Mohsin, A.K.M. Mohd. Ibrahim Hj. Mohamed enter as Mohamed, M.I.H. <br> Zawawi bin Mohamad enter as Zawawi bin Mohamad

Dutch names are entered under the part following the prefix unless the prefix is ver. In that case, enter under the prefix:

Driessche, A. van den
Ver Boven, D


Create a new author from this screen by pressing . Press edit and enter the information necessary. Delete an author by selecting the AutID (top-left of the screen), making sure that you are in Edit-phase and pressing x in the task bar.

## Name

Enter the surname of the author.

## DISCRIMINATOR

In case of two persons having the same surname, initials and given names, extra information can be added here to discriminate between the two homonym authors.

When dealing with a person, choose the 'Individual'-tab. For a corporate author, mark the 'Corporate author'-checkbox and go directly to the 'Corporate'-tab.

Authors can also be assigned to Special collections. For more information, see Special Collections.

## Individual-tab

## Firstname

Define the given name of an author. If it is not present, leave the field empty.

## Initials

Define the initials. If not present, take the first character(s) of the given name(s) and separate them by a dot ('.').

## Person Link

In IMIS, an abstraction is made between authors and persons. An author is a purely formal string that links only to a publication, while a person defines a real, living person. This person is further described in the 'Person'-module. Here, we can define a link between an author in the 'Library'-module and a person in the 'Person'-module. Different forms of an author name, referring to the same person, can all be linked to that person record, generating a full list of publications for that person.

## Corporate-tab

If a corporate body is given as author, mark the 'Corporate author'-checkbox and fill in the following fields.

## Acronym

Give the acronym of the institute, if existing.

## Institute

In the same way as for the author/person link, an institute can be linked to the corporate author.


## Duplicate Author Check

This section provides us with the possibility to search for and delete duplicates in the author list.


In this form, all similar authors are matched and presented alphabetically. The matching can be high (on surname, given name, and initials), mediocre (on surname and initials), or low (on surname only. For each author, the initials, first name (given name) and the amount of publications attributed to the author are given. A possible link with a person is also shown.
In the 'Edit'-phase, it is possible to:

> see all publications, attributed to an author attribute all publications, linked to one author, to another delete the author from the database

## Person Link

View a relation between an author and a person. (see 'Person Link'-field for more information).
For attributing authors to persons (or v.v.), it is better to use Person Match.

## Pubs-button

See the number and list of publications, attributed to the author.


## Delete-button

By pressing $m$, delete an author.

## On DELETE MIGRATE TO

This function makes it possible to redirect all publications from one author to another. In the case of a duplicate author, use this button and afterwards delete the duplicate.

## Person Match

Use this section to attribute authors to persons.


All persons with a record in the 'Persons'-module are listed alphabetically, with all matching authors attached. The matching can be high (on surname, given name, and initials), mediocre (on surname and initials), or low (on surname only. The possible institute attached to the person is also displayed.

## Persid

Link a person to an author by copying the PersID into the 'PersID'-field, next to the author to be linked.

## Pubs

Displays all publications, attributed to the author.

Del
Deletes the author. This is only possible when there are no publications attached to the author.

## Publishers

New publishers have to entered through this form. It can then be chosen in the pick list of the 'Publisher'-field.


## Name

Enter the "name of the publisher" as it is cited in the source document: Transliterate it if necessary.
Do not put a full stop at the end of the publisher name, unless the last word is an abbreviation, and omit words such as Incorporated, Limited, Sons, Press etc., unless their omission could cause confusion:

## Cambridge University Press

If more than one Publisher is mentioned in the document, enter the name of the one given typographical prominence or the one listed first in the source document.
Note: the place of publication must correspond to the publisher selected.

## Institute

A publisher can be a corporate body or a person. If it is a corporate body, create a relation between the publisher and an institute, described in the 'Institutes'-module.

## Person

If the publisher is a person, create a relation between that publisher and a person, described in the 'Persons'-module.

## Libraries

An institute can have many different libraries.
The term 'library' means a certain collection of publications that share certain characteristics. This can be e.g. the location where they are stored or certain formal aspects. Within a library, many classifications can be identified. A classification is a way of classifying a range of documents. This can be an enumerative (DDC) or an analytical-synthetic classification (UDC).


In this database, five libraries are defined. The first library has many different classifications (ALG, BOS, WLD, etc.).

## Name

Type the name of the library.

## Institute

Enter the name of the institute to which the library is attributed.

## Classifications-tab

## Define new classification

By pressing this button, new classifications can be added.


## Classification

Enter the name of the classification to be defined.

## LIBRARY

The name of the library is a default value and cannot be changed. This name depends on the library screen that was active when pressing the 'Define new classification'-button.

## Description

Give a description of the classification for later reference.

## Description-tab

Free-text field used to give a description of the library. Use this for later reference or further explanation.

## Classification Systems-tab



List the classification system(s) used in the library described. Possible values can be ASFA, UNDC, DDC, UDC, ...

## Thesauri/Indexing Systems-tab



List the thesaurus(i) or the indexing system(s) used in the library described. Possible values can be ASFA Thesaurus, CAB Thesaurus, etc.

## Indexing tables and fields

There are six ways to index and or classify objects in IMIS.
The main indexing tools are:

- Taxonomic terms
- ASFA Geographic terms
- Free descriptors (other terms)
- ASFA Thesaurus terms

The main classification tool is:

- ASFA Classification codes

The main contextual grouping tool is:

- Special Collections tool


## Taxonomic Terms



Record: 14|1| 1

## Details-tab

## TAXTERM

Enter the taxonomic term.

## In Aphia

Choose the corresponding taxon -if available- from the Aphia-list.

## Aphia Link Checked

Links between entered taxa and Aphia-taxa need to be checked by an expert.

## Dutch Term

Enter the Dutch term if available/known.

## Patch Taxes I/Patch Taxes II



Gives access to a set of control tools for taxonomic specialists. When the link between the taxonomic and the Aphia-term has been checked, the link-checkbox can be marked.

## Linked Items-tab

Use this interface to see what knowledge items are linked to a specific taxonomic term.


Clicking the appropriate button, lists all publications, datasets, institutes, persons and urls that are linked to the taxonomic term. Each button redirects to another module.

## Geographical Terms

IMIS uses the structure and methodology of the ASFA Geographical authority list. Two major groups of geographic terms exist: marine and non-marine. The marine geographic terms all have a prefix, depending on the sea area concerned (see map with ASFA sea codes in annex). Each term is
composed of one, two or three sections + the sea-code prefix, if appropriate. The geographical concept is described from broad to detailed:

ANE: Belgium<br>ANE, Belgium: Oostende<br>ANE, Belgium, Ostend Harbour: Sluice Dock<br>Belgium: Schelde R.<br>Belgium, Zeeschelde: Antwerp Harbour<br>ANE, Belgium: Belgian Coast<br>Belgium: Belgian coast



## Details-tab

## Geoterm

Enter the geographical term in English.

## Prefix

Enter the larger geographical entity in English.

## Original Term

If the geoterm has been translated into English, enter the term in the original language here.

## Dutch Term

Give the Dutch translation of the geoterm.

## PrefixNL

Give the Dutch translation of the prefix (the geographical larger entity).

## Linked Items-tab

Use this interface to see what knowledge items are linked to a specific geographic term. Clicking the appropriate button, lists all publications, datasets, institutes, persons and urls that are linked to the geographic term. Each button redirects to another module.

Geographic Index


## Land areas

English names of countries and states are used and these appear in alphabetical sequence. Regions are indexed as subsections of the country, eg:

USA. California

## Sea areas

The boundaries of the sea areas are shown on the map. Subdivisions of the sea areas are entered in alphabetical order, eg:

ANE, English Channel
ANE, Irish Sea
Coastal areas are indexed under the sea area and qualified by the land area name, eg:
INE, USA California

Inland waters are indexed with land areas by continent, or by country if the study is restricted, eg:

Europe, Danube R.
Yugoslavia, Danube R.


Use search for geoterms. Enter the search term and press the binoculars. Press 'GoTo' and edit the retrieved term.


## Other Terms



It is possible to add indexing terminology not available in the several other indexing lists. All terms must be added in English and Dutch.
Use to add a new term, to search other terms and $X!$ to delete a term.

## Other term

Give the English term.

## Dutch term

Give the Dutch translation of the term.

## ASFA-specific fields

## ASFA Classification

ASFA uses a specific classification based on the marine sciences, and related disciplines. The whole classification can be accessed through the following tab.


The ASFA-classification has three levels, from general (main classes) to very specific (subclasses, level 3). Only terms of level 3 may be used to classify a publication. Each terms has a unique number. The complete classification can also be found online at http://www.csa.com/factsheets/supplements/classcod.php

## ASFACODE

The unique number of the ASFA-term. Use this number to describe a publication.

## Level1

The first level of the term, defining he most general concept.

## Level2

The second level of the term.

## Level3

The third level of the term, the most detailed description, and actual classification term.

## ASFACLASSLIST

Gives the full list of all ASFA-classification terms.


## ASFA Thesaurus

The ASFA Thesaurus is conceived as an indexing and searching tool. It contains the subject descriptors used to index the records which are contained in the Aquatic Sciences and Fisheries Abstracts (ASFA) bibliographic database. ASFA is an abstracting and indexing service covering the world's literature on the science, technology, management, and conservation of marine, brackish water, and freshwater resources and environments, including their socio-economic and legal aspects. As a consequence the ASFA thesaurus completely covers all these topics with accurately chosen terminology. As any thesaurus, it also contains the standard navigation tools 'Narrower terms', 'Broader terms', 'Related terms', 'Use', and 'Used for'.


## Term

The thesaurus term.

## Use

Use this term instead of the thesaurus term to describe a publication.

## ScopeNote

A further definition or remark for a thesaurus term.

## Added

The year the term has been added to the thesaurus.

## Dutch Term

The Dutch translation of the thesaurus term.

## NARROWER TERMS

The narrower term(s) of the thesaurus term.

## BROADER TERMS

The broader term(s) of the thesaurus term.

## Related terms

The related term(s) of the thesaurus term.

The thesaurus can also be found online on the following address: http://www4.fao.org/asfa/asfa.htm.

## Special Collections

See section general menus under Special Collections.

## IMIS - EVENTS MODULE

## Introduction

The Events Module is designed to manage information on scientific events. This comprises a broad set of types: conferences, symposia, workshops, meetings, courses, lectures, etc. The purpose is -as in the other IMIS modules- to build a list of events with rich records that are linked to other types of information. This module can be used for managing a calendar of all the events an institute is involved in, to add a list of attended events to a person's CV, or to keep track of the national curriculum of scientific meetings, or simply to document a collection of proceedings publications.

## Linked Modules

Linked modules to date are the Persons, Institutes, Projects, and Literature modules.

## General information



## Confid

Gives a unique ID for each event, assigned automatically by the DB.

## [NAME OF EVENT FIELD]

Type the name of the event as it needs to be displayed on the web interface. This field is searchable.

## Details-tab



## OriginalTitle

Fill in the title in the original format/language as found in the events documentation. This field is also searchable.

## Language (pick list)

Choose the Original title language from the pick list

## EventType (PICK List)



Choose the most appropriate description from the pick list.

## Location

Fill in the city where the event takes place, by preference in the English language form (if existing). Choose the country in the pick list.

## BeginDate \& EndDate

Fill in begin and end date of the event in the form DD/MM/YYYY

## Periodicity (PICK LISt)

In case of a recurring event, choose the periodicity from the pick list.

## Attainable diploma

In case of courses/training sessions, describe as accurately and short as possible the attainable diploma

## DEGREE (PICK LIST)

Choose the appropriate degree from the pick list.

## Audience Type(pick list)

Choose the audience type from the pick list;

## Registry fee

Fill in amount and currency of the total registration fee.

## EmAIL

Fill in a general contact email that can be approached for event information.

## Collaborators-tab



This tab provides linking possibilities with the Persons and Institutes Modules. One can link to already existing records in both modules.

## Ordernrinstitute

This is the order number of the institute involved in the event. The first or most important institute will receive number ' 1 ', the second most important will receive number ' 2 ', etc.
Look up the institute with the search button.

## ROLE (PICK LIST)

Here one can define the role of the institute in the project. A pick list is provided, with possibilities going from financer to organiser.

## ORDERNRPERSON

This is the order number of the persons per institute involved in the event. Look up the person by typing the first letters of the surname, and choosing the correct name from the drop-down list.

## Role (PICK list)

The role of each person within the event can be defined here. A pick list is provided with a large number of possibilities, ranging from project leader to technician.

## Projects-tab



In this subform, an event is linked to corresponding projects. Click the binoculars button and type a part of the projects name, or acronym in the search box. Select the project from the results list.

## Publications-tab



This subform shows the publications linked to the event. To link publications to events is done in the Literature module, see The Details-tab - part 1.

## SpecCols-tab



## See section general menus under Special Collections

## URLs-tab



See section general menus under URLS

## Keywords-tab



See under Literature Module, The Kevwords-tab.

## Notes/Descriptions-tab



## Notes

Used to add general remarks on the event.

## Description

Here an abstract has to be added in English, describing the purpose of the event, the content of the event, details on the type of event, and possible outcomes, results. The original events documentation can be used as primary source.

## Dutch description

Here an abstract has to be added in Dutch, describing the purpose of the event, the content of the event, details on the type of event, and possible outcomes, results. The original events documentation can be used as primary source.

## Info-tab



See section general menus under $\underline{\underline{\text { Info}}}$.

## IMIS - PROJECTS MODULE

## Introduction

The module 'Projects' of the IMIS database aims at describing research projects. The primary objective of this module is to identify and describe past, present and future research projects and who is involved in these projects. The description of this information allows examining the overall expertise, the connections between researchers, or the state-of-the-art in certain research fields and research topics.

## Linked modules

The module 'projects' is linked with all the other modules in IMIS. 'Persons' and 'Institutes' can be part of a project, the project can deliver 'Publications' and organise 'Conferences'. There is also a link between the module 'Datasets' and the module 'Projects'.

## Using standards

The module 'Projects' is compatible with some international standards:
SeaDataNet, Pan-European infrastructure for Ocean \& Marine Data Management, www.seadatanet.ora

## General Information

After logging in, select the 'Projects' button on the main menu to start the 'Projects' module. The main project form will appear.

The upper part of this form contains information on the title of the dataset and the original language. Completing this information as accurate as possible is important, as this name field is a searchable field through the web interface.


## Prold

Unique identifier of the project, assigned automatically by the IMIS database.

## Standard Title

This field contains the English title of the project, starting with a capital. If no English title is available, one should be created by translating the original project title.

## CHECKBOXES:

See section general menus under Tick boxes.

## Details-tab



## Parent Project

Two or more projects can have a parent-child relationship in the database. This implies that two projects can be linked by each other. If there is a broader more general project or larger research project, programme or framework that covers several smaller subprojects, IMIS allows you to link these projects. In order to do so, you first need to create the 'Parent' or broader more general project. For the smaller subprojects that are entered in the database later, you can select the parent project (enter the first letters of the project, then press the search button and select the parent project you are looking for). This structure is called an open hierarchy. If there is no parent project, this field remains blank.

## Acronym

This is the abbreviated name of the research project. In most cases the acronym is the word formed from the initial letters of the words of project title. If no acronym is available, this field remains blank.

## Start

The start month and year of the project can be defined.

## End

The end month and year of the project can be defined.

## Progress (PICK LISt)

As not all projects have the same progress when they are entered in the database, a pick list is provided to indicate the progress status:

```
completed
in progress
other
planned
```


## LANGUAGE

If the original title of the project is not in English, please indicate the correct language from the provided pick list.

Tickbox 'translated by VLIZ'
If VLIZ personnel has translated the title to English, this box has to be ticked.

## Original Title

Full name of the (research) project in the original language. If the original name is English, this field can be left blank. Please indicate the language of the original title and if the title was translated by yourself as well.

## Full Standard Title

This field can contain the exact same information as the 'standard title' field. However, if the full standard (= English) title should differ from the title filled in in the 'standard title' field, you can enter the full title here. This full standard title can e.g. be a combination of the acronym and the standard title or it can be the standard title of the 'parent' project, followed by the name of the described project.

## Abstracts-tab



## English Abstract

English summary information aimed at providing the reader with a good overview of the nature of the (research) project and its approach, activities and anticipated results. It should be written in the style of a concise abstract. It should aim at including the following:

## objectives of the research project work plan and tasks/activities expected results

Tick box: 'Abstract Composed by VLIZ'
Check this box if the abstract is composed by yourself (VLIZ personnel)

Tick box 'Abstract translated by VLIZ'
Check this box if the abstract is translated from the original language by yourself

## Abstract other language

Summary information in the original language. The summary aims at providing the reader with a good overview of the nature of the (research) project and its approach, activities and anticipated results. It should be written in the style of a concise abstract. It should aim at including the following:

## objectives of the research project <br> work plan and tasks/activities expected results

Please indicate the language of the original title from the provided pick list. If the original language is English, this field remains blank.

Notes
Any additional information about the project that is not appropriate in the abstract.

## Partners-tab

Information about the project partners is directly linked with the modules 'Persons' and 'Institutes' of IMIS. Therefore, it is necessary to first add the persons and institutes in the respective modules. Once the person and institute records have been created, you can add the partner information of a project to the respective record.
A project can have multiple partners.


## Partner Institutes

## OrderNr Ins

This is the order number of the institute involved in the project. The first or most important partner (institute) will receive number ' 1 ', the second most important will receive number ' 2 ' ...

## Role (PICK LISt)

Here you can define the role of the institute in the project. A pick list is provided, with possibilities going from financer to organiser.

## SPONSORNR

This is the order number of the institute being sponsored. The institute receiving the highest sponsoring will receive number ' 1 ', the second most sponsored will receive number ' 2 ' ...

## Budgetcut

If this information is available, one can enter the provided budget per partner institute for the project in this field.

## Institute (PICK LISt)

The name of the institute can be entered here. Start by typing the first letters of the institute name and then choose the appropriate institute from the pick list. Once you have selected the correct name, you can go the record of this institute by clicking the 'go to' button.

## Partner Persons

## OrderNr Pers

This is the order number of the persons per institute involved in the research project.

## Role (PICK LIST)

The role of each person within the project can be defined here. A pick list is provided with a large number of possibilities, ranging from project leader to technician.

## Person (Pick list)

The name of the person is entered here. As you have previously defined the institute, it is logical that the person you enter here is working at the assigned institute. To enter a person name, start by typing the first letters of the surname and then select the appropriate name from the pick list. Once you have selected the correct name, you can go to that person record by clicking the 'go to' button.

## Children-tab



This tab will automatically list the existing child (sub) projects of this project. These fields are in grey, indicating that no information can be changed or added here.

## Accounting-tab

Information on the accounting of a project can be very sensitive. By default, the information entered on accounting will never be shown on the website.


## Budget

The total budget of the project (from all partners taken together)

## CURRENCy (PICK LISt)

The monetary unit of the total budget. A pick list is provided.

## Ref Number

The internal administrative number or code reference of the (research) project

## Source

Source of the financial information. This can be either a person or a document.

## Publications-tab



If a project results in one or more publications, these publications will be listed here. The fields are in grey, indicating that nothing can be changed here. Changes can only be made in the library module. You can directly go the appropriate publication form by clicking on the filter button.

If a publication is not yet in this list, one should go to the according publication record (or add the publication if it is not yet in the database) and refer - within the publication form - to this project. For a detailed description on this, please go to the library module.

## Events-tab



Information on events or conferences linked with projects is directly linked with the module 'Conferences' of IMIS. Therefore it is necessary to first add the event in the module 'Conferences. Once the event record is created, you can add the information about the publications to a project (enter the first letters of the conference name, then press the search button and select the conference in IMIS you are looking for).

## SpecCols-tab



See section general menus under Special Collections.

## URLs-tab



See section general menus under URLS.

## Keywords-tab

In the keywords-subsection, we can add intrinsic information regarding the project that is being described


See section Institutes Module under Kevwords-tab

## Info-tab



See section general menus under Info.

## IMIS - DATASETS MODULE

## Introduction

Making an inventory of scientific datasets is becoming more important every day. Internationally, people are getting aware of the fact that scientific data - which are sometimes very expensive to gather - are too important to store in a closet never to be seen again. Describing datasets in a uniform way makes it possible to create a searchable inventory, thus making it fairly easy to look up certain information and to share it with other people.

The main goal of this module is to gather information on the metadata of existing datasets or datasets in development. The metadata describe all the useful information on the dataset, e.g. where the data come from, who has played a role in the collection and management of the data, where the data are stored and in what format they are available, ...

This database is still a "work in progress". Almost every day, new metadata information of datasets is added. You do have to keep in mind that this database is not suited to store the actual data from the dataset, we only make a description of what is available in the dataset and who you can contact to get access to the data itself (metadata = data on the data).

## Linked modules

As this is a relational database, there is a link with the other modules available in IMIS. It is thus possible to link certain persons and institutes to a dataset, but there is also the possibility to define the project in which this dataset has been developed, and publications resulting from this dataset. Next to the linkage with persons, institutes, publications and projects, datasets can also be interlinked with each other.

## Using standards

When creating this module on datasets, existing international standards have been taken into account. We have made use of ISO 19115, the international metadata standard for geographic information, and EDMED, the European directory of marine environmental data. Both ISO and EDMED present a standardised list of items that are needed to get a good description of a dataset, such as dataset name, contact information, spatial information, etc.

Furthermore, we make use of the ASFA thesaurus to assign keywords to a dataset. ASFA stands for Aquatic Sciences and Fisheries Abstracts. They describe themselves as "an abstracting and indexing service covering the world's literature on the science, technology, management and conservation of marine, brackish water and freshwater resources and environments, including their socio-economic and legal aspects".

## General information



The upper part of the form contains information on the title of the dataset and the original language. Completing this information as accurate as possible is important, as the name field is a searchable field through the web interface.


## DasID

Unique identifier of the dataset, assigned automatically by the IMIS database.

## Standard Title (mandatory field)

Type the English title in this field, starting with a capital. If no English title is available, one should be created by a translation from the original language. As this title will be part of a list of datasets, it is important that it is clear and descriptive. The following "rules" can be taken into account:
The name of the dataset should enable the reader to anticipate the content of the dataset and - if possible - its temporal and spatial coverage.
The standard title field never contains an acronym.
Indicate - if necessary - words in the title in italics, subscript and superscript using the following standard HTML codes:

Italics: <i> ...</i>
Subscript: <sub>...</sub>
Superscript: <sup>...</sup>

## Original Title \& Language

If the original title of the database was not English, you can enter the original name here. In the "language" field, there is also a pick list available to select the original language in which the database was delivered. This title field is - just like the "standard title" field, part of list of datasets. To keep it clear and descriptive, please keep in mind the same rules as described for the standard title.

## Acronym

This is the abbreviated name of the dataset. In most cases, the acronym is the word formed from the initial letters of the words of the dataset title.
If no acronym is available, this field can stay blank.

Full Standard Title
This field can contain the exact same information as the "Standard Title" field. However, if the full standard (English) title should differ from the title in the "Standard Title" field, you can enter the full title here. This full standard title can for example be a combination of the acronym and the standard title. This field is also used for "child-databases". In this case, the standard title of the parent is entered here, followed by the standard name of the described dataset

Some examples:
BEMOM: Biographical Etymology of Marine Organism Names, where BEMOM is the acronym and "Biographical Etymology of Marine Organism Names" is the standard title.
MWTL Monitoring Network (parent): MWTL Chemical Monitoring Network (child)

Tick boxes
See section general menus under Tick boxes.

## Details-tab



## VERSION DATE (MANDATORY FIELD)

The date (dd-mm-yy) on which the dataset was finished. If this date is not known, or the database is still a "work in progress", fill in today's date.

## Release date

Date on which the data became or will become available for the public

## Version name

Indication of the version name or number of the dataset. If this is the first or only version of the dataset, it receives e.g. the number "1.0" or "version 1998". If other versions are added, they receive succeeding numbers. The default version name is "1.0".

## Size reference

Indication of the size of the dataset, expressed in number of records. This can be very brief (e.g. 785 species) or it can be more elaborate (e.g. 5194 species; 500 stations for Mysids; 170 stations for Nematoda; 3581 distribution records), depending on the kind of data that is available. This is a free text field; any relevant information can be added here, without character limitations.

## TYPE (PICK LIST)

The making of a database can be based on a number of different actions. Here, a pick list with 11 possibilities is provided to indicate this action:

```
data management action
literature-based
maps / geographical files
meta database
modelling
monitoring
```

multi-partite
museum species
research programme
simulation results
software

## Quality (PICK LISt)

As not all databases are of equal quality, a pick list is provided to give an indication:

```
doubtful
no remarks
not checked
should not be used
to be checked
```

If no information on the quality is available, one can choose "not checked", if the information comes from a very reliable data provider, one can choose "no remarks".

## Flags (check boxes)

Marine flag: to indicate whether the data are (partly) from a marine environment or not Brackish flag: to indicate whether the data are (partly) from a brackish environment or not Terrestrial flag: to indicate whether the data are (partly) from a terrestrial environment or not Freshwater flag: to indicate whether the data are (partly) from a fresh water environment or not

## Citation

This field contains the correct citation of the dataset. This field is only filled in if the data provider gives a citation. The idea is that - in the future - we can come to a standardised way of citing web-consulted information. For now, the name of the database and the URL where it can be consulted, together with the day on which it was consulted, is mandatory information. If more info is available (author names, responsible institute(s), etc.), this is also added.

Data from Species 2000 Database, http://www.sp2000.orq searched on dd/mm/yy (you fill in the date you consulted the database).

Vanden Berghe, E. \& W. Appeltans (2004). Data from TISBE, Taxonomic Information System for the Belgian coastal area, provided by Flanders Marine Institute (VLIZ)- http://www.vliz.be/vmdcdata/tisbe/index.htm; searched on dd/mm/yyyy.

Froese, R. and D. Pauly. Editors. 2003. FishBase. World Wide Web electronic publication. www.fishbase.orq, version 25 February 2004.

## Access constraint (PICK LISt)

Sometimes, data providers want to make the metadata on their data available, but not the data itself. To indicate their wishes concerning the release of their data, a pick list with 11 possibilities has been made available to indicate the degree of constraint on the use of the data.

```
Commercial in confidence
Commercially available
Defence classified
Freely available after embargo period
No information
No release restrictions
Not available until published
Not freely available
Release with permission of the appropriate partners
Restrictions apply to some or all of the data
Restrictions available by contact person
```


## Progress (Pick list)

As not all datasets are provided in a finished format, a pick list is provided to indicate the progress of the database:

```
Completed
In progress
Other
Planned
```

If you have defined "other", you can describe the progress in the provided note field.

## Description-tab



## Data themes-tab



A pick list is provided with a large number of possibilities to define a certain theme referring to the research discipline(s) of a dataset. One dataset can - of course - have multiple themes.

The themes are organised in a few major groups:

```
Biology
Environmental quality / pollution
Fisheries
Geology - Geophysics - sedimentation
Meteorology
Physical
Water composition
```

To date, 48 choices are available. If none of the listed items would cover the content of the dataset, a new data theme can be added by clicking on the "data theme" button. A new window will appear and you can create a new record and define the 'parent' or overlying level of your new theme.

## Abstracts-tab



The abstract or summary information should aim at providing the reader with a good overview of the nature of the dataset and its potential usefulness to his studies. It should be written in the style of an abstract. The information covered will vary according to the dataset, but should - where relevant - at least include the following:
> a description of the measurements / samples and the purpose of their collection a statement on the level to which the data were processed and quality controlled arrangement of the data. This can include time series/ depth series per station, synoptically arranged data, ...
> spatial and temporal resolution of the data information on the length of the time series estimation of the amount of data in number of stations, observations, cores, net hauls,...

Within the "abstracts" part, the following fields can be completed:
Original language
Indication of the language in which the abstract or description originally came.

Tick boxes
Translated by VLIZ: the VLIZ database management team has made a translation of the original abstract to English
Composed by VLIZ: the VLIZ database management team has made the abstract

## English descriptions-tab

Abstract
English summary information briefly describing the nature of the dataset. This field has a limit of 255 characters

## Description

A more elaborate English version of the abstract. It gives information on the origin and purpose of the dataset and it contains all other information that is useful but that doesn't fit into any of the other data fields.

## Descriptions in original language-tab

## Abstract

Summary information in the original language, briefly describing the nature of the dataset. This field has a limit of 255 characters

## Description

A more elaborate version of the abstract. It gives information on the origin and purpose of the dataset and it contains all other information that is useful but that doesn't fit into any of the other data fields.

## Measurements-tab



## Measurement types-tab

All the information on the performed measurements is added here. It is possible (and most likely) that one dataset contains more than one measurement and all of them should be added here by completing the following fields.

## Measid

Each measurement in the database receives a unique identifier. This number is assigned automatically.

## Meas Type

In the "measurement type" field, you can define in your own words what kind of measurement is performed.

## MATRIX (PICK LIST)

A pick list of 11 possibilities is provided, to define in which environment the sample has been taken. E.g. atmosphere, biota, sediment, water, ...

## Parameter (pick list)

Choose the parameter which was measured by clicking on the "select parameter button. An extra window will appear, where you can perform a search. You can choose between a 'raw search', where you type the name of the parameter you are looking for, or you can perform a 'row search', where you can define a discipline, a category and a parameter.
Up till now, approximately 1000 parameters are available in the pick list. The provided list of parameters is linked to the BODC parameter dictionary. This BODC (British Oceanographic Data Centre) Parameter Dictionary has been created to eliminate communication problems and to make the exchange of dataset information easier.

## Unit (PICK LISt)

Select the unit of the parameter from a pick list

## Methodology

When information on the methodology is available, this can be selected from a pick list. If the concerning methodology is not yet available, click on the "go to" button next to the methodology field. A new window will appear where it is now possible to add a new methodology. You should fill in the name of the methodology, the protocol, how the quality control is performed and the precision of this method, including the lower limit of detection. If there is no information on the methodology, this field can stay blank

## Spatial coverage-tab



## ID

Each spatial coverage in the database receives a unique identifier. This number is assigned automatically.

## Spatial cover

Here, you can define the spatial cover of the database in your own words

## Geoterm

Each geographical location is linked to a standardised 'geographical term'. A great deal of standardised terms have already been made available through a pick list. This standardised list is based on the ASFA Geoterm list. This ASFA list has recently been linked with the VLIMAR Gazetteer, a work which is still in progress.

## Station Name

If the samples were taken at a specific station in a certain area, one can add the station name here.

## Original coordinates

If you are dealing with a point location (exact location, one spot), you fill in the coordinates in the $(\mathrm{Min}) \mathrm{X}$ and the $(\mathrm{Min}) \mathrm{Y}$ fields. If you are dealing with a rectangular sampling location, you fill in the minimum and maximum coordinates, indicating the outer limits of the sampling area.

> (Min)X: minimum $X$ coordinate of the location $(X=$ longitude $)$
> (Min)Y: minimum $Y$ coordinate of the location $(Y=$ latitude)
> MaxX: maximum $X$ coordinate of the location
> MaxY: maximum Y coordinate of the location Used XY system: a pick list with all possible coordinate systems is available.

## GeoDatum

Some standard geographical data are available in the pick list. If your datum is not there, please select "other" or add a new GeoDatum. If there is no information available, please select "no information".

## Precision (in meters)

When entering coordinates, one also has to indicate how precise these coordinates are. If, for example, you are entering the coordinates for a certain bay or island (and you do not have information on the point location), you take the most broad part of this bay or island (expressed in meters) and divide it by two. This number is then your precision.
Conversion tool "degrees, minutes, seconds": one can easily convert the original coordinates (in degrees, minutes and seconds), to a decimal number.

Coordinates in Lat/Long decimal degrees (WGS84)
Convert the original coordinates into geographical coordinates (with WGS84 as GeoDatum). This makes it easier to compare measurements from different sources.
(Min)Lat: minimum latitude of the location
(Min)Long: minimum longitude of the location
MaxLat: maximum latitude of the location
MaxLong: maximum longitude of the location
Conversion tool "degrees, minutes, seconds": one can easily convert the original coordinates (in degrees, minutes and seconds), to a decimal number.

Several spatial coverages can be added, depending on the dataset (e.g. samples taken in North and South Pole => both have to be added => two records on spatial coverage).

## Temporal coverage-tab




## ID

Each temporal coverage in the database receives a unique identifier. This number is assigned automatically.

## Temp Cover

You can define the temporal coverage here in your own words

## Start Date

Date when data collection started (dd-mm-yy). If the information is incomplete, the respective fields can stay blank.

## End Date

Date when data collection was finished (dd-mm-yy). If the information is incomplete, the respective fields can stay blank.

## Resolution (pick list)

If the samples were taken at a regular basis, this can be defined here by choosing from a pick list (e.g. daily, seasonally, not relevant, etc.)

Notes
Any additional information on the temporal coverage that might be important for other people can be added here. More than one start and end date can be given for one dataset.

## Taxonomic coverage-tab



One can define which taxonomical groups have been sampled.
You type the name of the taxonomic group in the upper field and click "search". A list of available taxonomic terms will appear, from which you can select the proper name (click "select"). This scientific name will then appear in the "Term" field.
The "Key" field gives the possibility to define which determination key(s) was (were) used when collecting the data.
If the dataset contains information on for example a whole range of different fish species, you add "Pisces" (=fish) as a taxonomical group, and not every fish species separately.

## Combinations-tab



It is possible that, for a certain location on a certain time, a taxonomic group was investigated, but no environmental samples were taken or just the other way around.
In this "combinations" tab, you can define which information was collected at what site at what time.. E.g. the water level was measured at a certain station before the Belgian coast in April 2006, but the
chlorophyll concentration was only measured at the English coast in May 2006. Both these measurements can be defined per location.
These combinations give even more specific information on all the performed measurements, providing an even more refined overview of the collected data.

## ASFA keywords-tab



These keywords are based on the ASFA thesaurus (ASFA = Aquatic Sciences and Fisheries abstracts). A thesaurus provides a standard language or set of terms with which to describe a subject area. Making use of these standardised keywords makes it fairly easy to look up databases, publications, etc. dealing with the same subject (e.g. shrimp).
Several ASFA keywords can be assigned to one single dataset.
More information on the ASFA thesaurus can be found in the "Librarv-module" section.

## Other keywords-tab



It is possible however that certain keywords are not available in the ASFA keyword list. If so, the keyword can be assigned in the "other keywords".
Enter the word in the search field and then click the "search" button. You will get a list of all available terms containing your word. You can then select the appropriate word from the list.

We do however recommend trying to find an appropriate ASFA keyword instead of entering another keyword, as the ASFA keywords are more standardised.

## Origin-tab

In this part, more information can be added on the origin and ownership of the dataset.

## Ownership-tab



All persons related to this dataset can be added here. A person or an institute can be assigned a certain role they played in the progress of compiling the information (e.g. data collector, data manager, contact, data owner, etc.). There is a pick list available with 47 possibilities to define the role of a certain person. The most important role for communication concerning the data is the "contact" person and this person should thus be defined for each dataset. Each person can also be affiliated to the institute he or she is working at.
It is however not possible to add a person or an institute that is not yet available in the IMIS database. If your person is not yet available, you should first go the the "persons" module and create a record for this person. The same goes for the institutes.

Once the person, the role and the institute have been defined, you have to click on the "create" button in order to maintain this ownership record you just made. If you do not click on "create", the information you just added will be lost.

An extensive list of persons and institutes can be added here, depending on the dataset. In most cases, only an institute is added and not a person name when defining the "data owner".

## Legal frameworks-tab



Sometimes, a dataset is created within a certain framework or larger project. In this field, you can define this framework from a pick list.

## Projects-tab



A dataset can also be part of project or is the end-product of a certain project. In these cases, the relevant project can be selected from a pick list.
If the project is not yet available in the pick list, one should first create a record for this project in the "project" module.

## Literature-tab



## Add a new publication starting with

Start typing the first words of the publication and then press the "search" button. A list with possible publications will appear, from which you can then select the right publication.

## Relation

In this field, you can define how the publication is related to the dataset. There are three possibilities available:

## Based on this dataset (most common) Describing this dataset <br> Used in this dataset

## Instances-tab

Information on the instances can be added on three different levels: details - contacts - URLs. An instance of a dataset is defined as the actual place or location where the dataset is phvsicallv available and where it can be consulted (this can be a book, a diskette, a file on a server...).

## Details-tab



## AcquisitionNr

This field denotes the sequence in which the different instances were received.

## Acquisition Date

The date the instance of the dataset was acquired.

## Physical medium

The physical carrier of the dataset. This can for example be a paper, a server or a hard disk (choose from pick list).

## Storage location

The specific location where the physical instance of the dataset is stored

## Storage institute

The institute the dataset is stored at.

## Files

ID: Autonumber, automatically assigned by the IMIS database
Path: the exact location where the dataset can be found.
e.g. S:\datac\Projects\Marbef\Datasets\Manuela\Manuela.xls

Viewer software: the programme needed to read the file
File format: the extension of the file. E.g. .xls; .mdb, ...
Size: the size of the file, expressed in kb

## Contacts-tab



## Person

The person who should be contacted in order to obtain more information on the (physical medium of the) dataset

## INSTITUTE

The institute that should be contacted in order to obtain more information on the (physical medium of the) dataset

If the person and/or the institute is not yet available in the IMIS database, you should first add them by entering the names in the persons and / or institute module.

## URLs-tab



See section general menus under URLS

## Notes-tab



The notes contain even more information on the dataset, but it concerns information that doesn't really fit in the abstract of the dataset. We distinguish two different note fields:

## Comments

Comments are shown on the website and are thus public information. It contains additional information on the data that does not fit in the abstract, but that might be of importance for people interested in the dataset.

## InPut Notes

These notes are not shown on the website and are thus inside information only. Here, you can make personal notes, perhaps saying that you still need to check some of the information or reminding you that you haven't finished completing the information on this dataset yet.

## Currency date

The date that the dataset information was last checked for accuracy by the author. This should be set to the date the dataset was first completed.

## REVision date

The date the dataset information was last revised by the author.

## SpecialCols-tab



See section general menus under Special Collections

## Relations-tab



## Children-tab

Datasets that are a subset of the dataset you are describing can be defined here. If there is a "childrelationship" defined here, the other dataset will automatically receive the "parent-relationship".

## Parents-tab

If your dataset is part of a larger dataset, the larger dataset or "parent" can be defined. If there is a parent-relationship defined, the other dataset will automatically receive the "children-relationship".

## Other relations-tab

A dataset is not always a 'stand alone' thing. Information in your dataset might be retrieved from other datasets. If so, we say that your dataset has a relation with another dataset. These relations can be defined by the following relation options (pick list):

Partial source dataset: a part of your dataset can be retrieved from another dataset. Preceding dataset: in some cases, you can receive an updated version of a certain dataset.
Related dataset: if this dataset has a relation with another dataset, but this relation does not match one of the above.

If you have defined the relationship, you can select the related dataset from the pick list.

## Other relations reverse-tab

If the relations are defined between two datasets, the related dataset will automatically show the chosen relation in the "Other relations reverse" window. So you should never fill in these fields, as they are assigned automatically by the system.

The relations shown here are a perfect complement of the relations in the "Other relations" window:
Partly included in: a part of this dataset is included in another dataset Following dataset: this is the previous edition of the defined dataset Related dataset: there is a relation between both datasets, but the relation is not one of the above.

## URLs-tab



See section general menus under URLS

## Map-tab



Datasets can also be delivered as maps (digital geographic datasets). In that case, you can describe the following features:

## SpATIAL REPRESENTATION AND RESOLUTION

(note: a dataset can be represented in different spatial representations)
Raster: data is structured in a regular grid
Vector: data is structured in point, polylines or polygons
Click details after you have chosen a representation.
For a vector dataset, you have to complete three fields:
Scale: this is the scale at which the vectors are based
Geometric object: point, multipoint, line, polyline or polygon
Count of features: the number of individual vectors in the dataset
For a raster dataset, you have to fill in two fields:
Resolution: this is the dimension of the grids
Unit: the unit of the resolution

## Map attributes

Here you can add the attributes of the map. Raster datasets only have one attribute. Vector dataset can have more than one attribute. The provided list is not complete and can be extended.

## Info-tab



See section general menus under Info

## IMIS - INFRASTRUCTURES MODULE

## Introduction

Primarily, the infrastructure module should contain data on (marine) research infrastructures. Science infrastructures are basic physical or organisational structures that are needed for the operation of science. Infrastructures can thus be many things. They include ships, ROV's, AUV's, large instruments deployed from ships like gravity corers, monitoring networks of buoys, land-based facilities (buildings holding dedicated labs and test or experimental facilities), airplanes, satellites, collections (like biological reference collections, sediment sample collections and core repositories).
Small instruments and sensors are not considered as infrastructure. The IMIS infrastructure module however also has the capacity of storing information on sampling instruments and sensors. It can be important for research teams or institutes to announce the availability of specific instruments.

Sharing information on available infrastructure and exchangeable instruments serves scientists and institutes by

- Increasing the deployment of the infrastructure, consequently putting the invested capital at work more efficiently
- Enhancing the co-operation between research teams
- Promoting multi-disciplinary character of research projects

In the manual, the term 'infrastructure' is used as the module was initially designed to contain information on infrastructures only. It does however also refer to both infrastructures and instruments/sensors, unless when specifically mentioned it concerns instrument/sensors. As all possible infrastructures and instruments are quite different in nature, holding the information in one single database creates conflicts in the DB design. Infrastructures are unique while instruments and sensors are not. Each type of instrument/sensor is treated as a unique infrastructure. While institutes may possess several instruments of the same kind one will need to decide whether it fits better to create records for each individual instrument or to mention the number available. For this reasons each infrastructure also needs to be defined into the DB on both an abstract and a physical level.

## General information



## StANDARDNAME

The name of the infrastructure (instrument)

## Status

The status of the infrastructure:
Deleted: the infrastructure once existed but is no longer present Out of use: the infrastructure is still present but is no longer maintained and/or used (eg. a decommissioned ship)
Valid: the infrastructure is operational

## Parent

Indicates a child-parent relationship between infrastructures, between an infrastructure and instruments that are an integral part of the infrastructure or between instruments.
E.g. a CTD maybe present onboard a ship but cannot be made operational elsewhere. The sensor (CTD) is then a child to the infrastructure (ship).

The parent is selected from records created in the DB module.

## Loose Part

This flag is only used for instruments or sensors. A 'loose part' instrument/sensor denotes instruments/sensors that may function stand-alone. An instrument/sensor that is not a loose part is physically or operational connected to an infrastructure or another instrument.

Infrastructures are not being flagged 'loose part' while in the strict meaning of the term they are. Infrastructures are units that function independently. Sensors or instruments might only function, physically or operational, in close operation with an infrastructure or another instrument.
An instrument or sensor can be both not a loose part and not a child to a parent infrastructure. This means that the instrument/sensor is thus not available unless for the employees of the institute who owns the instrument/sensor or that the instrument will only be operational within the institute.

## Details-tab



## Dutch Term

The Dutch name of the infrastructure

## INFRATYPE

Infrastructures are classified into types for categorisation. This list is unlimited and user defined. It is most useful for grouping infrastructures into functional entities. This allows for searching into the userdefined categories. This searching is most convenient for instruments and sensors.
The GoTo button opens the InfraTypes form where the Name and the DutchTerm need to be specified together with a description of the InfraType in both Languages. Here the InfraType can be described and filed under a Category. The field 'Category' is a limited to 4 values: infrastructure, sensor, sampling device and lab equipment.

## Manufacturer

The manufacturer of the infrastructure. If needed an institute from the 'Institute' module of IMIS can be selected here.

## Expert

Here a list of people that are expert in using the infrastructure or a specific type of instrument/sensor can be listed. The persons are selected from the IMIS module 'Persons'. This list is intended to search for support in the use or deployment of an infrastructure. It is not a list of people that own, manage or co-ordinate the use of an infrastructure.

## Instances-tab



An instance is the physical entity of an infrastructure. The Instances-tab thus shows information at this level. While infrastructures are unique and all detail information about them can be stored under the main form and the Details-tab, instruments and sensors may exist of different manufacturers, types or configurations. Instruments and sampling equipment are thus represented under the 'Details' tabs at an abstract level (grouping) while infrastructures are actually being repeated as physical entities in the Instances-tab. An infrastructure has, due to its uniqueness, only one physical appearance while instruments and sensors may be present as different brands, types, configurations at different institutes and will therefore at some point need a representation at a lower level in the DB.

## SERIAL NR

If needed a serial number that uniquely identifies an instrument can be supplied. If no SN is available one should insert ' $N A$ ' into this field.

## Details-tab

Holding similar information as the 'Details' form under the Infrastructure level ie. the manufacturer and possibly an institute, a description of the conditions of use and a field for general notes. It also includes the option to mention the number of instances that are available for that specific type. This allows both for the user to just mention the number of that specific type to have available or to describe each individual instrument of that type in the database. This may become important when the
information needs to be shown on the internet or when the DB is used as a management tool for your own pool of instruments/sensors.

## Partners-tab

Holds information on the people who own or manage the infrastructure or instrument. A role is assigned to each institute and person and that is added to the list. People and Institute are selected from the respective IMIS modules

## URLS on Instance-tab

Contains the URLs on the infrastructure or instrument. Pictures of the instance can be inserted here as an url and this allows showing the picture on the internet. URLS are being selected or inserted applying an appropriate IMIS form that is used in other modules as well.

## Descriptions-tab

Short basis descriptions of the instance

## Parameters and Characteristics-tab



Here basic descriptors of the infrastructure are being supplied. Descriptors can be added on a case by case basis. Descriptors should allow users to obtain a first impression and appreciation of the infrastructure. Normally basic dimensions or other main specifications of the infrastructure are listed. Both the name and the value of the characteristic need to be supplied. Beware, the value field is a text field, not a numeric field, the unit should thus also be supplied in that field

Parameters is a list of both parameters and terms that allow performing a search for infrastructure or instrument that may be used for a specific measurement or sampling.

Both Characteristics and Parameters are user defined lists. The GoTo button next each entry into those lists opens a small form where the English and Dutch names can be supplied, together with a definition.

## Descriptions-tab



Free text fields where a (short) description of the infrastructure can be written down

## URLs-tab



This subform contains a list of URL's about the infrastructure. This includes also links to pictures (for the purpose of placing them on the internet).
The GoTo button will open a URLs form that is used throughout IMIS and is being discussed in the General section.

## SpecialCols-tab



See section general menus under Special Collections.

