



30

Standard Library Directory Record Structure



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Abstract

In this manual a Standard Library Directory Record Structure is proposed, for use in the preparation of databases of libraries and information centres. The structure is designed to be, as far as is possible, independent of the software used. Provision is made for additional fields for local needs. The structure incorporates the section of the Standard Directory Record Structure for organizations, individuals and their research interests which deals with organizations (MIM Publication Series Volume 4).

Foreword

This is the fourth volume in a new series called '**MIM Publication Series**'. The production of this series was agreed upon by the IODE Group of Experts in Marine Information Management (GEMIM) during its Fourth Session (Washington DC, USA, 6-9 October 1993). There, it was observed that documents currently published as part of the IOC publications series do not reach all members of the target groups of MIM. It was also noted that documents prepared as working documents for the Group's sessions were not fully put to use as they were never distributed beyond the Group members. It was agreed that some working papers merit general distribution. The MIM Publication Series provides MIM related papers with their proper identity within the IOC publications as separate volumes of IOC Manuals and Guides No. 30. The series may include manuals, selected working papers, strategy papers, working group reports, standards, directories, etc. The publications in this series are reviewed by a committee composed of experts with experience relevant to the topic of the publication.

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REFERENCE

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- II: LIST OF ASFIS CODES

1. INTRODUCTION

At the third session of the Group of Experts on Marine Information Management, Wormley, UK, 27-30 April 1992, there was a discussion of the need for the continued development of directories and registers. Taking into consideration the resolutions formulated at past meetings, the Group expressed the need for the development of a Standard Directory Record Structure. It was recommended that IOC, in association with EURASLIC and IAMSLIC, should work together to develop a standard structure, and this was designed by a small working group, and published by IOC (Moulder et al., 1994). Further to this discussion, it was agreed at the fourth session in Washington, D.C., USA, 6-9 October 1993, that a standard structure for a library directory should also be prepared. This could include those sections of the Standard Directory Record Structure which were common to both requirements.

2. PURPOSE

- (1) To provide a Standard Library Directory Record Structure which can be used by national/regional/international groups, but which can be modified where necessary for local needs.
- (ii) To provide a structure which includes provision for details of institutions, the library or information centre, its staff, collections, services, user policy, electronic access, publications etc.
- (iii) To provide a structure which is, as far as is feasible, software independent.
- (iv) To provide a structure which is independent of the form in which the directory exists, whether printed, on diskette, on CD-ROM, or online on a host. It should, however, allow for the preparation of the necessary indexes and tools for its use, and should use standard authority lists where possible.

3. THE ESTABLISHMENT OF A STANDARD LIBRARY DIRECTORY RECORD STRUCTURE WORKING GROUP

A small working group with representatives from EURASLIC and IAMSLIC was set up to compare and contrast existing directory structures, and to recommend a standard structure. The membership of the group was:

Martha Andrews	(Institute of Arctic and Alpine Research (IAAR), Boulder, USA)
Peter Brueggeman	(Scripps Institution of Oceanography (SIO), San Diego, USA)
Charles McFadden	(Virginia Institute of Marine Science (VIMS), Gloucester Point, USA)
David Moulder	(Plymouth Marine Laboratory (PML), Plymouth, UK (convenor))
Paula Wolfe	(University of Wyoming (UW), Laramie, USA)

This manual is the result of the cooperative effort of this group.

4. REVIEW OF EXISTING STRUCTURES

A number of existing library directory structures were used as a basis for the discussions. These included the EURASLIC and IAMSLIC directories, as well as those of the *Bibliothèques et Centres de Documentation français pour la Mer et les Eaux*, the *Libraries and Environmental Information Centres in Central Eastern Europe*, the *World Directory of Libraries*, and the *Directory of Polar and Cold Regions Library Resources*.

4.1 COMPARISON OF THE STRUCTURES

The majority of the structures were very similar, the main difference being the amount of detail that was included. The *World Directory of Libraries* gave least information, reflecting the need to cover thousands of libraries from across the world. All included some information on the parent organization, including address and phone number, a library staff contact, a description of subject coverage and holdings, and services. The EURASLIC structure was the only one developed for the UNESCO CDS/ISIS software.

4.2 COMMON COMMUNICATION FORMAT (CCF)

The Common Communication Format (CCF) was developed under the auspices of UNESCO in order to facilitate the exchange of bibliographic data between organizations. Initially CCF was limited to bibliographic data, but in recent years it has been extended to factual data, and there are now two formats, CCF/B for bibliographic data, and CCF/F for factual data, having relevant data elements in common. The aim is to provide a detailed and structured method for recording a number of mandatory and optional data elements in a computer-readable record for exchange purposes between two or more computer-based systems. The Standard Library Directory Record Structure is capable of producing CCF-compatible output.

5. REQUIRED ELEMENTS FOR A STANDARD LIBRARY STRUCTURE

A standard structure will need to have a number of defined elements, which can be completed in as much detail as is required by the user. It is suggested that the following defined elements will be required:

Organization

Information will be required to (i) identify the organization (name, acronym), (ii) locate it (address), (iii) communicate with it (address, phone, telex, telegram, fax, E-mail), (iv) put it in context (Affiliation, subjects covered, description of activities).

Library

Information will be required to (i) identify the library (name), (ii) locate it (department, organization, address), (iii) communicate with it (address, staff, phone, telex, telegram, fax, E-mail), (iv) describe it (collections, services, user policy, electronic access, publications).

Indexing

The following information will be required to index both of the above: (ASFIS codes, index terms, environment).

House-Keeping

The following house-keeping information will be required by the database: (header, sort codes, when updated, by whom updated).

6. A STANDARD LIBRARY STRUCTURE AND SOFTWARE INDEPENDENCE

UNESCO's CDS/ISIS software allows for a number of possibilities which may or may not be available in other softwares:

Subfields

CDS/ISIS uses subfields, for linked parts of an entity, e.g. surname, first name, other names, title. In case other softwares do not have this feature each part of the entity has been placed in a separate field. However within CDS/ISIS it would be possible to use the subfields, for example for fields 120-121 (as 120^a, 120^b), 130-132 (as 130^a, 130^b, 130^c) etc. For the Standard Library Directory we have chosen to use the subfields as little as possible to leave the option to use softwares other than CDS/ISIS.

Repeatable Fields

CDS/ISIS uses repeatable fields, for example for phone numbers where there may be several numbers for an organization. These can be separated by punctuation in other softwares, if repeatable fields are not allowed. In the Standard Library Directory we have used repeatable fields. When using another software you must therefore identify an acceptable and applicable alternative.

Linking Records

CDS/ISIS links records using a **reference function**, which links together records having a *sort code* in common. This is a function which compensates for a limitation of CDS/ISIS: only one database can be opened. The reference function, in the case of the Standard Library Directory, will require you to enter the organization information only once for all libraries related to a given organization. The sort code will allow the CDS/ISIS software to retrieve the organization information (of fields 3 to 199) and display it together with the library-related information (fields 600 to 699) for a particular library. If you don't use the CDS/ISIS software, then it may be necessary to enter the organization information for all libraries. Alternatively you can create several databases which can be related to each other through the sort codes.

These are the linkages which may be made for the Standard Library Directory Database:

Linking Libraries to their Organizations

Each record for a library need only contain the identification of the related organization (i.e. its sort code in field 601). This identification will allow CDS/ISIS to borrow the desired information on the organization from the relevant organization record, to be included with the output on the library.

Linking Organizations to a Related Library

It will also be necessary to link records in the reverse direction, taking information from library records to include with an organization record. The same technique is used, using the sort code in field 3.

Linking Individuals to their Department

It will be necessary to link each member of staff to their parent department, taking information from individual records to include with a department record. The same technique is used, using the sort code in field 619.

Linking ASFIS Codes with their Full Meaning

By adding to the database a set of records containing the ASFIS Codes (in field 450) and their full meaning (in field 455), the CDS/ISIS Ref Function can be used to produce the ASFIS Codes with their full meaning for all records containing one or more ASFIS Codes (in fields 192 or 692).

7. THE STANDARD LIBRARY STRUCTURE

The following standard structure is proposed. It should be noted that the numbering of the fields is for guidance only. Other softwares may have a different requirement for the labelling of fields. Additional fields may be added if needed for a particular reason (see fields 900 onwards). The length of the field, and the field type, are at the discretion of the users of the structure. The structure has been defined to be as wide-ranging as possible. Users may not want, or need, particular sections of it, but the structure tries to cover all eventualities. Please note however that we have used repeatable fields as well as subfields, features which may not be available in all softwares. In that case it may be necessary to add some fields replacing the subfields/repeatable fields.

7.1 FIELD LIST

Tag	Up to three figure number label for each field
Name	Name of the field
Length	Maximum number of characters in each field
Field Type	Possible restrictions on data characters in a field: X = alphanumeric characters; N = numeric characters
Rep	Indication of whether field is repeatable
Subfields	Indication of whether there are subdivisions in the field

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep</i>	<i>Subfields</i>
<i>Main housekeeping field</i>					
1	Record Identifier	20	X	No	No
<i>Fields related to the Organization</i>					
2	Header	20	X	No	No
3	Sort Code	30	X	No	No
21	Completeness of Record	30	X	No	Yes
62	Type of Factual Information	3	X	No	No
100	Organization Name (Original)	100	X	No	No

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
101	Organization Name (English)	100	X	No	No
105	Acronym	30	X	No	No
110	Affiliation	100	X	No	No
111	Date of Creation	8	N	No	No
120	Number/Letter	10	X	No	No
121	Street	60	X	No	No
122	Building	60	X	No	No
123	The Floor	10	X	No	No
124	PO Box	30	X	No	No
130	Postal Code	20	X	No	No
131	Town/city	60	X	No	No
132	Postal Code	20	X	No	No
140	Postal Code	20	X	No	No
141	County/state/province	60	X	No	No
142	Postal Code	20	X	No	No
150	Postal Code	20	X	No	No
151	Nation	60	X	No	No
152	Postal Code	20	X	No	No
160	Postal Code	20	X	No	No
161	Country (Original)	60	X	No	No
162	Postal Code	20	X	No	No
163	Country (English)	60	X	No	No
164	ISO Country Code	2	X	No	No
170	Head of Organization (Surname)	60	X	No	No
171	Other Names	80	X	No	No
172	Title	40	X	Yes	No
173	Position in Organization	60	X	Yes	No
180	Phone	80	X	Yes	No
181	Fax	80	X	Yes	No
182	Telex	80	X	Yes	No
183	Telegram	80	X	No	No
184	E-mail	80	X	Yes	No
185	URL	160	X	Yes	No
190	Description of Activities	500	X	Yes	No
191	Subjects	500	X	Yes	No
192	ASFIS Codes	500	X	Yes	No
193	Environment	60	X	Yes	No
199	Notes	500	X	No	No

Fields for the ASFIS descriptors

450	ASFIS code	4	X	No	No
455	ASFIS code description	120	X	No	No

Housekeeping Fields

511	Date of Original Entry	8	N	No	No
512	Last Update	8	N	No	No
513	Keyboarder	60	X	No	No

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Repeatable</i>	<i>Subfields</i>
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*Fields related to the Library**Department*

600	Department Name	100	X	No	No
601	Sort Code	30	X	No	No
602	Date of Creation	8	N	No	No
605	Department Phone	80	X	Yes	No
606	Department Fax	80	X	Yes	No
607	Internet Document Transmission Address	80	X	Yes	No
608	E-Mail	80	X	Yes	No
609	URL	80	X	Yes	No

Individual

610	Name	60	X	No	No
611	Other Names	80	X	No	No
612	Title	40	X	Yes	No
613	Function	60	X	Yes	No
614	Sex	10	X	No	No
615	Phone	80	X	Yes	No
616	Fax	80	X	Yes	No
617	E-Mail	80	X	Yes	No
618	URL	80	X	Yes	No
619	Sort Code	30	X	No	No

Collection

620	Collection Description	500	X	Yes	No
621	Serial Titles (Current)	20	X	No	No
622	Books/Monographs	20	X	No	No
623	Reports	20	X	No	No
624	Reprints	20	X	No	No
625	Expedition Reports	20	X	No	No
626	Atlases	20	X	No	No
627	Maps and Charts	20	X	No	No
628	Theses	20	X	No	No
629	Microfiches	20	X	No	No
630	Microfilms	20	X	No	No
631	Audio Material	160	X	No	No
632	Video Material	160	X	No	No
633	Other Media	160	X	No	No
634	Archives	500	X	Yes	No
635	Illustrations	500	X	Yes	No
636	Special Collections/Facilities	500	X	Yes	No
637	Union Lists	160	X	No	No
638	Acquisition Policy	160	X	No	No

Tag	Name	Length	Field Type	Rep- eatable	Subfields
<i>Services</i>					
640	Classification System	20	X	No	No
641	Card Catalogues	160	X	Yes	No
642	Online Catalogues	160	X	Yes	No
643	Databases/CD-ROMs	160	X	Yes	No
644	Network Participation	160	X	Yes	No
645	Other Services	500	X	Yes	No
646	Software	160	X	Yes	No
<i>User Policy</i>					
650	Access (internal)	160	X	No	No
651	Access (external)	160	X	No	No
652	Opening Hours	500	X	Yes	No
653	Loans/Charges	160	X	Yes	No
654	Photocopies/Charges	160	X	Yes	No
<i>Electronic Access</i>					
660	World Wide Web (WWW)	160	X	Yes	No
661	Gopher	160	X	Yes	No
662	Telnet	160	X	Yes	No
663	FTP	160	X	Yes	No
664	Dialup	160	X	Yes	No
<i>Publications</i>					
670	Organization - Printed	240	X	Yes	No
671	Organization - Electronic	240	X	Yes	No
672	Department - Printed	240	X	Yes	No
673	Department - Electronic	240	X	Yes	No
<i>General Information</i>					
692	ASFIS Codes	500	X	Yes	No
693	Environment	60	X	Yes	No
699	Notes	500	X	No	No
900	All the 900's are for locally defined fields, to cater for specific needs.				

7.2 FIELD DESCRIPTIONS

Tag	Name	Length	Field Type	Rep- eatable	Subfields
1	Record Identifier	20	X	No	No

This field provides a unique identifier of the record and is user-defined. Accordingly you can define your proper format.

Tag	Name	Length	Field Type	Repeatable	Subfields
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e.g.: DIR12345

2	Header	20	X	No	No
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This is a global field which appears in all records, and allows one to select a set of all records, by using the same keyword. For example the name of the database could be used (WIODIR, UKMERG)

3	Sort Code	30	X	No	No
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This is a code to link records together. It will be unique to each subsection of the main organization, or to each organization, depending on whether subsections are entered as separate records or not. The Sort Code can be of the form ISO Country Code/city or town/organization, e.g. KE/ MOMBASA/ KMFRI for the organization, KE/ MOMBASA/ KMFRIA for the first department, KE/ MOMBASA/ KMFRI for the second department etc., or a simpler solution would be K/M/K, using the same elements, but ensuring that each sort code is unique

21	Completeness of record	30	X	No	Yes
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This is an indication of whether the record includes mandatory, optional or local data elements: whether it is a CIP (cataloguing in Publications) record, or it has been prepared using the published item.

subfields ^c: completeness code :

1: 1= only standard (i.e. mandatory or optional) data elements present in the record

2= local data elements present in the record

0= not specified

2: 0

^l: level of completeness (A= all mandatory and all optional elements provided)

(B= all mandatory elements provided)

(C= Less than all mandatory elements provided)

e.g. ^c10^lAB (the record contains only the mandatory elements)

62	Type of Factual Information	3	X	No	No
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This indicates which kind of information is included in the record. For the directory there are 4 types:

INS: Institutional information

DEP: Department Information

PER: Personal Information

ASF: ASFA Code

100	Organization Name (Original)	100	X	No	No
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The name of the organization in its original language

e.g.: Centre de Recherches Océanologiques

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
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101	Organization Name (English)	100	X	No	No
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The name of the organization in English, if the original name is in another language

e.g.: Oceanological Research Centre

105	Acronym	30	X	No	No
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The acronym of the original language organization name

e.g.: CRO

110	Affiliation	100	X	No	No
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The institution controlling/responsible for/advising the organization

e.g.: Ministry of Research, Science and Technology

111	Date of Creation	8	N	No	No
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The date of creation of the organization in the form YYYYMMDD

e.g. 19680312

120	Number/Letter	10	X	No	No
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The number/letter in the street

e.g.: 201

121	Street	60	X	No	No
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The name of the street

e.g.: Ocean Front Lane

122	Building	60	X	No	No
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The name of the Building

e.g.: Whale Memorial Building

Tag	Name	Length	Field Type	Repeatable	Subfields
123	The Floor	10	X	No	No
	The floor in the Building				
	e.g.: 5th Floor				
124	PO Box	30	X	No	No
	The Post Office Box Number				
	e.g.: 2456				
130	Postal Code	20	X	No	No
	The numbers/letters before the town/city name				
	e.g.: 1000 (<i>as in 1000 Brussels</i>)				
131	Town/city	60	X	No	No
	The name of the town or city in the original language				
	e.g.: Brussels				
132	Postal Code	20	X	No	No
	The numbers/letters after the town/city name				
	e.g.: PL1 2PB (<i>as in Plymouth PL1 2PB</i>)				
140	Postal Code	20	X	No	No
	The numbers/letters before the county/state/province name				
141	County/state/province	60	X	No	No
	The name of the county/state/province in the original language				
	e.g.: CA (<i>as in California</i>)				
142	Postal Code	20	X	No	No

Tag	Name	Length	Field Type	Rep- eatable	Subfields
The numbers/letters after the county/state/province name e.g.: 92093-0175 (<i>as in CA 92093-0175</i>)					
150	Postal Code	20	X	No	No
The numbers/letters before the name of the nation					
151	Nation	60	X	No	No
The name of the nation in the original language e.g.: Scotland					
152	Postal Code	20	X	No	No
The numbers/letters after the name of the nation					
160	Postal Code	20	X	No	No
The numbers/letters before the name of the country					
161	Country (Original)	60	X	No	No
The name of the country in the original language e.g.: Nederland					
162	Postal Code	20	X	No	No
The numbers/letters after the name of the country e.g.: K1A 0E6 (<i>as in Canada K1A 0E6</i>)					
163	Country (English)	60	X	No	No
The name of the country in English e.g.: The Netherlands					
164	ISO Country Code	2	X	No	No
The ISO 3166 2-letter Country Code as shown in Annex I					

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
e.g: NL					
170	Head of Organization (Surname)	60	X	No	No
The surname of the head of the organization					
e.g.: Murillo					
171	Other Names	80	X	No	No
The other names of the head of the institution					
e.g: Eduardo T.					
172	Title	40	X	Yes	No
The title(s) of the head of the head of the organization. Separate each title by a percentage (%) sign					
e.g.: Professor%Dr%Mr					
173	Position in Organization	60	X	Yes	No
The organizational title(s) of the head of the organization, e.g. Director, Head, Dean. Separate each title by a percentage (%) sign					
e.g.: Dean, Faculty of Science%Head of Zoology Department					
180	Phone	80	X	Yes	No
The main phone number(s) of the organization, in the international format, i.e. country code, area code, number. Each number will be separated by a percentage (%) sign					
e.g.: 254-11-471129%254-11-472527					
181	Fax	80	X	Yes	No
The main fax number(s) of the organization, in the international format, i.e. international code, area code, number. Each number will be separated by a percentage (%) sign					
e.g.: 32-2-6413403					
182	Telex	80	X	Yes	No

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
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The telex number of the organization, followed by the Answerback, followed by the network (when applicable), each separated by a semi-colon and three spaces. Each number will be separated by a percentage (%) sign

e.g.: 23456; OCEAN W; Sprint

183	Telegram	80	X	No	No
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The telegraphic address

e.g.: OCEANS MOMBASA

184	E-mail	80	X	Yes	No
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The E-mail address(es), each in the form of E-mail Network, followed by semicolon and three spaces, followed by the Address, and each address separated by a percentage (%) sign

e.g.: compuserve; ncmr@compuserve.com

185	URL	160	X	Yes	No
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The URL (Uniform Resource Locator) address(es) of the home page(s) of the organization, and each address separated by a percentage (%) sign

e.g.: <http://www.unesco.org/ioc/>

190	Description of Activities	500	X	Yes	No
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A brief description of the activities of the organization. Paragraphs in the text may be separated by a percentage (%) sign

e.g.: The CRO is involved in oceanological research. The main research fields are (i) pollution of the Mondego Bay; (ii) aquaculture of mangrove oysters; (iii) coastal erosion. The CRO has an advisory role to the Ministry of Tourism as well as to the Ministry of Planning. The CRO has several cooperation agreements with national institutions such as University of Malalang, University of Boma, as well as with international agencies such as UNESCO, IDRC, IOC and FAO.

191	Subjects	500	X	Yes	No
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A keyword description of the activities of the organization, which can be taken from the ASFIS Thesaurus (ASFIS REFERENCE SERIES, No. 6 Revision 1), separated by a percentage (%) sign

e.g.: Pollution Control%Pollution Detection%Aquaculture%Coastal Erosion

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
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192	ASFIS Codes	500	X	Yes	No
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The ASFIS codes describing the activities of the organization, separated by a percentage (%) sign
A full list of ASFIS codes is included as Annex II

e.g.: 1521%1820

193	Environment	60	X	Yes	No
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The environments in which the organization is working, i.e. brackish, fresh, marine, separated by a percentage (%) sign

e.g.: marine%brackish

199	Notes	500	X	No	No
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Any additional information about the organization

e.g.: Was previously called Centre for Oceanographic Research

450	ASFIS code	4	X	No	No
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This field will contain the 4-digit ASFIS code which is described in full in field 455. For each ASFIS code a separate record will be used with only fields 450 and 455 filled.

e.g.: 1306

455	ASFIS code description	120	X	No	No
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In this field the numeric code of field 450 is described in full.

e.g.: Entomology - Physiology, biochemistry, biophysics

511	Date of Original Entry	8	N	No	No
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Date of the original entry in the form YYYYMMDD

e.g.: 19940129

512	Last Update	8	N	No	No
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Date of the last update, in the form YYYYMMDD

e.g.: 19940210

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
------------	-------------	---------------	-------------------	-------------------------	------------------

513	Keyboarder	60	X	No	No
------------	-------------------	----	---	----	----

Name of the person filling in record, in form first initial and surname

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
------------	-------------	---------------	-------------------	-------------------------	------------------

e.g.: T Okinawa

600	Department Name	100	X	No	No
------------	------------------------	-----	---	----	----

The name of the department in its original language

e.g.: Service de Documentation

601	Sort Code	30	X	No	No
------------	------------------	----	---	----	----

This is a code to link records together. It will be unique to each subsection of the main organization, or to each organization, depending on whether subsections are entered as separate records or not. The Sort Code can be of the form ISO Country Code/city or town/organization, e.g. KE/MOMBASA/KMFRI for the organization, KE/MOMBASA/KMFRIA for the first department, KE/MOMBASA/KMFRIIB for the second department etc., or a simpler solution would be K/M/K, using the same elements, but ensuring that each sort code is unique.

602	Date of Creation	8	N	No	No
------------	-------------------------	---	---	----	----

The date of creation of the department, in the form YYYYMMDD

e.g.: 19970401

605	Department Phone	80	X	Yes	No
------------	-------------------------	----	---	-----	----

The department phone number(s), in the international format, i.e. country code, area code, number. Each number will be separated by a percentage (%) sign

e.g.: 33-1-40683433

606	Department Fax	80	X	Yes	No
------------	-----------------------	----	---	-----	----

The department fax number, in the international format, ie. country code, area code, number. Each number will be separated by a percentage (%) sign

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
------------	-------------	---------------	-------------------	-------------------------	------------------

e.g.: 38-90-670984

607	Internet Document Transmission Address	80	X	Yes	No
------------	---	----	---	-----	----

The address used to transmit documents over the Internet, e.g. using the Ariel software. Each address will be separated by a percentage (%) sign

e.g.: Ariel: 165.95.51.75%sambuca@chanel.edu

608	E-Mail	80	X	Yes	No
------------	---------------	----	---	-----	----

The E-mail address(es), each in the form of E-mail Network, followed by semicolon and three spaces, followed by the Address, and each address separated by a percentage (%) sign

e.g.: compuserve; oceanis@compuserve.com

609	URL	80	X	Yes	No
------------	------------	----	---	-----	----

The URL (Uniform Resource Locator) address(es) of the home page(s) of the organization=s library, and each address separated by a percentage (%) sign

e.g.: http://www1.npm.ac.uk/library/

610	Name	60	X	No	No
------------	-------------	----	---	----	----

The name of the individual member of staff

e.g.: Murillo

611	Other Names	80	X	No	No
------------	--------------------	----	---	----	----

The other names of the individual

e.g.: Eduardo T.

612	Title	40	X	Yes	No
------------	--------------	----	---	-----	----

The title(s) of the individual. Separate each title by a percentage (%) sign

eg.: Ms%Dr

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
613	Function	60	X	Yes	No
The function(s) of the individual. Separate each function by a percentage (%) sign e.g.: Librarian%Systems Librarian					
614	Sex	10	X	No	No
The sex of the individual e.g.: Female					
615	Phone	80	X	Yes	No
The phone number(s), in the international format, i.e. country code, area code, number. Otherwise extension number or both. Separate each phone number with a percentage (%) sign e.g.: 324-2-520005%324-2-520000 ext. 234					
616	Fax	80	X	Yes	No
The fax number(s), in the international format, i.e. country code, area code, number. Separate different numbers with a percentage (%) sign e.g.: 324-2-564673					
617	E-Mail	80	X	Yes	No
The E-mail address(es), each in the form of E-mail Network, followed by semicolon and three spaces, followed by the Address, and each address separated by a percentage (%) sign e.g.: greenet; lincoln@greenet.com					
618	URL	80	X	Yes	No
The URL (Uniform Resource Locator) address(es) of the home page(s) of the individual, and each address separated by a percentage (%) sign e.g.: http://www1.npm.ac.uk/nmbldsm/					
619	Sort Code	30	X	No	No
This is a code to link records together. It will be unique to each subsection of the main organization, or to each organization, depending on whether subsections are entered as separate records or not. The Sort Code					

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
------------	-------------	---------------	-------------------	-------------------------	------------------

can be of the form ISO Country Code/city or town/organization, e.g. KE/MOMBASA/KMFRI for the organization, KE/MOMBASA/KMFRIA for the first department, KE/MOMBASA/KMFRIB for the second department etc., or a simpler solution would be K/M/K, using the same elements, but ensuring that each sort code is unique.

620	Collection Description	500	X	Yes	No
------------	-------------------------------	-----	---	-----	----

A free-text description of the library. Paragraphs can be separated by a percentage (%) sign

e.g.: The library is the largest in the country covering the subject of underwater technology, and contains an unrivalled collection of historical material, from the earliest submersibles onwards. Recent additions include the personal library of Nedoba Assiki.

621	Serial Titles (Current)	20	X	No	No
------------	--------------------------------	----	---	----	----

The number of current serial titles received by the library

e.g.: 4250

622	Books/Monographs	20	X	No	No
------------	-------------------------	----	---	----	----

The number of books and monographs in the collection

e.g.: 16000

623	Reports	20	X	No	No
------------	----------------	----	---	----	----

The number of reports in the collection

e.g.: 74000

624	Reprints	20	X	No	No
------------	-----------------	----	---	----	----

The number of reprints of papers in the collection

e.g.: 23000

625	Expedition Reports	20	X	No	No
------------	---------------------------	----	---	----	----

The number of expedition and cruise report series in the collection

e.g.: 145 series

626	Atlases	20	X	No	No
------------	----------------	----	---	----	----

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
	The number of atlases in the collection e.g.: 334				
627	Maps and Charts	20	X	No	No
	The number of maps and charts in the collection e.g.: 2046				
628	Theses	20	X	No	No
	The number of Ph.D and M.Sc theses in the collection e.g.: 5100				
629	Microfiches	20	X	No	No
	The number of microfiche in the collection e.g.: 4500				
630	Microfilms	20	X	No	No
	The number of microfilms in the collection e.g.: 545				
631	Audio Material	160	X	No	No
	A brief description of the audio material in the collection e.g.: A collection of tapes of whale, dolphin, seals and other marine mammal sounds				
632	Video Material	160	X	No	No
	A brief description of the video material in the collection e.g.: the collection includes videos demonstrating tank and laboratory tests carried out on undulating oceanographic recorders				
633	Other Media	160	X	No	No
	A brief description of the other media in the collection e.g.: The collection contains computer disks of scientific data collected off the coast of Chile during a				

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
	number of oceanographic cruises carried out between 1965 and 1984				
634	Archives	500	X	Yes	No
	A brief description of the material held in the archive. Paragraphs can be separated by a percentage (%) sign				
	e.g.: The archive contains notebooks, papers, letters and other documents from scientists who worked at the laboratory during the years 1928 to 1946				
635	Illustrations	500	X	Yes	No
	A brief description of the illustrations held in the collection. Paragraphs can be separated by a percentage (%) sign				
	e.g.: The archive contains photographs, illustrations, drawings and paintings prepared by scientists working on the coastline of Antarctica during the early 1900=s				
636	Special Collections/Facilities	500	X	Yes	No
	A brief description of the special collections and facilities. Paragraphs can be separated by a percentage (%) sign				
	e.g.: Special collections include the libraries of the following scientists: G D Smears, F R Antonucci, and S P Chen%Special facilities include microfiche production and copying				
637	Union Lists	160	X	No	No
	A brief description of the union lists prepared and held				
	e.g.: A union list has been prepared of the holdings for all libraries in the city				
638	Acquisition Policy	160	X	No	No
	A brief description of the acquisition policy of the library				
	e.g.: The library tries to obtain all marine science publications for the Ukraine, and is a depository library for FAO and IOC publications				
640	Classification System	20	X	No	No
	The name of the library classification system				
	e.g.: Universal Decimal Classification (UDC)				
641	Card Catalogues	160	X	Yes	No

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
A brief description of what card catalogues have been created, each separated by a percentage (%) sign e.g.: author%subject%title%geographic%book					
642	Online Catalogues	160	X	Yes	No
A brief description of what online catalogues have been created, each separated by a percentage (%) sign e.g.: author%subject%title%serial titles%maps					
643	Databases/CD-ROMs	160	X	Yes	No
A description of unique databases and CD-ROMs to which access is provided, each separated by a percentage (%) sign e.g.: EURASLIC Directory Database%ECDIN CD-ROM					
644	Network Participation	160	X	Yes	No
Details of the library/information networks in which the library is involved, each separated by a percentage (%) sign e.g.: IAMSLIC%Cyamus%EBLIDA					
645	Other Services	500	X	Yes	No
A description of any other services that are provided. Paragraphs in the text may be separated by a percentage (%) sign e.g.: translation service for documents from Chinese, Russian and Spanish to English%data extraction for toxic chemicals%contract preparation of bibliographies and directories					
646	Software	160	X	Yes	No
A brief description of any library software that is used, each separated by a percentage (%) sign e.g.: Reference Manager%CDS/ISIS%Access					
650	Access (internal)	160	X	No	No
A description of access for staff and those resident in the organization, and any restrictions e.g.: open to staff and long-term visitors 24 hours a day					
651	Access (external)	160	X	No	No

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
	A description of external use of the library, and any restrictions e.g.: open to research scientists by appointment; not open to the public				
652	Opening Hours	500	X	Yes	No
	A description of the hours during which the library is open. Paragraphs in the text may be separated by a percentage (%) sign e.g.: Term time: open Mondays - Fridays, 0900 - 1700 hrs, Saturdays, 1000 - 1600 hrs%Vacations: open Mondays - Fridays, 0900 - 1700 hrs only%closed for Bank Holidays				
653	Loans/Charges	160	X	Yes	No
	A description of any conditions for loans, together with the costs, each category separated by a percentage (%) sign e.g.: internal loans without charges or restrictions%external loans for three weeks free of charge to libraries with reciprocal arrangements, otherwise at \$5 per loan				
654	Photocopies/Charges	160	X	Yes	No
	A description of any conditions for photocopies, together with the costs, each category separated by a percentage (%) sign e.g.: user copying: 1 franc per page, on completion of a copyright declaration%external copies provided at 3 francs per page, again on completion of a copyright declaration				
660	World Wide Web	160	X	Yes	No
	The address(es) of the library=s Web page(s), with a brief description of the contents, each address separated by a percentage (%) sign e.g.: http://www.csir.lr/library information on the library and its collection% http://www.csir.lr/library/services information on the library=s services to internal and external users				
661	Gopher	160	X	Yes	No
	The address(es) and a brief description of the options available, each separated by a percentage (%) sign e.g.: http://gopher.metronet.com:70/healthinfo				
662	Telnet	160	X	Yes	No
	The address(es) of the library=s computer(s), to enable users to log onto it/them for a Telnet session. Each address will either be in the form of a name or a series of numbers. Each will be separated by a percentage (%) sign				

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
	e.g.: infoslug.ucsc.edu%128.114.143.25				
663	FTP	160	X	Yes	No
The address of the library=s computer(s), to enable users to transfer files to or from the library=s computers. Each address will either be in the form of a name or a series of numbers. Each will be separated by a percentage (%) sign					
e.g.: infoslug.ucsc.edu%128.114.143.25					
664	Dialup	160	X	Yes	No
Online access via a modem and telephone. The telephone number(s) will be given, but further information will be necessary on the type of terminal emulation, parity, bit length, duplex, speed, etc. Each will be separated by a percentage (%) sign					
e.g.: 1-847-491-3070%1-847-467-1039					
670	Organization B Printed	240	X	Yes	No
Printed publications produced by the organization, each separated by a percentage (%) sign					
e.g.: Salmon Farming%Annual Report Caracas Marine Institute					
671	Organization B Electronic	240	X	Yes	No
Publications in electronic form produced by the organization. Each publication will include the web address. Each publication will be separated by a percentage sign (%)					
e.g.: Anuario Instituto del Mar de Plata (http://www.mardelplata.br)%Ciencias naturales (http://www.ciencias.naturales.com)					
672	Department B Printed	240	X	Yes	No
Printed publications produced by the department, each separated by a percentage (%) sign.					
e.g.: Marine Pollution Research Titles%Literatuurinformatie verkeer en vervoer					
673	Department B Electronic	240	X	Yes	No
Publications in electronic form produced by the department. Each publication will include the web address. Each publication will be separated by a percentage sign (%)					
e.g.: Maritime Information Review (http://www.library.tudelft.nl/BTUD/eng/mic-e.htm)%Offshore Engineering Information Bulletin (http://www.hw.ac.uk/oeib.htm)					

<i>Tag</i>	<i>Name</i>	<i>Length</i>	<i>Field Type</i>	<i>Rep- eatable</i>	<i>Subfields</i>
------------	-------------	---------------	-------------------	-------------------------	------------------

692	ASFIS Codes	500	X	Yes	No
------------	--------------------	-----	---	-----	----

The ASFIS Codes describing the activities of the department , separated by a percentage sign (%). A full list of ASFIS codes is included as Annex II

e.g.: 1521%1820

693	Environment	60	X	Yes	No
------------	--------------------	----	---	-----	----

The environment in which the department is working, i.e. brackish, fresh, marine, separated by a percentage sign (%)

e.g.: fresh%brackish

699	Notes	500	X	No	No
------------	--------------	-----	---	----	----

Any additional information about the department

900 All the 900's are for locally defined fields, to cater for specific needs.

8. IMPLEMENTATION OF THE STANDARD LIBRARY STRUCTURE USING MICRO CDS/ISIS

In view of the use of the reference function linking the individual, institutional and ASFIS records, it may be rather difficult for the novice user to define the necessary FDT, FST and PFT files. We therefore provide these in this manual. We thank Dr. Egbert De Smet (University of Antwerp, Antwerp, Belgium) for helping with the development of these files.

8.1 FDT FILE FOR THE STANDARD LIBRARY DIRECTORY RECORD STRUCTURE

W:LIBDI ASFIS
F:LIBDIRLIBSOR
S:LIBDIR

Record Identifier	1 20 0 0
Header	2 20 0 0
Sort Code	3 30 0 0
Completeness of Record	21 30 0 0
Type of Factual Information	62 3 0 0
Organization Name (Original)	100 100 0 0
Organization Name (English)	101 100 0 0
Acronym	105 30 0 0
Affiliation	110 100 0 0

Date of Creation	111 8 2 0
Number/Letter	120 10 0 0
Street 121 60 0 0	
Building	122 60 0 0
Floor 123 10 0 0	
PO Box 124 30 0 0	
Postal Code	130 20 0 0
Town/City	131 60 0 0
Postal Code	132 20 0 0
Postal Code	140 20 0 0
County/State/Province	141 60 0 0
Postal Code	142 20 0 0
Postal Code	150 20 0 0
Nation 151 60 0 0	
Postal Code	152 20 0 0
Postal Code	160 20 0 0
Country (Original)	161 60 0 0
Postal Code	162 20 0 0
Country (English)	163 60 0 0
ISO Country Code	164 2 0 0
Head of Organization (Surname)	170 60 0 0
Other Names	171 80 0 0
Title 172 40 0 1	
Position in Organization	173 60 0 1
Phone 180 80 0 1	
Fax 181 80 0 1	
Telex 182 80 0 1	
Telegram	183 80 0 0
E-Mail 184 80 0 1	
URL 185 160 0 1	
Description of Activities	190 500 0 1
Subjects 191 500 0 1	
ASFIS Codes	192 500 0 1
Environment	193 60 0 1
Notes 199 500 0 0	
ASFIS Code	450 4 0 0
ASFIS Code Description	455 120 0 0
Date of Original Entry	511 8 2 0
Last Update	512 8 2 0
Keyboarder	513 60 0 0
Department Name	600 100 0 0
Sort Code	601 30 0 0
Date of Creation	602 8 0 0
Department Phone	605 80 0 1
Department Fax	606 80 0 1
Internet Document Transmission Address	607 80 0 1
E-Mail 608 80 0 1	
URL 609 80 0 1	
Name 610 60 0 0	
Other Names	611 80 0 0
Title 612 40 0 1	
Function	613 60 0 1
Sex 614 10 0 0	
Phone 615 80 0 1	
Fax 616 80 0 1	
E-Mail 617 80 0 1	

URL	618 80 0 1	
Sort Code		619 30 0 0
Collection Description		620 500 0 1
Serial Titles (Current)		621 20 0 0
Books/Monographs		622 20 0 0
Reports	623 20 0 0	
Reprints	624 20 0 0	
Expedition Reports		625 20 0 0
Atlases	626 20 0 0	
Maps and Charts		627 20 0 0
Theses	628 20 0 0	
Microfiches		629 20 0 0
Microfilms		630 20 0 0
Audio Material		631 160 0 0
Video Material		632 160 0 0
Other Media		633 160 0 0
Archives		634 500 0 1
Illustrations		635 500 0 1
Special Collections/Facilities		636 500 0 1
Union Lists		637 160 0 0
Acquisition Policy		638 160 0 0
Classification System		640 20 0 0
Card Catalogues		641 160 0 1
Online Catalogues		642 160 0 1
Databases/CD-ROMs		643 160 0 1
Network Participation		644 160 0 1
Other Services		645 500 0 1
Software		646 160 0 1
Access (internal)		650 160 0 0
Access (external)		651 160 0 0
Opening Hours		652 500 0 1
Loans/Charges		653 160 0 1
Photocopies/Charges		654 160 0 1
World Wide Web (WWW)		660 160 0 1
Gopher	661 160 0 1	
Telnet	662 160 0 1	
FTP	663 160 0 1	
Dialup	664 160 0 1	
Organization B printed		670 240 0 1
Organization B electronic		671 240 0 1
Department B printed		672 240 0 1
Department B electronic		673 240 0 1
ASFIS Codes		692 500 0 1
Environment		693 60 0 1
Notes	699 500 0 0	

8.2 FST FILE FOR THE STANDARD LIBRARY DIRECTORY RECORD STRUCTURE

1 4 v1
2 4 v2
3 4 v3
3 0 If p(v100) Then |+|v3 Fi
21 4 v21

62 4 v62
100 1 v100
100 4 v100
101 1 v101
101 4 v101
105 0 v105
110 4 v110
131 4 v131
141 4 v141
151 4 v151
161 4 v161
163 4 v163
164 4 v164
170 0 v170|, |v171
172 0 v172
172 4 v172
182 4 v182
184 4 v184
185 4 v185
190 4 mpl,(v190|%)
191 0 mpl,(v191|%)
192 1 mpl,(|AC=|v192|%)
193 0 (v193|%)
450 0 |*|v450
600 0 v600
600 4 v600
601 4 v601
617 4 v617
618 4 v618
619 4 v619
620 4 mpl,(v620|%)
631 4 mpl,(v631|%)
632 4 mpl,(v632|%)
633 4 mpl,(v633|%)
634 4 mpl,(v634|%)
635 4 mpl,(v635|%)
636 4 mpl,(v636|%)
640 4 v640
641 0 mpl,(v641|%)
642 0 mpl,(v642|%)
643 4 mpl,(v643|%)
644 0 mpl,(v644|%)
645 4 mpl,(v645|%)
646 0 mpl,(v646|%)
660 0 mpl,(v660|%)
670 4 mpl,(v670|%)
671 4 mpl,(v671|%)
672 4 mpl,(v672|%)
673 4 mpl,(v673|%)
692 0 mpl,(|AC=|v692|%)
693 0 (v693|%)

8.3 PFT FILE FOR STANDARD LIBRARY DIRECTORY RECORD STRUCTURE

```
mfn(4)/If p(v100) Then "ORGANIZATION: "v100," ("v101")," ["v105"]/"AFFILIATION:
"v110/"ADDRESS: "v120," "v121,/v122," "v123/v124/v130," "v131," "v132/v140," "v141," "v142/v150,"
"v151," "v152/v160," ("v163")," "v161," "v162/"ISO CODE: "v164/#"HEAD OF ORGANIZATION:
"v172" "v171" "v170," ("v173")"/#"Phone: "v180;/ "Fax: "v181;/ "Telex: "v182;/ "Telegram: "v183/"E-
mail: "v184;/ @URL: Av185;/ # " DESCRIPTION OF ACTIVITIES: "v190;/ /("SUBJECTS: "v191+;/
)/("ASFIS CODES: "v192( 13,13) x1 REF(L(*|v192),(|v455|);)/)/("ENVIRONMENT: "v193+;/
)/"NOTES: "v199/## Else ADEPARTMENT: @v600,/Ref(1>=>v601,|ORGANIZATION: v100,|
(|v101,|),/|ADDRESS: A|v120 |, |v121|, |v122|, |v123|, |v124|, |v130|, |v131|, |v132|, |v161,/|Date of Creation:
Av602/@Department Phone: Av605;/ |, @ Department Fax: Av606;/ |/@Internet Document Transmission
Address: Av607;/ |/@E-Mail: Av608;/ |;/@URL: Av609;/ |/#@Staff:
A(v610,x1,v611,x1,v612,x1,v613,x1,v614#%)/@Collection Description: Av620;/ |/@Serial Titles (Current):
Av621/@Books/Monographs: Av622/@Reports: Av623/Reprints: Av624/@Expedition Reports:
Av625/@Atlases: Av626/@Maps and Charts: Av627/@Theses: Av628/@Microfiches: Av629/@Microfilms:
Av630/@Audio Material: Av631/@Video Material: Av632/Other Media: Av633/@Archives: Av634;/
|/@Illustrations: Av635;/ |/@Special Collections/Facilities: Av636;/ |/@Union Lists: Av637/@Acquisition
Policy: Av638/@Classification System: Av640/@Card Catalogues: Av641;/ |/@Online Catalogues: Av642;/
|/@Databases/CD-ROMs: Av643;/ |/@Network Participation: Av644;/ |/@Other Services: Av645;/ |/@Software:
Av646;/ |/@Access (internal): Av650/@Access (external): Av651/@Opening Hours: Av652;/
|/@Loans/Charges: Av653;/ |/@Photocopies/Charges: Av654;/ |/@World Wide Web: Av660;/ |/@Gopher:
Av661;/ |/@Telnet: Av662;/ |/@FTP: Av663;/ |/@Dialup: Av664;/ |/@Organization - Printed: Av670;/
|/@Organization - Electronic: Av671;/ |/@Department - Printed: Av672;/ |/@Department - Electronic: Av673;/
|/(AASFIS CODES: Av693(13,13)x1 REF(L(1<<v692),(|v455|);)/)/ (AENVIRONMENT: Av693+;/
|),/@NOTES: Av699/#FI@Date of Original Entry: Av511/@Last Update: Av512/@Keyboarder: Av513###
```

REFERENCE

Moulder, D.S.; McFadden, C.; Pissierssens, P.; and Reyniers, P.; 1994
 Standard directory record structure for organizations, individuals and their research interests.
 IOC Manuals and Guides No.30, Vol. 3, 22 pp + annexes.

The Author

David Moulder

(To mid-January 1998)
 Plymouth Marine Laboratory (PML)
 Plymouth, UK

(From mid-January 1998)
 World Maritime University (WMU)
 Malmö, Sweden

ANNEX I

ISO-3166 2-LETTER COUNTRY CODES

(1993)

This list does not constitute an official list of names of countries or other political entities. The name of the entity is given in its short form in English.

Afghanistan	AF	Chad	TD
Albania	AL	Chile	CL
Algeria	DZ	China	CN
American Samoa	AS	Christmas Island	CX
Andorra	AD	Cocos (Keeling) Islands	CC
Angola	AO	Colombia	CO
Anguilla	AI	Comoros	KM
Antarctica	AQ	Congo	CG
Antigua and Barbuda	AG	Cook Islands	CK
Argentina	AR	Costa Rica	CR
Armenia	AM	Cote d'Ivoire	CI
Aruba	AW	Croatia	HR
Australia	AU	Cuba	CU
Austria	AT	Cyprus	CY
Azerbaijan	AZ	Czech Republic	CZ
Bahamas	BS	Denmark	DK
Bahrain	BH	Djibouti	DJ
Bangladesh	BD	Dominica	DM
Barbados	BB	Dominican Republic	DO
Belarus	BY	East Timor	TP
Belgium	BE	Ecuador	EC
Belize	BZ	Egypt	EG
Benin	BJ	El Salvador	SV
Bermuda	BM	Equatorial Guinea	GQ
Bhutan	BT	Eritrea	ER
Bolivia	BO	Estonia	EE
Bosnia and Herzegovina	BA	Ethiopia	ET
Botswana	BW	Falkland Islands (Malvinas)	FK
Bouvet Island	BV	Faroe Islands	FO
Brazil	BR	Fiji	FJ
British Indian Ocean Territory	IO	Finland	FI
Brunei Darussalam	BN	France	FR
Bulgaria	BG	France, Metropolitan	FX
Burkina Faso	BF	French Guiana	GF
Burundi	BI	French Polynesia	PF
Cambodia	KH	French Southern Territories	TF
Cameroon	CM	Gabon	GA
Canada	CA	Gambia	GM
Cape Verde	CV	Georgia	GE
Cayman Islands	KY	Germany, Federal Republic	DE
Central African Republic	CF	Ghana	GH

Gibraltar	GI	Marshall Islands	MH
Greece	GR	Martinique	MQ
Greenland	GL	Mauritania	MR
Grenada	GD	Mauritius	MU
Guadeloupe	GP	Mayotte	YT
Guam	GU	Mexico	MX
Guatemala	GT	Micronesia (Federated States of)	FM
Guinea	GN	Moldova, Republic of	MD
Guinea-Bissau	GW	Monaco	MC
Guyana	GY	Mongolia	MN
Haiti	HT	Montserrat	MS
Heard and McDonald Islands	HM	Morocco	MA
Honduras	HN	Mozambique	MZ
Hong Kong	HK	Myanmar	MM
Hungary	HU	Namibia	NA
Iceland	IS	Nauru	NR
India	IN	Nepal	NP
Indonesia	ID	Netherlands	NL
Iran (Islamic Republic of)	IR	Netherlands Antilles	AN
Iraq	IQ	New Caledonia	NC
Ireland	IE	New Zealand	NZ
Israel	IL	Nicaragua	NI
Italy	IT	Niger	NE
Jamaica	JM	Nigeria	NG
Japan	JP	Niue	NU
Jordan	JO	Norfolk Island	NF
Kazakhstan	KZ	Northern Mariana Islands	MP
Kenya	KE	Norway	NO
Kiribati	KI	Oman	OM
Korea, Democratic Republic	KP	Pakistan	PK
Korea, Republic of	KR	Palau	PW
Kuwait	KW	Panama	PA
Kyrgyzstan	KG	Papua New Guinea	PG
Lao People's Democratic Republic	LA	Paraguay	PY
Latvia	LV	Peru	PE
Lebanon	LB	Philippines	PH
Lesotho	LS	Pitcairn	PN
Liberia	LR	Poland	PL
Libyan Arab Jamahiriya	LY	Portugal	PT
Liechtenstein	LI	Puerto Rico	PR
Lithuania	LT	Qatar	QA
Luxembourg	LU	Reunion	RE
Macau	MO	Romania	RO
Macedonia, The former Yugoslav	MK	Russian Federation	RU
Republic of Madagascar	MG	Rwanda	RW
Malawi	MW	Saint Helena	SH
Malaysia	MY	Saint Kitts and Nevis	KN
Maldives	MV	Saint Lucia	LC
Mali	ML		
Malta	MT		

Saint Pierre and Miquelon	PM	Viet Nam	VN
Saint Vincent and the Grenadines	VC	Virgin Islands (British)	VG
Samoa	WS	Virgin Islands (US)	VI
San Marino	SM	Wallis and Futuna Islands	WF
Sao Tome and Principe	ST	Western Sahara	EH
Saudi Arabia	SA	Yemen	YE
Senegal	SN	Yugoslavia	YU
Seychelles	SC	Zaire	ZR
Sierra Leone	SL	Zambia	ZM
Singapore	SG	Zimbabwe	ZW
Slovakia	SK		
Solomon Islands	SB		
Somalia	SO		
South Africa	ZA		
South Georgia and the South Sandwich Islands	GS		
Spain	ES		
Sri Lanka	LK		
Sudan	SD		
Suriname	SR		
Svalbard and Jan Mayen	SJ		
Swaziland	SZ		
Sweden	SE		
Switzerland	CH		
Syrian Arab Republic	SY		
Taiwan, Province of China	TW		
Tajikistan	TJ		
Tanzania	TZ		
Thailand	TH		
Togo	TG		
Tokelau	TK		
Tonga	TO		
Trinidad and Tobago	TT		
Tunisia	TN		
Turkey	TR		
Turkmenistan	TM		
Turks and Caicos Islands	TC		
Tuvalu	TV		
Uganda	UG		
Ukraine	UA		
United Arab Emirates	AE		
United Kingdom	GB		
United States	US		
United States Minor Outlying Islands	UM		
Uruguay	UY		
Uzbekistan	UZ		
Vanuatu	VU		
Vatican City State (Holy See)	VA		
Venezuela	VE		

ANNEX II

LIST OF ASFIS CODES

ASFA-1 SUBJECT CATEGORIES

GENERAL ASPECTS

- 1101 General works
- 1102 Institutes and organizations
- 1103 Information services
- 1104 Personal
- 1105 Research programmes, expeditions and vessels
- 1106 Conferences and other meetings
- 1107 History and development
- 1108 Education
- 1109 Books, atlases and charts
- 1110 Translations

1121 LAW, POLICY, ECONOMICS AND SOCIAL SCIENCES

BIOLOGY

BIOLOGY: GENERAL

- 1181 General
- 1182 Methods and instruments
- 1183 Taxonomy and morphology
- 1184 Reproduction and development
- 1185 Genetics and evolution
- 1186 Physiology, biochemistry, biophysics
- 1187 Palaeontology

MICROBIOLOGY

- 1201 General
- 1202 Geographic distribution
- 1203 Taxonomy and morphology
- 1204 Reproduction and development
- 1205 Genetics and evolution
- 1206 Physiology, biochemistry, biophysics

BOTANY

- 1221 General
- 1222 Geographic distribution
- 1223 Taxonomy and morphology
- 1224 Reproduction and development
- 1225 Genetics and evolution
- 1226 Physiology, biochemistry, biophysics

INVERTEBRATE BIOLOGY: GENERAL
(excluding Molluscs, Crustaceans, Insects)

- 1241 General
- 1242 Geographic distribution
- 1243 Taxonomy and morphology
- 1244 Reproduction and development
- 1245 Genetics and evolution
- 1246 Physiology, biochemistry, biophysics

MALACOLOGY

- 1261 General
- 1262 Geographic distribution
- 1263 Taxonomy and morphology
- 1264 Reproduction and development
- 1265 Genetics and evolution
- 1266 Physiology, biochemistry, biophysics

CARCINOLOGY

- 1281 General
- 1282 Geographic distribution
- 1283 Taxonomy and morphology
- 1284 Reproduction and development
- 1285 Genetics and evolution
- 1286 Physiology, biochemistry, biophysics

ENTOMOLOGY

- 1301 General
- 1302 Geographic distribution
- 1303 Taxonomy and morphology
- 1304 Reproduction and development
- 1305 Genetics and evolution
- 1306 Physiology, biochemistry, biophysics

CHORDATE BIOLOGY: GENERAL
(excluding Fish, Birds, Mammals)

- 1321 General
- 1322 Geographic distribution
- 1323 Taxonomy and morphology
- 1324 Reproduction and development
- 1325 Genetics and evolution
- 1326 Physiology, biochemistry, biophysics

ICHTHYOLOGY

- 1341 General
- 1342 Geographic distribution
- 1343 Taxonomy and morphology
- 1344 Reproduction and development
- 1345 Genetics and evolution
- 1346 Physiology, biochemistry, biophysics

ORNITHOLOGY

- 1361 General
- 1362 Geographic distribution
- 1363 Taxonomy and morphology
- 1364 Reproduction and development
- 1365 Genetics and evolution
- 1366 Physiology, biochemistry, biophysics

MAMMALOLOGY

- 1371 General
- 1372 Geographic distribution
- 1373 Taxonomy and morphology
- 1374 Reproduction and development
- 1375 Genetics and evolution
- 1376 Physiology, biochemistry, biophysics

ECOLOGY AND ECOSYSTEMS

AQUATIC ECOLOGY

- 1381 General
- 1382 Ecological techniques and apparatus
- 1383 Biogeography and biogeographic regions

AUTECOLOGY

- 1421 Migrations and rhythms
- 1422 Environmental effects
- 1423 Behavior
- 1424 Age and growth
- 1425 Nutrition and feeding habits

POPULATION STUDIES

- 1441 Population structure
- 1442 Population dynamics
- 1443 Population genetics

AQUATIC COMMUNITIES

- 1461 Plankton
- 1462 Benthos
- 1463 Habitat community studies
- 1464 Other aquatic community studies

PRODUCTIVITY, ECOSYSTEMS, SPECIES INTERACTIONS

- 1481 Productivity
- 1482 Ecosystems and energetics
- 1483 Species interactions: general
- 1484 Species interactions: parasites and diseases
- 1485 Species interactions: pests and control

FOULING AND BORING

- 1541 Biology of fouling and boring organisms
- 1542 Prevention and control

FISHERIES

PRACTICAL ASPECTS OF FISHERIES

- 1561 General
- 1562 Fishing vessels and harbours
- 1563 Fishing gear and methods
- 1564 Instruments, tools, equipment
- 1565 Policy, legislation and sociology
- 1566 Fishery charts, grounds and water areas
- 1567 Fishery oceanography and limnology

AQUACULTURE

- 1581 General
- 1582 Fish culture
- 1583 Shellfish culture
- 1584 Culture of other aquatic animals
- 1585 Plant culture
- 1586 Aquaria

FISHABLE STOCKS

- 1601 General
- 1602 Surveying and prospecting
- 1603 Fishery statistics and sampling
- 1604 Stock assessment and management
- 1605 Sport fishing

AQUATIC PRODUCTS AND THEIR UTILIZATION

- 1621 General
- 1622 Primary products
- 1623 Processing methods, instruments and factories
- 1624 Secondary products
- 1625 Non-edible products
- 1626 Food technology
- 1627 Food quality and standards

MARKETING AND ECONOMICS OF AQUATIC PRODUCTS

- 1641 General
- 1642 Storage, transport and packing
- 1643 Marketing
- 1644 Economics
- 1645 Commodity and trade statistics

ASFA-2 SUBJECT CATEGORIES

GENERAL ASPECTS

- 2101 General works
- 2102 Institutes and organizations
- 2103 Information services
- 2104 Personal
- 2105 Research programmes and expeditions
- 2106 Conferences and other meetings
- 2107 History and development
- 2108 Education
- 2109 Books, atlases and charts
- 2110 Translations

LAW, POLICY, ECONOMICS AND SOCIAL SCIENCES

- 2121 General
- 2122 Legislation
- 2123 Conservation
- 2124 Coastal zone management
- 2125 Recreation
- 2126 Sociology
- 2127 General papers on resources

THE PHYSICAL ENVIRONMENT

DESCRIPTIVE OCEANOGRAPHY AND LIMNOLOGY

- 2141 General
- 2142 Methods and instruments
- 2144 Regional studies, expeditions and data reports
- 2146 TSD distribution, water masses and circulation
- 2148 Palaeo-studies
- 2150 Ice

DYNAMICAL OCEANOGRAPHY AND LIMNOLOGY

- 2161 General
- 2162 Methods and instruments
- 2163 Air-water boundary layer
- 2164 Ocean circulation and currents
- 2165 Benthic boundary layer
- 2166 Internal waves and microstructure
- 2167 Tides, surges and sea level
- 2168 Wind waves
- 2169 Fluid mechanics
- 2170 Nearshore dynamics
- 2171 Dynamics of lakes and rivers

CHEMISTRY AND GEOCHEMISTRY

- 2181 General
- 2182 Methods and instruments
- 2183 Physics and chemistry
- 2184 Composition of water
- 2185 Organic compounds
- 2186 Chemistry of suspended matter
- 2187 Chemistry of sediments
- 2188 Atmospheric chemistry

UNDERWATER ACOUSTICS

- 2201 General
- 2202 Methods and instruments
- 2203 Propagation of sound
- 2204 Reverberation
- 2205 Noise and bioacoustics

UNDERWATER OPTICS

- 2221 General
- 2222 Methods and instruments
- 2223 Optical properties
- 2225 Underwater viewing

MARINE METEOROLOGY AND CLIMATOLOGY

- 2241 General
- 2242 Observations and measurements at sea
- 2243 Structure, mechanics and thermodynamics
- 2244 Air-sea coupling
- 2245 Ship routing and icing

GEOLOGY AND GEOPHYSICS

- 2261 General
- 2262 Methods and instruments
- 2263 Topography and morphology
- 2264 Sediments and sedimentation
- 2265 Sedimentary structures and stratigraphy
- 2266 Tectonics and crustal structure
- 2267 Gravity and geodesy
- 2268 Heat flow
- 2269 Geomagnetism
- 2270 Seismology
- 2271 Coastal morphology
- 2272 Petrology and chemistry of rocks
- 2273 Palaeontology
- 2274 Coral reefs

TECHNOLOGY AND ENGINEERING

MARINE TECHNOLOGY

- 2281 General
- 2282 Materials technology, corrosion, fouling and boring
- 2283 Soil mechanics
- 2284 Hydrodynamics, wave, current and ice forces

VESSELS, UNDERWATER VEHICLES AND BUOYS

- 2300 General
- 2301 Surface vehicles
- 2302 Underwater vehicles
- 2303 Buoys and buoy systems

OFFSHORE AND COASTAL STRUCTURES

- 2321 General
- 2322 Drilling and production rigs
- 2323 Storage systems and tanker terminals
- 2324 Artificial islands
- 2325 Pipelines
- 2326 Sea floor installations
- 2327 Coast defences and harbour works

MAN-IN-THE-SEA AND DIVING

- 2341 General
- 2342 Physiology and medicine
- 2343 Diving systems
- 2344 Life support
- 2345 Pressure chambers
- 2346 Dangerous organisms

SUPPORT SERVICES, TECHNIQUES AND EQUIPMENT

- 2381 Cables
- 2382 Communication telemetry
- 2383 Data acquisition and processing
- 2384 Dredging
- 2385 Hydrographic survey and cartography
- 2386 Mooring and dynamic positioning
- 2387 Navigation
- 2388 Ocean operations and safety
- 2389 Power systems
- 2390 Search and salvage
- 2391 Tools, rigging and deck machinery
- 2392 Warning services against catastrophes
- 2393 Remote geosensing

RESOURCES AND COMMERCE

RESOURCES

- 2401 General
- 2402 Freshwater from the sea
- 2403 Chemicals from sea water
- 2404 Minerals
- 2405 Oil and gas
- 2406 Energy from the sea

COMMERCE, TRADE AND ECONOMICS

- 2421 Marketing and economics: General
- 2422 Storage and transport
- 2423 Marketing
- 2424 Applied economics
- 2425 Commodity and trade statistics

ASFA-3 SUBJECT CATEGORIES

POLLUTION

- 3501 General
- 3502 Methods and instruments
- 3503 Characteristics, behaviour and fate
- 3504 Effects on organisms
- 3505 Prevention and control

ENVIRONMENTAL CHANGES, CONSERVATION, PUBLIC HEALTH

- 3521 Mechanical and natural changes
- 3522 Protective measures and control
- 3523 Conservation, wildlife management and recreation
- 3524 Public health, medicine, dangerous organisms

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