Guidelines for creating and updating metadata in the drought metadata catalogue

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These are Dublin Core metadata elements. See for more details and examples http://www.dublincore.org/

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1 INTRODUCTION

The objective of this document is to provide some guidelines for the creation and updating of metadata about data and services in the drought metadata catalogue.

The purpose of this document is to describe how to:

- Create metadata for data and services (including guidelines for annotating resources with controlled vocabularies).
- Upload new metadata entries in the metadata catalogue
- Update existing metadata entries in the medatada catalogue
- Delete existing metadata entries in the medatada catalogue

2 CREATION OF METADATA

This section describes how to create metadata records using CatMDEdit (http://catmdedit.sourceforge.net/), an open source metadata editing tool that facilitates the documentation of resources, with special focus on the description of geographic information resources.

The user manual of the tool (http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_English_user_manual) provides instructions about installation and describes the main functionalities of the tool. Additionally, for upgrading the tool with the "EuroGEOSS Drought Vocabulary" thesaurus and the last version of the GEMET thesaurus you should follow the instructions at "Annex: Integration of the EuroGEOSS drought vocabulary and GEMET in CatMDEdit 4.6.5".

The two following subsections describe briefly how to create metadata records for describing datasets or services, and how to annotate them with controlled vocabularies.

2.1 Creation of metadata records

CatMDEdit enables the annotation of different types of resources in conformance with the ISO 19115/19119 standards: both data and services (see corresponding section of the User Manual at: http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_Management_of_repositories#Create_a_new_metadata_record).

In the case of describing data, such as datasets, series, or features, the user must select "*Data*" as information type within the dialog for the creation of a new metadata record (*Insert* dialog). Figure 3 shows a snapshot of this dialog where the combo box titled *"Select Information type"* contains the value *"Data"*.
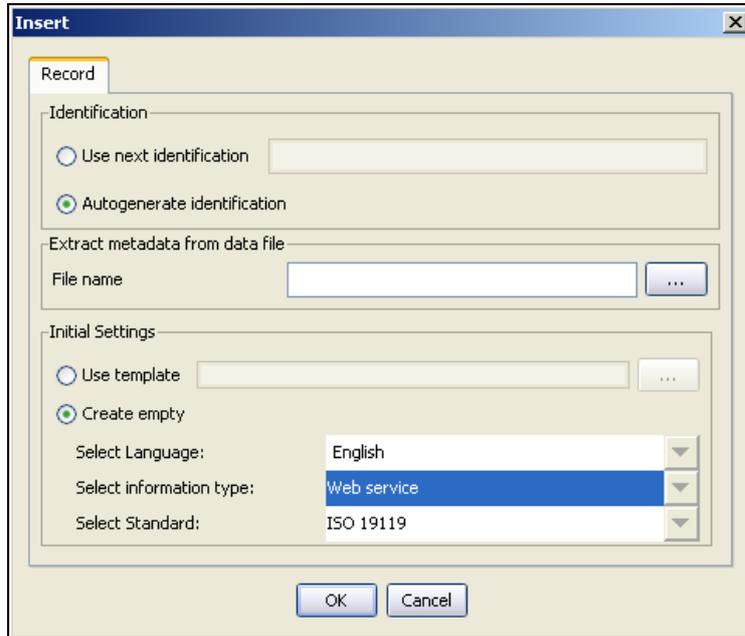
Figure 1: Insert dialog for the creation of a metadata record describing data
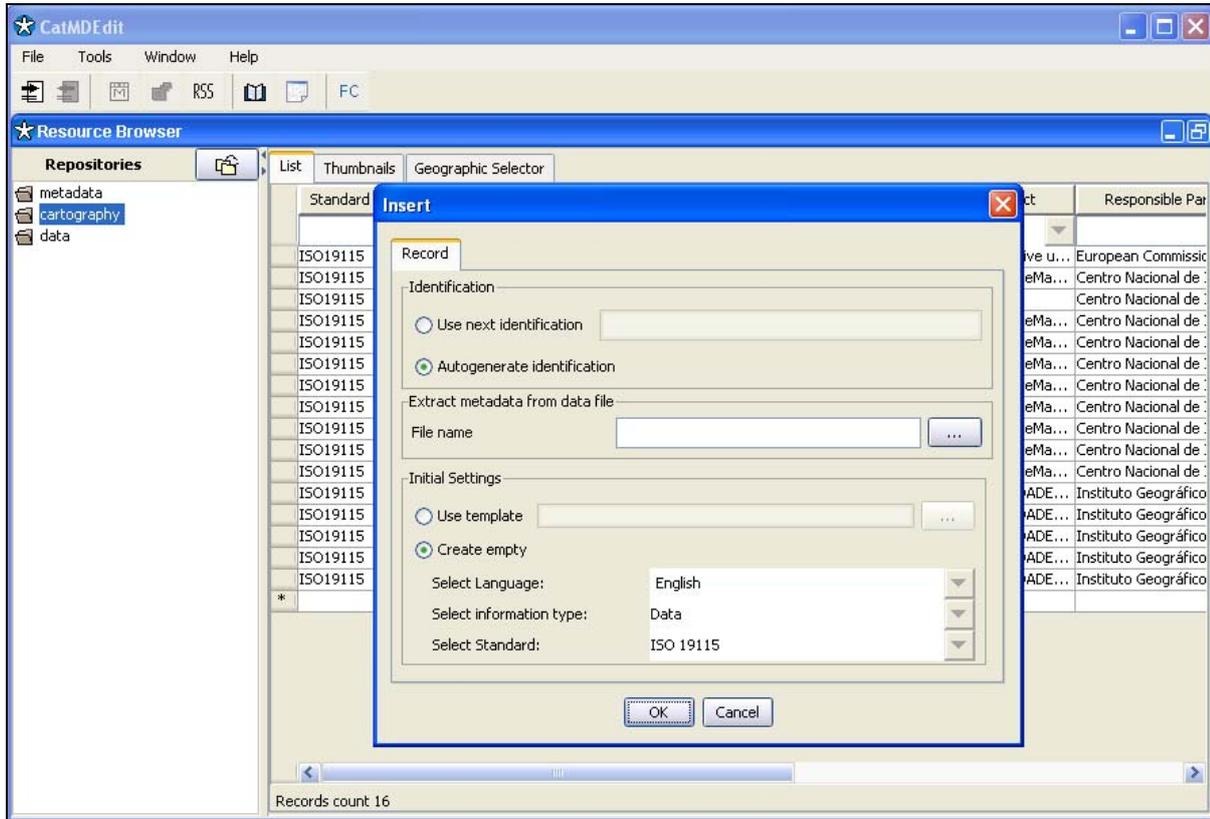
If the user wants to create automatically some metadata elements describing the data, the "File name" text field should be filled with the appropriate file path. More details about automatic metadata extraction from a single or multiple files can be found at: http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_Management_of_repositories#Extracting_automatic_metadata_from_data_files

In the case of describing services, the user must select "*Web Service*" as information type within the dialog for the creation of a new metadata record (*Insert* dialog). Figure 4 shows a snapshot of this dialog where the combo box titled *"Select Information type"* contains the value *"Web service"*.

Figure 2: Insert dialog for the creation of a metadata record describing a service

If the user wants to create automatically some metadata elements describing an OGC compliant service, the "File name" text field should be filled with the URL of its GetCapabilities request (i.e. an URL for a service could be http://www.idee.es/wms/IDEE-Base/IDEE-Base?REQUEST=GetCapabilities&SERVICE=WMS).

Additionally, it must be noted that a metadata record describing a service may also include the description of layers or features that are served through this service. This is possible thanks to the metadata element *MD_Metadata/identificationInfo/MD_ServiceIdentification/operatesOn,* whose data type is the class *MD_DataIdentification*. Therefore, the user may decide either to describe the data layers (or feature layers) separately, or to describe them together with the service. Figure 5 shows a screenshot of the edition window of a service metadata record, which includes the description of layers. In particular, one can observe that it contains a layer whose descriptive keyword is *"land transportation"* (together with other terms from the GEMET thesaurus).

Figure 3: Edition of a metadata record describing a service and its associated layers
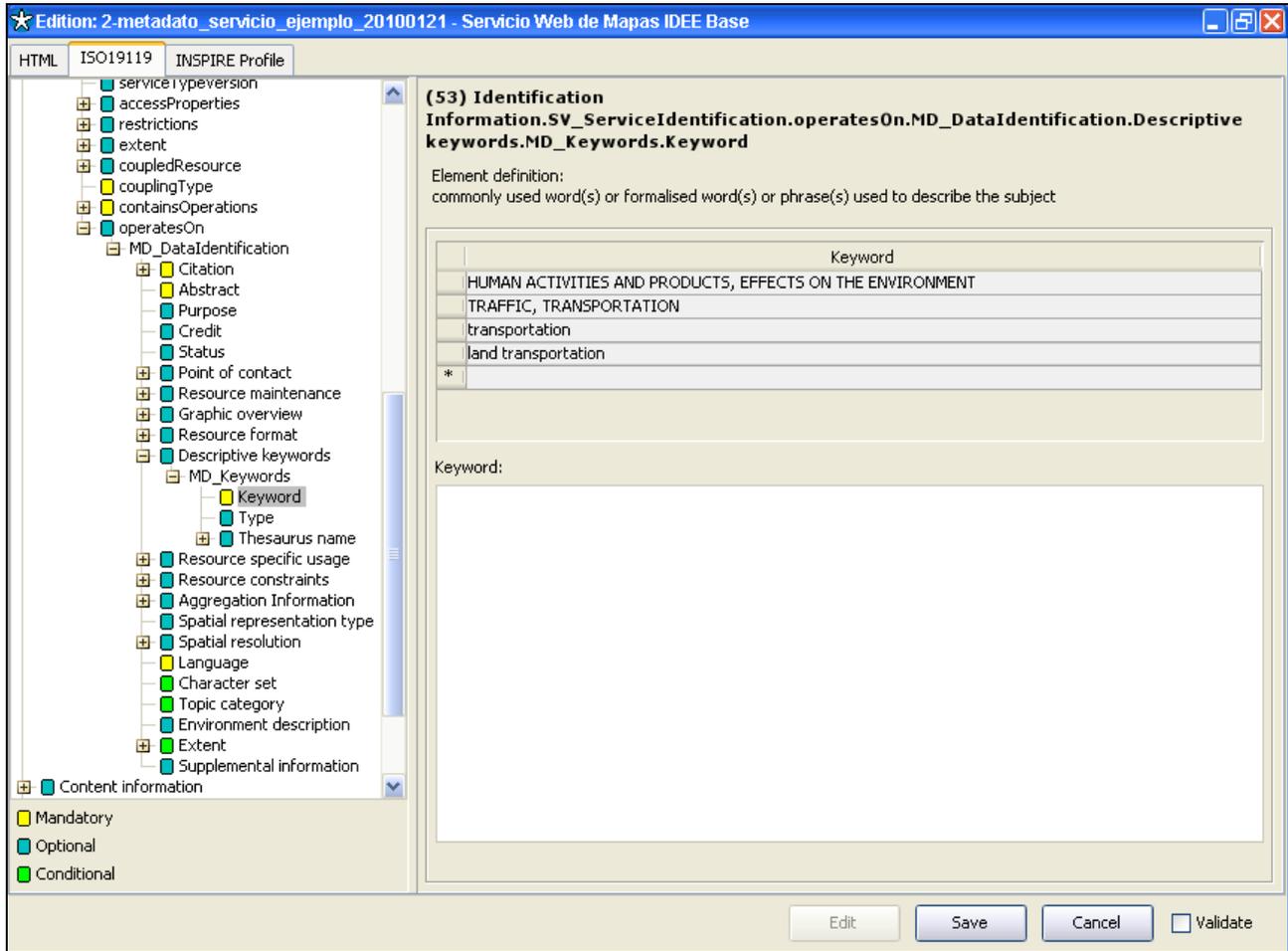
Finally, it is recommended that the created metadata records should comply at least with the INSPIRE implementing rules and their mappings to ISO 19115/19119 standards. For that purpose, the users should edit metadata within the "INSPIRE Profile" tab page. The users can validate metadata records againsT the INSPIRE implementing rules by means of the "Validate" check box (more details at http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_Resource_documentation#Validation_of_a_metadata_record). In addition to this, the users can include additional metadata elements through the general tabs (ISO19115 or ISO19119) that contain the full list of elements in the ISO standards.

2.2   Semantic annotation of resources with controlled vocabularies

With respect to the semantic annotation of resources with selected concepts from terminological ontologies, CatMDEdit enables the editing of metadata records (semantic annotation of resources) where it is possible to select terms from all the thesauri that are available with the tool (see corresponding section of the User Manual at: http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_Resource_documentation#Edition_of_Key words).

The following figure shows a screenshot of the editing form to add descriptive keywords for a

metadata record conformant to ISO 19115. Through this editing form and with the button it is

possible to launch an editing assistant that will allow browsing of a wide range of thesauri of possible interest for the annotation. Please note that both GEMEt thesaurus and GEOSS SBA categories are available. Additionally, for upgrading CatMDEdit with the "EuroGEOSS Drought Vocabulary" thesaurus and the last version of the GEMET thesaurus you should follow the instructions at "Annex: Integration of the EuroGEOSS drought vocabulary and GEMET in CatMDEdit 4.6.5".

Figure 4: Editing of descriptive keywords for a metadata record in compliance with ISO 19115
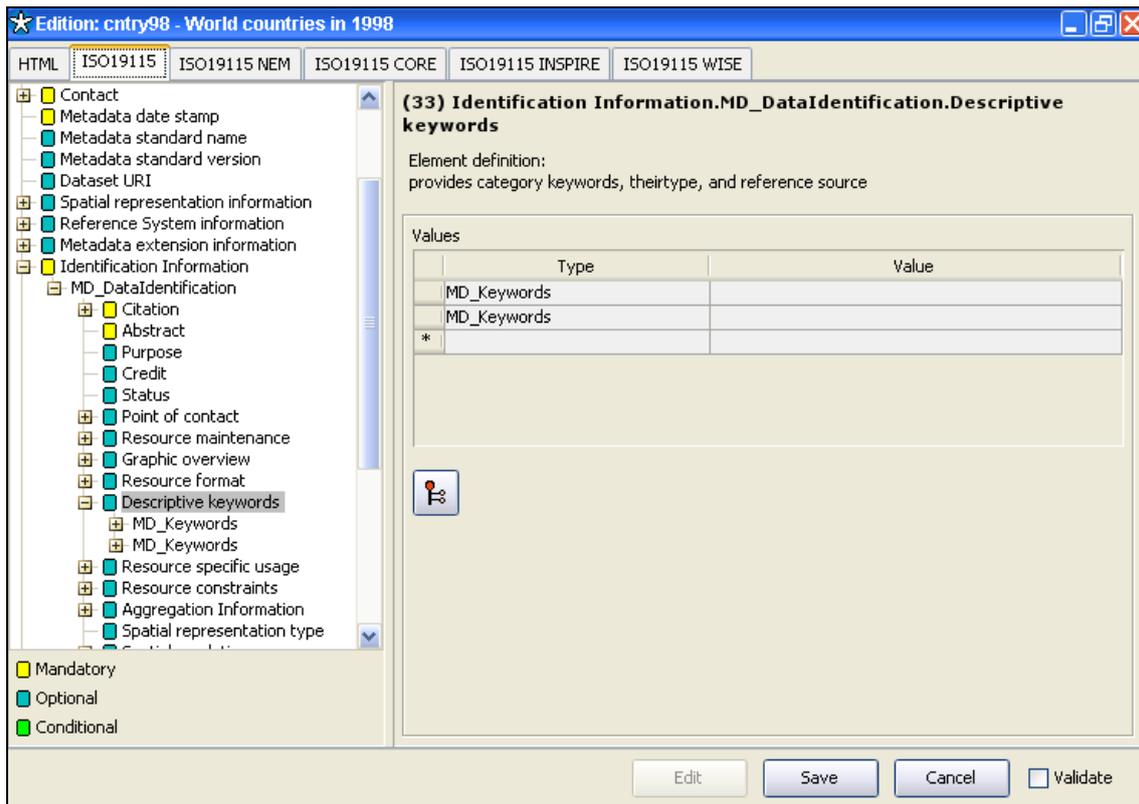

Figure 5 shows a screenshot of the editing assistant that enables browsing and selection of concepts from different terminological ontologies or thesauri. In order to select a thesaurus term, the desired thesaurus must be clicked with the mouse. At this moment, the thesaurus terms will be displayed on the right panel, which is in turn divided in two parts:

- On the left side of the panel, you can see the thesaurus treelike structure or the thesaurus term list in alphabetical order. Additionally, there is a third tab that allows searching terms contained in the thesaurus.
- Once you have selected a term, all available information for that term will be shown on the right side (for example, definition, connections with other terms).

**Figure 5: An example of selection of concepts from GEMET (GEOSS SBA categories are also available)**
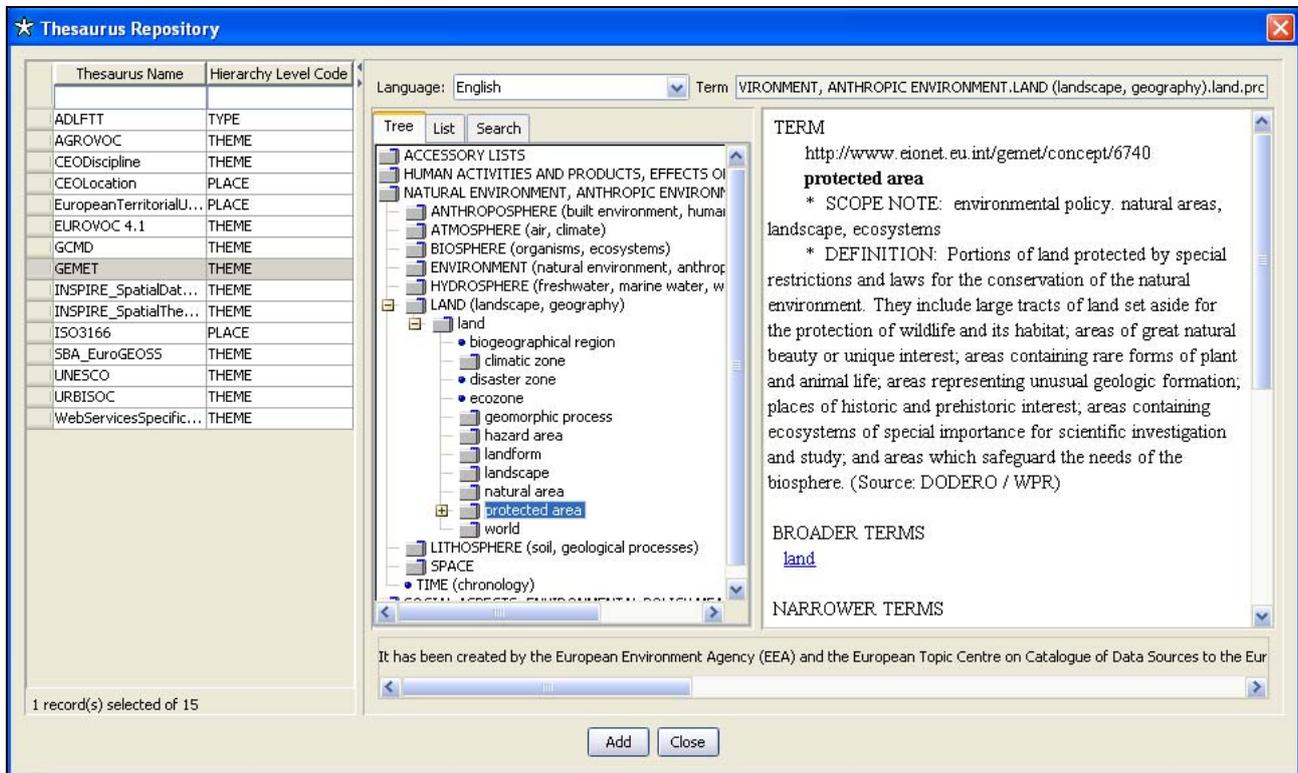
In order to pick a term to be used as description keyword, you must click it and press the "Add" button. In this moment, a new descriptive keyword will be inserted in the metadata record.

Additionally, if you need to add the URL of this term within the metadata record, you should follow these steps before pressing the "Add" button:
1. From the thesaurus repository tree view (see Figure 5), select the concept and look at the right panel where you will find the URL on the top. This URL looks like *http://www*...
2. Select the URL (e.g *http://www.eionet.eu.int/gemet/concept/6740* would be the URL for *protected areas* as you can see in the Figure 5) and copy it with Ctrl+C
3. Press the "Add" button and then the "Close" one to insert the concept in the metadata record.
4. In the window of the metadata record (see Figure 6), add a new line by pressing the asterisk (*) and paste the URL with Crtl+V

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Figure 6: An example of a thesaurus concept URL inserted in the metadata record
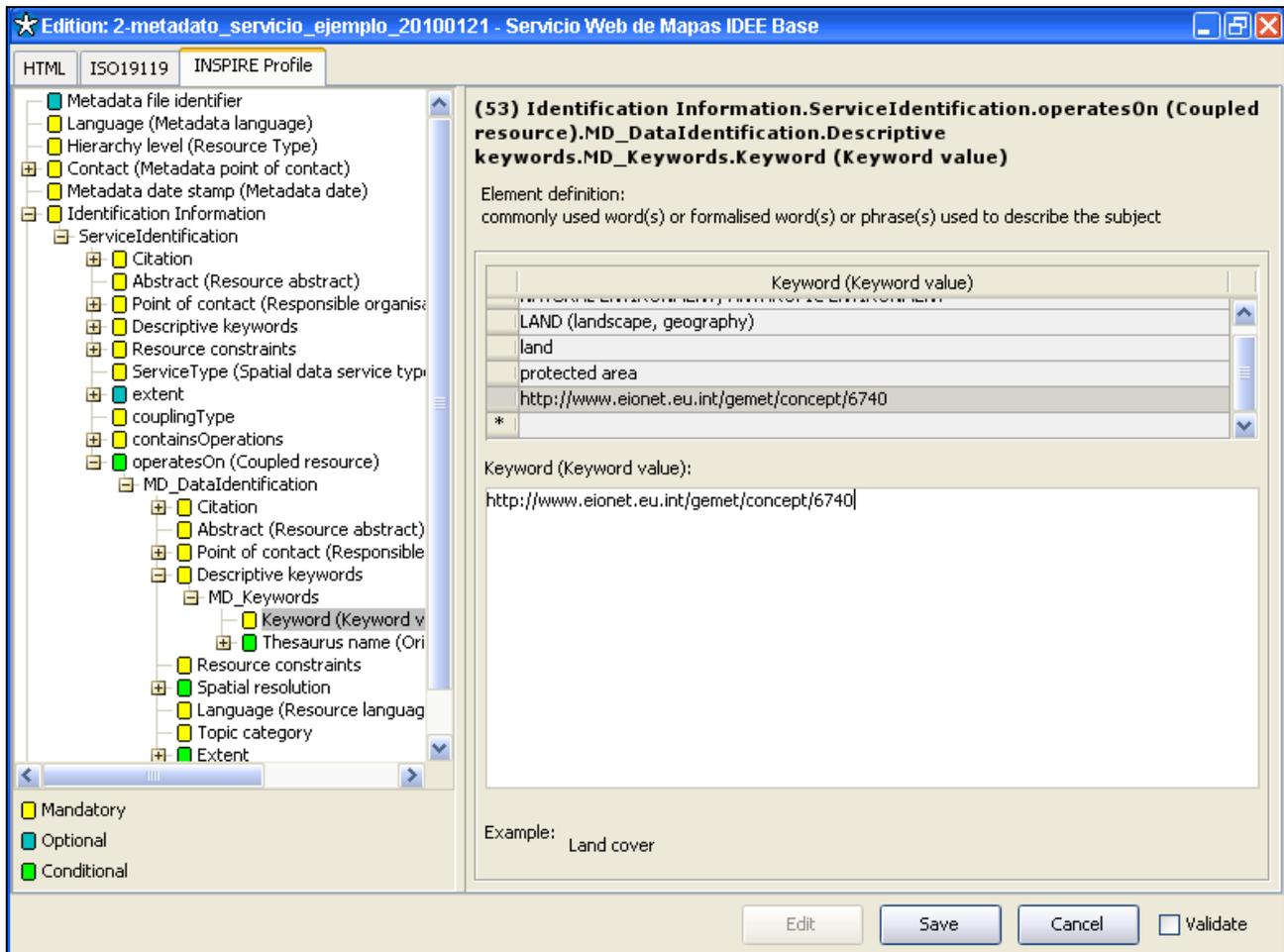
3   INSERT NEW METADATA ENTRIES IN THE CATALOGUE

Once the metadata records have been created, it is time to upload them in the catalogue following these steps:

1. Export metadata records as XML files in conformance with the ISO 19139 encoding specification. In case of using CatMDEdit, you should select the metadata record from the record selector, press the ⊞ button and follow the instructions at this user manual section: http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_Metadata_import/export#Export

2. Access the Web application for searching and updating the contents of the drought metadata catalogue accessible at http://eurogeoss.unizar.es/Search/Search.html

3. Access the updating functionalities by typing the user and password provided to each partner (see Figure 7)
    a. In case of not having user/password, send an e-mail to covafepe@unizar.es

4. Press the button 🔲 Import to import the XML files that you previously obtained in step 1 and select the file or set of files to be imported (see Figure 8). Once the upload is finished, you could see the details by pressing the 🔲 Import history button (see Figure 9)

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Figure 7: Log in the drought metadata catalogue

Figure 8: Importing a metadata in the catalogue
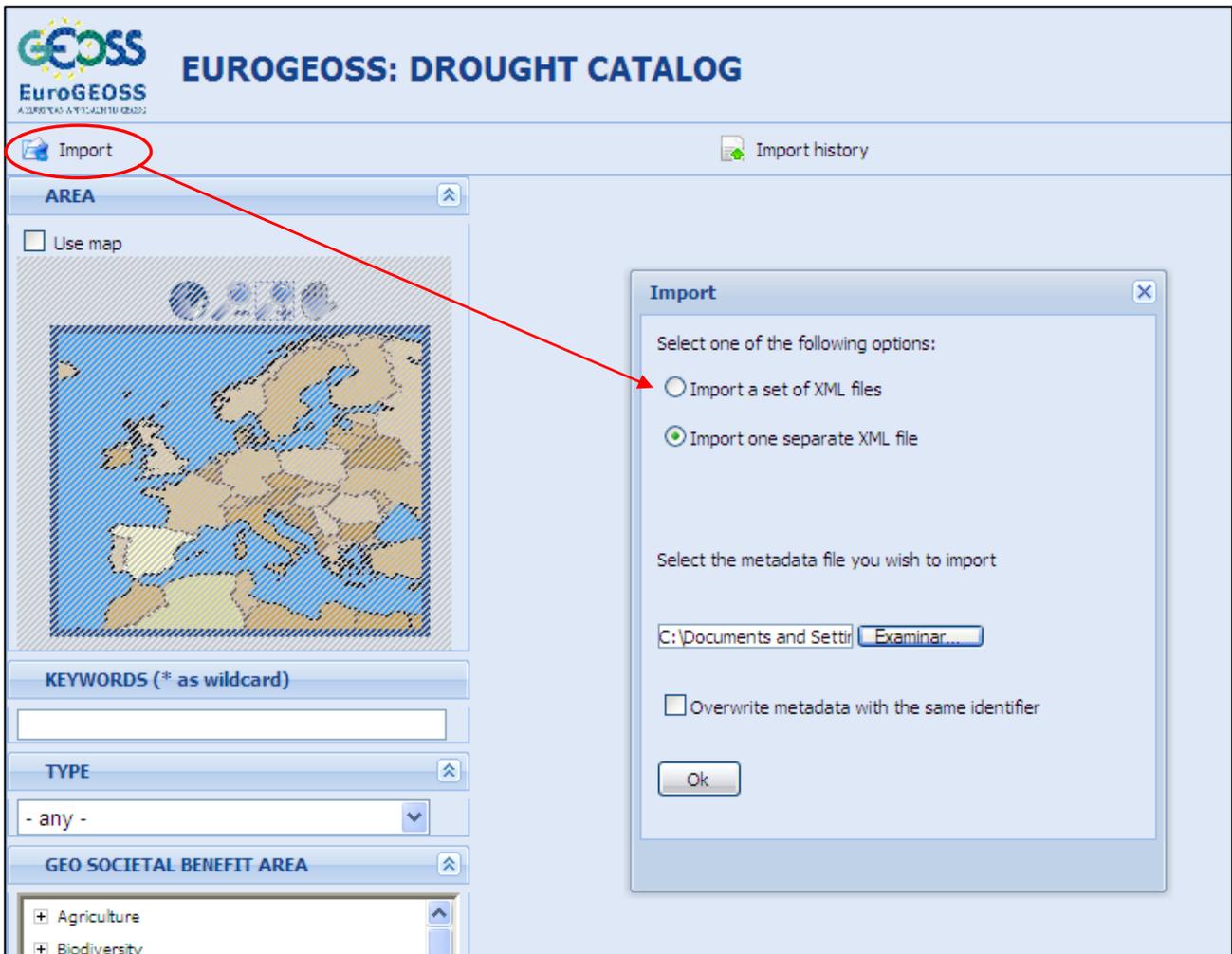
Figure 9: History of the metadata imported

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4   UPDATE EXISTING METADATA ENTRIES IN THE CATALOGUE

In case of updating existing metadata entries in the drought catalogue, you should follow these steps:

1. Access the Web application for searching and updating the contents of the drought metadata catalogue accessible at http://eurogeoss.unizar.es/Search/Search.html
2. Access the updating functionalities by typing the user and password provided to each partner (see Figure 7)
   a. In case of not having user/password, send an e-mail to covafepe@unizar.es
3. Search the metadata record that you want to update (see Figure 10), typing the suitable criterion.
4. Press the button ![icon] to download the XML file of the desired metadata record.
5. Modify the content of the metadata record using a metadata editor. In case of using CatMDEdit, you should import it ![icon] following the instructions at http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_Metadata_import/export#Import
6. Once metadata record has been properly updated, export it as an XML file in conformance with the ISO 19139 encoding specification. In case of using CatMDEdit, you should select the metadata record, press the ![icon] button and follow the instructions at http://iaaa.cps.unizar.es/software/index.php/CatMDEdit_Metadata_import/export#Export
7. Go back to the Web application and press the button ![Import] (see Figure 8) in order to upload it in the catalogue (remember to select the option *Overwrite metadata with the same identifier* for substituting the existing metadata record)

Figure 10: Searching for metadata

5   DELETE EXISTING METADATA ENTRIES IN THE DROUGHT CATALOGUE

In case of deleting existing metadata entries in the drought catalogue, you should follow these steps:

1. Access the Web application for searching and updating the contents of the drought metadata catalogue accessible at http://eurogeoss.unizar.es/Search/Search.html
2. Access the updating functionalities by typing the user and password provided to each partner (see Figure 7)
    b. In case of not having user/password, send an e-mail to covafepe@unizar.es
3. Search the metadata record that you want to delete (see Figure 10).

4. Press the button to delete the desired metadata record.

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EuroGEOSS, 2010. D.5.2. Metadata catalogue for drought information. Available at: http://www.eurogeoss.eu/Documents/EuroGEOSS_D_5_2.pdf

ANNEX: INTEGRATION OF THE EUROGEOSS DROUGHT VOCABULARY AND GEMET IN CATMDEDIT 4.6.5

The EuroGEOSS drought vocabulary is a specialized thesaurus defining concepts and relations in the drought management domain. Since this thesaurus was finished after the release of CatMDEdit v4.6.5, you should follow the following steps to integrate this new thesaurus:

1. Download the following files:
   a. http://eurogeoss.unizar.es/home/thesaurus/DroughtVocabulary.dat : serialized version of the thesaurus. CatMDEdit uses it for browsing its content.
   b. http://eurogeoss.unizar.es/home/thesaurus/DroughtVocabulary.MD.DC.xml : metadata file describing the thesaurus.
2. Copy the thesaurus files to the CatMDEdit repository: copy the two previous files into the subfolder "repository\thesaurus" of the folder where you have previously installed CatMDEdit (e.g., "C:\Program Files\CatMDEDit\repository\thesaurus).
3. The next time you launch the CatMDEdit application, this new thesaurus will be available (see Figure 11).

Figure 11: Integration of the EuroGEOSS Drought Vocabulary in CatMDEdit
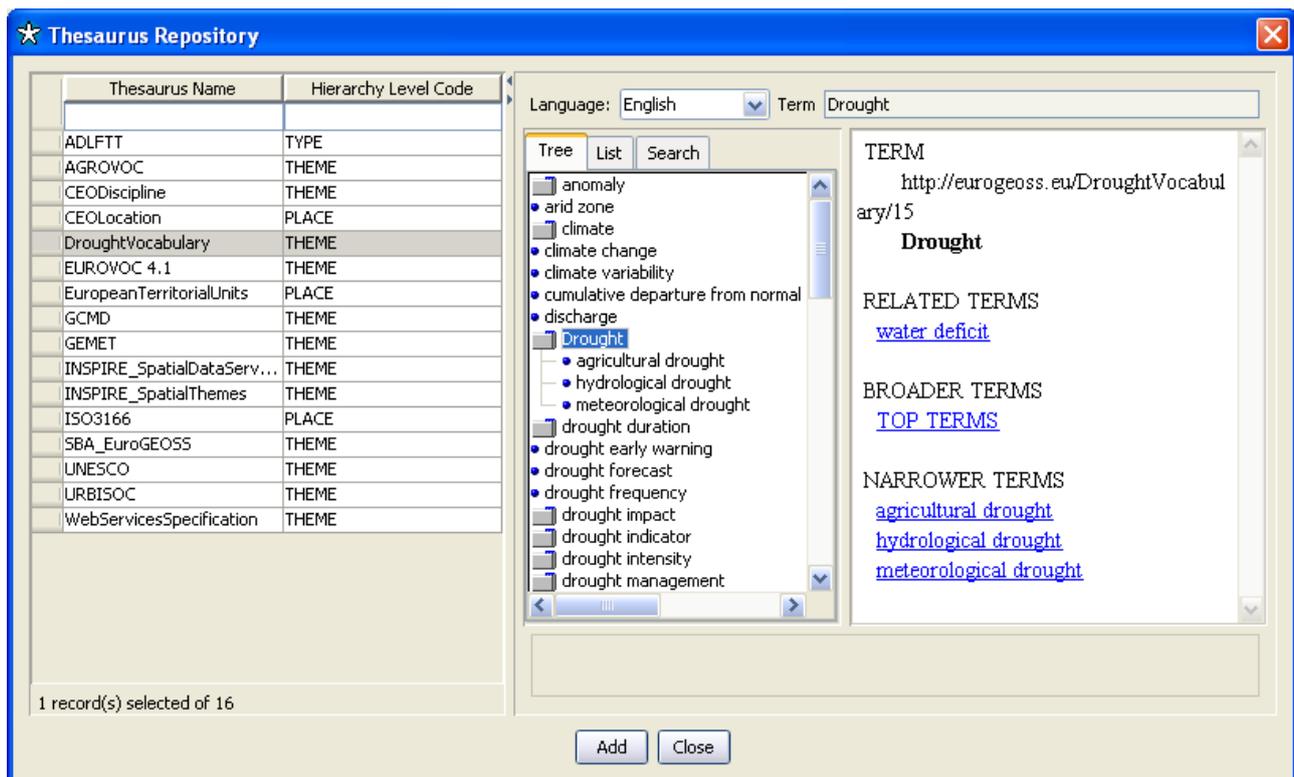
Additionally, if you want to update the GEMET to its latest version, which identifies concepts with updated URIs (Uniform Resource Identifier), you should follow a similar procedure to the one followed for the EuroGEOSS drought vocabulary. The steps required are the following:

1. Download the following files:
   c. http://eurogeoss.unizar.es/home/thesaurus/GEMET.dat : serialized version of the thesaurus. CatMDEdit uses it for browsing its content.
   d. http://eurogeoss.unizar.es/home/thesaurus/GEMET_MD.DC.xml : metadata file describing the thesaurus.

2. Copy the thesaurus files to the CatMDEdit repository: copy the two previous files into the subfolder "repository\thesaurus" of the folder where you have previously installed CatMDEdit (e.g., "C:\Program Files\CatMDEDit\repository\thesaurus).

3. The next time you launch the CatMDEdit application, the updated version of the thesaurus will be available (see Figure 12).

Figure 12: Integration of the new version of the GEMET thesaurus in CatMDEdit