



# FAVORITE COLLECTIONS AND QUERY BY TOPONYM O COORDINATE/BOUNDING BOX IN **MIRAMON**

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## 1. Background and motivation

When starting the execution of a software such as MiraMon, the more or less knowledgeable person in the world of Cartography, Geographic Information Systems or Remote Sensing, will immediately find in the menu several options that are familiar to start working, such as “Open raster ...” (the first option the program had, now more than 25 years ago), “Open RGB →24 bits...” or “Open structured vector...”. On the other hand, unless the MiraMon has been opened from a link of an MMZ from an Internet page or a CD/DVD, the person less versed in the subject opens the program and does not know too much how to visualize territorial information or how to get to a specific place whose name or coordinates are known (from a map, a GPS, etc.). It is also true that even the most experienced person, or a teacher in a classroom, often wants to open easily some maps with which he works most frequently, in the form of collections by subject, by geographic area, by topics in a teaching program, etc. The diversity of content on the Internet enriches the possibilities, but often makes the process of getting the information more troublesome.

That is why, starting with MiraMon v.7, the presentation box itself presents a new mechanism that simultaneously responds to these two needs: **easily open typical maps** (topographic, orthophotos, land cover, protected areas, etc.) **that form favorite collections** and **facilitate the user location on the map from the beginning** thorough the query by toponym or coordinates/bounding box.

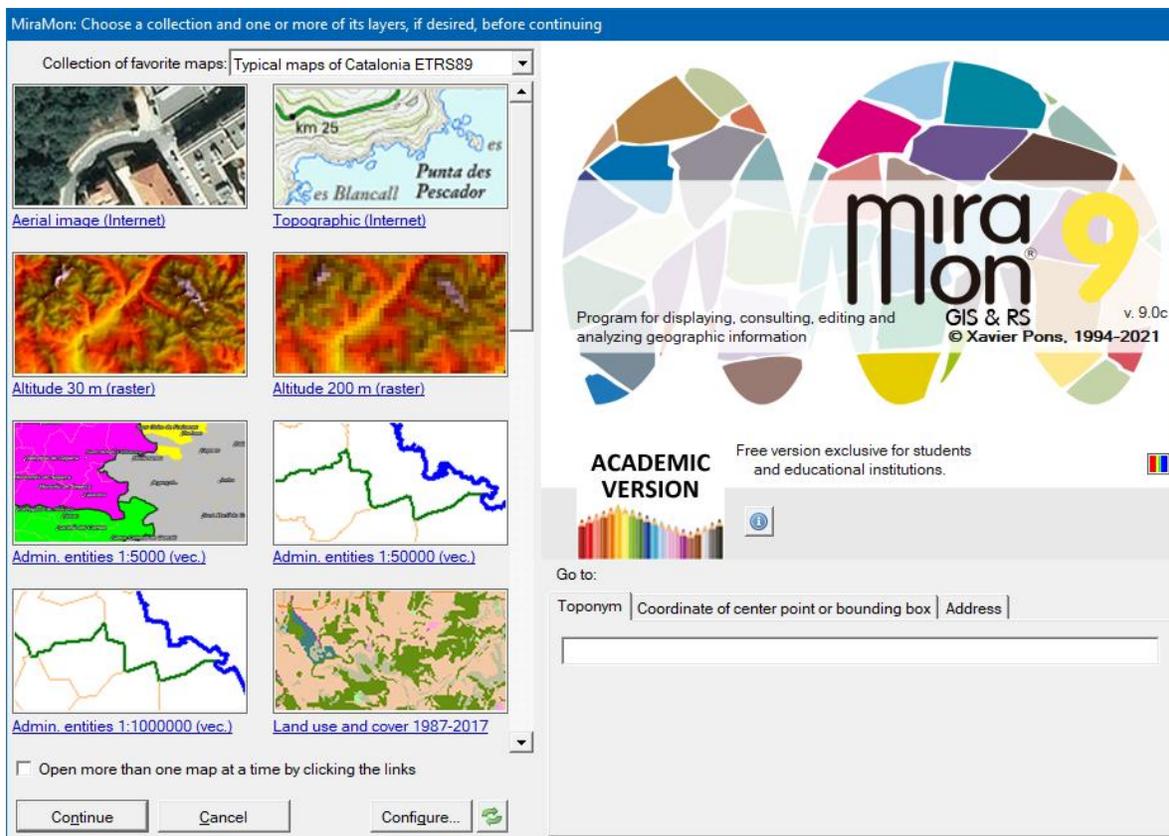
In version 7.0k, the favorite collection box is also modified to allow linked maps from HTML pages. The conventional operation of the box has been slightly redesigned to make it more homogeneous in HTML navigation. It is possible to open a map from a collection or HTML pages directly, or to click to combine

conventional maps with remote files (typically MMZ, but not exclusively) and open them at the same time. On the other hand, in this version after 10 seconds of opening the box, information from the MiraMon Twitter, the Version Diary with the news of the MiraMon and the MiraMon Users Forum (FUM) is shown on the right of the favorite maps.

Likewise, if the key `PaginaHTM_AlternativaPresentacio=` is included in the `MiraMon.par` file ([MiraMon] section) it is possible to indicate an alternative HTML page to these pages and typically show corporate information (latest news in the intranet of an administration, indications for students in a classroom, etc).

The following section explains how each part of this dual mechanism works and, for the advanced user or administrator of a corporation, classroom, etc., how to fine-tune it, add new possibilities, etc.

## 2. Favorite map collections



### 2.1. Concepts

As shown in the illustration below, when the user opens MiraMon, a set of maps that conform the favorite collection appears on the left side of the presentation box; in this case the "Typical maps of Catalonia".

A **Collection of favorite maps** is a set of maps that we use regularly and which are easily accessed by displaying them on the presentation page of the programm. Maps are typically accessed as direct links to files (usually

MMM or MMZ, but also KMZ, etc.) and as links (local or to the Internet) located on HTML pages.

As an MMM or MMZ file can contain any type of geographic information set openable with MiraMon (rasters and multi-format vectors, WMS maps located on the Internet, etc.), maps contained in a collection of favorite maps can be of any nature that suits us. Note especially that, being able to contain, the maps, multiple formats, that allows the user to access to PNT, ARC, POL, SHP, GPX, IMG, TIF, etc. files. In fact, apart from MMM or MMZ files, it is also possible to incorporate other files that can be opened by MiraMon without the need of being maps, but opening them from a map improves the control over symbolization, printing options and other aspects. Note also that, for example, the favorite map collections that are distributed from version 7 of MiraMon combine WMS resources, rasters, vectors, etc. as appropriate; for clarity in the description of the map the nature of the geographical information source is indicated in parentheses but this is, as you can imagine, a suggestion and not an obligation. On the other hand, when the collection contains HTML pages these may contain direct links to openable resources (typically MMZ files, but also other formats in a single file such as KML, KMZ, DXF, DGN...) or other pages that contain links to these resources.

As you can see, each HTML map or page is presented through a **small thumbnail view** (actually the illustration is a button) below which there is a brief description of the map or page. The thumbnail view does not have to correspond to the total scope of the map, but can be a detail or, in the case of HTML pages, can be a logo of an institution, a composite figure that suggests the thematic of the resources contained in the page (for example a composition of marine cartography), etc; this will depend on the choice of who designed that favorite map collection and generated the thumbnail views that were considered representative of each map.

Each favorite collection can be composed of as many maps and/or HTML pages as we want. However, since only 8 of them can be fitted in the box in order to the thumbnail views be illustrative enough, there is a scroll bar that allows you to see beyond the first 8 maps and HTML pages of the same collection.

In order to not open any of the maps or HTML pages of your favorite collections, simply press return, or press the "**Continue**" button (this converges to the same number of "clicks" to open the program of previous versions of MiraMon).

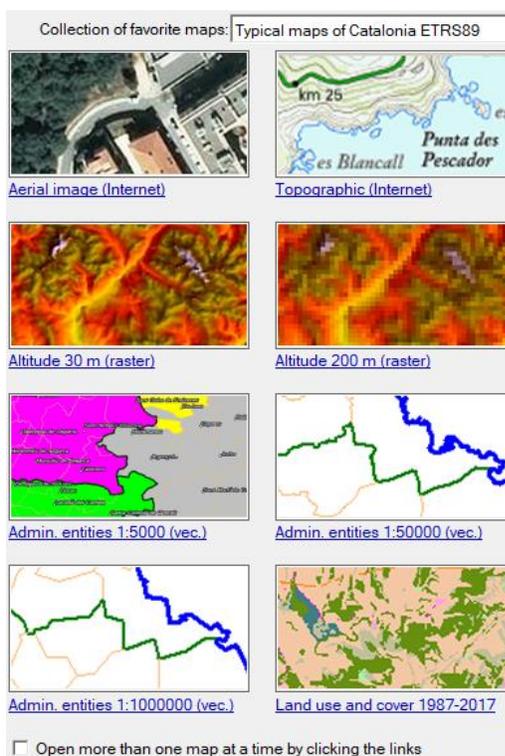
Note, however, that there is a "**Cancel**" button. This button is a novelty in version 7 so it is now possible to interrupt the opening of MiraMon if we have invoked it by mistake. As usual, the "Esc" button on the keyboard has the same function.

After 10 seconds, the MiraMon logo disappears and a screen appears showing a page with the latest MiraMon news, the MiraMon Twitter window,

the MiraMon news version and the Users Forum (FUM), above the program logo.

## 2.2. Use

The use of favorite collections is very simple: Under the favorite collections there is an activation button that says "**Open more than one map at a time by clicking the links**". If this is not selected, when we click on one of the thumbnail views corresponding to any of the "direct" maps (or the descriptive text below), the program will open it immediately. If we want to open more than one map at a time, the "Open more than one map at a time by clicking the links" activation button must be selected and then we can select them instead of opening them directly. Once we have selected the maps we are interested in, we can press "Continue" and the program will open them, taking as a superposition criterion that the usually more opaque and territorially extensive layers (WMS and rasters) are located under the vector layers, etc., in order to reduce the possibility that some layers hide others. If we click again on one of the maps or links, a message appears asking if we want to keep or cancel (deselect) the last map selected.



When one or more of the resources in a favorite collection are selected from web pages, the behavior is the same as described above based on the status of the push-button that says "Open more than one map at a time by clicking the links". By closing the HTML navigation box (using the small upper green arrow or changing collection with the top selector) we can continue to select other resources with the buttons in the main box or continue to add maps from another button that gives access to other pages with more resources accessible via HTML.

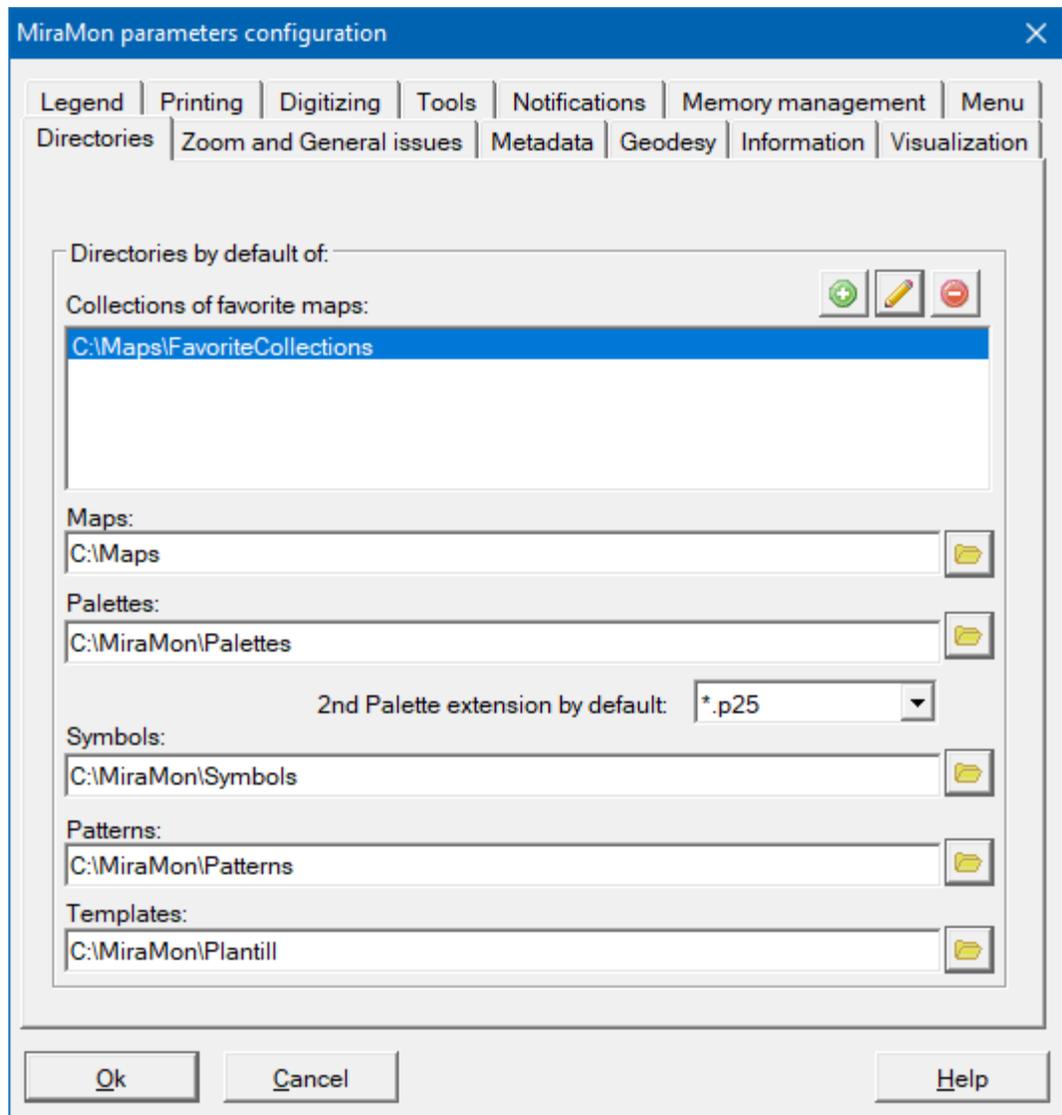
### 2.3. Installation of favorite collections.

The first time the program is used, a navigation window appears that allows you to download your favorite collections (it is possible to download only the desired ones). Once downloaded, press the reload button (). It is always possible to return to this navigation window of the drop-down selector of favorite collections and choosing the last option "**Update collections...**".

Note that installing collections requires disk space that is related to the local resources that the collection contains. In other words, a collection containing only MMM-based resources that access Internet geoservices, and/or HTML pages with links to resources open to MiraMon will require virtually no disk space (but, of course, depending on the volume of data and network speed resources may be slower to open).

### 2.4. Location of favorite map collections.

The favorite maps are located in the directory indicated in the "**Directories by default of**" section, located in the "**Directories**" tab of the MiraMon parameters configuration box, accessible from the "**Help | Configure parameters**", or through the CollecDir= key in the MiraMon.par file (or, if we have more than one directory of favorite collections, in the CollecDir##= keys, where ## represents a correlative number from 1). We suggested **ColleccionsPreferides**, **ColeccionesFavoritas** and **FavoriteCollections** as names, according to the language of the program (Catalan, Spanish or English, respectively), although the name and location are, of course, free. This setting can be customized from the [Configure ...] button, which opens a box like the following.



Note that since version 7, MiraMon.par can be configured customizing for different users or groups of users in a corporation (see the document “**Managing MiraMon.par\_vx**” for details), you can get to make different users see different collections of favorite maps. For example, at University it is possible to make the students of one subject have available, as favorite maps, a different set of geographical resources than the students of another subject.

Of course, it is not necessary to have all three language directories, nor is it essential that there be any of the directories (in this case the initial box will not show any collection of favorite maps).

## **2.5. Statement of the different collections of favorite maps.**

Each collection is defined by a DBF table; the structure of this table is explained in the next section. You can place as many DBF tables as you want in the favorite maps directory, and the program will display them in the favorite collections drop-down. For example, in the distribution of MiraMon

v.7 there is a table ColleccioTipicaCatalunya.dbf, a ColleccioTipicaMon.dbf, etc. which, at the same time, have multi-language descriptions.

The order of the layers in the drop-down of the map collections for the first time is the names of the founded DBF tables by alphabetical order and which correspond to the structure described in section 2.6. However, it should be noticed that the program remembers (by typing it in the user profile file, named MM\_Perfil\_USUARI.par, where USUARI is the username on the system, and located in the temporary directory) which is the collection chosen in the last execution, so usually the order in this drop-down is not important. If, however, we want to force a certain order in the drop-down, a very easy way to get a certain table to be the first is to simply call it "01\_" before the name. In fact, this simple strategy allows the user to govern the detailed order using "02\_", etc. to fine-tune the order in which your collections are presented in the drop-down (note that this numbering in the names is not visible for the user as only the contents of the description field of the first record is shown, in the most appropriate language if language fields have been created as described below).

## 2.6. How to define a collection of favorite maps. Table structure.

As mentioned before, DBF tables that contain collections can refer to both maps and direct resources as well as HTML pages with links to maps or other pages with links to maps and direct resources.

Each collection is defined by a DBF table, as explained before. The first record in the table defines the collection, while the other records define each favorite map. Therefore, the table has as many records as collections, plus 1.

This table presents the following field structure, which must be presented in the same order as indicated here:

**ID:** Field of C-type, 8 characters wide, intended to collect a small text string that acts as the ***identifier for the collection***. This string only needs to be written in the first record.

**NOM\_MAPA:** Field of C-type, up to 254 characters wide for maps in local files, or larger if necessary (using the properties of the extended DBF) for HTML files located on the Internet. This field is intended to collect the name of the desired **toponym dictionary** for toponym searches in this collection in the first record (for example "..\Toponyms\ ToponimsCatalunya.dbf"), and the **name of the file containing each map, or an HTML address** in the following (for example "Catalunya\ImatgeAerialCC\_WMS.mmm"). All filenames can be DBF addresses or Internet HTML addresses. As for the toponyms dictionary, it can be left blank if it is not available; it is important to note that although this is the default dictionary for this collection, the user can change it for another in the drop-down of possible toponym dictionaries if desired.

**BMP\_MOSTRA:** Field of C-type, up to 254 characters wide, intended to collect the name of the BMP file to use as a representative **thumbnail view** of the collection in the first record (currently unused and you can leave it empty), and the name of the BMP file to use as a thumbnail view of the map in the following (for example "Catalunya\MostralmatgeAerialCC.bmp"). The optimal size of each BMP in relation to the push button on which it is located is 160 columns x 80 rows.

**DESCRIPCIO:** Field of C-type, 33 characters wide, intended to collect the **title of the collection** in the first record (for example "Typical maps of Catalonia"), and the **title of each map** in the following (for example "Aerial Image (WMS)"). The title of the collection is displayed in the collections drop-down and the title of the map under the corresponding thumbnail view. If the description field is called **DESCRIPCAT**, the program assumes that the descriptions are in Catalan (note the ISO code "CAT"), whereas if it is named **DESCRIPSPA** or **DESCRIPENG**, it will assume they are in Spanish or English, respectively. We strongly recommend using the field names that carry the ISO code at the end, as MiraMon then allows you to display the appropriate language descriptor depending on the language of the program if a collection is defined in multiple languages.

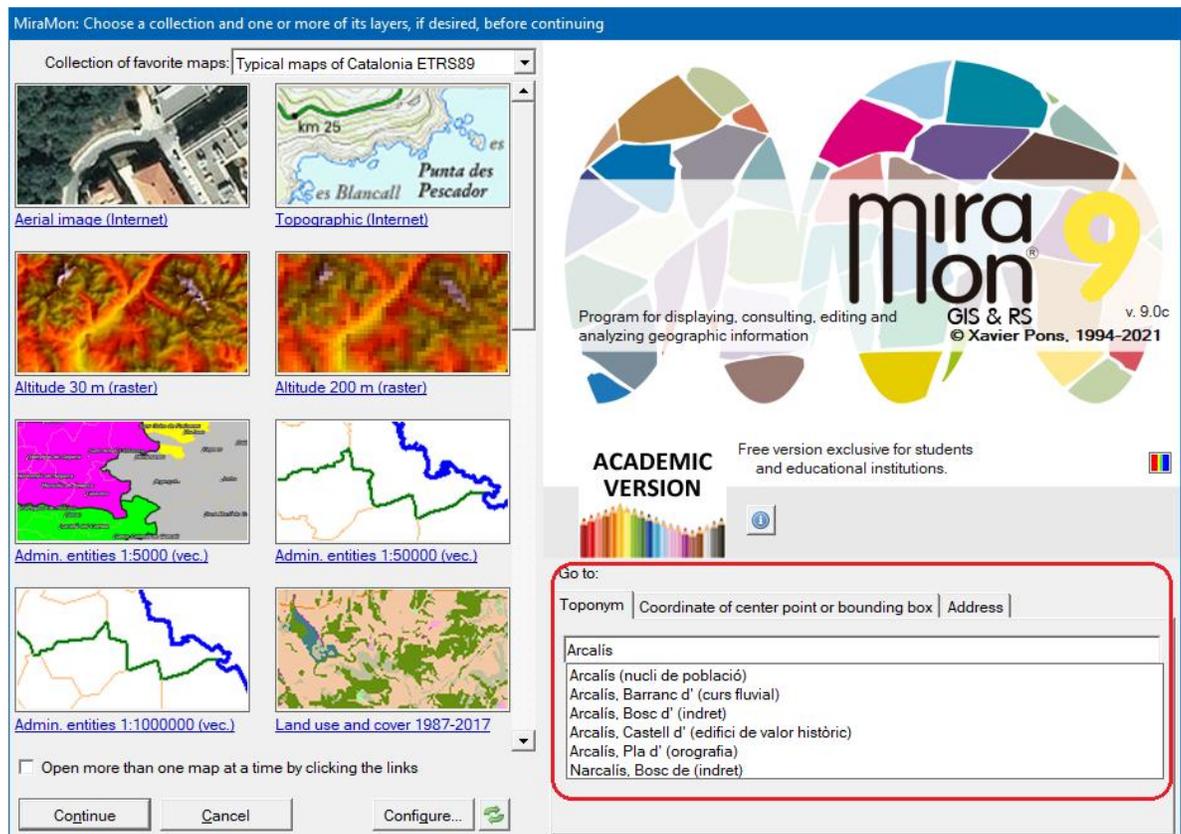
## **2.7. How to define a collection of favorite maps directly (and totally) in HTML.**

In the case that a collection of favorite maps consists of only a single link to an HTML resource (table with 2 records), this link will be displayed immediately after activating the collection. This achieves the effect that the entire collection is defined directly by navigable HTML pages, which can be useful for very long collections of favorite maps where preparing a preview BMP image can be too heavy and a HTML design with slightly more detailed descriptions is preferred, etc.

### 3. Go to a certain place when starting with toponym or a coordinate/bounding box.

MiraMon has two additional advantages that allow the user when opening a project to locate a certain place through a toponym, an extent or coordinate; these two features appear when the user opens MiraMon in the lower right part of the presentation box.

#### 3.1. Go to a certain place through a toponym.



##### 3.1.1. General operation and use.

To activate this option, as shown in the previous illustration, the "Toponym" option must be selected and the text, or part of the text, must be written of the toponym that you want to locate. The program will perform a search within the **dictionary of toponyms related to the collection that has been selected in the left part of the box**, a dictionary that incorporates the program by default as of v.7, and a list with all the toponyms that contain the text written will be displayed. Choose one of the texts and then click on the map of the favorite collection on which toponym is searched, then click on "Continue". **The program will display the indicated place**, shown with a box, normally red, inside the view.

If you want to use a different dictionary it can be chosen from the drop-down for this purpose.

### **3.1.2. Criteria for selecting toponyms.**

To make it easier for the user to locate the desired toponym and correct possible spelling errors or differences between the text written by the user and the text of the toponym in the database, the program performs **an insensitive search for capital and lowercase letters, accents or other special characters**, in order to build a list of all toponyms that contain the indicated text.

This list of searched toponyms is presented alphabetically, but prioritizing the toponyms according to whether they start with the text we have indicated (maximum priority), or if they have a word that starts with this text (intermediate priority) or simply containing this intermediate text (minimum priority)

### **3.1.3. Toponyms dictionary.**

The program incorporates some toponyms dictionaries of general interest for each collection. As explained below, each collection of maps can have its own dictionary of toponyms, indicated in the corresponding field of the table of the collection (obviously, different collections of Catalonia of different subjects can share the same toponym dictionary). However, if you have other lists of toponyms, you can include them in the **u\_topon.ini file**, conveniently indexed as shown below. MiraMon will search this file in its directory but to facilitate the coexistence of shared and non-shared dictionaries, it will only show those in the list to which it has read access.

Each toponym dictionary is a set of DBF files with a given structure and order. At least we will find a DBF file that contains the texts of the place names together with their location and a file, also in DBF format, that contains the indexed place names following various criteria.

If the user has a list of toponyms, it is possible to add it to the dictionaries provided by default; for this purpose, it is only necessary that the toponyms have a geographical link through coordinates and generate the indexation of the table through the program "DiccTop.exe" which can be requested at [suport@miramon.uab.cat](mailto:suport@miramon.uab.cat).

## **3.2. Go to a certain place through a coordinate or extent.**

To activate this option, as shown in the following illustrations, you must select the "Coordinate of center point or bounding box" option. By doing this, several options are activated that allow you to indicate a central coordinate plus an area around it, always indicated in meters, or an extent in any reference system. By selecting the map of the favorite collection on which you want to look for the coordinate and then click "Continue", the program will place the view in the indicated location, showing it with a red

box, inside the view, of the indicated area using the central coordinate in addition to the designated area, or directly as an extent

The image displays four screenshots of a software interface, arranged in a 2x2 grid, showing different ways to input coordinates. Each screenshot has a 'Go to:' header and three tabs: 'Toponym', 'Coordinate of center point or bounding box', and 'Address'. The 'Coordinate of center point or bounding box' tab is active in all.

- Top-left screenshot:** Under 'Coordinate of center point', the radio button for 'Coord. of center point' is selected. Under 'Longitude/latitude coordinates WGS 84', the radio button for 'Longitude/latitude coordinates WGS 84' is selected. Below, there are input fields for 'Longitude' and 'Latitude' in degrees, minutes, and seconds format, and a 'Zone to show around (m):' field.
- Top-right screenshot:** Under 'Coordinate of center point', the radio button for 'Coord. of center point' is selected. Under 'Longitude/latitude coordinates WGS 84', the radio button for 'Map coordinates (m)' is selected. Below, there are input fields for 'X:' and 'Y:' coordinates, and a 'Zone to show around (m):' field.
- Bottom-left screenshot:** Under 'Ambit', the radio button for 'Ambit' is selected. Under 'Longitude/latitude coordinates WGS 84', the radio button for 'Longitude/latitude coordinates WGS 84' is selected. Below, there are input fields for 'Long' and 'Lat min' in degrees, minutes, and seconds format, and 'Long' and 'Lat max' in degrees, minutes, and seconds format.
- Bottom-right screenshot:** Under 'Ambit', the radio button for 'Ambit' is selected. Under 'Longitude/latitude coordinates WGS 84', the radio button for 'Map coordinates (m)' is selected. Below, there are input fields for 'X min:', 'X max:', 'Y min:', and 'Y max:' coordinates.

In both options, “Coordinate of the center point” or “Bounding box”, you can choose between coordinates in longitude/latitude with WGS84 data in degrees, minutes and seconds, or map coordinates (X,Y) in the indicated reference system indicated by the dropdown menu.

It is not necessary that the indicated coordinates are in the same system as the selected maps, the program makes an automatic transformation of the coordinates in the reference system of the map.