SHORT REFERENCE MANUAL

for the use of

An operational platform for the Control PM concentrations Policy Tool

Project Title: **Development of A Cost Efficient Policy Tool for reduction of Particulate Matter in AIR**

Short Title: **ACEPT – AIR**

LIFE + 2009 Environment Policy and Governance

Contents

Introduction

This tool has been designed and accomplished in the framework of **Action 5.** "*An operational platform for the Control PM concentrations Policy Tool*" of **2009 Life + Program** with project title "*Development of A Cost Efficient Policy Tool for reduction of Particulate Matter in AIR*".

Its main objective is to store the available data of pollutant emissions and concentration measurements in the three Greek cities examined. These data can be presented as figures or maps giving correspondingly emissions and concentrations temporal and spatial distribution. Additionally, a forecast of future concentrations can be implemented using certain scenarios through process and analysis of the existing data.

More specifically, the tool deals with the following:

1. Pollutant measurements from the National Network of Air Quality Monitoring as well as from the Municipality of Thessaloniki network, presented as a combination of pollutant, Region, Source, sub source and year.
2. Pollutant emissions are presented as a combination of pollutant, Region, Source, sub source and year.
3. Monthly variation of pollutant emissions is presented as a combination of pollutant, Region, Source, sub source and year.
4. Source apportionment of pollutant by year and region.
5. PM Concentration Forecast.
6. Emissions Future Projections.
7. Graphic presentation of pollutant emissions (Spatial Allocation).
8. Related Scientific Publications.

Below is presented a short reference manual of tool functions.

Chapter 1. Getting started

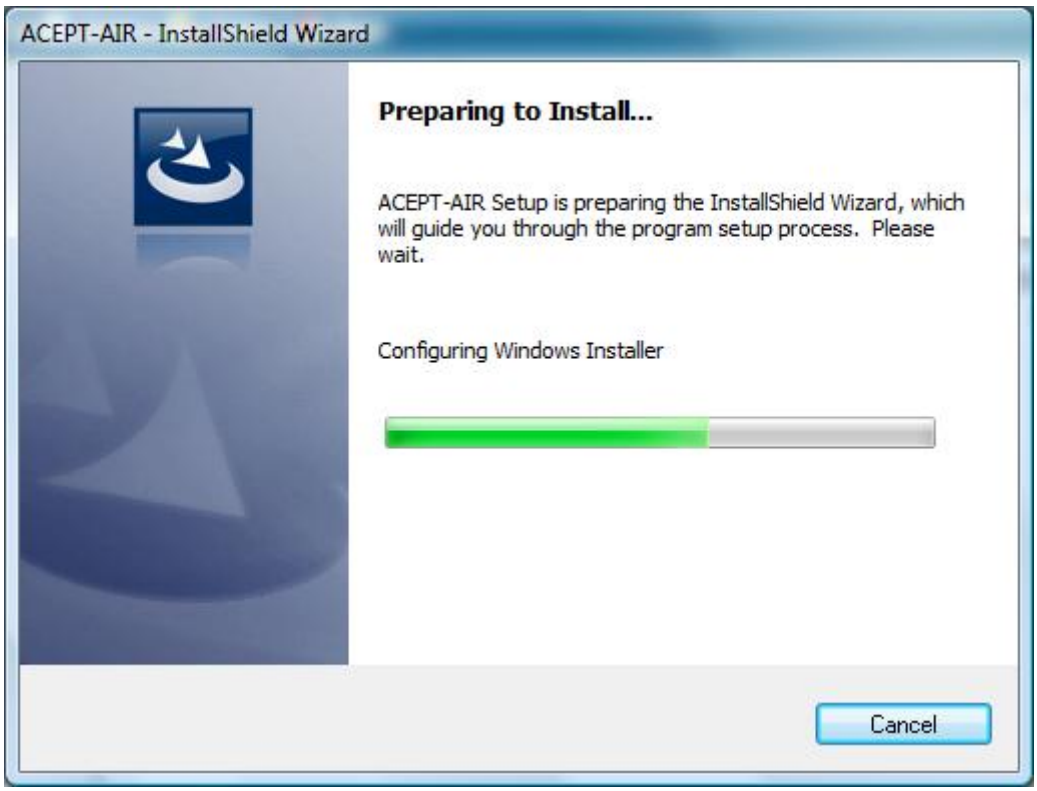
1.1. System requirements

In order to use the tool without problems (delays in presentation or processing data, instability etc) the following system parameters must be available:

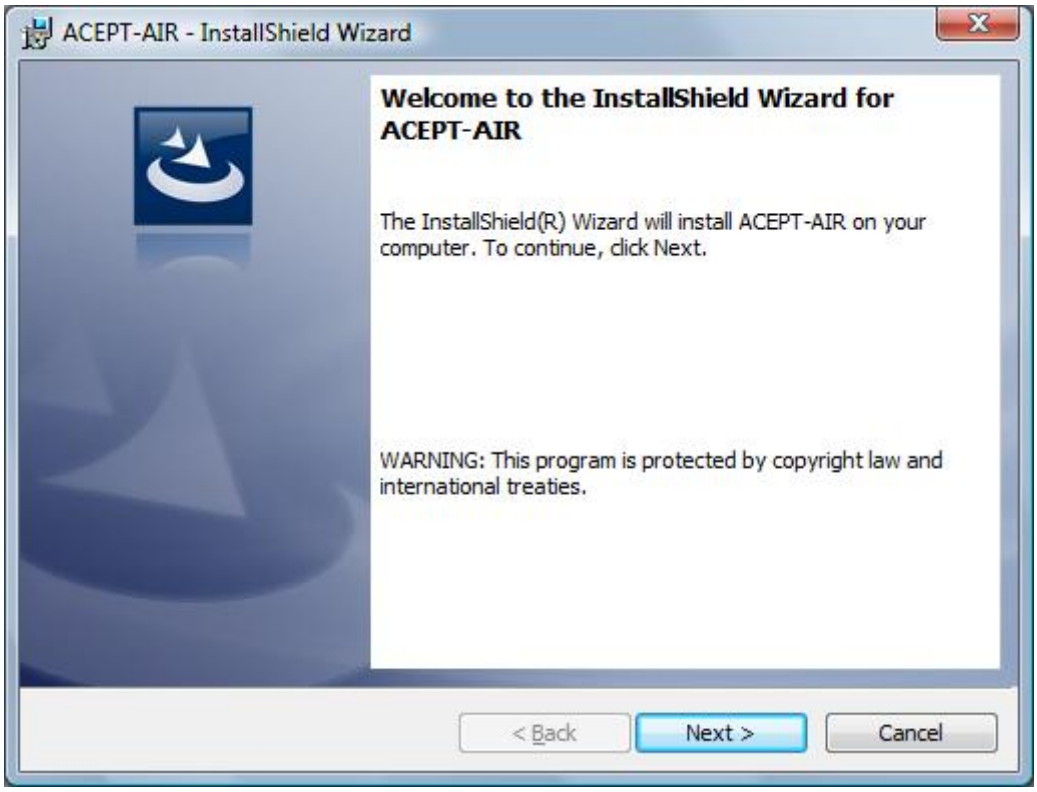
- Windows XP with service pack 3 or newer (Windows 7 or newer is recommended)
- Processor Intel core Duo of 1,73GHz or higher (i3 of 3,60 GHzor higher is recommended)
- Memory: at least 2 GB (4GB is recommended)
- Microsoft Office Access 2007 or newer
- Access Database Engine (optional, depending on MS Windows version (x64 or x32 and installation type of existing Access)
- Microsoft Office Excel 2007 or newer
- Microsoft. Net Framework 4 or newer (can be install during the setup if it is missing)
- Adobe Acrobat reader
- Regional Settings for Decimal number must set to **"."** not ","

1.2. Installation

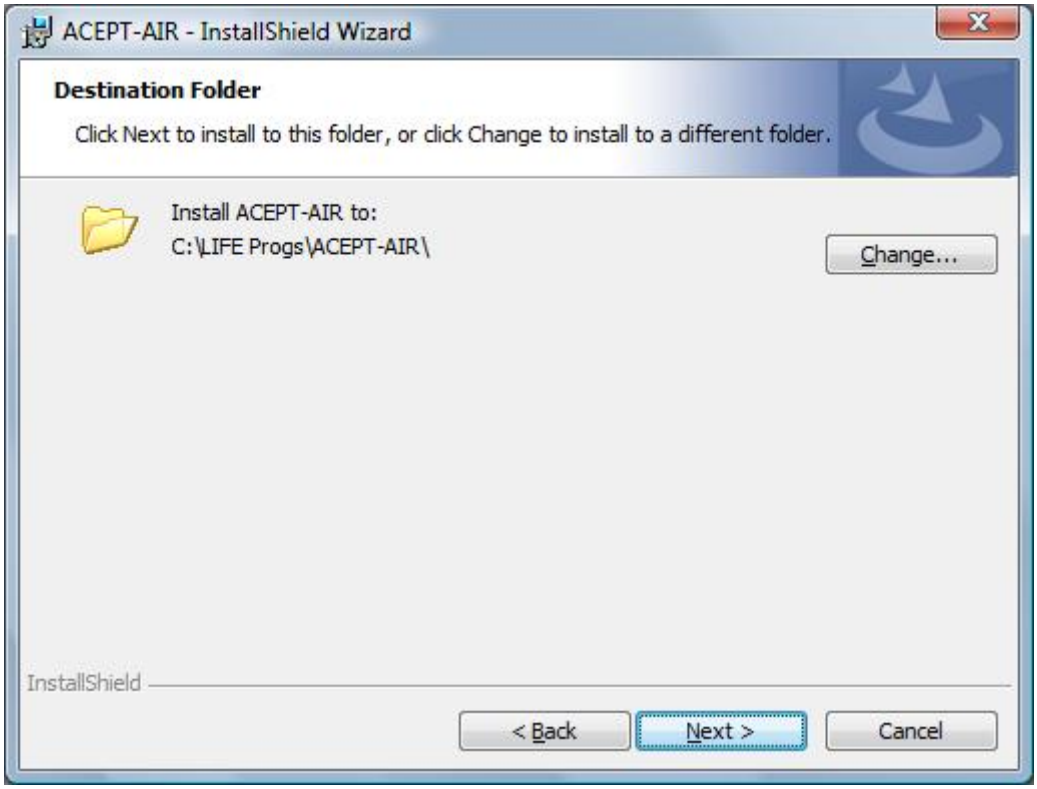
Insert installation CD into your drive and run "Setup" file. The following InstallShield Wizard appears.



Then the following screen appears:



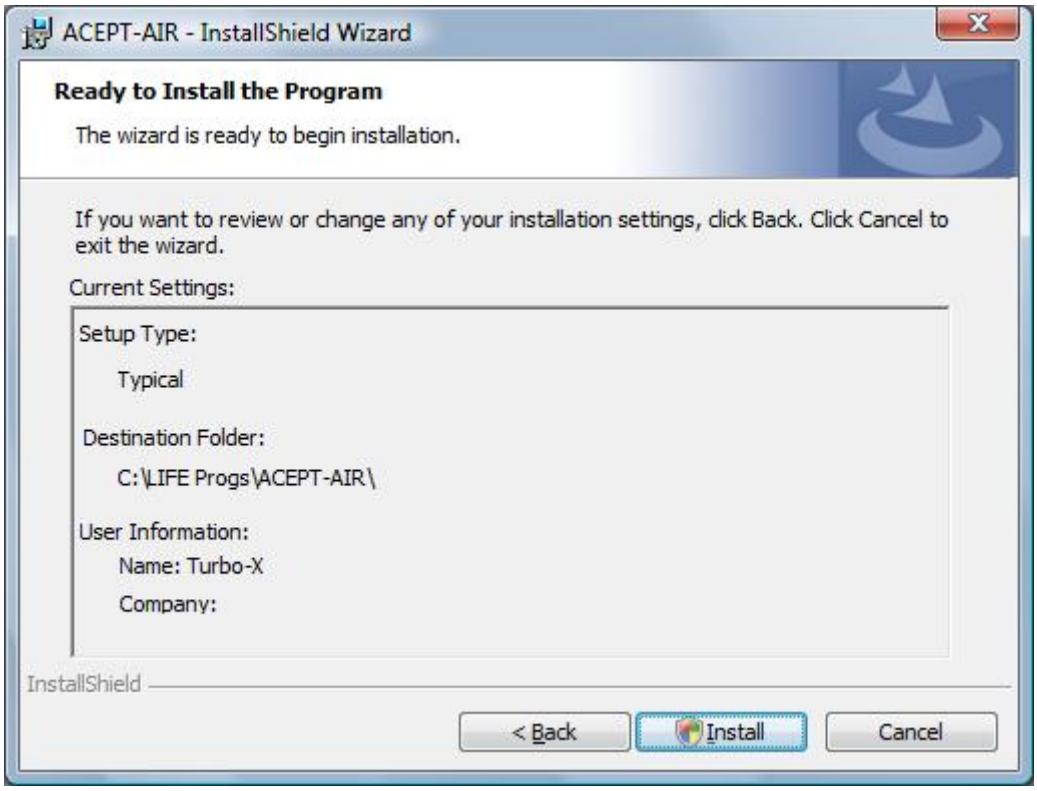
Press “Next” button. The following screen appears:



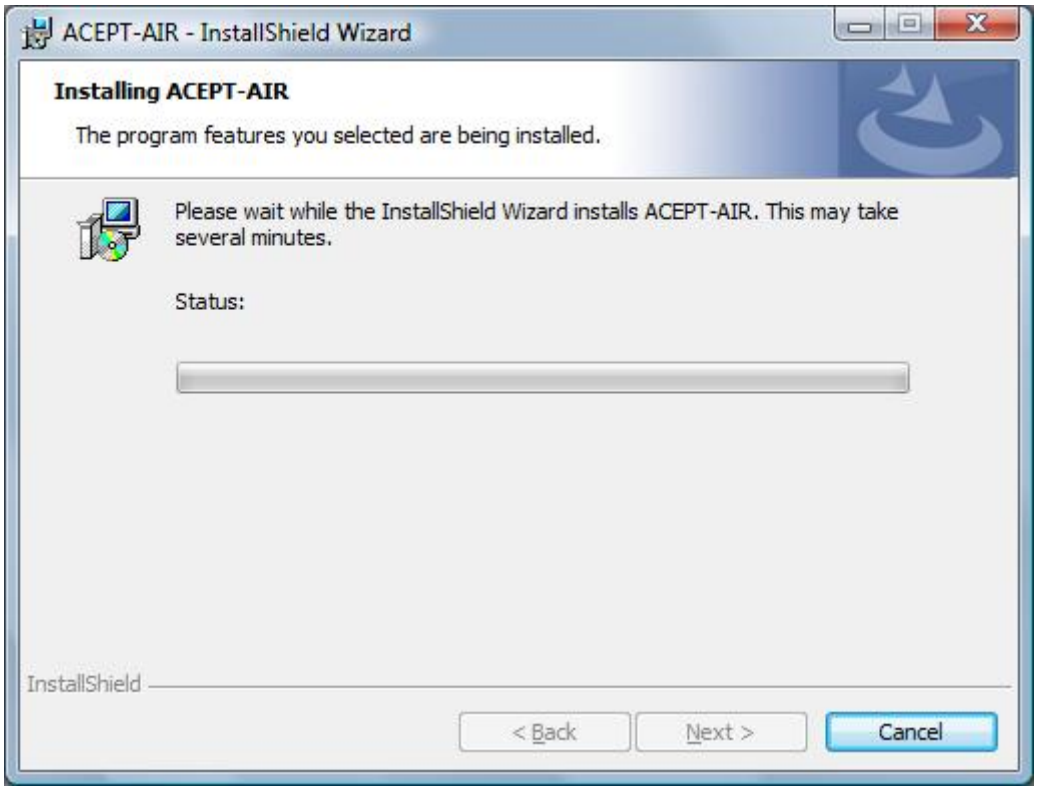
Choose the destination directory for tool program to install. It is recommended to keep the existing folder.

***Notice**: You must have administrator privileges to run the tool if you choose to install it under the root "C:\Program Files".*

Press "Next" button. The following screen appears:

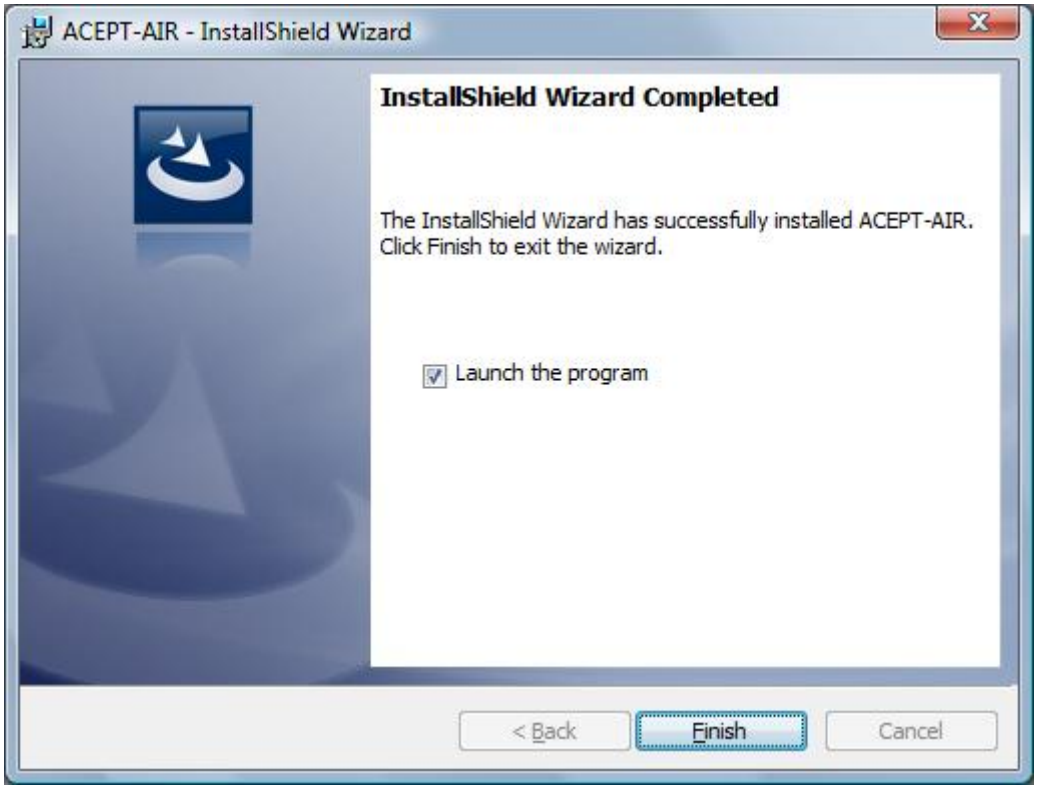


Press "Install" button The following screen appears:



A “User Account control” screen will appear in order to state the unknown by windows publisher of the program. Click the “Allow” option.

Follow any other instruction to complete the installation. Final the following screen appears:



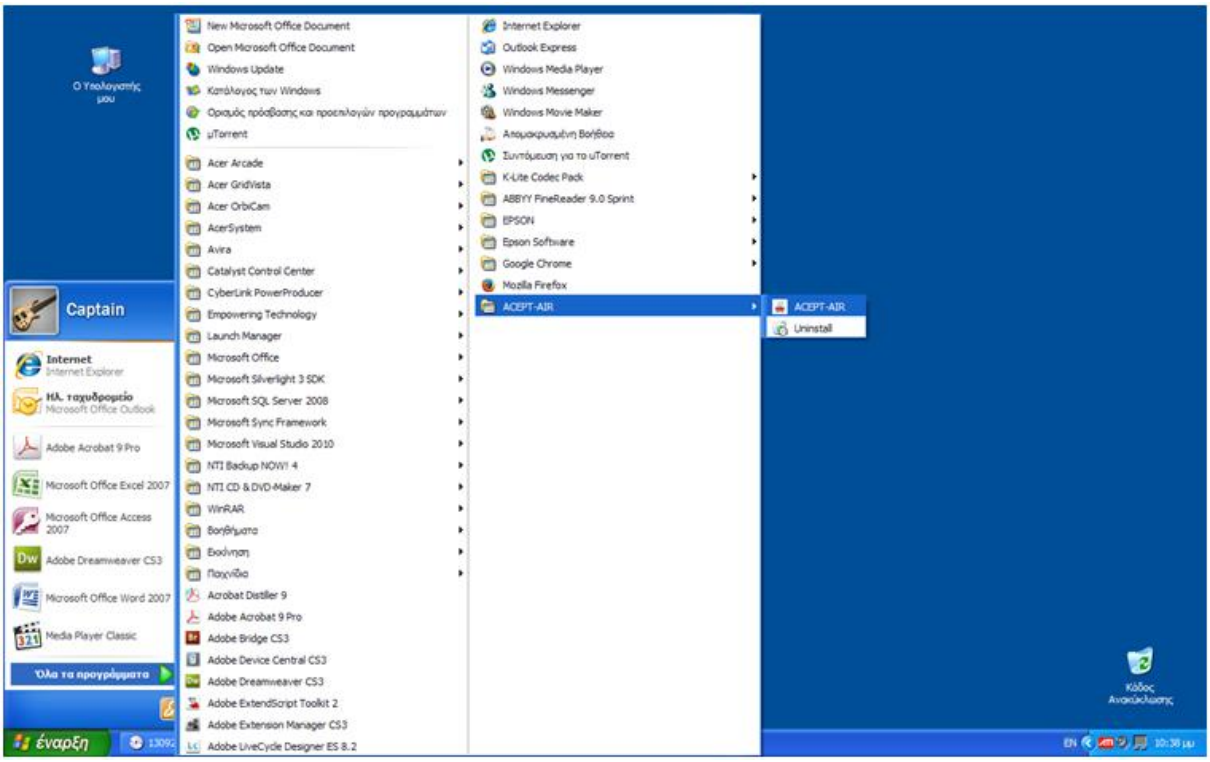
Press “Finish” button to exit the installation and launch the program.

Important: *Depending of the MS Windows version (x64 or x32) and the installation type of existing MS Access (2007 or newer x64 or x32) it may be needed the installation of the appropriate Access Database Engine (2007 or newer x64 or x32) in order to run the tool normally. These files are also provided with the installation disk (free download from Microsoft site).*

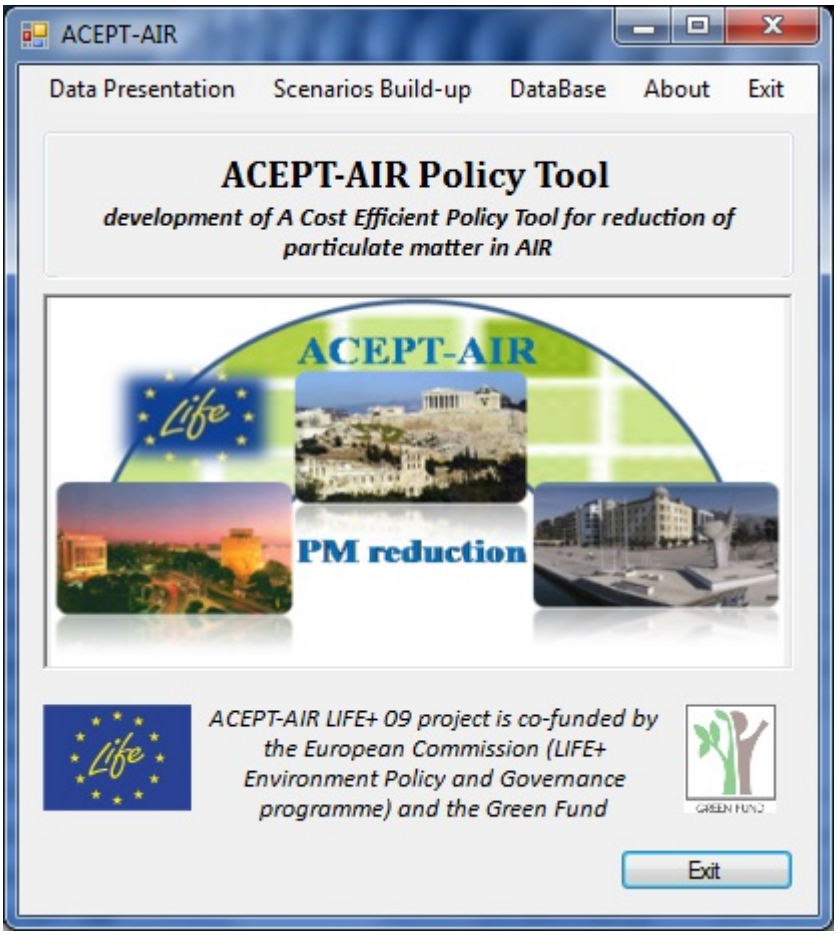
1.3. Starting the program

In order to start the program select from start up menu:

Program Files -- > ACEPT-AIR -- > ACEPT-AIR.exe



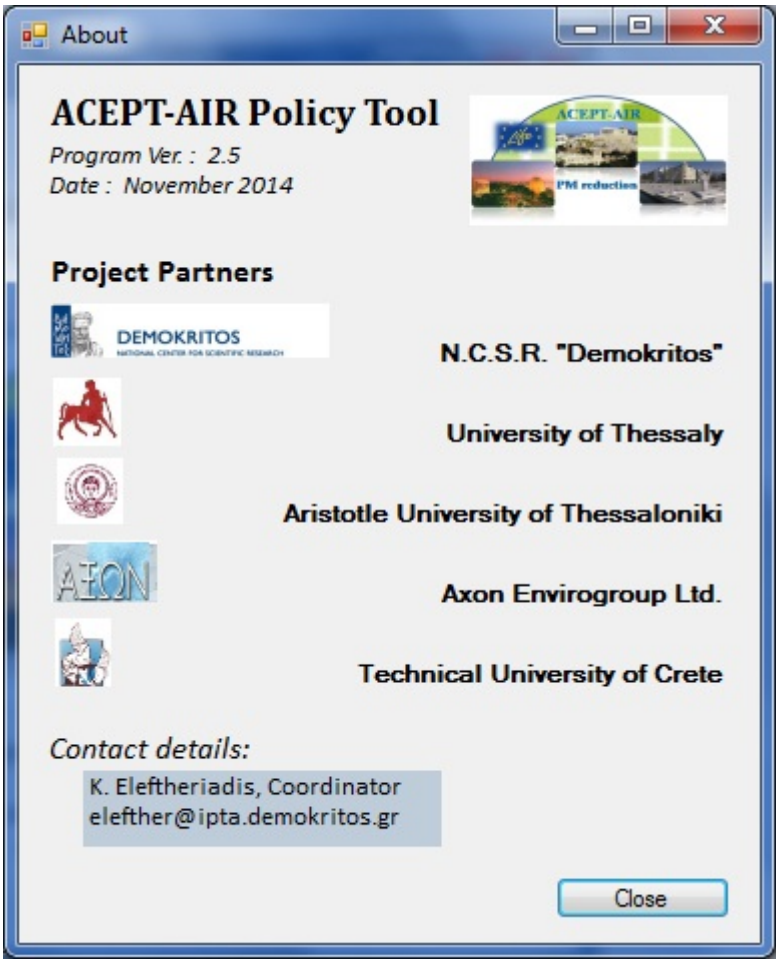
The initial screen of the program is presented below:



As it is shown (at the top toolbar of the initial screen), the tool functions are divided into three main categories:

- **Data Presentation** where the stored data (emissions, graphics, scientific publications etc) can be presented in different ways (see chapter 2)
- **Scenarios Build-up** where the stored emissions data can be processed taking into account certain scenarios in order to forecast potential future concentrations changes/trends (see chapter 3)
- **DataBase** where the tool databases can be accessed in order to see, update, delete or add new data (see chapter 4)

You can also see the project Partners of ACEPT-Air program by pressing the “About” button.



1.4. Widely used expressions

For better understanding, some expressions which are widely used in this manual are explained below:

Pollutant: it is stated for the atmospheric pollutants. The initial data of the program include CO, CO_2, NMVOC, NH_3, NO, NO_2, NOx, O_3, $PM_{2.5}$, PMcoarse, PM_{10}, SBVOC and SO_2 concentrations and emissions.

Region: it is stated for the area of interest in which the pollutants measurements and/or emissions calculations have been carried out. In the tool three Greek cities, Athens, Thessaloniki and Volos, are taking into account.

Source: it is stated for the source of the measured pollutant and/or emissions. The initial data of the program deals with four sources (Natural, Residential, Industrial and Road Transport).

Sub source: it is stated for the division of each emission source in sub-categories. In the tool, only Natural and Road Transport emissions include sub-sources.

Station: Pollutant measurements (see § 2.1.) are given for each monitoring station showing the location where the measurements have taken place.

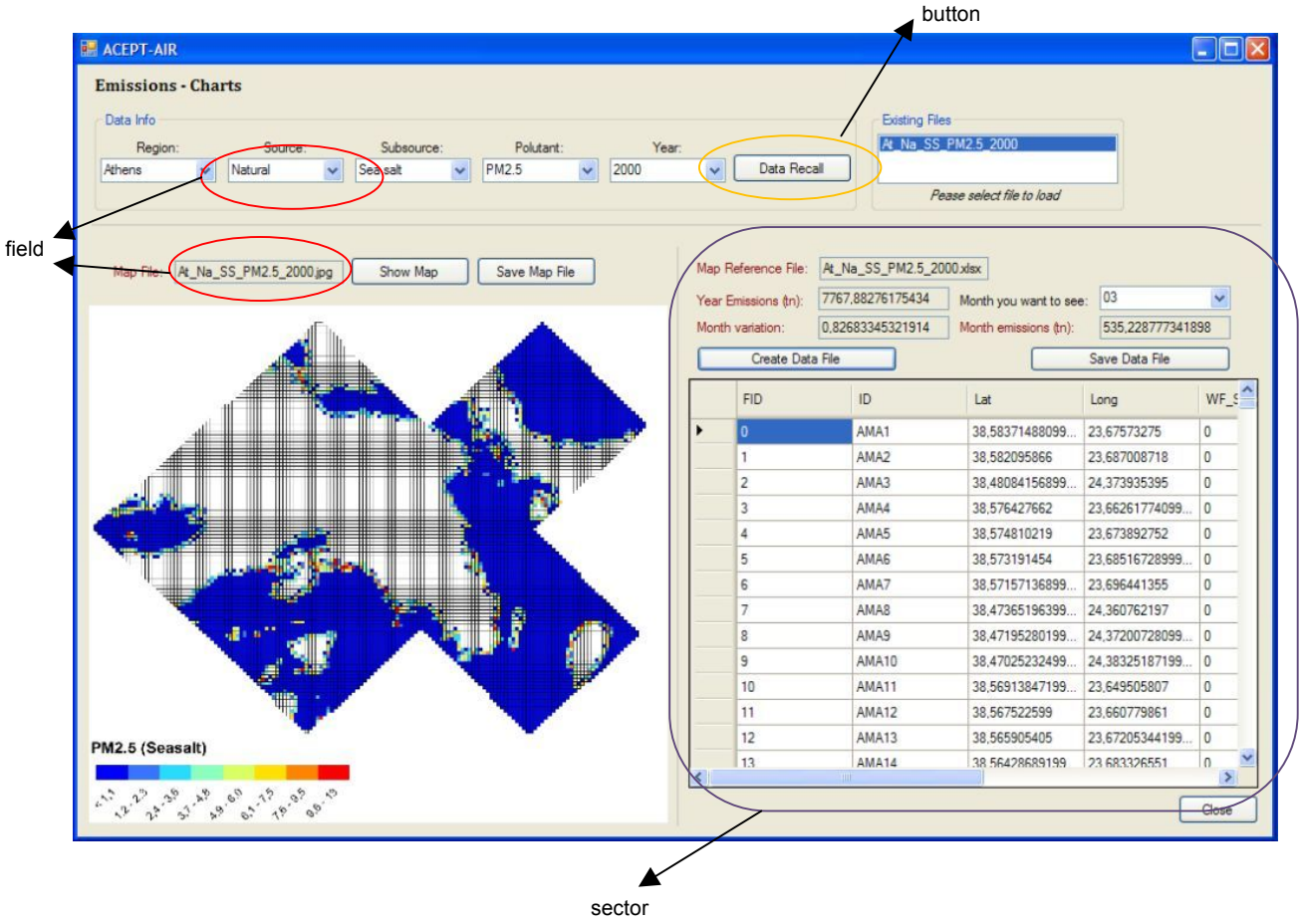
Area Type: it is stated to distinguish different areas in an Urban Region (urban background and urban traffic).

Year: it is used to indicate the year of the pollutants measurements and/or the emissions calculations.

Button: screen object which results in program action by pressing it.

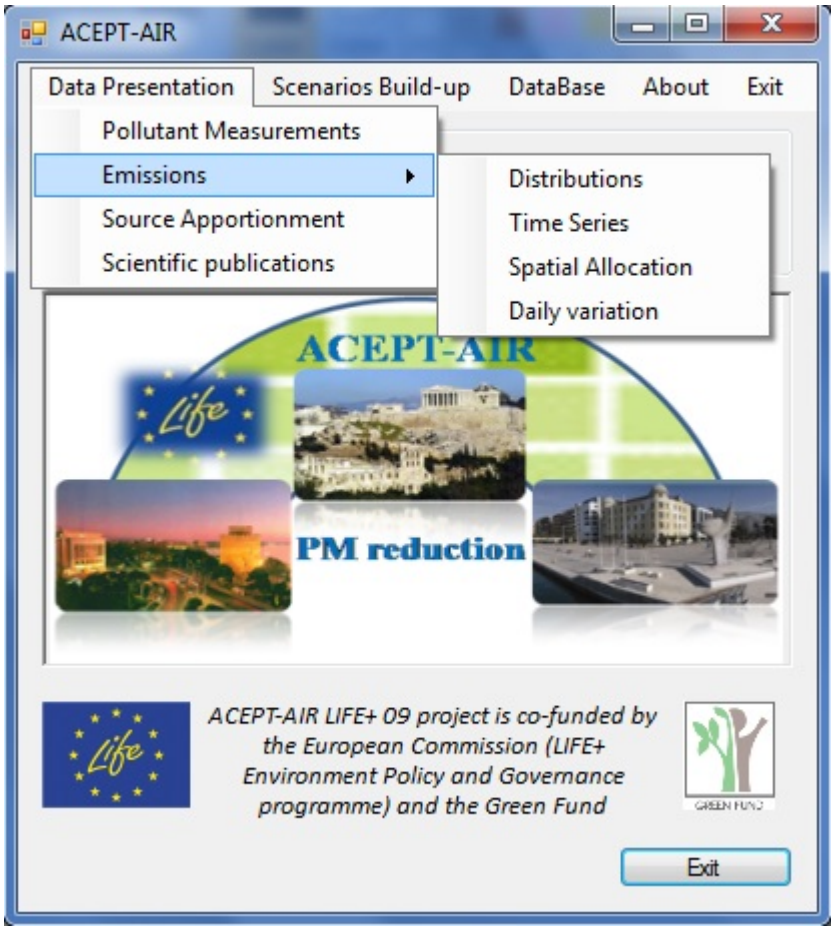
Field: screen object in where programs data are presented.

Sector: screen area in which an amount of information is held.



Chapter 2. Data Presentation

This function of the program presents the stored data in different ways. As shown in the image below, by selecting from the toolbar the “Data Presentation” function the following choices are available:

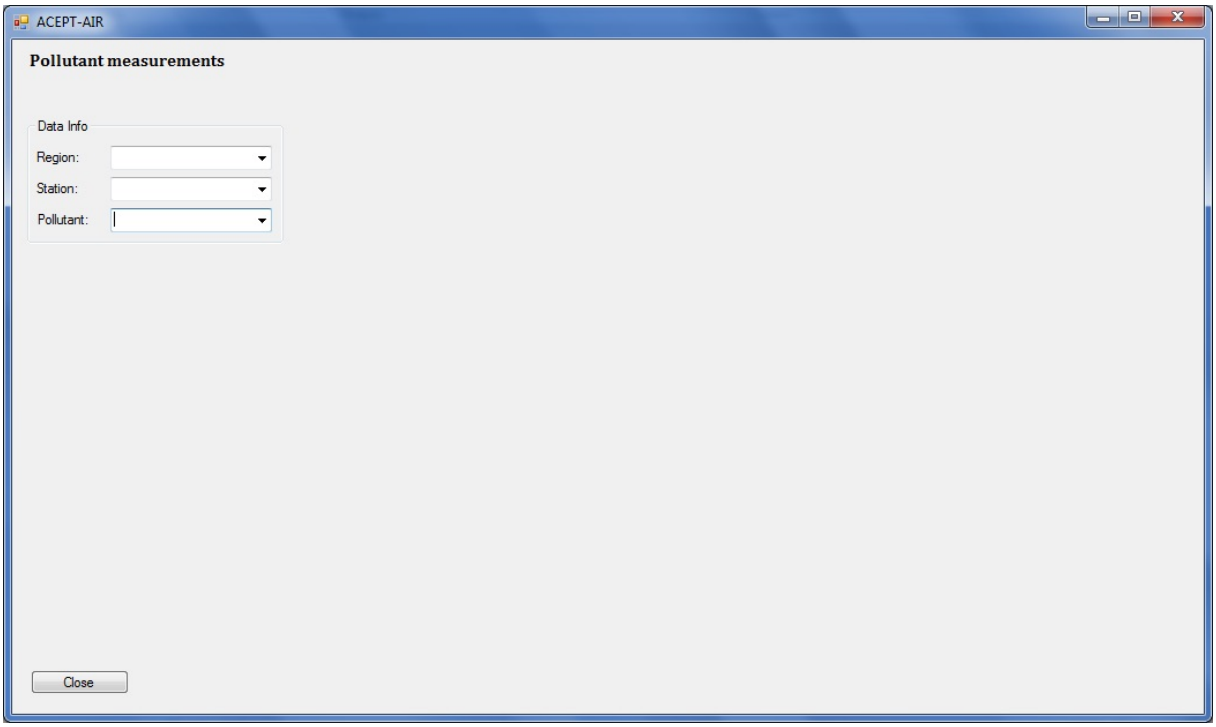


1. **Pollutant measurements** (of the National Network of Air Quality Monitoring and the Municipality of Thessaloniki) through time
   a. **Distribution** for a certain year
   b. **Time Series** through time
   ~~c. **(?) Charts** of pollutant distribution in a specific area and data for selected time (?)~~
2. **Emissions**
   a. **Distribution** for a certain year
   b. **Time Series** through time
   c. **Spatial Allocation** of pollutant distribution in a specific area and data for selected time
   d. **Daily Variation** for a certain month
3. **Source apportionment** of a pollutant (PM2.5, PM10) for a certain year
4. **Scientific publications** related to environmental pollution

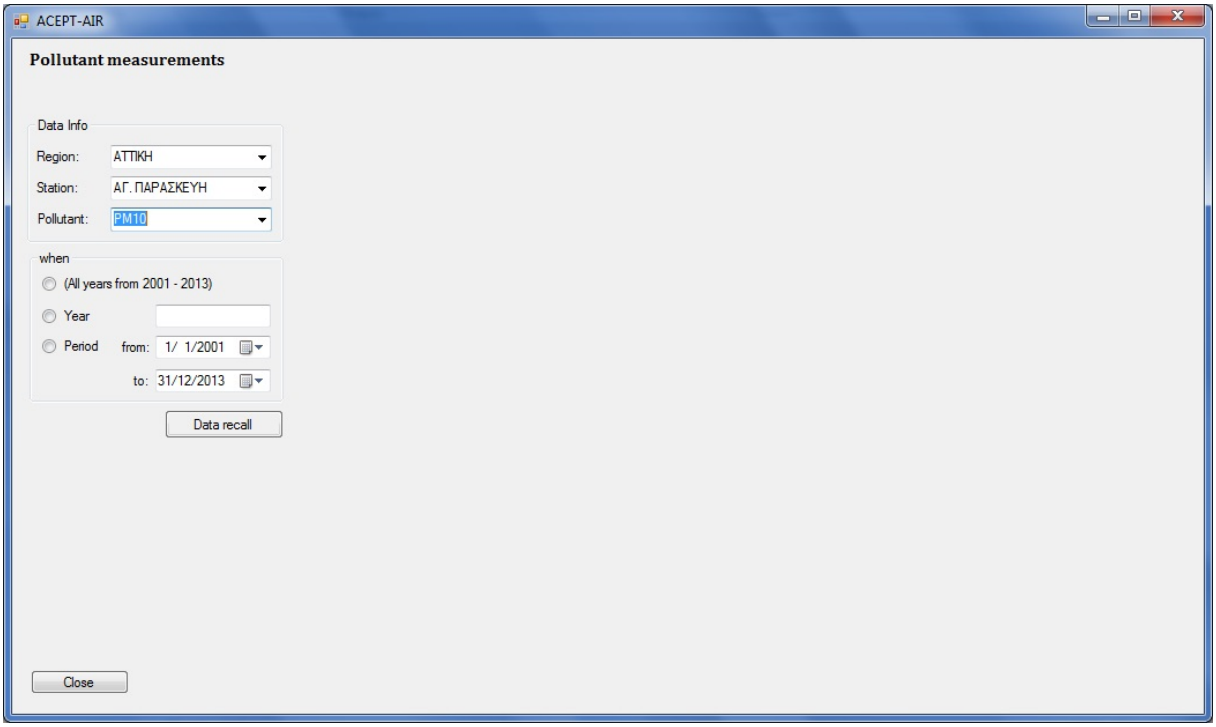
Below is presented in short details the related screens of the aforementioned choices.

2.1. Pollutant measurements

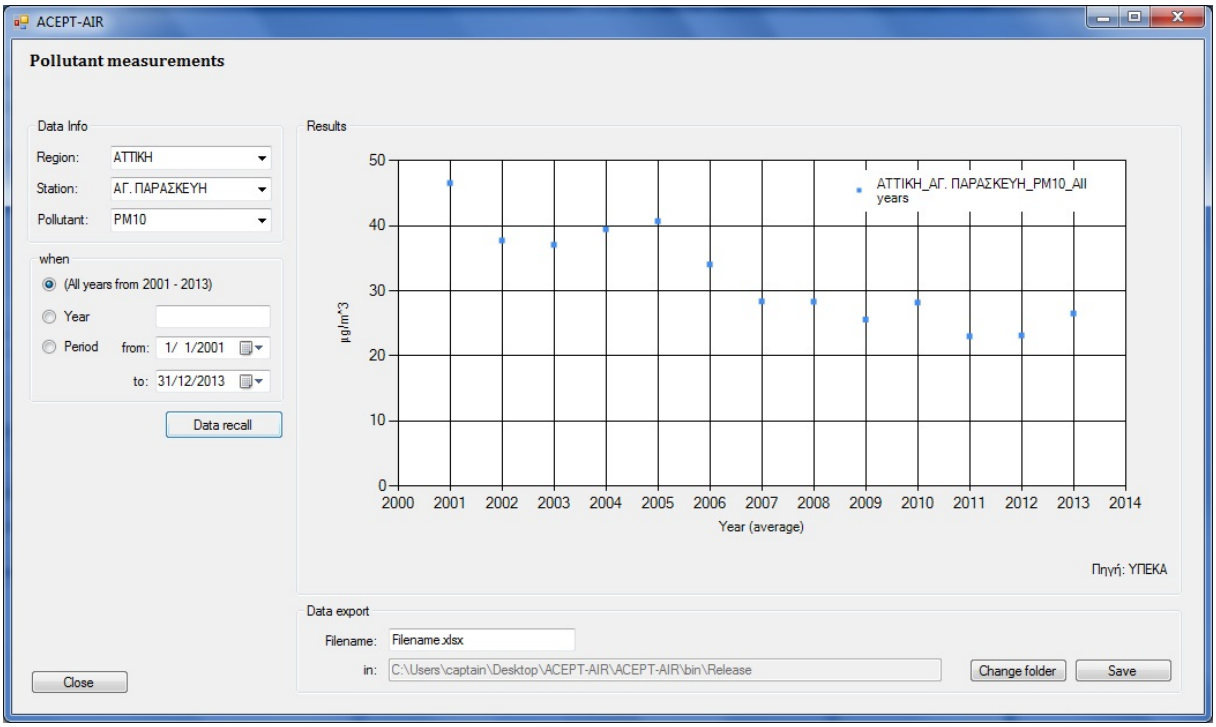
Selecting the choice “Pollutant measurements” the following screen appears:



The user is asked to select the preferred Region, the Station of the measurement, and the Pollutant. Then he is asked to select the year of interest (Year or specific time Period).



When the user has selected every field required (otherwise a message alert will appear with the default choice) he can press "Data recall" button in order to see the desired data in time series graph (see next screen).



***Notice**: By selecting "All years" the graph presents the pollutant annual average measurement of every year.*

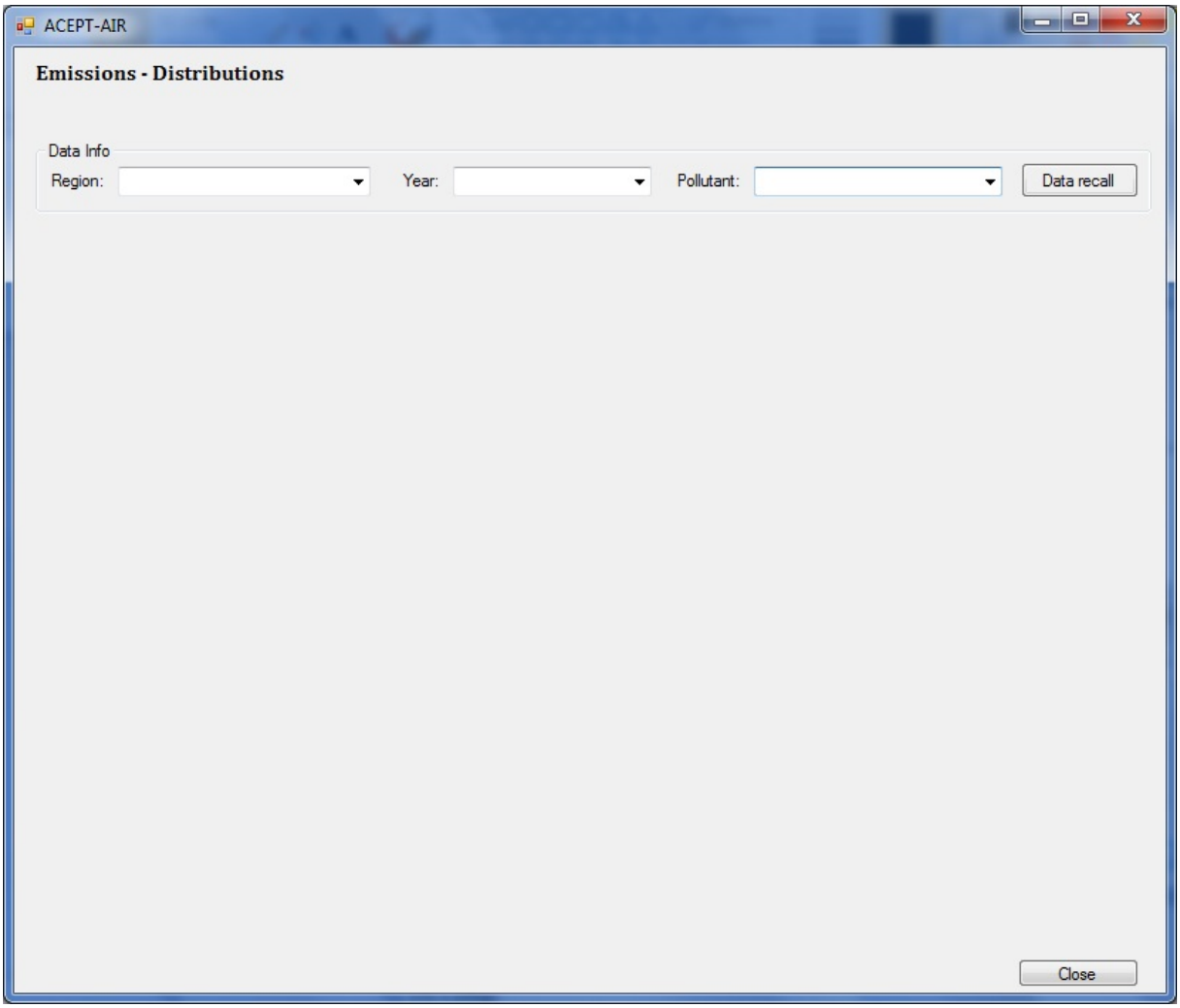
The presented data can be stored in Microsoft Excell File format (the Data Export sector in the above screen) by selecting the Filename, the directory ("Change folder" button) and by pressing the "Save" button.

2.2. Emissions

Selecting the choice “Emissions” a second menu appears where the user can select:

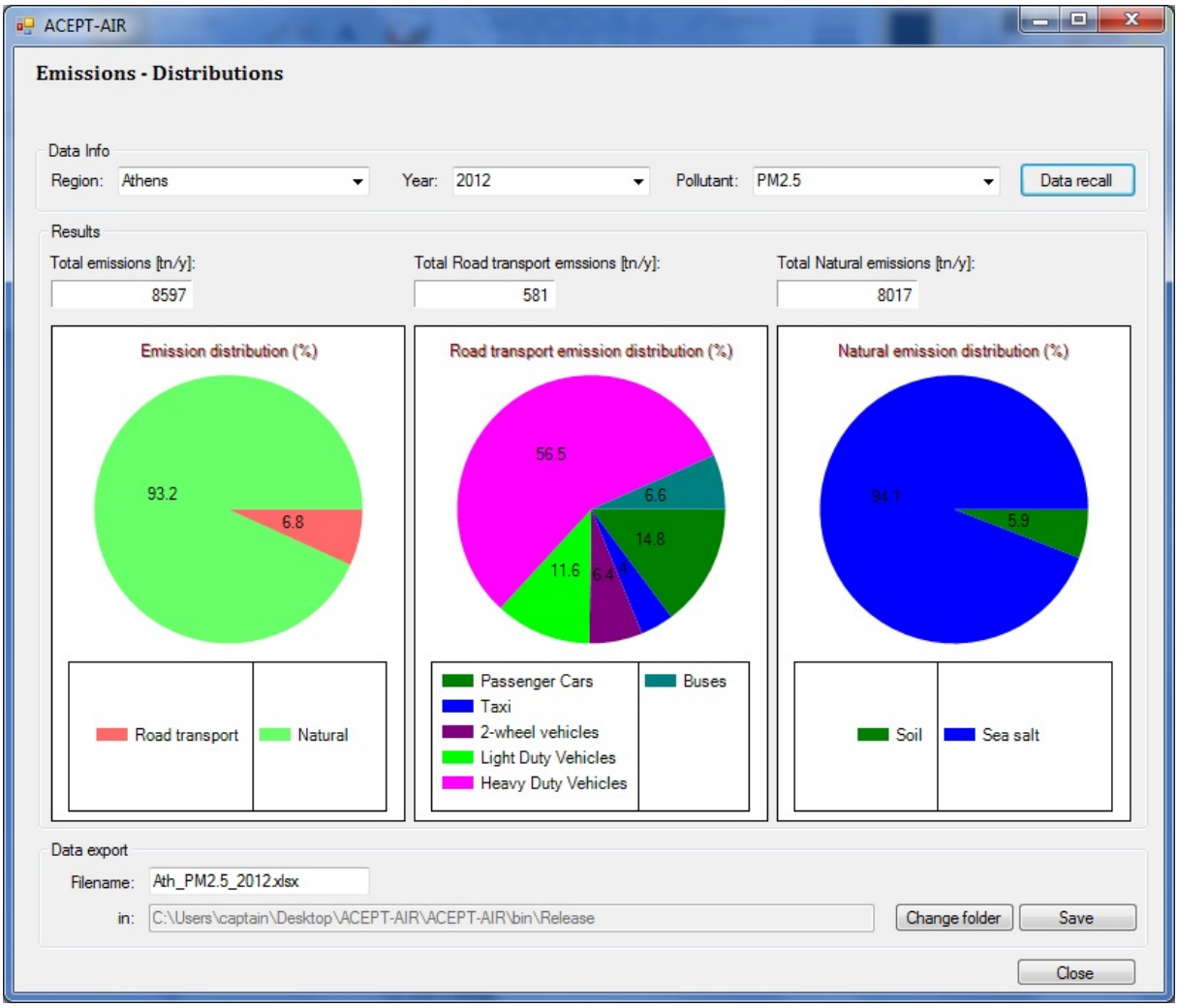
- Distribution

Selecting the choice “Distribution” the following screen appears:



The user is asked to select the preferred Region, the Year of interest and the Pollutant he chooses to see.

When the user has selected every field required (otherwise a message alert will appear with the default choice) he can press “Data recall” button in order to see the desired data in pie graph (see next screen).



The information below (Results sector) is given (when available):

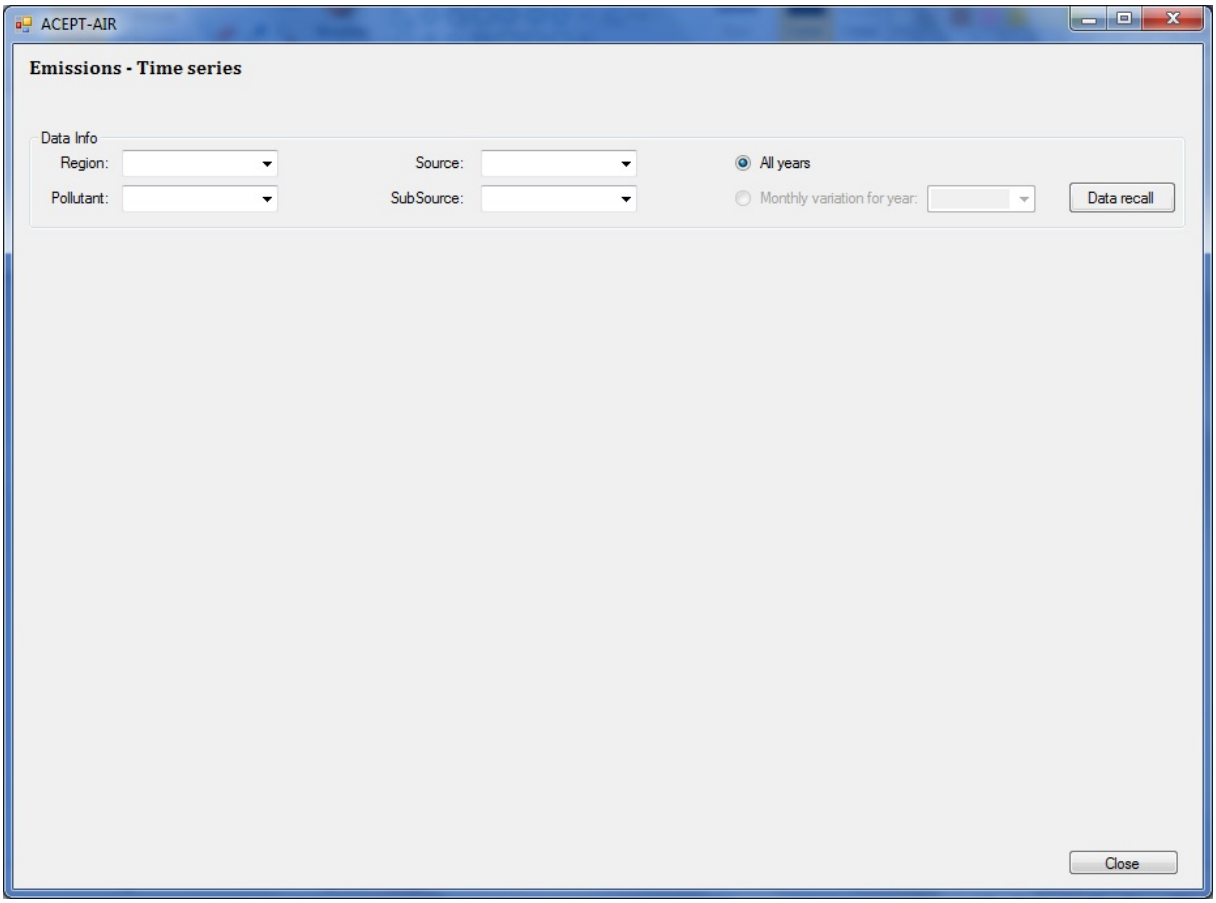
- Total emissions distribution by source
- Road transport emission distribution by sub-source
- Natural emission distribution by sub-source

Except from the above information (pie graph) the absolute total annual emissions are presented in tn/y.

The data presented can be stored in Microsoft Excell File format (the Data Export sector in the above screen) by selecting the Filename, the directory ("Change folder" button) and by pressing the "Save" button.

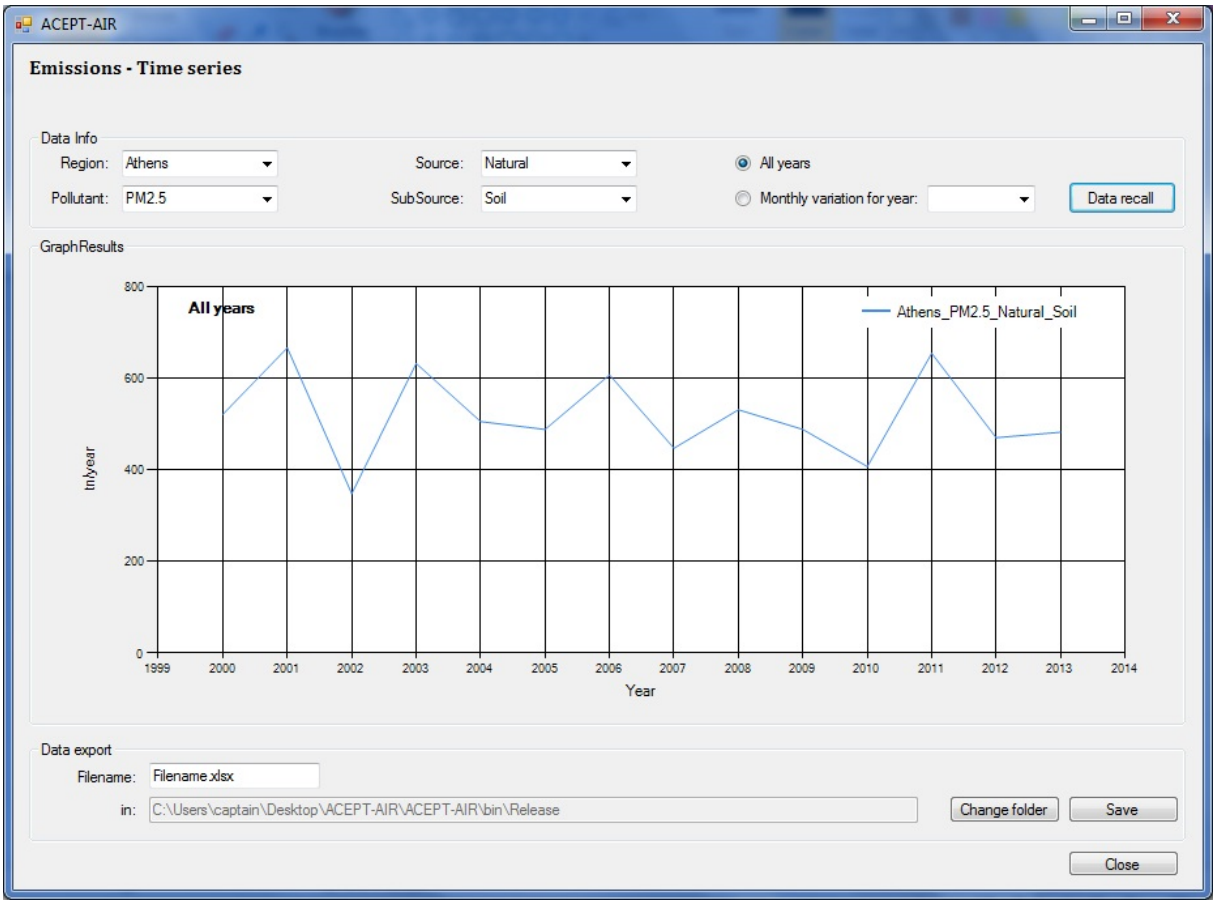
- Time series

Selecting the choice “Time series” the following screen appears:



The user is asked to select the preferred Region, the Pollutant he chooses to see, the Source of the pollutant, the potential Sub Source and the time period (All years for all stored data or certain year Monthly variation for year).

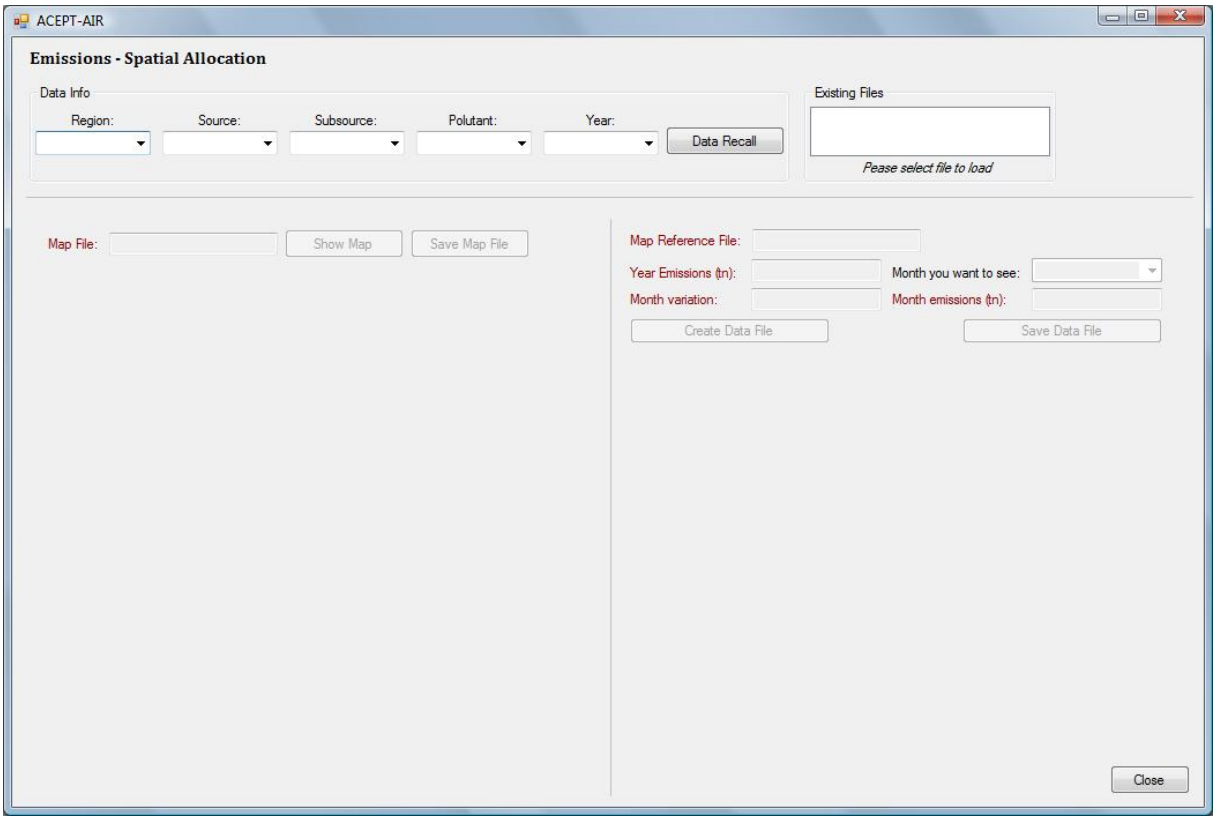
When the user has selected every required field (otherwise a message alert will appear with the default choice) he can press “Data recall” button in order to see the desired data in time series graph (see next screen).



The presented data can be stored in Microsoft Excell File format (the Data Export sector in the above screen) by selecting the Filename, the stored directory ("Change folder" button) and pressing the "Save" button.

- Spatial Allocation

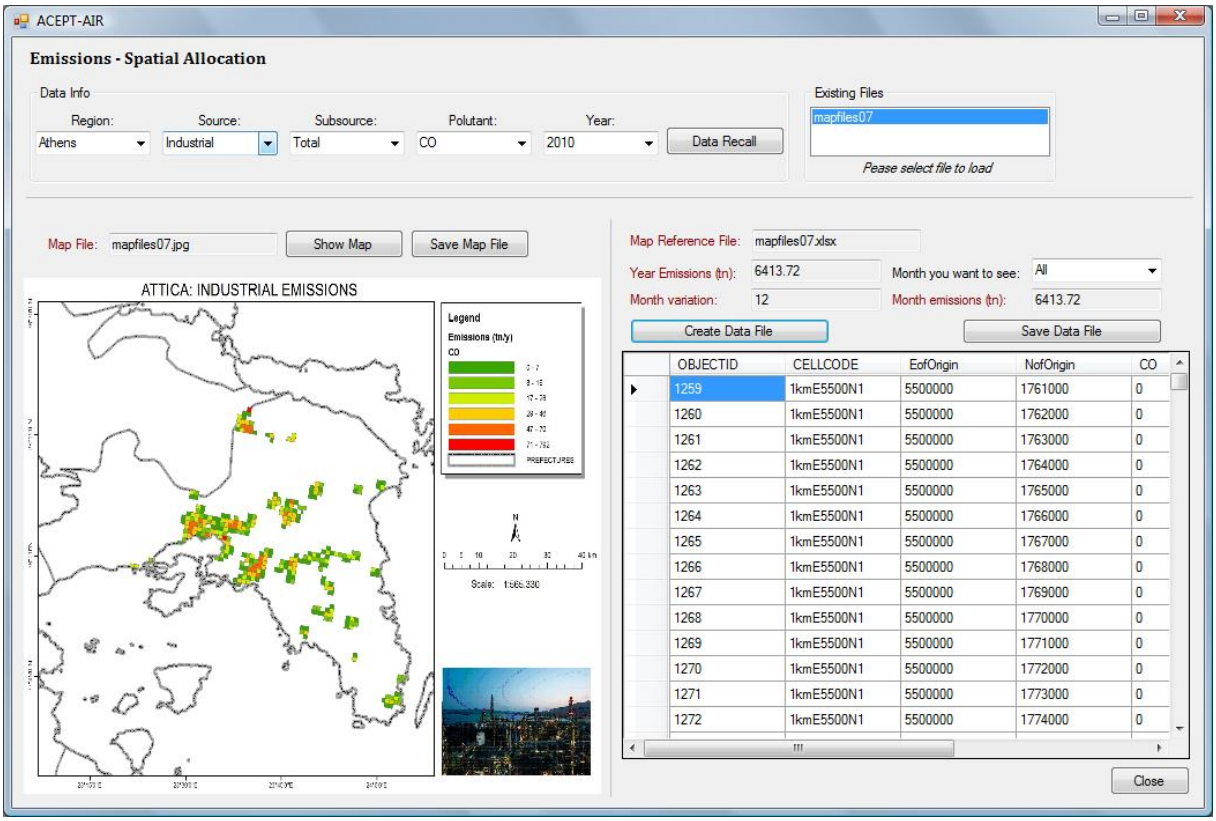
Selecting the choice “Spatial Allocation” the following screen appears:



As it can be seen, the above screen is divided in three sectors (Up with Data info and Existing Files area, Left with Map File area and Right with Map Data File area).

Using the Up sector the user can select the preferred Region, the Pollutant he wishes to see, the Source of pollutant the potential Sub Source and certain time period Year.

When the user has selected every required field (otherwise a message alert will appear with the default choice) he can press “Data recall” button in order to see if there are any data and the map file associated with his selection (in Existing Files field). If there is an associated file, the user must select it in order to proceed (see next screen).



At the Left sector at Map File field the name of associated image file is presented. If the user wants to see the map file of his selection, he must press “Show Map” button and the map will appear below.

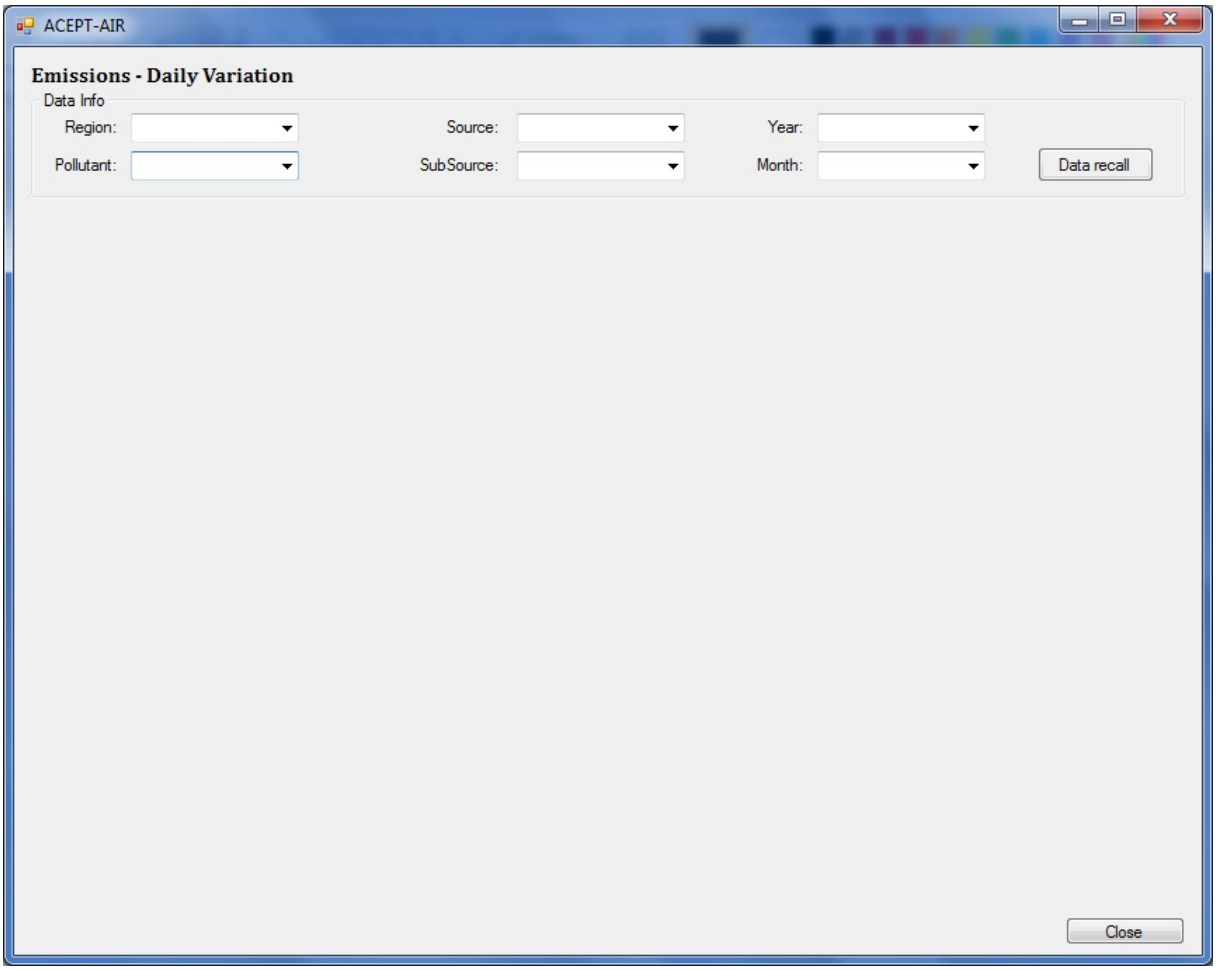
It is stated that the map presented can be stored in users directory by pressing the “Save Map File” button.

At the Right sector of the screen the program gives additional information (Year emissions by tn, Month variation, Month emissions by tn) if available. The user can create/retrieve the map file data in Microsoft Office Excel file by choosing the field Month you want to see and by pressing the “Create Data File” button.

It is to be stressed that the data presented can be stored in the users directory by pressing the “Save Data File” button.

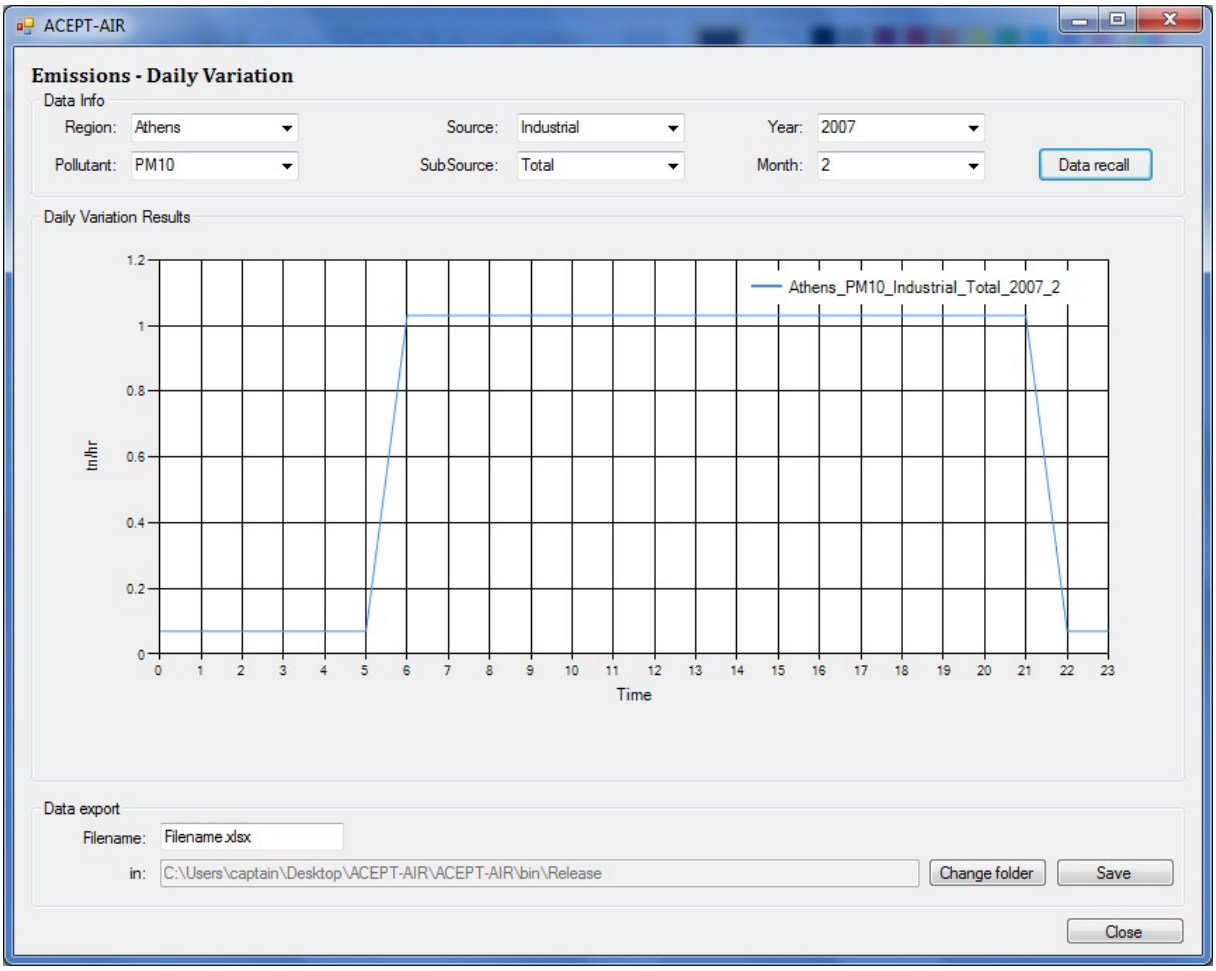
- Daily Variation

Selecting the choice “Daily Variation” the following screen appears:



The user is asked to select the preferred Region, the Pollutant he chooses to see, the Source of the pollutant, the potential Sub Source and the time period (certain Month of a Year).

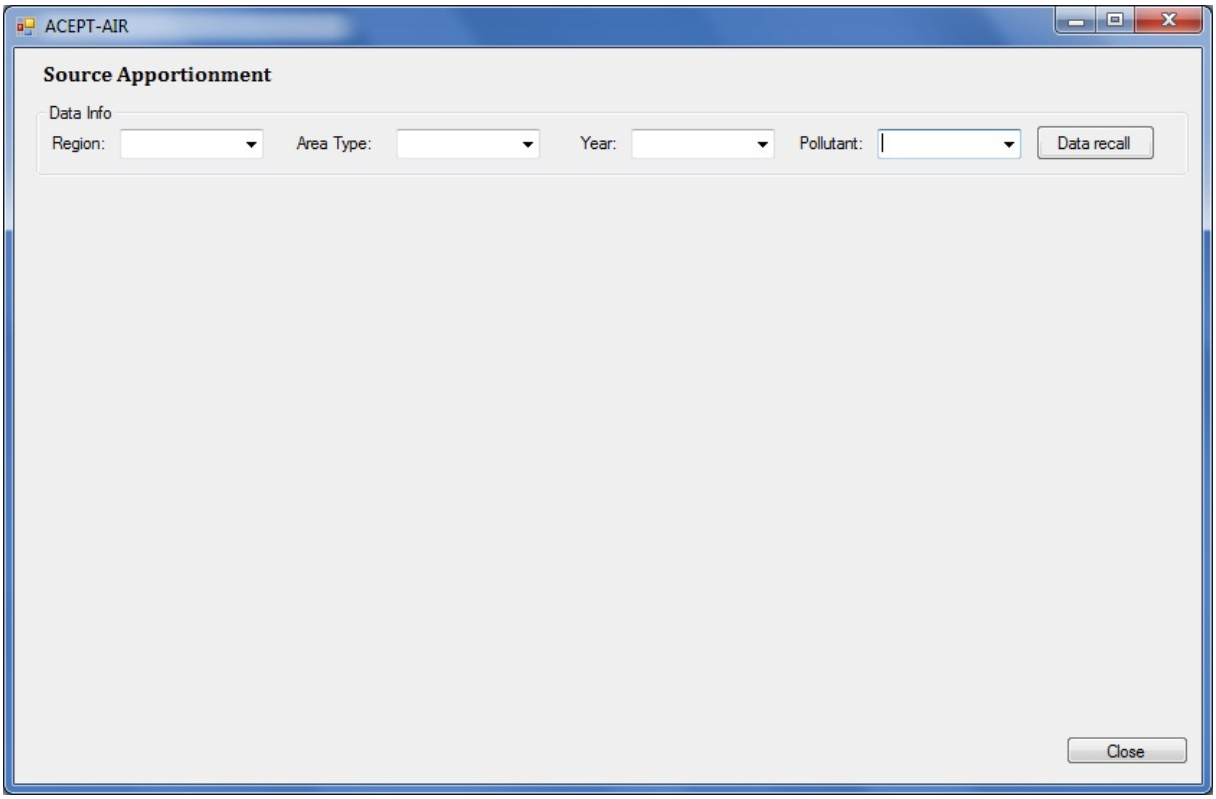
When the user has selected every required field (otherwise a message alert will appear with the default choice) he can press “Data recall” button in order to see the desired data in time series graph (see next screen).



The presented data can be stored in Microsoft Excell File format (the Data Export sector in the above screen) by selecting the Filename, the stored directory ("Change folder" button) and pressing the "Save" button.

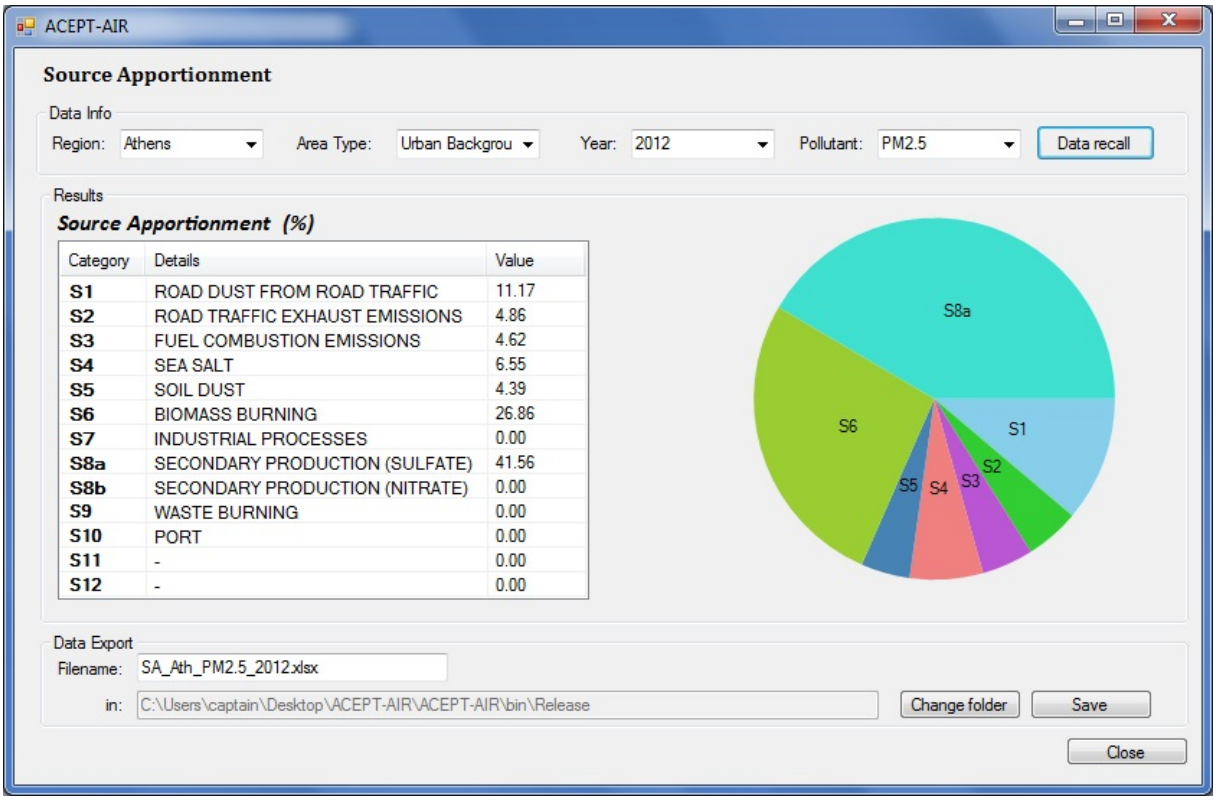
2.3. Source apportionment

Selecting the choice “Source apportionment” the following screen appears:



The user is asked to select the preferred Region, the Area type, the Year of interest and the Pollutant he wants to see.

When the user has selected every required field (otherwise a message alert will appear with the default choice) he can press “Data recall” button in order to see the desired data in pie graph (see next screen).

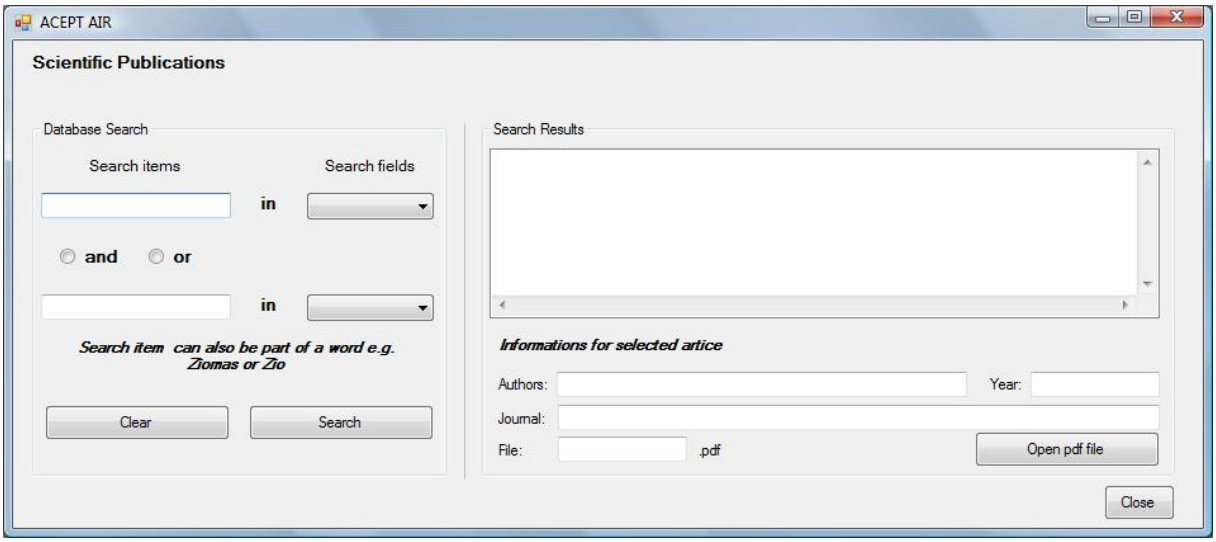


The Source apportionment categories for the selected data are presented both as a table and a pie graph.

The data presented can be stored in Microsoft Excell File (the Data Export sector in the above screen) by selecting the Filename, the stored directory ("Change folder" button) and by pressing the "Save" button.

2.4. Scientific publications

By selecting the choice “Scientific publications” the following screen appears:

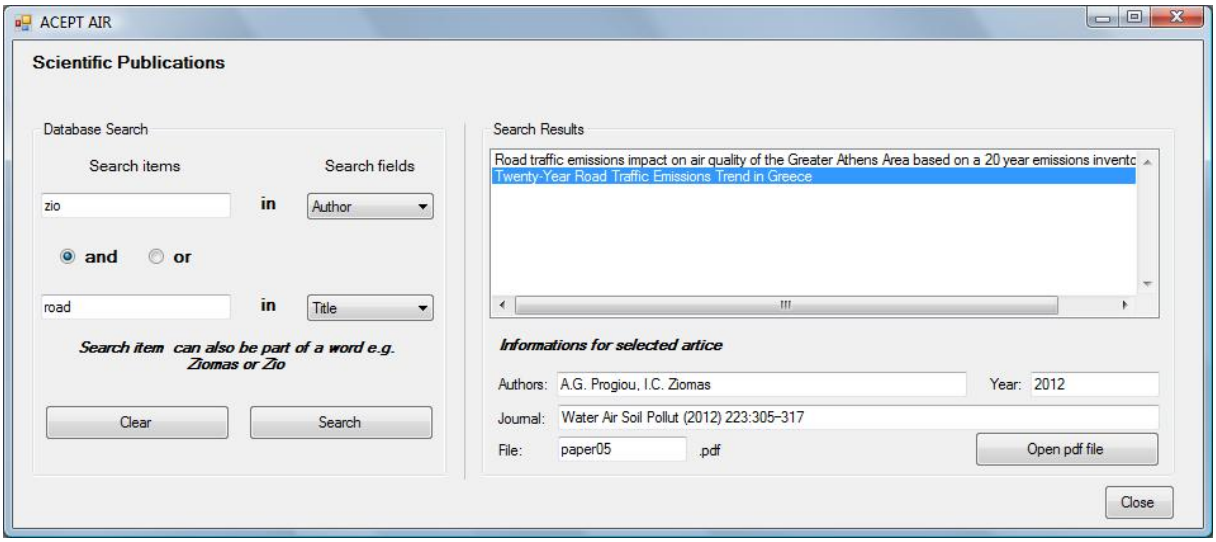


As seen in the above screen, it is divided in two sectors (Left with the Database Search area and Right with the Search Results area).

Using the Left sector, the user can select the preferred keys to search the database. First he must fill in the Search items field with every relative word he wishes and then he must fill in the Search fields field to limit the search in a specific category (author, title, keywords etc). It should be noted that once the user fills in a search item he must also fill in a search field (otherwise a message alert will appear with the default choice). It is also noted that there is a choice of advanced search by using add/or round buttons.

After the user has set the desired choices, he has two options, either to press the Clear button, if he has done a mistake, or to press the Search button to retrieve data from the article database.

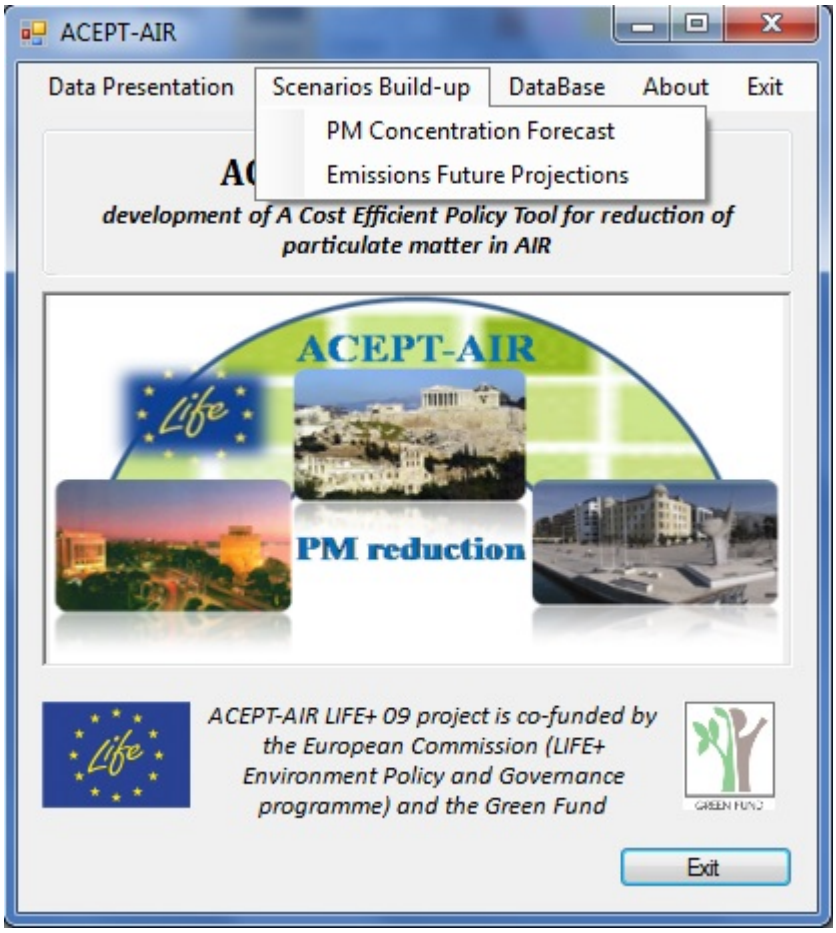
The article(s) title of the search results is presented in Search Results field (see next screen).



At the Right sector at the Search Results field, the user can select the article which he would like to see. After the selection, at the bottom of the Right sector, additional information appears concerning the desired article (Authors, Year etc). The user can read the selected article by pressing the “Open pdf file” button (a pdf reader program is required).

Chapter 3. Scenarios Build-up

This function of the program presents the available ways to analyze and process the stored data of the program for future predictions. As shown in the image below, by selecting from the toolbar the “Scenarios Build-up” function the following choices are available:

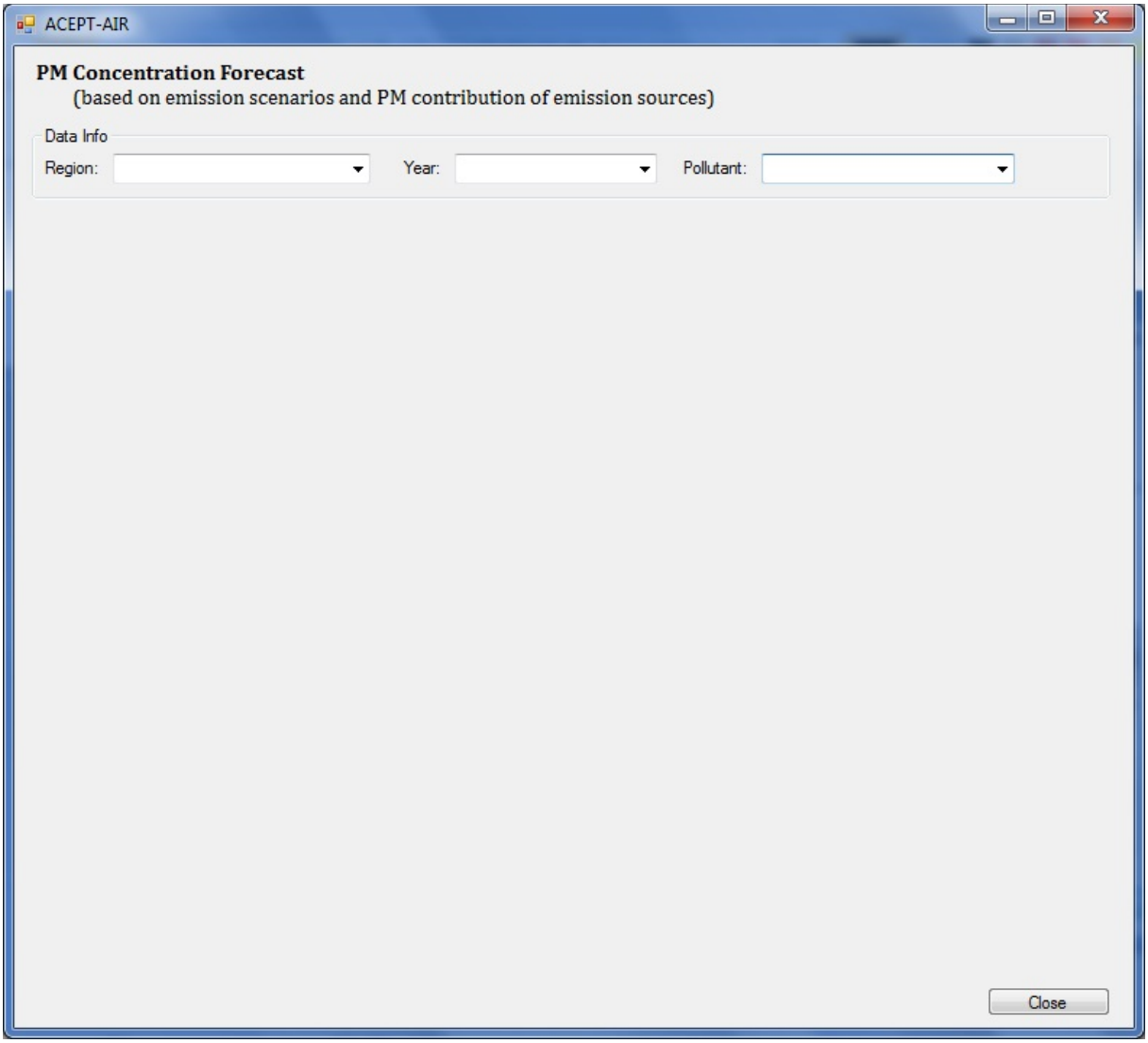


1. **PM Concentration Forecast** based on emissions scenarios and PM contribution emission sources
2. **Emissions Future Projections** of a pollutant for years 2015 and 2020.

Below is presented in short details the related screens of the aforementioned choices.

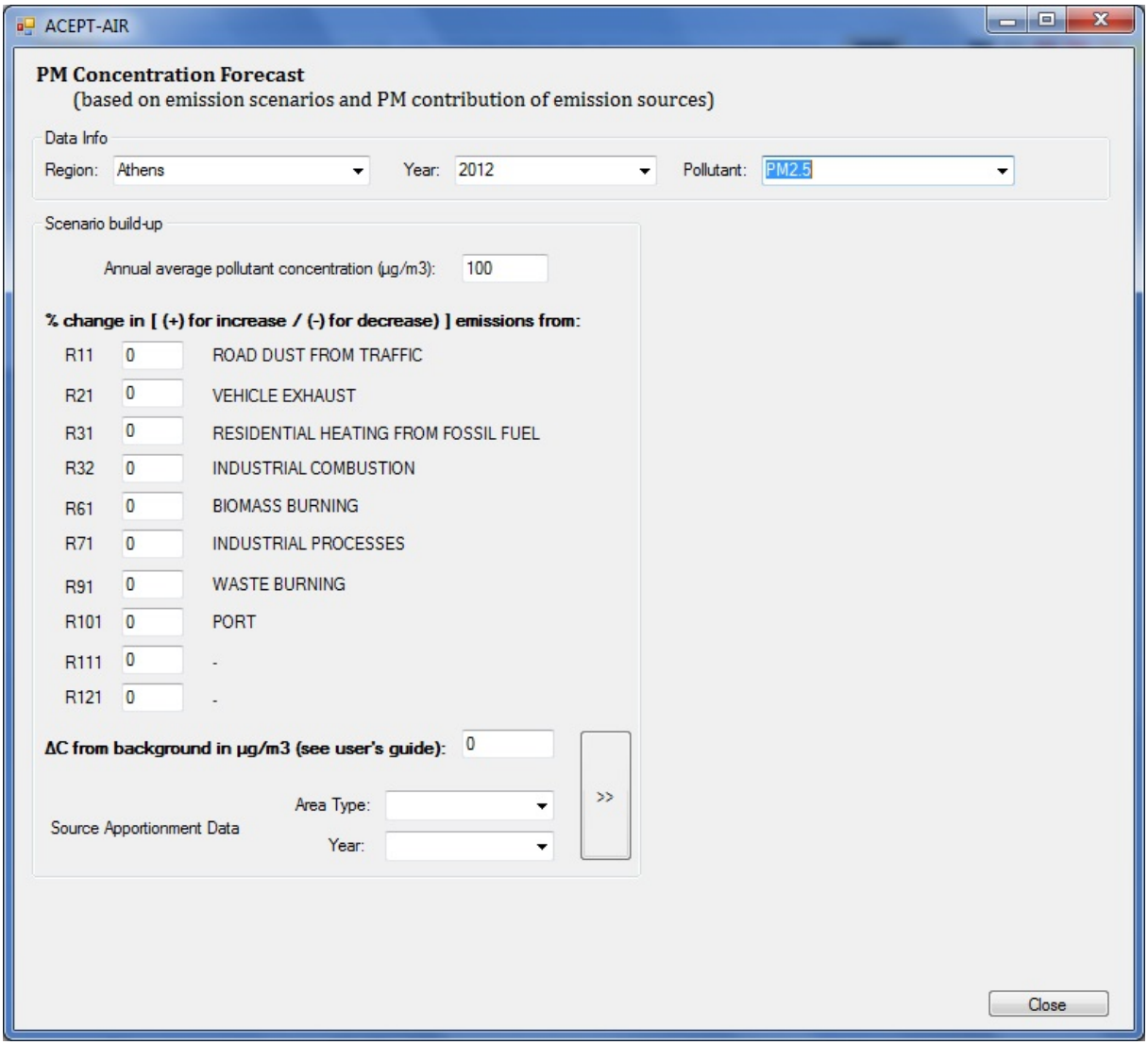
3.1. PM Concentration Forecast

By selecting the choice “PM Concentration Forecast” the following screen appears:



The user is asked to select the preferred Region, the Year of interest and the Pollutant he wants to see.

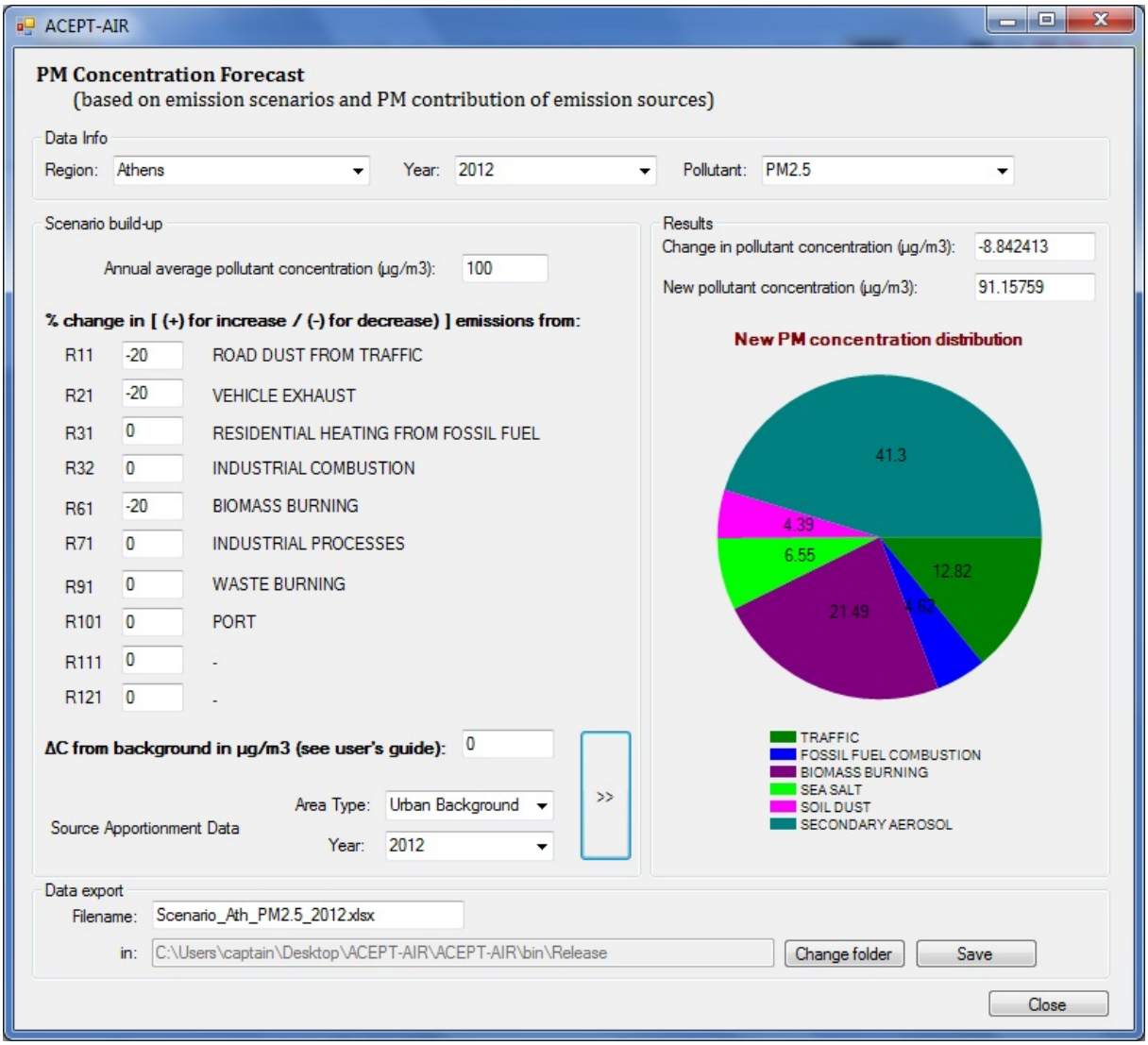
After the selection of all required fields (otherwise a message alert will appear with the default choice) the following screen appears:



In the Scenario build-up sector, the user must set the percentage of change in one or more of the following parameters: Road dust from traffic, Vehicle exhaust, Residential heating from fossil fuel etc. Notice

Then he must set (if any) ΔC from background (concentration difference of pollutant that exist anyway in the area by any other factors), and Source Apportionment Data he wants to use (Area Type and Year).

When the user has selected every required field (otherwise a message alert will appear with the default choice) he can press the ">>" button in order to see the effect of his scenario to the pollutant's concentration (see next screen).

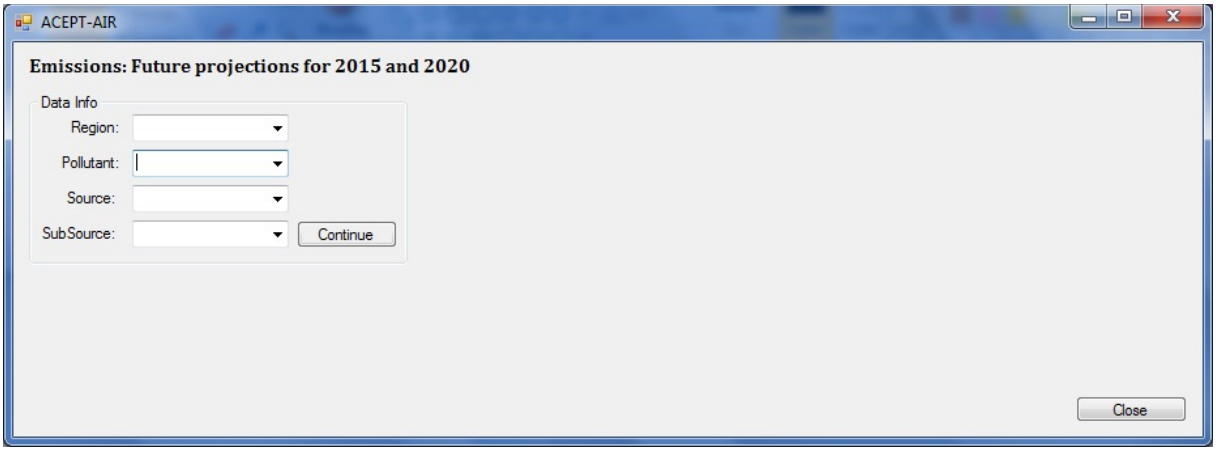


The results are given as the new pollutant concentration in μg/m^3 and as a pie graph of new PM concentration distribution by emission type.

The results of PM Concentration Forecast scenario can be stored in Microsoft Excell File (the Data Export sector in the above screen) by selecting the Filename, the stored directory ("Change folder" button) and by pressing the "Save" button.

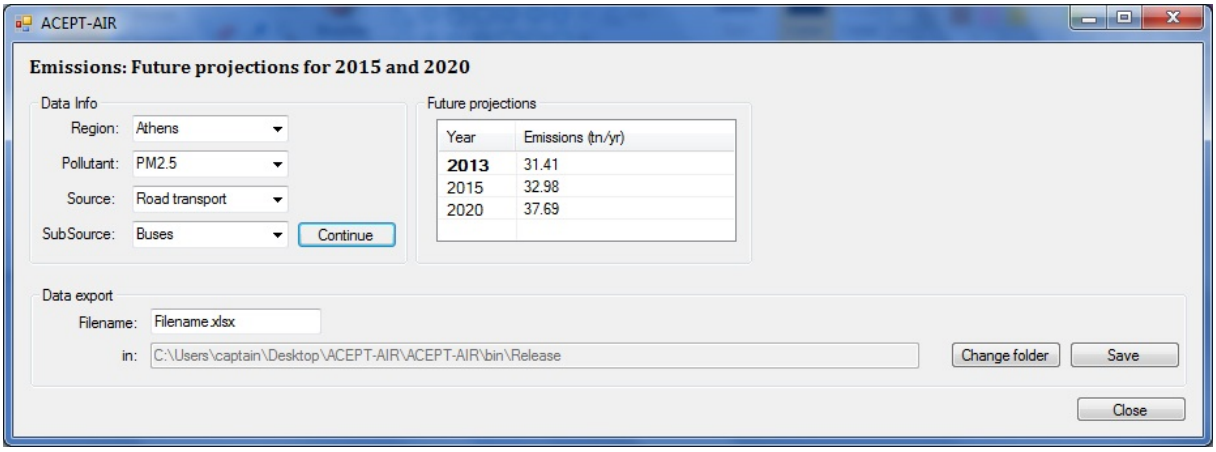
3.2. Emissions Future Projections

By selecting the choice “Emissions Future Projections” the following screen appears:



The user is asked to select the preferred Region, the Pollutant he chooses to see, the Source of the pollutant and the potential Sub Source.

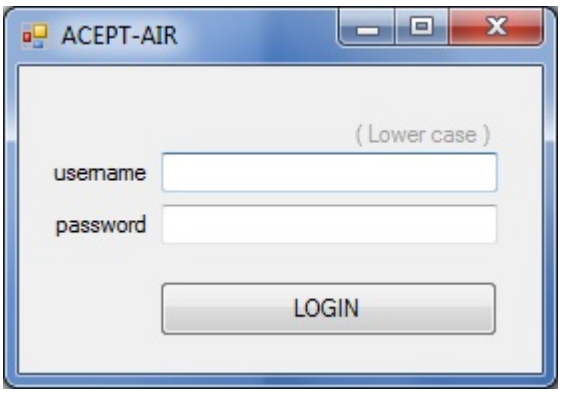
When the user has selected every required field (otherwise a message alert will appear with the default choice) he can press “Continue” button in order to see future emissions projections for year 2015 and 2020 (see next screen).



The results of Emissions Futere projections can be stored in Microsoft Excell File (the Data Export sector in the above screen) by selecting the Filename, the stored directory (“Change folder” button) and by pressing the “Save” button.

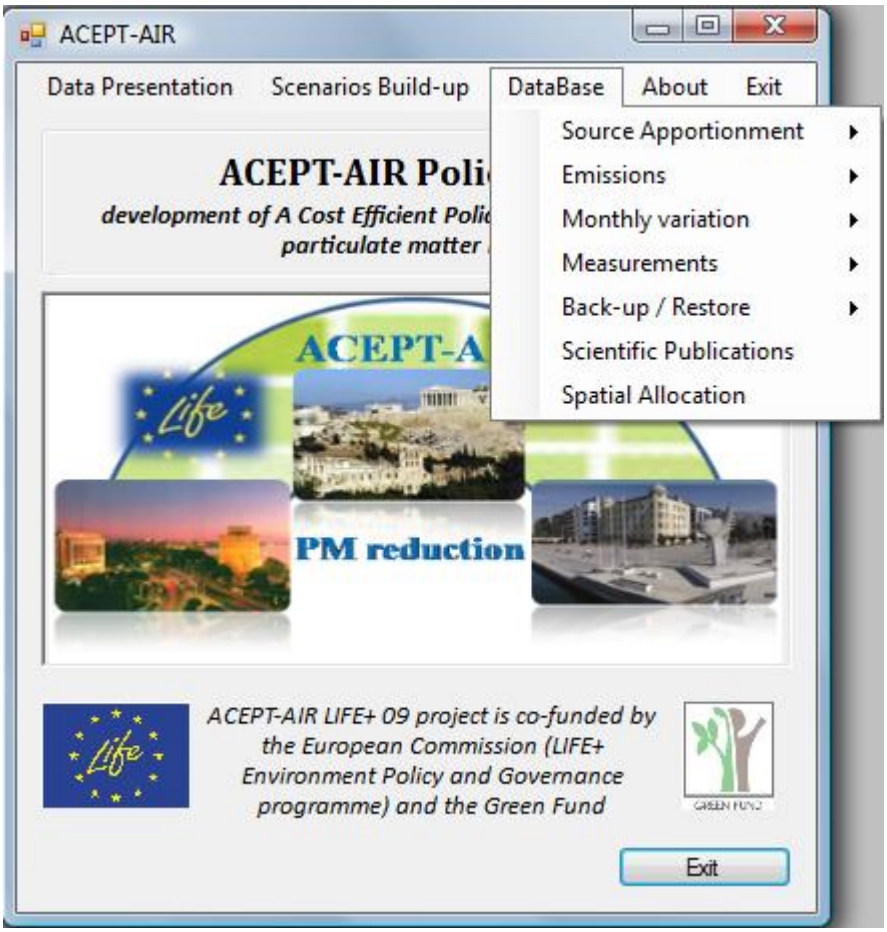
Chapter 4. Database

This function gives the user the ability to modify (update, delete) the programs data which are stored in the database or to add new ones. As shown below, when the "Database" function is selected from the toolbar of the initial screen, the following authorization screen appears.



The user must give his authorization codes (username and password) by pressing the "LOGIN" button in order to get access to databases (update, delete etc).

Then when the "Database" function is selected again from the toolbar of the initial screen, the following choices are available.



1. **Source Apportionment**
2. **Emissions**
3. **Monthly variation**
4. **Measurements** (of the National Network of Air Quality Monitoring, the Municipality of Thessaloniki and any other source of acept-air program) for every year (1990-2013)
5. **Backup/Restore**
6. **Scientific Publications**
7. **Spatial Allocation**

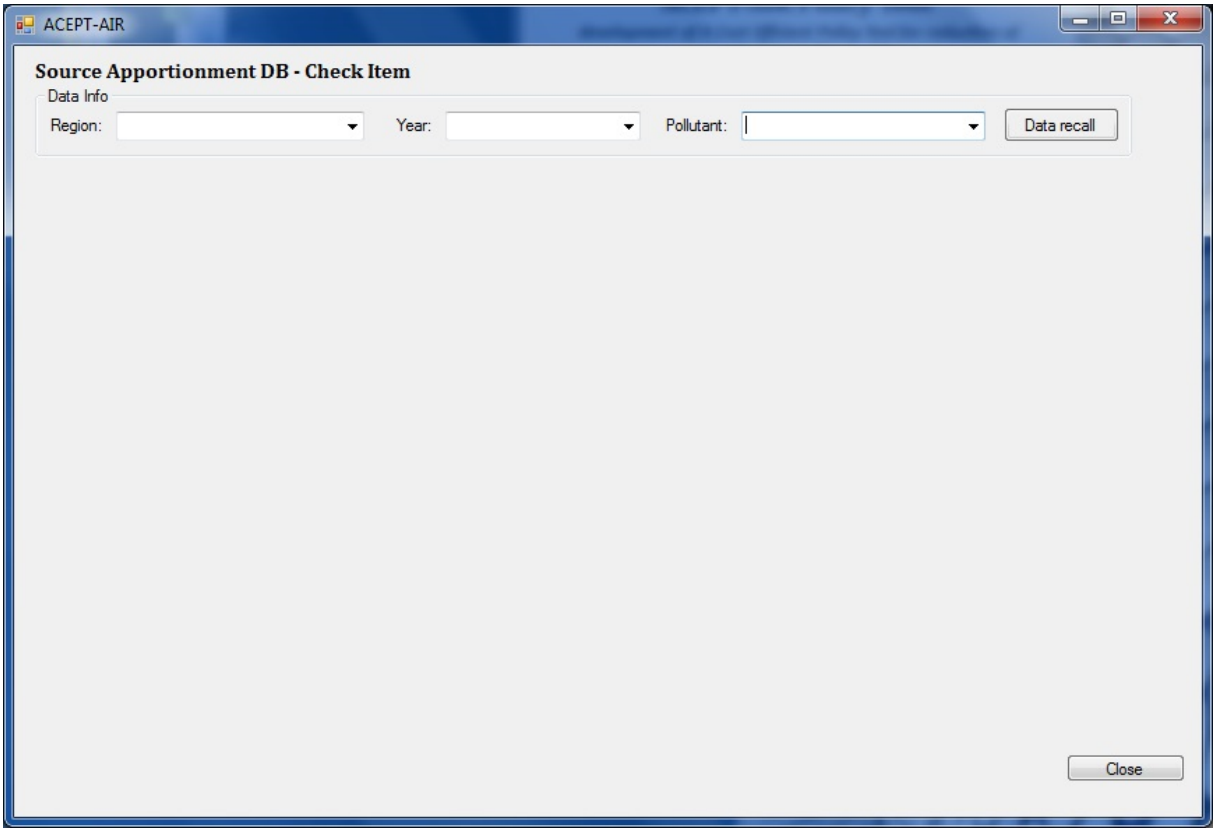
The related screens of the mentioned choices are presented below in short details.

4.1. Source Apportionment

By selecting the choice “Source Apportionment” a second choice menu appears where the user can select:

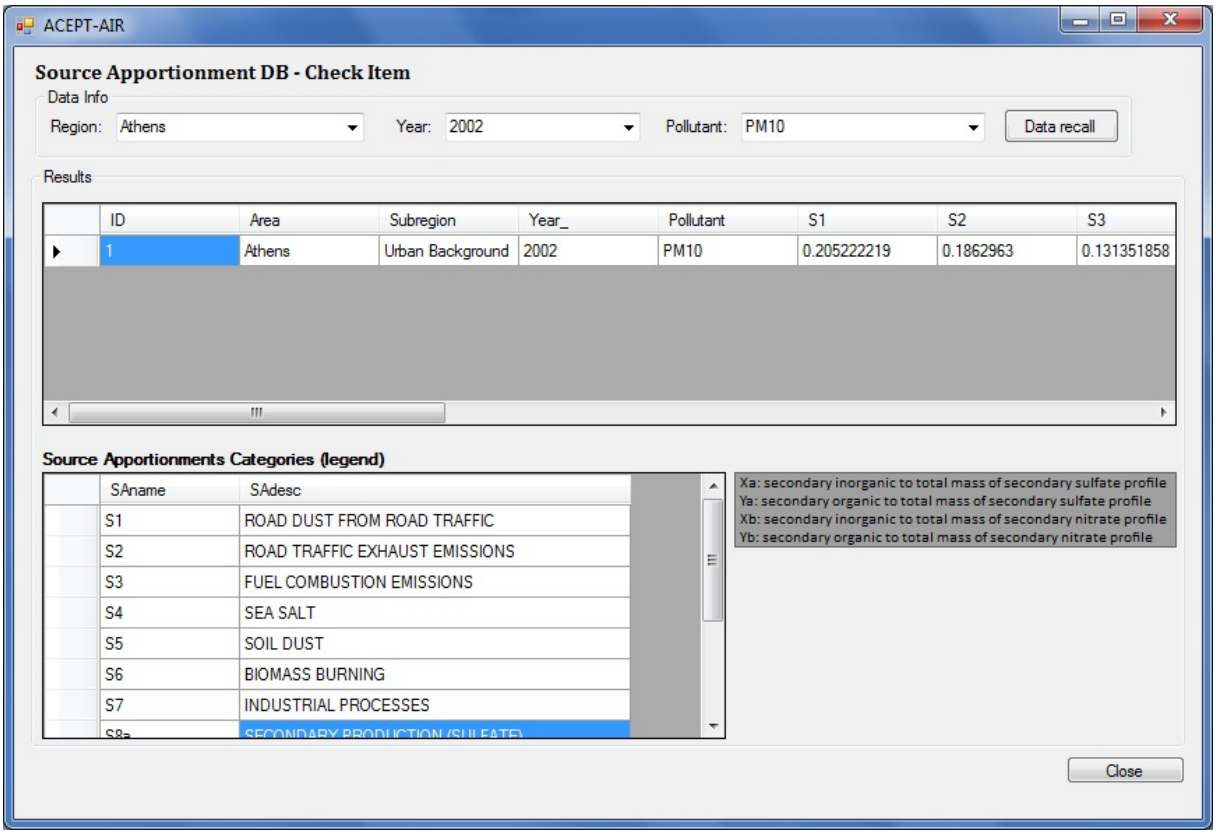
- Check Item

By selecting the choice “Check Item” the following screen appears:



In this screen the user is “asked” to select the preferred Region, the Year of interest and the Pollutant he wishes to see.

After the user has selected all required fields (otherwise the program will state message alert for default choice) he can press “Data recall” button in order to see the desired data which are stored in the database (see next screen).

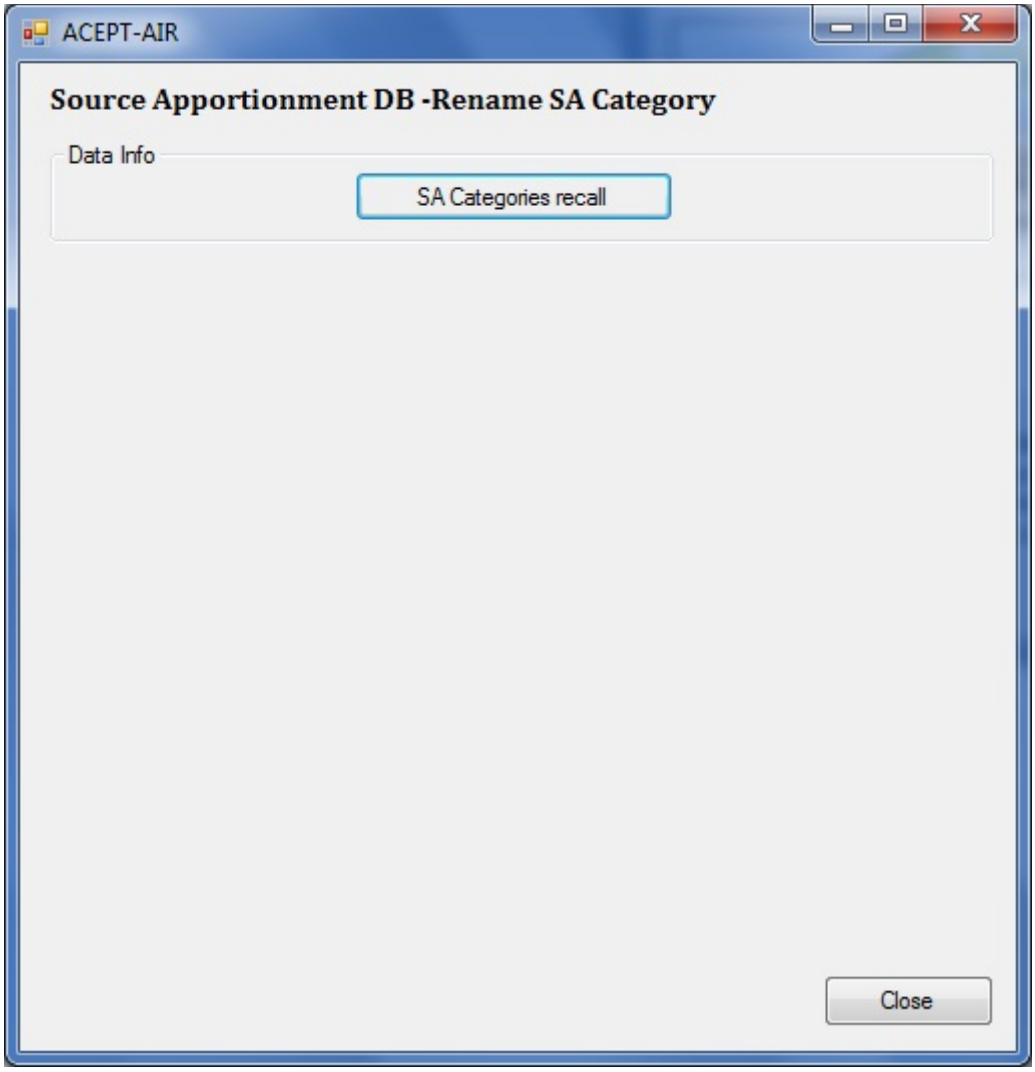


The data stored in the database (if any) are presented in the Results sector of the above screen as a single database record.

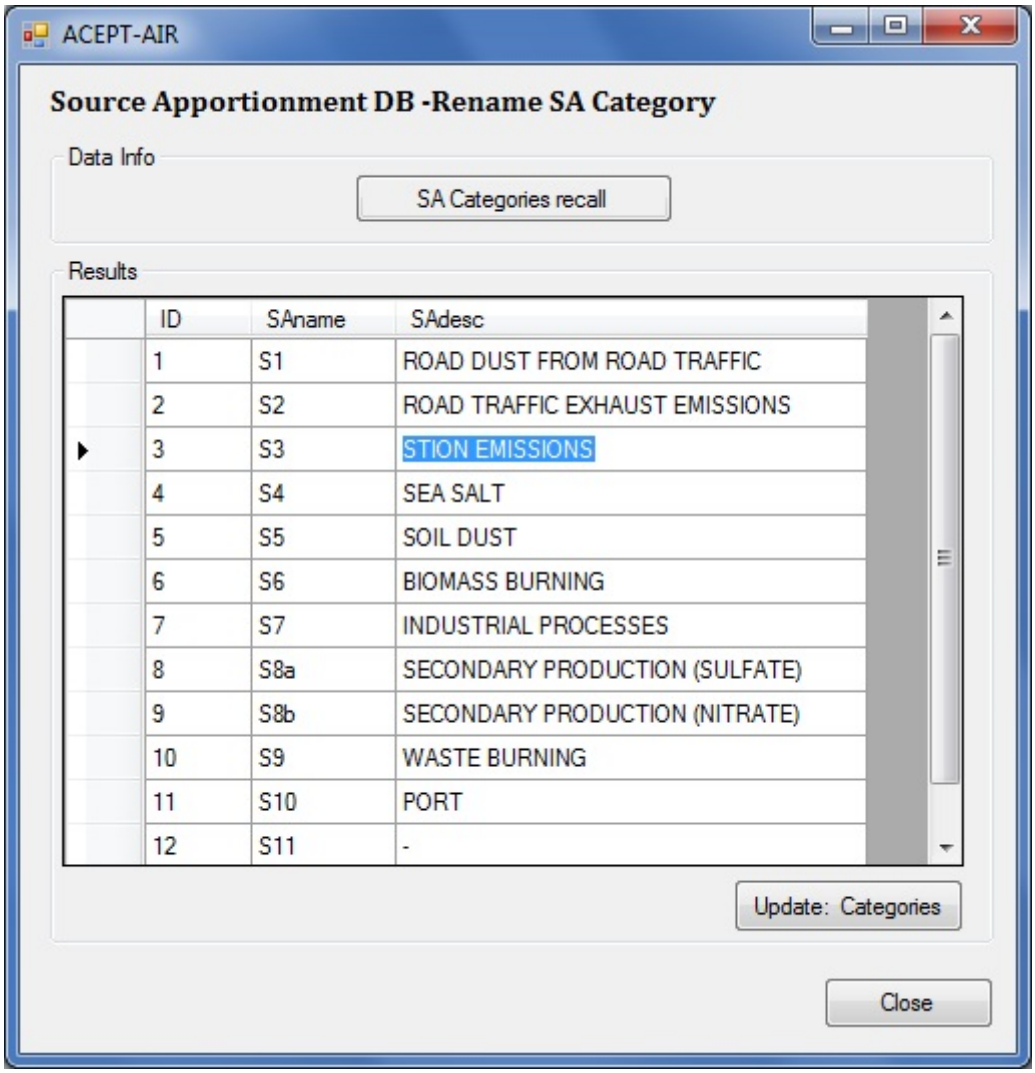
It is important for the user to write down the ID number of the resulted data in order to use it later.

- Rename SA category

By selecting the choice “Rename SA category” the following screen appears:



In this screen the user is “asked” to recall Source Apportionment Categories by pressing “SA Categories recall” button. The following screen appears



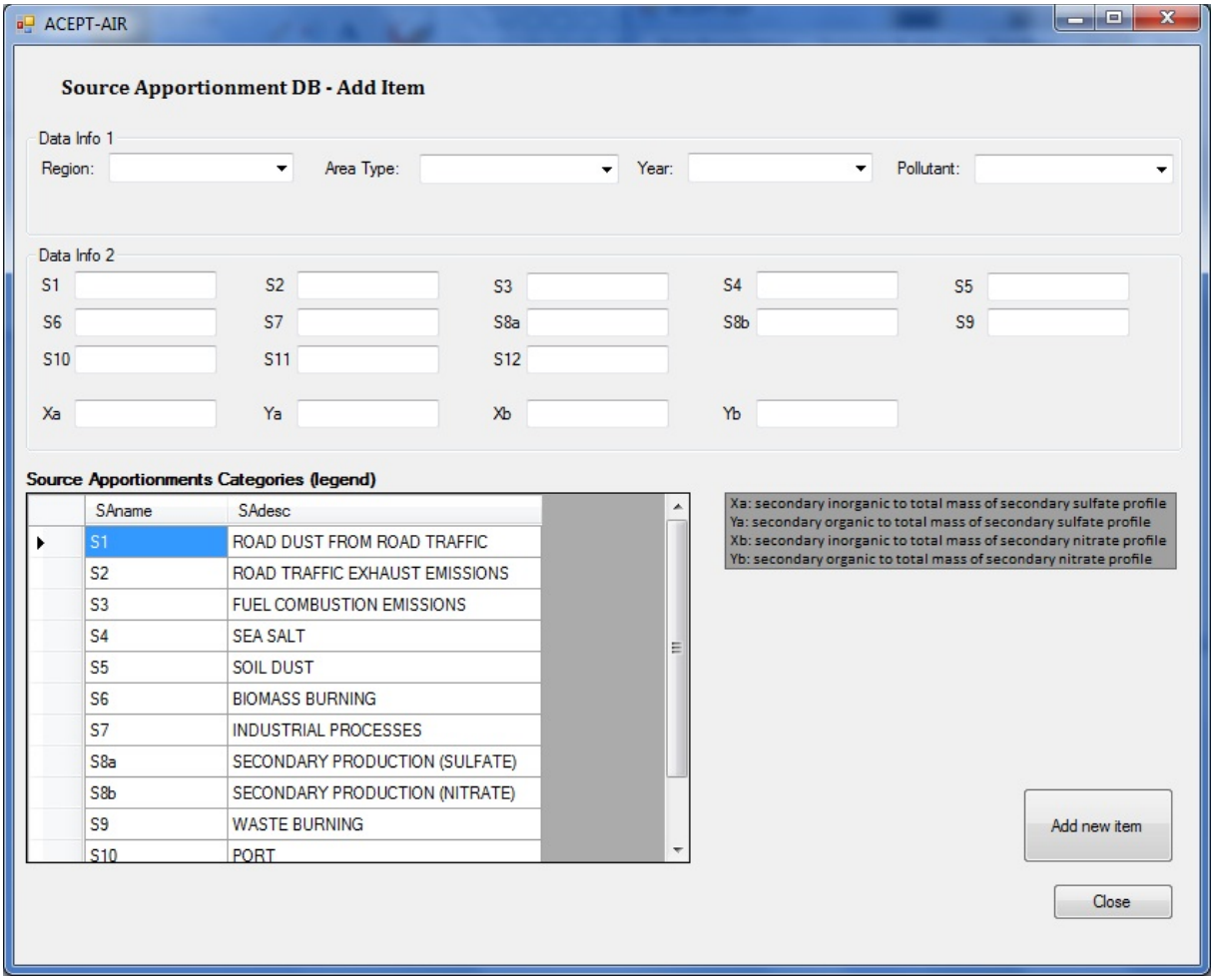
The Categories of SA stored in the database are presented in the Results sector of the above screen. The user gives/renames the corresponding data value of "SAdesc" for desired Source Apportionment "SAname" .

The rename of Source Apportionment Categories is finalized when the "Update: Categories" button is pressed.

***Notice**: S11 and S12 Source Apportionment Categories are stand for future use (no name in the relative "SAdesc" value).*

- Add Item

By selecting the choice “Add Item” the following screen appears:



This screen is divided in two sectors: “Data Info 1” and “Data Info 2”.

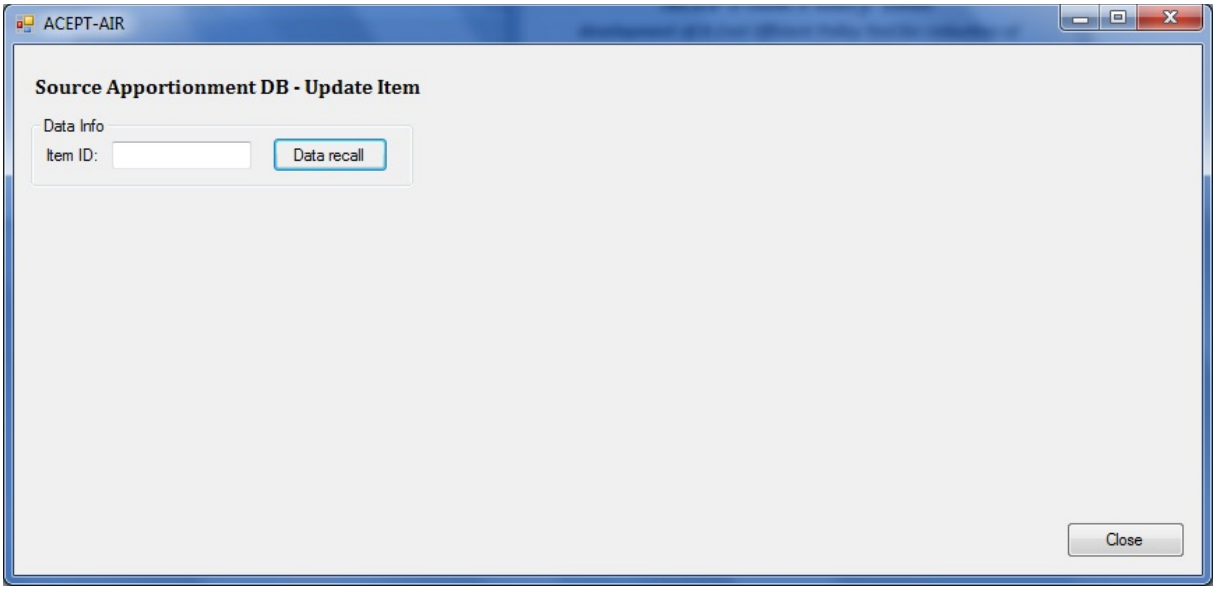
In the Data Info 1 sector the user selects the preferred Region, the Area Type, the Year of interest and the Pollutant field for which new data will be added into the database. It is to be noted that for every field there is a dropdown box which gives certain choices to the user (including the ability to add new one).

Then, in the Data Info 2 sector the user selects the data values of Source Apportionment related to the data setting in the first sector.

The user settings are added as a new record to the database of source apportionment when the “Add new item” button is pressed (if is not set every required field the program will state message alert for default choice).

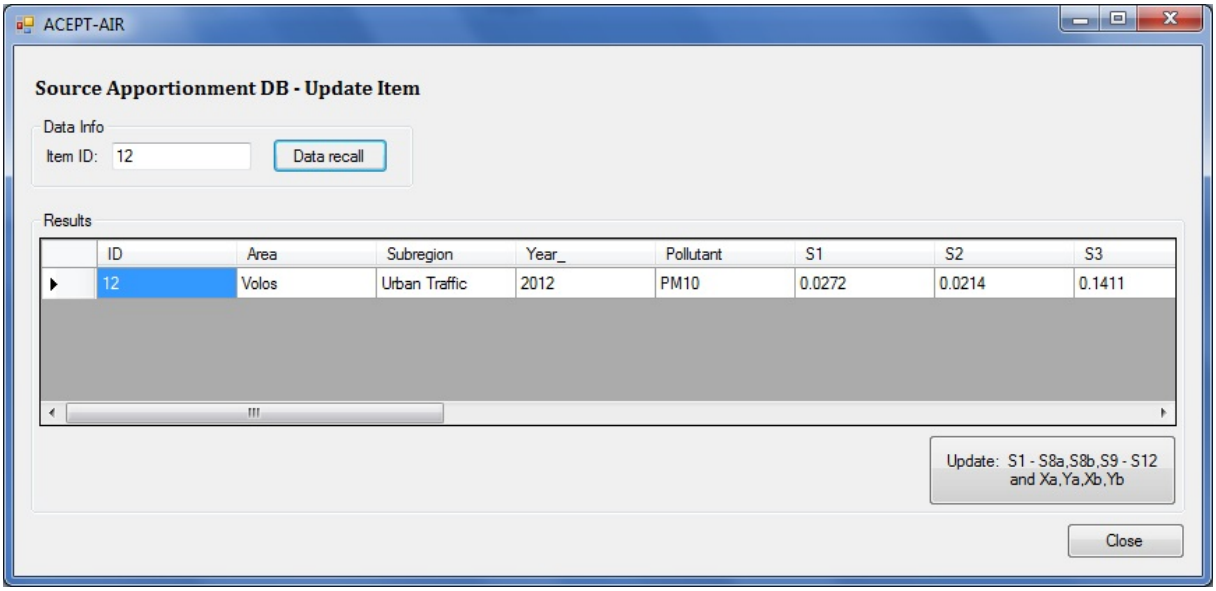
- Update Item

By selecting the choice “Update Item” the following screen appears:



In this screen the user is “asked” to give the item ID for the data which the user wishes to update the source apportionment values. Remember: item ID refers to the ID number which the user wrote down in Check Item screen.

When the user gives the ID number (otherwise a message alert will appear) he can press the “Data recall” button in order to see the desired data which he want to update (see next screen).



The data which are stored in database (if any) are presented in the Results sector of the above screen as a single database record.

The user can correct the source apportionment values (S1, S2, S3 etc) and update the corresponding record of the database by pressing the "Update: S1 – S8a, S8b, S9 – S12, and Xa, Ya, Xb, Yb" button.

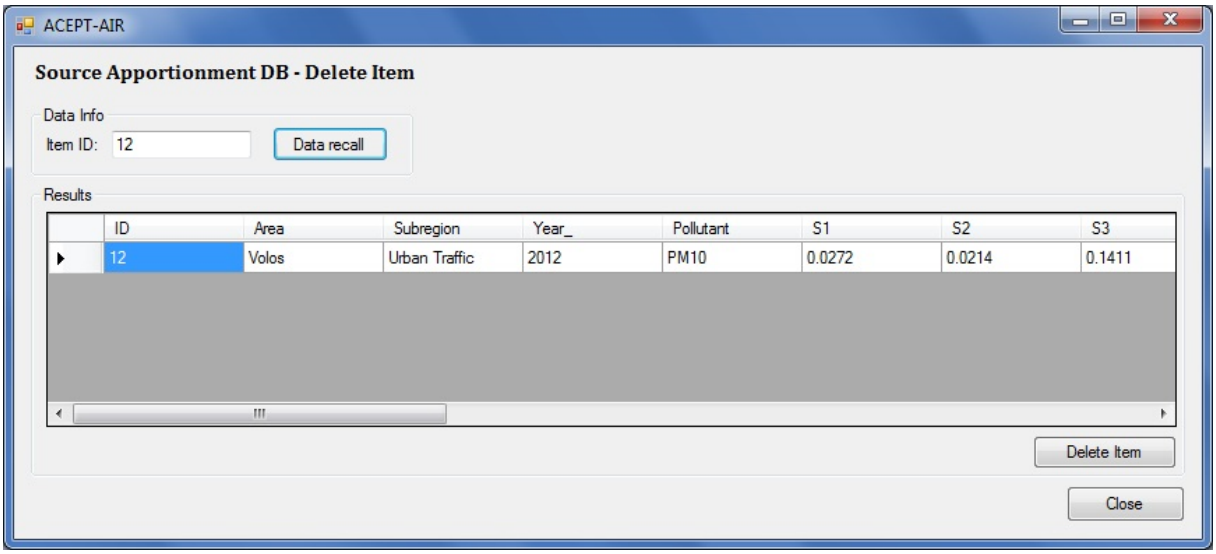
Please note that this action can not be canceled once it is done.

- Delete Item

By selecting the choice "Delete Item" the following screen appears:

The user is "asked" to give the item ID for the data which he wishes to delete the source apportionment values. Remember: item ID refers to the ID number which the user wrote down in Check Item screen.

When the user gives the ID number (otherwise a message alert for default choice will appear) he can press the "Data recall" button in order to see the data which he wishes to delete (see next screen).



The data stored in the database (if any) are presented in the Results sector of the above screen as a single database record.

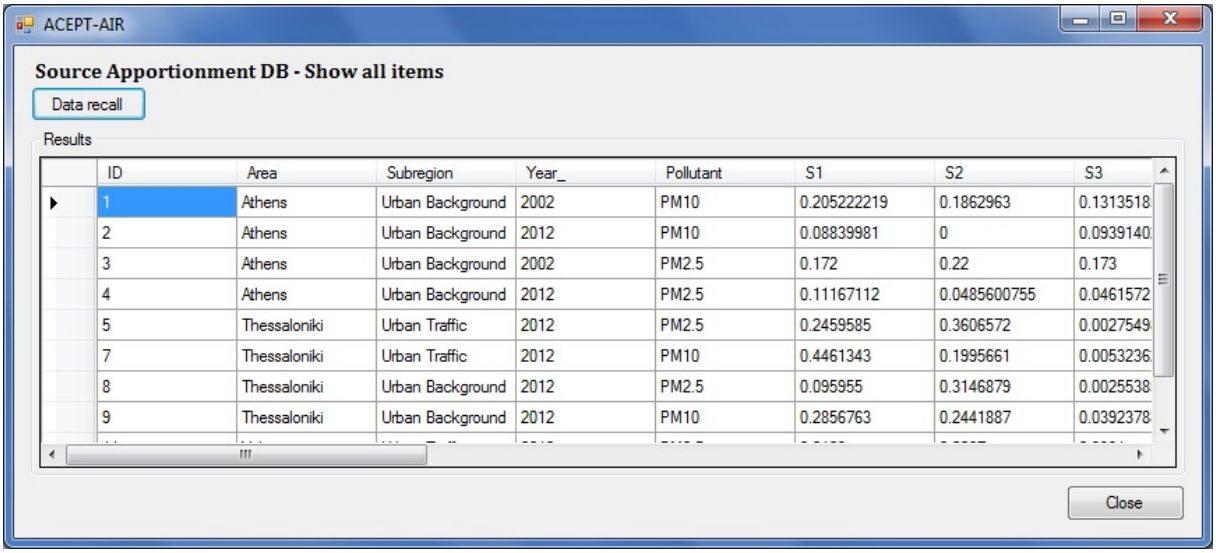
The user can delete the source apportionment values by deleting the relative record of the database by pressing the "Delete Item" button.

Please note that this action can not be canceled once is done.

- Show all

By selecting the choice "Show all" the following screen appears:

If the user wishes to see all the records for source apportionment in the database he must press the "Data recall" (see next screen).



ID	Area	Subregion	Year_	Pollutant	S1	S2	S3
1	Athens	Urban Background	2002	PM10	0.205222219	0.1862963	0.1313518
2	Athens	Urban Background	2012	PM10	0.08839981	0	0.0939140
3	Athens	Urban Background	2002	PM2.5	0.172	0.22	0.173
4	Athens	Urban Background	2012	PM2.5	0.11167112	0.0485600755	0.0461572
5	Thessaloniki	Urban Traffic	2012	PM2.5	0.2459585	0.3606572	0.0027549
7	Thessaloniki	Urban Traffic	2012	PM10	0.4461343	0.1995661	0.0053236
8	Thessaloniki	Urban Background	2012	PM2.5	0.095955	0.3146879	0.0025538
9	Thessaloniki	Urban Background	2012	PM10	0.2856763	0.2441887	0.0392378

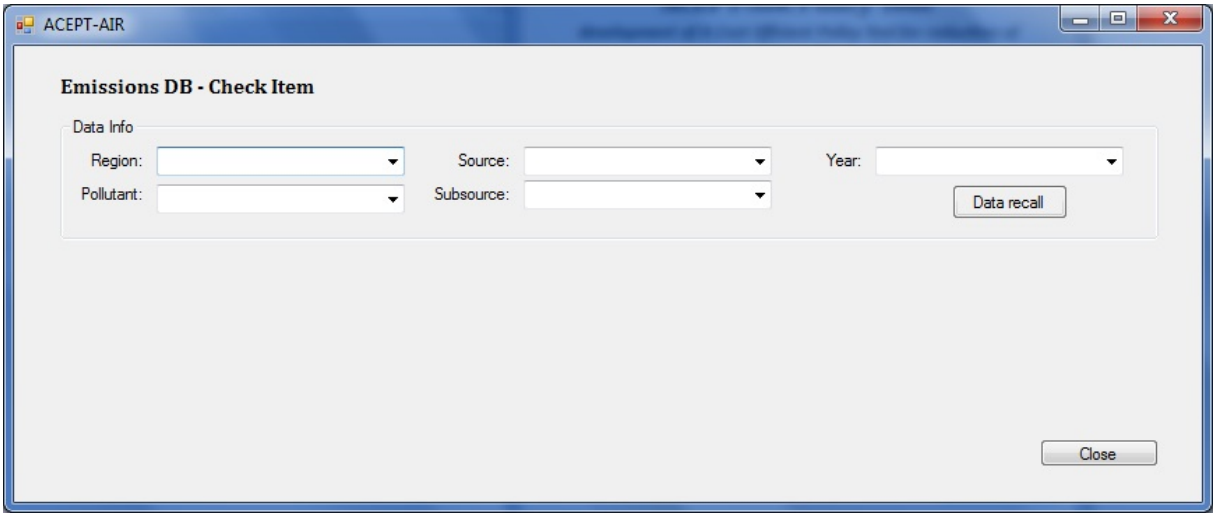
The data stored in the database are presented in the Results sector of the above screen as database records.

4.2. Emissions

By selecting “Emissions” a second choice menu appears where the user can select:

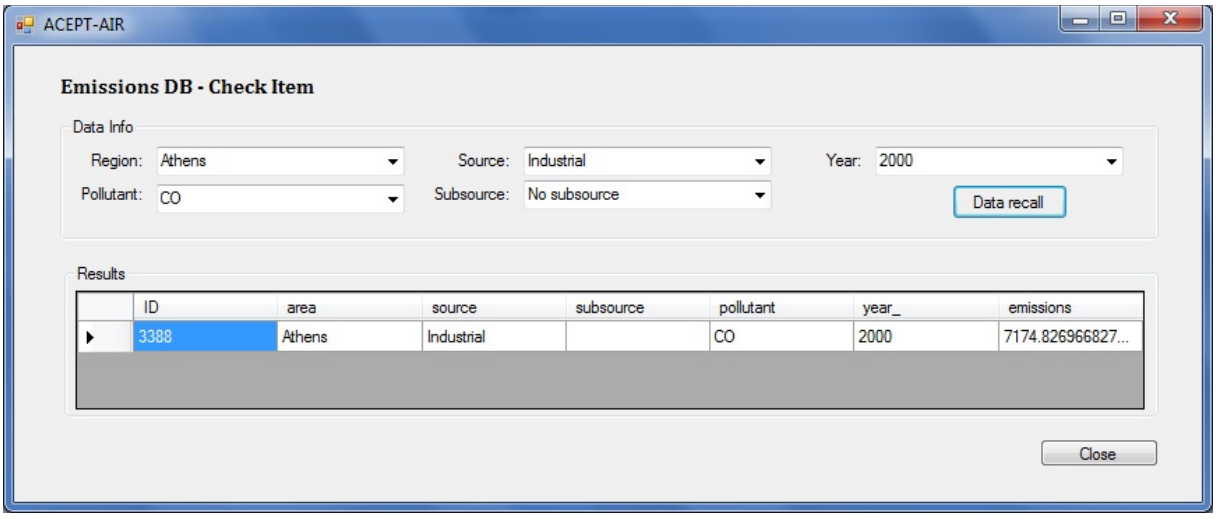
- Check Item

By selecting the choice “Check Item” the following screen appears:



In this screen the user is “asked” to select the preferred Region, the Pollutant, the Source, the Sub source and the Year he wishes to see.

When the user has selected all required fields (otherwise a message alert will appear with the default choice) he can press the “Data recall” button in order to see the desired data, which are stored in the database (see next screen).

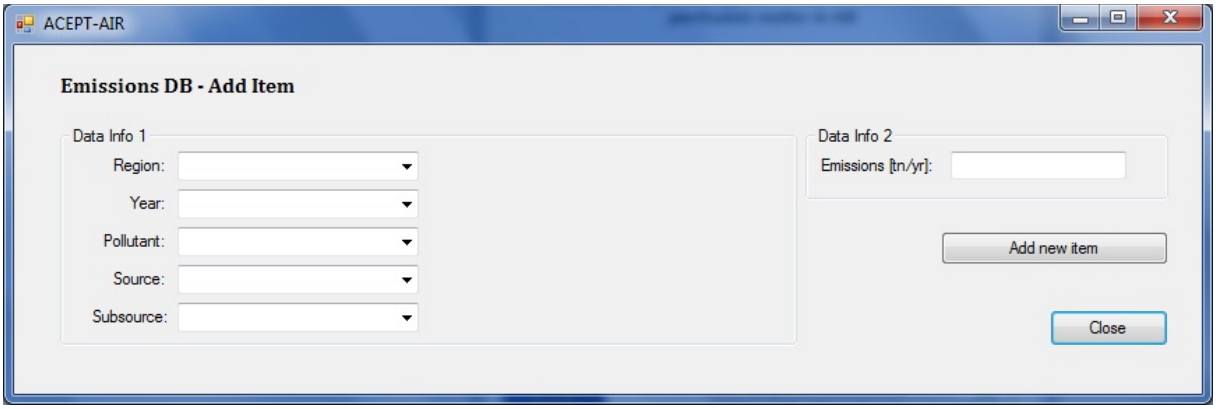


The data which are stored in the database (if any) are presented in the Results sector of the above screen as a single database record.

It is important for the user to write down the ID number of the resulted data in order to use it later.

- Add Item

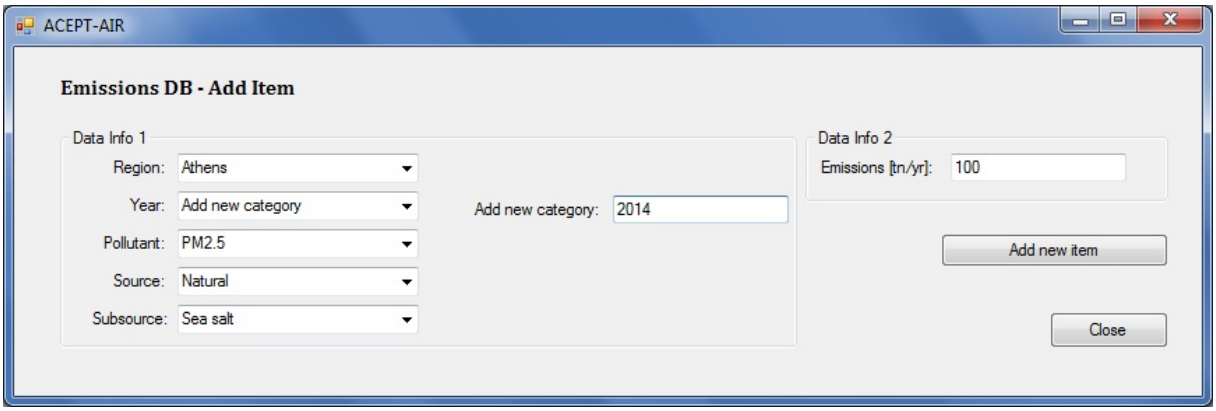
By selecting the choice “Add Item” the following screen appears:



This screen is divided in two sectors “Data Info 1” and “Data Info 2”.

In Data Info 1 sector, the user fills in the preferred Region, the Pollutant, the Source, the Sub source and the Year field for which new data will be added into the database. Please note that for every field there is a dropdown box which gives the user certain choices (including the ability to add new one).

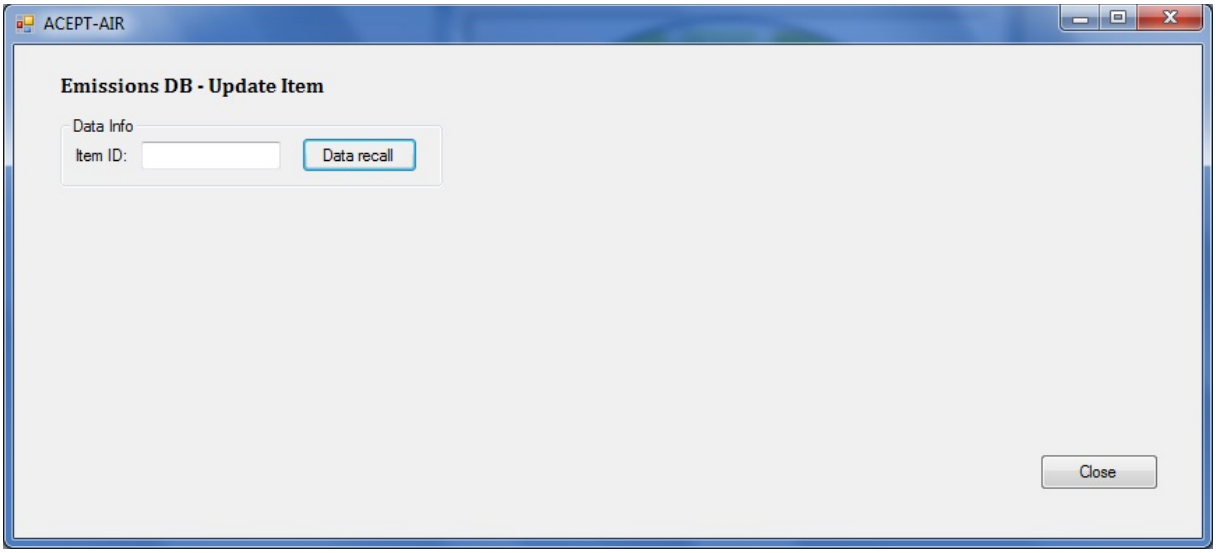
Then in Data Info 2 sector, the user gives the corresponding data value of Emission, related to the data in the first sector.



The user settings are added as a new record to the program database (section of source apportionment data) when the “Add new item” button is pressed (if all required field are not completed or something is wrong, a message alert will appear).

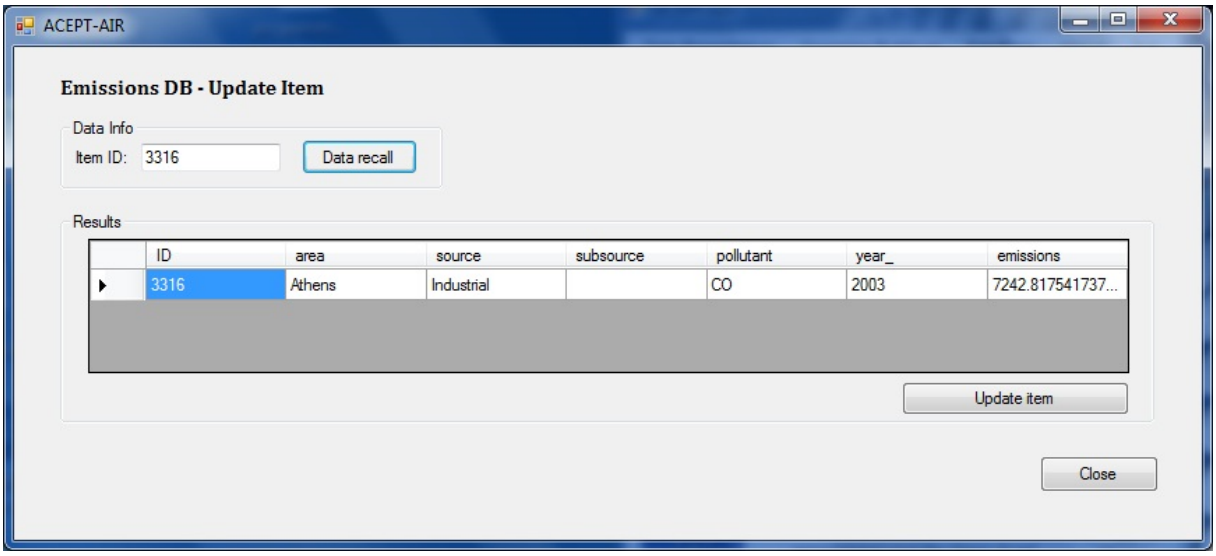
- Update Item

Selecting the choice “Update Item” the following screen appears:



In this screen the user is “asked” to give the item ID for the data which the user wants to update. Remember: item ID refers to the ID number which the user wrote down in the Check Item screen.

After the user has given the ID number (otherwise the program will state message alert for default choice) he can press the “Data recall” button in order to see the desired data to be updated (see next screen).



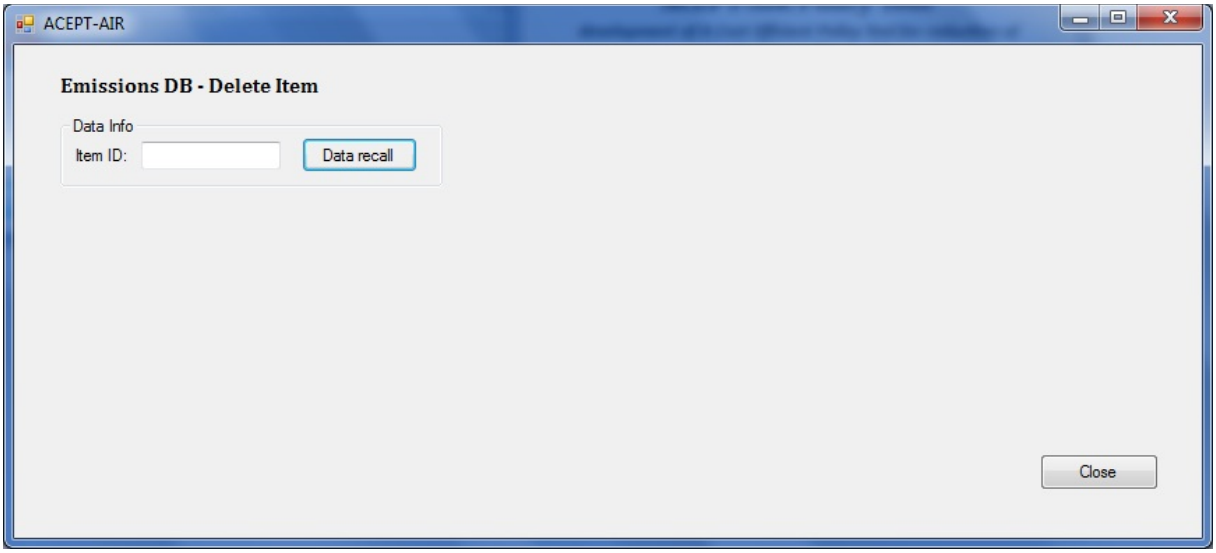
The data stored in the DB (if any) are presented in the Results sector of the above screen as a single database record.

The user can correct the emission value (by mouse left clicking in the corresponding cell) and update the record of the database by pressing the “Update” button.

Please note that this action can not be canceled once is done.

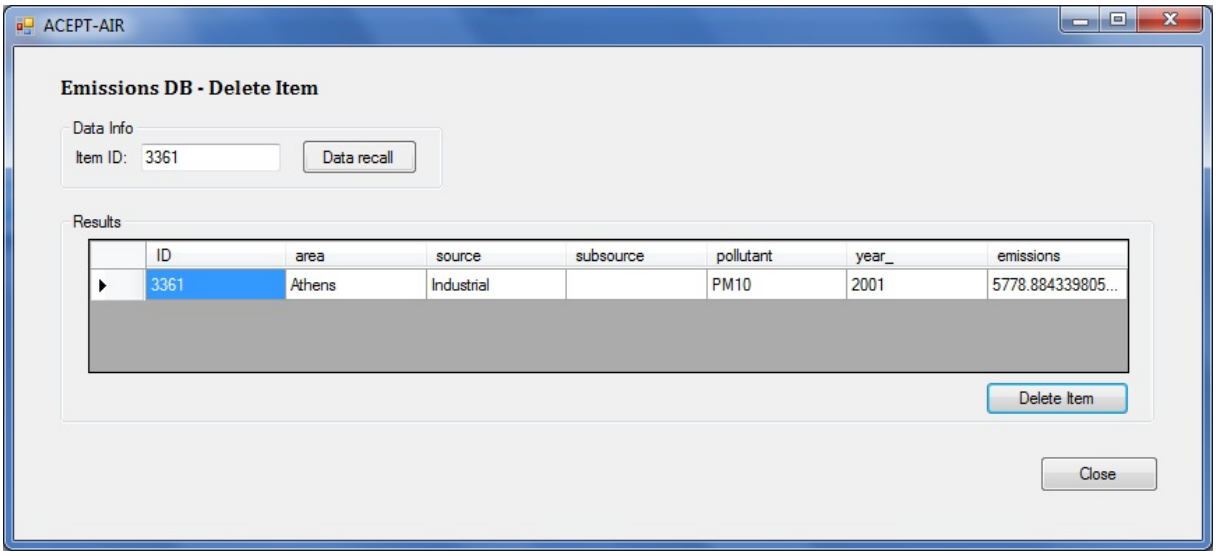
- Delete Item

By selecting the choice “Delete Item” the following screen appears:



In this screen the user is “asked” to give the item ID for the data which he wishes to delete. Remember: item ID refers to the ID number which the user wrote down in Check Item screen.

After the ID number is given (otherwise the program will state message alert for default choice) the user can press the “Data recall” button in order to see the data to be deleted (see next screen).



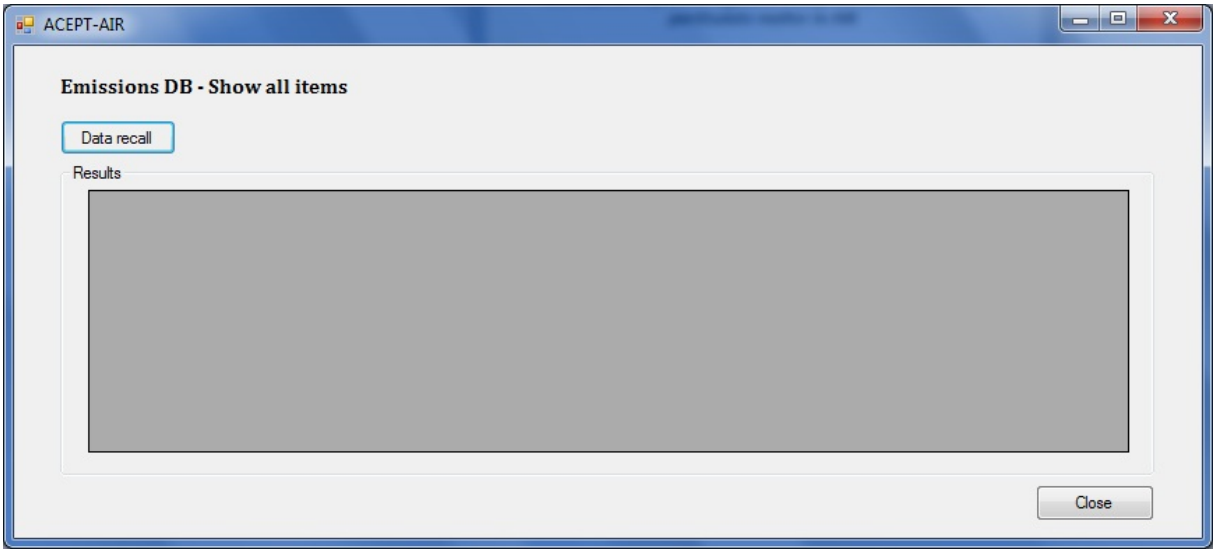
The data stored in the database (if any) are presented in the Results sector of the above screen as a single database record.

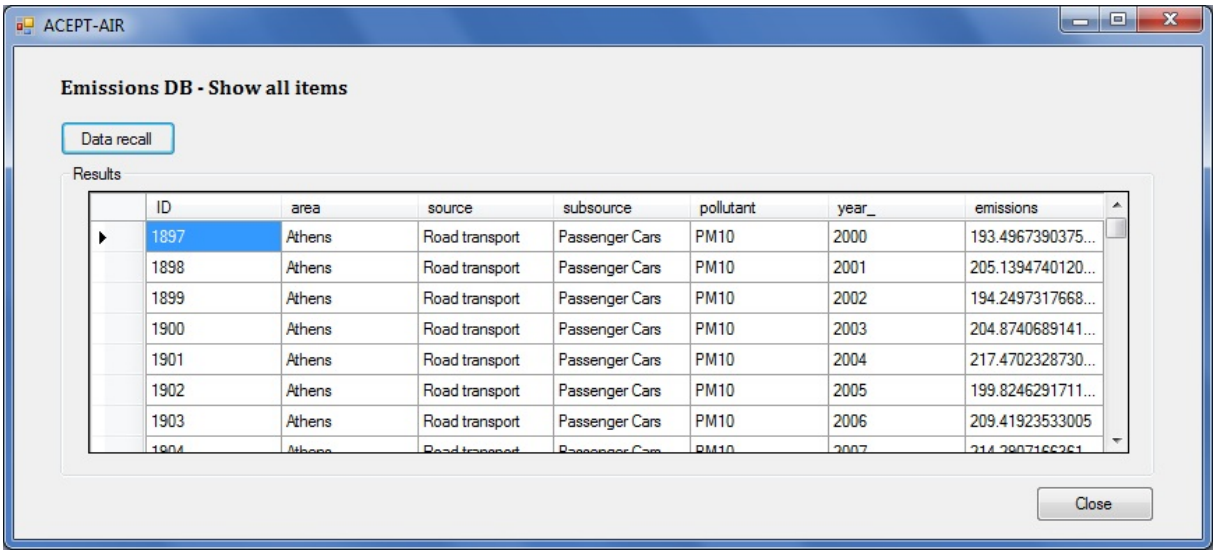
The user can delete this record from the database by pressing the “Delete Item” button.

Please note that this action can not be canceled once is done.

- Show all

If the user wants to see all the records in the database, he must select the Show all menu item and then press the “Data recall” button (see next screens).





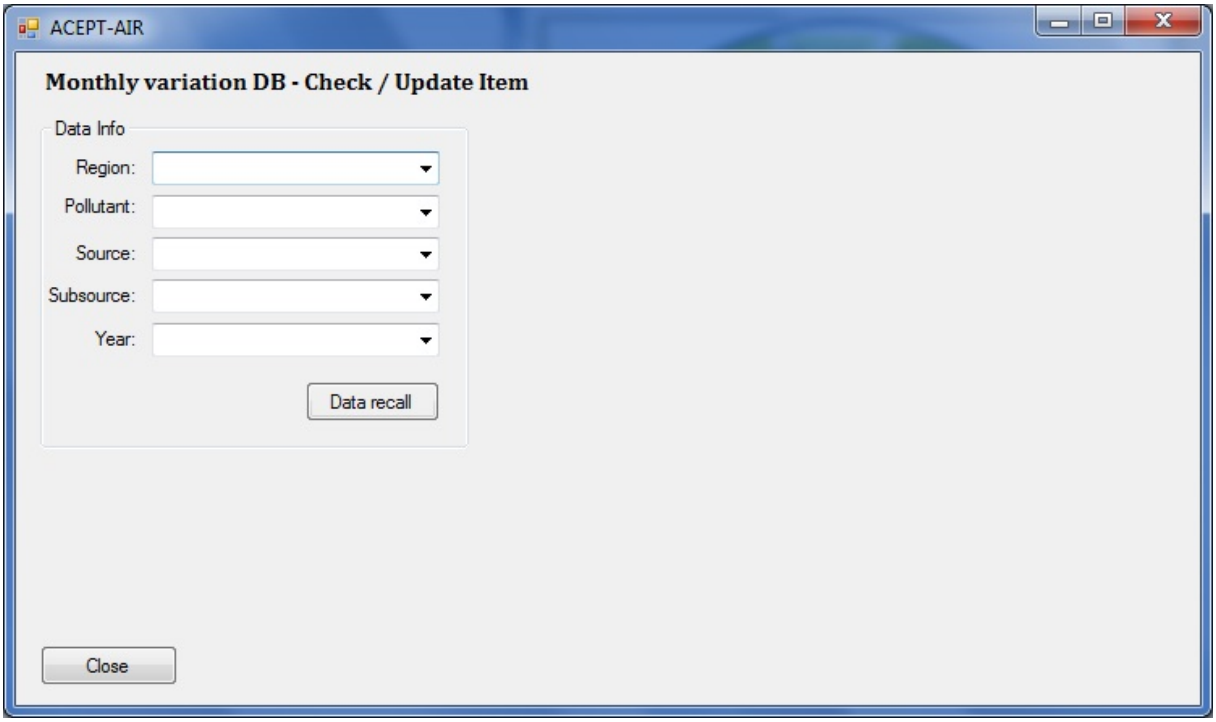
The data stored in the relative programs database are presented in the Results sector of the above screen as database records.

4.3. Monthly variation

By selecting the choice “Monthly variation”, a second choice menu appears where the user can select:

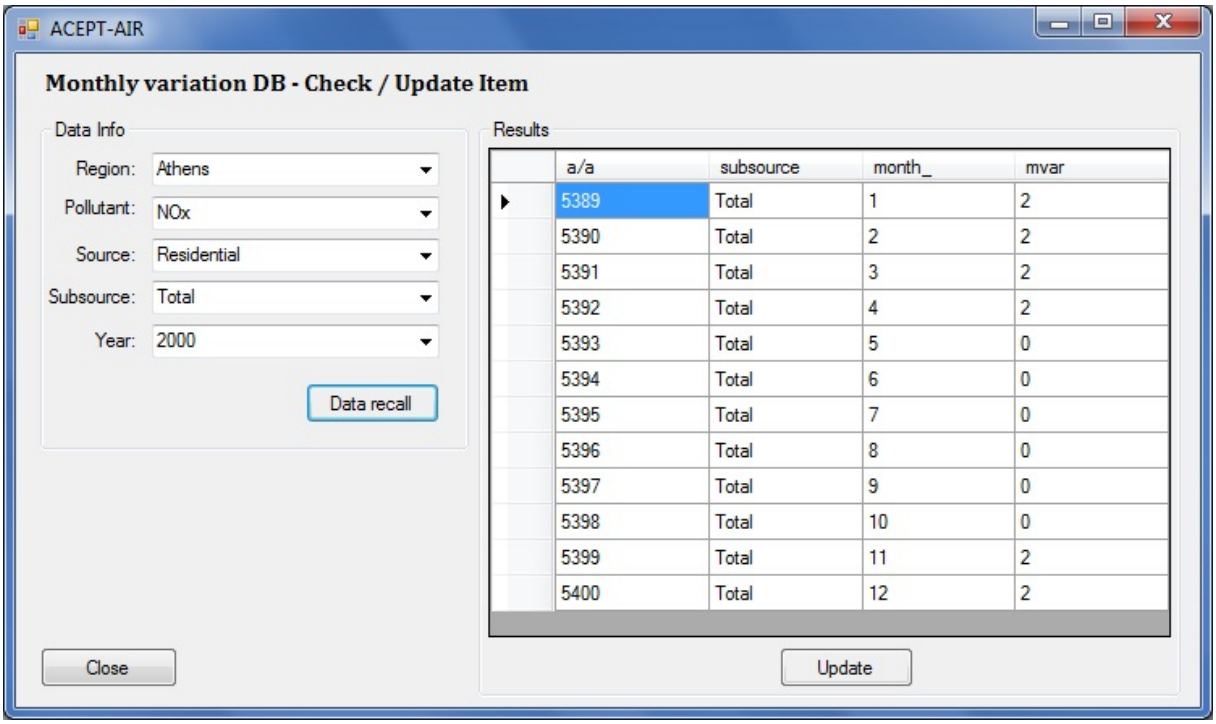
- Check/Update Item

By selecting the choice “Check/Update Item” the following screen appears:



In this screen the user is “asked” to select the preferred Region, Pollutant, Source, Subsource and Year, he wants to check.

After all required fields are selected (otherwise a message alert will appear) the user can press the “Data recall” button in order to see the desired data which are stored in the database (see next screen).



The recalled data are presented in the Results sector in a data grid on the left side of the screen.

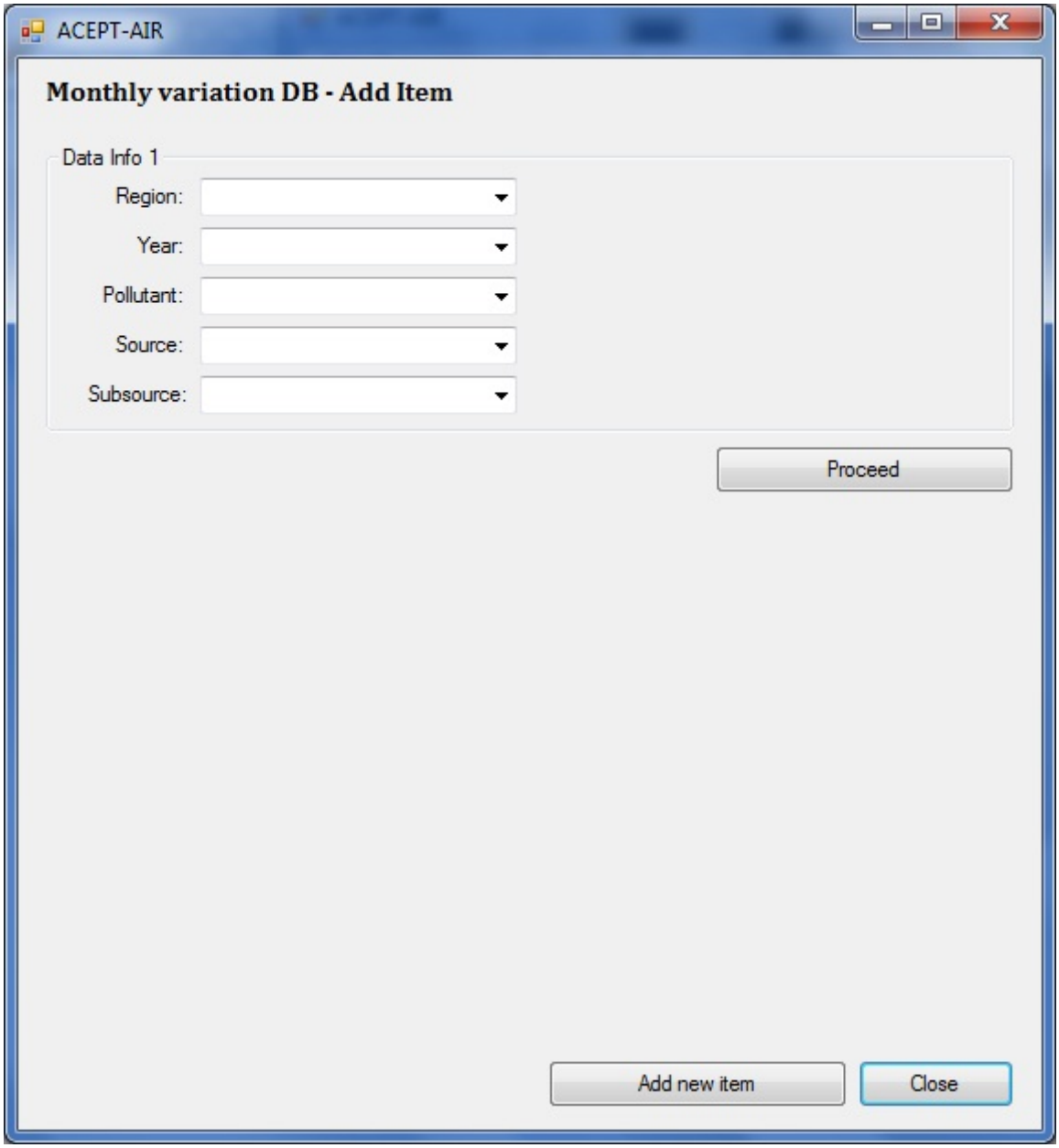
The user can change the mvar (monthly variation) value for each month by clicking on the desired cell and typing the new value. Afterwards, the user can press "Update" button to insert the new value(s) into the corresponding database.

Please note that this action can not be canceled once is done.

***Important**: the sum of mvar column (for each year) must be 12, otherwise the program will state so and ask for normalization.*

- Add Item

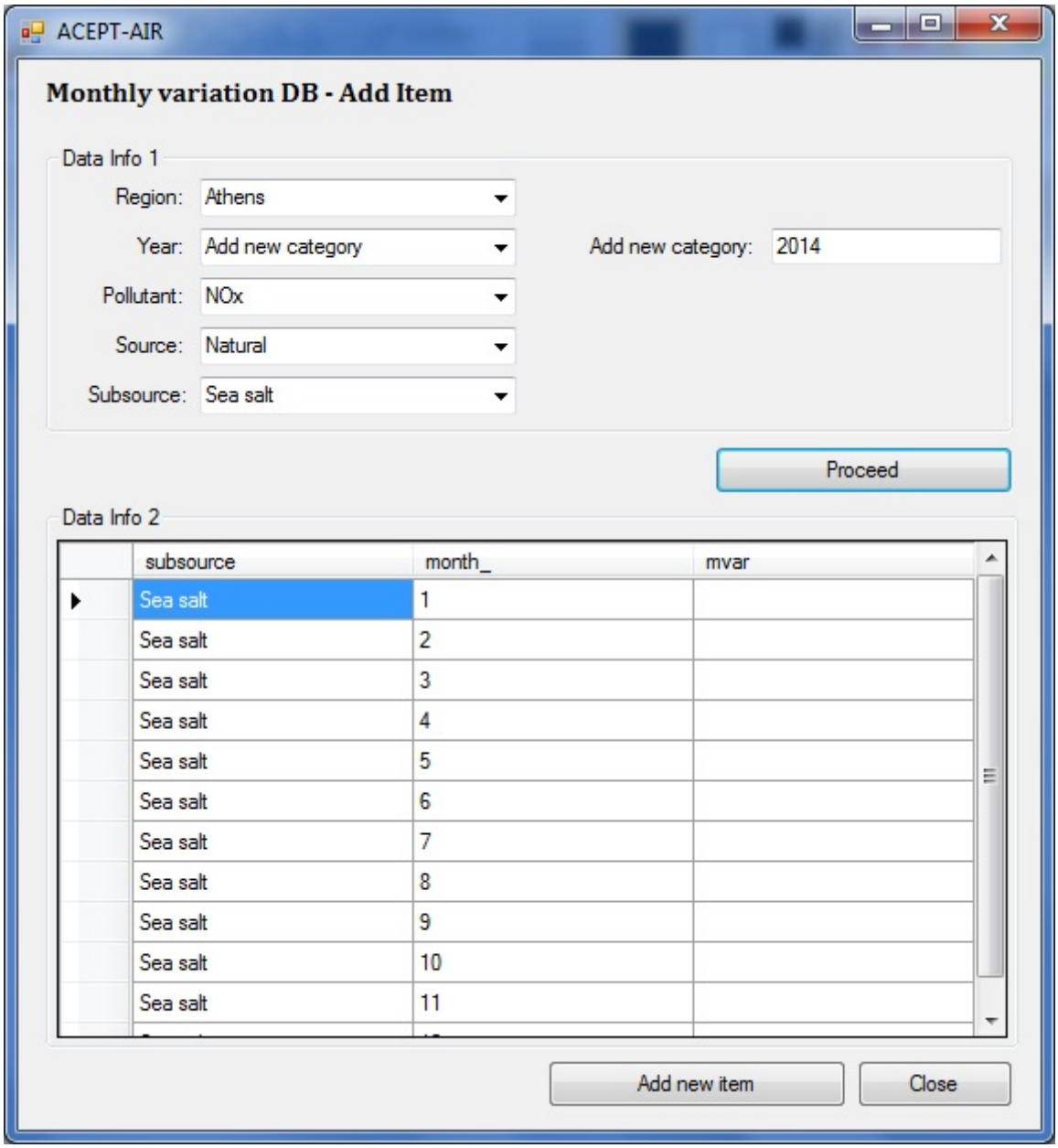
By selecting the choice “Add Item”, the screen, presented below, appears. This screen is divided in two sectors “Data Info 1” and “Data Info 2”.



In Data Info 1 sector, the user fills in the preferred Region, Pollutant, Source, SubSource and Year field for which new data will be added into the database.

Note: for every field there is a dropdown box which gives certain choices for the user (including the ability to add new one).

Then, the “Proceed” button must be pressed (once is done the following screen appears).



In the Data Info 2 sector, the user gives the corresponding data value of "*mvar*" for each month, related with the selected data in the first sector.

The new data are added into the database when the "Add new item" button is pressed.

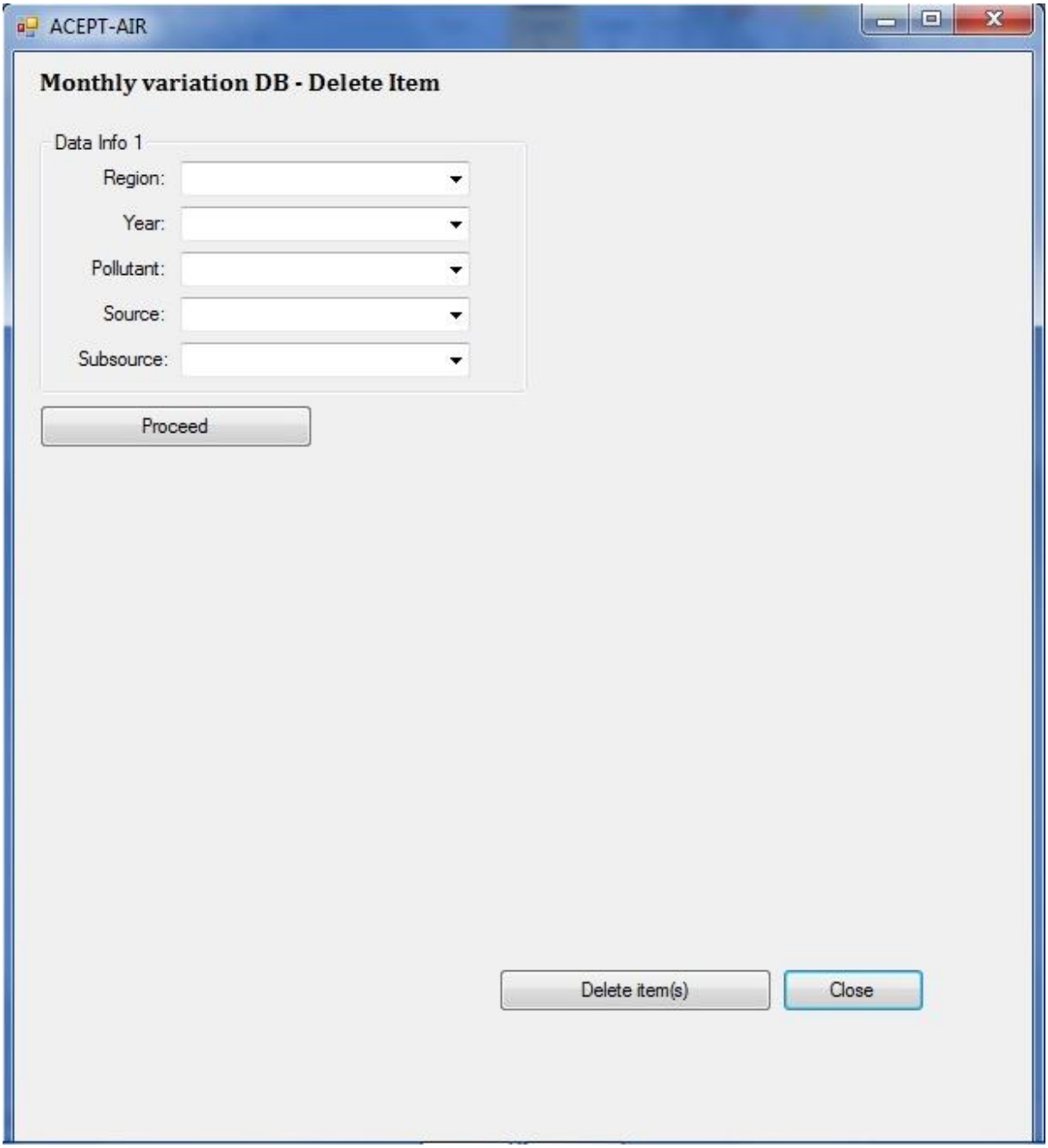
***Important**: the sum of mvar column (for each year) must be 12, otherwise a message will appear asking to keep the sum equal to 12.*

Blanks are concerned as zeros.

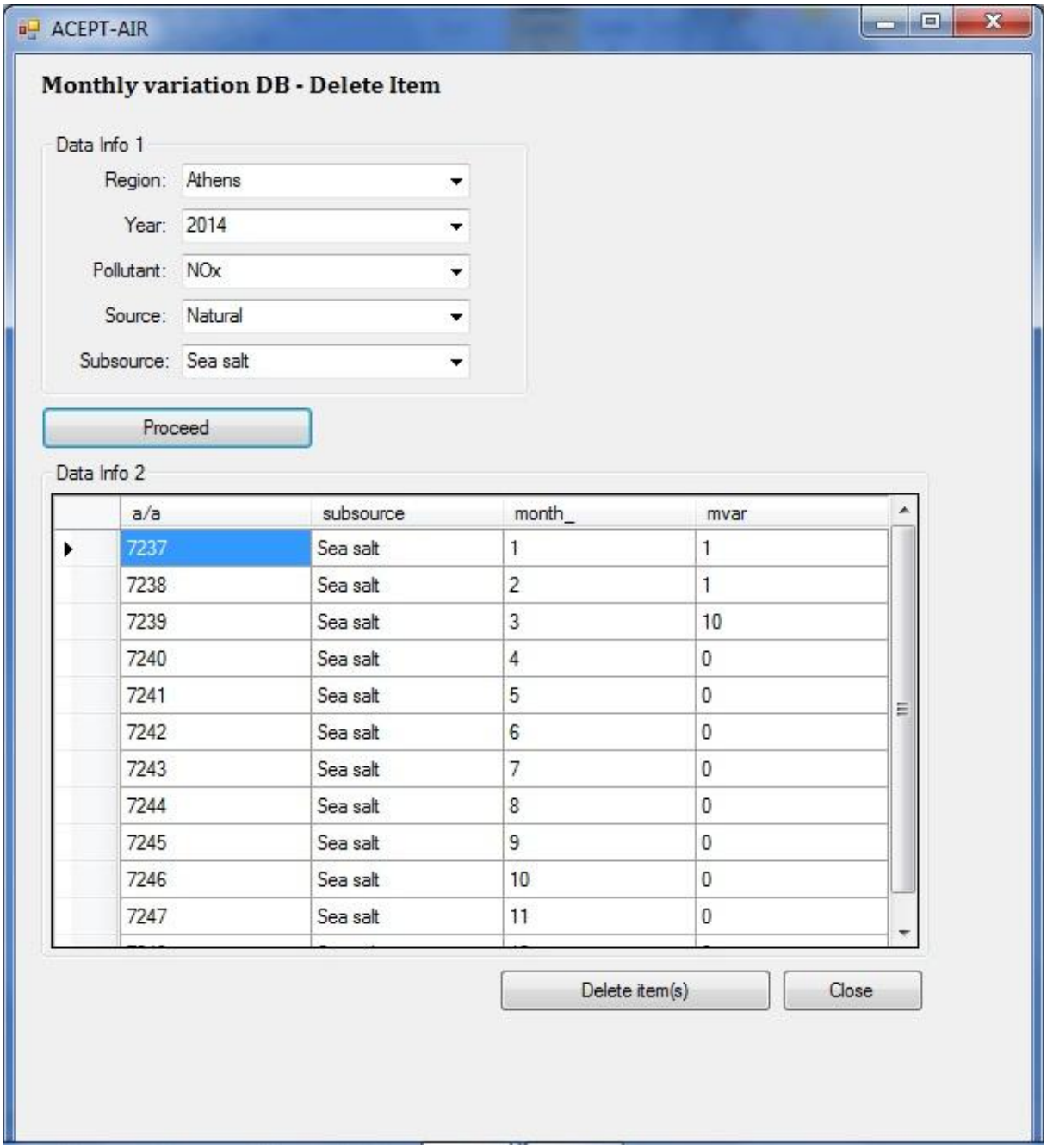
For "PM2,5" and "PMcoarse" pollutants, for "Natural" source and Sea Salt as sub source in Data Info 1 sector, all three subsources ("Sea salt", "Sea salt OO" and "Sea salt SS") at Data Info 2 sector must be filled in (the program will come up with the necessary data grid) because all three are necessary for the relative calculations.

- Delete Item

By selecting the choice “Delete Item”, the screen, presented below, appears. This screen is divided in two sectors “Data Info 1” and “Data Info 2”.



In Data Info 1 sector, the user fills in the preferred Region, Pollutant, Source, Subsource and Year field for which the data will be deleted from the database. By clicking the “Proceed” button, the relative data are presented in the Data Info 2 sector.



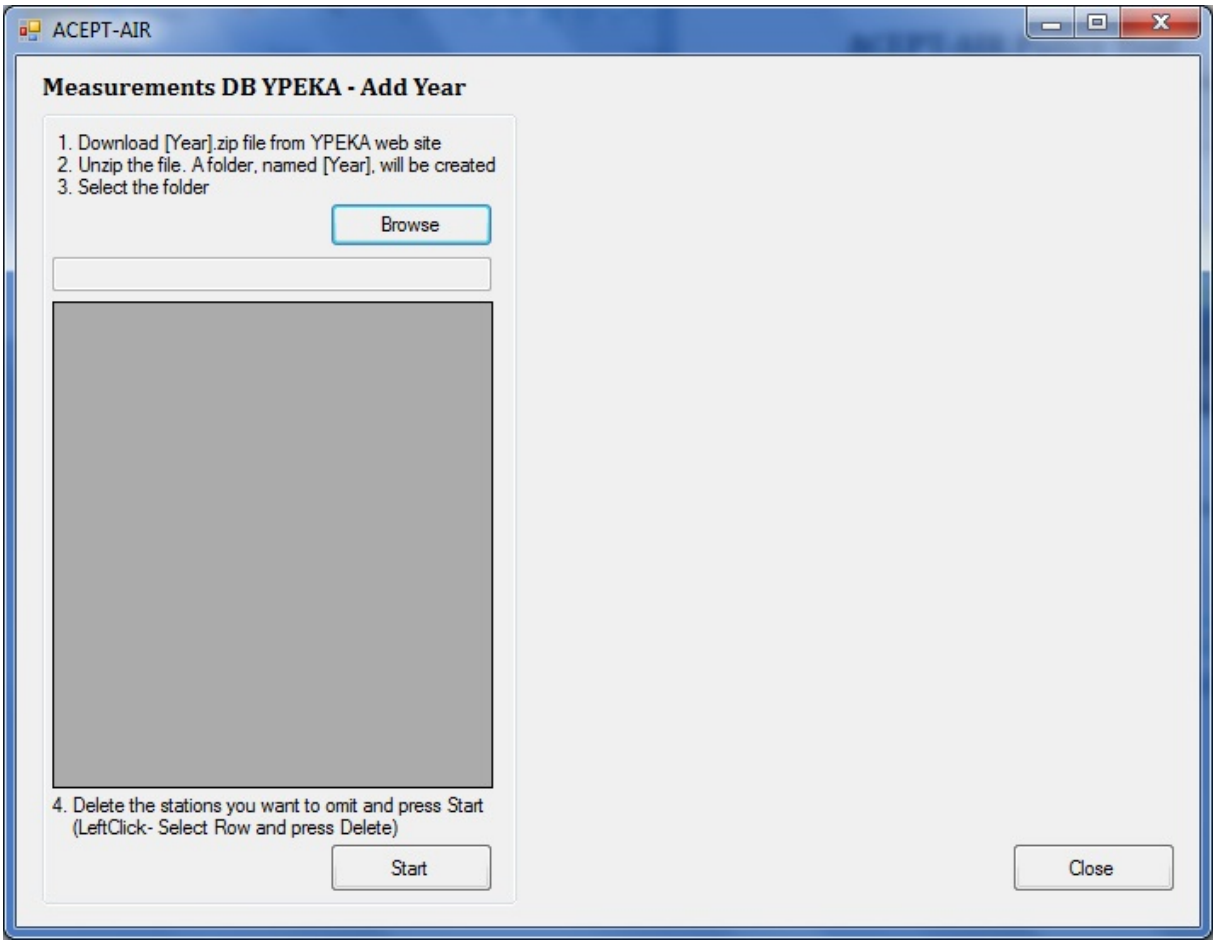
By pressing "Delete item" button, all these data are removed from the database.

Please note that this action can not be canceled once is done.

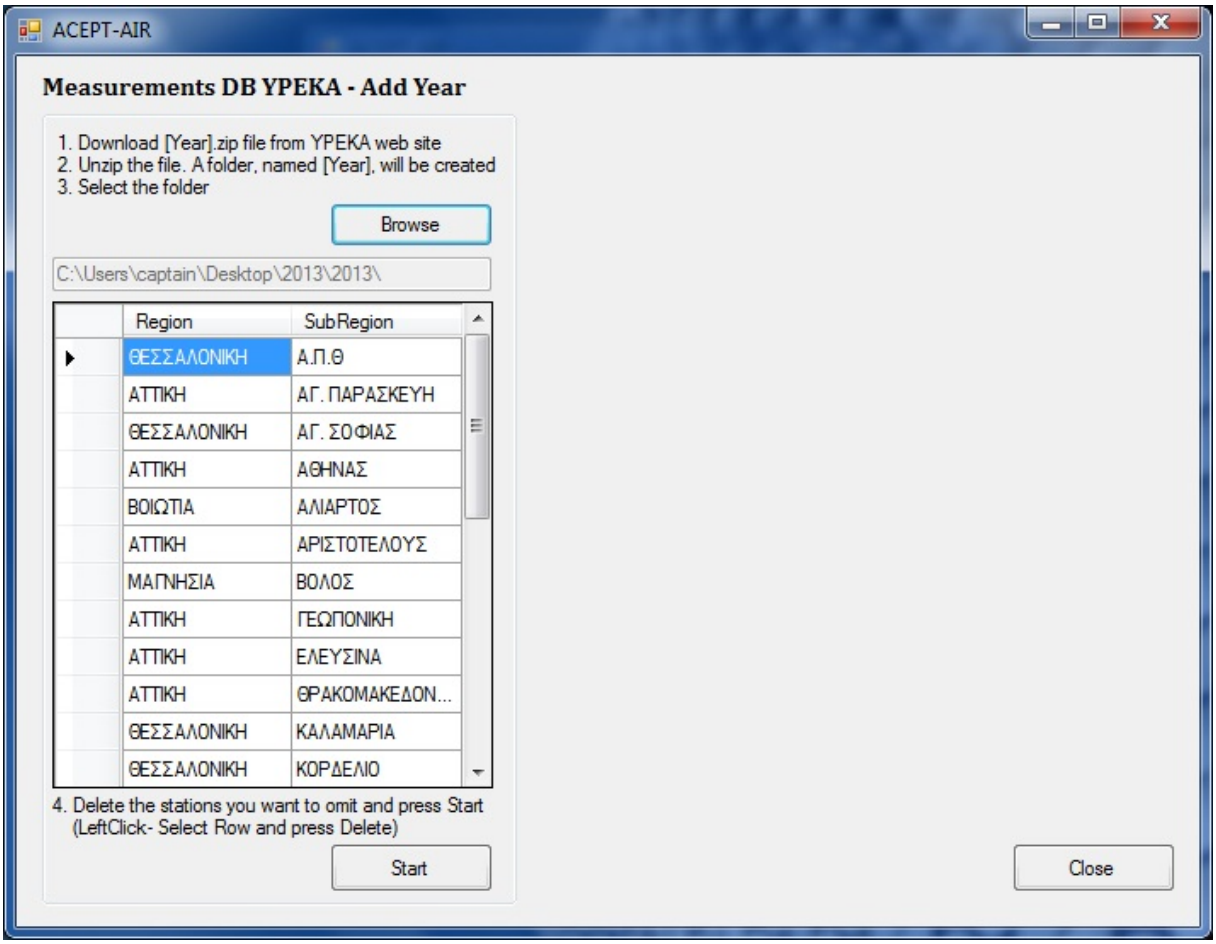
4.4. Measurements

Selecting the choice “Measurements”, a second choice menu appears where the user can select: “Add year”.

By selecting this choice, the following screen appears:

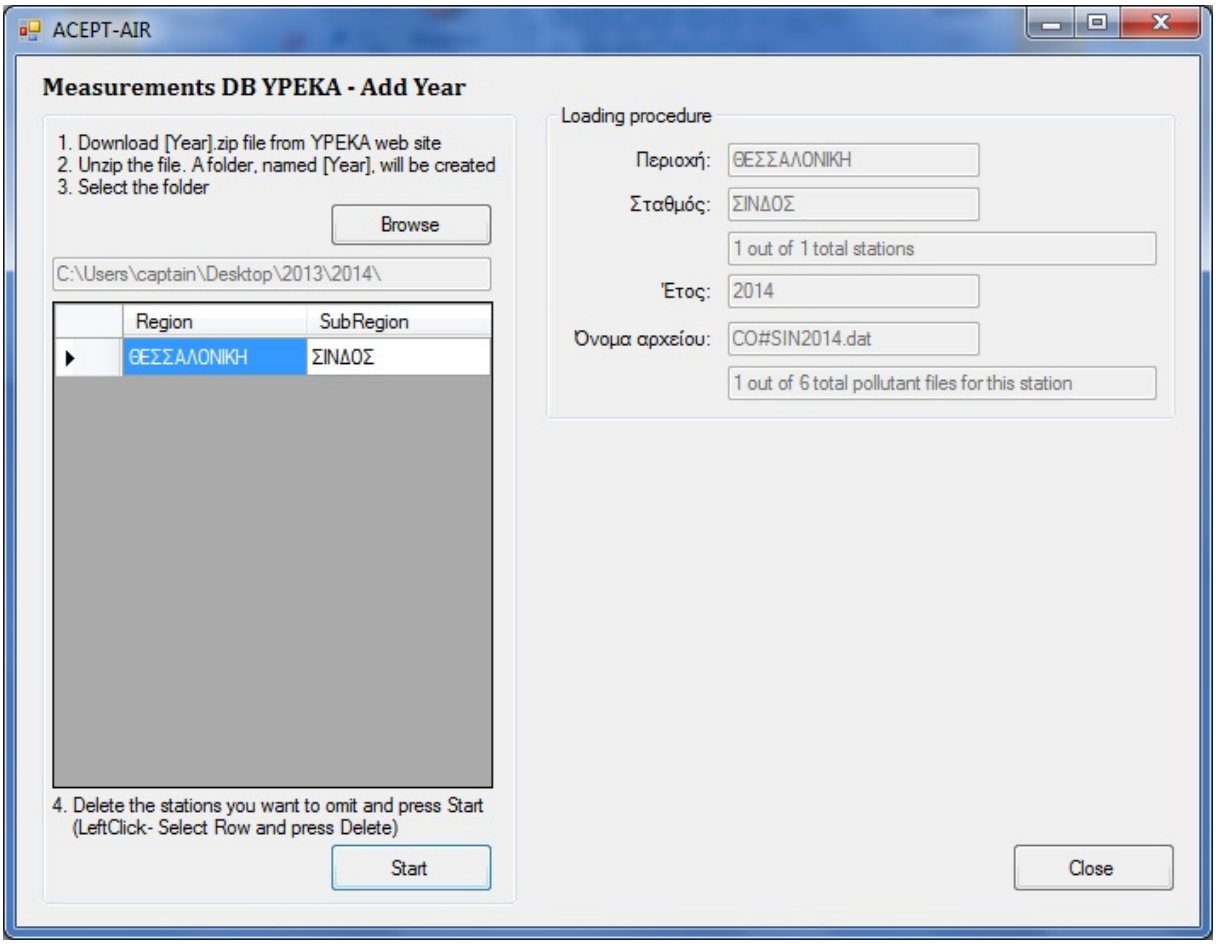


This screen guides the user to add a new year’s measurement data from the Ministry of Environment, Energy and Climate Change (MEEC or YPEKA) into the corresponding database. When the user has prepared the year folder, as described, the Browse button has to be pressed. The selected path (and filename) is shown in the textbox and the available stations are presented in the corresponding data-grid (grey color) area.



The user can select multiple lines (mouse left click and/or ctrl-left click etc. on the left side of the box) and press the Delete button on the keyboard in order to omit the measurements of a specific station.

When the user has finished the selection of the desired stations to be added in the DB (shown in the grid) he can press the “Start” button in order to update the DB (see next screen).



In the right area, information concerning the file that is currently loaded is presented. During this procedure some messages may appear in order the user to take some action concerning:

- A non-text file that may be present in the YPEKA folder (in some rare cases, the data are given in MS Excel format that cannot be handled).
- Data that already exist in the DB.
- Successful update of the Measurements DB.

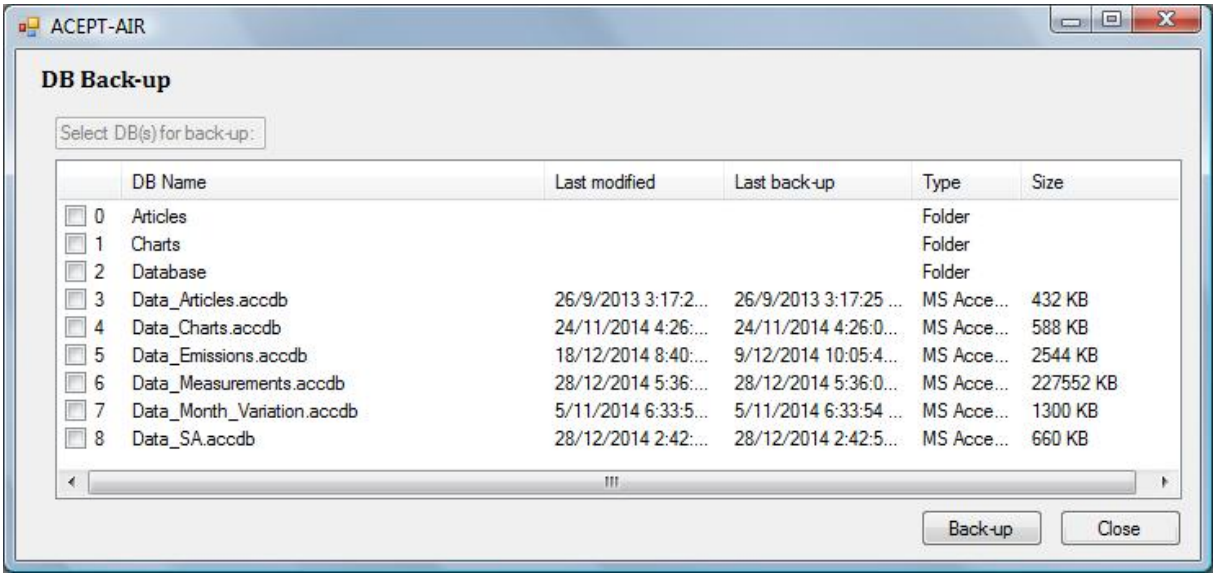
***Important**: In order to add data from other source than YPEKA the user must create data files in the same way with YPEKA ones, and set them to a folder named [Year] (like guideline 2 of the above screen)*

4.5. Back – up / Restore

In order to prevent accidental and/or erroneous deletions, entries, replaces, etc. that may happen when dealing with the various databases of the program, it is advisable to keep back-ups of the correct databases, regularly. In order to do so, there are two submenu items under the corresponding menu item, Back-up DB and Restore DB.

- Back-up DB

By selecting this submenu item, the following window appears:



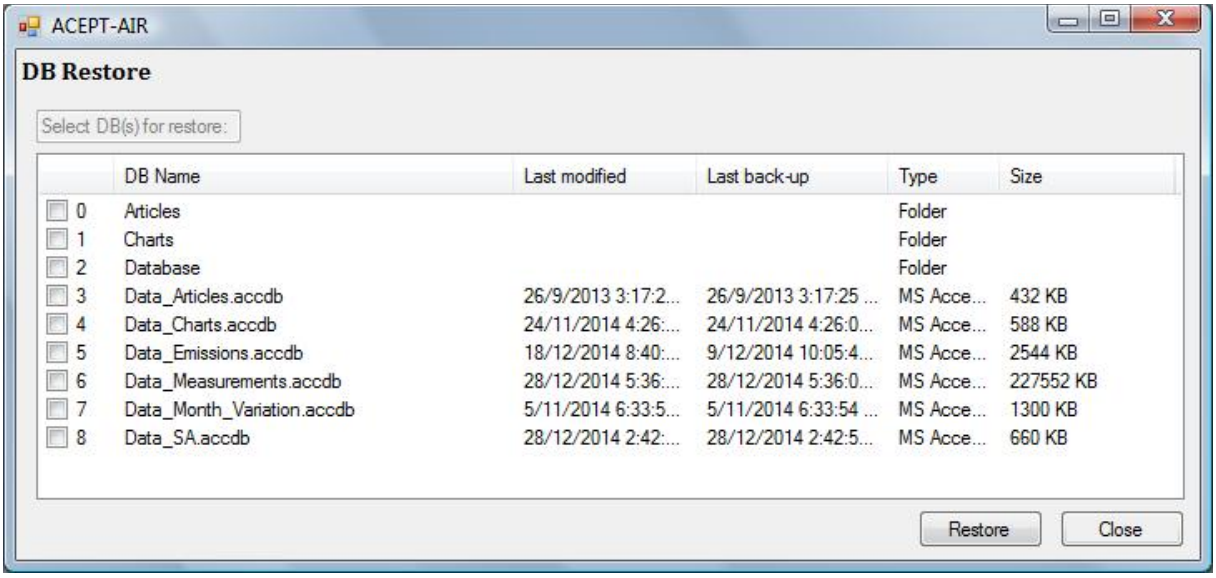
By checking the relative check boxes on the left side, the user selects the databases he wishes to back-up. It is to be noted that the corresponding dates that the databases were last modified and backed-up, are presented in the grid, along with type and size.

There is also the ability to backup entire folder in which the scientific information data (articles) “Articles”, spatial allocation data (maps and values) “Charts” and all databases “Databases” are stored by the tool.

When the user has finished the selection he can press the “Back-up” button in order to back-up the selected items (database or folder). The appropriate message alert will appear.

- Restore DB

By selecting this submenu item, the following window appears:



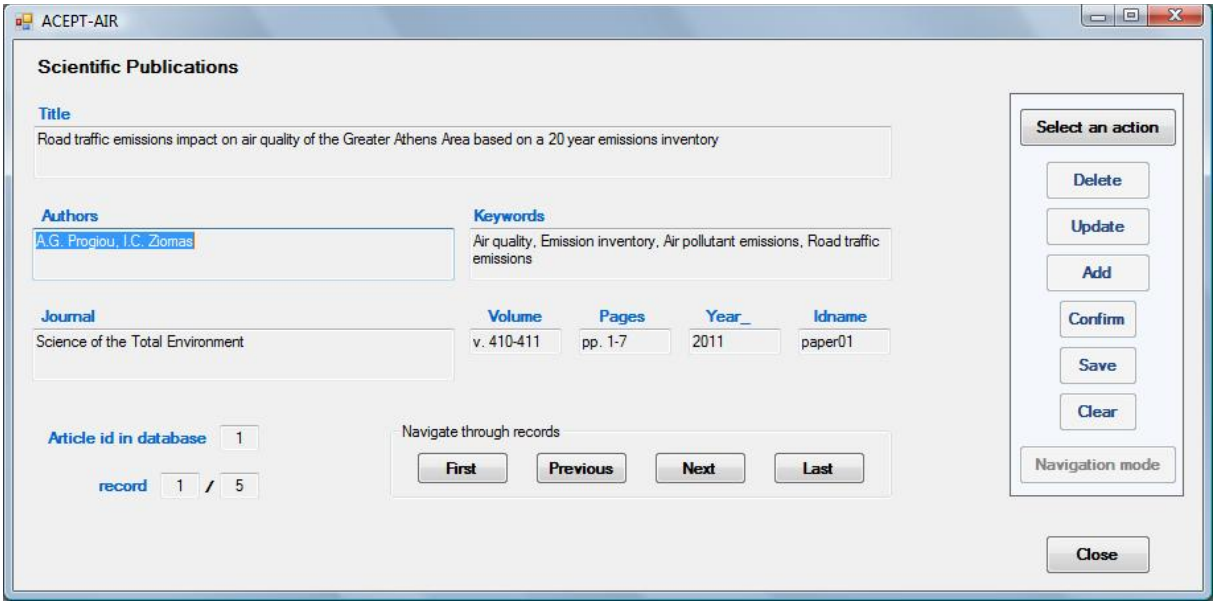
By checking the corresponding check boxes on the left side, the user selects the databases he wishes to restore. It is to be noted that the corresponding dates that the databases were last modified and backed-up, are presented in the grid, along with type and size.

There is also the ability to restore entire folder in which the scientific information data (articles) “Articles”, spatial allocation data (maps and values) “Charts” and all databases “Databases” are previously bucked-up.

When the user has finished the selection he can press the “Restore” button in order to rstore the selected items (database or folder). The appropriate message alert will appear.

4.6. Scientific Publications

Selecting the choice “Scientific Publications” the following screen appears:



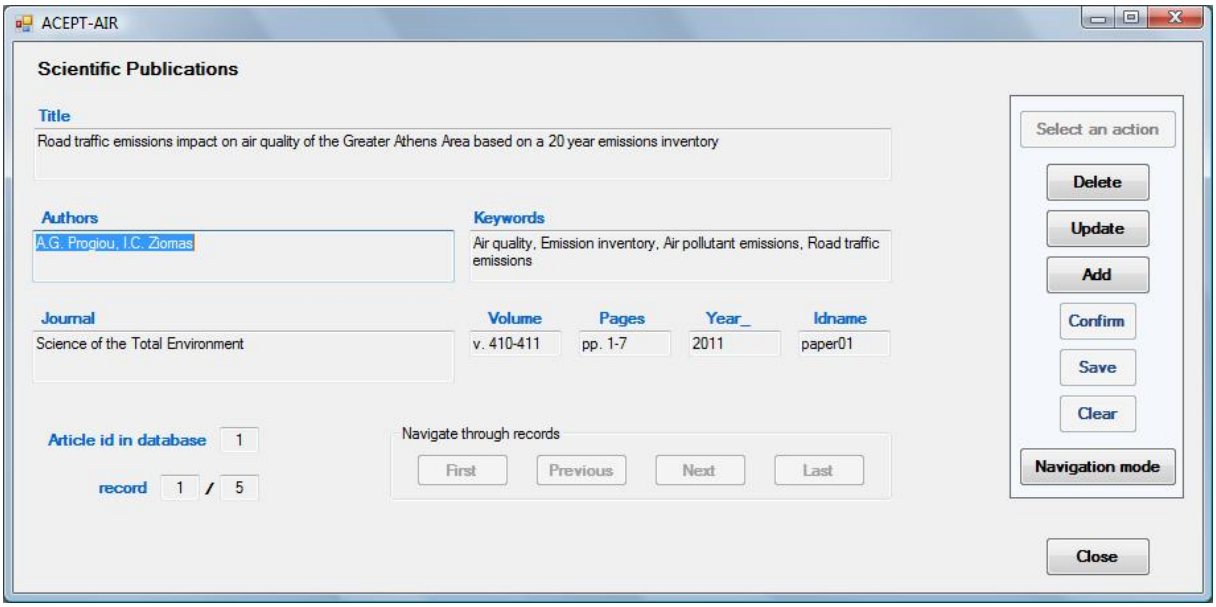
This screen shows the data records in the article database which consist of the record ID (Article id in database field), Title, Authors, Keywords, Journal, Volume, Pages, Year_ and Idname and are related to the article file in pdf format. Please note that the related fields in the above screen are grey which means that the user can only see the data and cannot change them.

The user can go through the entire records set by pressing the navigation buttons at the bottom of the screen. Especially, by pressing the:

- “First” button the first record in the articles database is shown on the screen
- “Previous” button the previous record from the one presented is shown on the screen
- “Next” button the next record from the one presented is shown on the screen
- “Last” button the last record in the articles database is shown on the screen

Please note that when the choice violates logical assumptions (e.g. be in the first row and press the “Previous” button) the related message alert for default choice will appear.

If the user, while he sees the data records, wishes to make a certain change (delete or update existing record and add new record) he has to activate the data fields. This can be done by pressing the “Select an action” button at the right of the screen (see screen below).

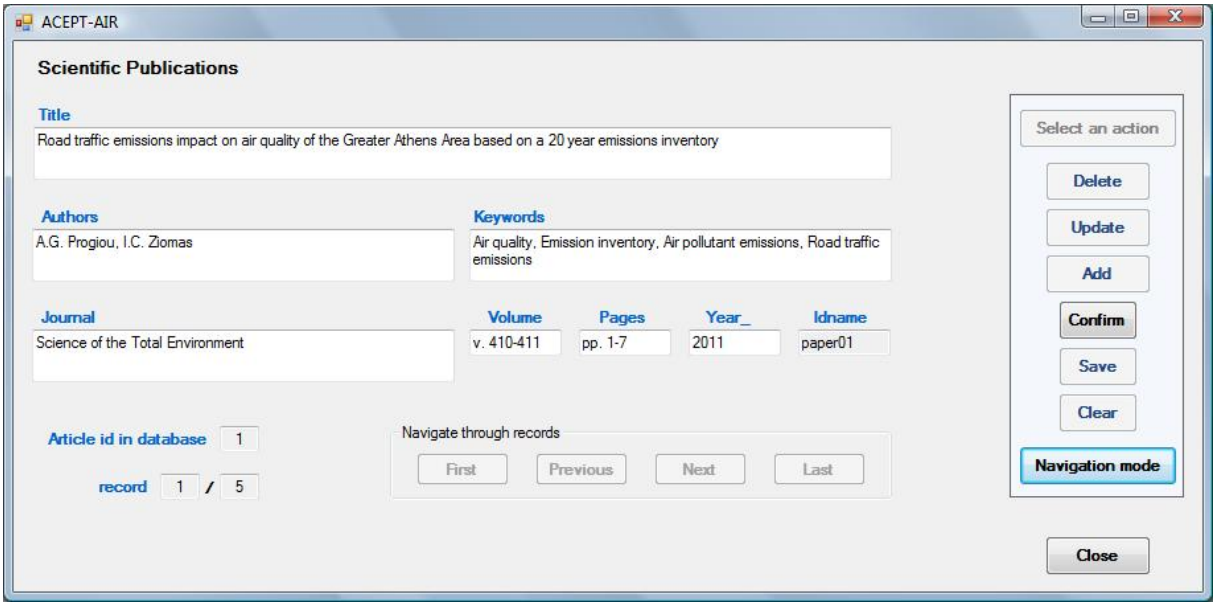


When the user chooses a data record to change, the navigation buttons become deactivated, while the buttons "Add", "Update" and "Delete" from the right side are activated. It is obvious that if the user wishes to:

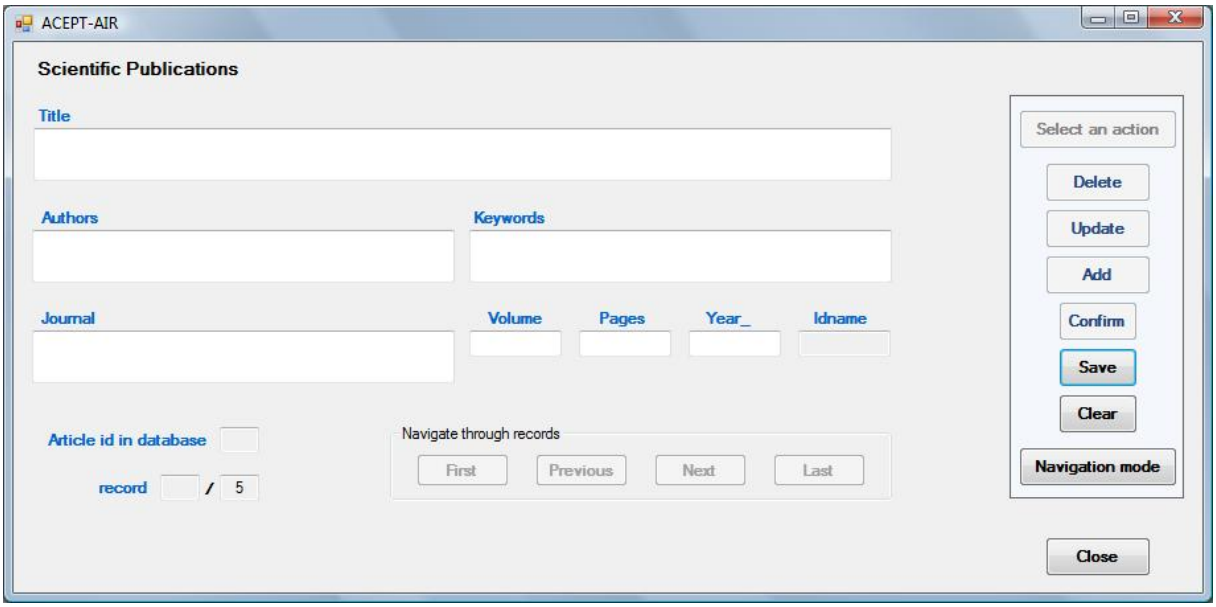
- Delete the chosen data record he has to press the "Delete" button.
- Update the selected data record he has to press the "Update" button.
- Add new data record he has to press the "Add" button.

All these actions can not be canceled once they are done.

If the user wishes to Update the selected record the following screen appears. After the changes, the user has to press the "Confirm" button in order to update it in the database.



If the user wishes to Add a new data record (article) the following screen appears. After the entry of new data the user has to press the "Save" button in order to add them in the database.



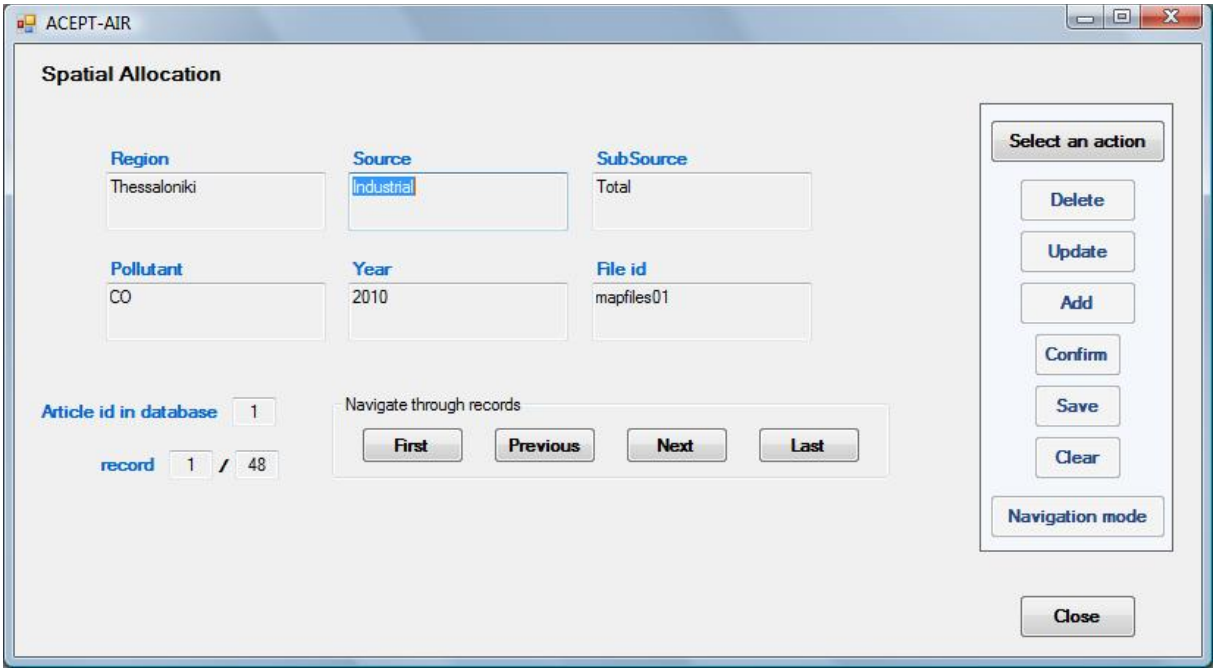
Adding new records means that the user has to fill in properly the record fields (note that Article id in database and Idname fields are grey which means that they are filled in automatically). If the user makes a mistake he must press the "Clear" button in order to erase all fields.

It should be noted that by pressing the "Save" button the user is asked to use the "Update" button to relate the appropriate article file in pdf format with the new record.

Under the area with the "Select an action" button, there is the "Navigation mode" button. By pressing it, the user returns at the initial screen of the article database.

4.7. Spatial Allocation

By selecting the choice “Spatial Allocation” the following screen appears:



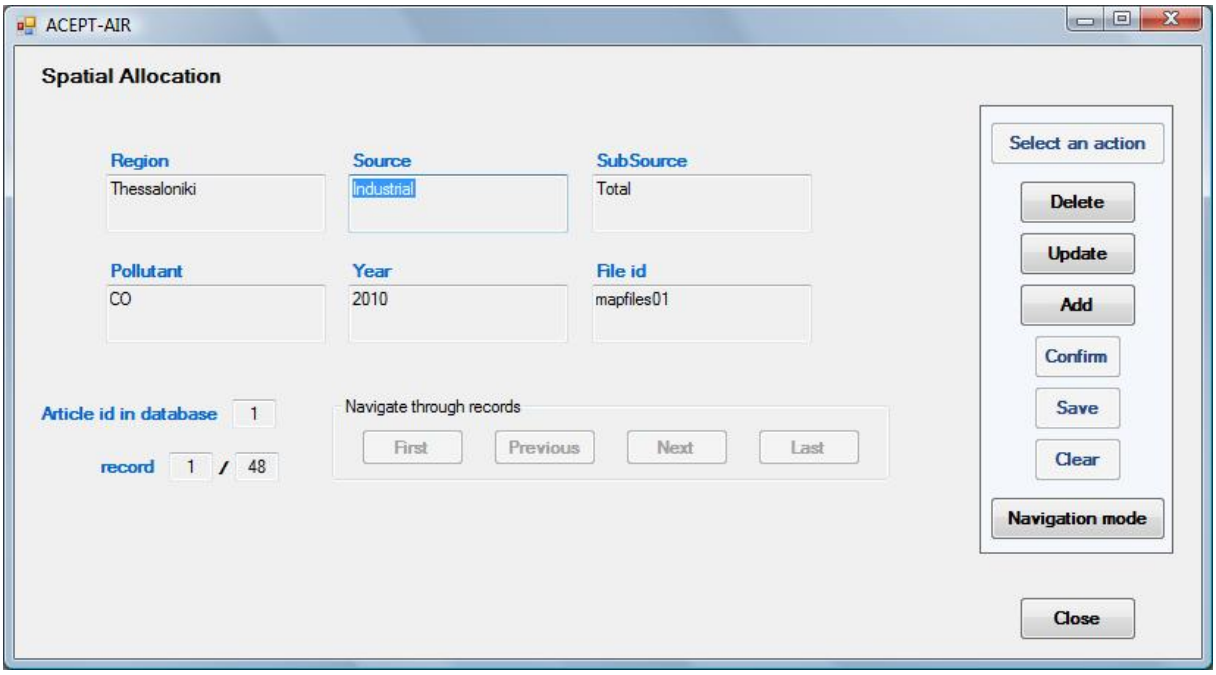
This screen shows the data records in the charts database, which consist of the record ID (Charts id in database field), Region, Source, Sub Source, Pollutant, Year and File id and are related to the map file in jpg format and maps data file in xlsx format. The fields in the above screen are grey which means that the user can only see the data and cannot change them.

The user can go through the entire records set by pressing the navigation buttons at the bottom of the screen. Especially by pressing the:

- “First” button the first record in the charts database is shown on the screen
- “Previous” button the previous record from the one presented is shown on the screen
- “Next” button the next record from the one presented is shown on the screen
- “Last” button the last record in the charts database is shown on the screen

When the use’s choice violates logical assumptions (e.g. be in the first row and press the “Previous” button) the message alert for default choice will appear.

If the user, while he sees the data records, wishes to make a certain change (delete or update existing record and add new record) he has to activate the data fields. This can be done by pressing the “Select an action” button at the right of the screen.

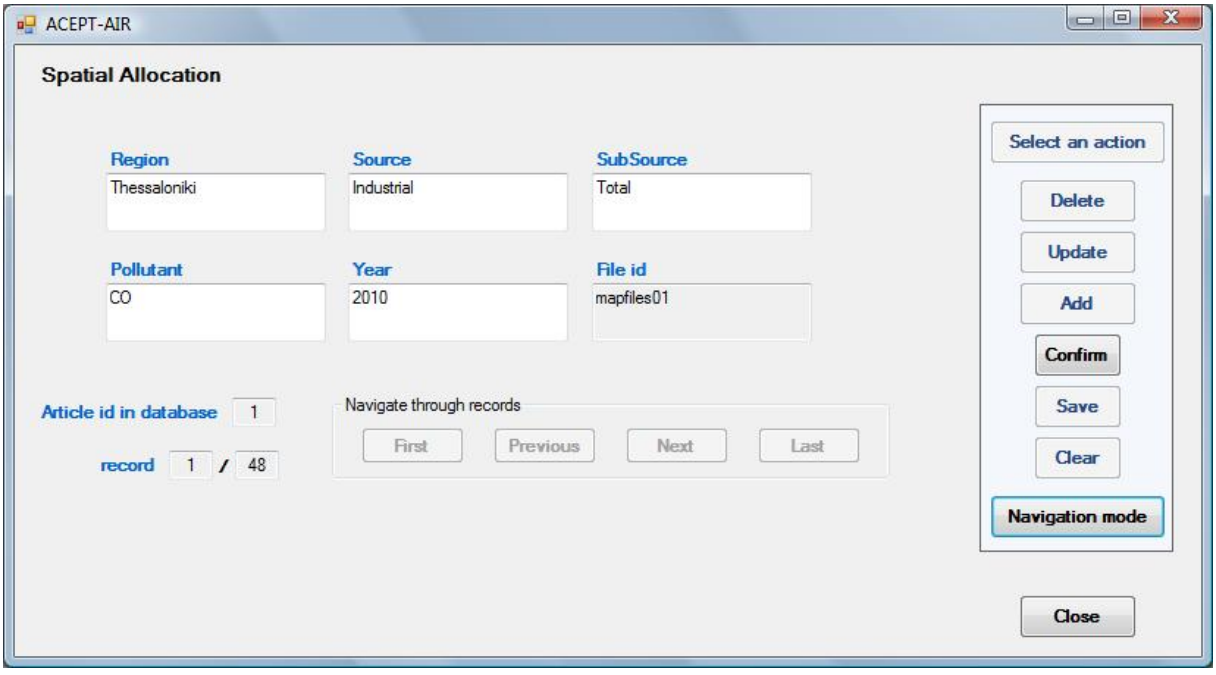


When the user chooses a data record to change, the navigation buttons become deactivated, while the buttons "Add", "Update" and "Delete" from the right side are activated. It is obviously that if the user wishes to:

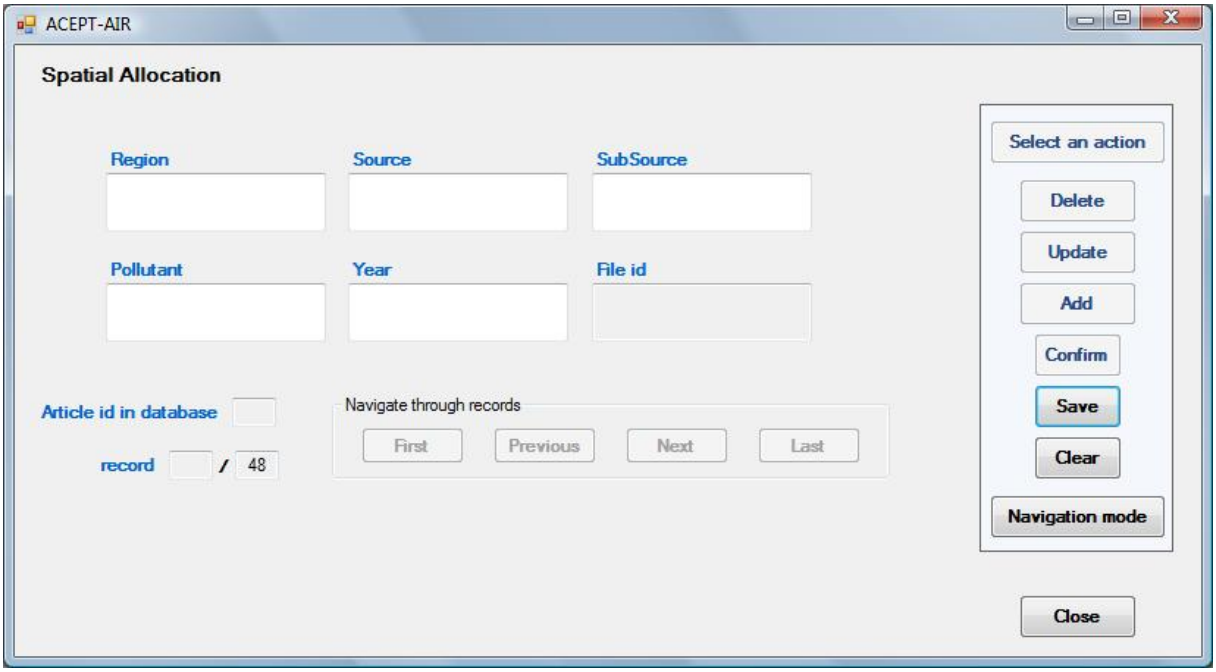
- Delete the chosen data record he has to press the "Delete" button.
- Update the selected data record he has to press the "Update" button.
- Add new data record he has to press the "Add" button.

All these actions can not be canceled once they are done.

If the user wishes to Update the selected record the following screen appears. After the changes, the user has to press the "Confirm" button in order to update them in the database.



If the user wishes to Add new data record the following screen appears. After the entry of new data the user has to press the "Save" button in order to add them in the database.



Adding new records, means that the user has to fill in properly (see Appendix A) all the record fields. Note that Charts id in database and File id fields are grey which means that they are filled in automatically). If the user makes a mistake he must press the "Clear" button in order to erase all fields.

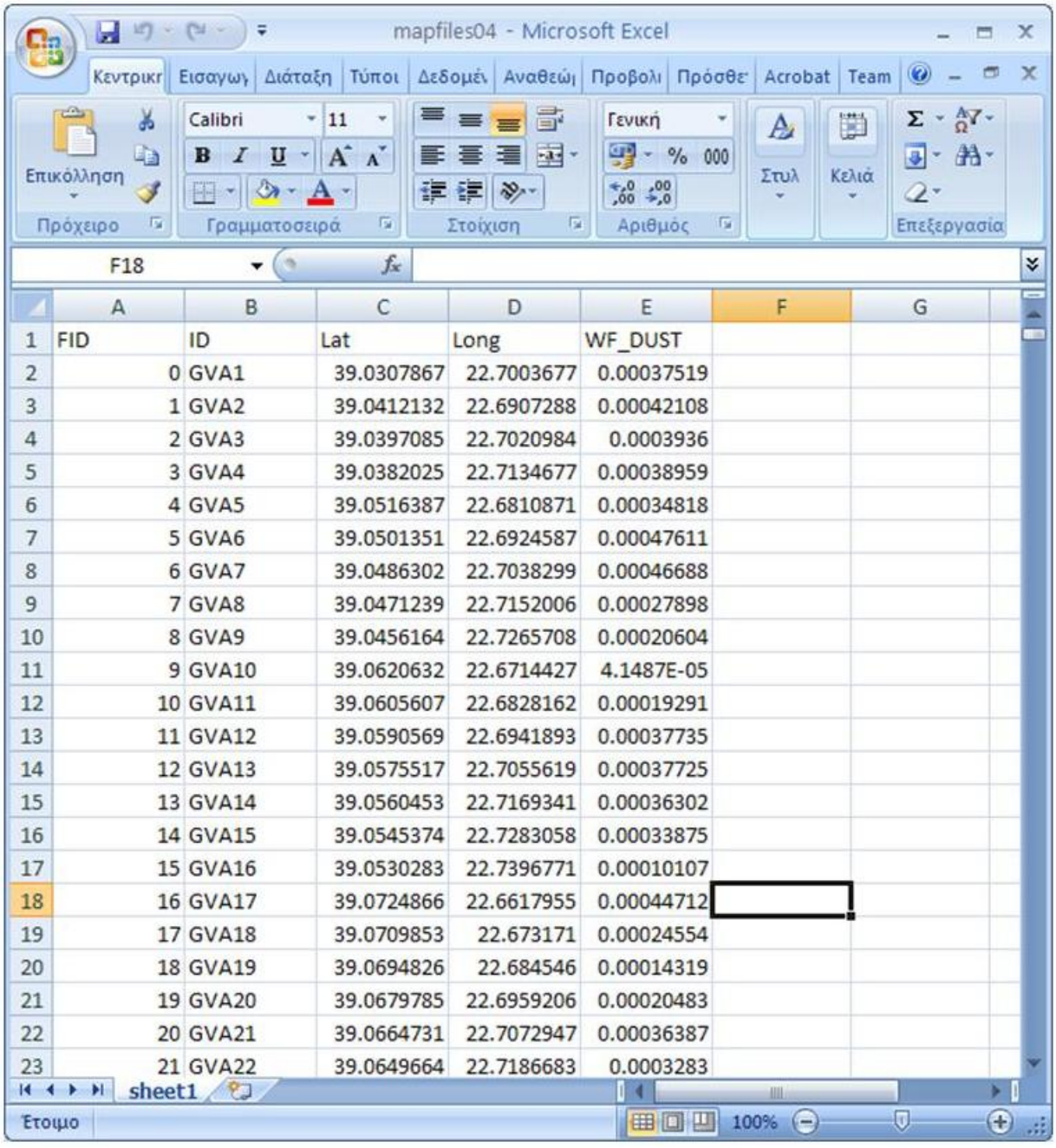
It is to be noted that by pressing the "Save" button the user is asked to use the "Update" button to relate the appropriate (see Appendix A) map and map data files in jpg and xlsx format respectively, with the new record.

Under the area with the "Select an action" buttons, there is the "Navigation mode" button. By pressing it, the user returns at the initial screen of the charts database.

Appendix A

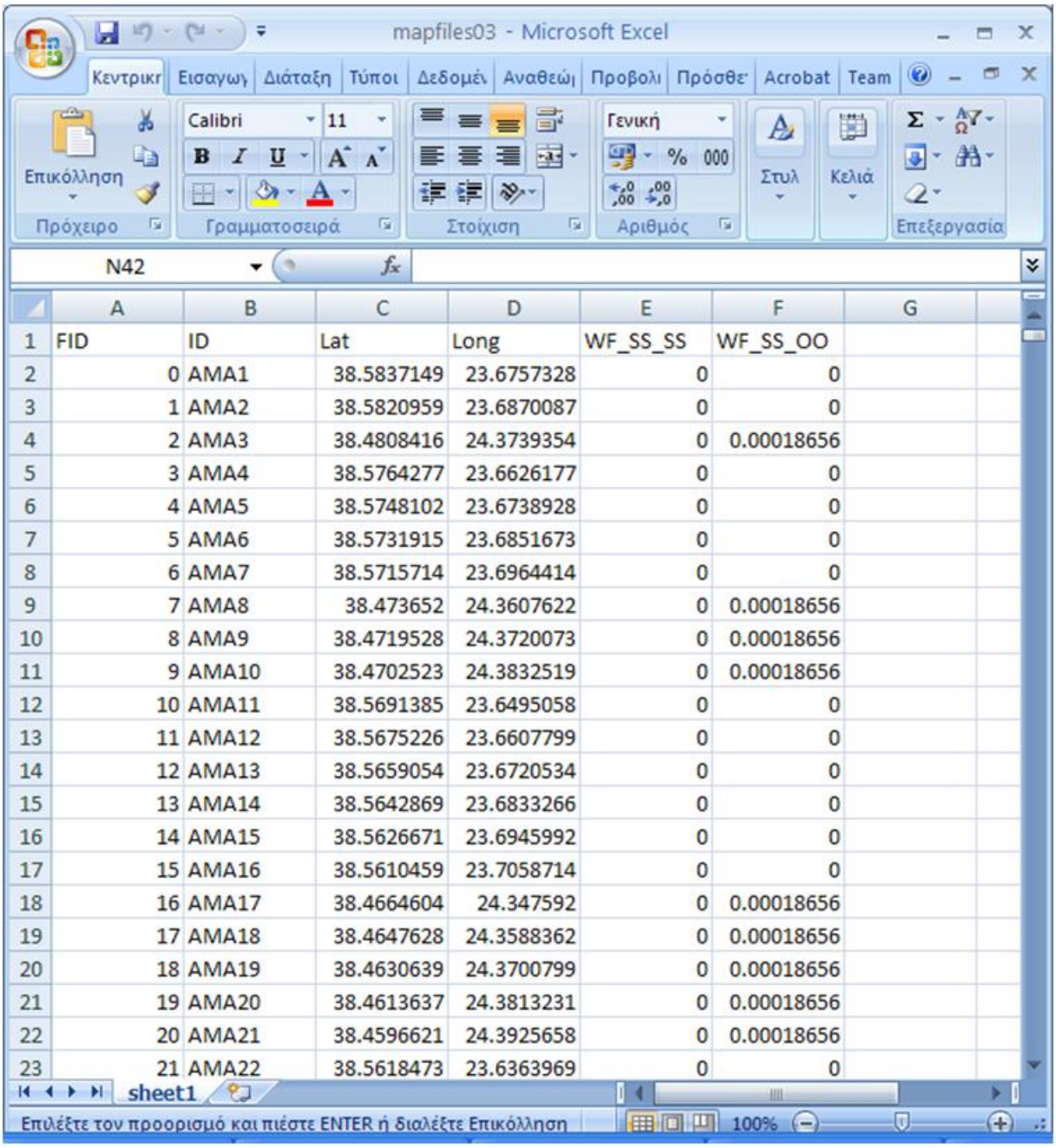
In order to add new data records in the charts database, the user should be aware of the appropriate values of **Pollutant, Region**, **Source** and **Sub source** used. Otherwise the tool functions may not work correctly.

In addition, the map file data (in xlsx format) must have the format as presented below:



	A	B	C	D	E	F	G
1	FID	ID	Lat	Long	WF_DUST		
2	0	GVA1	39.0307867	22.7003677	0.00037519		
3	1	GVA2	39.0412132	22.6907288	0.00042108		
4	2	GVA3	39.0397085	22.7020984	0.0003936		
5	3	GVA4	39.0382025	22.7134677	0.00038959		
6	4	GVA5	39.0516387	22.6810871	0.00034818		
7	5	GVA6	39.0501351	22.6924587	0.00047611		
8	6	GVA7	39.0486302	22.7038299	0.00046688		
9	7	GVA8	39.0471239	22.7152006	0.00027898		
10	8	GVA9	39.0456164	22.7265708	0.00020604		
11	9	GVA10	39.0620632	22.6714427	4.1487E-05		
12	10	GVA11	39.0605607	22.6828162	0.00019291		
13	11	GVA12	39.0590569	22.6941893	0.00037735		
14	12	GVA13	39.0575517	22.7055619	0.00037725		
15	13	GVA14	39.0560453	22.7169341	0.00036302		
16	14	GVA15	39.0545374	22.7283058	0.00033875		
17	15	GVA16	39.0530283	22.7396771	0.00010107		
18	16	GVA17	39.0724866	22.6617955	0.00044712		
19	17	GVA18	39.0709853	22.673171	0.00024554		
20	18	GVA19	39.0694826	22.684546	0.00014319		
21	19	GVA20	39.0679785	22.6959206	0.00020483		
22	20	GVA21	39.0664731	22.7072947	0.00036387		
23	21	GVA22	39.0649664	22.7186683	0.0003283		

Or (for sea salt)



mapfiles03 - Microsoft Excel

N42

	A	B	C	D	E	F	G
1	FID	ID	Lat	Long	WF_SS_SS	WF_SS_OO	
2	0	AMA1	38.5837149	23.6757328	0	0	
3	1	AMA2	38.5820959	23.6870087	0	0	
4	2	AMA3	38.4808416	24.3739354	0	0.00018656	
5	3	AMA4	38.5764277	23.6626177	0	0	
6	4	AMA5	38.5748102	23.6738928	0	0	
7	5	AMA6	38.5731915	23.6851673	0	0	
8	6	AMA7	38.5715714	23.6964414	0	0	
9	7	AMA8	38.473652	24.3607622	0	0.00018656	
10	8	AMA9	38.4719528	24.3720073	0	0.00018656	
11	9	AMA10	38.4702523	24.3832519	0	0.00018656	
12	10	AMA11	38.5691385	23.6495058	0	0	
13	11	AMA12	38.5675226	23.6607799	0	0	
14	12	AMA13	38.5659054	23.6720534	0	0	
15	13	AMA14	38.5642869	23.6833266	0	0	
16	14	AMA15	38.5626671	23.6945992	0	0	
17	15	AMA16	38.5610459	23.7058714	0	0	
18	16	AMA17	38.4664604	24.347592	0	0.00018656	
19	17	AMA18	38.4647628	24.3588362	0	0.00018656	
20	18	AMA19	38.4630639	24.3700799	0	0.00018656	
21	19	AMA20	38.4613637	24.3813231	0	0.00018656	
22	20	AMA21	38.4596621	24.3925658	0	0.00018656	
23	21	AMA22	38.5618473	23.6363969	0	0	

sheet1

Επιλέξτε τον προορισμό και πιέστε ENTER ή διαλέξτε Επικόλληση

100%

Important:

The sum of each column data (WF_SS_SS , WF_SS_OO and WF_DUST) must be equal to 1.