

LARED



Disaster Loss Accounting System using DesInventar Methodology

User Manual

Administration Module



Server 9

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INTRODUCTION

The DesInventar Disaster Loss Accounting System is supported by the United Nations Office for Disaster Risk Reduction (UNISDR). The initiative aims to strengthen the capacities of the countries to provide information on damage and loss for disasters to support national planning and investment decisions which currently do not necessarily take into account disaster risks. Disasters and their impacts represent major losses for governments and communities. The information system provides improved access to disaster data and enables to monitor, analyze and disseminate information on key hazards and vulnerabilities.

The information system is using DesInventar methodology.

Introduction to DesInventar

The Network of Social Studies in Disaster Prevention in Latin America, LA RED, was incorporated in 1992 in San José, Costa Rica. A few months later, in January 1993, LA RED released its Research Agenda and Organic Constitution documents, stating that

Population growth and urbanization processes, trends in land use, increasing impoverishment of significant segments of the population, use of inappropriate technological systems in the construction of houses and basic infrastructure, and inappropriate organization systems, amongst others, are factors that have increased the vulnerability of the population vis-a-vis the wide diversity of physical and natural events.

However, lack of systematic, homogeneous, and compatible records of disaster typologies, understood as the effect of the occurrence of threatening events on the vulnerability of each region, country or city, on the one hand, and insistence on considering disasters only as effects of events of huge proportions and high impact, on the other, have hidden the thousands of small and medium scale disasters that occur every year in regions such as Latin America, the Caribbean, Asia and Africa.

Institutions and researchers of a number of countries are interested in this subject. But unfortunately, they use different tools to systematize the information on disasters -especially databases or physical files- designed on the basis of specific or sectorial criteria, and using different formats. Besides, there is a large volume of information pending compilation and systematization, specifically in graphic material.

This scattered information must be compiled, homogenized and analyzed. But it must also be geographically referenced, since disasters (affected communities and infrastructure) due to the effects of each type of event (threat) are regionalized variables.

Objectives

A common objective in regions and countries of Latin America and the Caribbean, Asia and Africa is to build the capacity to analyze and represent hazards, vulnerabilities, and risks in terms of space and time, both retrospectively and prospectively. The purpose of this capacity is its application in risk management, whose activities go from mitigation to post-disaster attention and recovery.

Qualitative and quantitative evaluation of vulnerability and risk growth requires a sound base of documents and records including past and present disasters.

As a contribution to this common objective, LA RED began its project “Inventory of Disasters in Latin America” in late 1993. Its pilot stage comprised the following activities: a) discussion and definition of conceptual and methodological criteria for the analytical treatment of small, medium and large scale disasters; b) compilation of the information for years 1990 through 1994 in available sources, obtained from a sample of Latin American countries (Mexico, Guatemala, El Salvador, Costa Rica, Colombia, Ecuador, Peru and Argentina); and c) development of the systems tool required for this purpose.

DesInventar is then the synthesis of a process through which the research teams committed to LA RED proposed a framework under which the concepts and methodologies related to disasters were unified, and is also an instrument for the development of the objectives determined. The basic criteria guiding DesInventar are:

- All inventories must have at least a common set of basic variables to measure the effects, and a homogeneous and basic classification of events;
- The information compiled and processed must be entered in a scale of time and at a geo-referenced spatial level;
- The inventories must be analyzed with system tools, which is a basic requirement in comparative research and to support decision-making processes related to mitigation actions and risk management as a whole.

DesInventar is also an instrument that allows to visualize, in space and time, the phenomena that have been registered, thanks to its additional instrument called **Query Module or DesConsultar**.

GETTING STARTED

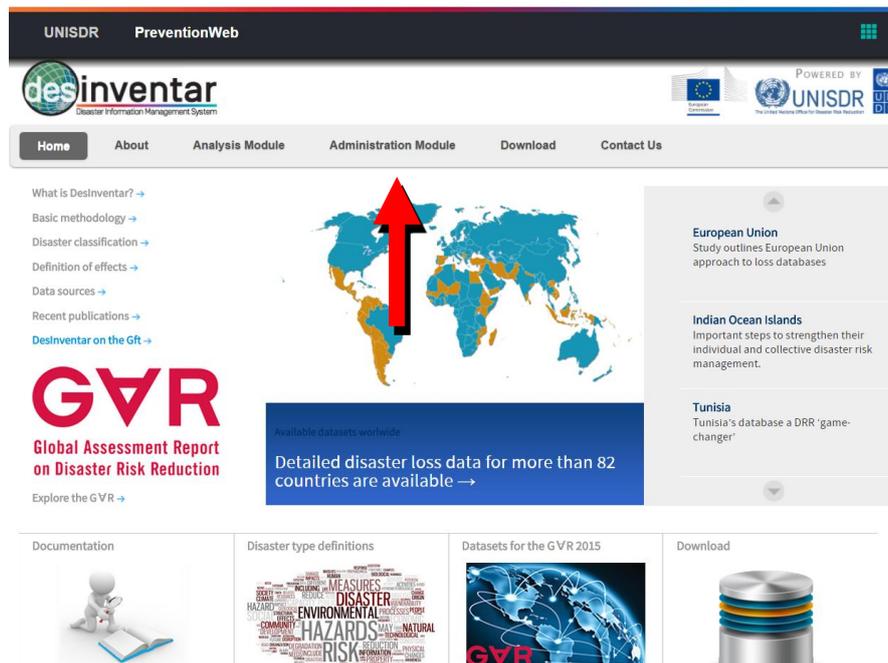
Welcome to DesInventar Disaster Loss Accounting System!

Starting DesInventar is normally accomplished by starting a browser and typing the URL:

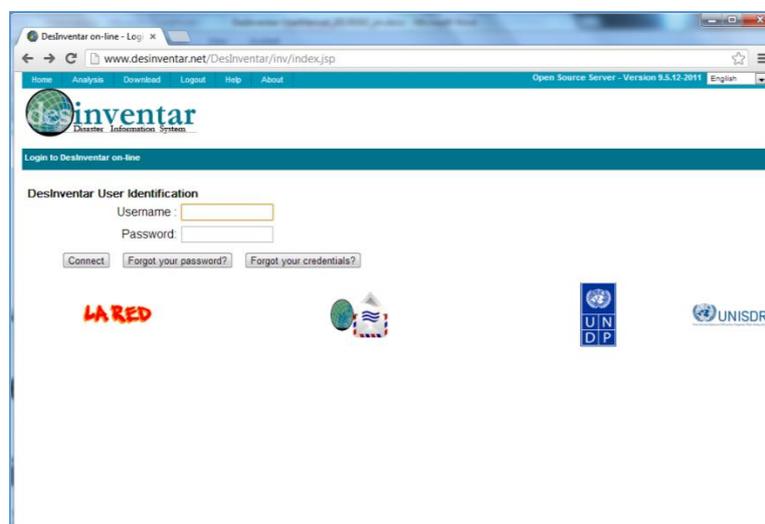
Globally - <http://www.desinventar.net>

Local host - <http://localhost:8081/DesInventar>

The Welcome screen of the system will be displayed:

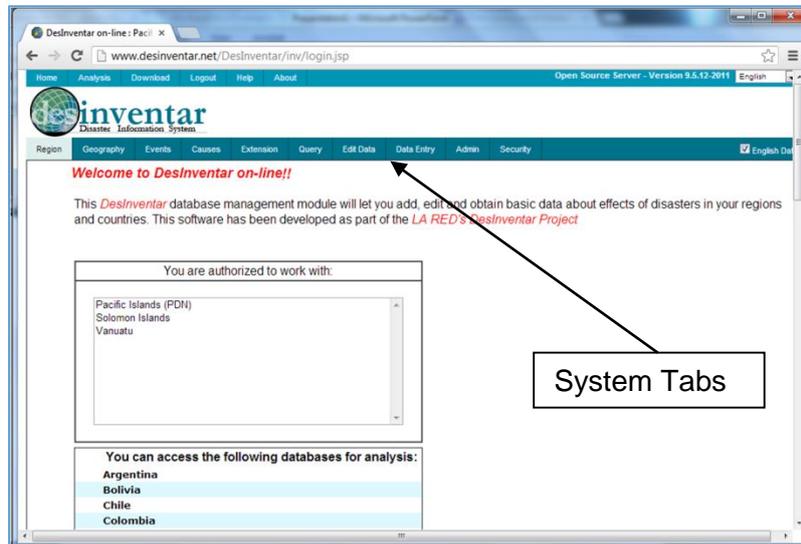


To enter the module please click on the corresponding link on the main menu bar. For the purposes of this example, the 'Administration Module' was chosen. In some systems this module is password protected. Ask your administrator for your user name and password to fill out the following screen:



Main Menu

The main menu contains the different functions and is always the first screen that is displayed by the system:



This screen groups a set of administrative functions used for data entry and to manage the system; each mayor function is shown in a Tab.

Before clicking on any Tab remember to select a country in the Region tab. This first tab of the system allows the user to select a specific Region (country) to work with.

Click on the Tab title to see what can you do. The next tabs in this screen are used to create, edit or delete Geographic Units, Events and Causes.

The Extension tab allows to “extend” the set of data that will be kept for every disaster, in addition to the system pre-defined Disaster DataCard. The standard disaster DataCard is designed such that the information can be homologized in all inventories made using Desinventar tool and methodology. You **may not** change the card, but you may create extensions that will sufficiently meet the needs of other possible fields in the information system.

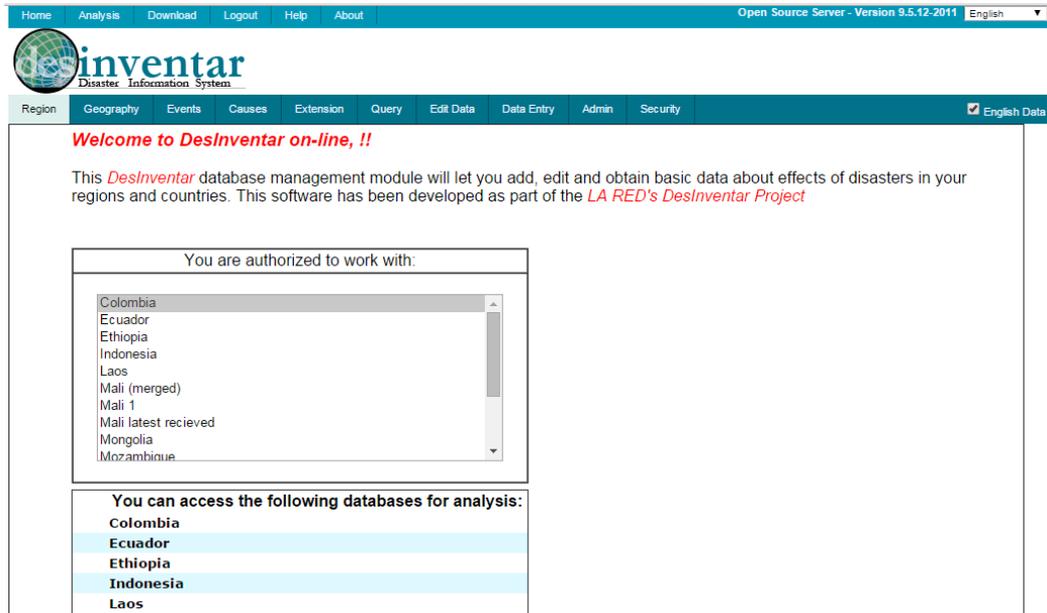
Two tabs (Query and Edit Data) will let you quickly query the system and find the data you want to edit (or delete)

The methodology for entering data on the cards (and on events, causes and other objects) is consistent across the system. You can usually choose from the functions “Create”, “Update” and “Delete” functions.

Finally, the last two tabs of the system (Admin and Security) contain all the functions needed to administer it; it includes import/export functions, country creation and management, definition of the users that will be allowed to access the system, privileges and permissions.

Selecting the Region of Study

Once the information system has been set up or installed, your first action is to choose the region you are going to work on. You can do this on the following window, clicking on the **Region** tab:



The screenshot shows the DesInventar web application interface. At the top, there is a navigation bar with links: Home, Analysis, Download, Logout, Help, About. The version information "Open Source Server - Version 9.5.12-2011" and a language dropdown menu set to "English" are also visible. Below the navigation bar is the DesInventar logo and the text "Disaster Information System". A secondary navigation bar contains tabs: Region, Geography, Events, Causes, Extension, Query, Edit Data, Data Entry, Admin, Security. The "Region" tab is selected, and a small "English Data" checkbox is visible. The main content area displays a welcome message: "Welcome to DesInventar on-line, !!". Below this, a paragraph explains the system's purpose: "This DesInventar database management module will let you add, edit and obtain basic data about effects of disasters in your regions and countries. This software has been developed as part of the LA RED's DesInventar Project". A section titled "You are authorized to work with:" contains a scrollable list of countries: Colombia, Ecuador, Ethiopia, Indonesia, Laos, Mali (merged), Mali 1, Mali latest recieved, Mongolia, and Mozambique. Below the list, a section titled "You can access the following databases for analysis:" shows a list of countries with corresponding database names: Colombia, Ecuador, Ethiopia, Indonesia, and Laos. The "Ecuador" row is highlighted in light blue.

Choose the country/region from the list with a click; the country/region will be highlighted. Your choice will not be "activated" until you click on another tab.

DEFINITIONS

This user manual for DesInventar aims to maintain a standard with definitions, terms, references and information relevant to the different countries. For a complete list of disaster definitions, please see Annex 1.

Issues and challenges

The reader should take into account that the information system used to produce these results is a live system and still a work in progress while errors cannot be excluded.

Tip!**Quality Control (QC)**

Many QC issues can be identified using some of the analysis function in the system while building the content and during the final validation. For more details on analysing the DesInventar information please see the DesInventar Disaster Loss Accounting System User Manual Analysis for more details (http://www.desinventar.net/DesInventar/User-Manual-Analysis-and-Query_EN.pdf).

1. Exaggeratedly large values in effects due normally to typos (but also to mistaken data sources) can be seen as large slices in composition analysis or bars of too high values in histograms.
2. Some of the most common problems related to dates can be seen while producing simple temporary histograms and seasonal histograms. Dates entered outside the period (for example a two digits year) distort the histograms. Use the expert function to target the problematic DataCards.
3. Statistics by event and or geographical unit can also highlight other problems such as potentially duplicated event types (against fundamental recommendations of the DesInventar methodology).
4. Thematic mapping can show the geographic units without any information.

Events as Defined by the DesInventar methodology

EVENTS or DISASTER TYPES are defined in the system based on the Integrated Research on Disaster Risk (IRDR) programme and apply to the common standardized classification and definitions. You can find them here:

<http://www.desinventar.net/definitions.html>

Geography

A good deal of the effort made by DesInventar has focused on geo-referencing the information. This process assumes the existence of geographical units to which the information will be “anchored”.

The research team of DesInventar suggests using the political-administrative divisions of each country as the basis to geo-referencing the disaster information entry cards.

The geographical units might be, for example, elements of a uniform grid. This could be very advantageous, but impracticable, because neither natural territorial units nor political-administrative divisions are square.

The alternative is then to use more “human” geographical units, which may be less homogeneous, but can be used in a practical way. These geographical units must be known zones, established to last over time.

Theoretically, a researcher could establish HIS OWN geographical unit, and use it to geo-referencing

the information. This is valid, but it might not allow cross-referencing information, such as the social-economic information, which could be absolutely relevant in a study from the social point of view of disasters. Therefore, we recommend to register the data at municipality level, so data can then be aggregated at provincial and national level. For doing so, you have to attribute codes to each administrative region. Some countries have official municipality and provincial codes, which can be very useful so there is a standard coding of the regions in all country's data platforms. The idea is to "anchor" the municipality code with the province code (e.g., Province A code is 01, then municipality A within that region would be 011, municipality B would be 012, and so on...).

Disaster as defined by DesInventar Disaster Loss Accounting System

Now that the concepts of geography and data resolution have been described, the cornerstone of the the DesInventar can be introduced: the definition of "Disaster". Based in the terminology of the United Nations Office for Disaster Risk Reduction (UNISDR), a disaster is defined as:

A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

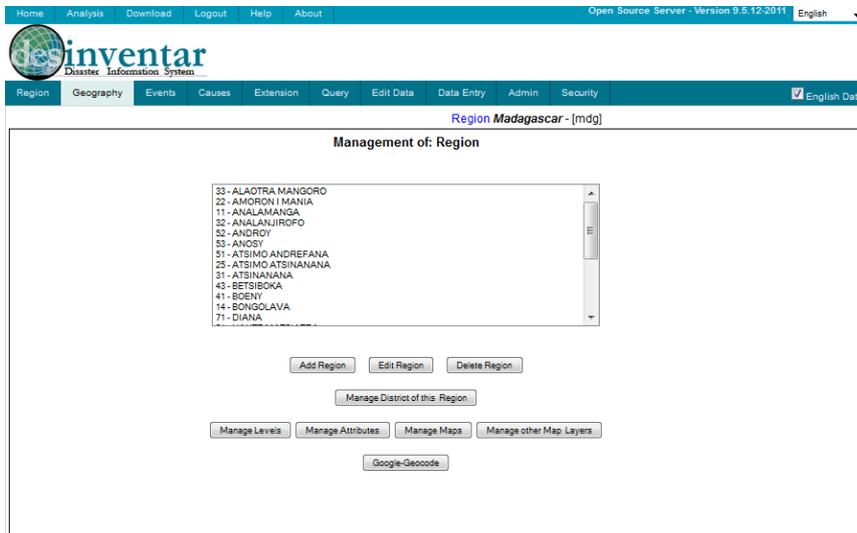
Comment: Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

Disasters imply human and material damages and losses. Therefore, a series of damage and loss indicators are proposed by the system, so users can track them in order to evaluate the effectiveness of disaster risk reduction measures and also to compare them with other developmental processes, policies and indicators.

One important aspect of this system is that it allows to understand the impact of localized disasters. Therefore, the system does not have a threshold for registering losses. The purpose of not having such a threshold is precisely to keep track of extensive disasters. As risk accumulates over time, it manifests as a large and rising number of localized disasters, mainly associated with storms, flooding, fires and landslides, and linked to climate variability. These localized disasters may account for only a small proportion of overall disaster mortality but, closely mirroring development processes, they are responsible for significant damage to housing, crops, livestock and local infrastructure, and particularly affect low-income households and communities. This risk layer is called extensive risk.

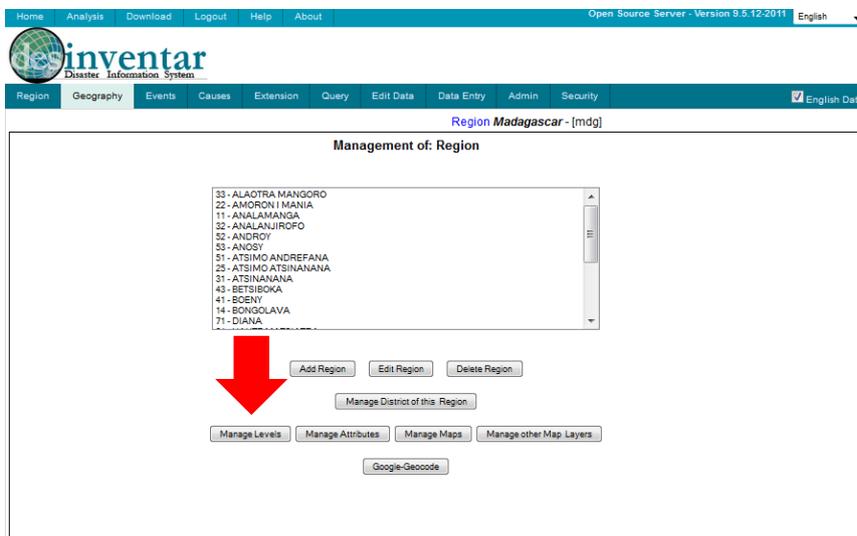
GEOGRAPHY MANAGEMENT

The Geography tab main screen.

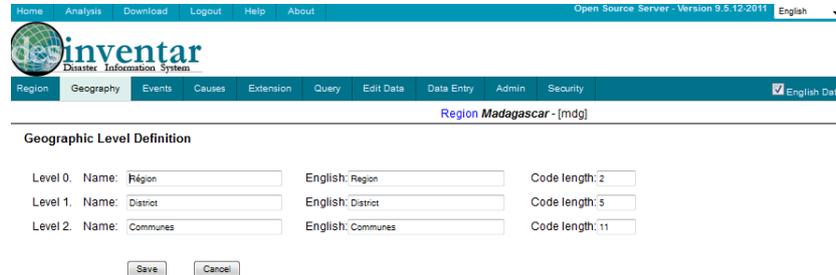


Geographical Levels (manage levels)

Once the country has been chosen and installed, your first step is to determine the NAMES given to the geographical levels (provinces, municipalities). Click on the button “Manage Levels” of the geography tab (see image below).



Administrative Note: Administrator users can Add regions to the list, and Edit or Delete existing regions from the Region Administration screen however, DO NOT create regions if it is not absolutely necessary. This occupies space in the hard disk, in your database server and slows down overall processing. Consult your Administrator if you wish to make changes to datasets.



Observe that the fields corresponding to code lengths may initially show zeros. It is very important to specify the length of the codes for each level.

As in all the windows of DesInventar, you must click the **Save** button as you finish entering the names of the levels. **If you don't click OK, THE INFORMATION TYPED WILL BE LOST.**

The **Cancel** button aborts the operation; that is, the window is closed without making any changes.

When you choose them from the menu, the processes to enter code and name data for each level will be initiated.

The following are examples of levels for some countries.

Madagascar Level 0 = Region
 Level 1 = District
 Level 2 = Communes

Indonesia Level 0 = Province
 Level 1 = District
 Level 2 = Sub-District

Fiji Level 0 = Province
 Level 1 = District
 Level 2 = Village

Creating Geographic Units

The visualization of levels shows the names and lengths given to level 1, 2 and 3. For example for the Samoa region, level 0 takes the name ISLAND and the length of the code is 3. For level 1 the name is REGION with a code length of 6 and level 2 is DISTRICT with a code length equal to 9.

The length of the more internal codes contains the superior level.

For a region such as Samoa:

Level 0 (name: ISLAND length: 3)

Level 0	
Code	Name
001	Savaii
002	Apolima
003	Manono
004	Upolu

Level 1 (name: REGION length:6).

Code	Name
004001	Apia Urban Area
004002	North West Upolu
004003	Rest of Upolu
001004	Savaii

Level 2 (name: DISTRICT length:9)

A few districts belonging to North West Upolu:

Code	Name
4002019	Aana Alofi III
4002020	Aiga i le Tai
4002021	Falelatai / Samatau
4002022	Lefaga / Faleseela
4002023	Safata

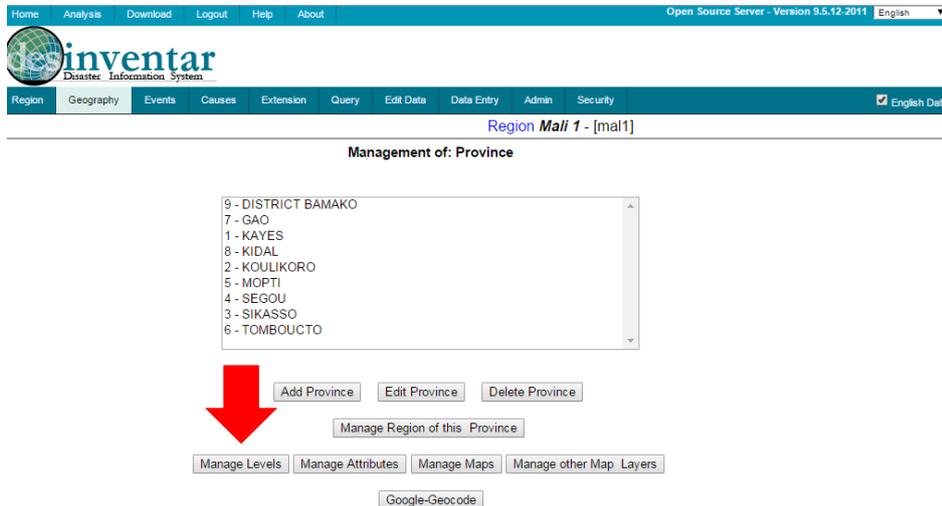
This configuration indicates that :

- The first level corresponds to Islands, and its length is 3, therefore only values between 001 and 999 should be used if possible. As a result, the maximum number of islands to be contained in this region is 1000
- The second level corresponds to Regions, the code length is 6, but 3 are reserved for the first level, meaning that the possible values for district within a state range from 000 to 999. As a result, the maximum number of regions per islands is again 1000.

The management of the levels depend on each country or region. Try to use the the official codes of your country or region to facilitate this.

Management of Each Level

The provided operations allow adding, editing, and removing elements on each level. For editing a region, click on the “Add Province” button:



When you click this button, blank fields are displayed on the window for you to fill them in. You may fill in the fields in order using the keyboard. Use the TAB key to move from one field to another.

Once you have finished filling in the fields, click SAVE, such that the information is registered in the database. IF YOU DO NOT USE THE SAVE BUTTON, THE INFORMATION WILL BE LOST. You can also delete and edit the regions.

Errors While Entering Geography Data

DesInventar detects several types of error while entering data. One of them occurs when you try to create or edit a region, but you have not entered the name or the code.

When this happens, an error warning sign is displayed and, as it announces, the region will not be created or modified, as the case may be. Enter the complete information (code and name).

Other error occurs when you try to create a region using a code already applied to other region. In this case, DesInventar displays the message “Duplicated Code”. Repeat the operation using a new code.

DesInventar will also issue an error message if a region for which DataCards have been created is attempted to be deleted.

Management Buttons in Geography Tab

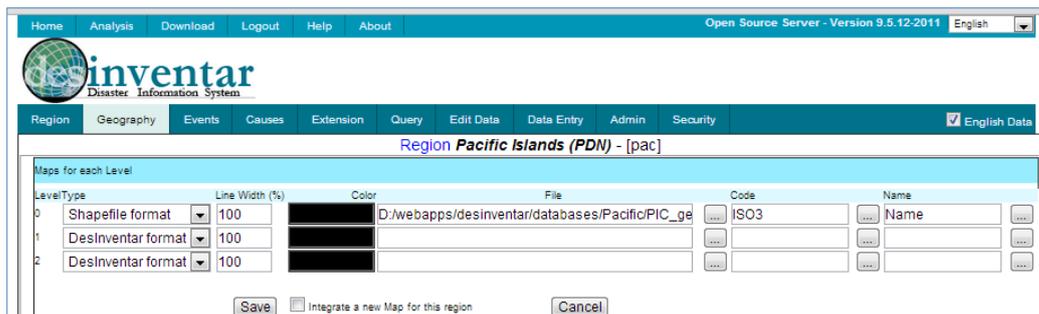
The Level 0 geography screen shows also several buttons that bring the user to screens in which other data related to Geography is managed. These are:

MANAGEMENT OF MAPS

Maps can be managed in DesInventar System in two possible ways: as DesInventar 6.0 imported maps or as shapefiles.

For information on how to build DesInventar 6.0 maps please refer to the document “Map Import Tool”. **We recommend these maps be discontinued and only use Shapefiles from now on.**

As the recommended method is to use the new approach, i.e. coordinate referenced shapefiles the following paragraphs will describe how to use these types of files as base for the Geography. By clicking on the “Manage Maps” button, you will get to a section as presented in the image below:



Overview of the Process

As a very brief summary the steps to import a map are the following:

- Verify that you have POLYGON maps, and that each of the polygons is uniquely identified by a code.
- Verify that each of the layers (shapefiles) to be used correspond to one of the Levels in DesInventar. Each shapefile must cover ALL of the country/region.
- Verify coverage and correspondence of the map and the database. If there is already a geographical division in the database (for example from the Statistics Bureau of the country), this verification should include an assurance that the codes for each polygon are the same as those being used in DesInventar, that ALL codes in the system have a corresponding polygon in the map and that every polygon in the map corresponds to a geographic unit, i.e. that there is a one-to-one correspondence between the map and the system of selected codes.
- Verify that the coordinate system is based on Latitude and Longitude coordinates, preferably using the WGS84 standard.
- Use an external tool (such as Excel, Dbase or similar) to clearly identify the fields (column names) that contain the code and names of each geographic unit.

(!) MAKE SURE YOU TAKE A BACKUP COPY OF THE DATABASE before attempting this process.

Important Considerations:

No error or warning will be displayed if an Area in DesInventar doesn't have a polygon in the map.

This process assumes the **LENGTH** of codes are as per the definition on “Manage Levels” tab. You **CANNOT** use shapefile maps when codes are not hierarchical. This means the code of an area must start with the code of its ‘parent’ area. For example all districts of a province with code 02 must start with 02, like 02125, 02126, 02127, etc.

Setting up a Map for a Level

The process is rather simple:

- Select “Shapefile” as format type.
- Select a **Line width**. A line width of 100% is roughly a line 1 pixel wide. You may have thicker lines for higher boundaries (for example 130%). You may specify less than 100% as width, which will be attempted to be rendered using a technique called anti-aliasing. However it will not be strictly a less-than-one pixel line.
- Select a Colour for the limit. A palette will be shown; click on the desired color, either on the top palette or in the gradient bar.
- Browse to the file that contains the map. Keep in mind this browses the **server** computer; if you are working on your local host you will see you own computer folders and files. However, if the DesInventar server is another computer you will see the server files and folders; in this case you must upload manually the map to the server. No provision is made for doing this in DesInventar as a security measure.

First, save the specification and then save it again with the option of Integrate the new map into the Server 7 format database.

Management of Other Map Layers

DesInventar can show, in addition to the Geography maps, other cartographical information that is considered to be relevant, such as rivers, roads, location of villages and other urban centers, topography, etc.

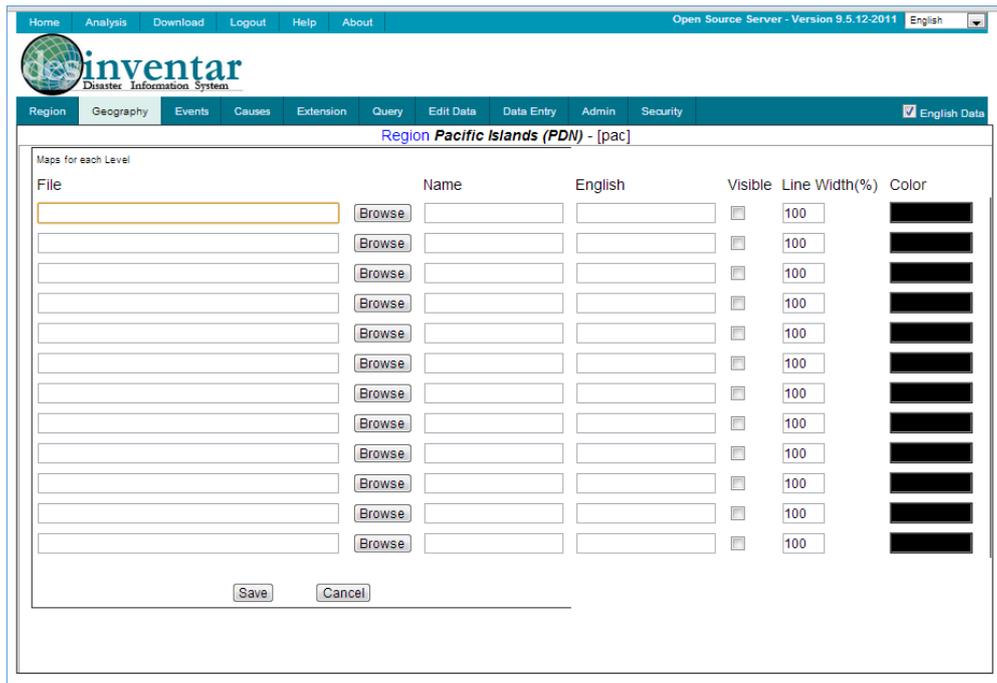
Each additional map will be treated as a “Layer”. Layers may be made visible or invisible during the process of producing Thematic Maps, giving the user high flexibility.

Map Layers **MUST** be stored in Shapefiles of the following supported types:

- Polygon
- Polyline
- Point

Support for other types of shapefiles will be added in the future.

Layer management is done with the following screen:



The process of adding a map layer is simple:

Select the shapefile using the button “Browse”. Same as in the Level Maps, this files must be in the server computer. If your DesInventar is working on your local PC you will see you own computer folders and files. However, if the DesInventar server is another computer you will see the remote server files and folders; in this case you must upload manually the map files to the server. No provision is made for doing this in DesInventar as a security measure.

Provide a name for the Layer, in local language and in English; this name will be displayed in the Thematic Map windows to turn on an off layers.

Decide if the layer will be visible or not by default.

Select a **Line width**. A line width of 100% is roughly a line 1 pixel wide. You may have thicker lines (for example 150%). You may specify less than 100% as width, which will be attempted to be rendered using a technique called anti-aliasing. However it will not be strictly a less-than-one pixel line.

Select a Colour for the layer. A palette will be shown; click on the desired color, either on the top palette or in the gradient bar.

Once you are done, click on the button Save at the bottom of the screen. If you want to remove a map layer, just erase the file name and the layer names.

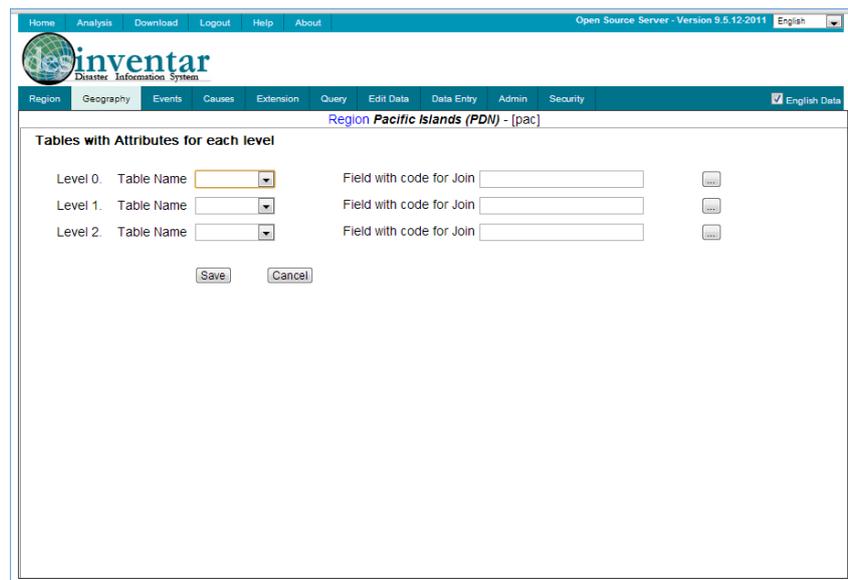
MANAGEMENT OF ATTRIBUTES

One of the mayor additions to this version of DesInventar is the ability to manage a large set of indicators (“Attributes”) associated to the geographic units on the system, such as population, demographics and many other economic and social numbers.

Each level of the Geography then may be associated to a database table containing these attributes. The creation of this tables is outside of the scope of this document, but briefly:

Tables can be imported to a database usually through the DB System built-in functionality. For example to import a table to an Access database use the Tools-> get External data -> Import menus in the system. Many databases can export tables using SQL scripts which can later be used to import data in another system or database. Others provide methods to import or export tables to intermediate formats; lastly tables can be created as external links in databases or built using INSERT SQL statements. Refer to your specific database system for instructions and suggestions on how to accomplish this.

Attribute tables must comply with one main requisite: each row must contain a column with the geographic code that will allow the system to ‘connect’ the attribute data with the geographic units and thus the disaster data. These must be the same codes used in the Geography.



The screenshot shows the DesInventar web application interface. The top navigation bar includes links for Home, Analysis, Download, Logout, Help, and About. The main menu includes Region, Geography, Events, Causes, Extension, Query, Edit Data, Data Entry, Admin, and Security. The current page is titled 'Region Pacific Islands (PDN) - [pac]'. The main content area is titled 'Tables with Attributes for each level' and contains three rows for Level 0, Level 1, and Level 2. Each row has a 'Table Name' dropdown menu and a 'Field with code for Join' text input field with a selection button (three dots). At the bottom of the form are 'Save' and 'Cancel' buttons.

When the Option to Manage Attributes is selected a screen showing as many entries as levels in the system is shown. For each level (all are optional) a table may be selected from the dropdown list. Note the table must be already present in the database.

Once a table is selected a field or column must be selected for the Join (to ‘connect’) with the rest of the geography. The best way for doing this is to click on the button with the ellipsis (...) and select the field from the list. To make the process safer, the content of the first few records are shown. Once the column has been selected click on Save.

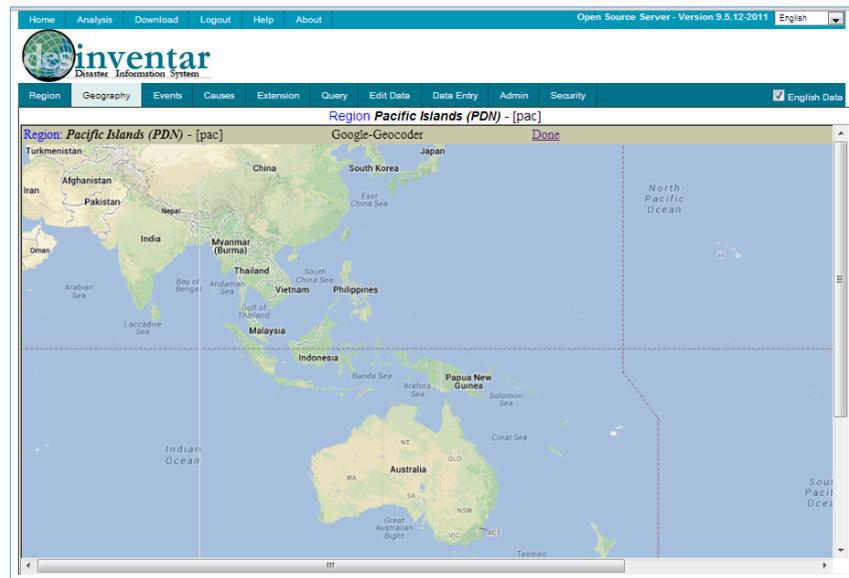
After attribute tables are selected they will start showing on the Variables boxes of the system (charts, maps, stats, etc). Please refer to the Query module manual (DesConsultar) for more information on how to use these attributes in queries, charts, maps, reports and statistics.

GOOGLE-GEOCODE

As experimental feature of the system, you may try to obtain an initial pair of coordinates for those records in the system that DON'T have a Lat-Lon pair defined.

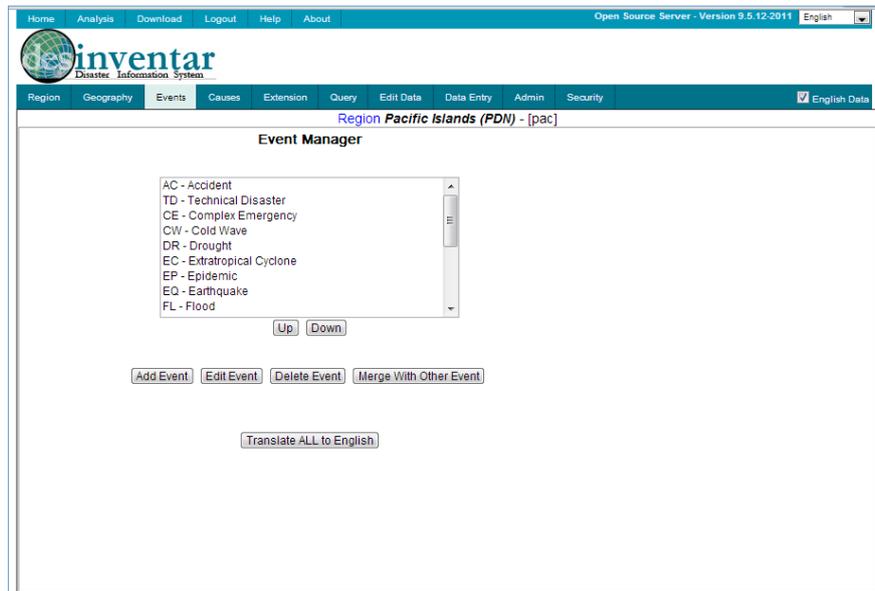
This is done through the Geocode window; it uses the Google API to obtain coordinates. It is recommended that the batch size is kept low (Max points), otherwise the service can be denied after some intensive use.

Once the "Start geocode" link is clicked the system will communicate with Google, obtain the approximate coordinates of each event based on the Names of the geography and Place. A bubble will be put on the map for each location calculated.



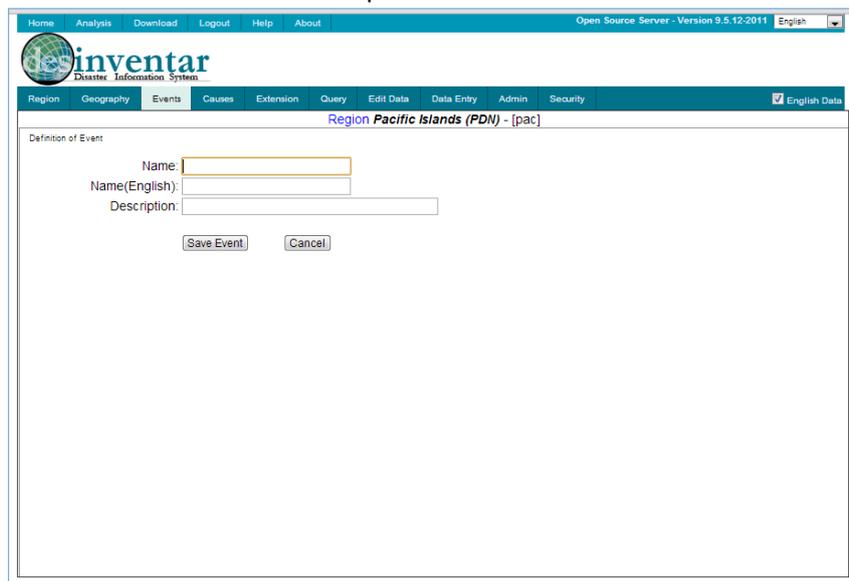
EVENT MANAGEMENT

The functions available in this menu, “Add”, “Edit” and Delete”, use the same data window, although each of them uses it in a slightly different manner:



Adding Events

When you are going to create an event, a data screen, similar to the one shown below, is displayed, but with blank fields for the name and description of the event.



Observe the following rules to fill in the fields:

- Use generic terms for the names, trying to avoid regionalisms;
- Use only CAPITAL LETTERS to enter event data;

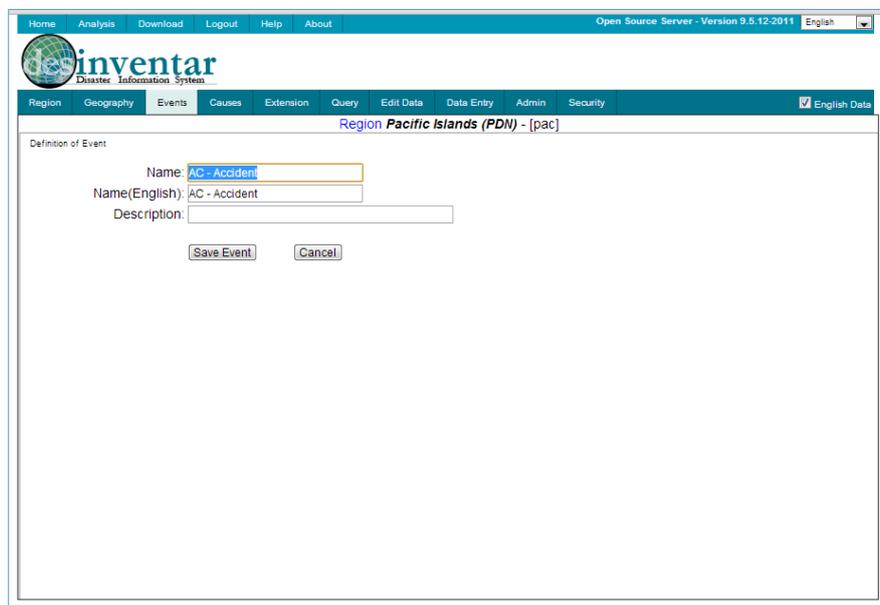
- Check out your spelling.

When you have finished entering the first field, use your mouse or the TAB key to reach the next field. Once you have filled it in, you may:

- a) use the TAB key to stop on **Save** button, and then press ENTER to save the event; or continue to **Cancel** the whole operation, or
- b) with your mouse, click **Save** or on **Cancel**, depending on what you need.

Editing Events

Choose from the list the event you want to edit, and then click on the 'Edit' button. A populated screen will be shown displaying the name and description of the selected event:



The screenshot shows the 'Definition of Event' form in the DesInventar web application. The form is titled 'Definition of Event' and is located within the 'Region Pacific Islands (PDI) - [pac]' context. The form contains three input fields: 'Name' (containing 'AC - Accident'), 'Name(English)' (containing 'AC - Accident'), and 'Description' (empty). Below the fields are two buttons: 'Save Event' and 'Cancel'. The browser's address bar shows 'Region Pacific Islands (PDI) - [pac]'.

DO NOT MODIFY PREDETERMINED EVENTS. Remember that one of the objectives of the database (and the DesInventar methodology) is to homogenize information across databases. This function, and the option "delete event", are provided only to manipulate new, non standard events.

Fill in BOTH fields, following the rules of the game. Click **Save** or **Cancel**, as the case may be.

Deleting Events

As in the preceding case, choose from the list the event you want to delete. If you do not want to delete any one, click on Close.

DO NOT DELETE PREDETERMINED EVENTS. Remember that one of the objectives of DesInventar is to homogenize the information. This function, and the option "Edit event", are provided only to manipulate new events.

To choose an event, just click the one you desire. The function buttons will be displayed as soon as you have chosen the event to be deleted.

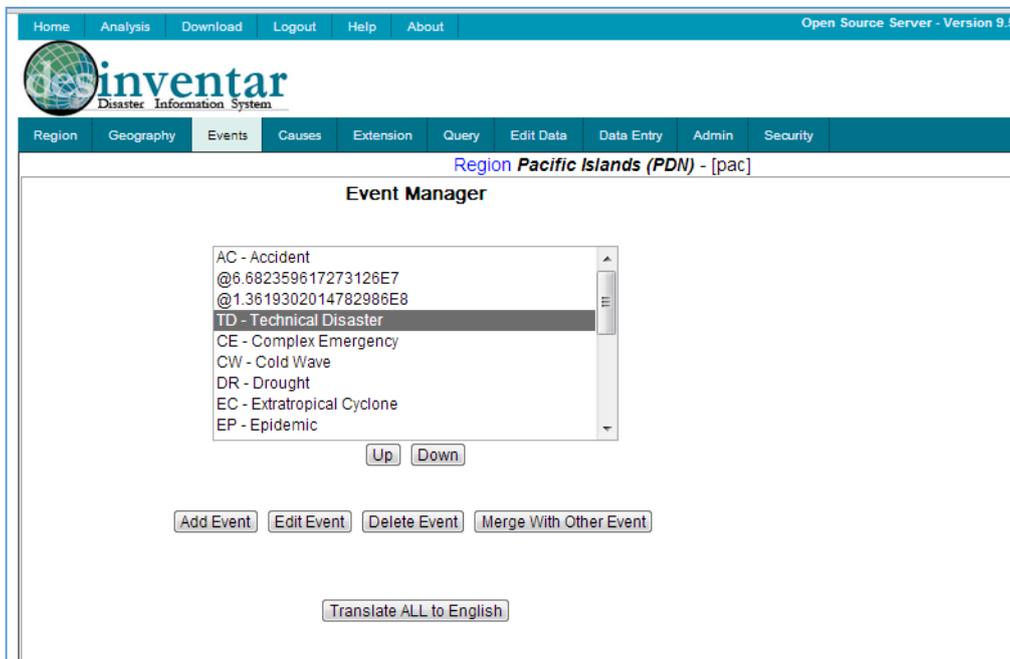
Click OK to delete the event, or CANCEL if you are not going to make any changes.

Errors in Manipulating Events

When you use the above options, two types of error may appear. One, when you have failed to fill in one or both of the blank descriptions at the moment of creating or editing an event. In this case, an error warning ("Creation Error") is displayed. This means that the event was not created or modified, and you must fix the problem before the object can be created.



The second possible error occurs when you type an existing Name of Event. In this case, the warning in red reads "ALREADY EXISTS", and the operation is cancelled.



IMPORTANT: Please note that Events for which datacards have been entered SHOULD NOT be deleted. Instead of an error message, the deletion will be accepted by the system and a coded name (e.g., @6.682359617273126E7) will be generated in place of the event you tried to delete. This will affect all records with that Event. Deleting is not recommended at this time until the system error can be reviewed by the system manager. For the time being, it is recommended to create a new event or choose another pre-existing event and adjust manually the records assigned to the event you wish to eliminate.

CAUSE MANAGEMENT

For more information about the causes see as well the DesInventar Disaster Loss Accounting System User Manual Data Management.

Tip!

"Cause" information is not standardized which makes it so far impossible to use it for analysis purposes. Cause related information is still useful and should be collected either in the "Cause Description" field or the "Comments" field. However, "Causes" are not mandatory.

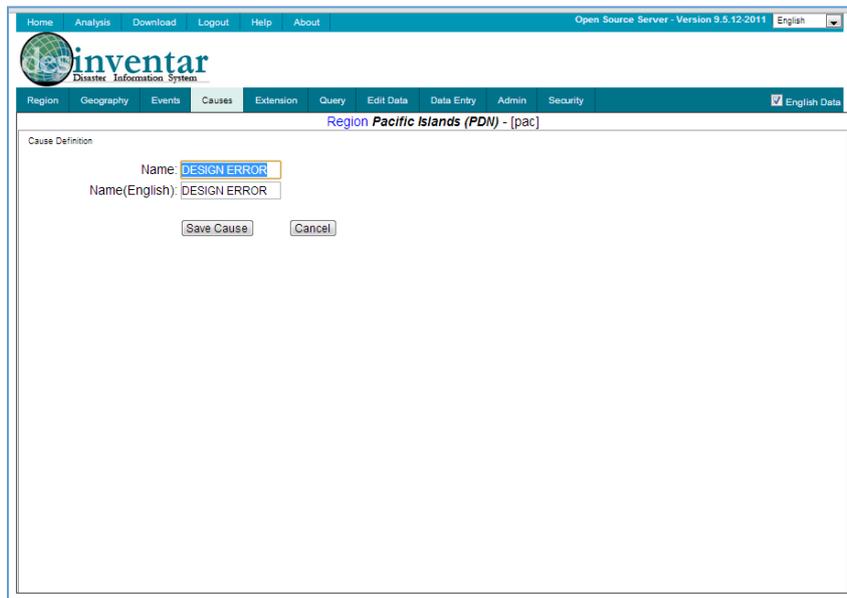
The operations that can be performed over the causes are:

Add new causes

Press the ADD button. It allows editing the name of an existing cause.

Edit information of causes

Pressing the Edit button allows you editing the name or description of any cause.



The screenshot displays the DesInventar web application interface. At the top, there is a navigation menu with options: Home, Analysis, Download, Logout, Help, About. The main header shows the DesInventar logo and the text 'Disaster Information System'. Below the header, there is a secondary navigation menu with options: Region, Geography, Events, Causes, Extension, Query, Edit Data, Data Entry, Admin, Security. The current page is titled 'Cause Definition' and is located within the 'Region Pacific Islands (PDN) - [pac]' context. The form contains two input fields: 'Name' and 'Name(English)', both containing the text 'DESIGN ERROR'. Below the fields are two buttons: 'Save Cause' and 'Cancel'.

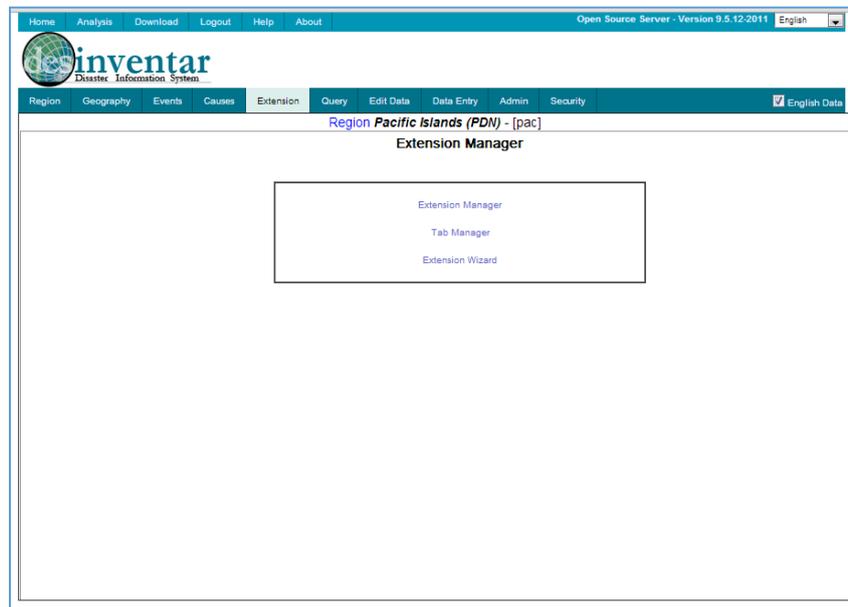
Delete Causes

Press the Delete button. Only one cause can be eliminated if it has not been assigned to a record in a particular database.

Error messages similar to the ones produced while manipulating Events are produced when the user tries to enter empty data or to enter a cause that already exists, or to delete a Cause that is referenced in a data card.

EXTENSION MANAGEMENT

This section provides indications about the process for defining the extended card. The process functionality is split it two: Tabs management and Extension variables Management. All these functions are accessible from the main **Extension tab**.



The Extension Tab

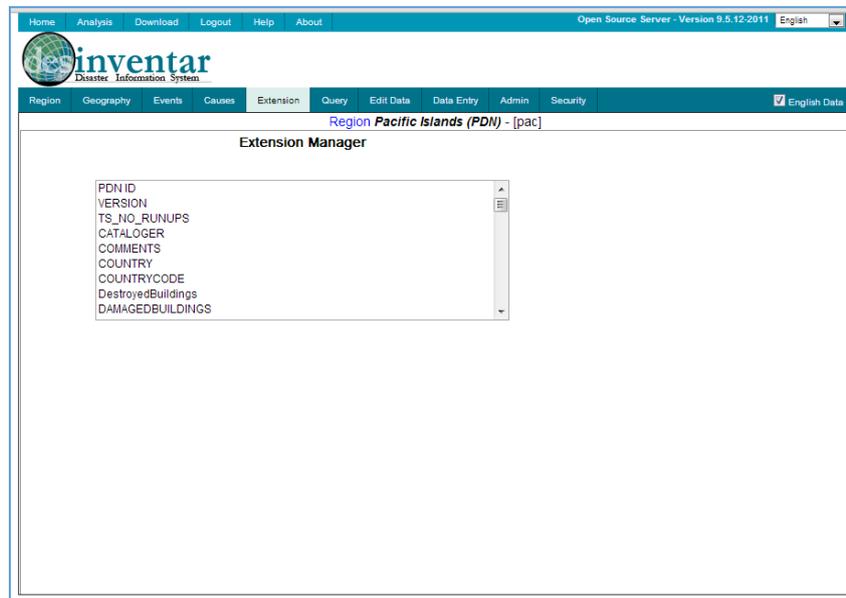
Once the Extension tab is selected a screen with two links is shown. The two links are “Extension Manager”, which contains the functions to define all the additional variables needed, and the “Tab manager”, where these groups are defined and managed.

The mechanism is very simple, but demands a good deal of attention and planning. The decision which additional variables will be included in the extension section demands good planning and collaboration between risk analysts, data managers and the database administrator.

If you are familiar with the definition of databases, you will find this process very similar. The expanded card is basically a set of “Fields”, each with its corresponding type of data. You can define additional labels for interpretation by the operator, and comments for long term documentation.

The definition of both variables and tabs includes the three usual possibilities: creation of new fields or tabs, deletion of fields and modification of the attributes of the fields/tabs.

The Extension Manager



Depending on the database platform YOU CAN CREATE AT LEAST 180 FIELDS IN AN EXTENSION Tab. 180 fields is the limit for MS ACCESS databases. In other database platforms (SQL Server, Oracle, etc) this limit goes to 1000 variables.

The field must be named following the convention of database names: **the name must start with a letter, followed by any combination of letters and numbers, with no embedded spaces.** Names must be of 32 character or less length.

Note that the length attribute is applied only to text-type fields. The maximum length is 255 letters. If you need longer texts, use a Memo field (without length limits).

Field Types

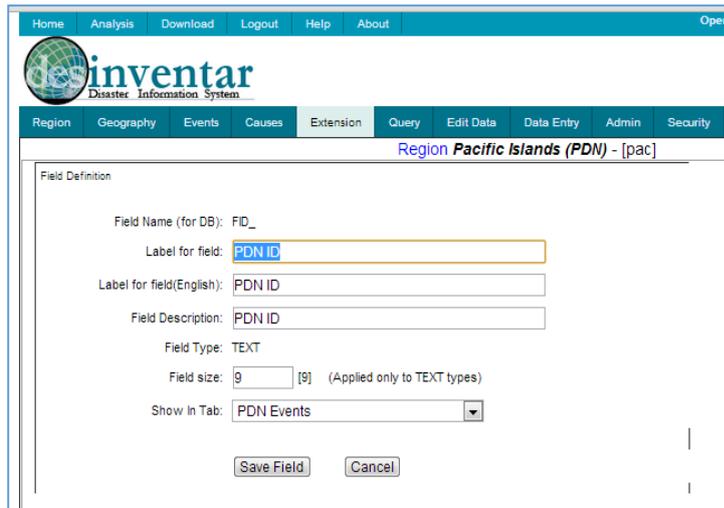
There are 7 different field / data types available:

Text:	Single line of text, up to 255 chars
Integer	Number with no decimals, up to 10 digits
Floating Point	Any other number
Currency	Numbers with 2 decimals
Date	DD/MM/YYYY
Memo	A chunk of text of unlimited length
Yes/No (Boolean)	Yes or No
Dropdown list	A drop down list with a series of values. Use the Codes button to populate the list.
Multiple choice	A radio button list with a series of values. Use the Codes button to populate the list.

The Extension Manager contains the following functions, each one on a button:

- Add Field:** A new field will be included at the end of the list. Please see below a Field Definition Screen.
- Edit Field:** if a field is selected, it will be possible to modify the labels (local language and English) as its description. Please note the field type cannot be changed (except in a few cases, for example it can be done from Dropdown list to Choice).
- Delete Field:** It is possible to delete a field, but bear in mind that when you delete a field, you **eliminate the information stored in this field in all the cards, and this is IRREVERSIBLE**. The same applies to a change in the length: if you reduce the length of a field, you will cut the information, and this is irreversible too.
- Codes:** For dropdown and choice fields, it allows to define the list of values that will appear on the list.
- Field UP/Down:** These buttons help moving the place the fields appear up and down. Keep in mind the list in the Extension Manager contains all the fields of all the tabs.

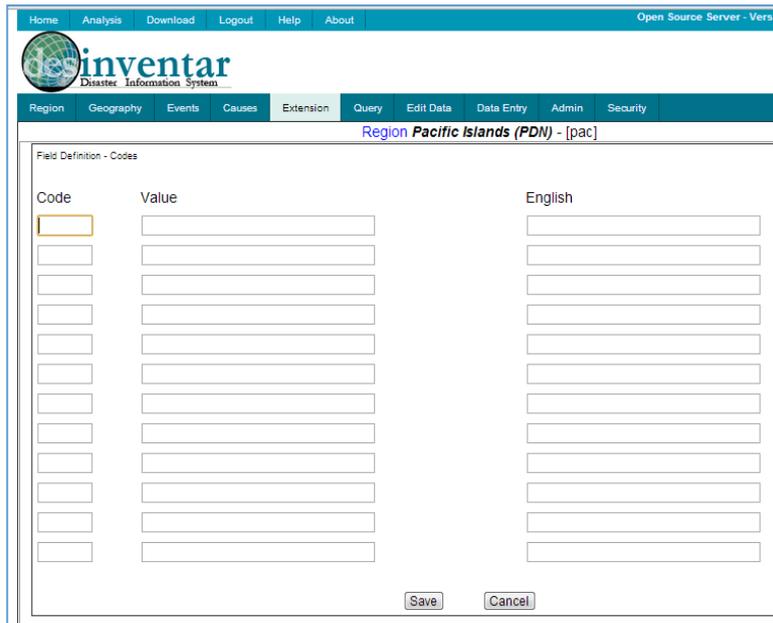
Field definition Screen



The screenshot shows the 'Field Definition' screen in the desinventar system. The interface includes a navigation bar with 'Home', 'Analysis', 'Download', 'Logout', 'Help', and 'About'. Below the navigation bar, there are tabs for 'Region', 'Geography', 'Events', 'Causes', 'Extension', 'Query', 'Edit Data', 'Data Entry', 'Admin', and 'Security'. The current view is for 'Region Pacific Islands (PDN) - [pac]'. The 'Field Definition' form contains the following fields:

- Field Name (for DB): FD_
- Label for field: PDN ID
- Label for field(English): PDN ID
- Field Description: PDN ID
- Field Type: TEXT
- Field size: 9 [9] (Applied only to TEXT types)
- Show In Tab: PDN Events

At the bottom of the form, there are two buttons: 'Save Field' and 'Cancel'.

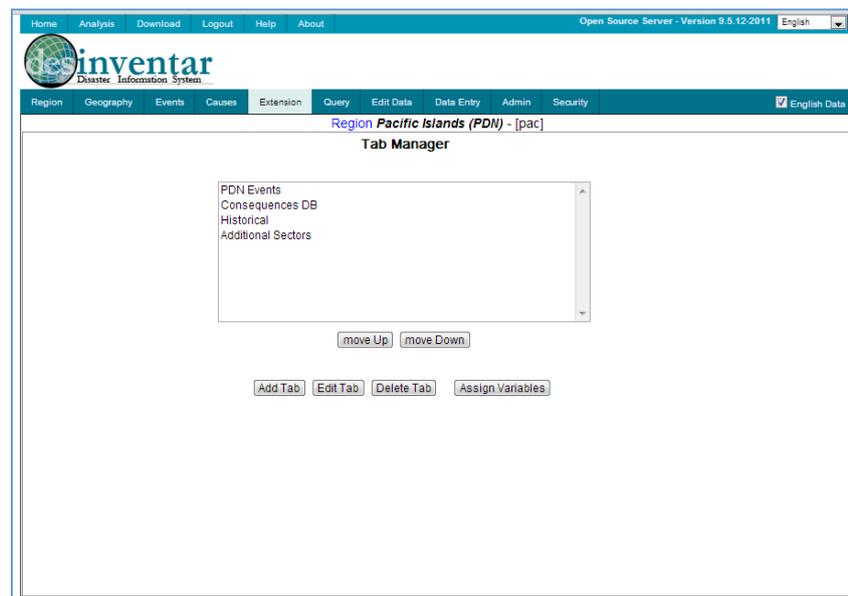


Code Definition Screen

Tab Manager

In order to organize the Extension variables in a way it's easier to find them, to type and update them and to produce smaller data entry screens, extended variables can be grouped in tabs.

The functions required to manage tabs are present in the Tab Manager:



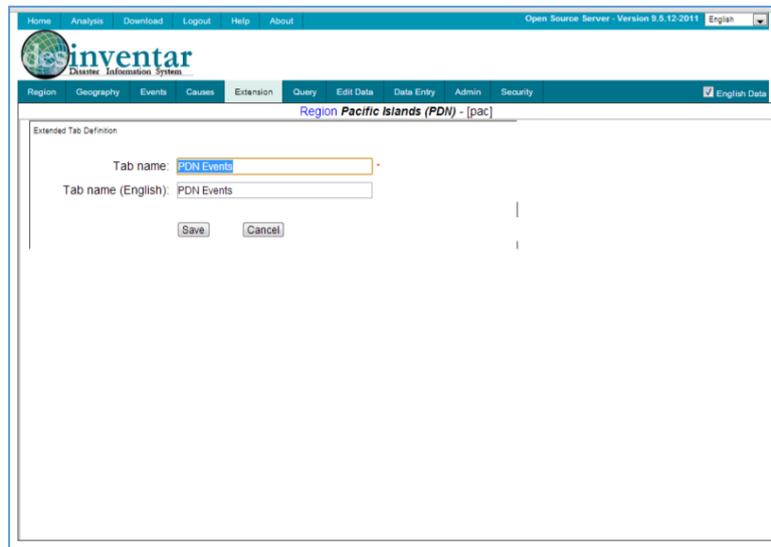
The Tab Manager contains the following functions, each one on a button:

- Add tab:** A new tab will be included at the end of the list. Please see below a Tab Definition Screen
- Edit Tab:** If a Tab is selected, it will be possible to modify the labels (local language and English).
- Delete Tab:** It is possible to delete a tab, but bear in mind that when you delete a tab, all fields return to the default Extension group.

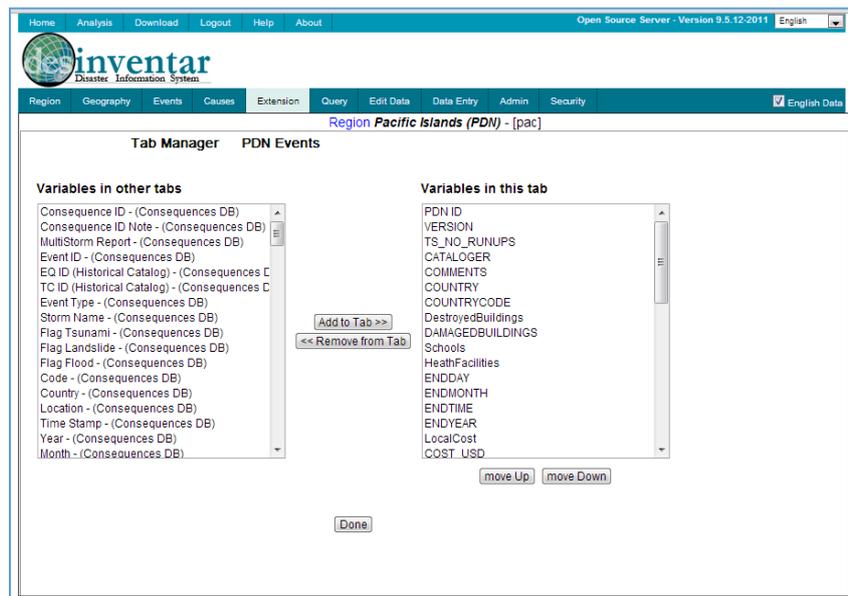
Assign Variables: This function allows the user to define which variables are to be shown on each tab. User must select one tab from the list, and click in this button. All variables will be shown on the left hand list, and the list of variables that will appear on the tab in the right side list. Variables can be selected and moved to the right and left with the corresponding “Add to Tab” and “Remove from Tab” buttons

Field UP/Down: These buttons help moving the place the tabs appear up and down (left and right on the datacard).

Tab data screen



Assign variables to Tab screen



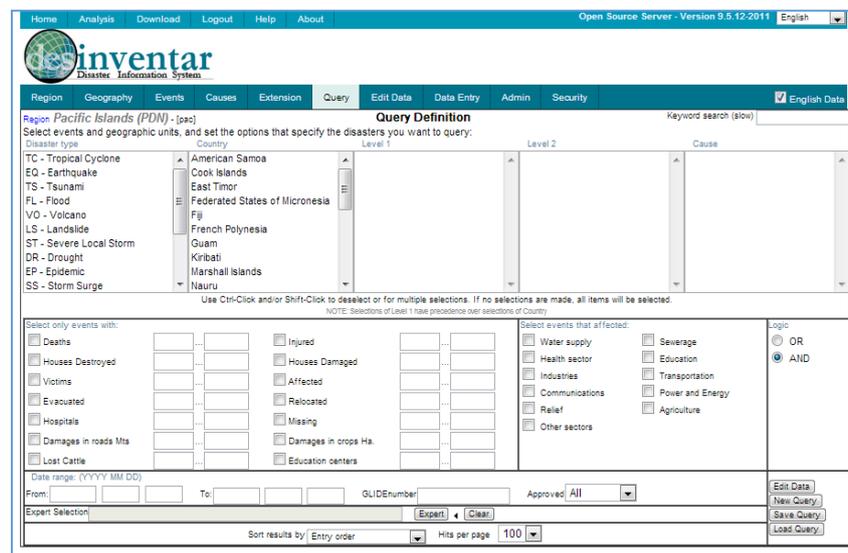
QUERY MANAGEMENT

The ultimate rationale of an information system goes beyond the initial and basic objective of achieving a methodical, homogeneous and systematic storage of information. Information is useless if there are no tools to retrieve, (consult) and analyze.

Information retrieval processes must be selective, specific to the characteristics of the information. In DesInventar, retrieval is made based on thematic (type of event and causes), spatial component (geography) and time (dates) criteria.

Data analysis is a too wide an issue to be approached in a generic manner. However, DesInventar provides tools to display and visualize the information, which will serve to initiate and support the analysis activity. For more details on analysing the information please see the DesInventar Disaster Loss Accounting System User Manual Analysis

(Download: http://www.desinventar.net/DesInventar/User-Manual-Analysis-and-Query_EN.pdf)



Mark the query options with which you restrict your search. Then press the CONTINUE button to visualize the results. The criteria for limiting the information output of the query are :

- One or several types of events.
- One or several sub regions of level 0.
- One or several sub regions of level 1, if level 0 has been selected.
- One or several sub regions of level 2, only if level 1 has been selected.
- Range of dates, that can be : only year, year-month or year- month- day.
- Events with victims(dead), injured people, destroyed houses, affected houses, and other effects.
- Type of selection: AND (Conjunctive - classifies strictly in all the selected/checked variables), OR (Disjunctive - classifies if any of the selected variables is present).
- Affected infrastructure.
- Output sort order

Selecting Data Cards by “Event”

The first list displayed includes all the types of event that have been defined. If you need a consultation (or report) containing one or more events, select it from this list. If you do NOT select a type of event,

the consultation (report) will display ALL the types of event.

Click the event you wish to select. To actually select it, click again.

Selecting Data Cards by “Geography”

The next two lists allow to select regions on which you need information.

As in the list of Events, if you do not select something, you are implying that you want to see all the regions at this level. If you do not select Regions at Level 0, the system will retrieve the cards of all the regions.

If you have select regions at Level 0, but you fail to fill in the Level 1 list or to select something from it, all the cards for disasters occurred in the regions selected at Level 0 will be retrieved.

Note that Level 1 lists appear empty at the beginning. They contain information only if a selection has been made at the previous Level. When you click them, the regions of this level are displayed, and they correspond with the regions selected in the previous level.

Selecting Data Cards by “Date”

At the bottom of the window you can see two dates: an initial date (SINCE) and a final one, “UNTIL”.

As with the lists, using them or not using them will determine or not the dates to be retrieved. If you do not use the date SINCE, the dates will be displayed without restrictions, except for those resulting from the date UNTIL. The same applies to “UNTIL” dates.

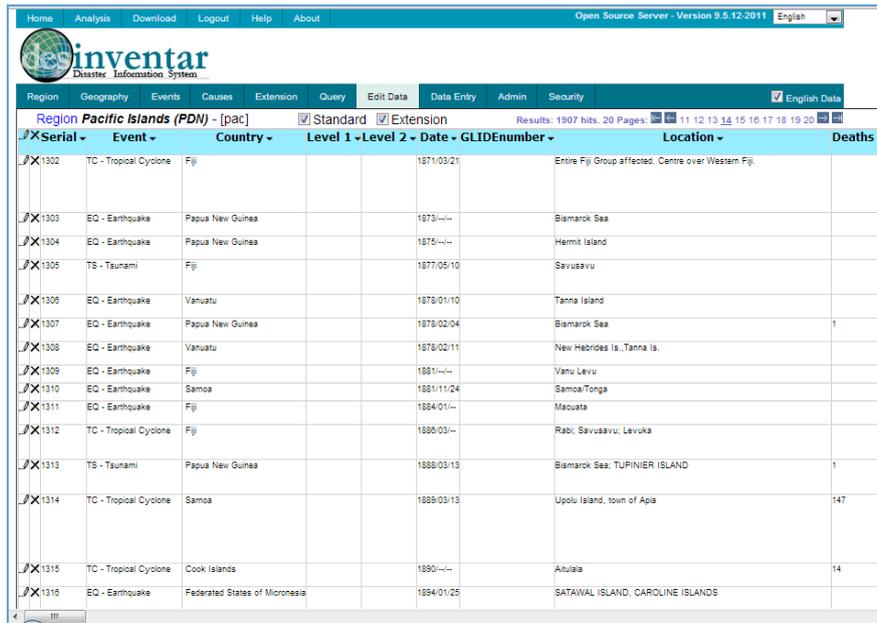
Thus, if you give the date “SINCE” only, all the cards with subsequent dates will be retrieved.

If you use the date “UNTIL” only, the cards with dates prior to the one indicated will be retrieved.

If you include both dates, the system will retrieve the cards whose date is included in the period specified.

It is important to clarify that if you enter a year as a date, you must also enter the month and the day. Otherwise, the system will take January 1st as the rest of the date. This is particularly important in the case of the “UNTIL” date. If you enter the year only, only the cards of PREVIOUS YEARS will be retrieved.

EXAMPLE: To retrieve cards corresponding to years 1993 and 1994, type as “SINCE” date year 1993. And as “UNTIL” date, 31-12-94, or year 1995 ONLY.



Serial	Event	Country	Level 1	Level 2	Date	GLIDnumber	Location	Deaths
1302	TC - Tropical Cyclone	Fiji			1871/03/21		Entire Fiji Group affected. Centre over Western Fiji.	
1303	EQ - Earthquake	Papua New Guinea			1873/---		Bismarck Sea	
1304	EQ - Earthquake	Papua New Guinea			1875/---		Hermit Island	
1305	TS - Tsunami	Fiji			1877/05/10		Savusavu	
1306	EQ - Earthquake	Vanuatu			1878/01/10		Tanna Island	
1307	EQ - Earthquake	Papua New Guinea			1878/02/04		Bismarck Sea	1
1308	EQ - Earthquake	Vanuatu			1878/02/11		New Hebrides Is., Tanna Is.	
1309	EQ - Earthquake	Fiji			1881/---		Vanu Levu	
1310	EQ - Earthquake	Samoa			1881/11/24		Samoa/Tonga	
1311	EQ - Earthquake	Fiji			1884/01/---		Maouata	
1312	TC - Tropical Cyclone	Fiji			1888/03/---		Rabi, Savusavu, Levuka	
1313	TS - Tsunami	Papua New Guinea			1888/03/13		Bismarck Sea, TUPINIER ISLAND	1
1314	TC - Tropical Cyclone	Samoa			1888/03/13		Upolu Island, town of Apia	147
1315	TC - Tropical Cyclone	Cook Islands			1890/---		Aitutia	14
1316	EQ - Earthquake	Federated States of Micronesia			1894/01/25		SATAWAL ISLAND, CAROLINE ISLANDS	

The results of the selection show a spreadsheet-like matrix of data with the records that comply with the selection criteria.

Optionally, the user is able to edit the information in each cell, this information gets automatically stored replacing the last piece of information: BE CAREFUL IN ITS USE.

The colors indicated in the back of the fields of the basic record correspond to the groups of variables being referred to in the Section called Basic record.

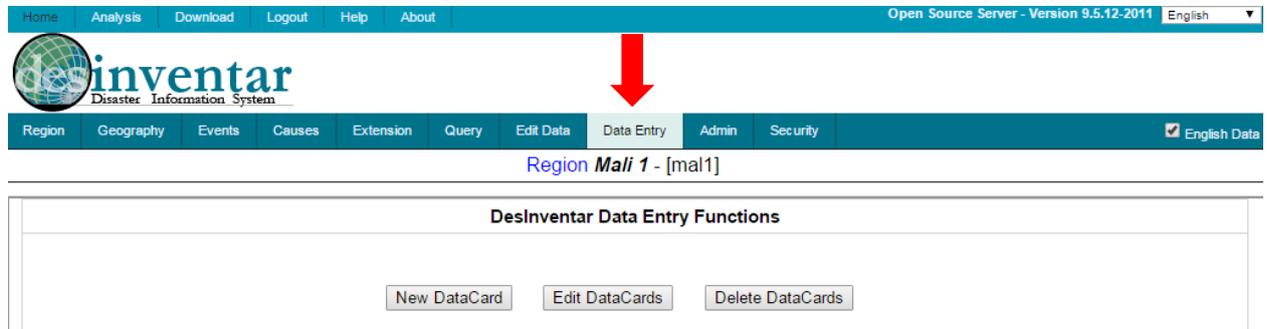
Print: It prints out the records currently on screen in a record format.

Export: It allows to export information as a txt archive, separated by tabulators. This file can be read from the majority of spreadsheets programs.

DATA MANAGEMENT

Entering and Modifying Disaster Datacards

For entering and modifying datacards, go to the “Data entry” tab.

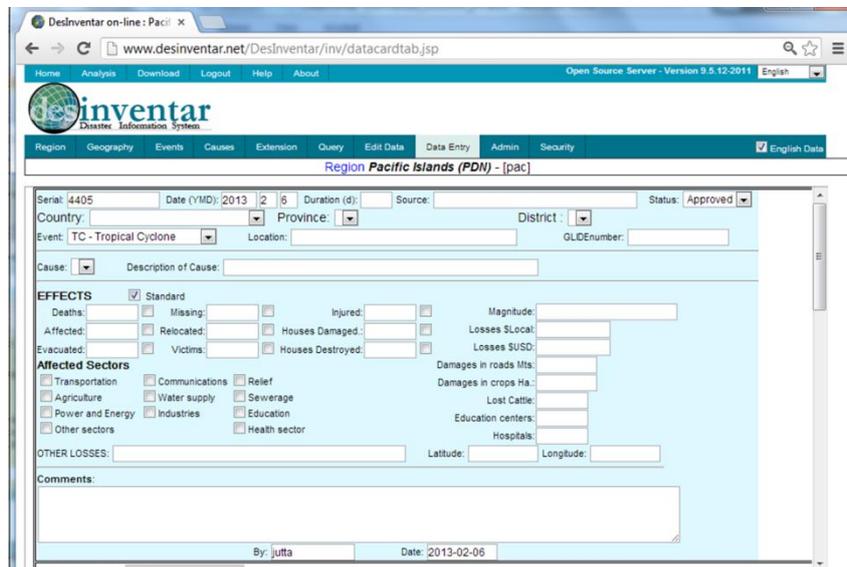


These Function buttons are mutually exclusive, except for the “Print” function. When you activate one of them, the others are disabled.

The “New Datacard” Button

Creating a New Record

As suggested by its name, it is used to add new disaster cards to the inventory. The blank datacard will be displayed in a few seconds. The content of the card is distributed in several sections:



When you click this button, all the card fields are cleared and you can start entering the information on the new card. Only the fields corresponding to Level 0 and Event usually show the information of the card that was displayed before creating the new card. Don’t forget to put the day of the event when you create a new record.

The fields can be filled in an orderly manner using the keyboard. To move from one field to another you can use the TAB key.

IMPORTANT:

As soon as the button Create is clicked on, a set of buttons will appear at the bottom of the Datacard screen.



Once you finish filling all the fields, click SAVE to store the information in the database, **OR THE INFORMATION WILL BE LOST.**

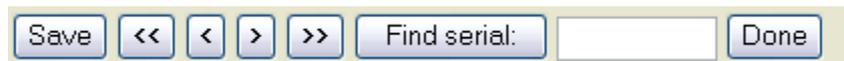
To store the record press SAVE, in the lower part of the record.

The “Edit Datacards” Button

Updating a Record

Its function is to allow editing information in cards previously entered to the system. Click this button to activate the fields of the current card.

An extra set of buttons will be shown:



If you want to edit a card other than the one displayed on the screen, you have two options:

- Moving through the set of cards using the scroll arrows found at the top of the page. The internal arrows (< and >) allow forward and backward movements, and the outer arrows (>> and <<) will take you to the first card (left arrow) or to the last card (right arrow) of the database;
- Use the “SEARCH” button to find the card you want to update; thus, you have to know the Card No.

If you don't know the serial number of the record you need to update, run a query using details of your record, for instance, selecting the "Disaster Type" and "Country" of your record and there are other selections to narrow down your search and find your record.

Once you have located your record and opened the datacard, make your changes directly to the fields on the datacard. Once you are certain about your data entries, click the save button at the top right hand corner of the datacard. Your updates are now saved.

IMPORTANT: Do not forget to use the “save” button to store the information; otherwise, the corrections will be lost.

The updating process is repetitive; it allows to continue to update cards as described. Use the **Done** button (bottom of the screen to the right) to suspend.

The “Delete” Button

This button eliminates cards from the inventory a similar process to that of the “Update” button.

Deleting a Record

Click DELETE to choose the card you wish to eliminate. Once it is displayed, the “Delete” button at the bottom of the screen changes to DELETE.

When you click DELETE, DesInventar displays a sign to confirm the elimination of the card activated, which corresponds to a record of the database. It will ask you:

Are you sure you want to delete this record?

Click OK to approve elimination.

NOTE: The DELETE operation cannot be undone. Once the card is erased, it will be impossible to recover it. It will be necessary to enter the data again.

The “Find Serial” Button

Finding a Record

Use this button to find a card when you know its serial number. When you activate it, a field is displayed to enter the card serial number.

More than one card may have the same serial number; serial numbers are NOT exclusive. For this reason, you may have to click in the search button more than once, one to find the first card identified with the serial number, and another to find the next.

If the card actually exists, it will be displayed. Then you can use the “Update” or “Delete” buttons.

The Datacard Sections

Event Selection and Localization in Space and Time

The data characterizing the event according to type, time and space are entered in this section. **It is strongly recommend** that ALL fields are filled in, in the header, or at least those corresponding to **Card No., Date, Type of Event and those related to geography levels already coded**, that is, the levels previously entered. Note that the field Site is not a geo-referenced field, and is optional.

Tip!

For administration purposes, it is recommended to use the different options in the “Status” drop-down menu, situated in the upper-right part of the datacard. You can choose the status of the datacard, if it’s “Draft”, in “Review”, “Rejected” or if it needs “Support”. This is very useful for data validation, as collectors can add the status and the persons in charge of data validation can revise each issue on the datacards. You will see that when choosing each of the options a colour will be attributed to the datacard, which will facilitate to track problematic datacards and improve quality control and data validation.

Effects

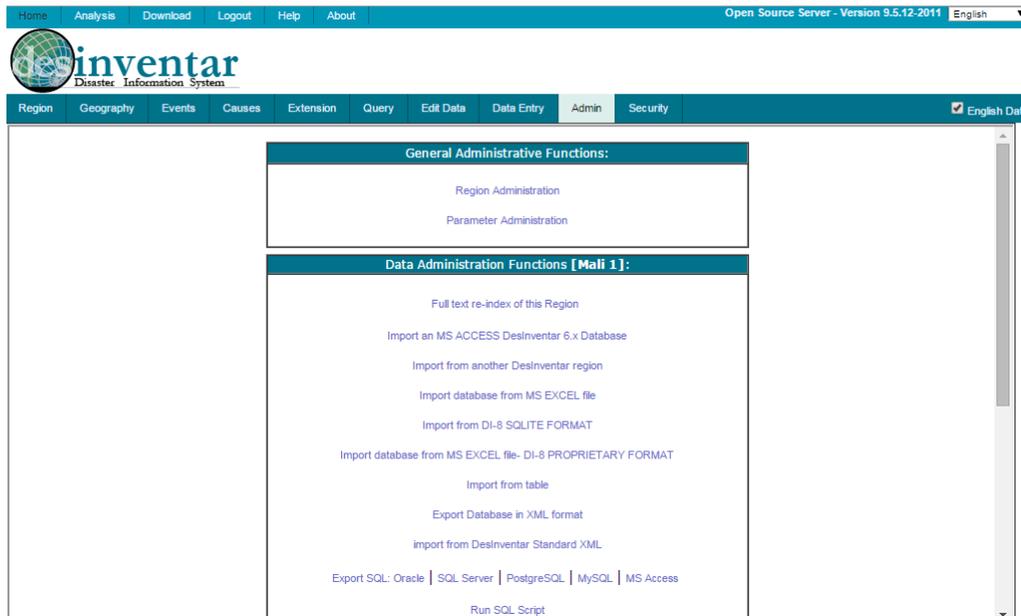
Conducting research for the damage and loss information of an event can be very challenging at times. Often, the reported figures will change as the data is received from the field and different sources, or it can be reported in different formats such as percentage instead of count, or mph instead of Kmph, etc. Research can be very time consuming and requires acute attention to detail.

ADMINISTRATION MANAGEMENT

Under this tab there are a series of important administrative tasks. You won't be allowed access to this tab if you don't have Administrator or SuperUser privileges.

If you have selected a region in the Region Tab you will get many more options than if you haven't: the entire section "Data Administration Functions [region]" will or won't be shown.

The Administrative tab looks like this:



The following are the possible Administrative functions:

General Administrative Functions

- Region Administration: with this option Region specifications may be added, modified or deleted. See section ahead
- Parameter Administration: Maintenance of the main parameters of the system. See section ahead

Data Administration Functions [Region]

These function apply to the currently selected region.

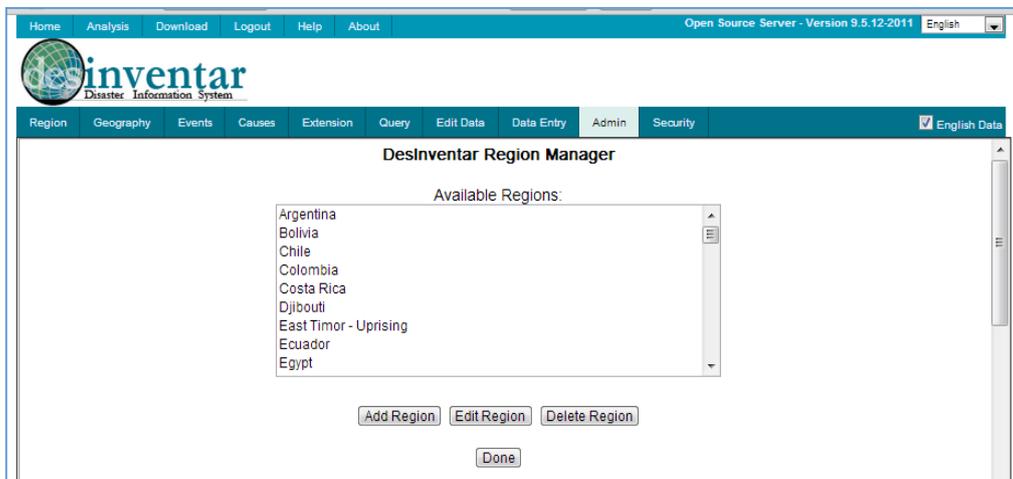
- Full text re-index of this Region: Regenerates the full-text index, which is used for Keyword search. Useful when data has been added to the system via processes outside of Desinventar
- Import an MS ACCESS Desinventar 6.x Database: As the name suggests, databases produced with previous versions (5.x and 6.x) can be imported into the current Desinventar region. See section ahead
- Import from another (Desinventar) region: Similar to the previous one, but this options allows the entire content of another Desinventar database managed in the server to be imported into the current Region. Very useful to physically consolidate multiple databases into one
- Import database from MS EXCEL file: Similar to the previous ones, but this options allows the entire content of an Excel spreadsheet server to be imported into the current Region

- Import from table: this options allows the entire content of an non-DesInventar table in the database to be imported into the current Region
- Export Database in XML format: this options allows the export of the database to a platform neutral XML file. Files produced with this option can be imported with the next option. These files are useful when moving data from Windows based (Access) databases to Linux or Unix databases where these databases are not supported
- Import from DesInventar Standard XML: see previous option
- Run SQL Script: This utility presents a text screen where the user can enter an SQL query or DDL/DML statement for execution. Only experienced and expert users should attempt to execute DDL or DML statements here. Extreme caution should be exercised when using this option

Useful Links

- Query this region with DesConsultar on-line: jump to the Query module with this Region selected
- Logout: disconnects the current user and jumps to the Login Screen
- Reload Translations: Useful when working on new languages or when changes to the translation files (located at <install dir>/DesInventar/WEB-INF/classes/org/lared/desinventar have been changed to, for example, correct a spelling mistake or localize a translated sentence or word.

Region Administration



Administrator users can Add regions to the list, and Edit or Delete existing regions from the Region Administration screen.

CAUTION: These operations affect ALL users of the system. Use your administrator privileges with caution.

The button “**Add Region**” will display a new screen where the user will fill in the two-digit code that will identify the region and the name of the region. Then the record required to store the data on the new region is created.

DO NOT CREATE REGIONS IF IT IS NOT ABSOLUTELY NECESSARY. THIS OCCUPIES SPACE IN THE HARD DISK, IN YOUR DATABASE SERVER AND SLOWS DOWN OVERALL PROCESSING.

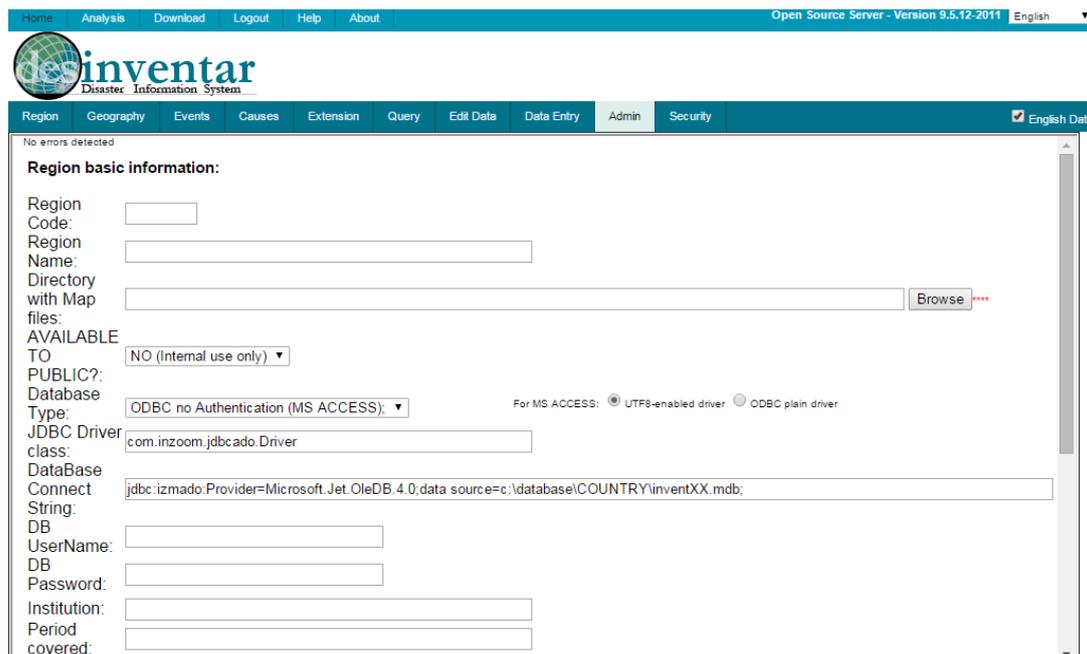
The “Delete Region” button, as its name indicates, deletes a region of study from the list of available regions: It doesn’t delete its database, the maps, etc. This **DELETE FUNCTION IS IRREVERSIBLE**.

Note that it is NOT possible to Delete the active region of study.

The Parameters for Each Region

An administrator of DesInventar may add new countries to the list of currently available by using the Region Administration function.

Each country needs a minimum set of parameters, as requested in the screen:



Region code: the two letter code used to create the files with the standalone version.

Available to public: if set to NO the database will NOT be shown in the list of countries

Region Name: name to be displayed in the country lists.

Database Type: select here the type of database engine under wich DesInventar on line will maintain this country’s database.

JDBC DRIVER

JDBC CONNECT STRING: these two parameters inform the system how to access the country’s data.

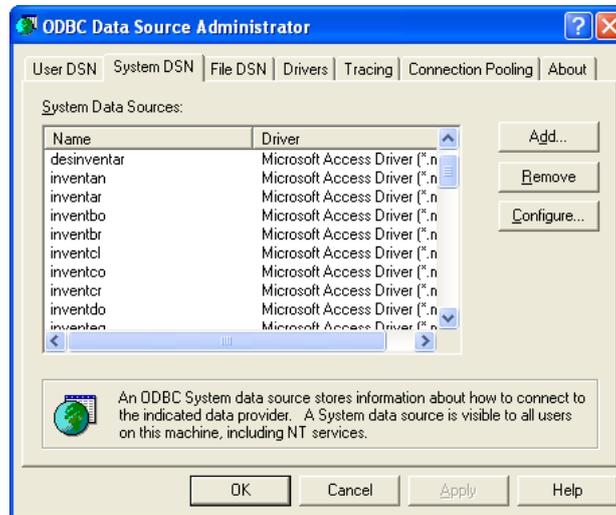
The JDBC Driver is suggested by the system when a database type is selected. Don’t change this suggestion unless you are completely sure the driver class is available to the web server.

The JDBC Connect String depends on the type of database and JDBC driver selected. If using one of the suggested drivers, you will have to probably substitute the UPPERCASE parameters of the connect string with appropriate values:

For MS ACCESS:

jdbc:odbc:DATASOURCE

Substitute DATASOURCE by the System DSN Name supplied in the ODBC Data Source Administrator.



See examples of data sources in the System tab of the ODBC administrator, where the Data sources may be created in advance, where DesInventar Server will expect to find it and where it will be created if necessary.

For Oracle:

jdbc:oracle:thin:@SERVER:PORT:DATABASE

Substitute:

SERVER: IP address of fully qualified name of the database server

PORT: usually 1521

DATABASE: this is the database System Identifier (SID) of the database. Consult with your database administrator.

For MS SQL Server:

jdbc:sqlserver://SERVER:PORT;DatabaseName=DATABASE;

SERVER: IP address of fully qualified name of the database server

PORT: usually 1433

DATABASE: this is the database name of the database, as seen in the Enterprise Manager for MS SQL Server. Consult with your database administrator.

DB USER NAME: this is the signon for the database server. MS ACCESS does not require it. In Oracle, this will define the schema that the server will give access to. In MS SQL Server and PostgreSQL must be a login name with permissions to access the database.

DB USER PASSWORD: corresponding to the user name above.

DIRECTORY WITH MAP FILES: as its name suggests this directory will contain the map files (SAME AS IN THE STANDALONE VERSION).

DESINVENTAR SYSTEM PARAMETERS

The main task of database is to maintain Disaster inventories of multiple regions. DesInventar can manage this information in a set of Databases or a set of 'database Schemas', depending on the database product or products being used.

But, how does the database (DesInventar) know what countries and databases it must access in order to fulfill its mission? The answer is through a very special database, called the '**Default Database**' which in turn stores data about all possible databases DesInventar can access, users, authoring information, driver and connecting data and many other important information.

There is also the need to know the values of several parameters related to other areas of the operation of DesInventar, such as the mail server parameters, the location of critical folders and so on.

This Default database and those special parameters are described and defined using a small and simple file that must be always stored in a standard location, the **DesInventar.properties file**, in the **/etc/DesInventar/** folder.

This file **MUST** be stored in the **/etc/DesInventar** folder and **MUST** exist.

An example of the content of the **DesInventar.properties** is:

```
#System Properties
#Thu Feb 20 23:35:17 EST 2003
default.directory=/tomcat/webapps/DesInventar
platform=Windows
db.type=0
db.password=
db.username=
db.name=jdbc:odbc:DesInventar
db.driver=sun.jdbc.odbc.JdbcOdbcDriver
db.maxconnections=250
template.prefix=/tomcat/webapps/DesInventar
absolute.prefix=
mail.directory=/tomcat/webapps/DesInventar
mail.out.protocol=SMTP
mail.out.port=25
mail.out.IP=localhost
```

The following are the parameters that govern the behaviour of **DesInventar**:

PARAMETER	DESCRIPTION
Database Type (db.type)	Must be one of the values in the dropdown list. This value refers to the Database or indexing system that contains the table of URLs. The possible Values are: Access, Oracle, SQL Server or MySQL
Database JDBC Driver (db.driver)	<p>Fully qualified name of the database JDBC driver class. This value refers to the Database or indexing system that contains the table of URLs. Is responsibility of the Administrator to supply an adequate value to the type of database.</p> <p>Some of these names are:</p> <p>Oracle: oracle.jdbc.driver.OracleDriver</p> <p>ODBC/JDBC Bridge (Access): sun.jdbc.odbc.JdbcOdbcDriver</p> <p>JDBC Drivers for MS SQL Server: com.microsoft.sqlserver.jdbc.SQLServerDriver</p> <p>MySQL: com.mysql.jdbc.Driver</p>
Database Connect String (db.name)	<p>This is a string that tells the JDBC driver how to connect to the specific database, as the database server can run on a separate computer. This string contains information about the driver to use, the database server IP and port, and some other important information.</p> <p>Some examples of connection strings are:</p> <p>Oracle: jdbc:oracle:thin:@127.0.0.1:1521:ORCL</p> <p>ODBC/JDBC Bridge (Access): jdbc:odbc:inventXX</p> <p>Drivers for MS SQL Server: jdbc:microsoft:sqlserver://SERVER:1433;dbname=dbname</p> <p>MySQL: jdbc:mysql://DataBase?autoReconnect=true&initialTimeout=1&relaxAutocommit=true"</p>
Database Username (db.username)	The username of the owner of DesInventar tables in the database. Some databases as Access or SearchServer may not require this parameter. Leave it blank in those cases.
Database Password (db.password)	The password of the owner of DesInventar tables in the database. Some databases as Access or SearchServer may not require this parameter. Leave it blank in those cases.
Default directory default.directory	Directory in which the System files reside, typically under the webapps directory of Tomcat (or the JSP/Servlet container).
HTML templates Directory	Directory in which the System Template files reside, typically under the webapps directory of Tomcat (or the JSP/Servlet container).

(template.prefix)	
System Platform (platform)	Operating system platforms against which this version of DesInventar has been tested.
Temporary Mail Directory (mail.directory)	Temporary directory to be used for email operations. Empty by default.
Mail Server Protocol (mail.out.protocol)	Mail protocol of mail server. SMTP by default.
Mail Server Port (mail.out.port)	Port at which the mail server listens.
Mail Server IP address (mail.out.IP)	IP address or fully qualified name of the mail server

The System Administrator who physically installs the system normally configures this file manually, based on an initial template that works usually in most systems without much changes.

In a Windows environment the initial default database is normally an MS ACCESS type database file named `desinventar.mdb`, which is accessed via ODBC. The system administrator **MUST** create an ODBC System DNS entry named "desinventar" pointing to this MS Access file, if this is the case.

If the System Administrator decides that the default database will run under another type of database, he or she has to manually create the default database (with possibly a username and password) and has to edit the `/etc/desinventar/desinventar.properties` file manually with appropriate settings (driver, connect string, type, username and password).

The tables required by **DesInventar** in the Default Database can be created using the scripts found in the `/data` folder of the distribution CD.

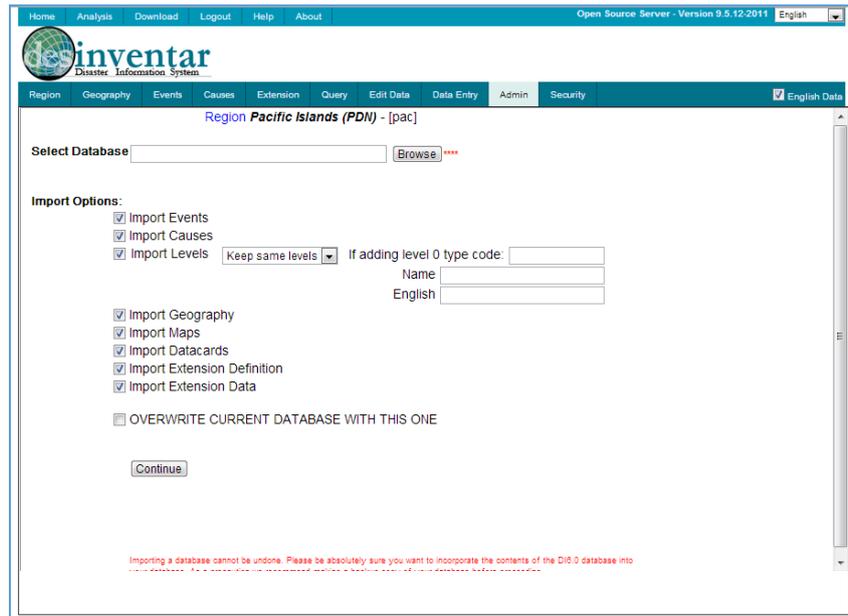
Scripts to create tables are provided for Oracle, MS SQL Server and PostgreSQL. An Access database is also found in that folder, that can be used as a template to create other MS ACCESS databases.

The only advantage of the MS Access version is that it doesn't require any royalty. However, the MS Access libraries must be installed in the target computer. Those libraries are installed with DesInventar, Desconsultar or MS Office or Visual Basic, and constraints the System to run in a Windows environment. While MS Access is very good for personal installations, its use in multiuser environments is strongly discouraged.

Once the default database is created and configured, the system should work right immediately and the administrator should be able to login with no password (anonymous access) or the default power user:

Username: default
Password: password

Once **DesInventar** can access the Default database, further configuring of **DesInventar** is done using the Parameter Administration and Region Administrations pages of system. With this interface **DesInventar** can be configured to access multiple regions stored in different types of databases.



In order to configure the System you must click on the link “Parameter Administration” of the main screen of the **DesInventar** index page.

After logging to the system, the administrator will access the main Administration menu of the system, from where the parameters page will be accessed. The figure below shows a sample System Parameters page with typical values for an Access type default database.

WARNING: The Parameters page SHOWS and allows the USERNAME and PASSWORD of the default database to be modified by anyone with access to this page. Take all necessary precautions to restrict the access of unauthorized users to this page.

Importing DataCards from other DesInventar Sources

This option allows the consolidation of multiple sources (including MS Access DesInventar databases version 6.0 or other DesInventar Server 7 databases). However, this process has been conceived more as a migration path from DesInventar 5 or 6 than a consolidation process.

The use is very simple: The MS Access database is selected by clicking on the button “Browse” and navigating by the **Server computer** hard disk structure to find it. Please note this functionality will NOT work if the target database is not stored in the server computer. You will find check boxes that allow you to choose if you want (or not) to import Events, Causes, etc (see image below). Importing datacards, which can also be conceived as an action for **merging databases**, is very useful for cases in which several collectors are involved (for example, collectors that report at province level provide their input to the national level). At the central level, the data can be merged, so the persons in charge of data validation can have new datacards on the centralized database, and will be able to administrate the data and do quality control if needed. That’s why it is highly recommended that data collectors use the “Status” drop-down menu situated in the upper-right level of the datacard. Doing this, they can report if review or support is needed from the upper level.

Importing From Excel:

In order to be able to import an Excel you need to comply with some conditions:

- a) Each disaster record must be in a row (i.e. one row per disaster)
- b) Each disaster record **MUST** contain the geographic code of the unit affected. (Same codes as

- in Geography and Maps). At least one level of geography is mandatory. Each level (province, district, etc) must contain an independent column with the code.
- c) There must be either a column with the date, or columns for year, month day
 - d) If there are several disaster types (e.g., Flood, drought), there must be a column with this info. It should be same as the names of the event types used in DesInventar.
 - e) Keep in mind DesInventar only supports Excel 2003 format.

The mechanism itself of importing is simple but cumbersome. Once selected the excel file, you will see a page in which you can establish a mapping between the variables in a datacard and the columns of the Excel. You must match as many as you can, especially the geography, date, event, etc. and the impact (deaths, injured, etc).

Note that the Excel may contain more variables than those in the datacard. Once the initial mapping is done you will have the opportunity to add these additional columns to DesInventar as part of the Extension.

Always make a backup copy of your database before attempting to upload an excel file.

SECURITY

User Management

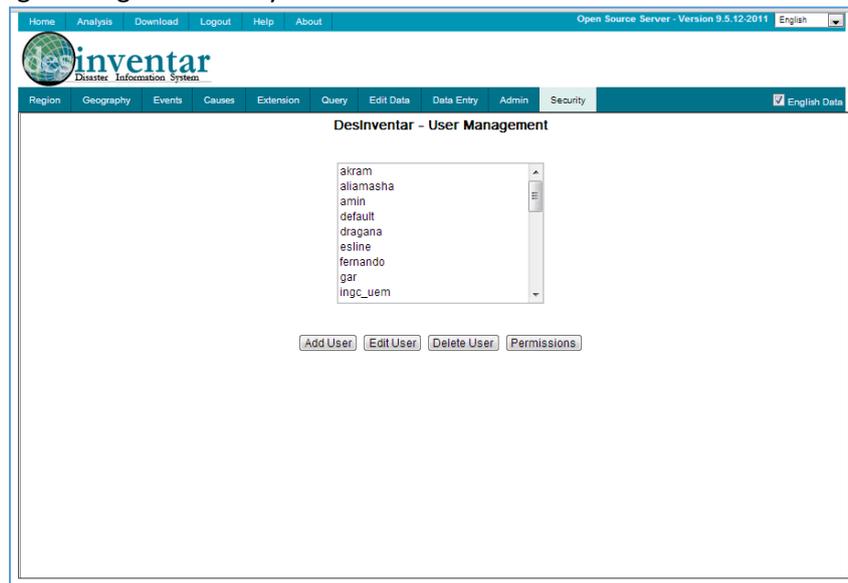
The security model in the DesInventar Server considers two objects:

- Users that access the system
- Regions (databases) which can potentially be modified by those users.

Users themselves are classified into several categories:

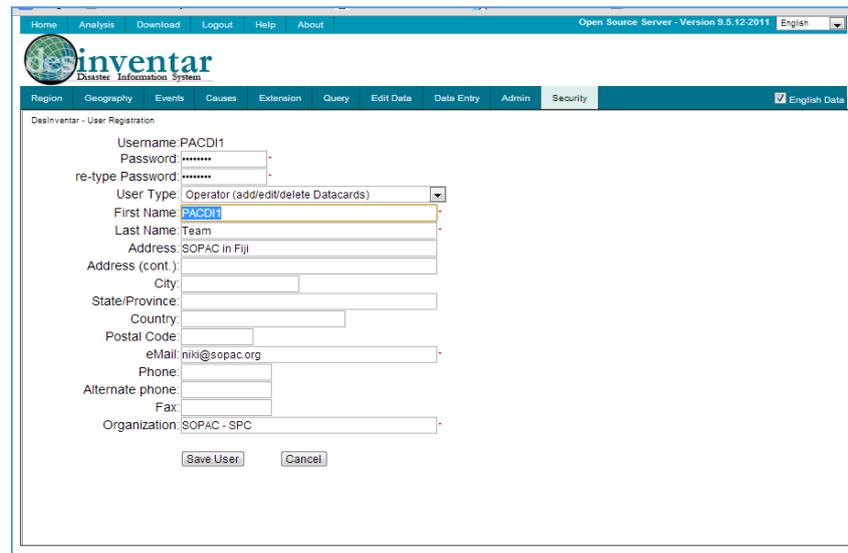
User	Authority
Guests	Can only visit the public part of the system (i.e. DesConsultar) and have no permissions to modify the system in any way
Operators	Can be authorized to enter data in one or more Regions. Entering data means here the permission to add, remove or modify DataCards in those regions
Administrators	Can modify all objects of the Regions he/she has been granted permission. All objects include Events, Causes, all levels of Geography, and also enter data (add, remove or modify DataCards)
Owner	Has all the privileges of an Administrator but can also modify the Regions in the system: change the settings of a given region, add more regions, or remove a region from the system. (Note the system NEVER deletes a Region. It only removes it from the list of available ones). The owner can also add, modify, deactivate and remove users and give them up to Owner category. It is the user in charge of the overall security of the system. It is recommended only one Owner per system
SuperUser	Has all the privileges of the system (all of the previous categories) and it can also create Owners, other SuperUser but basically his/her main privilege is to manage the global parameters of the system. It is recommended only one SuperUser per system

Users are managed using the Security tab:



With this screen new Users can be added to the system, existing user settings can be changed, unwanted users may be removed from the system and permissions can be granted to existing users.

The Add and Edit user buttons will bring up the User definition screen, in which the properties of the User are established:



The screenshot shows the 'User Registration' form in the desinventar system. The form is titled 'Desinventar - User Registration' and is located within the 'Security' tab of the application. The form contains the following fields and options:

- Username: PACDI1
- Password: (masked with dots)
- re-type Password: (masked with dots)
- User Type: Operator (add/edit/delete Datacards) (dropdown menu)
- First Name: PACDI1
- Last Name: Team
- Address: SOPAC in Fiji
- Address (cont.):
- City:
- State/Province:
- Country:
- Postal Code:
- eMail: niki@sopac.org
- Phone:
- Alternate phone:
- Fax:
- Organization: SOPAC - SPC

At the bottom of the form, there are two buttons: 'Save User' and 'Cancel'.

Important remarks:

- Password has to be typed twice in order to be validated as it is not displayed.
- User name, last name, first name and email are mandatory fields.
- The default access type of a user is guest. Set it to the desired level.
- In order to de-activate a user, just turn it into a guest.

ANNEX 1: Disaster type definitions

IRDR Classification

DesInventar uses the disaster type definitions established by the Integrated Research on Disaster Risk (IRDR) programme and applies the common standardized classification and definitions. Below, find the detailed information:

Family	Main Event	Peril
Geophysical	Earthquake Mass Movement Volcanic Activity	Ash Fall Fire following EQ Ground Movement Landslide following EQ Lahar Lava Flow Liquefaction Pyroclastic Flow Tsunami
Hydrological	Flood Landslide Wave Action	Avalanche: Snow, Debris Coastal Flood Coastal Erosion Debris/Mud Flow/Rockfall Expansive Soil Flash Flood Ice Jam Flood Riverine Flood Rogue Wave Seiche Sinkhole
Meteorological	Convective Storm Extratropical Storm Extreme Temperature Fog Tropical Cyclone	Cold Wave Derecho Frost/Freeze Hail Heat Wave Lightning Rain Sandstorm/Dust storm Snow/Ice Storm Surge Tornado Wind Winter Storm/Blizzard
Climatological	Drought Glacial Lake Outburst Wildfire	Forest Fire Land fire: Brush, Bush, Pasture Subsidence
Biological	Animal Incident Disease Insect Infestation	Bacterial Disease Fungal Disease Parasitic Disease Prion Disease Viral Disease
Extraterrestrial	Impact Space Weather	Airburst Collision Energetic Particles Geomagnetic Storm Radio Disturbance Shockwave

Airburst Extraterrestrial

An explosion of a comet or meteoroid within the Earth's atmosphere without striking the ground.

Animal Incident Biological

Human encounters with dangerous or exotic animals in both urban and rural environments.

Ash Fall Geological

Fine (less than 4 mm in diameter) unconsolidated volcanic debris blown into the atmosphere during an eruption; can remain airborne for long periods of time and travel considerable distance from the source.

Avalanche Hydrological

A large mass of loosened earth material, snow, or ice that slides, flows or falls rapidly down a mountainside under the force of gravity.

- Snow Avalanche: Rapid downslope movement of a mix of snow and ice.
- Debris Avalanche: The sudden and very rapid downslope movement of unsorted mass of rock and soil. There are two general types of debris avalanches - a cold debris avalanche usually results from an unstable slope suddenly collapsing whereas a hot debris avalanche results from volcanic activity leading to slope instability and collapse.

Bacterial Disease Biological

An unusual increase in the number of incidents caused by the exposure to bacteria either through skin contact, ingestion or inhalation. Examples include salmonella, MSRA, and cholera, among others.

Biological Hazard Biological

A hazard caused by the exposure to living organisms and their toxic substances (e.g. venom, mold) or vector-borne diseases that they may carry. Examples are venomous wildlife and insects, poisonous plants, and mosquitoes carrying disease-causing agents such as parasites, bacteria, or viruses (e.g. malaria).

Climatological Hazard Climatological

A hazard caused by long-lived, meso- to macro-scale atmospheric processes ranging from intra-seasonal to multi-decadal climate variability.

Coastal Erosion Hydrological

The temporary or permanent loss of sediments or landmass in coastal margins due to the action of waves, winds, tides, or anthropogenic activities.

Coastal Flood Hydrological

Higher-than-normal water levels along the coast caused by tidal changes or thunderstorms that result in flooding, which can last from days to weeks.

Cold Wave Meteorological

A period of abnormally cold weather. Typically a cold wave lasts two or more days and may be aggravated by high winds. The exact temperature criteria for what constitutes a cold wave vary by location.

Convective Storm Meteorological

A type of meteorological hazard generated by the heating of air and the availability of moist and unstable air masses. Convective storms range from localised thunderstorms (with heavy rain and/or

hail, lightning, high winds, tornadoes) to meso-scale, multi-day events.

Debris Flow, Mud Flow, Rock Fall Hydrological

Types of landslides that occur when heavy rain or rapid snow/ice melt send large amounts of vegetation, mud, or rock downslope by gravitational forces.

Derecho Meteorological

Widespread and usually fast-moving windstorms associated with convection/convective storm. Derechos include downburst and straight-line winds. The damage from derechos is often confused with the damage from tornadoes.

Disease Biological

Either an unusual, often sudden, increase in the number of incidents of an infectious disease that already existed in the region (e.g., flu, E. coli) or the appearance of an infectious disease previously absent from the region (e.g., plague, polio).

Drought Climatological

An extended period of unusually low precipitation that produces a shortage of water for people, animals and plants. Drought is different from most other hazards in that it develops slowly, sometimes even over years, and its onset is generally difficult to detect. Drought is not solely a physical phenomenon because its impacts can be exacerbated by human activities and water supply demands. Drought is therefore often defined both conceptually and operationally. Operational definitions of drought, meaning the degree of precipitation reduction that constitutes a drought, vary by locality, climate and environmental sector.

Earthquake Geological

Sudden movement of a block of the Earth's crust along a geological fault and associated ground shaking.

Energetic Particles Extraterrestrial

Emissions from solar radiation storms consisting of pieces of matter (e.g., protons and other charged particles) moving at very high speed. The magnetosphere and atmosphere block (solar) energetic particles (SEP) from reaching humans on Earth but they are damaging to the electronics of space-borne technology (such as satellites) and pose a radiation hazard to life in space and aircrafts travelling at high altitudes.

Expansive Soil Hydrological

Earthen material, particularly clays that, upon wetting, freezing, or drying will alternately expand or contract causing damage to foundations of buildings and other structures. Shrinkage is generally referred to as desiccation.

Extraterrestrial Hazard Extraterrestrial

A hazard caused by asteroids, meteoroids, and comets as they pass near-earth, enter the Earth's atmosphere, and/or strike the Earth, and by changes in interplanetary conditions that effect the Earth's magnetosphere, ionosphere, and thermosphere.

Extratropical Storm Meteorological

A type of low-pressure cyclonic system in the middle and high latitudes (also called mid-latitude cyclone) that primarily gets its energy from the horizontal temperature contrasts (fronts) in the atmosphere. When associated with cold fronts, extratropical cyclones may be particularly damaging (e.g., European winter/windstorm, Nor'easter).

Extreme Temperature Meteorological

A general term for temperature variations above (extreme heat) or below (extreme cold) normal conditions.

Fire following Earthquake Geological

Urban fires triggered by earthquakes. Particularly susceptible areas include densely spaced, wooden buildings that dominate local architecture, and where the earthquake has damaged or ruptured water and gas pipelines. Small local fires have the potential to merge into conflagrations destroying many city blocks.

Flash Flood Hydrological

Heavy or excessive rainfall in a short period of time that produce immediate runoff, creating flooding conditions within minutes or a few hours during or after the rainfall.

Flood Hydrological

A general term for the overflow of water from a stream channel onto normally dry land in the floodplain (riverine flooding), higher-than-normal levels along the coast and in lakes or reservoirs (coastal flooding) as well as ponding of water at or near the point where the rain fell (flash floods).

Fog Meteorological

Water droplets that are suspended in the air near the Earth's surface. Fog is simply a cloud that is in contact with the ground.

Forest Fire Climatological

A type of wildfire in a wooded area.

Frost, Freeze Meteorological

Frost is the consequence of radiative cooling resulting in the formation of thin ice crystals on the ground or other surfaces in the form of needles, feathers, scales, or fans. Frost occurs when the temperature of surfaces is below freezing and water vapor from humid air forms solid deposits on the cold surface. Freeze occurs when the air temperature is at (32°F/0°C) or below over a widespread area for a climatologically significant period of time. Use of the term is usually restricted to advective situations or to occasions when wind or other conditions prevent frost. Frost and freeze are particularly damaging during the crop growing season.

Fungal Disease Biological

Exposure to fungi either through skin contact, ingestion or inhalation of spores resulting in an unusual increase in the number of incidents. Examples are fungal pneumonia, fungal meningitis, etc.

Geomagnetic Storm Extraterrestrial

A type of extraterrestrial hazard caused by solar wind shockwaves that temporarily disturb the Earth's magnetosphere. Geomagnetic storms can disrupt power grids, spacecraft operations, and satellite communications.

Geophysical Hazard Geological

A hazard originating from solid earth. This term is used interchangeably with the term geological hazard.

Glacial Lake Outburst Climatological

A flood that occurs when water dammed by a glacier or moraine is suddenly released. Glacial lakes

can be at the front of the glacier (marginal lake) or below the ice sheet (sub-glacial lake).

Ground Movement Geological

Surface displacement of earthen materials due to ground shaking triggered by earthquakes or volcanic eruptions.

Hail Meteorological

Solid precipitation in the form of irregular pellets or balls of ice more than 5 mm in diameter.

Heat Wave Meteorological

A period of abnormally hot and/or unusually humid weather. Typically a heat wave lasts two or more days. The exact temperature criteria for what constitutes a heat wave vary by location. Hydrological Hazard A hazard caused by the occurrence, movement, and distribution of surface and subsurface freshwater and saltwater.

Ice Jam Flood Hydrological

The accumulation of floating ice restricting or blocking a river's flow and drainage. Ice jams tend to develop near river bends and obstructions (e.g., bridges).

Impact - Collision Extraterrestrial

A type of extraterrestrial hazard caused by the collision of the Earth with a meteoroid, asteroid or comet.

Insect Infestation Biological

The pervasive influx, swarming and/or hatching of insects affecting humans, animals, crops, and perishable goods. Examples are locusts and African Bees.

Lahar Geological

Hot or cold mixture of earthen material flowing on the slope of a volcano either during or between volcanic eruptions.

Landslide following Earthquake Geological

Independent of the presence of water, mass movement may also be triggered by earthquakes.

Lava Flow Geological

The ejected magma that moves as a liquid mass downslope from a volcano during an eruption.

Lightning Meteorological

A high-voltage, visible electrical discharge produced by a thunderstorm and followed by the sound of thunder.

Liquefaction Geological

The transformation of (partially) water-saturated soil from a solid state to a liquid state caused by an earthquake. Liquefaction reduces the strength and stiffness of soil causing buildings to topple over.

Mass Movement Geological

Any type of downslope movement of earth materials.

Meteorological Hazard Meteorological

A hazard caused by short-lived, micro- to meso-scale extreme weather and atmospheric conditions that last from minutes to days.

Parasitic Disease Biological

Exposure to a parasite—an organism living on or in a host—causes an unusual increase in the number of incidents. Exposure to parasites occurs mostly through contaminated water, food or contact with insects, animals (zoonotic), pets, etc. Examples are malaria, chagas disease, giardiasis and trichinellosis.

Prion Disease Biological

A type of biological hazard caused by prion proteins. Prion diseases or transmissible spongiform encephalopathies (TSEs) are a family of rare progressive neurodegenerative disorders that affect both humans and animals characterised by long incubation periods and neural loss. Examples are Bovine Spongiform Encephalopathy (BSE), Creutzfeldt- Jakob-Disease (CJD), Kuru, etc.

Pyroclastic Flow Geological

Extremely hot gases, ash, and other materials of more than 1,000 degrees Celsius that rapidly flow down the flank of a volcano (more than 700 km/h) during an eruption.

Radio Disturbance Extraterrestrial

Triggered by x-ray emissions from the Sun hitting the Earth's atmosphere and causing disturbances in the ionosphere such as jamming of high and/or low frequency radio signals. This affects satellite radio communication and Global Positioning Systems (GPS).

Rain Meteorological

Water vapour condenses in the atmosphere to form water droplets that fall to the Earth.

Riverine Flood Hydrological

A type of flooding resulting from the overflow of water from a stream or river channel onto normally dry land in the floodplain adjacent to the channel.

Rogue Wave Hydrological

An unusual single crest of an ocean wave far out at sea that is much higher and/or steeper than other waves in the prevailing swell system.

Sandstorm, Dust Storm Meteorological

Strong winds carry particles of sand aloft, but generally confined to less than 50 feet (15 m), especially common in arid and semi-arid environments. A dust storm is also characterised by strong winds but carries smaller particles of dust rather than sand over an extensive area.

Seiche Hydrological

A standing wave of water in a large semi- or fully-enclosed body of water (lakes or bays) created by strong winds and/or a large barometric pressure gradient,

Shockwave Extraterrestrial

A shockwave carries energy from a disturbance through a medium (solid, liquid, gas) similar to a wave though it travels at much higher speed. It can be a type of extraterrestrial hazard caused by the explosion (airburst) or impact of meteorites that generate energy shockwaves capable of shattering glass, collapsing walls, etc.

Sinkhole Hydrological

Collapse of the land surface due to the dissolving of the subsurface rocks such as limestone or carbonate rock by water.

Snow, Ice Meteorological

Precipitation in the form of ice crystals/snowflakes or ice pellets (sleet) formed directly from freezing water vapour in the air. Ice accumulates when rain hits the cold surface and freezes.

Space Weather Extraterrestrial

A general term for extraterrestrial weather conditions driven by solar eruptions such as geomagnetic storms, radio disturbances, and solar energetic particles.

Storm Surge Meteorological

An abnormal rise in sea level generated by a tropical cyclone or other intense storms.

Subsidence Climatological

Subsidence refers to the sinking of the ground due to groundwater removal, mining, dissolution of limestone (e.g., karst, sinkholes), extraction of natural gas, and earthquakes.

Tornado Meteorological

A violently rotating column of air that reaches the ground or open water (waterspout).

Tropical Cyclone Meteorological

A tropical cyclone originates over tropical or subtropical waters. It is characterised by a warm-core, non-frontal synoptic-scale cyclone with a low pressure centre, spiral rain bands and strong winds. Depending on their location, tropical cyclones are referred to as hurricanes (Atlantic, Northeast Pacific), typhoons (Northwest Pacific), or cyclones (South Pacific and Indian Ocean).

Tsunami Geological

A series of waves (with long wavelengths when traveling across the deep ocean) that are generated by a displacement of massive amounts of water through underwater earthquakes, volcanic eruptions or landslides. Tsunami waves travel at very high speed across the ocean but as they begin to reach shallow water they slow down and the wave grows steeper.

Viral Disease Biological**Volcanic Activity** Geological

A type of volcanic event near an opening/vent in the Earth's surface including volcanic eruptions of lava, ash, hot vapour, gas, and pyroclastic material.

Wave Action Hydrological

Wind-generated surface waves that can occur on the surface of any open body of water such as oceans, rivers and lakes, etc. The size of the wave depends on the strength of the wind and the traveled distance (fetch).

Wildfire Climatological

Any uncontrolled and non-prescribed combustion or burning of plants in a natural setting such as a forest, grassland, brush land or tundra, which consumes the natural fuels and spreads based on environmental conditions (e.g., wind, topography). Wildfires can be triggered by lightning or human actions.

Wind Meteorological

Differences in air pressure resulting in the horizontal motion of air. The greater the difference in

pressure, the stronger the wind. Wind moves from high pressure toward low pressure.

Winter Storm, Blizzard Meteorological

A low pressure system in winter months with significant accumulations of snow, freezing rain, sleet or ice. A blizzard is a severe snow storm with winds exceeding 35 mph (56 km/h) for three or more hours, producing reduced visibility (less than .25 mile (400 m)).

DesInventar specific definitions

Please note that the methodology allows to add, remove, create any terms related to specific disasters, however, we recommend to map them to the international standardized definition. Find below, other hazards available with our methodology.

Accident

Automobile, rail, aircraft or navigation accidents. Limited to accidents induced by natural phenomena, such as landslides, earthquakes, hurricanes, rain, etc. Includes transportation accidents generating spills or leaks of harmful substances, regardless of the cause.

Alluvion

Torrential water flows dragging large amounts of solid material (pebbles, stones, and rock blocks) common in dry regions river beds which are produced by heavy rain. Equivalent to the term "huaico" used in Peru.

Boat Capsize

Overturning of a boat due to hitting the water-bed or due to sea disturbances, or other natural phenomena such as heavy winds or flash floods.

Explosion

Explosions of any type, but limited to those induced or highly connected to natural phenomena, such as electrical storms, earthquakes, droughts, etc.

Extreme Rain

Precipitation. Includes punctual, persistent or torrential rain, or rain exceeding the rainfall averages of a specific region; also, unusual long rain periods. Rain includes terms such as downpour, cloudburst, heavy shower, deluge, etc.

Fire

Urban, industrial or rural fires, but not including forest fires. Limited to those induced or highly connected to natural phenomena, such as electrical storms, earthquakes, droughts, etc.

Flood - Urban Flood

Storm water that gets collected in city or urban areas after heavy rains due to blocking or under capacity of storm water drains. It may also be a riverine flood occurring specifically over an urban area.

Leak/Oil Spill

Leak of harmful liquid, solid or gas substances, whether radioactive or not, generated by technological accidents, human fault or transportation accidents.

Liquefaction

Soil liquefaction describes a phenomenon whereby a saturated soil substantially loses strength and stiffness in response to an applied stress, usually earthquake shaking or other sudden change in stress condition, causing it to behave like a liquid.

Panic

Panic or mass hysteria among people concentrated in a certain place (stadiums, theaters, etc.) that can kill or injure them, and cause physical damage. Limited to those induced or highly connected to natural phenomena, such as electrical storms, earthquakes, etc., and early warnings about incoming events.

Pollution Concentration of

polluting substances in the air, water or soils, at levels harmful to human health, crops or animal species.

Sedimentation

Deposits of solid material on hillsides and river beds produced by mass movements, wind, floods or surface erosion with damages on crops, utilities or other infrastructure.

Soil Erosion

Washing away of soil down the surface of hill slopes or mass movements due to storm water flow during intense rains or winds. This can cause in turn sedimentation in streams / rivers and areas at the toe of the hills.

Structural Collapse

Damages or collapse of any type of structure for reasons such as excess weight in public places, bridges, etc. This event includes damage that, although not taking the structures to the point of collapse, does make them unusable. Damages in structures caused by natural phenomena are reported as an effect of these phenomena.

ANNEX 2: Definition of basic effects

Effects in DesInventar are the sum of losses or adverse effects which take place in a specific geographical unit. These are the direct indicators of conditions of vulnerability in communities, regions and countries. DesInventar works with a list of variables of effects commonly generated by a disaster such as, those that affect people, homes, vital infrastructure, and economic sectors.

In addition to the disaggregation of information, the geographical reference (resolution level), and the definitions of types of detonating events, the Effect fields definitions are at the heart of DesInventar's methodology.

The effects of disaster have been classified in four groups: Related to people; Related to homes; Related to infrastructure and Economic losses.

Deaths

The number of persons whose deaths were directly caused. When final official data is available, this figure should be included with corresponding observations, for example, when there are differences between officially accepted figures and those of other sources.

Missing

The number of persons whose whereabouts since the disaster is unknown. It includes people who are presumed dead, although there is no physical evidence. The data on number of deaths and number of missing are mutually exclusive and should not be mixed.

Injured, sick

The number of persons whose health or physical integrity is affected as a direct result of the disaster. This figure does not include victims who die. Those who suffer injuries and or illness, if the event is related to a plague or epidemic, should be included here.

Affected

The number of persons who suffer indirect or secondary effects related to a disaster. This refers to the number of people, distinct from victims, who suffer the impact of secondary effects of disasters for such reasons as deficiencies in public services, commerce, work, or because of isolation. If the information refers to families, calculate the number of people according to available indicators.

Victims

The number of persons whose goods and/or individual or collective services have suffered serious damage, directly associated with the event. For example, partial or total destruction of their homes and goods; loss of crops and/or crops stored in warehouses, etc. If the information refers to families, calculate the number of people according to available indicators.

Evacuated

The number of persons temporarily evacuated from their homes, work places, schools, hospitals, etc. If the information refers to families, calculate the number of people according to available indicators.

Relocated

The number of persons who have been moved permanently from their homes to new sites. If the information refers to families, calculate the number of people according to available indicators.

Houses Damaged

The number of homes with minor damage, not structural or architectural, which may continue being

lived in, although they may require some repair or cleaning.

Houses destroyed

The number of homes levelled, buried, collapsed or damaged to the extent that they are no longer habitable.

Crops and woods (Hectares)

The amount of cultivated or pastoral land or woods destroyed or affected. If the information exists in another measurement, it should be converted to hectares.

Livestock

The number of animals lost (bovine, pig, ovine, poultry) regardless of the type of event (flood, drought, epidemic, etc).

Educational centres

The amount of play schools, kindergartens, schools, colleges, universities, training centres etc, destroyed or directly or indirectly affected by the disaster. Include those that have been used as temporary shelters.

Hospitals

The number of health centres, clinics, local and regional hospitals destroyed and directly or indirectly affected by the disaster.

Loss value \$

Sum of losses directly caused by the disaster in local currency.

Loss value US\$

The equivalent in dollars (US\$) of the value of losses in local currency, according to the exchange rate on the date of the disaster. This figure is useful for comparative evaluations between databases.

Roads affected (Mts.)

The length of transport networks destroyed and/or rendered unusable, in metres.

Other losses

A description of other losses not included in the fields of the basic record. For example: religious buildings and monuments, architectural or cultural heritage buildings, theatres and public installations, public administration buildings relating to banks, commerce and tourism; vehicles or buses lost, bridges.

Transport sector

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to the effects of the disaster on the transport sector: road networks (train or rail), transport stations, airports, river and sea bridges, sea walls, etc, that have been affected or destroyed.

Communications

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages to the communication sector: plants and telephone networks, radio and television stations, post offices and public information offices, internet services, radio telephones and mobile phones.

Aid organisation installations

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages

to the emergency response sector, specifically to the aid organisms' installations: Fire fighters and other aid organisms and to entities of public order.

Agriculture and fishing

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damaged to the Agriculture and Fishing sector: crops, granaries, pastoral zones.

Water supply

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages to the aqueduct sector: water outlets, water treatment plants, aqueducts and canals which carry drinking water, storage tanks.

Sewerage

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages to the sewage sector: sewage systems and treatment plants.

Education Qualitative field in the database

It has two options: Affected or Not Affected. It relates to damages to the Education sector: everything relating to this sector – pre-schools, kindergartens, schools, colleges, universities, training centres, libraries, cultural centres, etc.

Power/Energy

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages to the Energy sector: dams, substations, transmission lines, generators, energy processing plants and combustible stores, pipelines, gas lines, nuclear plants.

Industry

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages to the Industrial sector: all types and sizes of industry, including agricultural and fishing plants.

Health Sector

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages to the Health sector: everything related to the health sector, including communication networks, emergency networks (ambulances), casualty centres, etc.

Other

Qualitative field in the database. It has two options: Affected or Not Affected. It relates to damages which do not correspond to any of the fields in the basic record.

Comments (Observations about the disaster)

Notes or detail about the effects of the disaster. This field should be used to register discrepancies between effect figures when there is more than one source.