DevInfo 7 Web

User Guide

DevInfo Support Group
Last updated: 30 April 2013 (r7)

Abstract

This guide instructs you in how to use the DevInfo 7 web application to search for and visualize data.

Document Version Summary

Version No	Date	Reason for Change	Sections Updated
5	25 Mar 13	• Added details on using the Map server to match area names	• Chapter 5 – Visualizing your own data (pp. 47-48)
6	17 Apr 13	• Introduction revised to reflect inputs from UNICEF NYHQ	• Chapter 1 (pp. 6-8)
7	30 Apr 13	• Added new time series map feature, Catalog enhancement	• Chapter 2, Chapter 3

Acknowledgment

This database software has been developed by the UN system. The product has been adapted from UNICEF ChildInfo technology. UNICEF owns and maintains the source code for DevInfo.

Contents

Getting started 1

Introduction

DevInfo is a programme of support to UN member states that focuses on promoting the use of national statistics in evidence-based policy and planning dialogues at the global, regional and national levels. This programme is termed the “DevInfo Initiative”. At its core, DevInfo programming is based around a database system that provides a method to organize, store and display data in a uniform format to facilitate data access at the country level among government institutions, their development partners and the general public.

DevInfo has been adapted from UNICEF ChildInfo database technology. DevInfo is an integrated desktop and web-enabled tool that assists countries in their reporting on the Millennium Development Goals (MDGs) and other national and international development targets. It has user-friendly features that can be used to create tables, graphs, maps and other visual outputs for inclusion in reports, presentations and other advocacy or planning materials. The software supports standard indicators, such as those used for monitoring the MDGs at the international level, yet it can also be customized to fit the requirements of local indicator and monitoring frameworks at the regional or country levels.

Whether you are a UN professional, a government executive or policy maker, an NGO worker, or a concerned citizen, you will find DevInfo an indispensable tool for your research, analysis and advocacy tasks.

What’s new in DevInfo 7?

DevInfo 7, the latest version of the core DevInfo package, was released in October 2012. This version represents a complete overhaul of the system and brings it in alignment with the most modern standards in information technology and data exchange. DevInfo 7 is more user-friendly than previous versions and allows users to not only access data more quickly but also to present and visualize it in a wider variety of formats. Below please find an overview of key features of the system.

Quick data search

Looking for a particular data point in a hurry? Use the new DevInfo **Quick Data Search** feature to find what you are looking for, almost instantly.

Worldwide catalog

DevInfo 7 introduces the **Catalog**, which makes available a large amount of online national and subnational data from countries around the world. Search the **Catalog** to find data across multiple databases. Contribute your own database to the worldwide DevInfo **Catalog**.

Data visualization

All new visualization tools make it easier to interactively explore the data. The list of visualization objects includes tables, line charts, bar charts, pie charts, column charts, stacked bar charts, scatter plots, maps, pyramid charts, radar charts and tree maps. Build on DevInfo's mapping library to create subnational maps for most countries in the world.

Gallery

Save your visualization outputs to a personalized online gallery for future use or a common one for public access. Share your outputs with others via social media, email and embedded web pages.

My data

Ever need a quick graph or map for your report or presentation? Copy and paste your data into DevInfo to generate data visualizations on the fly with automatic mapping of geographical areas.

Open data API

Use DevInfo data in your own application by using the new DevInfo Data Query API. DevInfo visualization objects are now packaged to enable developers to embed them in their own applications.

SDMX Registry

Use ISO standards for statistical data and metadata exchange. Seamlessly exchange data among groups of data providers and harmonize data to strengthen national statistical systems.

Custom data management

Organize your own data to monitor national development goals, disseminate census results, create awareness of the most recent household survey data, generate advocacy materials for evidence-based planning and monitoring, and much more.

Accessing DevInfo 7

DevInfo 7 is a web application hosted on a web server. The application can be accessed using an Internet browser, using either the global site URL (www.devinfo.org) or another URL provided by your site administrator. The DevInfo 7 Serbia databases are available online at URL (devinfo.stat.gov.rs).

A desktop version of DevInfo 7 is currently under development and will be subsequently made available via CD-ROM and download.

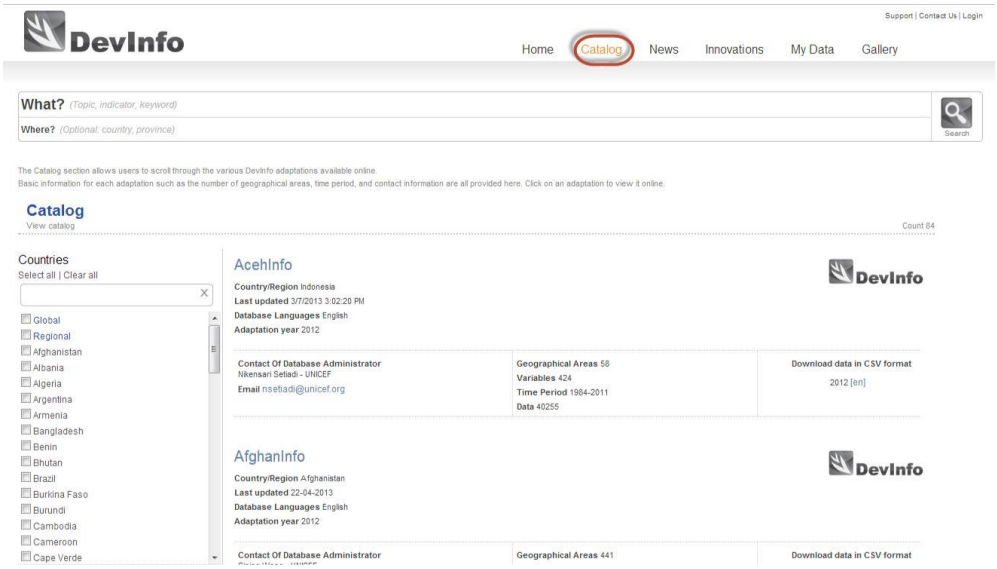
Searching for data

2

DevInfo offers fast open access to data on human development. Begin by first selecting the database you wish to search.

Using the Catalog to select a database

Click **Catalog** from the top menu bar to view the list of databases available for searching.



Select the **Global** or **Regional** check boxes from the left panel to view a list of available global or regional databases. Use the search box and filters at left or type a country name in the **Where?** box up top to drill down to the country for which you are searching for data. Select the desired database by double-clicking its name or its banner image at right.

Note that a single database must be selected, in order to further search for data and generate visualizations.

Using Quick Data Search

The **Quick Data Search** feature allows you to find what you are looking for almost instantly.

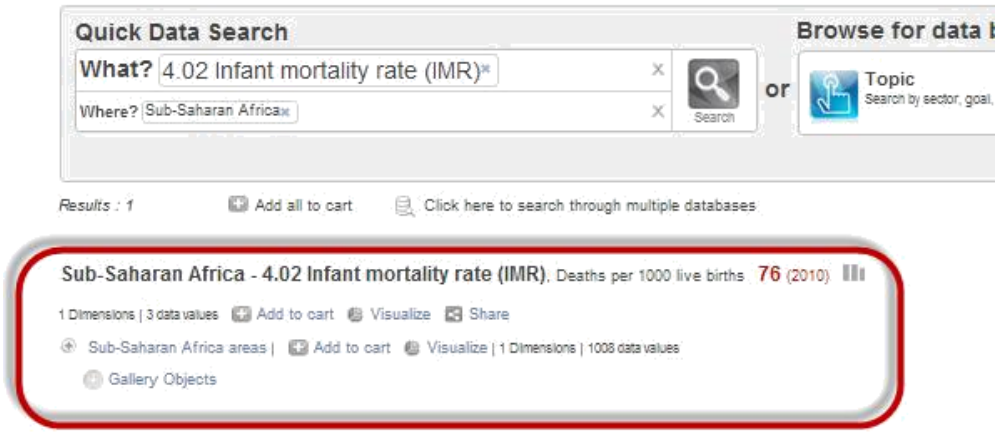
Entering keywords

In the **Quick Data Search** boxes, enter the desired indicator keyword(s) in the **What?** box and/or the desired area name(s) (such as continents, regions, countries or sub-national areas) in the **Where?** box.

The auto-suggest feature will automatically suggest indicators, sectors, goals and area names in the database, making your search quicker and easier. Note that the contents of the auto-suggest entries are configured by the database administrator.

Click 

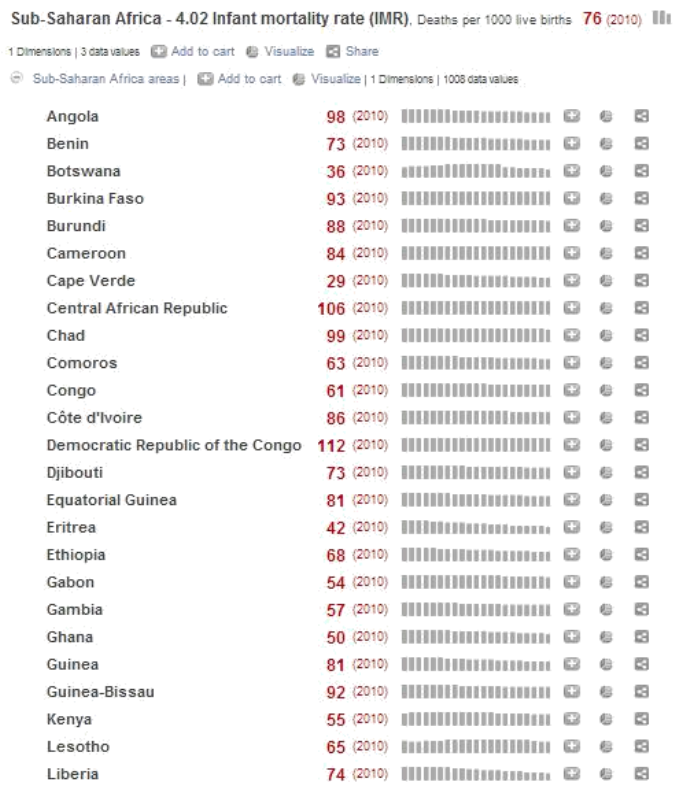
after you have entered one or more keywords. The application quickly returns the search results.



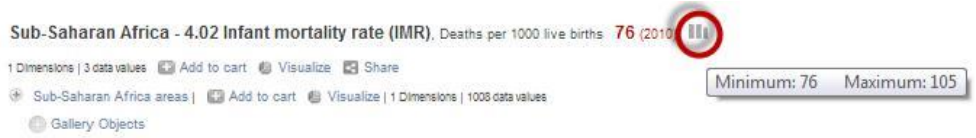
Viewing your search results

Depending on the keywords you entered and the contents of the database, your search results may consist of one or multiple entries. The first line of each search result entry always displays the area name, indicator and unit; it may also display the data value for most recent time period and sparkline (as applicable). Note that the number of data values posted below each entry includes all available subgroups.

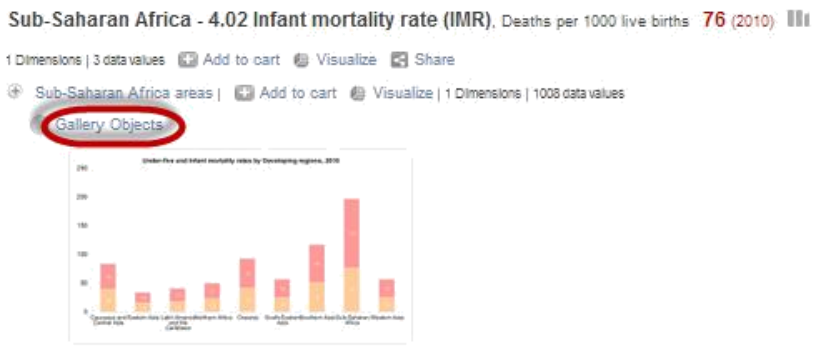
If the selected area contains sub-areas with data posted against them, click either the sign or the sub-area name to view data for these areas.



Move the mouse over a sparkline to view its minimum and maximum data values.



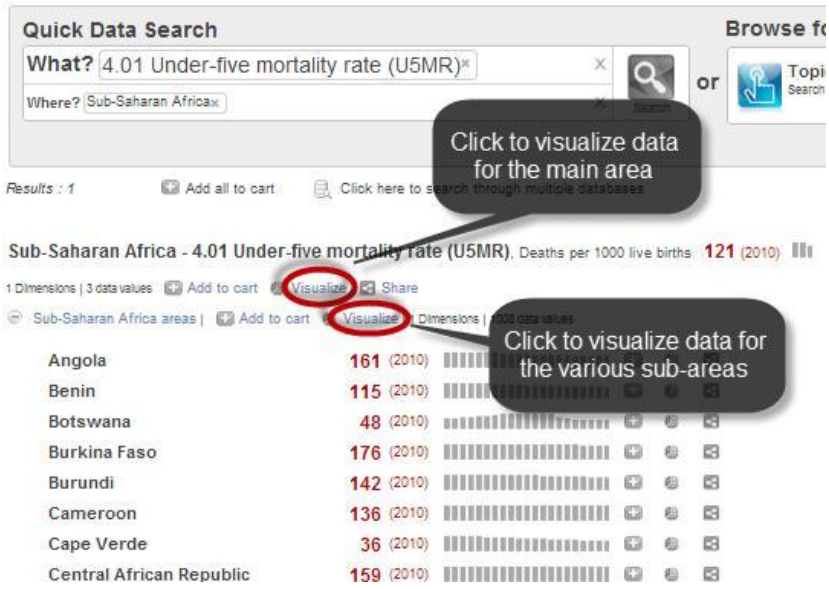
If available, click **Gallery Objects** to view any previously-created visualization objects saved to the **Gallery** which contain the displayed indicator and area name.



Double-click any Gallery object to enlarge it for better viewing.

Visualizing your search results

Click **Visualize** to visualize your search results in table, graph, chart and map formats. Note that depending on your search results, you can visualize data either for the main area selected or for the individual sub-areas.



See Chapter 3, “Visualizing your data”, to learn more about how to visualize your data.

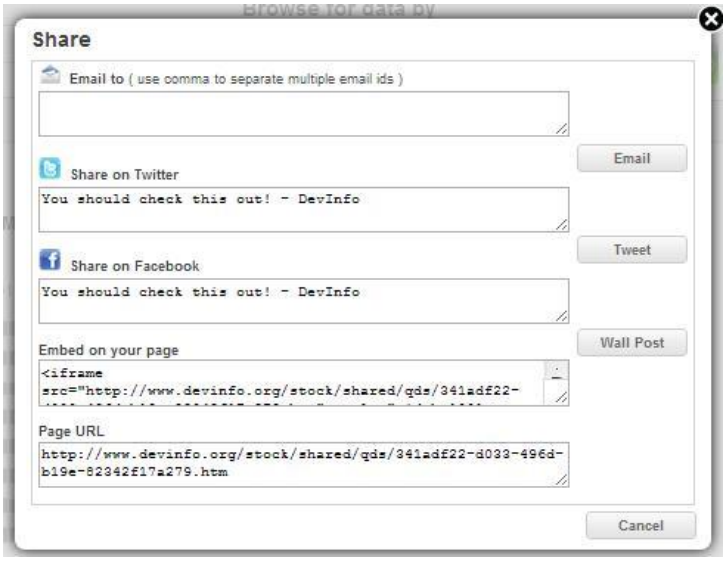
Adding your search to the Data cart

The **Data cart** allows you to select multiple indicators or multiple areas (such as several different countries) for visualization. Click Add to cart to add your search results to the **Data cart**, which will appear on the right side of your screen.

Click Data when you are ready to visualize the data in the **Data cart**.

Sharing your search results

Click Share to share your search results with others.



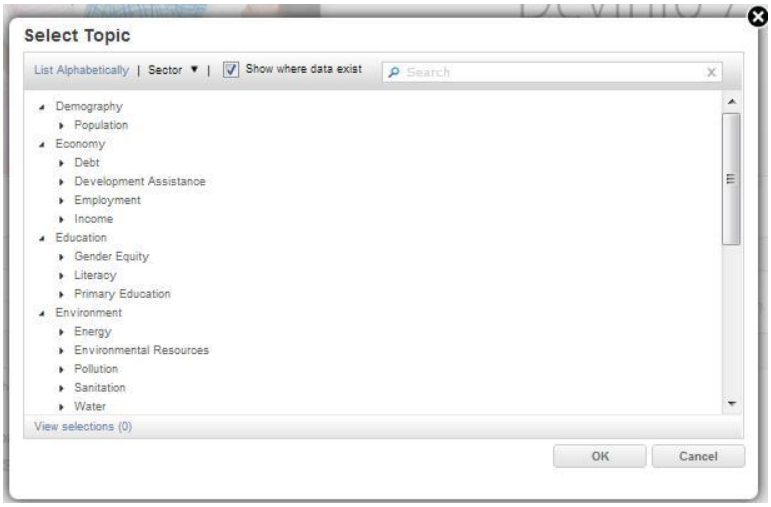
You can directly share your search results via email, Twitter, Facebook, embedded code, or direct page URL. Please see Chapter 4, “Using Your Visualizations”, for more details.

Browsing for data by topic or area

You can also browse the database by topic or area while searching for data.

Click 

to search the database by sector, goal, theme or indicator.

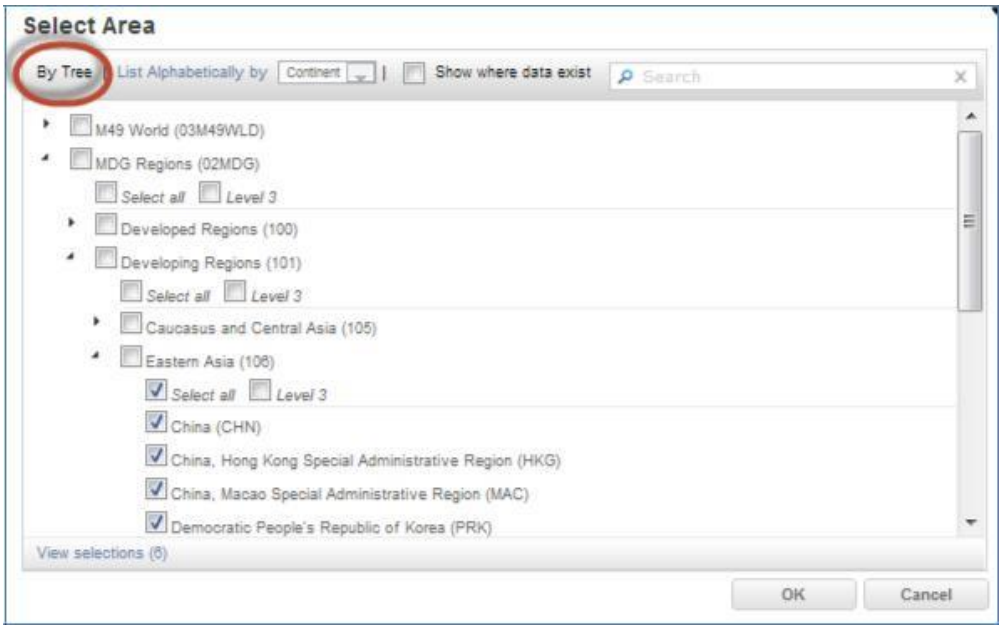


By default, the application lets you search for indicators by sector. Click the small black arrow next to **Sector** to search by other indicator classifications.

Click **List Alphabetically** to view the list of indicators in alphabetical order. Type keywords in the search box to expedite your indicator search. Select the **Show where data exist** check box to display only those indicators for which data exist. When you are done with your selection(s), click **OK** to view your search results.

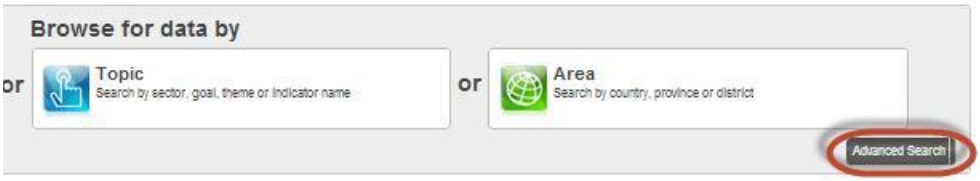
Note that as no areas are selected, the application will search for data across all areas in the database.

Similarly, click to search the database by geographic area (region, country, state/province, district, etc.) across all indicators. Note that you can search for areas by area tree or by alphabetical listing.

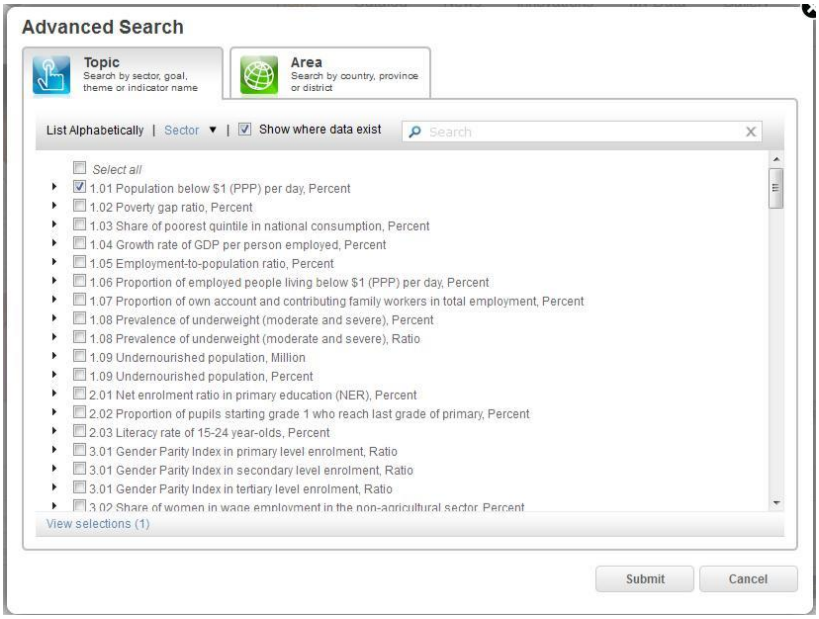


Using the Advanced Search feature

The **Advanced Search** feature allows you to select both indicators and areas at the same time.



Click the **Advanced Search** button to open a window allowing you to specify your indicator and area selections.



You can select the **Show where data exist** check box, to avoid selecting areas for which data are not available for the selected indicator(s). Alternatively, you can leave this check box unselected to generate a map visualization showing data for a complete geographic region (e.g., all countries in a continent or all sub-areas in a country), even if data is not available for some of the sub-areas.

When done, click **Submit** to go directly to the visualization page.

Visualizing data

3

Once you have searched for the data you want, you can use DevInfo to visualize your data in many exciting ways.

Viewing different visualizations

Click **Visualize** from your search results or click **Submit** from the **Advanced Search** to begin visualizing your data.

Note that there are two tabs at the top of the visualization page: **Visualization** and **Settings**.

The **Visualization** tab allows you to select from 11 different types of visualizations (table, line graph, column graph, area graph, pie graph, map, pyramid chart, treemap, radar chart, and scatterplot).

Click any of the visualization icons to view your data in a new visualization. For **Line**, **Column**, **Bar**, **Area** and **Map**, click the small black arrow to select from additional display formats.

Note that some visualizations (e.g., pie chart, pyramid chart, radar chart) may be disabled if the underlying data structure does not lend itself to support those particular visualizations.

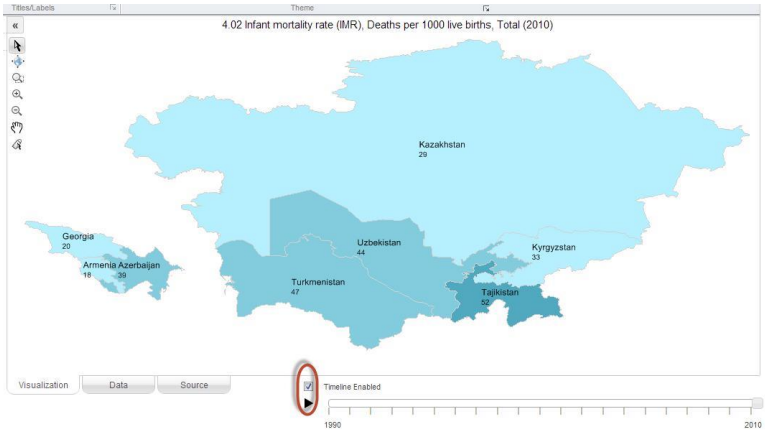
Click the **Data** tab below the visualization to view the underlying data.

Similarly, click the **Source** tab to view the data source.

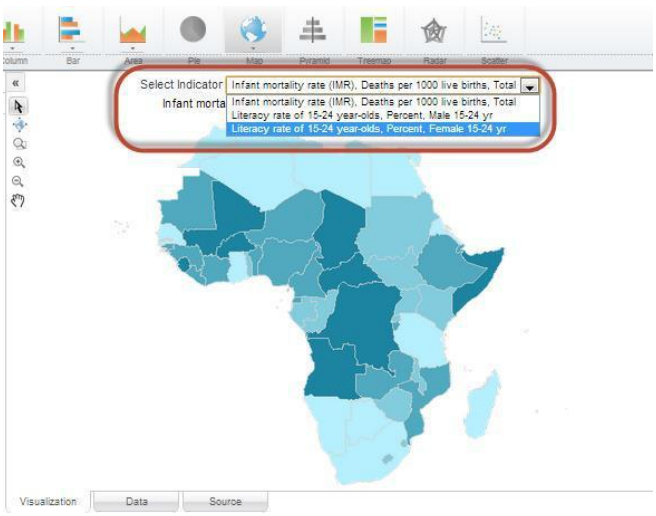
Viewing maps

The default map visualization is a single theme map, which shows data for a single indicator and a single subgroup using a default color theme.

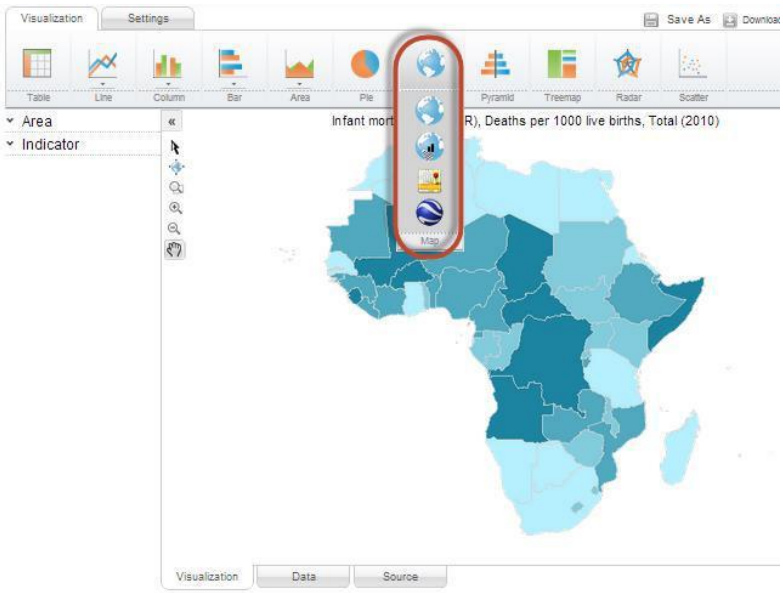
By default, the application shows data for the latest time period. If time series data are available, select the **Timeline Enabled** check box below the map and click ▶ to display animated time series maps.



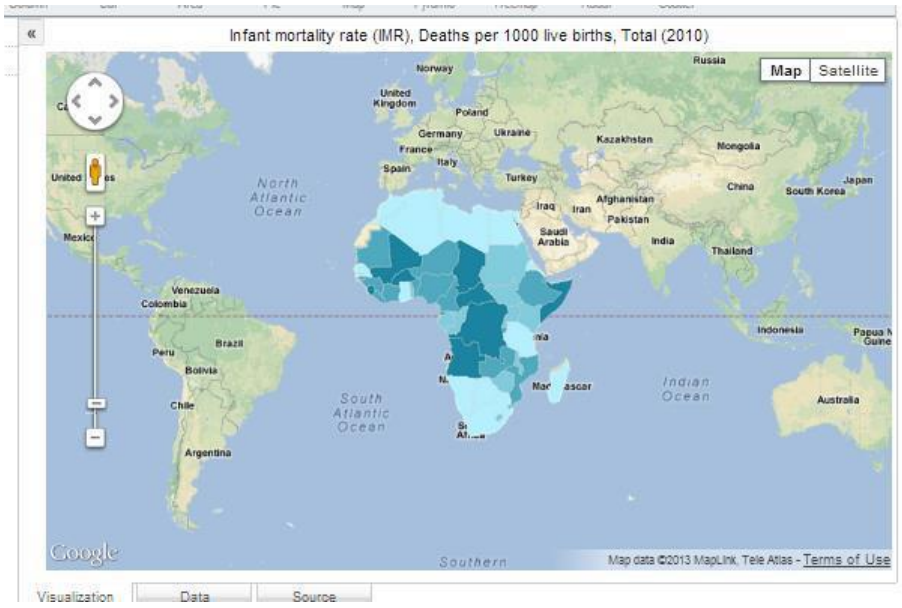
If multiple indicators or subgroups (e.g. male/female) have been selected, specify the desired indicator and/or subgroup from the **Select Indicator** box to view the desired map.



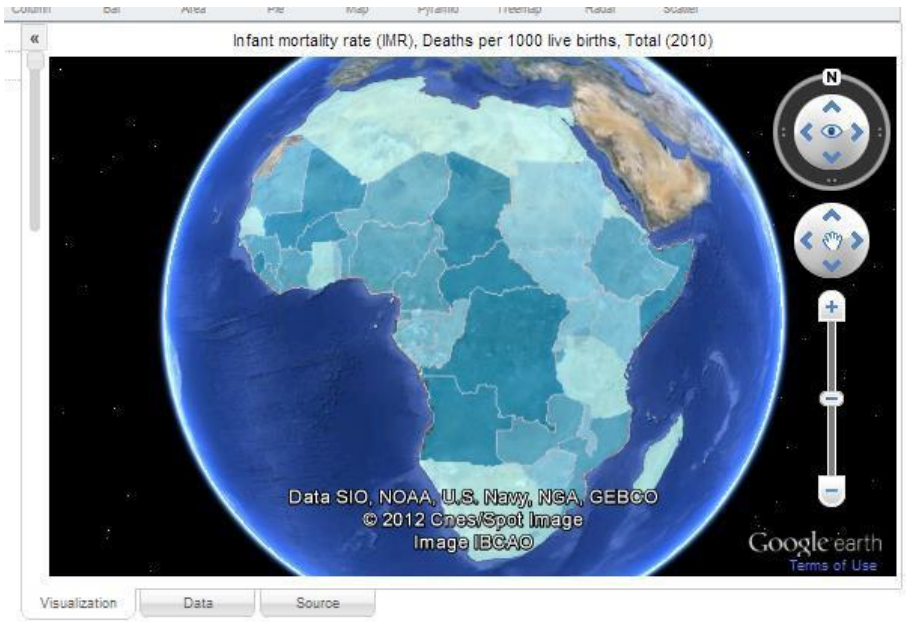
Note that you can generate four different types of map visualizations: single theme, multiple theme, Google map 2D and Google map 3D.



The Google map 2D option displays the selected single theme over a two-dimensional Google map.

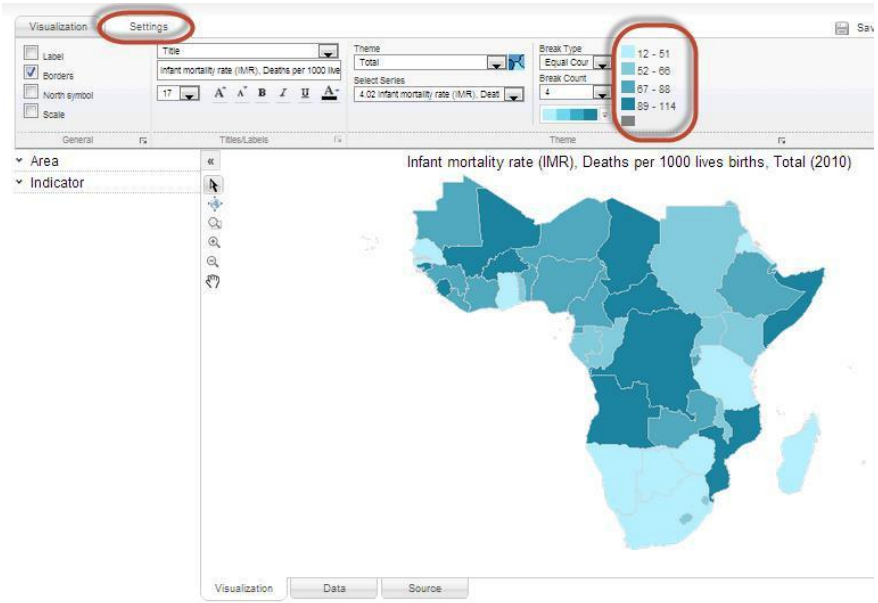


The Google map 3D option displays the selected single theme over a three-dimensional Google earth display.

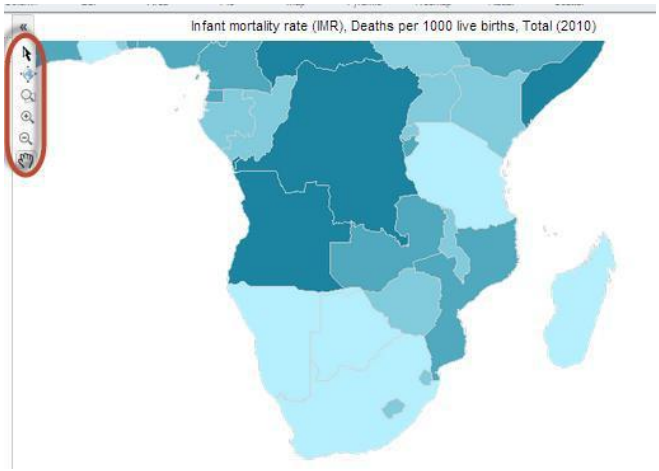


The multiple-theme map option will be discussed in greater detail below.

The default map legend can be viewed by clicking the **Settings** tab.

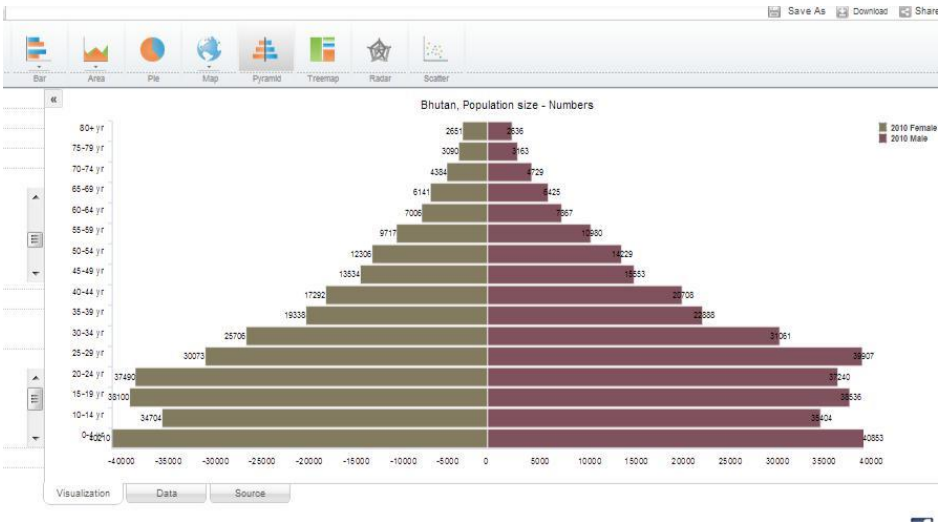


Use the map toolbar at left to zoom into a particular frame, zoom in and out of the map, pan across it, or reset it to its default view.



Viewing population pyramids

Population pyramids are an effective way to visualize the age and sex distribution of any given population. A population pyramid usually consists of two back-to-back bar graphs--one showing the number of males and the other showing the number of females--with the population indicator located on the X-axis and the age indicator on the Y-axis.

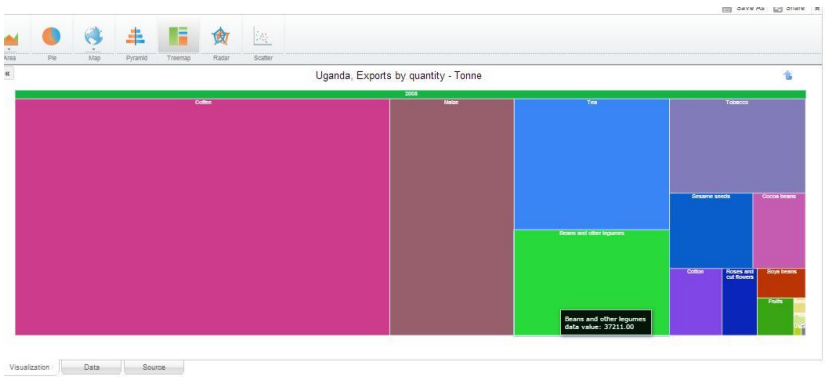


Viewing treemaps

Treemaps display hierarchical, tree-structured data as a set of nested rectangles. Each branch of the tree is depicted by a rectangle, which is then tiled with smaller rectangles representing sub-branches. The area of each rectangle is proportionate to a specified dimension of the data.

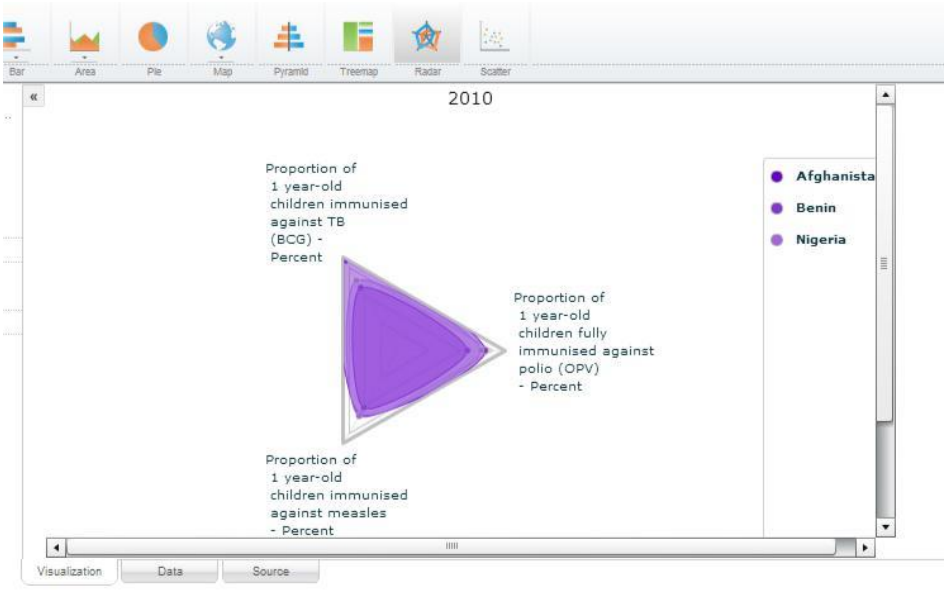
Click any rectangle within the tree map to view its sub-branch, or click the blue arrow at upper right to go back to the parent branch.

In the example below, the different rectangles depict the relative quantity (in tonnes) of various export crops in Uganda in 2008.



Viewing radar charts

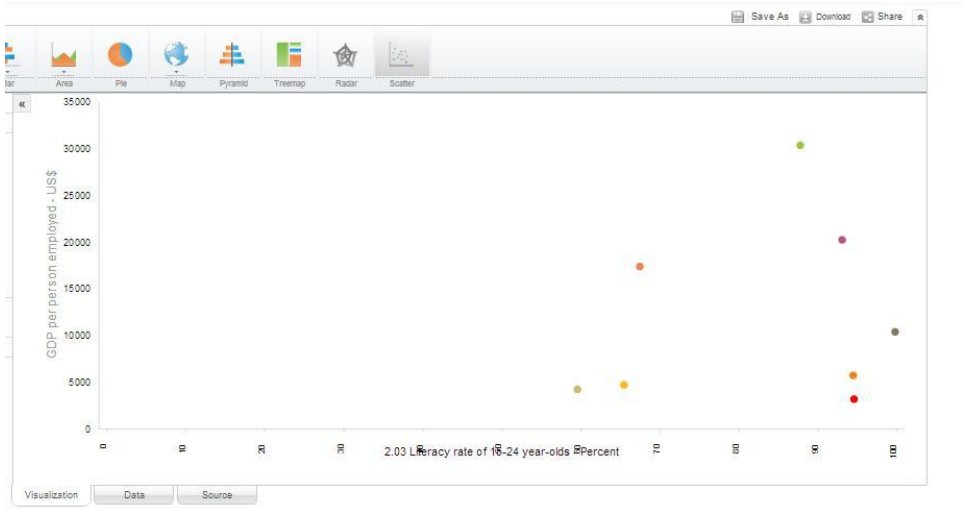
Radar charts allow viewers to compare and analyze data values among various areas. They consist of a sequence of equi-angular spokes, with each spoke representing a different indicator. A line is drawn to connect the data values on each spoke, allowing users to identify relative data trends that might be difficult to spot in other presentation objects.



Viewing scatter plots

A scatter plot uses Cartesian coordinates to display values for two variables for a set of data. The data is displayed as a collection of points, with the value of one variable determining the point's position on the horizontal axis and the value of the other variable determining the point's position on the vertical axis.

For example, the scatter plot below shows a positive correlation between literacy rates of 15-24 year-olds and GDP per person employed in Latin America.

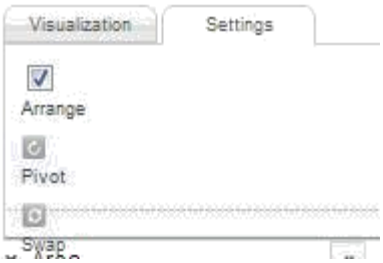


Customizing your visualizations

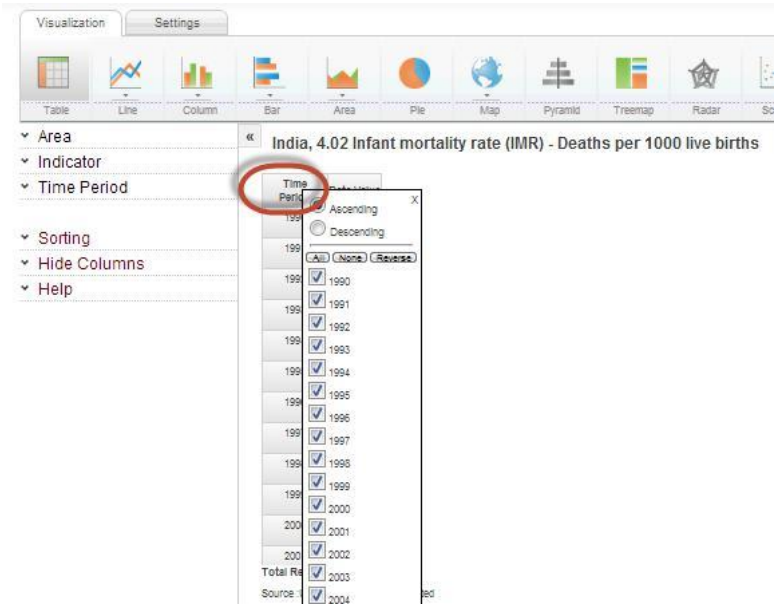
Click the **Settings** tab to customize your visualizations. The settings available for customization depend on the visualization selected.

Table settings

For **Table** visualizations, the **Settings** tab allows you to select **Arrange** to drag the table row and column headers to the desired location, or to **Pivot** and **Swap** the table row and column headers. Note that **Swap** involves directly exchanging the row and column headers with each other, whereas **Pivot** involves rearranging the rows and column headers in various ways to achieve different views of the same data.



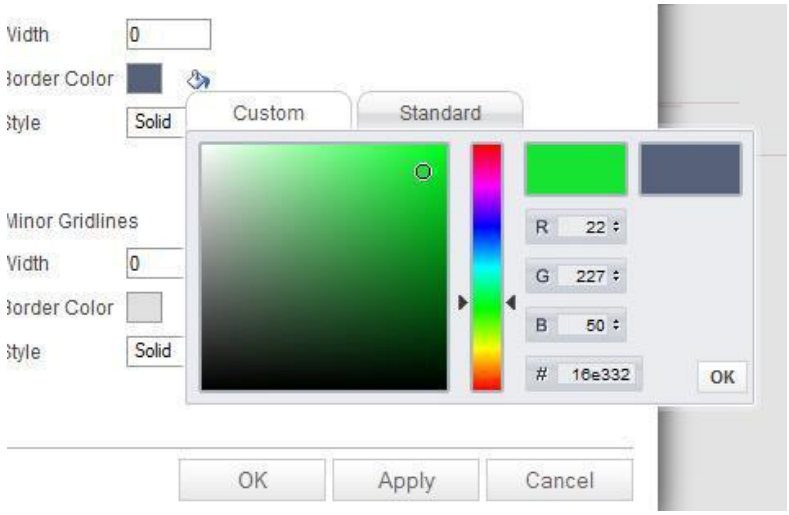
When the **Arrange** check box is selected and you move the mouse over various row or column headings, the mouse pointer changes into a four-way arrow sign, enabling you to click to access additional sort options. These include sorting the various elements by ascending or descending order, as well as clearing various elements from the table.



Graph and chart settings

For the various graph and chart visualizations, the **Settings** tab provides customization options categorized under three groups: **General**, **Titles/Labels**, and **Series**.

Within the **General** group, you can customize general graph and chart features including the border, gridlines, labels, chart area, and plot area. Note that when selecting a new color, you must first click the color icon to display the color palette, from where you can then make your desired color selection under the **Custom** or **Standard** tabs.



To select a custom color, first drag the black arrow sliders to the desired location on the vertical color bar. Then in the large color square at left, drag the small color circle to the desired color location and click **OK.**

Within the **Titles/Labels** group, you can customize the content, font size, font style, and font color of the various titles and labels for the graph/chart and the X- and Y-axes.

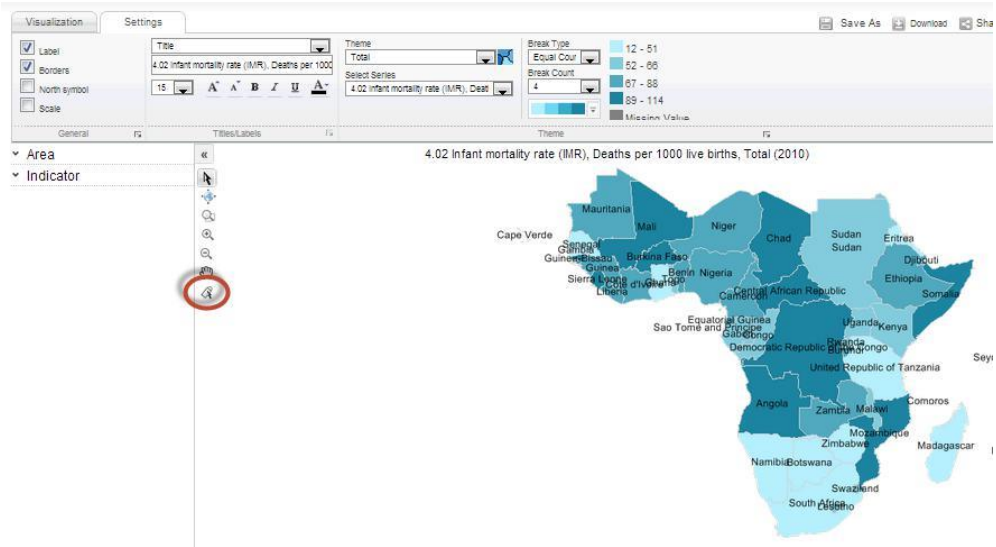
Within the **Series** group, you can modify the colors, thickness and style of the various data series.

You can also **Pivot** and **Swap** the various axes.

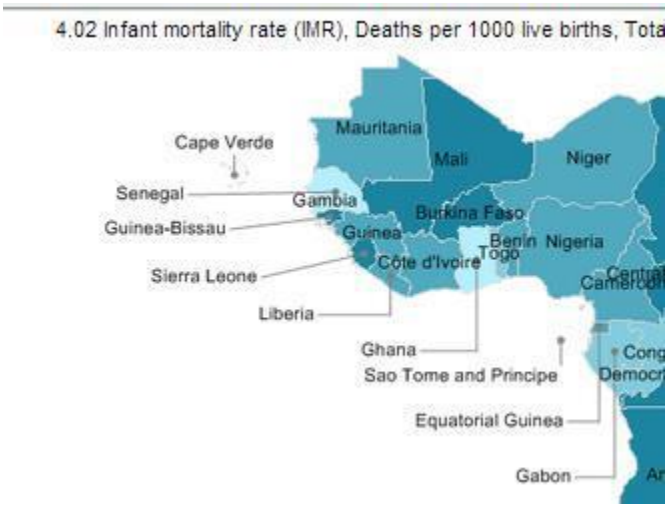
Map settings

For map visualizations, the **Settings** tab provides various customization options categorized under three groups: **General**, **Titles/Labels**, and **Theme**.

Under the **General** group, select the **Label** check box to display area names. When the **Label** check box is selected, the **Nudge** icon appears at the bottom of the map toolbar at left.

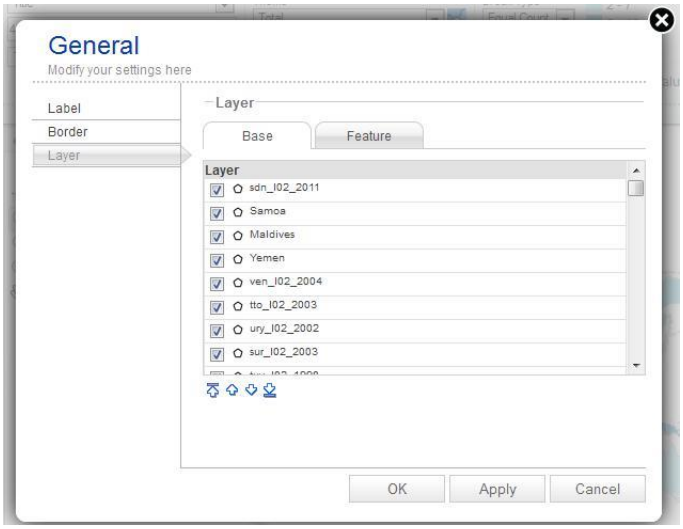


To nudge any map label for more convenient viewing, first click the **Nudge** icon. Then double-click any label on the map and drag it to the desired location.

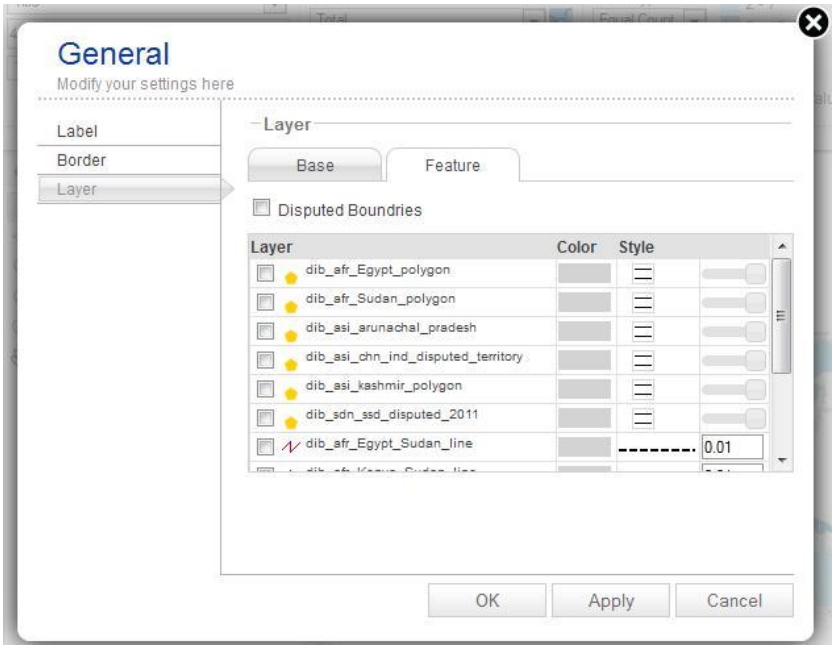


Under the **General** group, you can also choose to display area borders, the North symbol, and the map scale.

For more general customization options, expand the **General** menu by clicking the arrow next to **General**.

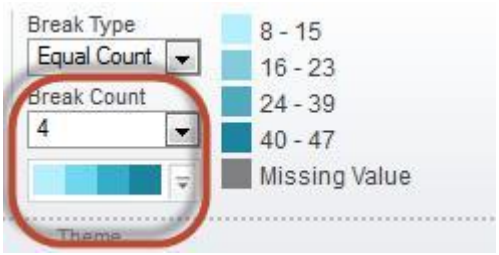


Under the **Layer** option, there are two tabs, **Base** and **Feature.** Under the **Base** tab you can choose to clear selected map shapefiles from being displayed and modify their relative position using the arrow keys. Under the **Feature** tab, you can choose to display international disputed boundaries and specify the desired attributes for the various disputed boundary map colors, styles, and opacity.

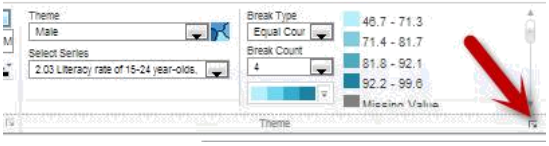


Under the **Title/Labels** group, you can customize the content, font size, font style, and font color of the map title, labels, legend and disclaimer.

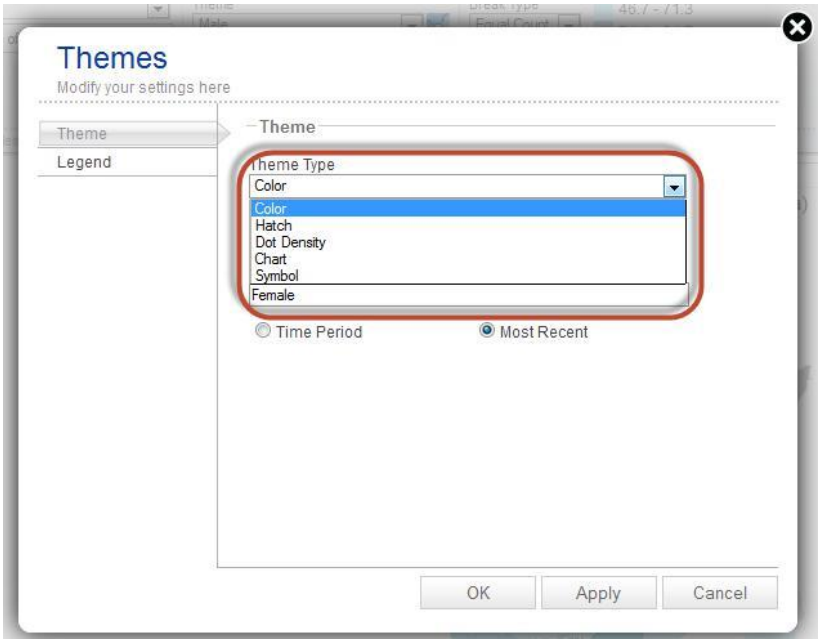
The **Theme** group allows you to customize the selected map theme. Use the **Break Count** box to modify the number of ranges used in the legend (default is 4). Click the color preset box to select another color preset option for your map.



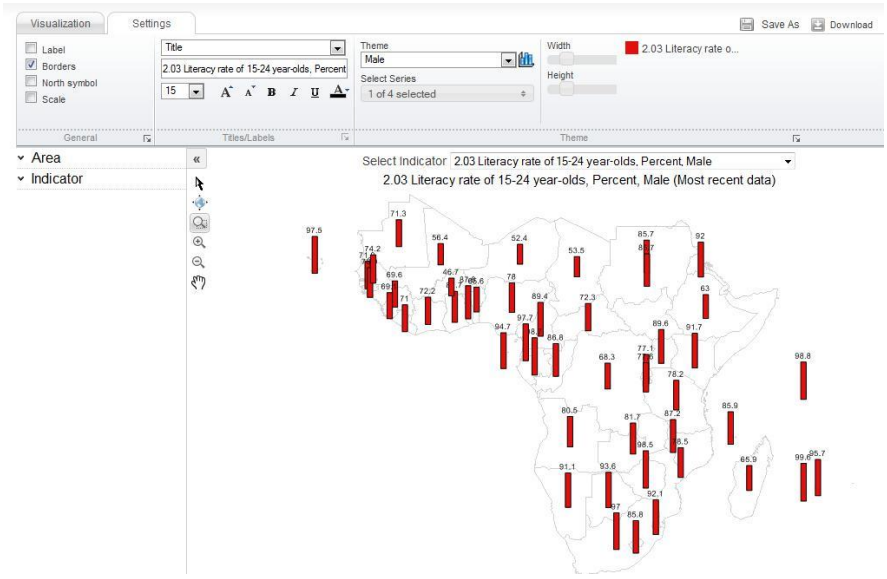
For additional theme options, including modifying the type of range break and switching to a different map theme, click the arrow next to **Theme.**



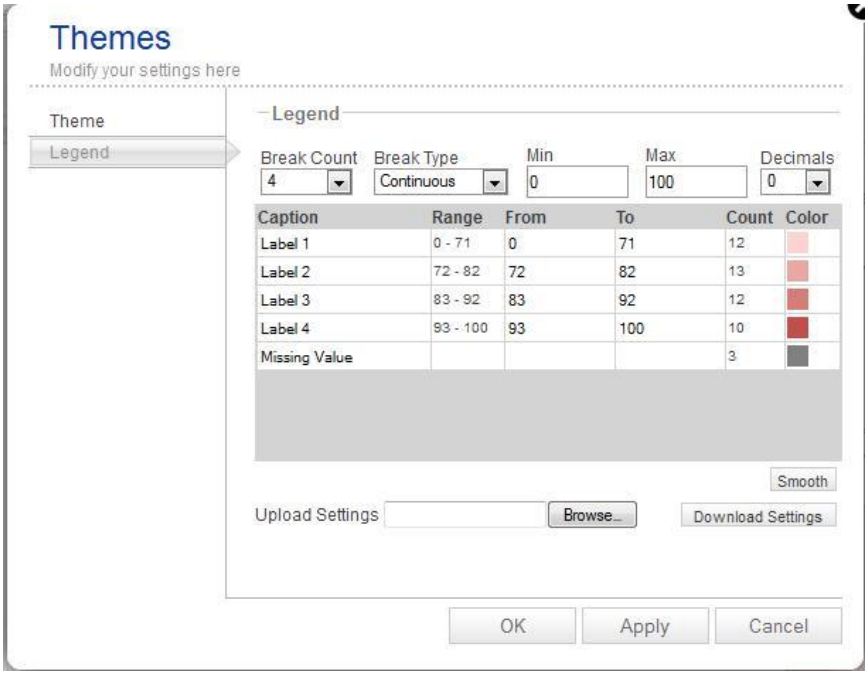
The **Themes** window opens. Under the **Theme** tab, you can change the **Theme Type** from the default **Color** to **Hatch**, **Dot Density**, **Chart**, or **Symbol**.



Each of these theme types can be further customized using the available settings.



Click the **Legend** tab in the **Themes** window to modify the legend in various ways.



You can modify the number of ranges in the **Break Count** box. From the **Break Type** box, you can select four different methods of data break as follows:

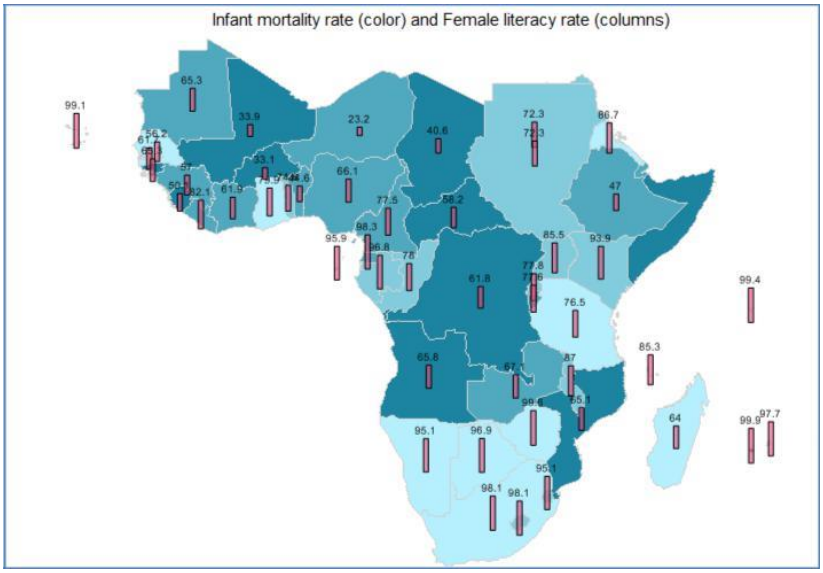
Equal count	Arranges the data values into the specified number of breaks, such that each break has approximately the same number of data values
Equal size	Arranges the data values into the specified number of breaks, such that each break range is of the same magnitude
Continuous	Arranges the data values into the specified number of breaks according to the continuous break ranges specified. You can change the range values for each break by entering new values in the **To** column, which causes the other break ranges to be automatically recalculated to ensure continuity.
Discontinuous	Arranges the data values into the specified number of breaks according to the discontinuous break ranges specified. You can change the range values for each break by entering new values in both the **From** and **To** columns.

You can also specify values for the range minimum and maximum, indicate the number of desired decimal places, and enter customized caption text for each range break. Additionally, you can click the color squares to change the legend colors and then click **Smooth** to smooth the color gradient between the first and last colors selected.

You can also download your legend settings for subsequent upload, if you wish to apply the same legend to another map.

Map settings: multiple theme

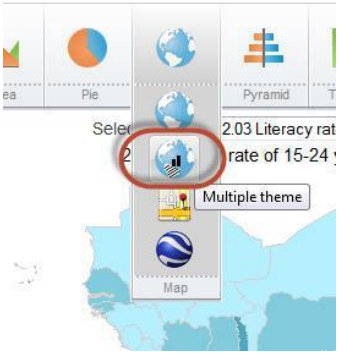
DevInfo allows you to create maps featuring multiple themes, such as a chart theme for one indicator overlaid atop a color theme for another indicator.



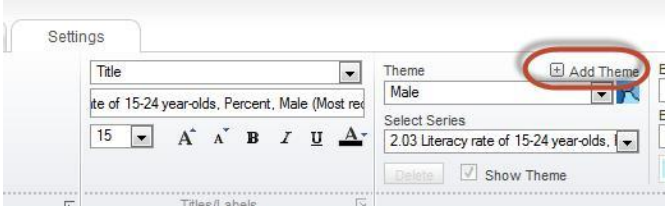
Follow these steps to create a multiple theme map:

1. When searching for data, select at least two indicators for the same set of areas and save them to the **Data cart**. Then click the red **Data** button to visualize your search results.

2. Select **Multiple theme** from the expanded **Map** icon menu.



3. Click the **Settings** tab, and then click + **Add Theme.**

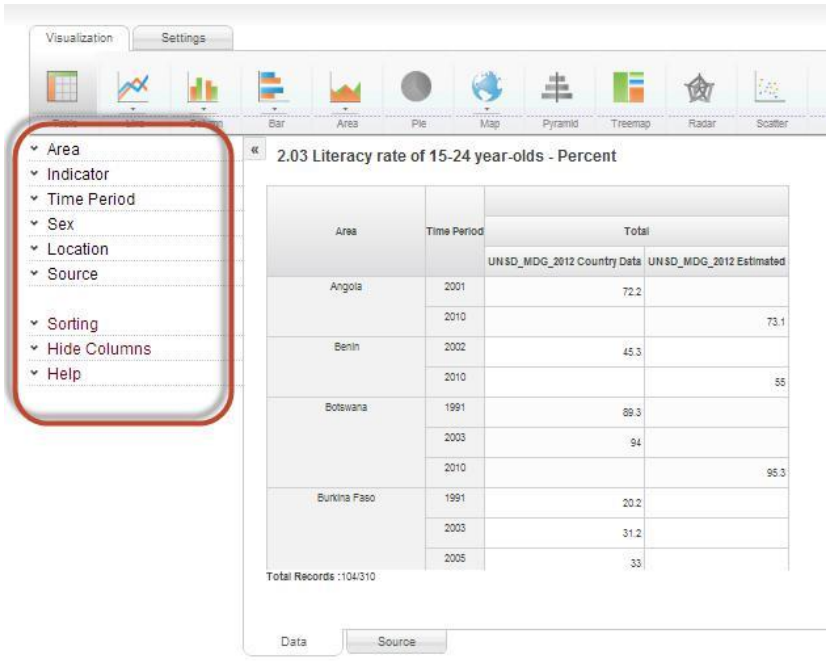


4. From the **Themes** window, select the desired **Theme Type** and the desired indicator(s) from the **Series** box (you can select more than one indicator for a **Chart** type).

5. Use the available settings to customize your newly-selected theme.

Modifying your data selections

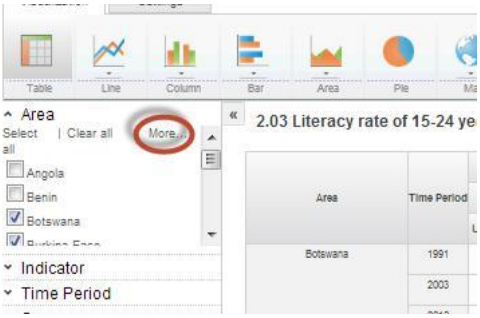
The left panel of the visualization page allows you to quickly modify your underlying data selections used to generate any visualization.



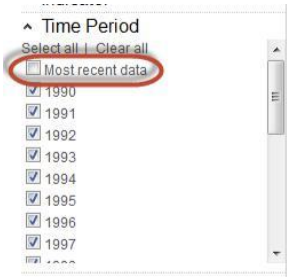
Note that the available left panel options will vary, depending on the visualization selected and the underlying data parameters. (For example, not all indicators will be

disaggregated by **Sex)**. All changes made in the left panel will be dynamically reflected in the current visualization.

Click **Area** or **Indicator** to clear certain areas/indicators from the current visualization or to select new ones by clicking **More**.



Click **Time Period** to specify for which time periods you wish to view data, or to view only the most recent data. Note that you may need to clear the **Most recent data** check box to view data for all time periods.



Click subgroup dimensions such as **Sex** and **Location** to select or clear various dimensions from the current visualization. Note that depending on how the database has been configured by the administrator, certain subgroups (e.g., male/female) may not display by default and will need to be manually selected to display.

Click **Sorting** to sort the visualization by various parameters.

Click **Hide Columns** to hide various data parameters from table and graph visualizations.

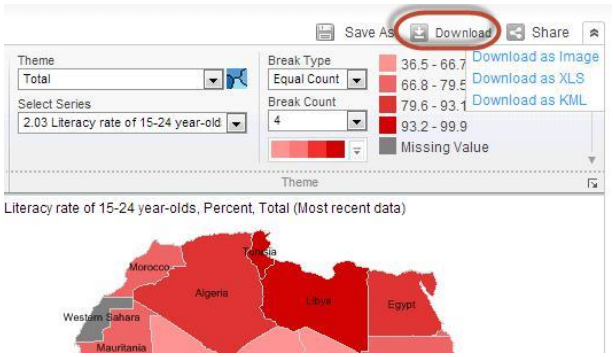
Using your visualizations

4

DevInfo offers multiple ways for you to use your visualization after you have generated it from the database.

Downloading your visualization

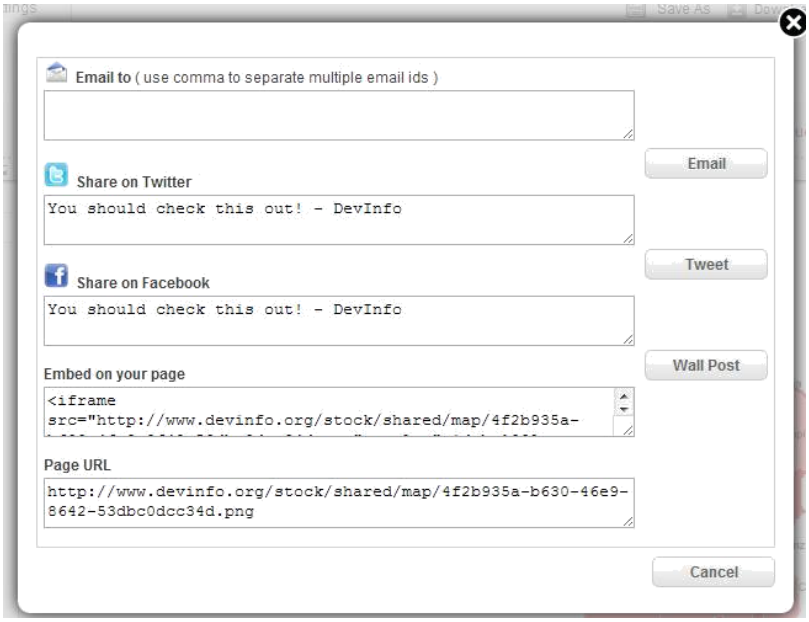
To download your current customized visualization, click Download from the upper right of the screen.



DevInfo allows you to download your visualization as an image, XLS file or KML file. Image files can be downloaded as static PNG, JPEG and/or GIF files for convenient inclusion in external documents or presentations. Downloaded XLS files allow you to share the visualization in XLS format along with the underlying data. Downloaded KML files contain stored geographic data that can be used for subsequent geo-referenced display in Google Earth and Google Maps.

Sharing your visualization

To share your visualization in a web-based format, click Share from the upper right of the screen. A new window opens, allowing you to conveniently share your visualization in various ways.



To share your visualization by email, enter one or more email addresses in the **Email to** box and click **Email.** An email will be sent to the entered address(es) containing a link to your visualization.

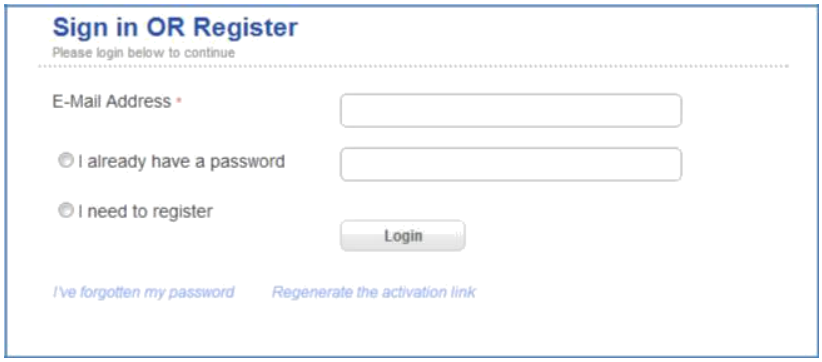
To share your visualization via your own Twitter or Facebook accounts, enter the desired text and click **Tweet** and/or **Wall Post**. You will be then asked to enter the login details to your Twitter/Facebook account. Once you have logged in, the application will post your visualization along with any entered text to your account.

To embed the visualization on an external web page, copy and paste the code in the **Embed on your page** box.

To share a link to your visualization, copy and paste the code in the **Page URL** box in any document or email.

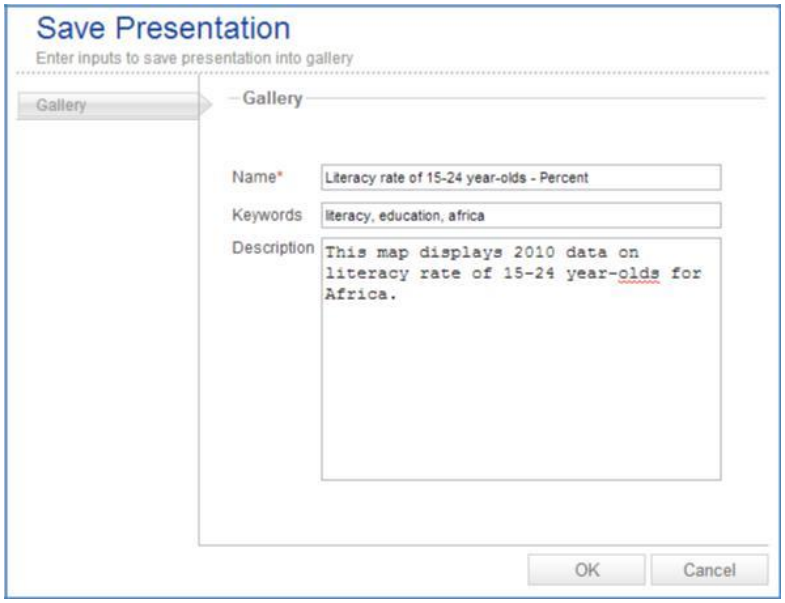
Saving your visualization

If you wish to save your visualization to your private **Gallery**, click Save As from the the upper right of the screen. The application prompts you to enter your login details.



If you have not previously logged in, select **I need to register** and enter your user details. You can also choose to request data provider rights in order to register your own data or metadata in the DevInfo Registry, as well as elect to receive DevInfo updates (news, product releases, etc.) by email. An activation link will be sent to your email address, which you can click to activate your registration. Note that the login credentials are valid across all DevInfo adaptations accessible via the **Catalog**.

After logging in, you will be requested to enter the name of the visualization, search keywords, and a brief description.



Once the visualization is saved to your private gallery, you can access it anytime by logging in to the adaptation website using your login credentials and clicking **Gallery**.

Private galleries are unique for each online DevInfo adaptation. Note that your private galllery contains visualizations pre-loaded by the administrator (available for viewing without login), as well as any additional visualizations you save there. The visualizations will be searchable by the keywords entered at the time of saving as explained above.

Double-click on any **Gallery** visualization to view, share, or download it.

Visualizing your own data

5

DevInfo 7 provides a fast, convenient method to input your own data to generate data visualizations, with automatic mapping of geographic areas. This powerful feature – called **My Data** – allows you to quickly create tables, maps and graphs for your reports and presentations.

Selecting an appropriate underlying database

Before using the **My Data** feature, be sure that the currently selected database contains the areas you wish to visualize in your own dataset. If it does not, then browse the **Catalog** to select another appropriate database.

For example, if your dataset contains country-level data, then a global database containing country-level areas and maps such as **MDG Info** or **SOWC Info** will work fine. Alternatively, if your dataset contains sub-national data for Malawi, be sure to browse the **Catalog** and select a Malawi database containing the sub-national areas in your dataset.

If you are not able to select an underlying database containing the areas in your dataset, note that the map visualizations will not generate properly.

When done, click **My Data** from the top menu bar to begin visualizing your own data.

Uploading or copying and pasting your data

The first step involves either uploading or copying and pasting your data into DevInfo.

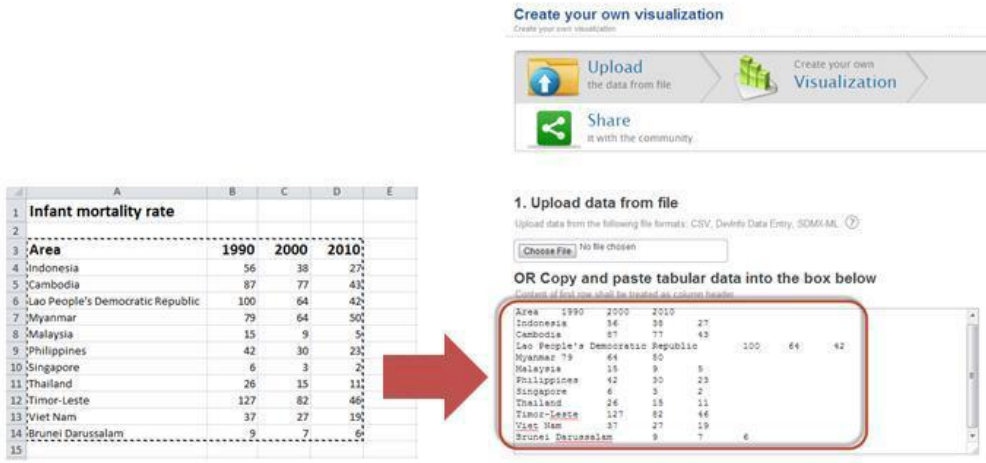
To upload data, your source file must be in one of three formats: CSV, DevInfo Data Entry spreadsheet (XLS)[1], or SDMX-ML[2]. To learn how to convert your Excel file data into a CSV file, click the  icon for detailed instructions. A sample source file is shown below.

	A	B	C	D	E	F	G	H
1	Area ID	Area Name	Time Period	Source	Footnote	Growth rate-Percent-Female	Growth rate-Percent-Male	Growth rate-Percent-Total
2	TCD	Chad	2010	NGO XYZ		40.6		
3	COD	Democratic Republic of the Congo	2010	NGO XYZ		61.8		
4	GAB	Gabon	2010	NGO XYZ		96.8		
5	GNQ	Equatorial Guinea	2010	NGO XYZ		98.3		
6	AGO	Angola	2010	NGO XYZ		65.8		
7	CAF	Central African Republic	2010	NGO XYZ		58.2		
8	STP	Sao Tome and Principe	2010	NGO XYZ		95.9		
9	TCD	Chad	2010	NGO XYZ			53.5	
10	COD	Democratic Republic of the Congo	2010	NGO XYZ			68.3	
11	GAB	Gabon	2010	NGO XYZ			98.7	
12	GNQ	Equatorial Guinea	2010	NGO XYZ			97.7	
13	AGO	Angola	2010	NGO XYZ			80.5	
14	CAF	Central African Republic	2010	NGO XYZ			72.3	
15	STP	Sao Tome and Principe	2010	NGO XYZ			94.7	
16	TCD	Chad	2010	NGO XYZ				47
17	COD	Democratic Republic of the Congo	2010	NGO XYZ				65
18	GAB	Gabon	2010	NGO XYZ				97.7
19	GNQ	Equatorial Guinea	2010	NGO XYZ				98
20	AGO	Angola	2010	NGO XYZ				73.1
21	CAF	Central African Republic	2010	NGO XYZ				65.2
22	STP	Sao Tome and Principe	2010	NGO XYZ				95.3

[1] A DevInfo Data Entry spreadsheet is an XLS file containing data from a DevInfo database that has been exported from the DevInfo Data Admin application.

[2] Statistical data exported from third-party applications (including DevInfo) in SDMX-ML format can be uploaded.

Alternatively, you can copy and paste tabular data from any spreadsheet into the box. Note that the first row should consist only of column headers. It is important to copy/paste the data directly from your spreadsheet, rather than typing directly in the box.

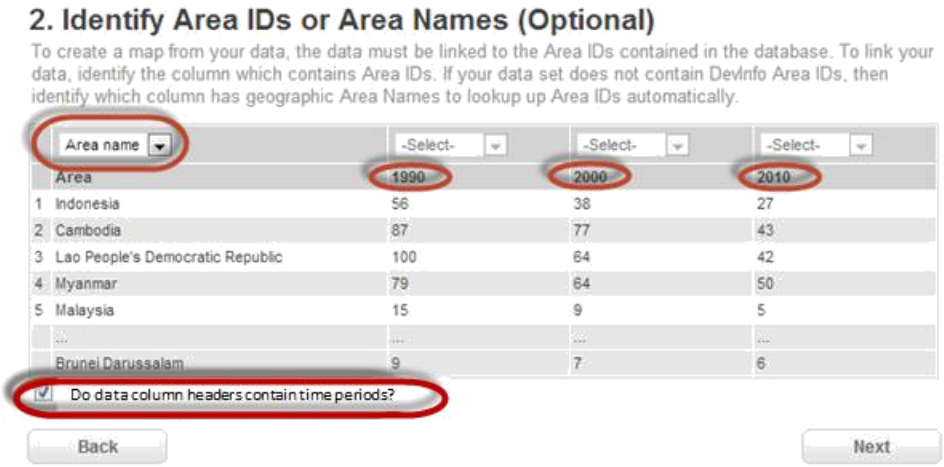


Click **Next** to proceed.

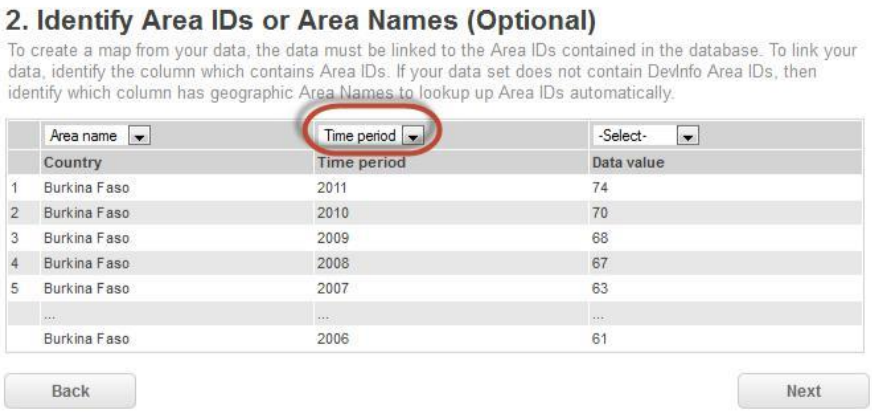
Identifying areas and time periods

The next step requires you to specify which column contains geographic area names and/or DevInfo Area IDs.

Moreover, if any of the column headers consist of time periods, select the check box next to **Do data column headers contain time periods?**



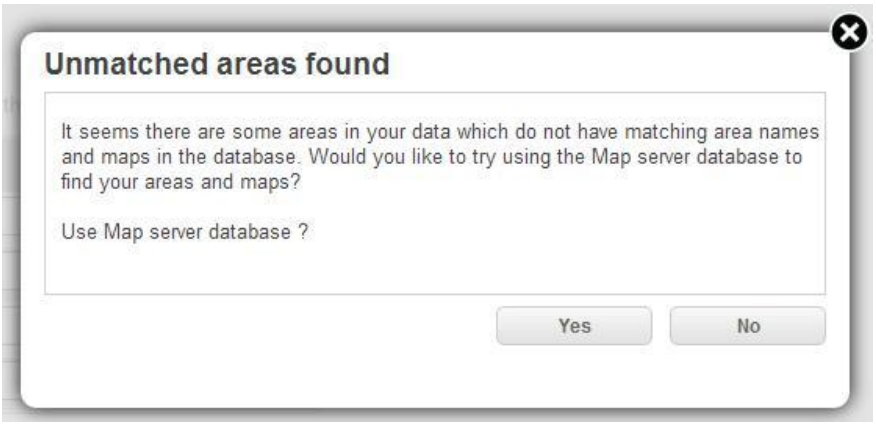
If any of the columns contain a list of time periods, be sure to specify this in the box above the column.



When done, click **Next** to proceed.

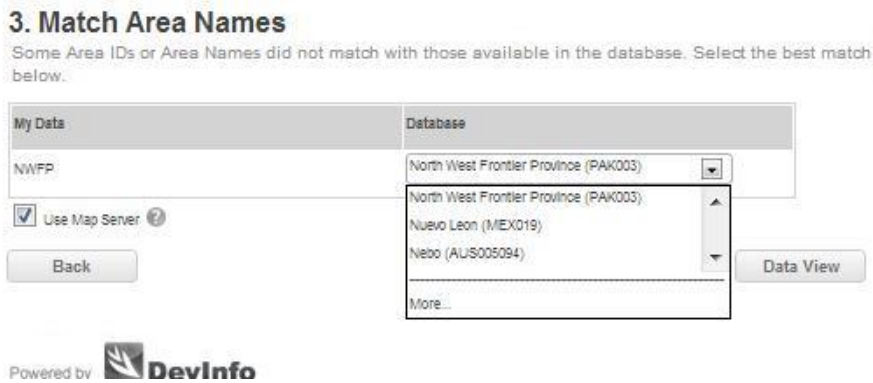
Matching area names

If the system is unable to properly match your area names to existing area names (with their associated map files) in the underlying database, the system will ask if you would like to use the Map server database to browse for additional areas.



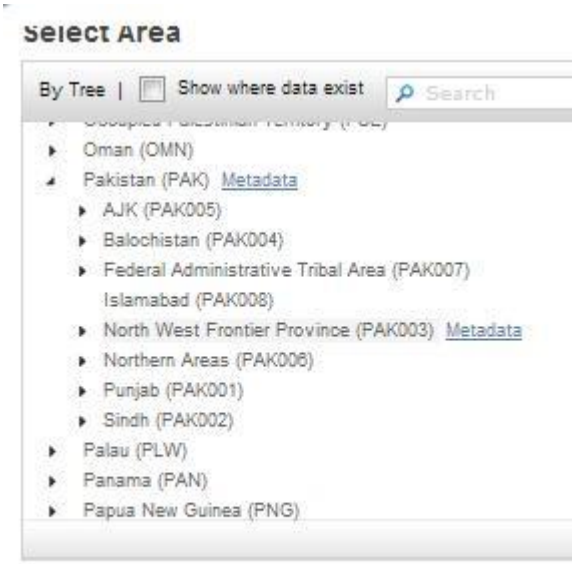
The Map server database has been created by the DevInfo Support Group containing the names and maps of many lower-level administrative areas (e.g., states, provinces, districts, etc.) for most of the world's countries, using publicly available records.

If you select **Yes**, the system will browse the Map server database to search for corresponding area name matches. If it identifies a unique match for each unmatched area, the system will take you directly to the visualization page. If a unique match cannot be found, the system will then prompt you to select the desired area name from among the available matches.

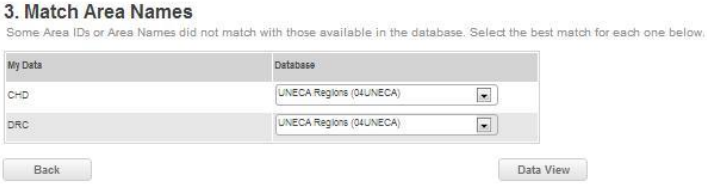


Use the area ID following the area name to help identify the correct area name, noting that the first three letters of the area ID serve as the country identifier. In the example above, the area ID “PAK003” refers to Pakistan.

If the desired area name does not appear in the list, click the **More…** option to browse for the desired area name, using the clickable branches of the area tree to locate your desired area.



If you do not elect to use the Map server, the system will try manually matching your unmatched areas to their equivalents in the underlying database.



Use the drop-down boxes to attempt to find an equivalent area match for all unmatched areas. Note that if you are unable to properly match an area, the system will not be able to locate its corresponding map file and therefore the map

visualization will not be complete. The table and graph visualizations, however, will still generate.

Visualizing your own data

The DevInfo application automatically reads your data, maps it to the areas in the underlying database, and takes you to the visualization page.

You can now use the powerful DevInfo visualization features to view, present, share and save your own data in various formats.