



SNS COLLEGE OF TECHNOLOGY

Coimbatore-37.

An Autonomous Institution



COURSE NAME : 19CSE311- Data Visualization

Topic: INTRODUCTION TO VISUAL ANALYTICS - MAPS

Ms.S.Vasuki

Assistant Professor

Department of Computer Science and Engineering



Introduction to Data Visualization

- Data visualization is the graphical representation of information and data.
- By using visual elements like charts, graphs, and maps
- Provides an excellent way for employees or business owners to present data
- Analyze massive amounts of information and make data-driven decisions



Advantages

- Easily sharing information.
- Interactively explore opportunities.
- Visualize patterns and relationships.



INTRODUCTION TO VISUAL ANALYTICS - MAPS :

- Creating a map with SAS Visual Analytics begins with the geographic variable.
- The geographic variable is a special type of data variable where each item has a latitude and longitude value.
- For maximum flexibility, VA supports three types of geography variables:



Geography variables:

- Predefined
- Custom coordinates
- Custom polygons
- This is the first in a series of posts that will discuss each type of geography variable and their creation. The predefined geography variable is the easiest and quickest way to begin and will be the focus of this post.



Predefined geographic lookup types

- **Country or Region Names** – Full proper name of a country or region (ISO 3166-1)
- **Country or Region ISO 2-Letter Codes** – Alpha-2 country code (ISO 3166-1)
- **Country or Region ISO Numeric Codes** – Numeric-3 country code (ISO 3166-1)
- **Country or Region SAS Map ID Values** – SAS ID values from MPASGFK continent data sets
- **Subdivision (State, Province) Names** – Full proper name for level 2 admin regions (ISO 3166-2)
- **Subdivision (State, Province) SAS Map ID Values** – SAS ID values from MAPSGFK continent data sets (Level 1)
- **US State Names** – Full proper name for US State
- **US State Abbreviations** – Two letter US State abbreviation
- **US Zip Codes** – A 5-digit US zip code (no regions)



More specific examples

The screenshot displays the SAS Visual Analytics web interface. The browser address bar shows the URL: <https://blogs.sas.com/content/sgf/2019/02/08/fundamentals-of-sas-visual-analytics-geo-maps/>. The page title is "Fundamentals of SAS Visual Analytics - Geo Maps".

The main content area shows the "Edit Geography Item" dialog box. The dialog has the following fields and options:

- Name:** State name
- Based on:** State name
- Geography data type:** Predefined geographic names and codes
- Name or code context:** Country or Region Names (selected)

The dialog also includes a map preview showing "2% mapped" and "5 of 49 unmapped values: Alabama". The "OK" and "Cancel" buttons are visible at the bottom of the dialog.

The background interface shows the "Data" pane with "CRIME" selected. The "Measure" pane lists various measures such as "assault", "auto", "burglary", "FIPS code", "Frequency", "larceny", "murder", "rape", and "robbery".



EXAMPLE

The screenshot displays the SAS Visual Analytics interface. The browser address bar shows the URL: <https://blogs.sas.com/content/sgf/2019/02/08/fundamentals-of-sas-visual-analytics-geo-maps/>. The page header includes the SAS logo and the word "BLOGS".

The main interface is divided into several sections:

- Data:** A dropdown menu is set to "CRIME".
- Filter:** A search box for filtering data.
- + New data item:** A button to add new data items.
- Geography:** A dropdown menu is set to "State name - 50".
- Measure:** A list of measures including assault, auto, burglary, FPI code, Frequency, January, murder, rape, and robbery.
- Aggregated Measure:** A dropdown menu is set to "Frequency Percent".

The central visualization area is currently empty, displaying a placeholder message: "Drag data items or objects here." The Windows taskbar at the bottom shows the system tray with the date and time: "ENG 2:17 PM IN 2/19/2024".



MAPS

INTRODUCTION TO VISUAL AN × sru IAT355-week1 - IAT355-week1.p × unmatchedItems.png (PNG Im × +

https://blogs.sas.com/content/sgf/files/2019/02/unmatchedItems.png

Edit Geography Item

Name:
State name

Based on:
State name

Geography data type:
Predefined geographic names and codes

Name or code context:
US State Abbreviations

0% mapped

5 of 50 unmapped values:
Alabama

Scroll down to see the first five values of your data that did not match

5 of 50 unmapped values:
Alabama
Alaska
Arizona
Arkansas
California

OK Cancel

OK Cancel

Type here to search

ENG IN 2:18 PM 2/19/2024



Methods

Once you are satisfied with the matched results, click the OK button to continue. You should see a new section in the Data panel labeled "Geography". The name of the variable will be displayed beside a globe icon. This icon represents the geography variable and provides confirmation it was created successfully.

Data Non-geography variable

CRIME

Filter

+ New data item

Category

State name - 50

Data geography variable

CRIME

Filter

+ New data item

Geography

State name - 50

Icon change for geography variable

Now that the geography variable has been created, we are ready to create a map. To do this, simply drag it from the Data panel and drop it on the VA report canvas. The auto-map feature of VA will recognize the geography variable and create a bubble map with an OpenStreetMap background. Congratulations! You have just created your first map in VA.

<https://blogs.sas.com/content/sgf/files/2019/02/img-5.png>



THANK YOU