Online Tools for Data Visualization

Compiled by Newcomb Institute's Digital Research Internship

Ability levels:
- **Beginner:** Knowledge of simple tools, ie Microsoft Office
- **Intermediate:** Basic computer science skills and exposure to some coding and web development
- **Advanced:** Knowledge of CSS, HTML, Git, and GIS

ArcGIS STORY MAPS

Mapping tool, ESRI, https://www.esri.com/en-us/arcgis/products/arcgis-storymaps
- PRO: Story Maps is "light" version"
- CONS: requires advanced skills, cost, no map view
- COST: $500+ /yr
- TECHNICAL COMPLEXITY: Advanced
- DATA FORMAT: multiple
- VISUALIZATION ABILITIES: centered around locations on a map

ESRI STORY MAPS

Mapping tool, ESRI, *https://storymaps-classic.arcgis.com/en/*
- PRO: simple version of story maps, has "express map" feature
- CONS: requires advanced skills, limited data capacities
- COST: free
- TECHNICAL COMPLEXITY: Intermediate
- DATA FORMAT: multiple: manual, spreadsheet, ArcGis
- VISUALIZATION ABILITIES: map style

GEPHI

Graphing tool, The Gephi Consortium, *gephi.org*
- PRO: can support complex data sets
- CONS: specific focus on mathematical data sets
- COST: free
- TECHNICAL COMPLEXITY: Intermediate
- DATA FORMAT: has its own "data laboratory," supports CSV files

- VISUALIZATION ABILITIES: map style

KNIGHTS LAB

Various data visualization formats, Northwestern University,
https://knightlab.northwestern.edu/

- PRO: multiple formats, like simple version of ArcGIS's "story maps"
- CONS: specific focus on visual data, limited capabilities
- COST: free, open source tools
- TECHNICAL COMPLEXITY: Beginner
- DATA FORMAT: varied – video and photo media manually entered
- VISUALIZATION ABILITIES: multiple - Storyline, StoryMap, and Timeline

OMKEA

"Media rich online exhibits", George Mason University, omeka.org

- PRO: can create a collection of items to be showcased together
- CONS: one simple visual layout, integration with WordPress does not seem intuitive and requires additional plugins, server must meet a set of minimum requirements before installation
- COST: free
- TECHNICAL COMPLEXITY: Beginner
- DATA FORMAT: photos and text, default data upload is a MySQL database but plugins can be installed to import other data formats such as CSV.
- VISUALIZATION ABILITIES: Creates a visual exhibition website with customizable themes. Can plot data on a google map or timeline with certain plugins.

ESRI

GIS mapping software, https://www.esri.com/en-us/home*, ESRI*

- PRO: can handle and display complex graphical information
- CONS: Requires advanced skills and ArcGIS training
- COST: free for us
- TECHNICAL COMPLEXITY: Advanced
- DATA FORMAT: many
- VISUALIZATION ABILITIES: map style

ZOTERO

"Personal research assistant", https://www.zotero.org/, Collaboration for Digital Scholarship

- PRO: good for researching individually / in a group
- CONS: no visual product, specifically focused on creating bibliographies
- COST: free
- TECHNICAL COMPLEXITY: Beginner
- DATA FORMAT: citations of media
- VISUALIZATION ABILITIES: simple list

Palladio

Historical data visualization tool, Stanford University,
https://hdlab.stanford.edu/palladio/

- PRO: Made specifically as visualization tools for digital humanities projects, versatile with many visualization options.
- CONS: Limited capabilities, specifically focused on geospatial data
- COST: Free
- TECHNICAL COMPLEXITY: Beginner
- DATA FORMAT: Copy and paste from spreadsheet, upload tabular data (.csv, .tab, .tsv), or link to a Dropbox folder.
- VISUALIZATION ABILITIES: Map style, graph, list, and gallery views

Flourish

Data visualization and storytelling platform, Flourish Studio,
https://flourish.studio/

- PRO: User friendly, animated storytelling capabilities, easily exportable, and can be used on a web browser without installation
- CONS: May need to upgrade for full capabilities
- COST: Free for public data
- TECHNICAL COMPLEXITY: Beginner
- DATA FORMAT: Upload or copy and paste spreadsheets
- VISUALIZATION ABILITIES: multiple – Story Maps, Globe, Bar charts, Arc Maps, etc.

RawGraphs

Open source data visualization framework, https://rawgraphs.io/

- PRO: easily exportable, and can be used on a web browser without installation
- CONS: contains many charts that only serve obscure purposed
- COST: Free
- TECHNICAL COMPLEXITY: Beginner
- DATA FORMAT: upload tabular data (.csv, .tsv) or copy and paste spreadsheets
- VISUALIZATION ABILITIES: Wide variety including Map style

Datawrapper

Data visualization platform, Datawrapper GmbH,
https://www.datawrapper.de/

- PRO: No coding skills required, user friendly, easily exportable, made specifically for online journalism (newspapers and magazines)
- CONS: May have to upgrade for full capabilities
- COST: Free for basic use
- TECHNICAL COMPLEXITY: Beginner
- DATA FORMAT: Copy and Paste, import XLS/CSV files, import from Google Sheets, or link external data.
- VISUALIZATION ABILITIES: Multiple- charts, maps, tables

TEMPLATE:

Name
What type of tool, made by who, URL
- PRO:
- CONS:
- COST:
- BARRIER TO USE:
- TECHNICAL COMPLEXITY:
- DATA FORMAT:
- VISUALIZATION ABILITIES: