

- FOSDEM 2020 – Geospatial devroom

- Nicolas ROELANDT

Arabesque a geographic flow visualization application

Schedule

- **Gflowiz project**
- **Arabesque Application**
- **Demonstration**
- **Future**



Gflowiz project

GFlowWiz project

Geographic flow vizualisation

Flow, networks and movements in the geoweb

- Website (in French): <https://geoflowiz.hypotheses.org/>

2 goals :

- Make an inventory of webmapping applications describing spatio-temporal mobilities
- Develop a web application for geovisualization of flow, networks and movements



Arabesque in details

Arabesque

- Exploration and geovisualization of flow and network data application
- Etienne Côme, Thomas Bapaume, Laurent Jégou, Françoise Bahoken, Marion Maisonobe, Nicolas Roelandt & Grégoire Le Campion

Arabesque

- *Arabesque*, free web application for thematic mapping of flow and networks
- <http://arabesque.ifsttar.fr/>
- Source available under BSD 2 Clause Licence :
<https://github.com/gflowiz/arabesque>
- Libraries and data :

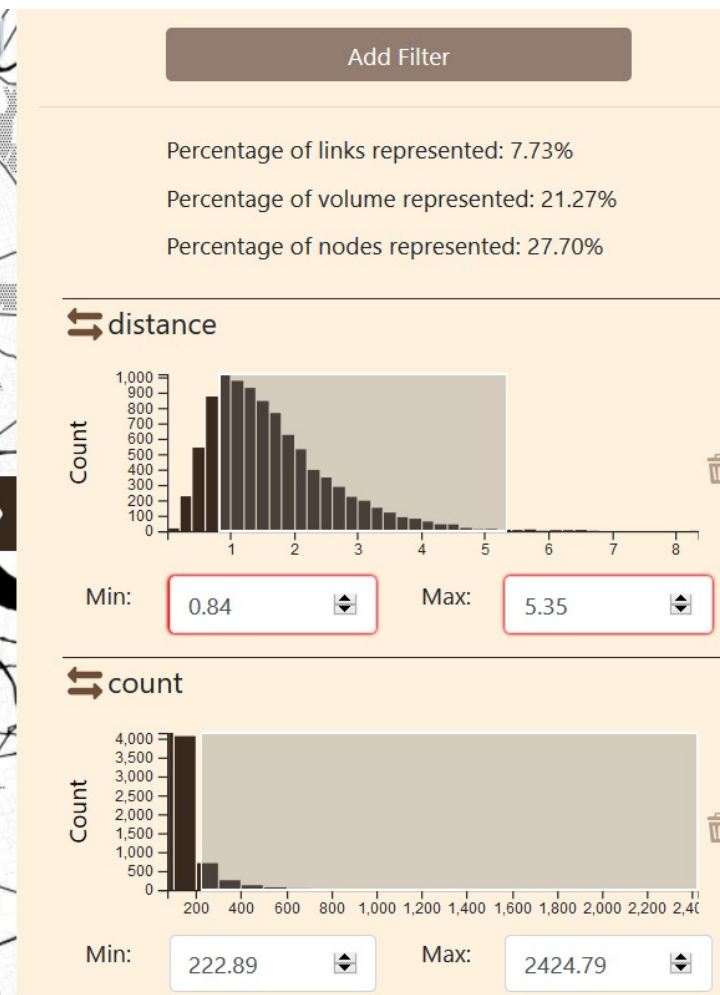
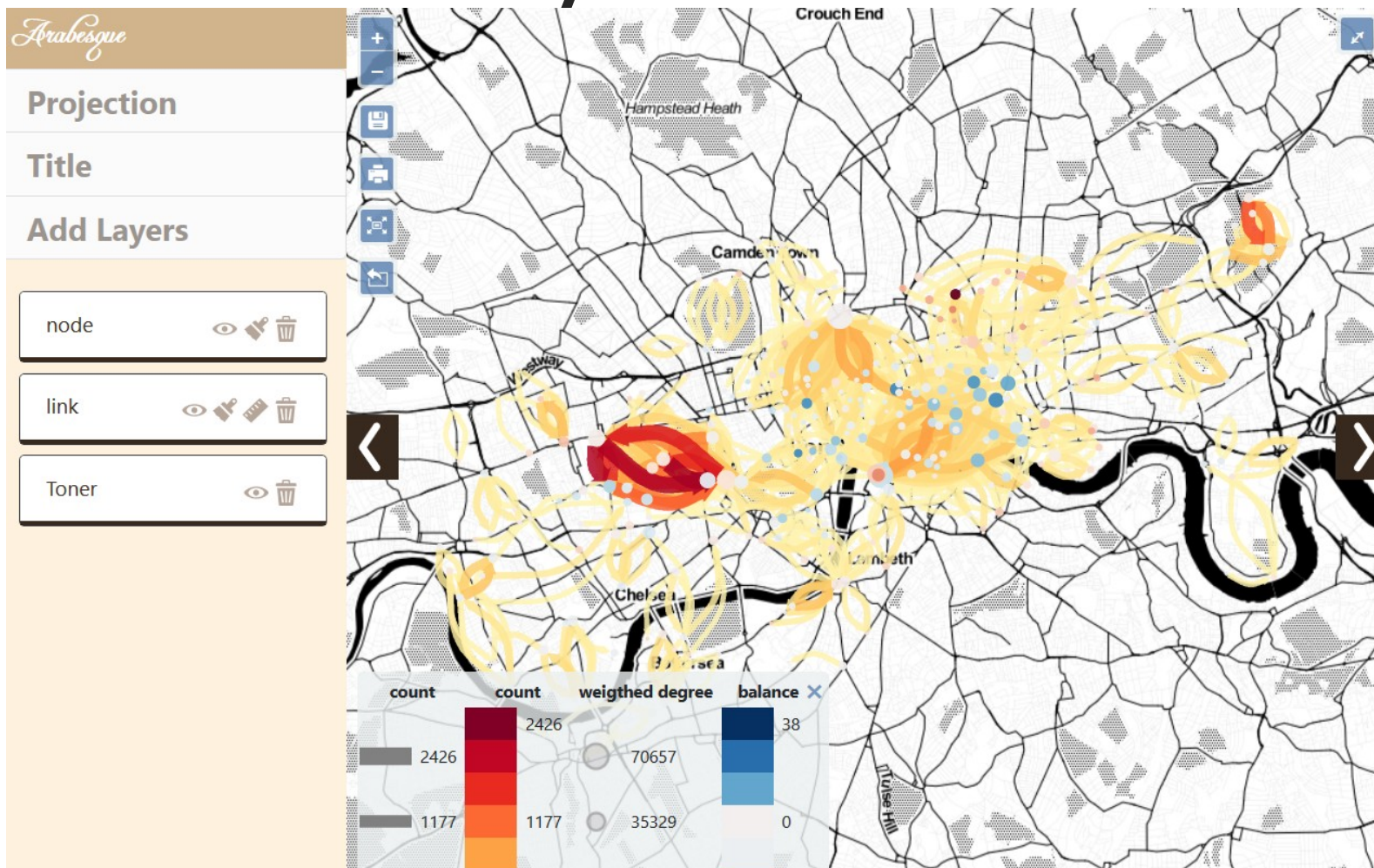


Arabesque

5 major steps :

- **Import** data (links and/or nodes)
- Statistical **treatment**
- **Explore** and **filter**
- **Symbolize**
- **Save** and **export**

Arabesque interface



Bike sharing demo data, local level

Arabesque Default symbologie



RICardo historical trade database, world level

DEMO



Future

Arabesque future



- Code base rewriting
- New features :
 - New indicators
 - New filters
 - Bipartite dataset handling
 - Export map in vector format

Arabesque




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Arabesque demo datasets




arabesque.ifsttar.fr





Plus visités  Débuter avec Firefox  SelectorGadget

Arabesque

Gallery Guide Project  IFSTTAR

Demo

Bikes Sharing

Number of trips between stations of the London's Santander Cycle Hire Scheme in 2017, [source: Data London](#).

Explore

Swiss Commuting

Daily commutes in Switzerland (2014), [source: Swiss Federal Statistical Office](#).

Explore

Arabesque link dataset import

Screenshot of the Arabesque web application interface showing the "Flow Import" dialog box.

The browser address bar shows the URL: `arabesque.ifsttar.fr`.

The "Flow Import" dialog box contains the following fields and options:

- ID Origin:** `idorigine`
- ID Dest:** `iddestination`
- Volume:** `volume`
- Aggregation Function:** `Sum` (selected), with a dropdown menu showing options: `Sum`, `Mean` (highlighted), `Median`, `Max`, and `Min`.

The background interface includes the "Arabesque" logo, navigation links (Gallery, Guide, Project), the IFSTTAR logo, and a "Begin new map" section with a file upload area showing "SAGEO_RICardo_mall.csv" and a "Browse" button. A "Demo" button is visible at the bottom.

Arabesque add filter

The screenshot displays the Arabesque software interface. A 'New Filter' dialog box is open, showing a 'Layer' dropdown set to 'Link' and a 'Variable' dropdown with a list of options: 'Choose...', 'idorigine', 'iddestination', 'decennie' (highlighted), 'volume', and 'distance'. The background shows a network visualization with nodes and links. On the left, there are controls for 'link' and 'node' layers. On the right, there are statistics for the current filter: 'Percentage of links represented: 10.00%', 'Percentage of volume represented: 83.57%', and 'Percentage of nodes represented: 36.69%'. Below these statistics is a histogram titled 'volume' showing the distribution of values. At the bottom, there are two color-coded legends for 'volume' and 'degree'.

New Filter

Layer: Link

Variable: Choose...
Choose...
idorigine
iddestination
decennie
volume
distance

Statistics:

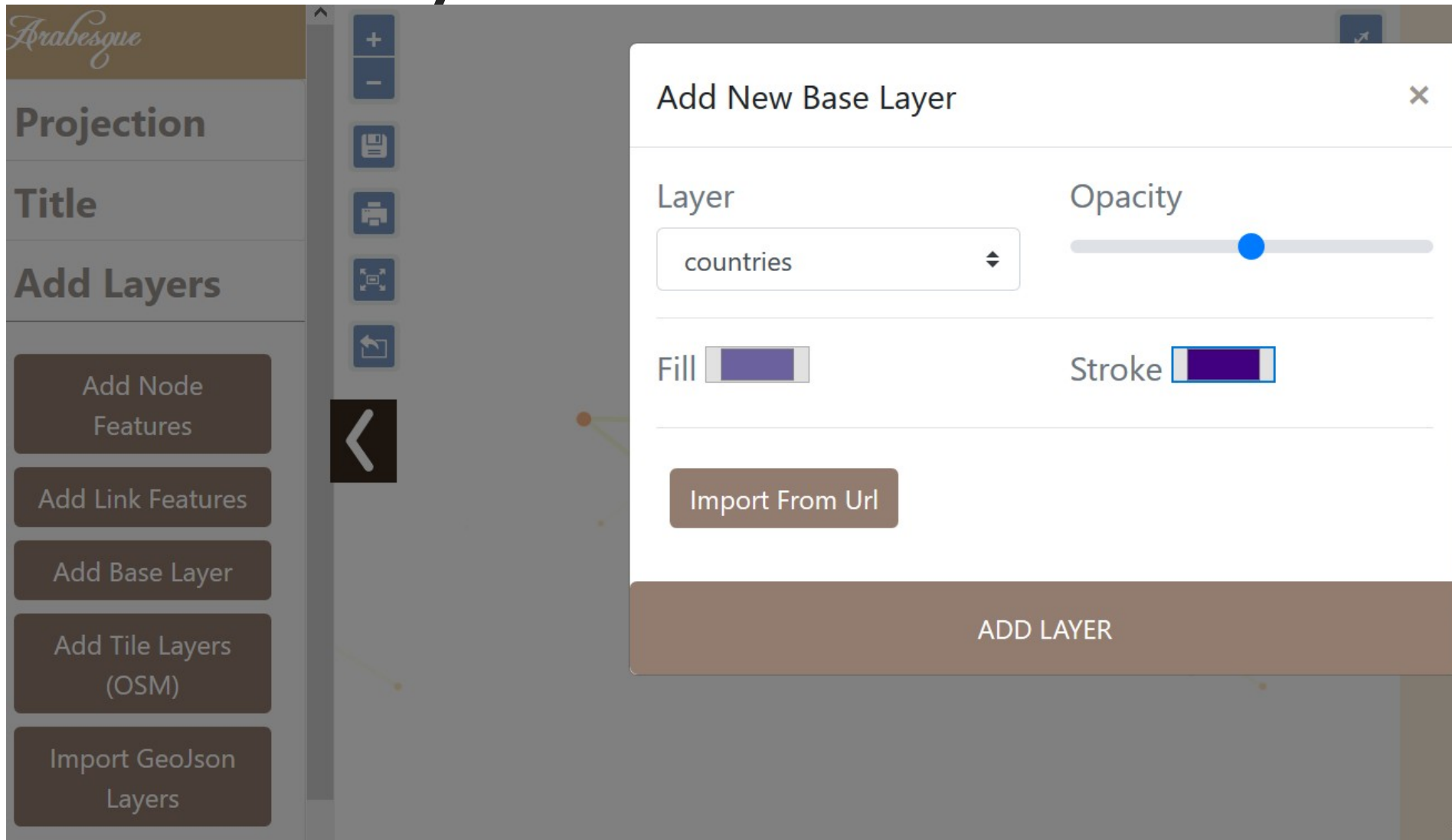
- Percentage of links represented: 10.00%
- Percentage of volume represented: 83.57%
- Percentage of nodes represented: 36.69%

Histogram: volume

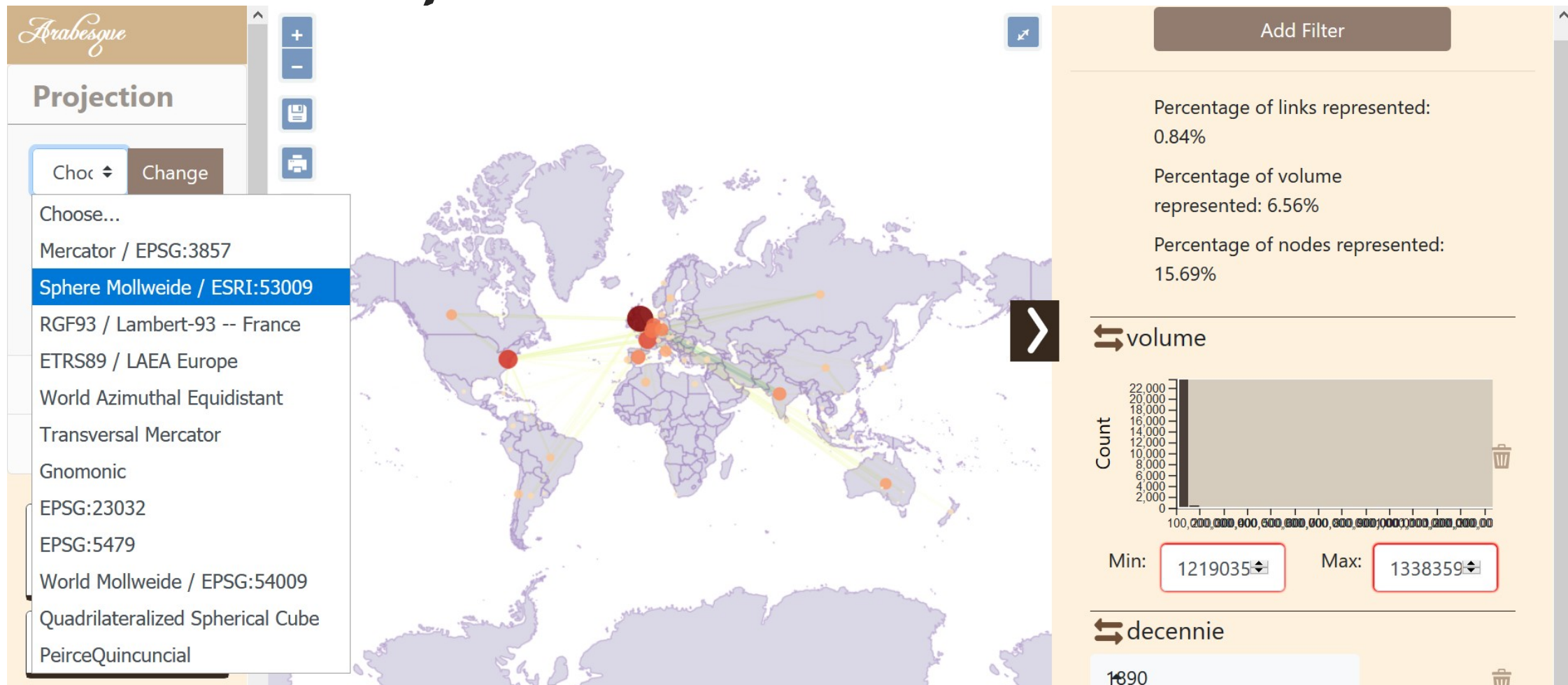
Count: 22,000, 20,000, 18,000, 16,000, 14,000, 12,000, 10,000, 8,000, 6,000, 4,000, 2,000, 0

Min: 12190351 Max: 13383595

Arabesque add basemap



Arabesque Reproject



Arabesque Symbology

Projection

Sphere Mercator Change

EPSG.io

4326, France ... Search

Title

Add Layers

countries eye icon lock icon trash icon

link eye icon lock icon trash icon

node eye icon lock icon trash icon

Variable

Varied dropdown arrow

volume dropdown arrow

Type

quantitative dropdown arrow

☐ Inverse

Size

Varied dropdown arrow

Variable dropdown arrow

Scale dropdown arrow

Square dropdown arrow

Ratio info icon

100 dropdown arrow

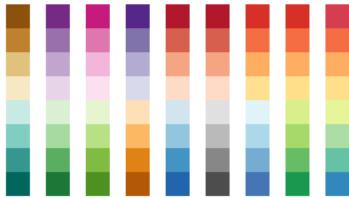
Opacity

Fixed dropdown arrow

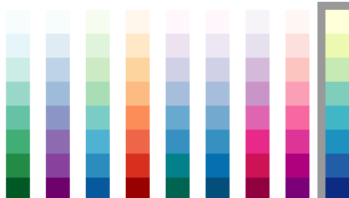
Value

0.85 dropdown arrow

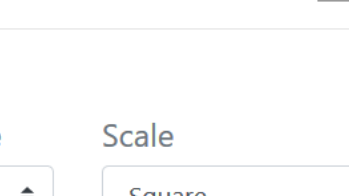
Diverging



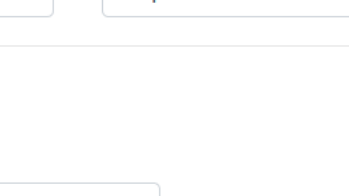
Sequential



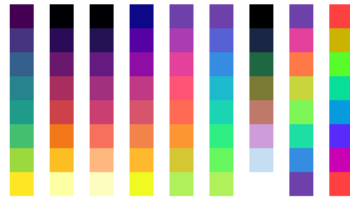
Multi Hue



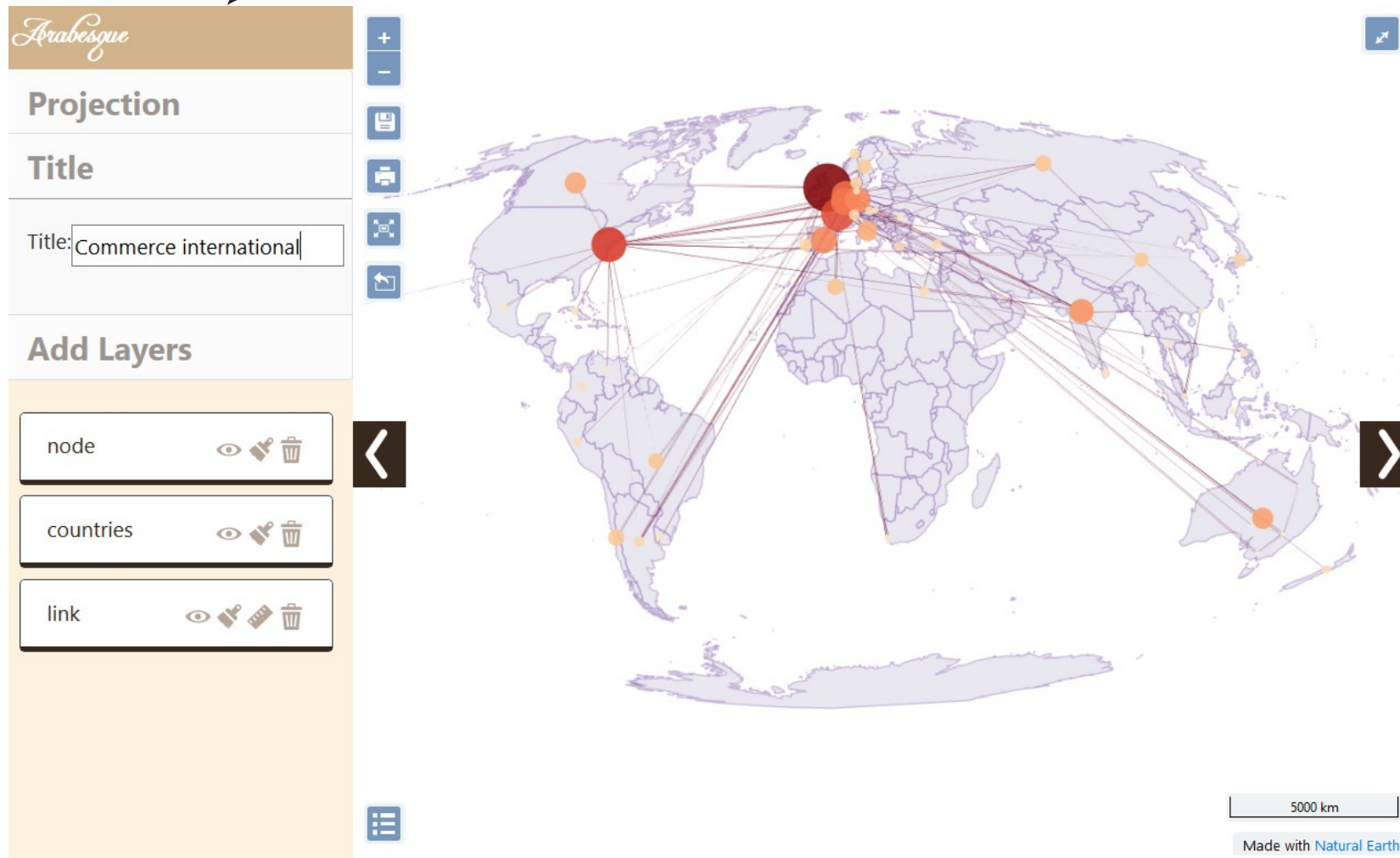
Single Hue



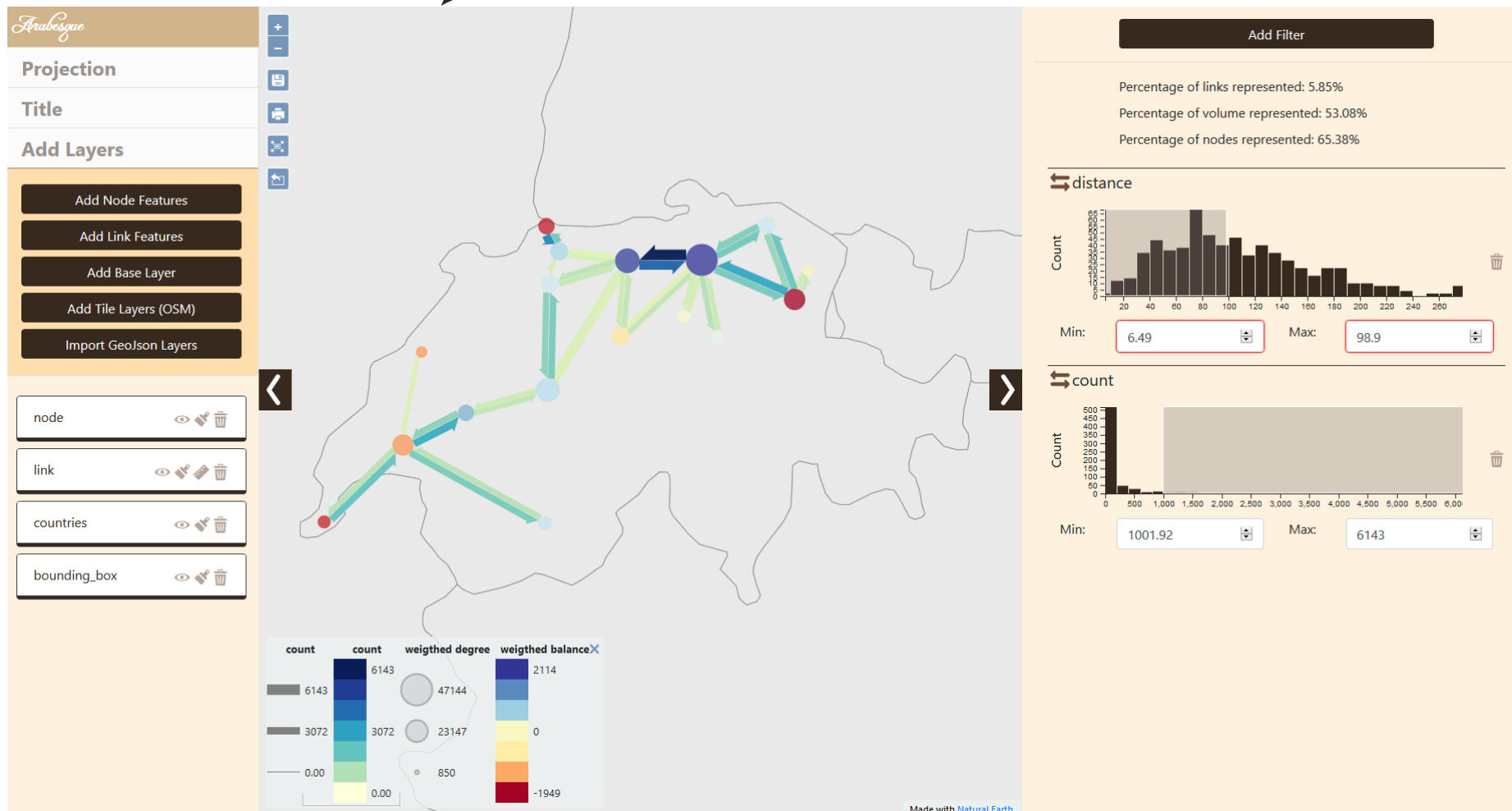
Extra Palettes



Arabesque Add title



Arabesque example



Arabesque example

