

- 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 objectifs :

- 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 :

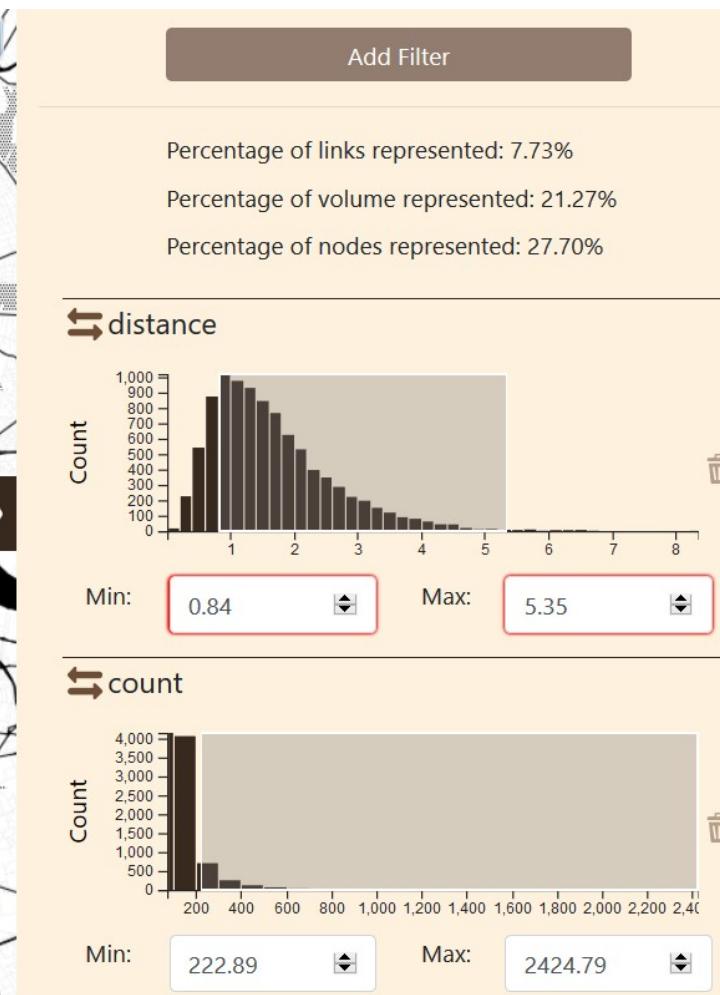
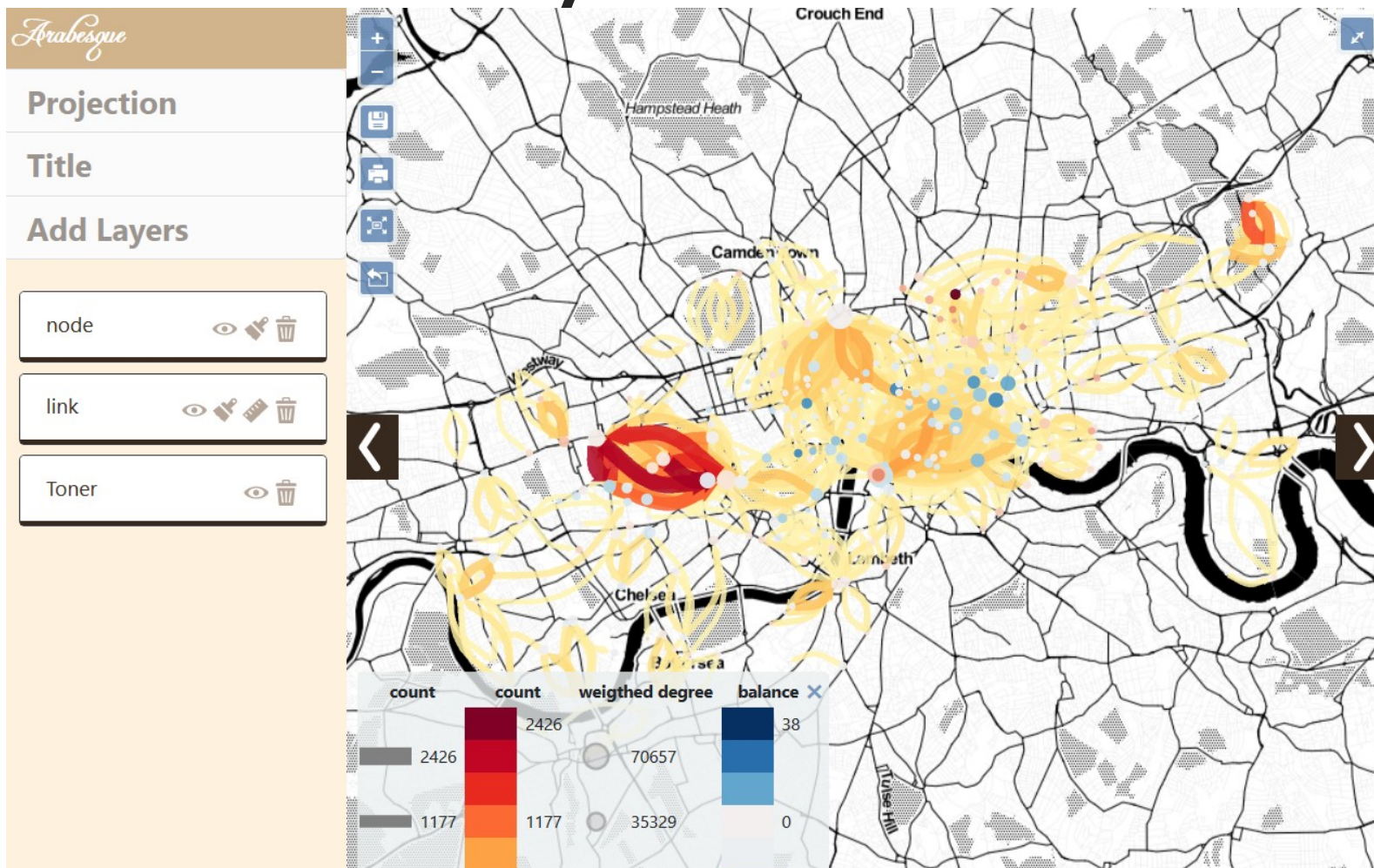


Arabesque

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

The background is composed of several overlapping geometric shapes. A large dark blue rectangle occupies the top right and center. A light blue rectangle is on the left, partially overlapping the dark blue one. A white rectangle is in the top left corner. Large, curved white and light blue shapes are on the right side, resembling stylized waves or abstract letterforms.

DEMO

The background is composed of several overlapping geometric shapes. A large dark blue rectangle occupies the top right and center. A light blue rectangle is on the left, and a white rectangle is in the top left corner. Large, semi-circular or quarter-circular shapes in white and light blue are positioned on the right side, creating a layered, abstract effect.

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



Plus visités  Débuter avec Firefox  SelectorGadget

[Gallery](#) [Guide](#) [Project](#)  IFSTAR

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 `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 an "Add" 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 the 'Layer' dropdown set to 'Link' and the 'Variable' dropdown open with 'decennie' selected. The background shows a network visualization with blue and green links and orange nodes. 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 is a histogram titled 'volume' showing a distribution of values. At the bottom, there are two color-coded legends for 'volume' and 'degree'.

New Filter

Layer:

Variable:

- 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%

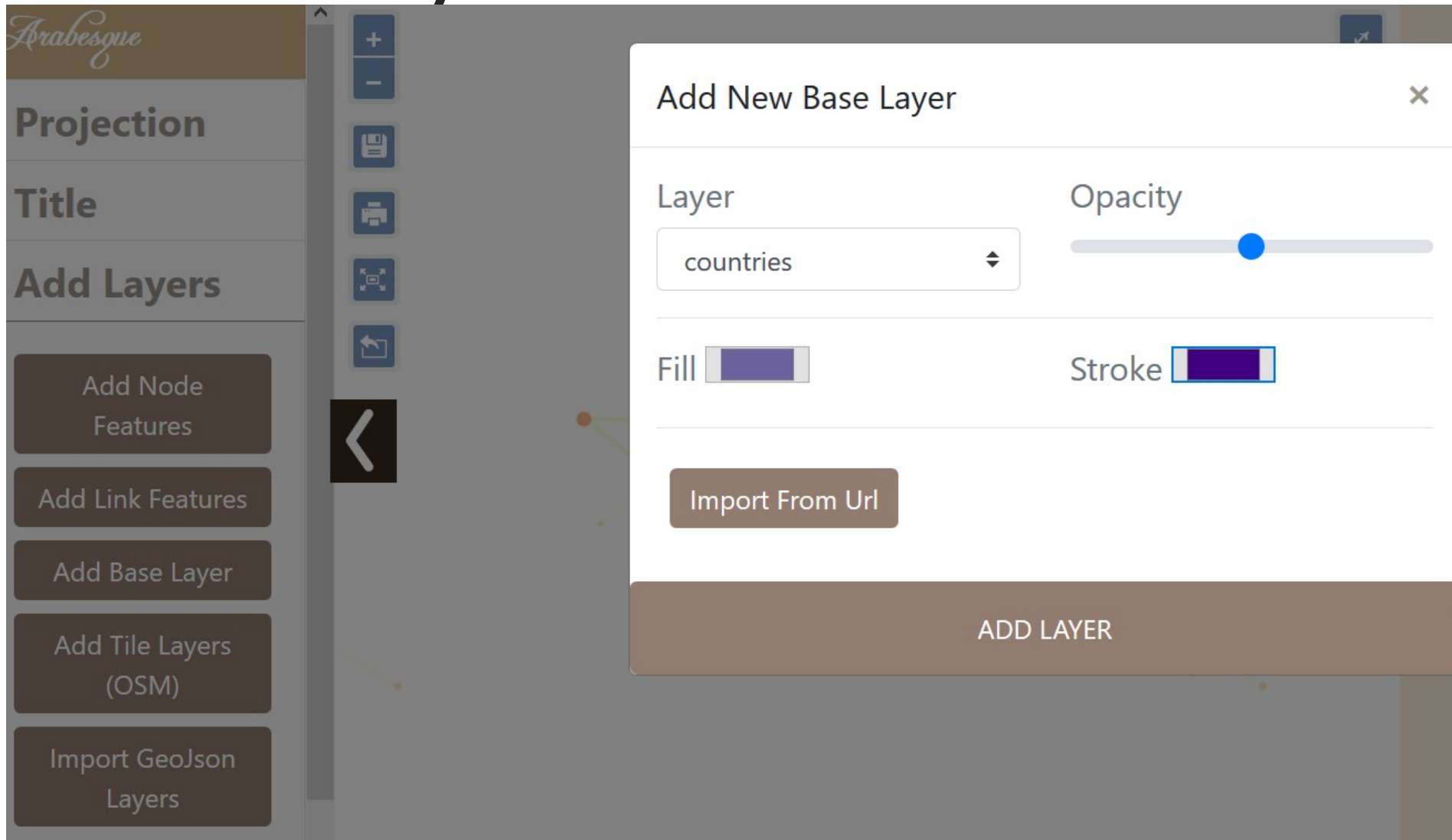
Histogram:

volume

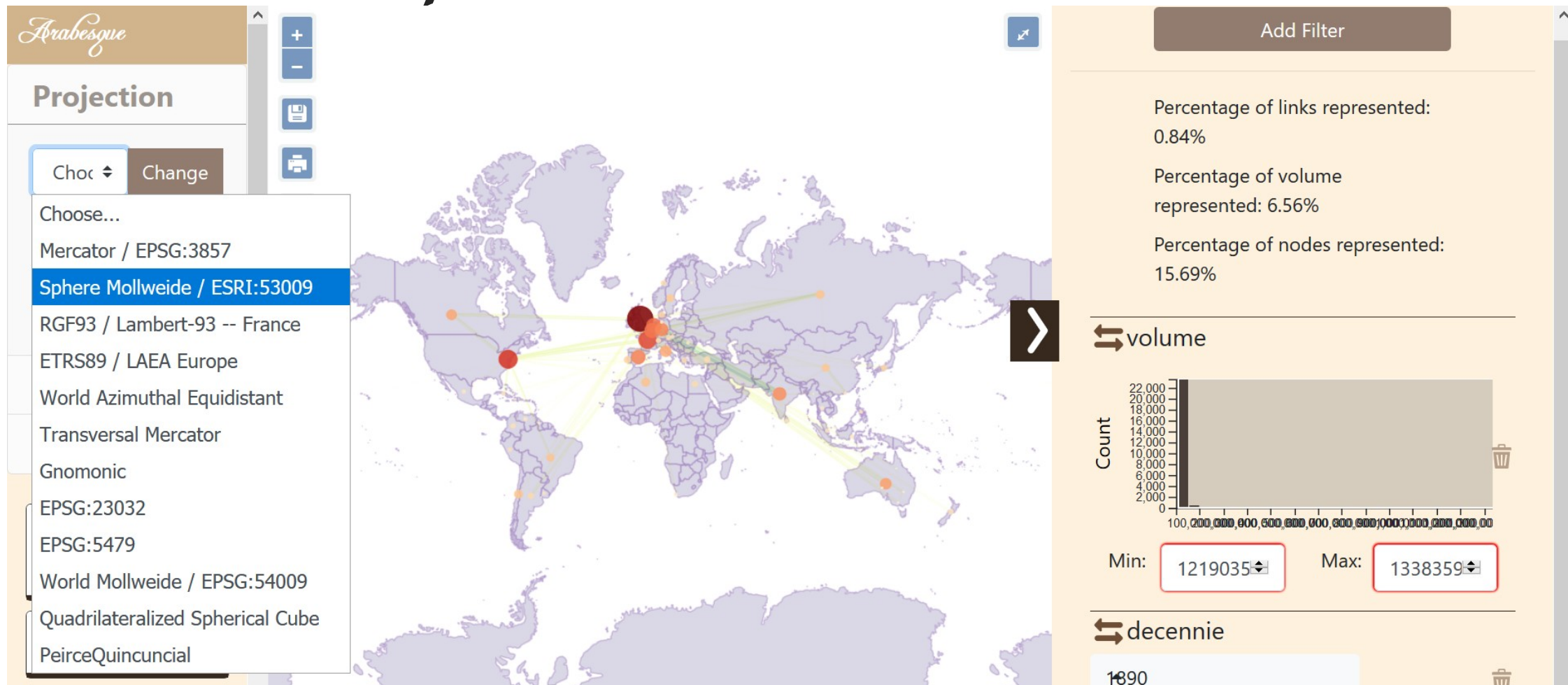
Count

Min: Max:

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

volume dropdown arrow

Scale

Square dropdown arrow

Ratio info icon

100 dropdown arrow

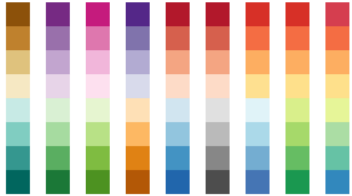
Opacity

Fixed dropdown arrow

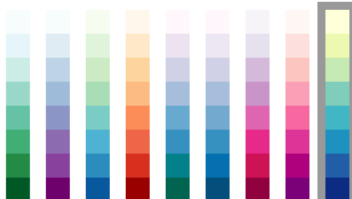
Value

0.85 dropdown arrow


Diverging




Sequential



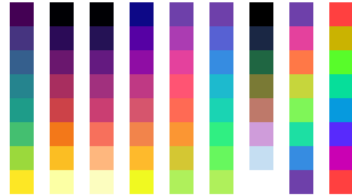
Multi Hue



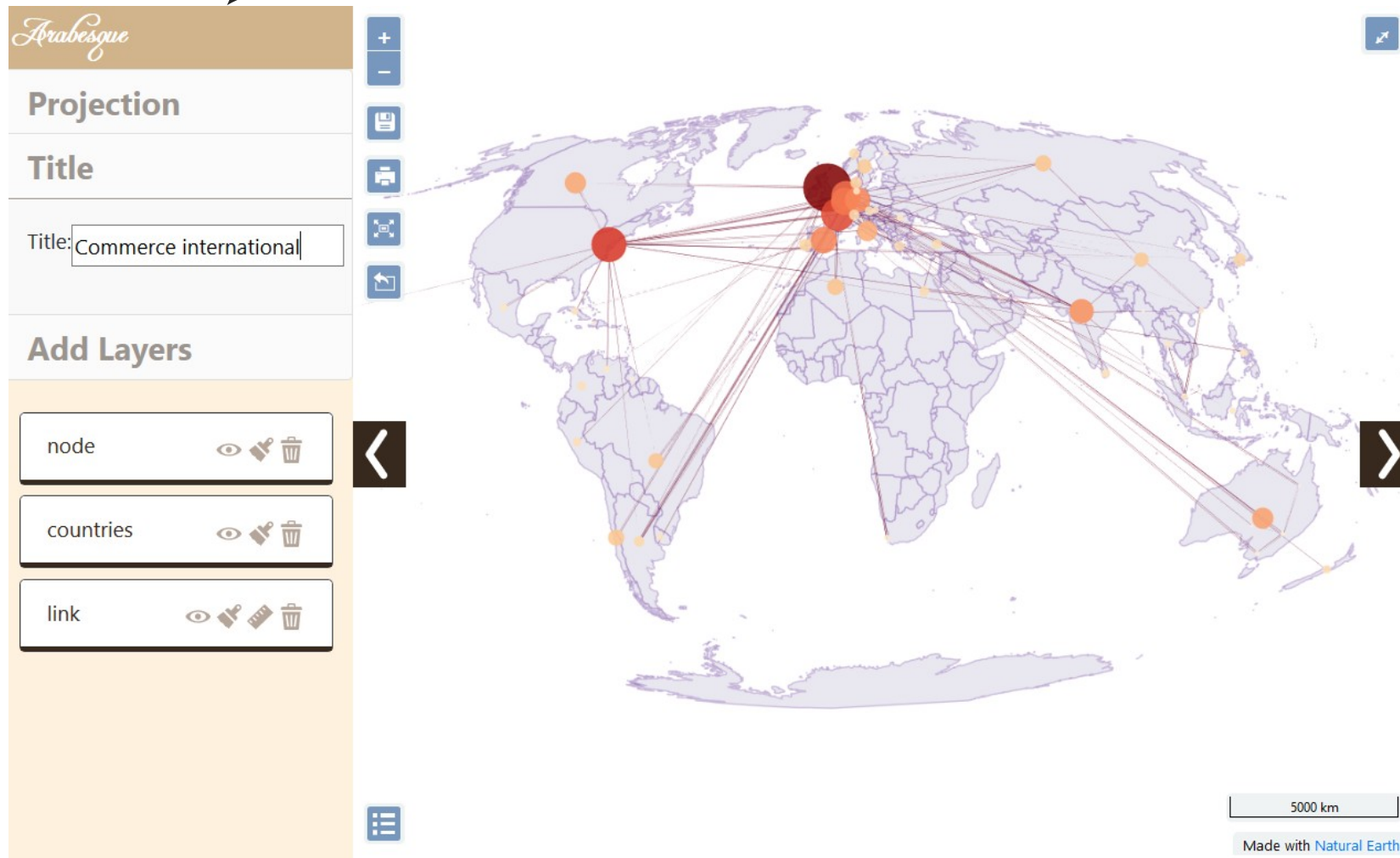
Single Hue



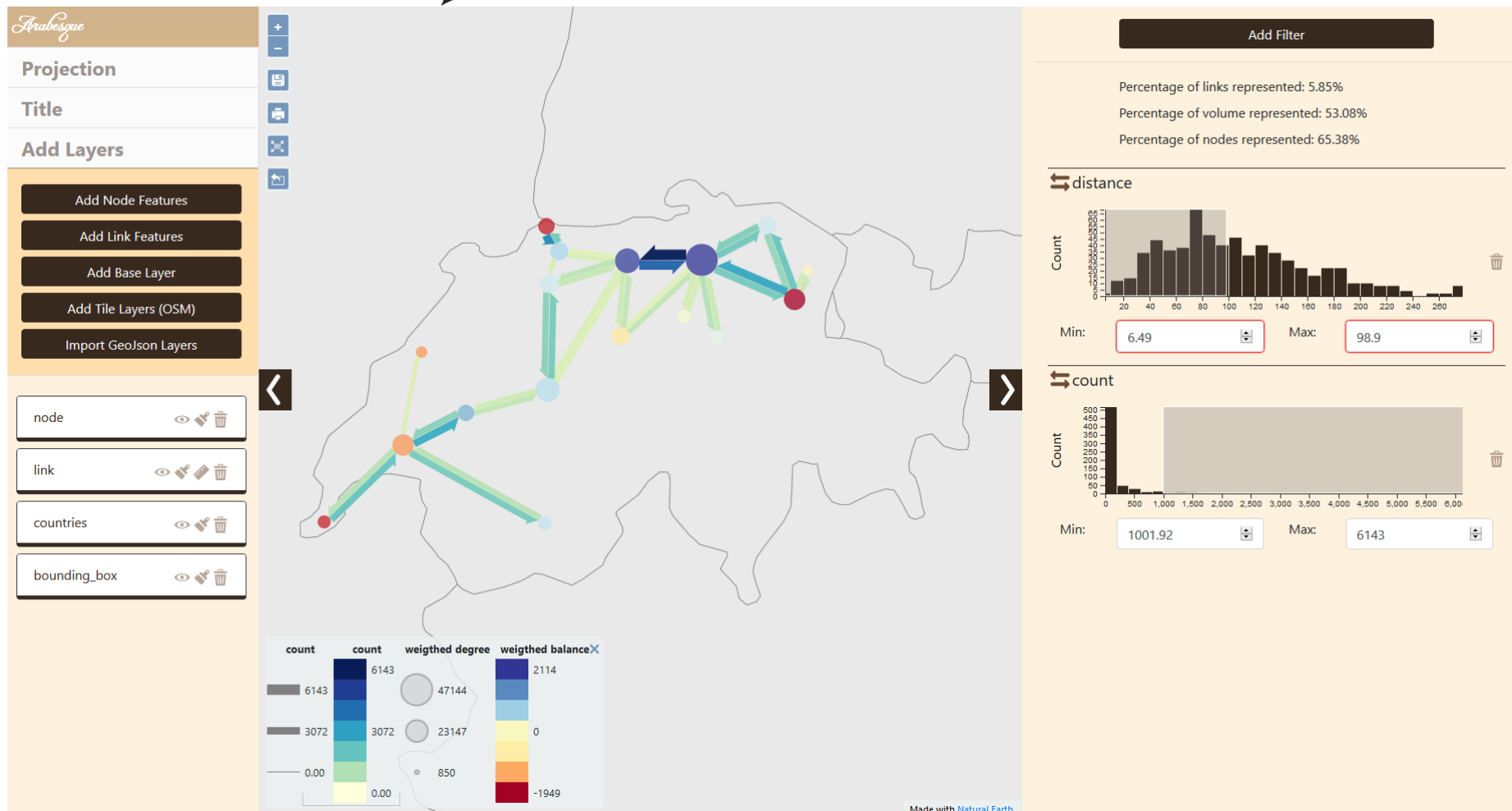
Extra Palettes



Arabesque Add title



Arabesque example



Arabesque example

