

Svd

August 14, 2022

0.1 Prepare Data for SVD Analysis

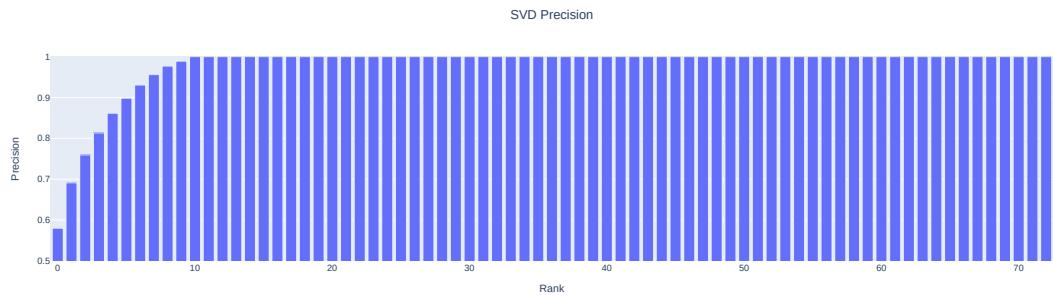
Creating folder svd_plots/columns-windspeedKmph

Creating svd file for columns-windspeedKmph

0.2 SVD

Loading svd file for columns-windspeedKmph

0.2.1 Precision of SVD Reconstruction

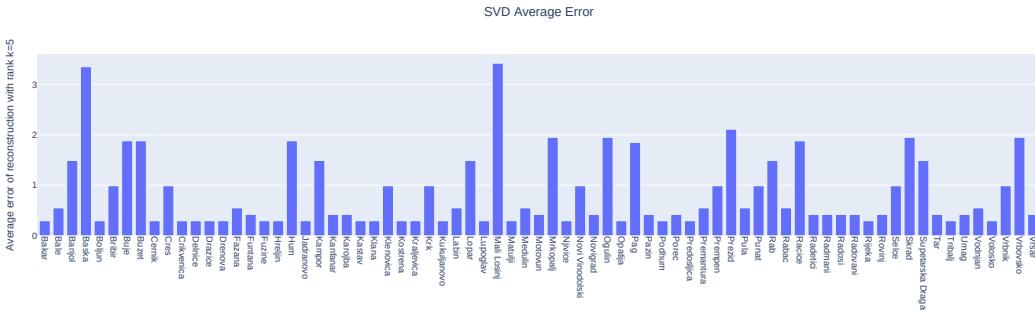


0.2.2 Full Reconstruction & Lower Rank Reconstruction

Diff: 4.3518192208483686e-14

Diff reconstruction: 0.8253357196115587

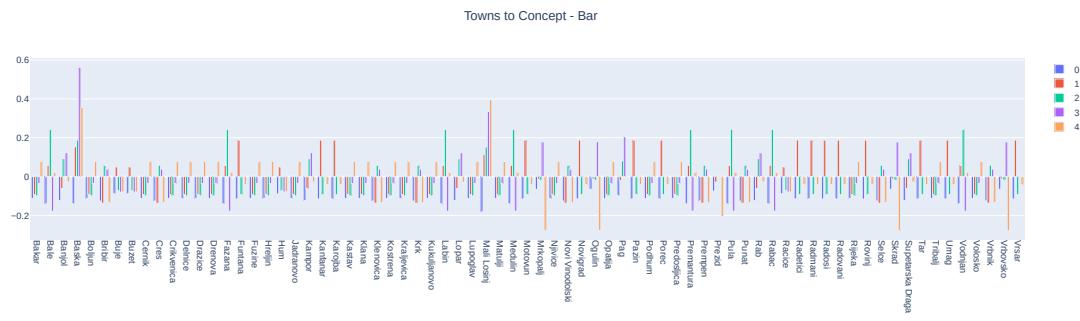
0.2.3 Average SVD Error

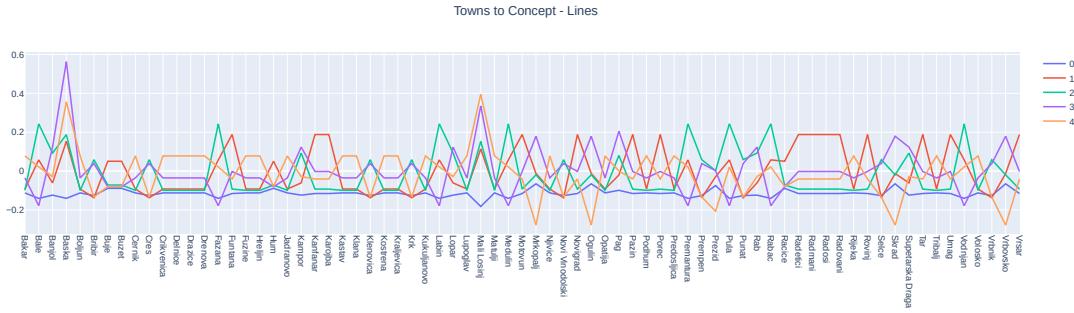


0.2.4 Dates to Concept - SVD_U



0.2.5 Towns to Concept - SVD_V

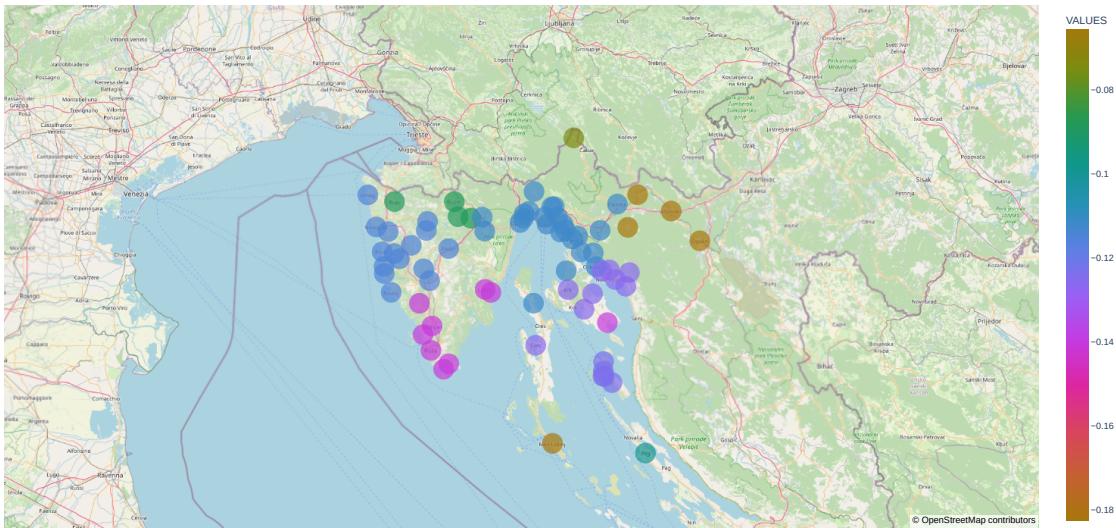




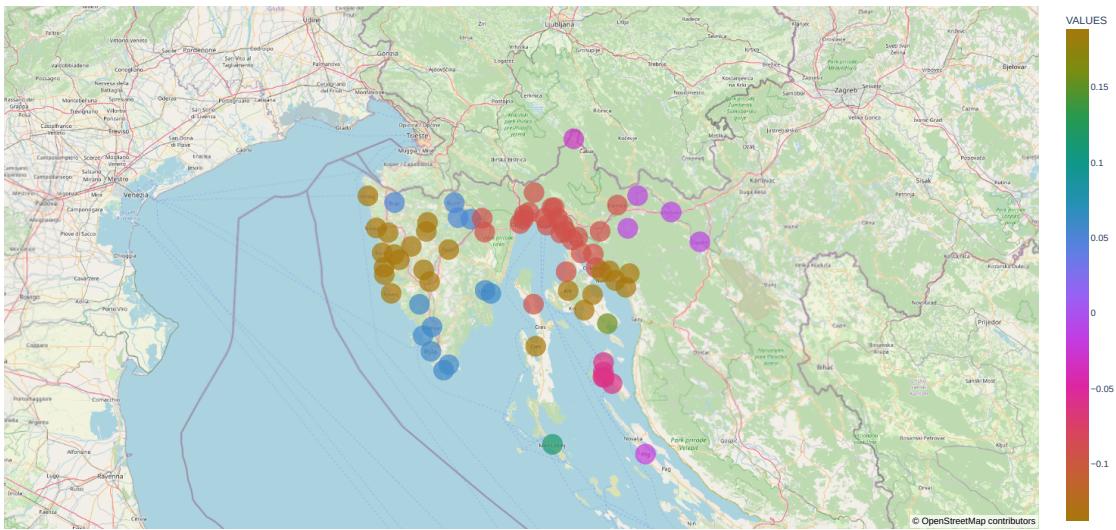
0.2.6 Singular Vector - SVD_S

0.2.7 SVD Maps

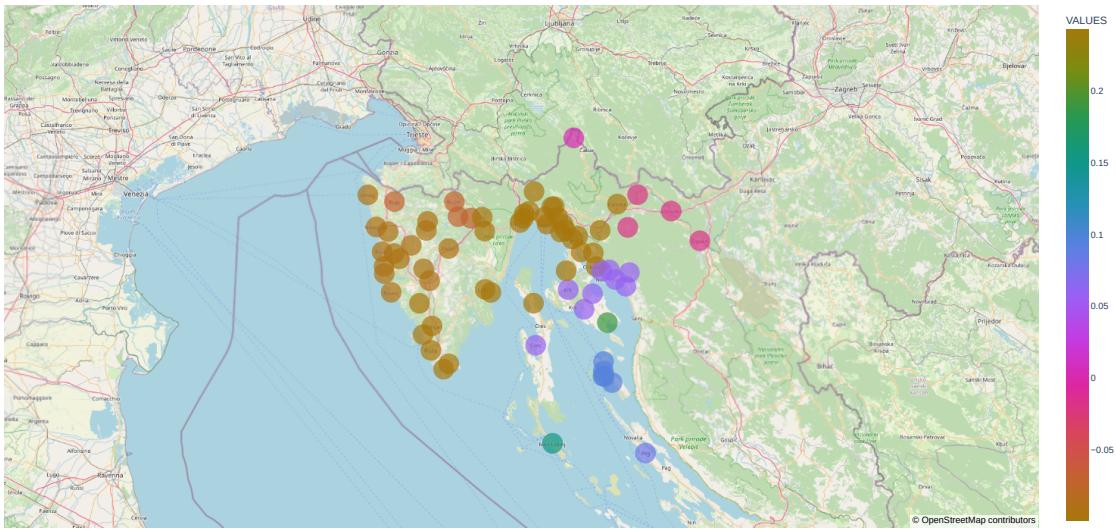
Ploting map for k = 0



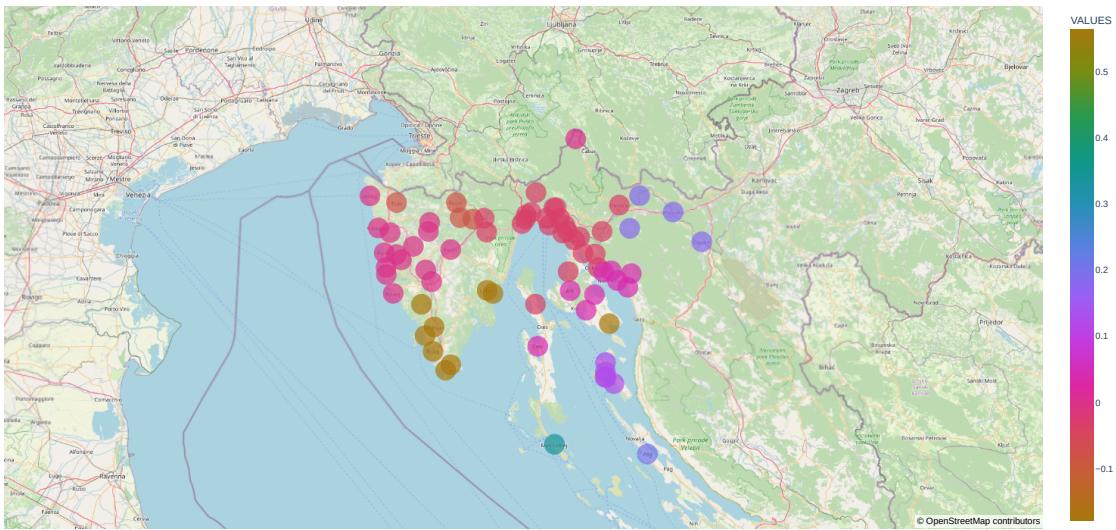
Plotting map for $k = 1$



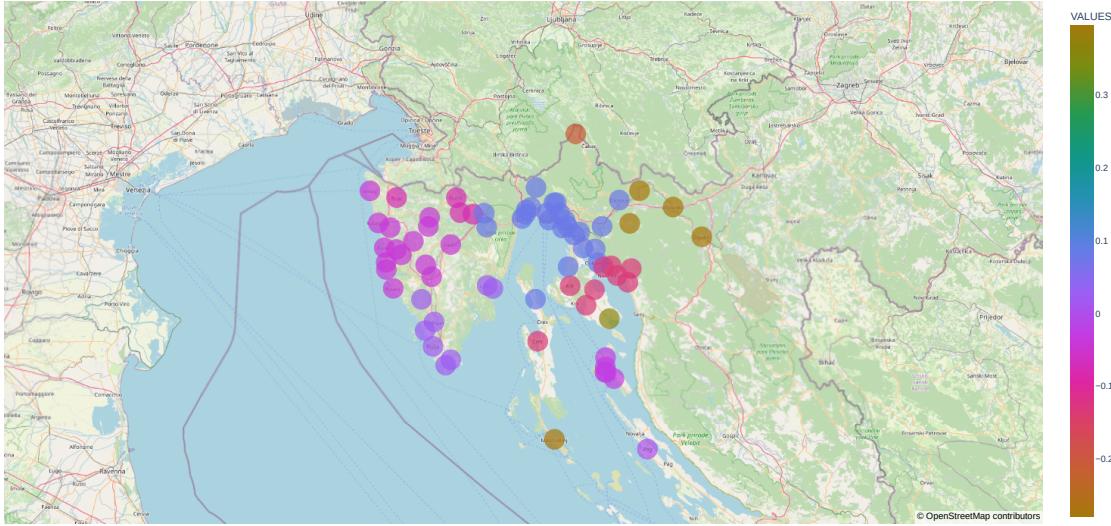
Plotting map for $k = 2$



Plotting map for $k = 3$



Plotting map for $k = 4$



1 Export to HTML

```
<IPython.core.display.Javascript object>

[NbConvertApp] Converting notebook svd.ipynb to HTML
[NbConvertApp] Writing 7664337 bytes to output/columns-windspeedKmph_svd.html
[NbConvertApp] Converting notebook svd.ipynb to pdf
/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-
packages/nbconvert/filters/datatypefilter.py:41: UserWarning: Your element with
mimetype(s) dict_keys(['text/html']) is not able to be represented.
    warn(
[NbConvertApp] Support files will be in columns-windspeedKmph_svd_files/
[NbConvertApp] Making directory ./columns-windspeedKmph_svd_files
[NbConvertApp] Writing 64104 bytes to notebook.tex
[NbConvertApp] Building PDF
[NbConvertApp] Running xelatex 3 times: ['xelatex', 'notebook.tex', '-quiet']
[NbConvertApp] Running bibtex 1 time: ['bibtex', 'notebook']
[NbConvertApp] WARNING | bibtex had problems, most likely because there were no
citations
[NbConvertApp] PDF successfully created
```

[NbConvertApp] Writing 7089092 bytes to output/columns-windspeedKmph_svd.pdf