Assessing perceived landscape change from opportunistic spatio-temporal occurrence data

Supplementary Materials for the publication:

> Dunkel, A., Burghardt, D. (**2024**). *Assessing perceived landscape change from opportunistic spatio-temporal occurrence data.* Land 2024

The notebooks are stored as markdown files with jupytext for better git compatibility.

These notebooks can be run with jupyterlab-docker.

- HTML conversions of notebooks figures are available in the resources folder.
- Notebooks (ipynb) can be found in the notebooks folder.
- Input data can be found in the data folder.

The input data was stored as probabilistic HyperLogLog data, which does not require working and keeping sensitive original raw. See publication:

> Dunkel, A., Löchner, M., & Burghardt, D. (2020). Privacy-Aware Visualization of Volunteered Geographic Information (VGI) to Analyze Spatial Activity: A Benchmark Implementation. ISPRS International Journal of Geo-Information, 9(10), 607. https://doi.org/10.3390/ijgi9100607

Results

S1 Jupyter Notebook: 01_mass_invasion.html
S2 Jupyter Notebook: 02_reddit_api.html
S3 Jupyter Notebook: 03_reddit_pmaw.html
S4 Jupyter Notebook: 04_reddit_privacy.html
S5 Jupyter Notebook: 05_reddit_vis.html
S6 Jupyter Notebook: 06_cherry_blossoms.html
S7 Jupyter Notebook: 07_hotspots.html
S8 Jupyter Notebook: 08_milvus_conversion.html
S9 Jupyter Notebook: 09_milvus_maps.html
S10 Jupyter Notebook: 10_milvus_chi.html

Data

Data made available in this data publication:

Filename	Case Study	Description	Size
massinvasions_all_months.csv	1	Post Frequences (HLL) for 13 Vantage Points in Europe from Instagram	1.08 MB

Filename	Case Study	Description	Size
reddit_all_months.csv	2	Post Frequences (HLL) for 20 National Parks from Reddit Subreddits	429 KB
reddit_comments_all_months.csv	2	Comment Frequences (HLL) for 20 National Parks from Reddit Subreddits	1.2 MB
flickr_cherries_hll.csv	3	Observed Frequencies (HLL) Users/Posts for Flickr Cherry Blossoming a	181 KB
hotspot_all_months.csv	4	Observed Frequencies Biodiversity Hotspots (HLL)	8.81 MB
flickr_all_months.csv	5	Expected Frequencies (HLL) for Flickr Post and User Counts	941 KB
inaturalist_all_months.csv	5	Expected Frequencies (HLL) for iNaturalist Post and User Counts	990 KB
flickr_milvusmilvus_months.csv	5	Observed Frequencies (HLL) for iNaturalist Milvus Post and User Counts	119 KB
milvus_focus_flickr_inat_all_months.csv	5	Observed Frequencies (HLL) Focus Region, iNaturalist and Flickr	1.01 MB
milvus_range_inat_all_months.csv	5	Observed Frequencies (HLL) Milvus range, iNaturalist and Flickr	1.24 MB
inaturalist_birds_month.csv	5	Expected/Observed Frequencies (HLL) Aves-Group, iNaturalist	550 KB

Developers

- This repository is versioned with python-semantic-release,
- Jupyter notebooks are tracked as Markdown files using Jupytext.
- If you want to run these notebooks, have a look at the instructions to use the Carto-Lab Docker,
  provided at the beginning of the notebook.

To manually bump a version:

```
semantic-release publish
```

To create `ipynb` files from Markdown:

```
conda activate jupyter_env
jupytext --sync /home/jovyan/work/md/notebook.md
```

This will create notebooks that can be opened in JupyterLab in the subfolder notebooks/.