

OpenStreetMap intrinsic quality assessment using “Is OSM up-to-date?” web application

Marco Minghini¹ & Francesco Frassinelli²

¹ European Commission – Joint Research Centre (JRC), Ispra, Italy

² Norwegian Institute for Natural Research (NINA), Trondheim, Norway

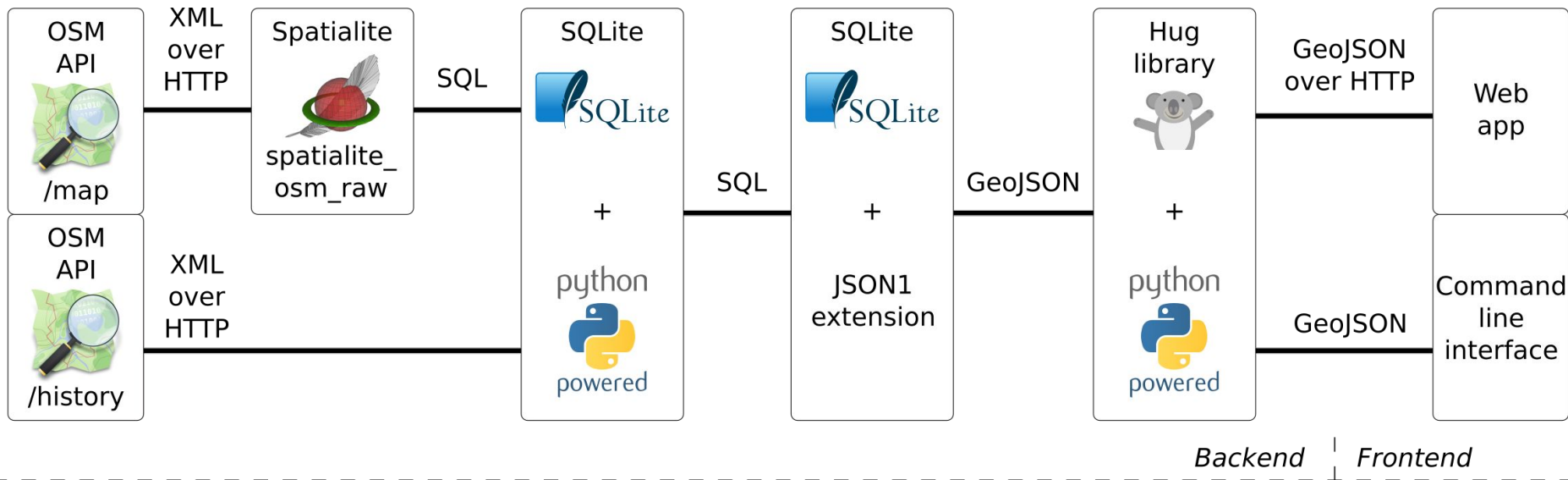


Is OSM up-to-date? – Intro

- A software to analyse **history** of OSM nodes and ways & generate history-based, **quality-oriented** visualizations
- **Target users:** OSM users, contributors, communities & researchers
 - available under GNU AGPLv3
 - source code & issue tracker: <https://github.com/frafra/is-osm-uptodate>
 - wiki page: https://wiki.openstreetmap.org/wiki/Is_OSM_up-to-date
 - Web frontend: <https://is-osm-uptodate.frafra.eu>
 - Docker container: <https://hub.docker.com/r/frafra/is-osm-uptodate>



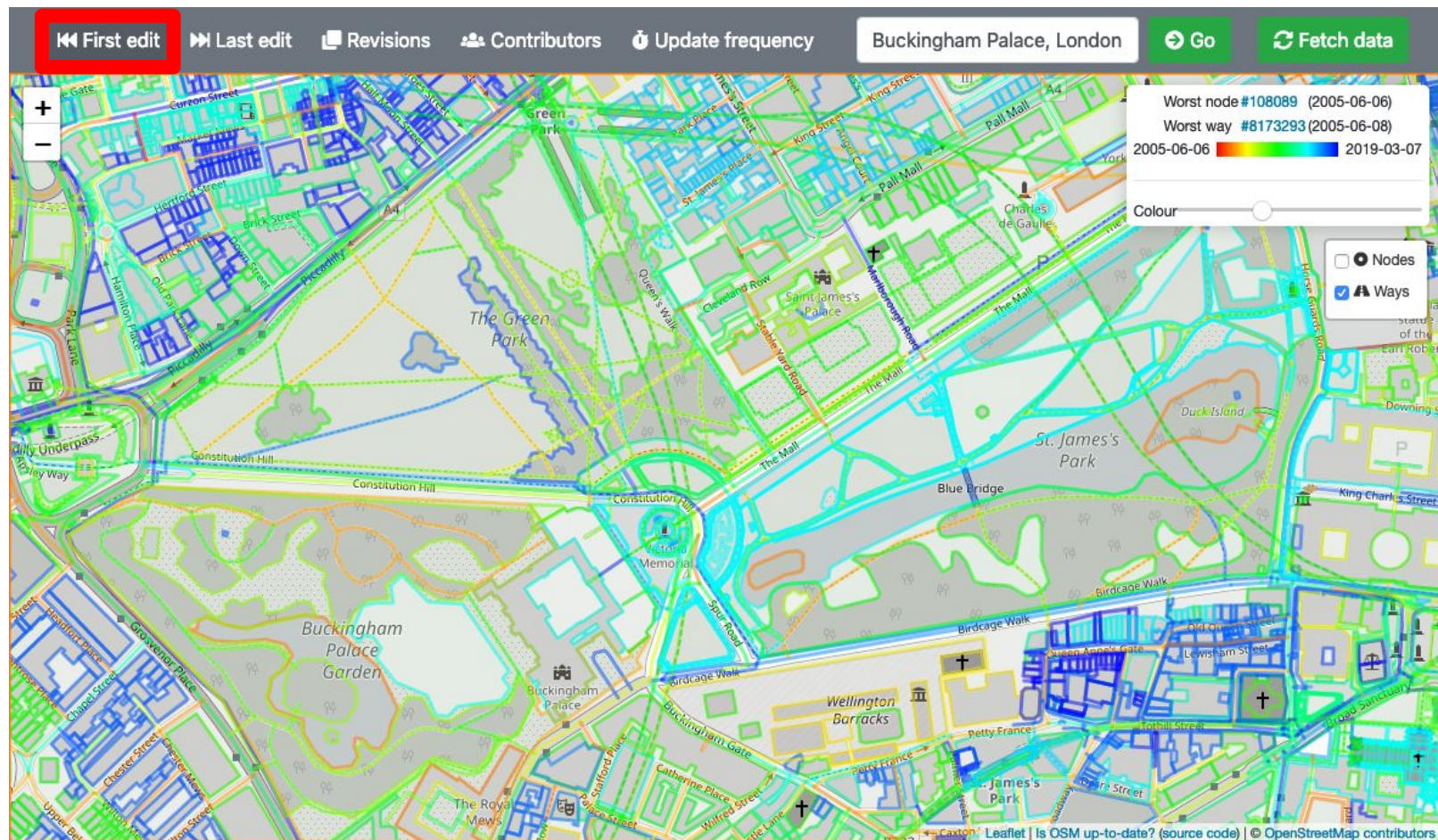
Is OSM up-to-date? – Architecture



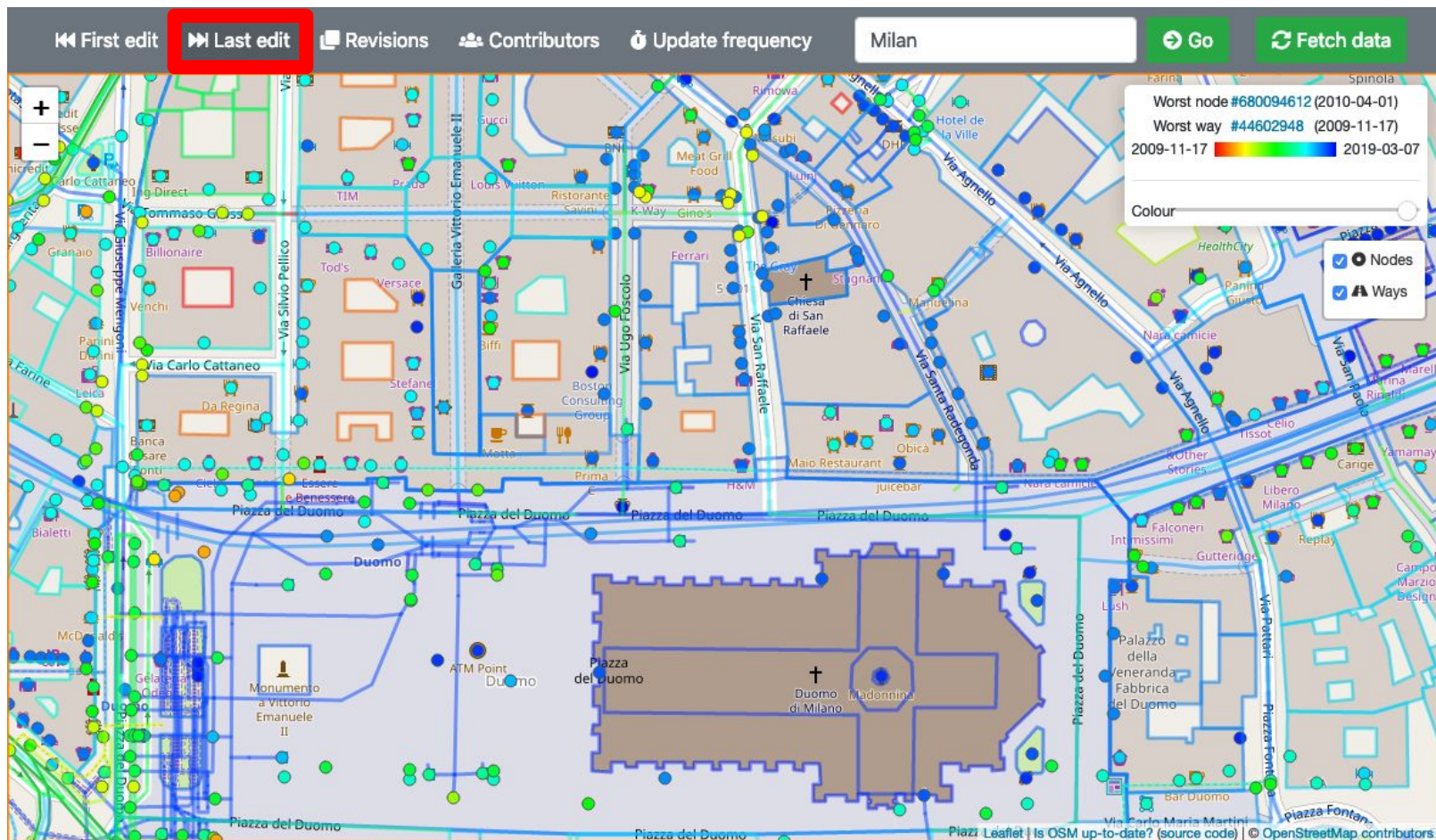
Is OSM up-to-date? – Quality parameters

- History-based **parameters** computed for each node/way
 - date of creation (first edit)
 - date of last edit
 - number of versions (revisions)
 - number of different contributors who edited the node/way
 - frequency of update
- with some **hypotheses**
 - only nodes/ways with at least one tag are considered
 - a new version of each node/way is counted for each new changeset

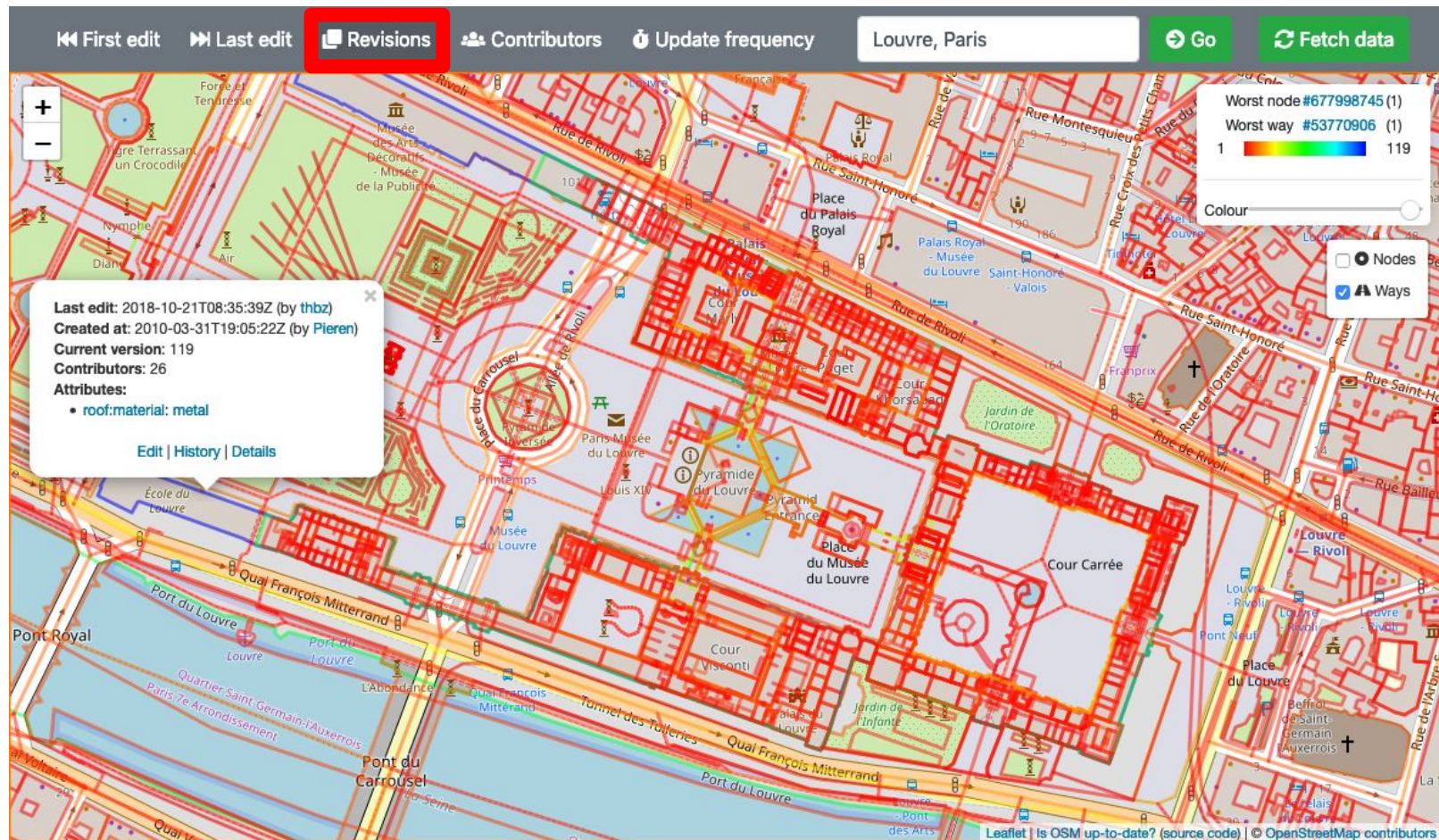
Is OSM up-to-date? – Web application



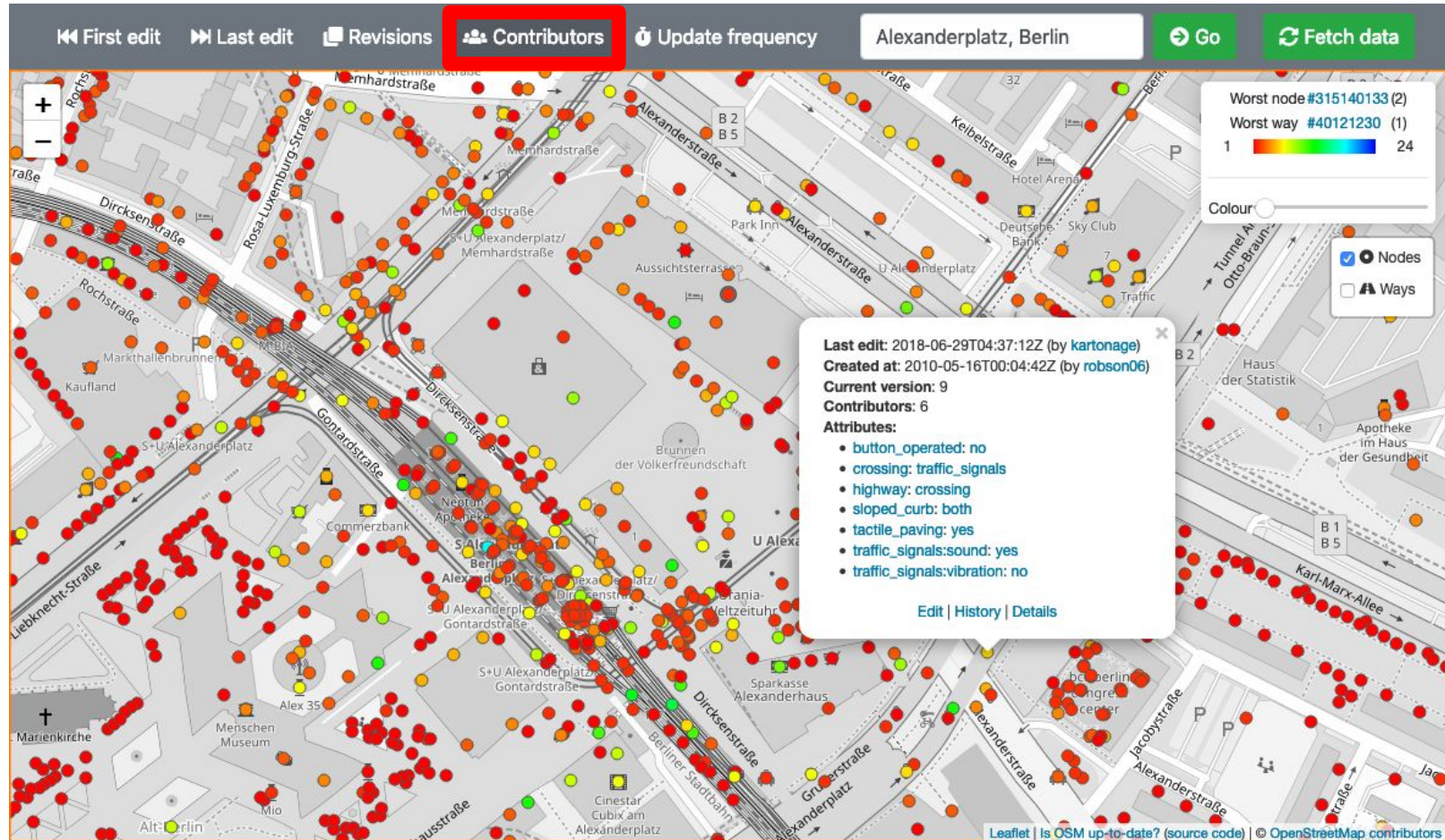
Is OSM up-to-date? – Web application



Is OSM up-to-date? – Web application



Is OSM up-to-date? – Web application



The screenshot shows the OpenStreetMap interface with a map of Nidarosdomen, Trondheim. The top navigation bar includes buttons for 'First edit', 'Last edit', 'Revisions', 'Contributors', 'Update frequency' (highlighted with a red box), 'Nidarosdomen, Trondheim', 'Go', and 'Fetch data'. The map displays various landmarks, including the Nidarosdomen church, Vestfrontplassen, and several museums. A legend on the right indicates the color scale for update frequency, ranging from green (every 11 years) to red (daily). The map also shows a network of roads and green spaces.

Is OSM up-to-date? – Command line interface

- Suitable for offline, quantitative analyses (e.g. in GIS software)

- usage:

```
is-osm-uptodate.py [-h] [-r REFERER]  
minx miny maxx maxy
```

positional arguments:

```
minx  A float number  
miny  A float number  
maxx  A float number  
maxy  A float number
```

optional arguments:

```
-h, --help show this help message and exit  
-r REFERER, --referer REFERER
```

- example:

```
$ is-osm-uptodate.py 9.189 45.464 9.192  
45.465 > result.geojson
```

- Reference:
 - Minghini M. & Frassinelli F. (2019) OpenStreetMap history for intrinsic quality assessment: Is OSM up-to-date? *Open Geospatial Data, Software and Standards* 4(9). doi:10.1186/s40965-019-0067-x
- Want to **contribute**? Contact us!
 - <https://github.com/frafra/is-osm-uptodate/issues>

Thank you!

 marco.minghini@ec.europa.eu

 [@MarcoMinghini](https://twitter.com/MarcoMinghini)

 <https://wiki.openstreetmap.org/wiki/User:Mingo23>

Stay in touch



EU Science Hub: [***ec.europa.eu/jrc***](https://ec.europa.eu/jrc)



Twitter: [***@EU_ScienceHub***](https://twitter.com/EU_ScienceHub)



Facebook: [***EU Science Hub - Joint Research Centre***](https://www.facebook.com/EU_Science_Hub_-_Joint_Research_Centre)



LinkedIn: [***Joint Research Centre***](https://www.linkedin.com/company/joint-research-centre)



YouTube: [***EU Science Hub***](https://www.youtube.com/EU_Science_Hub)