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osmapiR: An 'OpenStreetMap API' implementation for R

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Software

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Summary

`osmapiR` (Maspons, 2024) is a complete implementation of the OpenStreetMap API for `R` (R Core Team, 2024). OpenStreetMap (OSM) is a global, crowdsourced geographic database licensed under the Open Database License. The OSM project follows a peer production model similar to Wikipedia.

Statement of need

The `osmapiR` package facilitates to retrieve all types of OSM data, including map data, map notes, GPS traces, changelogs, and user data. The data can be imported into R as `data.frame`, `sf` (Pebesma, 2018), `xml_document` (Wickham et al., 2023), or JSON lists. Editing the OSM database is also supported with specific functions to send changes directly to the OSM database or to generate and export changes in Osmchange format, compatible with other editors such as JOSM.

`osmapiR` is the only R package that allows access to non-map OSM data (map notes, GPS traces, changelogs and users data), as well as the ability to edit and upload any kind of data to the project. It is also useful for obtaining the history of the OSM map objects. The OpenStreetMap API is not intended to access objects from OSM map data for read-only purposes, as required by the API Usage Policy. For such purposes, the use of `osmdata` or `osmextract` packages is recommended. `osmdata` uses the Overpass API (Padgham et al., 2017) and works well for moderated size datasets or to access objects filtered by tags. `osmextract` works with local `pbf` files (Gilardi & Lovelace, 2024) and is the recommended tool to work with big datasets. For a review of options to access online geodata in R, including OSM data, see Kolb (2019).

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