



Cómo hacer consultas personalizadas para descargar datos de OSM

Overpass y otras herramientas

Zaragoza Activa – La Azucarera
28 de mayo de 2024



Héctor Ochoa Ortiz

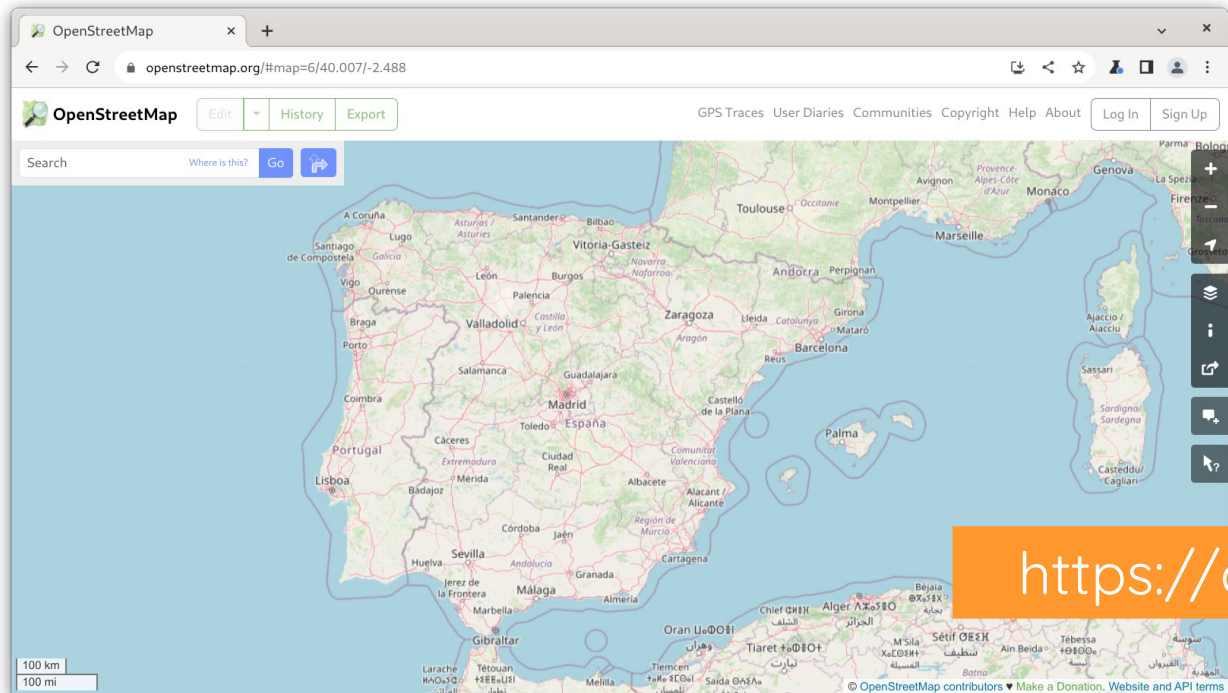
Mapeado Colaborativo / Geoinquietos Zaragoza
@hectrenes hector@mapcolabora.org



Utiliza partes de la presentación de
intro de OSM del 2 de abril, de
Miguel Sevilla-Callejo

OpenStreetMap

la wikipedia de los mapas



<https://openstreetmap.org>

- ~ 10.5 millones editores
- ~ 150 activos/día en España
- ~ 9.000 millones de nodos
- > 35.000 creados/día en España
- Base de datos espacial de libre uso y distribución (OdbL)

Datos: osmstats.neis-one.org

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Modelo de datos geográficos



a. componente espacial

tipologías básicas

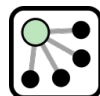
- nodos / nodes
- líneas / ways



b. componente temático

etiquetas y valores

- shop=bakery
- name=Panadería Alonso



c. relaciones y conjuntos

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Afrikaans asturianu azərbaycanca Bahasa Indonesia Bahasa Melayu bosanski brezhoneg català čeština dansk Deutsch eesti **English** español Esperanto euskara français Frysk galego hrvatski interlingua íslenska italiano kréyòl gwadeloupéyen kurdî latviešu Lëtzebuergesch lietuvių magyar Nederlands norsk occitan polski português română shqip slovenčina slovenščina srpski (latinica) suomi svenska Tiếng Việt Türkçe Zazaki Ελληνικά български македонски русский српски / srpski українська հայերեն עברית العربية الفارسی لُجِنْدِي پښتو سرائیکی नेपाली मराठी বাংলা ଇଞ୍ଚ ଲୁଗା မြန်မာဘာသာ 한국어 中文 (简体) 中文 (繁體) 日本語

Other languages...

Welcome to OpenStreetMap, the project that creates and distributes [free](#) geographic data for the world. We started it because most maps you think of as free actually have legal or technical restrictions on their use, holding back people from using them in creative, productive, or unexpected ways.



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Use OpenStreetMap**Using OpenStreetMap**

- [Browse our world map](#)
- Check the ready-to-use products for your mobile device, your desktop computer or the web services

Contribute free map data**Beginners' Guide**

- Browse the [map feature documentation](#)
- Browse the [Mapping projects](#)
- [...more on contributing map data](#)

Software Development**Develop and use the Platform**

- Use OpenStreetMap for your software
- Contribute to the OpenStreetMap software

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Map features

tagging tagging

Map Features - Other languages

Purge · Help

asturianu azerbaycanca Bahasa Indonesia bosanski català čeština dansk Deutsch eesti English español Esperanto français hrvatski íslenska italiano latviešu lietuvų magyar Nederlands norsk occitan polski português română shqip slovenčina slovenščina suomi svenska Tiếng Việt Türkçe Ελληνικά български македонски русский срpski / srpski українська עברית العربية فارسی پنجابی नेपाली தமிழ் བོད་སྐད་ 한국어 ქართული 中文 (简体) 中文 (繁體) 日本語

Other languages...

OpenStreetMap represents **physical features on the ground** (e.g., roads or buildings) using **tags** attached to its basic data structures (its **nodes**, **ways**, and **relations**).

Each tag describes a geographic attribute of the feature being shown by that specific node, way or relation.

OpenStreetMap's **free tagging system** allows the map to include an unlimited number of attributes describing each feature. The community agrees on certain key and value combinations for the most commonly used tags, which act as informal standards. However, users can create new tags to improve the style of the map or to support analyses that rely on previously unmapped attributes of the features. Short descriptions of tags that relate to particular topics or interests can be found using the **feature pages**.

Most features can be described using only a small number of tags, such as a path with a classification tag such as **highway=footway**, and perhaps also a name using **name=***. But, since this is a worldwide, inclusive map, there can be many different feature types in OpenStreetMap, almost all of them described by tags.

There are **proposed changes to existing tags**, **inactive features** and **deprecated features**. If you do not find a suitable tag in this list then feel free to make something suitable up as long as the **tag values will be verifiable**. Over time, you may find that the tag name is changed to fit with some wider consensus. However, many good tags were used first and documented later. For the latest updates of tagging schemes see [Changelog](#).

Contents [hide]

1 Primary features

1.1 Aerialway

1.2 Footway

Uso de datos OSM



Exportar una zona entera

OpenStreetMap Editar Historial Exportar

Buscar ¿Dónde está esto? Ir Ir

Exportar

38.5357

-5.0209

-4.9874

38.5210

[Seleccionar manualmente un área diferente](#)

Licencia

Los datos de OpenStreetMap están registrados bajo [Licencia de Base de datos Abierta de Open Data Commons](#) (ODbL).

Exportar

Si la exportación anterior falla, considera utilizar una de las fuentes que se enumeran a continuación:

desde openstreetmap.org directamente

Uso de datos OSM



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desde openstreetmap.org directamente

Do you find OpenStreetMap data useful? Consider giving something back in the OSMF's [funding campaign!](#)

GEOFABRIK ^{downloads}

Download OpenStreetMap data for this region:

Aragón

[\[one level up\]](#)

The OpenStreetMap data files provided on this server do **not** contain the user names, user IDs and changeset IDs of the OSM objects because these fields are assumed to contain personal information about the OpenStreetMap contributors and are therefore subject to data protection regulations in the European Union. [Extracts with full metadata](#) are available to OpenStreetMap contributors only.

Commonly Used Formats

- [aragon-latest.osm.pbf](#), suitable for Osmium, Osmosis, impsm, osm2pgsql, mkgmap, and others. This file was last modified 15 hours ago and contains all OSM data up to 2024-05-13T20:21:00Z. File size: 72 MB; MD5 sum: [73575ed3dbd7c5aba34bb5d415633168](#).
- [aragon-latest-free.shp.zip](#), yields a number of ESRI compatible shape files when unzipped. ([Format description PDF](#)) This file was last modified 14 hours ago. File size: 157 MB; MD5 sum: [8ab6471d08b5d9cf0a3bd1d6182ef6cd](#).

Other Formats and Auxiliary Files

- [aragon-latest.osm.bz2](#), yields OSM XML when decompressed; use for programs
- [por país/región desde download.geofabrik.de](#)
- [aragon-internal.osh.pbf](#) The history file contains personal data and is available



Not what you were looking for? Geofabrik is a consulting and software development firm based in Karlsruhe, Germany specializing in OpenStreetMap services. We're happy to help you with data preparation, processing, server setup and the like. [Check out our web site](#) and contact us if we can be of service.

Wurde das richtige dabei? Die Geofabrik ist ein auf OpenStreetMap spezialisiertes Beratungs- und

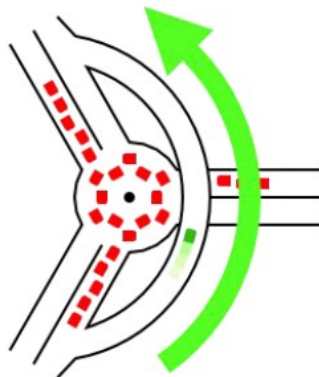
Overpass API

API sólo lectura de la BD de OSM

Optimizada para consumidores de datos

Sintaxis → Overpass QL

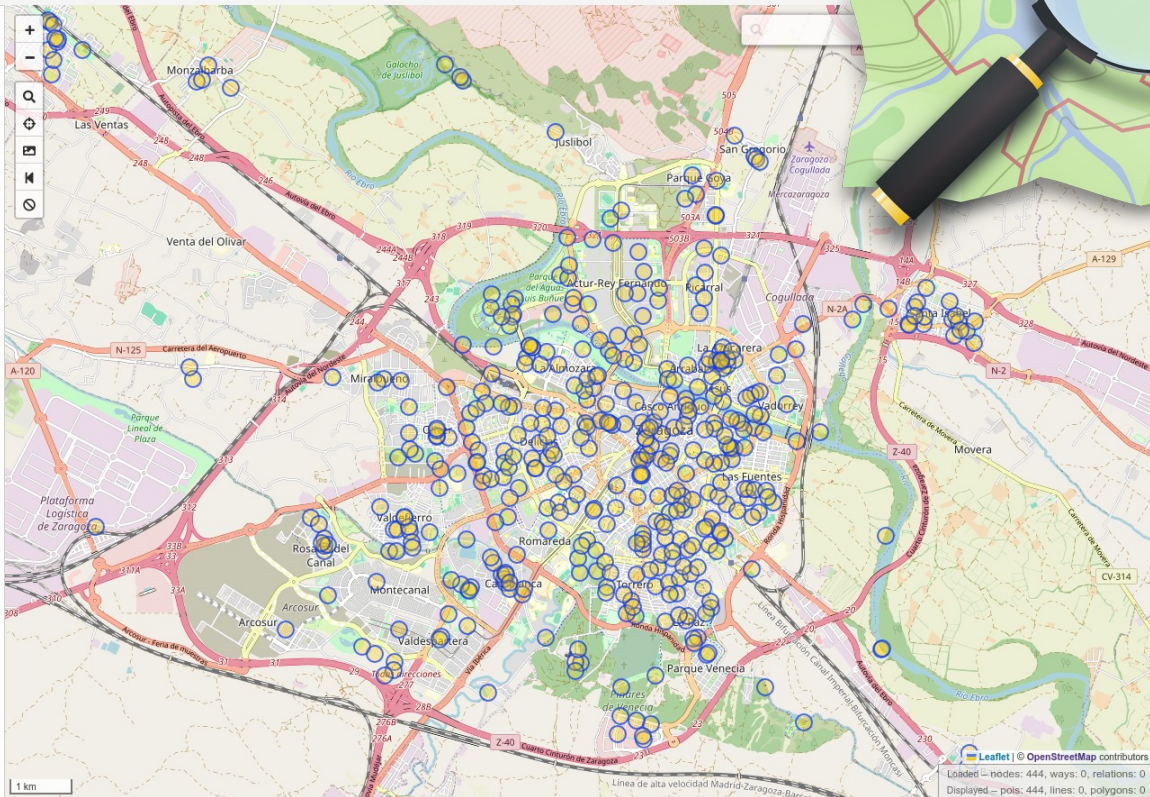
Ejemplos
sintaxis:



Overpass
API

overpass turbo

```
1 /*
2 This is an example Overpass query.
3 Try it out by pressing the Run button above!
4 You can find more examples with the Load tool.
5 */
6 node
7   [amenity=drinking_water]
8   {{{bbox}}};
9 out;
```

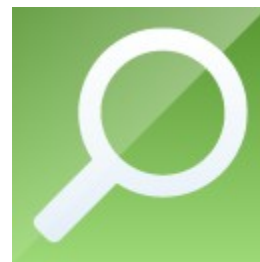


Overpass → Plugin QGIS

QuickOSM

<https://plugins.qgis.org/plugins/QuickOSM/>

- QGIS menú Plugins → Manage and Install Plugins...
- Buscar QuickOSM y seleccionarlo
- Instalar Plugin



Overpass 2.0



Text-to-OverpassQL: A Natural Language Interface for Complex Geodata Querying of OpenStreetMap

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²School of Informatics, University of Edinburgh, UK

³IWR, Heidelberg University, Germany

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Abstract

We present Text-to-OverpassQL, a task designed to facilitate a natural language interface for querying geodata from OpenStreetMap (OSM). The Overpass Query Language (OverpassQL) allows users to formulate complex database queries and is widely adopted in the OSM ecosystem. Generating Overpass queries from natural language input serves multiple use-cases. It enables novice users to utilize OverpassQL without prior knowledge, assists experienced users with crafting advanced queries, and enables tool-augmented large language models to access information stored in the OSM database. In order to assess the performance of current sequence generation models on this task, we propose OverpassNL,¹ a dataset of 8,352 queries with corresponding natural language inputs. We further introduce task specific evaluation metrics and ground the evaluation of the Text-to-OverpassQL task by executing the queries against the OSM database. We establish strong baselines by finetuning sequence-to-sequence models and adapting large language models with in-context

the Overpass Query Language (OverpassQL). OverpassQL is a feature-rich query language that is widely adopted in the OSM ecosystem by contributors, analysts, and applications. In order to make this empowering query language accessible via natural language, we propose the Text-to-OverpassQL task. The objective is to take a complex data request in natural language and translate it to OverpassQL in order to execute it against the OSM database. Several groups of users can benefit from such a natural language interface. Inexperienced users are spared from learning the OverpassQL syntax. Expert users can use it to draft Overpass queries and then manually refine them, saving time and mental load in comparison to writing the full query from scratch. Another use-case is to incorporate the interface as an API tool (Schick et al., 2023) for large language models (LLMs).

In this work, we introduce the three components that enable the Text-to-OverpassQL task. First, we present OverpassNL, a dataset of 8.5k natural language inputs and corresponding Overpass



doi.org/10.1162/tacI_a_00654

Overpass 2.0



OverpassNL

A natural language interface to OpenStreetMap.

--click here to learn more--

Disclaimer: Your inputs will be processed by the OpenAI API

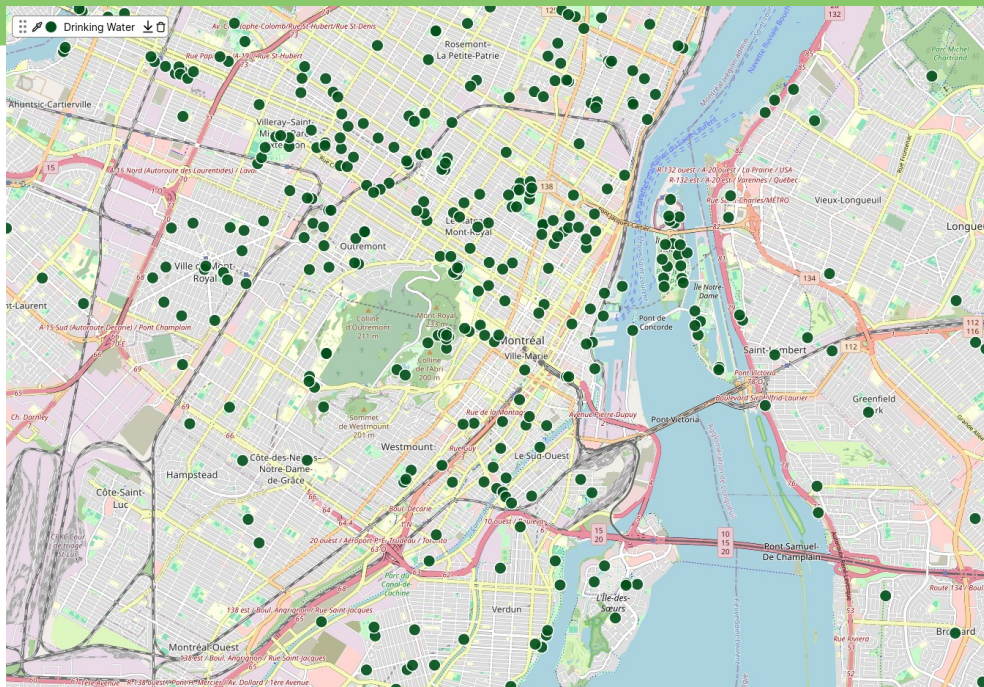
```
[out:json][timeout:180];
(node["amenity"="drinking_water"](((bbox)));
way["amenity"="drinking_water"](((bbox)));
relation["amenity"="drinking_water"](((bbox)));
};
out;
>;
out skel qt;
```

Drinking Water

RUN

Ask GPT

Manual Query

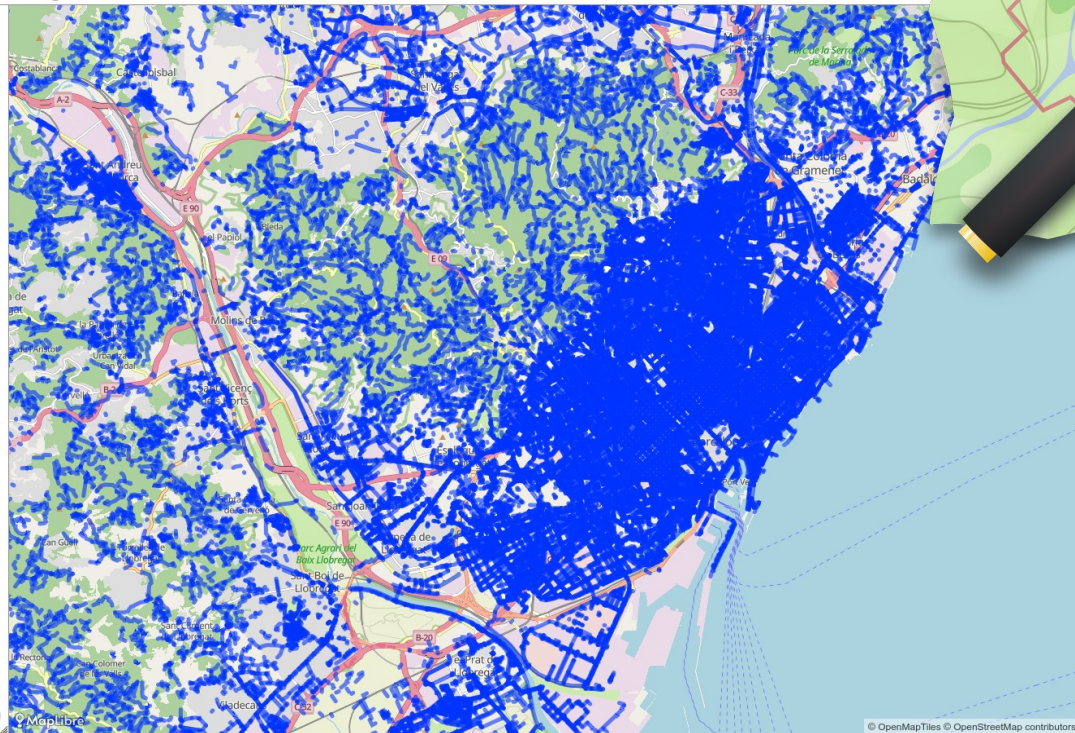


<https://overpassnl.schumann.pub/>

Overpass Ultra

Run Download Share Pick Style ? Help Overpass Ultra

```
/*  
This is an example Overpass query.  
Try it out by pressing the Run button above!  
*/  
[bbox:{{bbox}}];  
(  
  way[highway=path];  
  way[highway=footway];  
  way[highway=cycleway];  
  way[highway=steps];  
);  
out geom;
```



<https://overpass-ultra.us/>



Gracias



Presentación con materiales CC BY-SA del grupo Mapeado Colaborativo / Geoinquietos Zaragoza y la Comunidad de OpenStreetMap elaborados por Miguel Sevilla-Callejo, Héctor Ochoa Ortiz, Jorge Sanz Sanfructuoso, Xurxo Sanz, Alejandro Suárez, Jaime Crespo y Carlos Cámara

Héctor Ochoa Ortiz

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