Addressing Addresses

Sarah Hoffmann
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28th July 2018

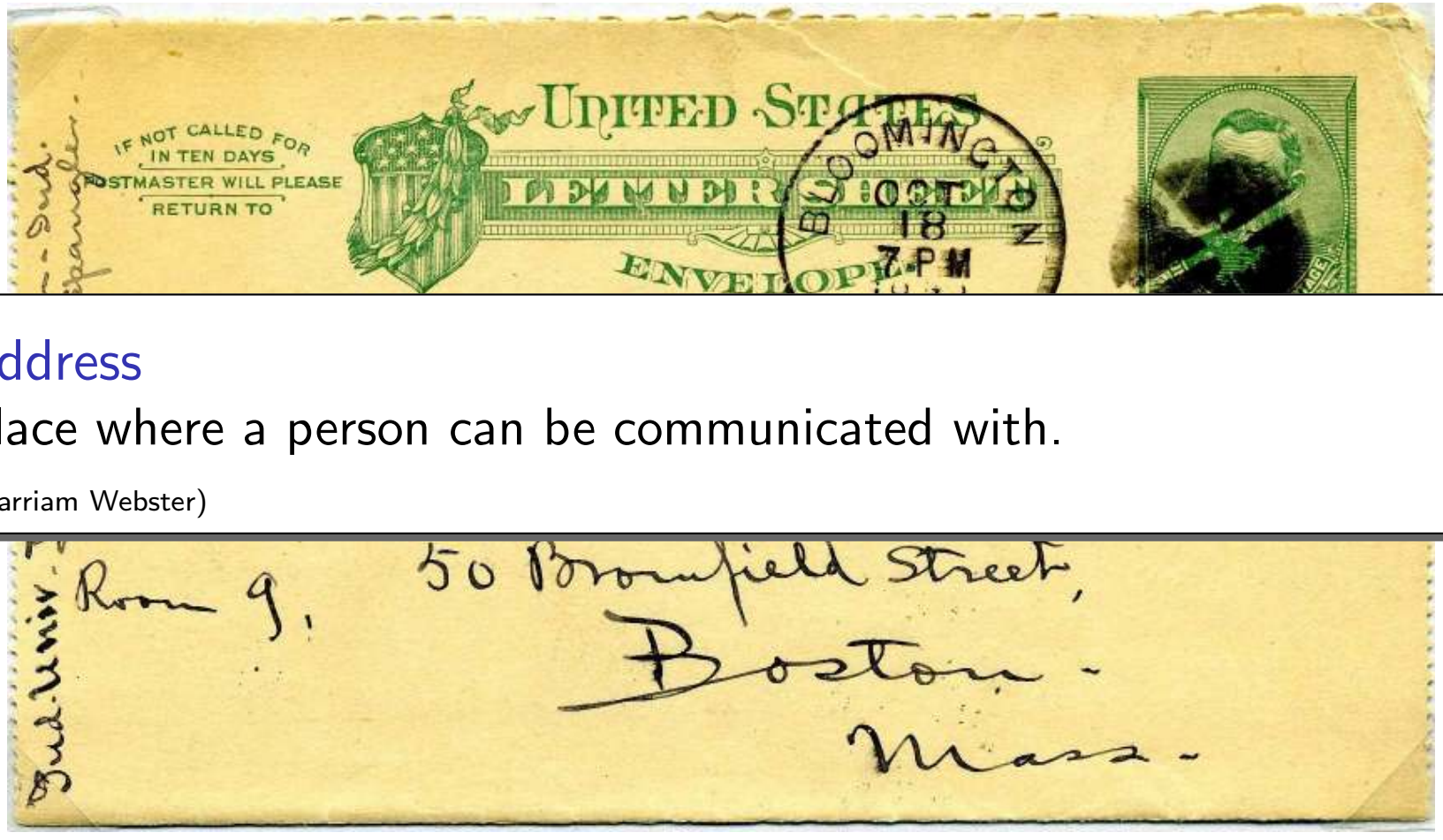
State of the Map 2018
Milano

Introduction

Addresses

IF NOT CALLED FOR
IN TEN DAYS
POSTMASTER WILL PLEASE
RETURN TO
Ind. Univ. Bloomington - Ind.
Spangler.
UNITED STATES
ENVELOPE
BLOOMINGTON
OCT
18
7 PM
1892
IND.
CENTS
Mr. F. H. Rasson.
Room 9.
50 Bromfield Street,
Boston.
Mass.

Addresses

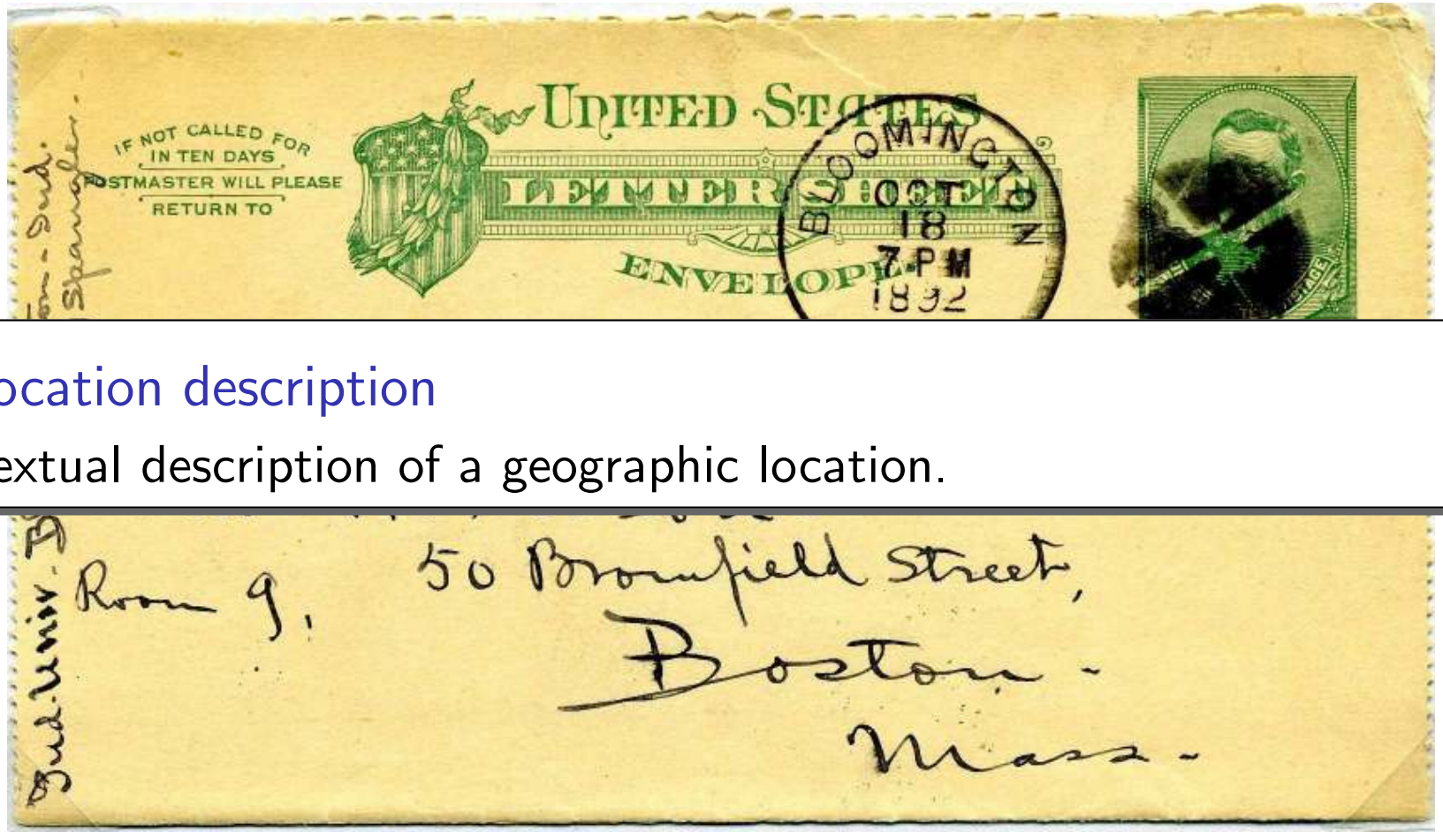


Address

Place where a person can be communicated with.

(Marriam Webster)

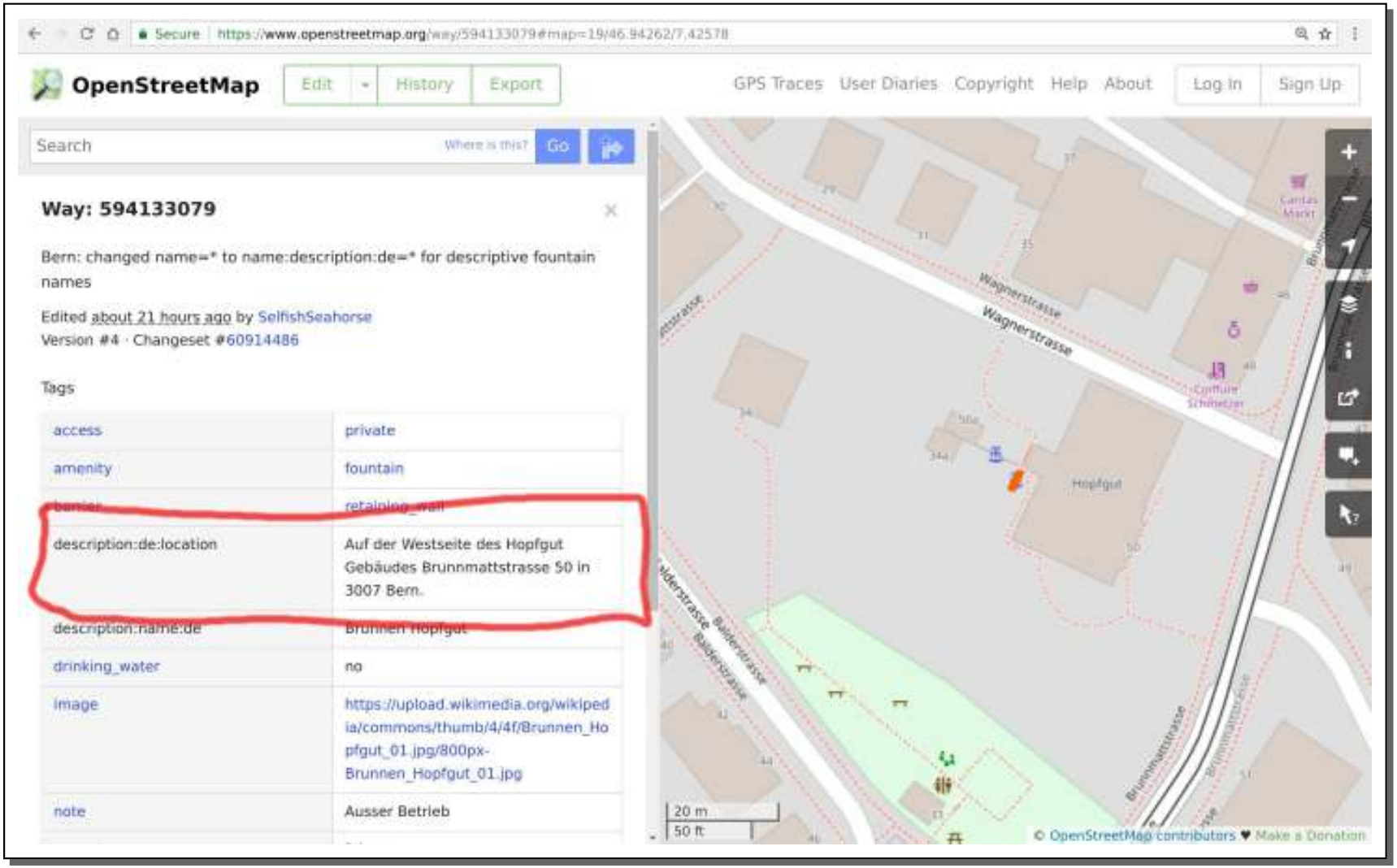
Addresses



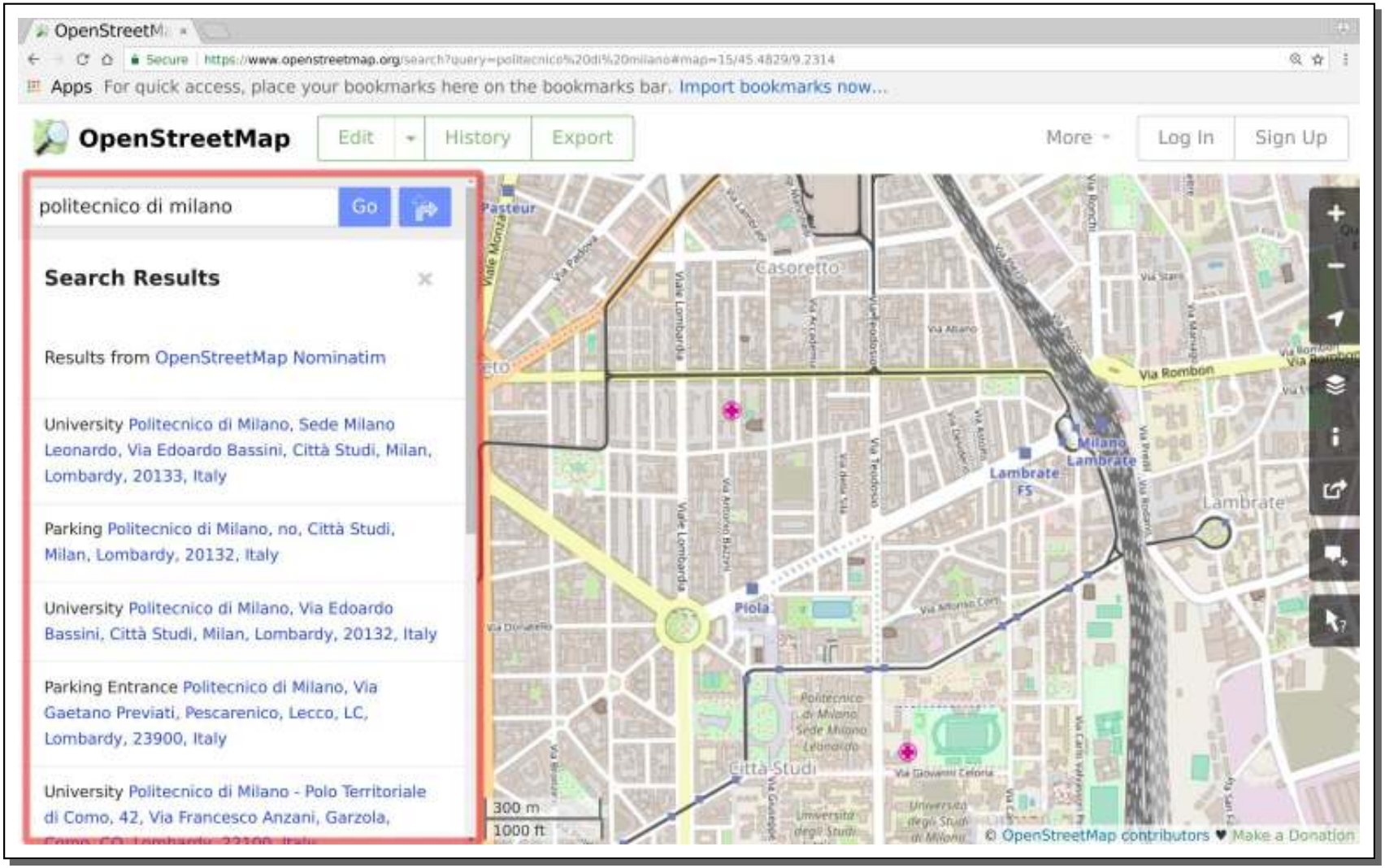
Location description

Textual description of a geographic location.

Example: location of a fountain



Background


OpenStreetMap
Edit
History
Export
More
Log In
Sign Up
politecnico di milano
Go
Search Results
Results from OpenStreetMap Nominatim
University Politecnico di Milano, Sede Milano Leonardo, Via Edoardo Bassini, Città Studi, Milan, Lombardy, 20133, Italy
Parking Politecnico di Milano, no, Città Studi, Milan, Lombardy, 20132, Italy
University Politecnico di Milano, Via Edoardo Bassini, Città Studi, Milan, Lombardy, 20132, Italy
Parking Entrance Politecnico di Milano, Via Gaetano Previati, Pescarenico, Lecco, LC, Lombardy, 23900, Italy
University Politecnico di Milano - Polo Territoriale di Como, 42, Via Francesco Anzani, Garzola,
Pasteur
Casoretto
Via Rombon
Milano Lambrate
Lambrate FS
Lambrate
Piola
Città Studi
300 m
1000 ft
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Postal Addresses

Postal Addresses

- **made for human use** (aka offline)
- well-known points of reference
- hierarchic structure
- coverage

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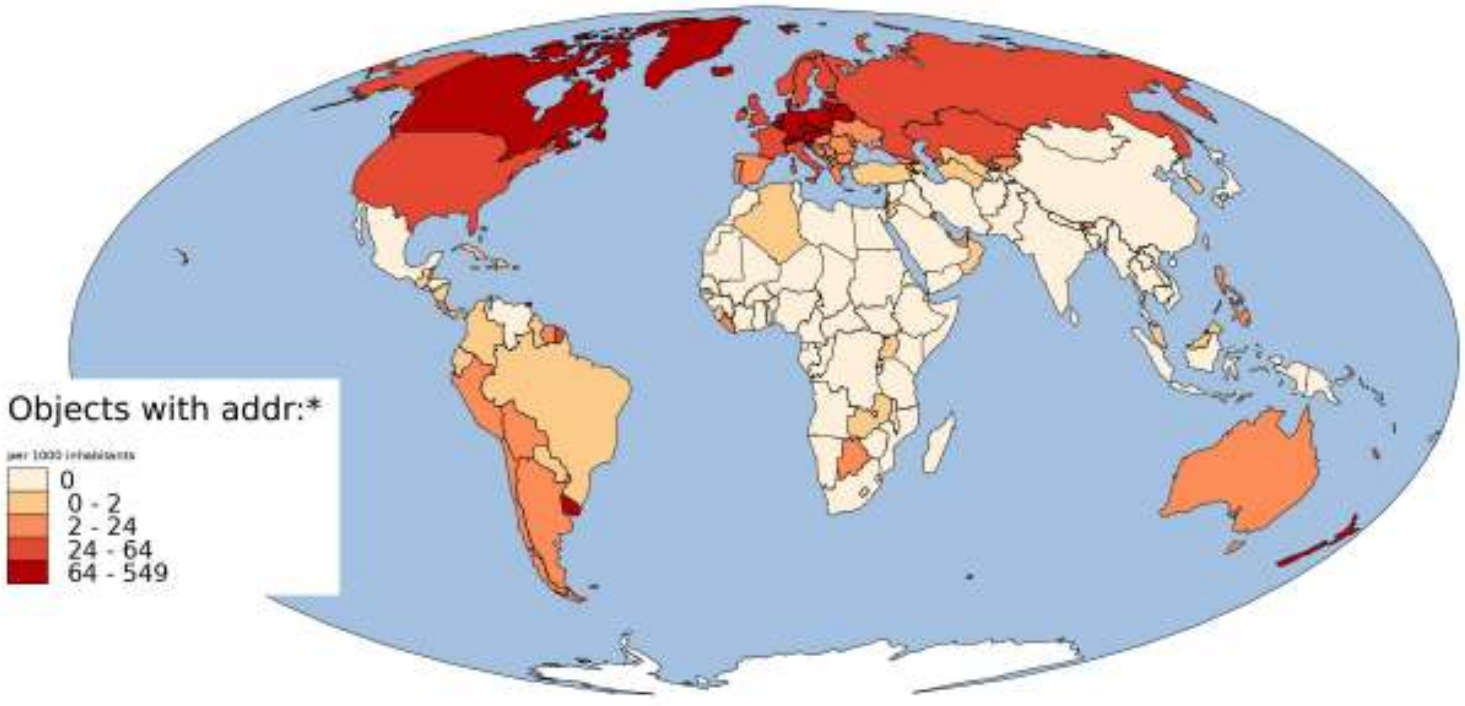
OSM Tagging

Postal Addresses in OSM

Objects with addr:* tags per country



ca. 84 million objects

Address base

addr:housenumber

80 million

addr:housename

340.000

- addr:conscription_number, addr:street_number, addr:provisional_number
- addr:interpolation
- addr:flat, addr:unit

Number point of reference

addr:street

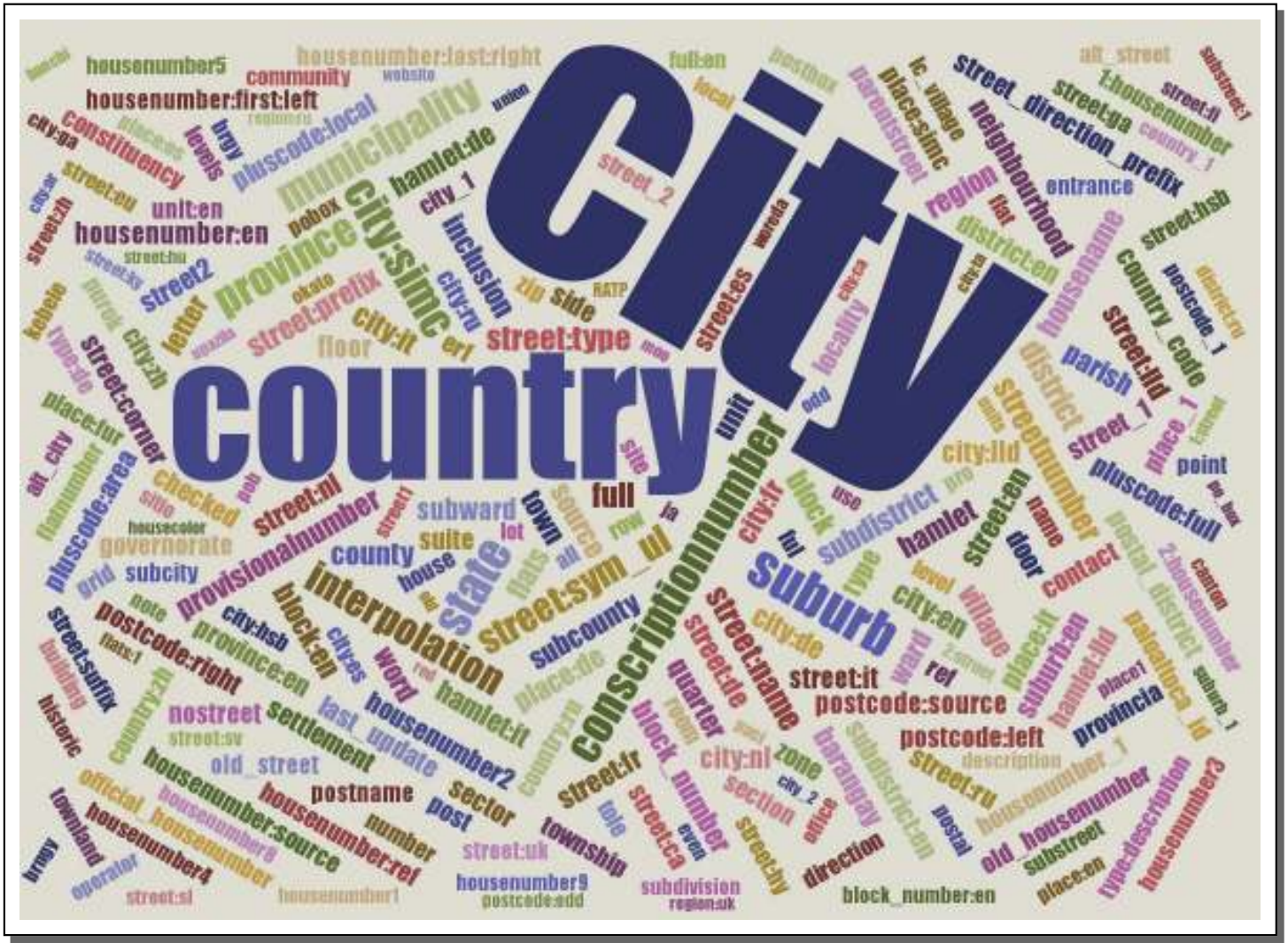
70 million

addr:place

7.4 million

Japanese Addresses

Address hierarchy



Administrative boundaries

boundary = administrative

Description

An administrative boundary

Group: Boundaries

Used on these elements

Useful combination

- name=*
- admin_level=*

Status: de facto

taginfo [More...]

	394	2.90 %
	1 071 854	89.80 %
	489 890	89.99 %

+

admin_level

Description

Indicates the level of an administrative boundary

Group: Boundaries

Used on these elements

Documented values: 1

Useful combination

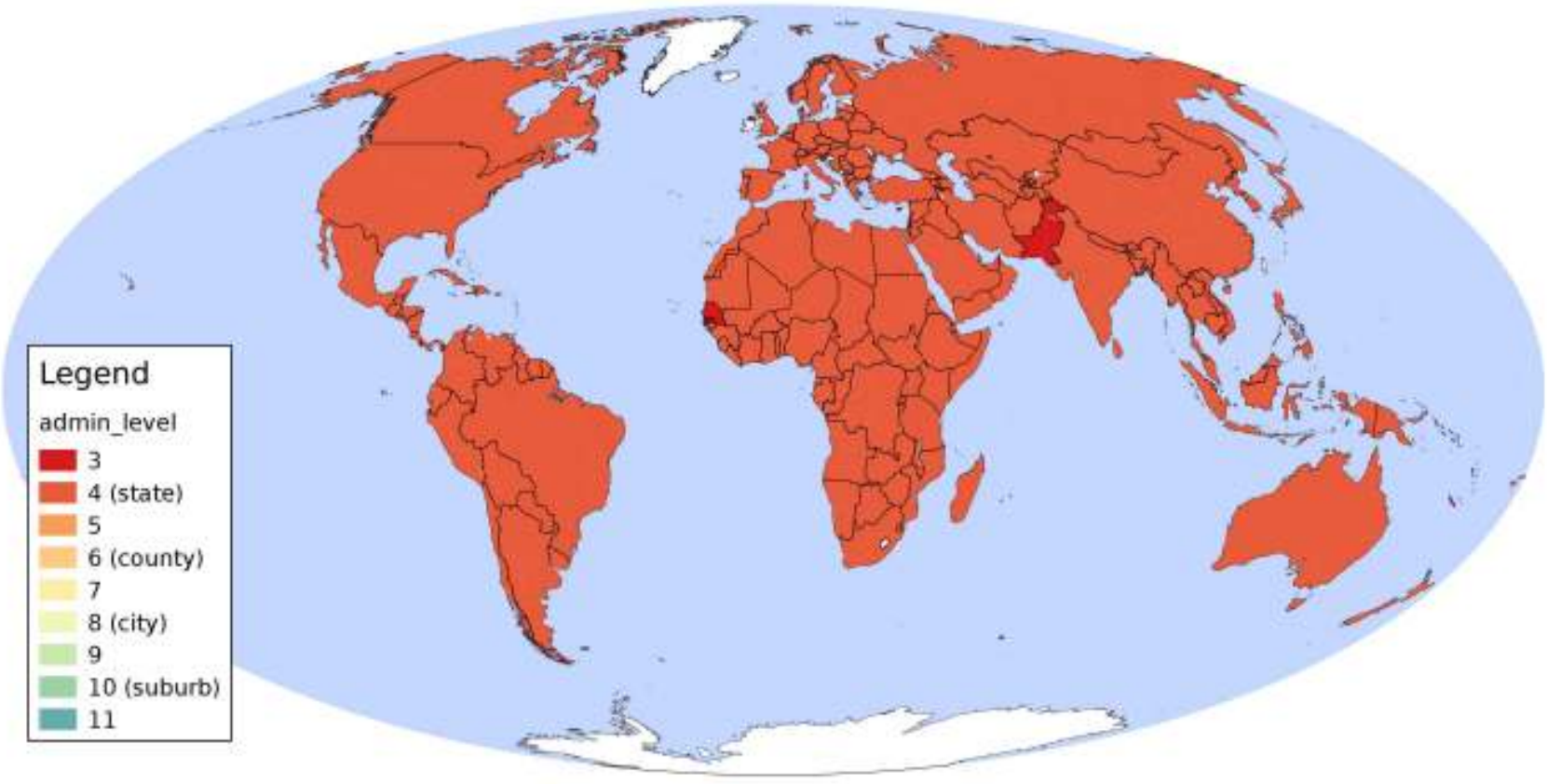
- boundary=administrative

Status: de facto

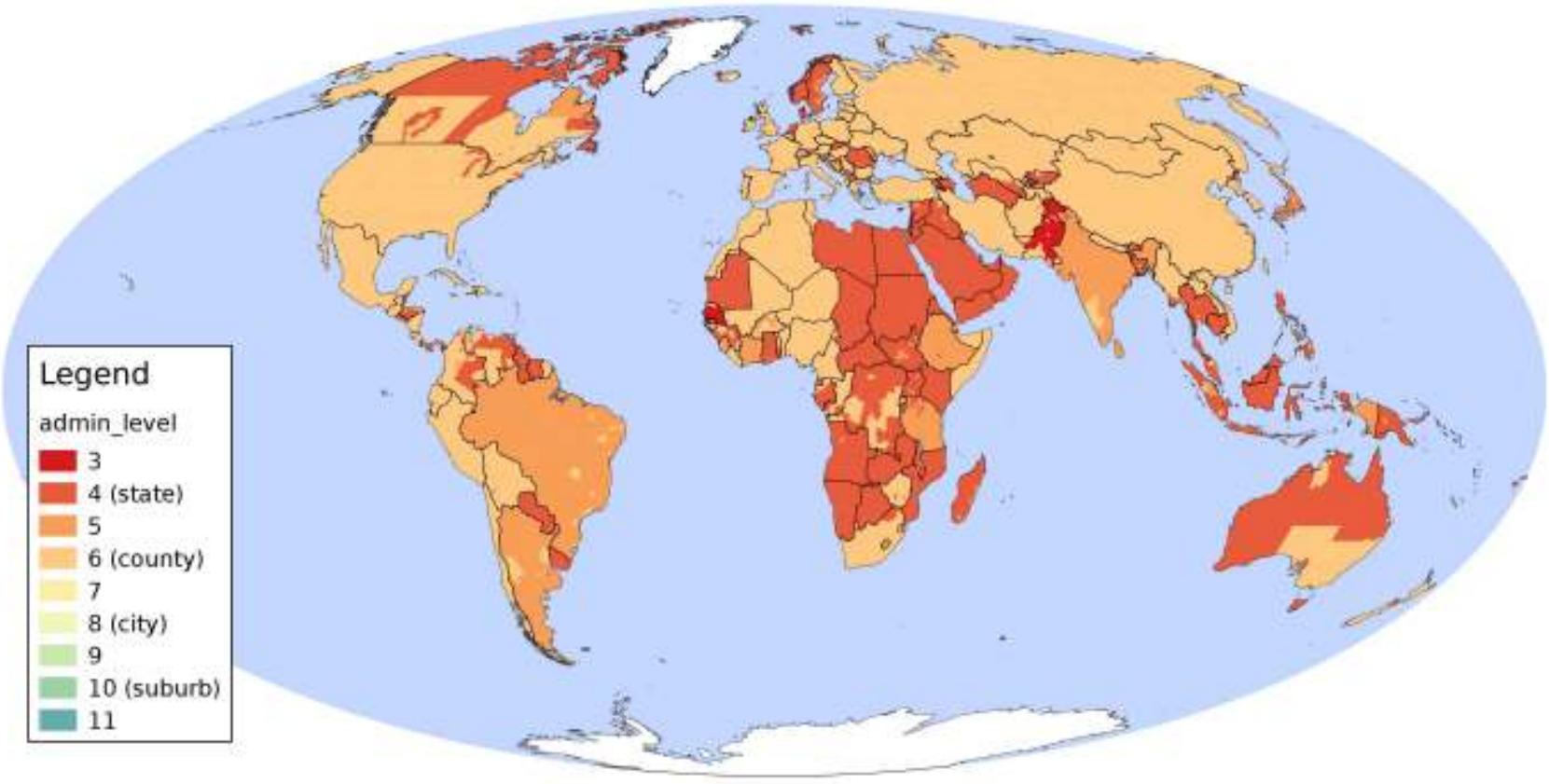
taginfo [More...]

	27 850
	895 722
	490 733

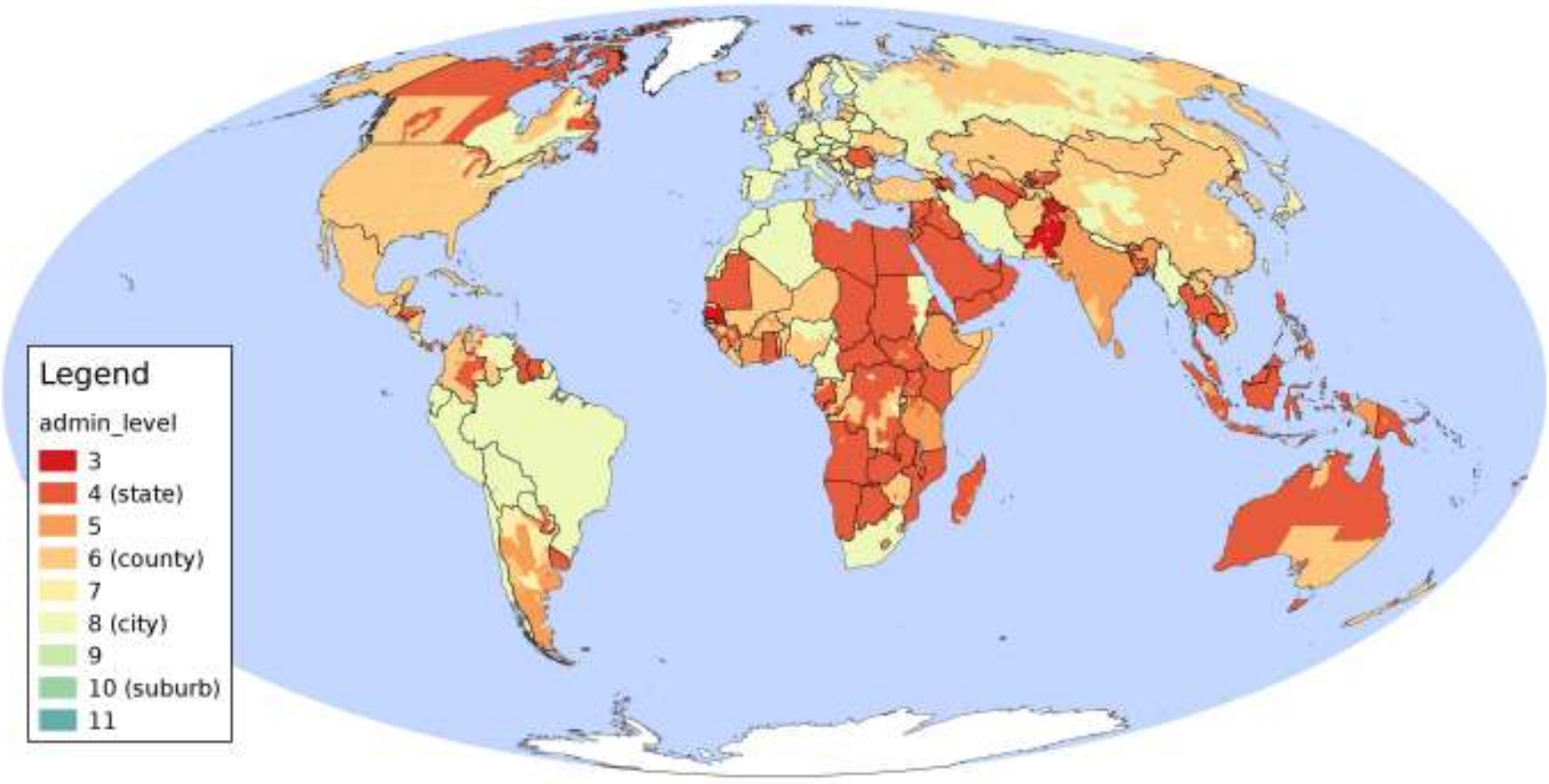
admin_level



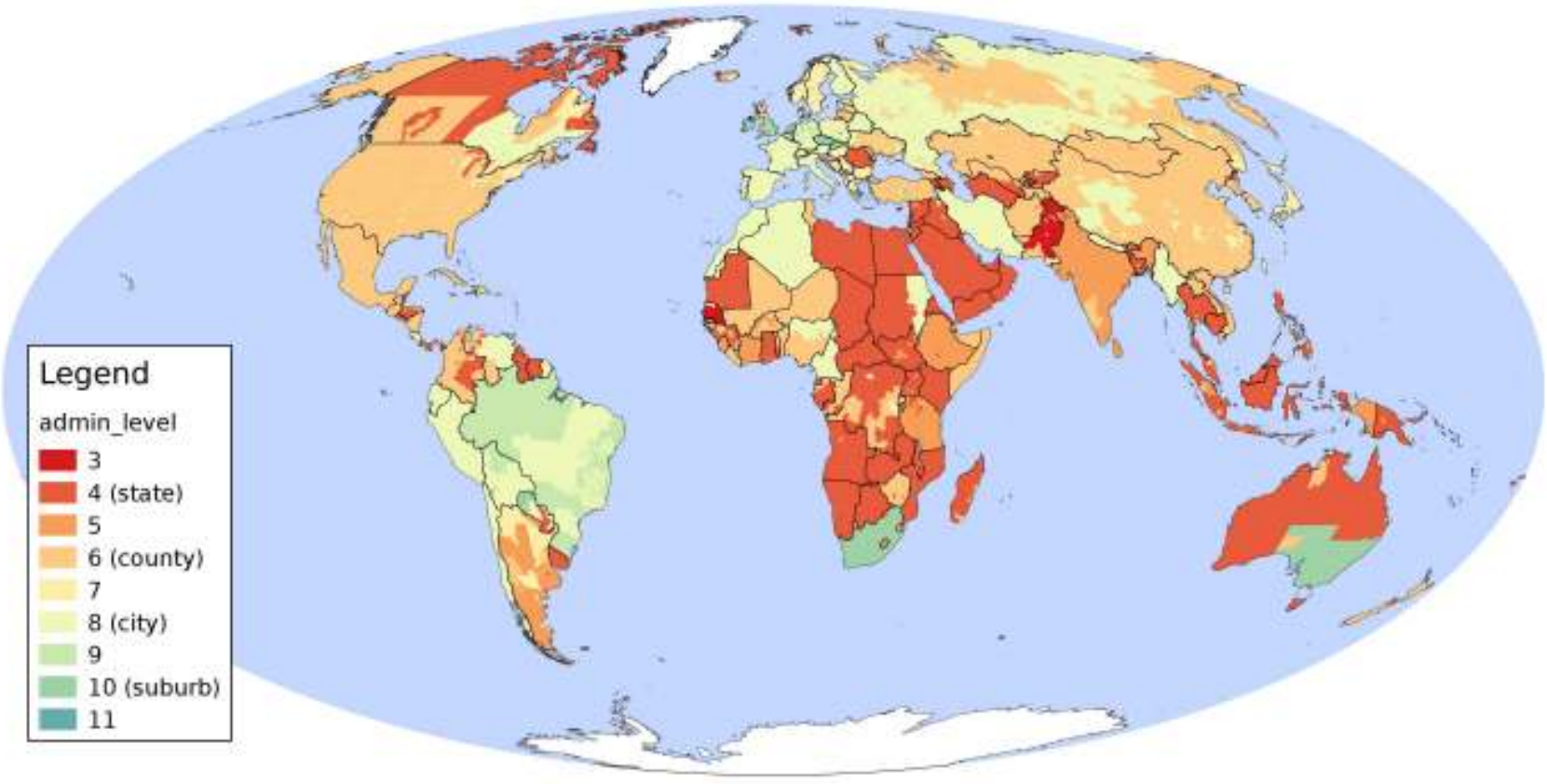
admin_level



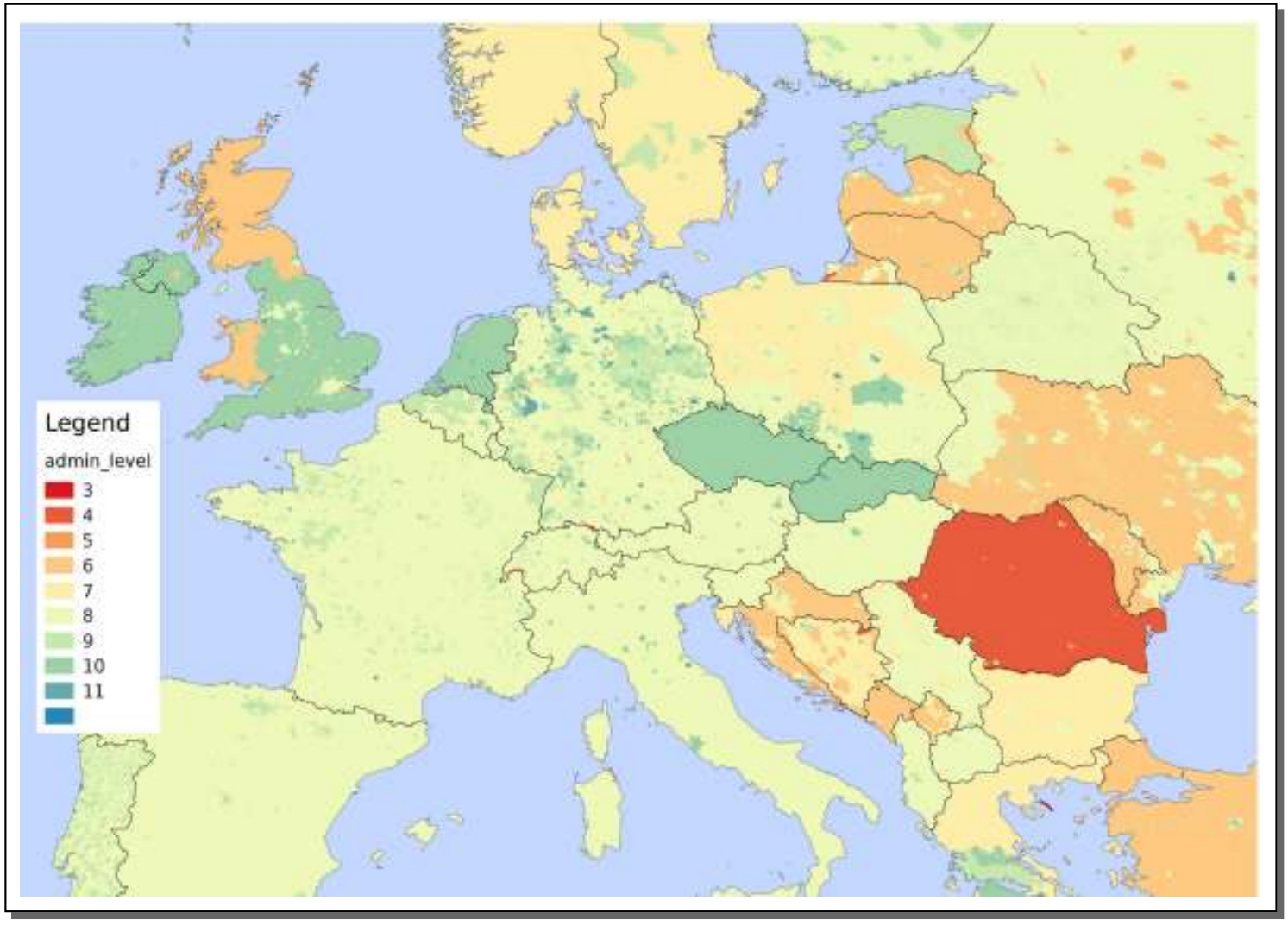
admin_level



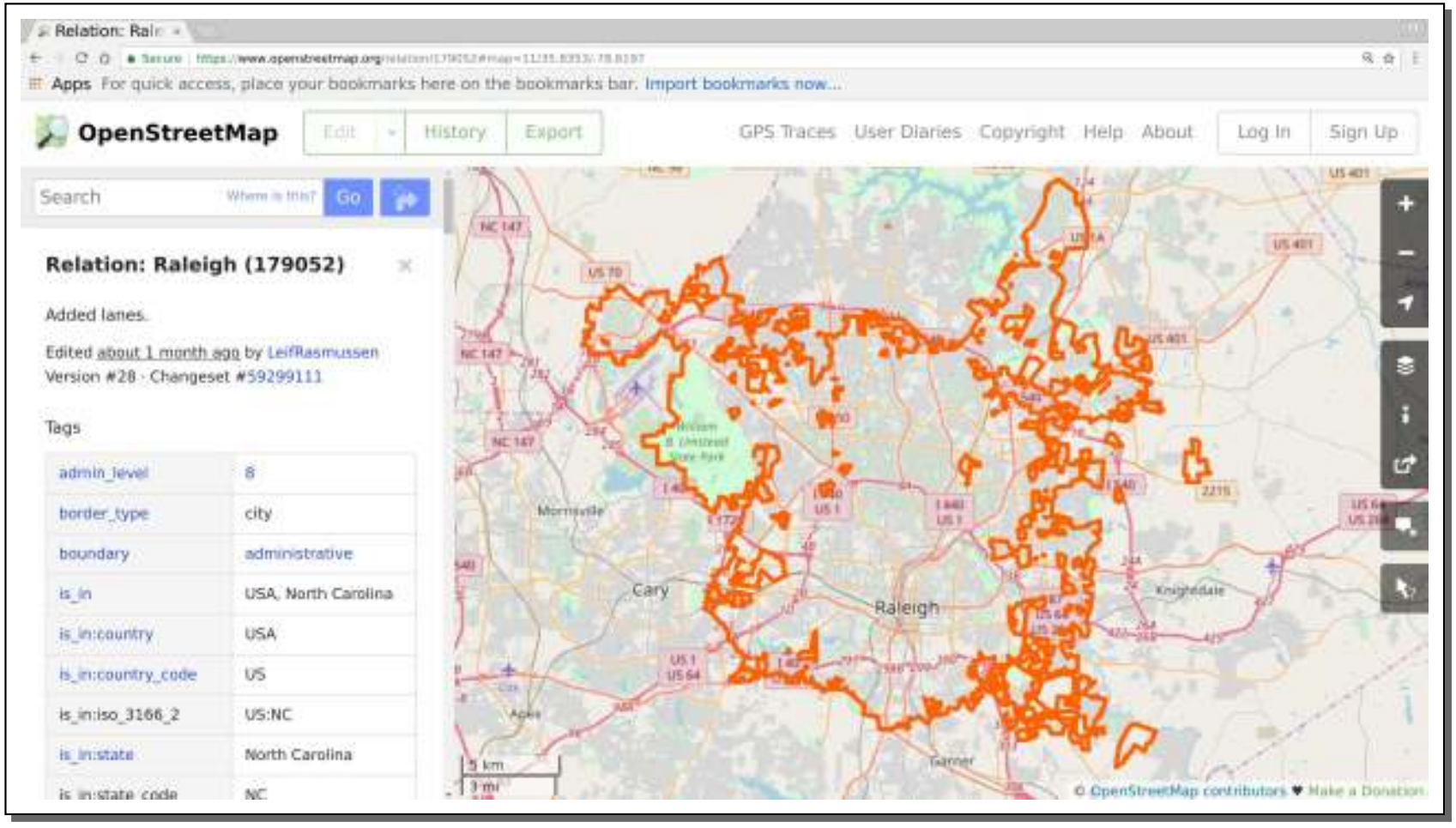
admin_level



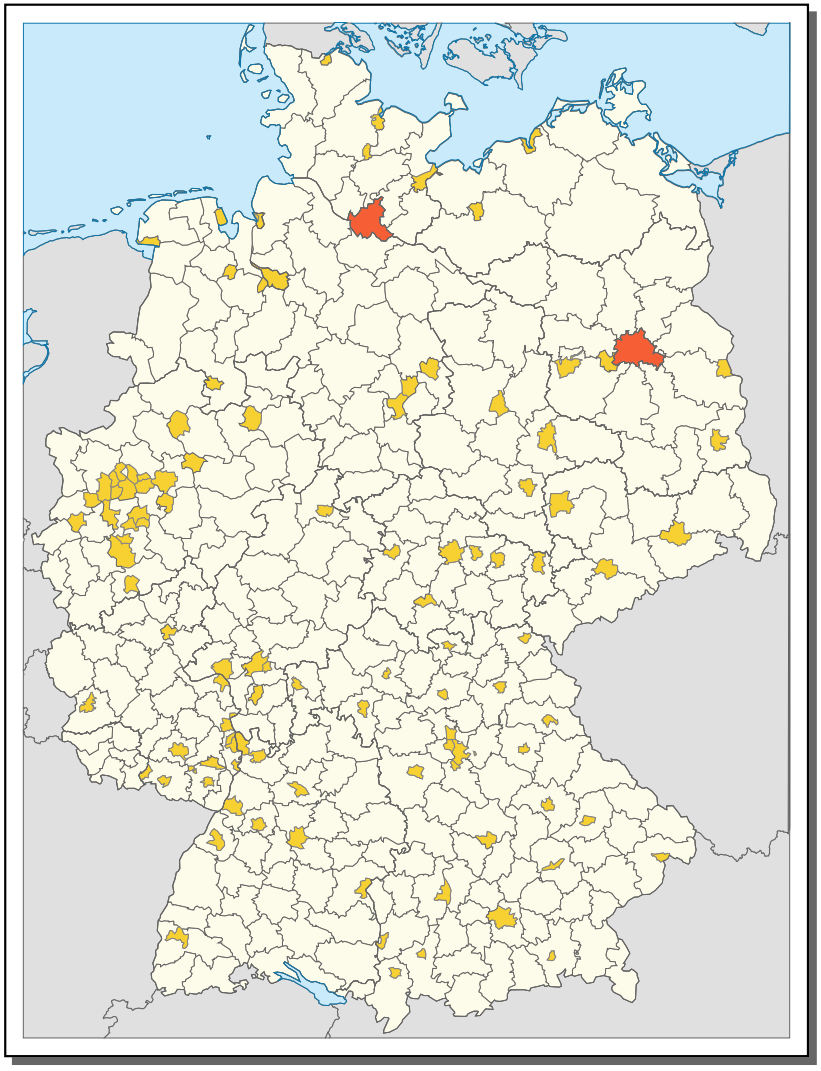
admin levels - Europe



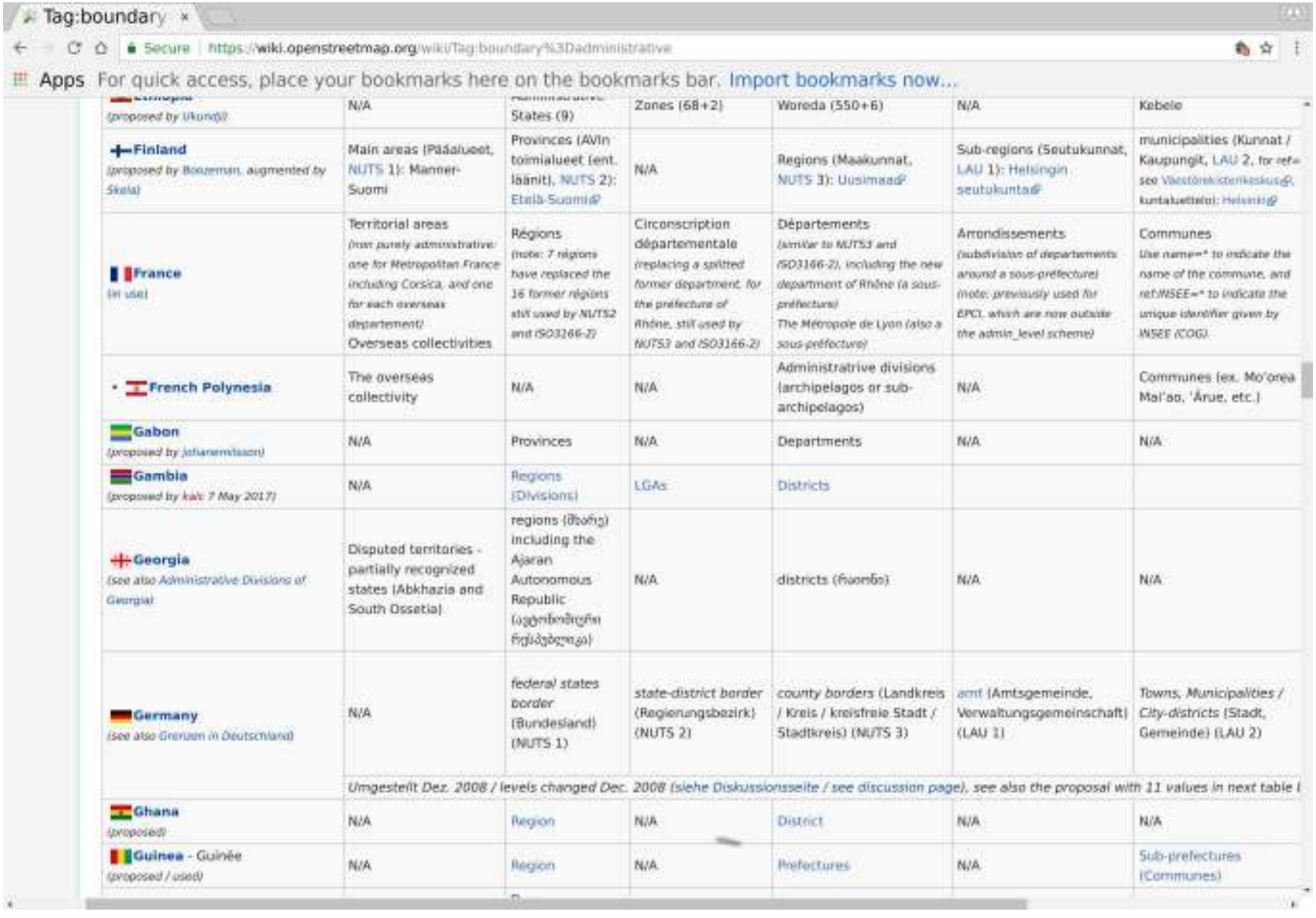
Fun with Administrations: US



Fun with Administrations: Germany



If it's worth doing...



Tag:boundary

Secure | https://wiki.openstreetmap.org/wiki/Tag:boundary%3Dadministrative

Apps For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now...

(proposed by Ukundji)	N/A	States (9)	Zones (68+2)	Woreda (550+6)	N/A	Kebele
Finland (proposed by Boozeman, augmented by Skela)	Main areas (Pääalueet, NUTS 1): Manner-Suomi	Provinces (AVIn toimialueet (ent. läänit), NUTS 2): Etelä-Suomi	N/A	Regions (Maakunnat, NUTS 3): Uusimaa	Sub-regions (Seutukunnat, LAU 1): Helsingin seutukunta	municipalities (Kunnat / Kaupungit, LAU 2, for ref= see Väestörekisterikeskus, kuntaluettelo): Helsinki
France (in use)	Territorial areas (non purely administrative: one for Metropolitan France including Corsica, and one for each overseas departement) Overseas collectivities	Régions (note: 7 régions have replaced the 16 former régions still used by NUTS2 and ISO3166-2)	Circonscription départementale (replacing a splitted former department, for the préfecture of Rhône, still used by NUTS3 and ISO3166-2)	Départements (similar to NUTS3 and ISO3166-2), including the new department of Rhône (a sous-préfecture) The Métropole de Lyon (also a sous-préfecture)	Arrondissements (subdivision of departements around a sous-préfecture) (note: previously used for EPCI, which are now outside the admin_level scheme)	Communes Use name=* to indicate the name of the commune, and ref:INSEE=* to indicate the unique identifier given by INSEE (COG).
French Polynesia	The overseas collectivity	N/A	N/A	Administratrive divisions (archipelagos or sub-archipelagos)	N/A	Communes (ex. Mo'orea Mai'ao, 'Ārue, etc.)
Gabon (proposed by johanemilsson)	N/A	Provinces	N/A	Departments	N/A	N/A
Gambia (proposed by kalc 7 May 2017)	N/A	Regions (Divisions)	LGAs	Districts		
Georgia (see also Administrative Divisions of Georgia)	Disputed territories - partially recognized states (Abkhazia and South Ossetia)	regions (მხარე) including the Ajaran Autonomous Republic (აჯტონომიერი რესპუბლიკა)	N/A	districts (რაიონი)	N/A	N/A
Germany (see also Grenzen in Deutschland)	N/A	federal states border (Bundesland) (NUTS 1)	state-district border (Regierungsbezirk) (NUTS 2)	county borders (Landkreis / Kreis / kreisfreie Stadt / Stadtkreis) (NUTS 3)	amt (Amtsgemeinde, Verwaltungsgemeinschaft) (LAU 1)	Towns, Municipalities / City-districts (Stadt, Gemeinde) (LAU 2)
	Umgestellt Dez. 2008 / levels changed Dec. 2008 (siehe Diskussionsseite / see discussion page), see also the proposal with 11 values in next table					
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Guinea - Guinée (proposed / used)	N/A	Region	N/A	Prefectures	N/A	Sub-prefectures (Communes)

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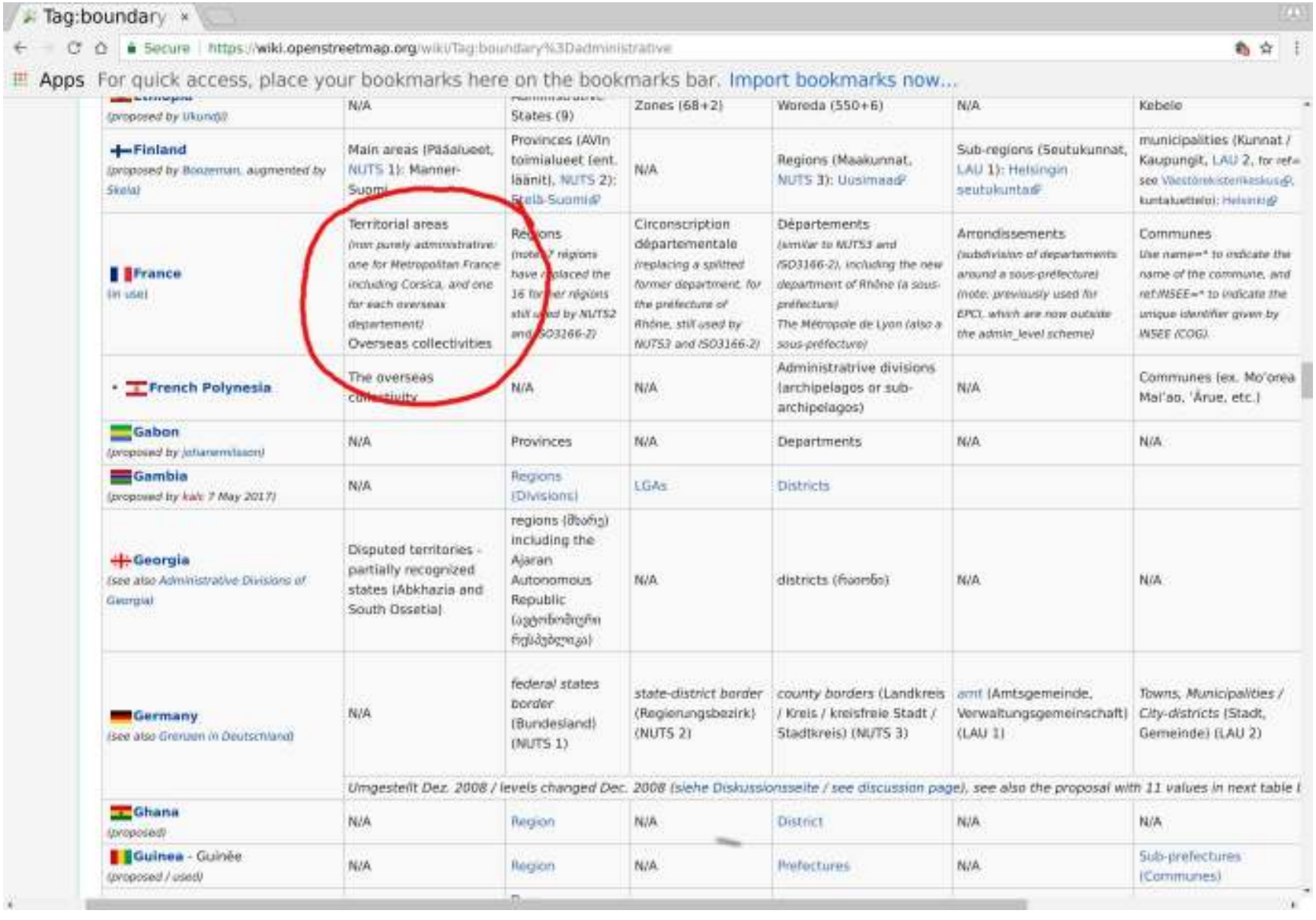

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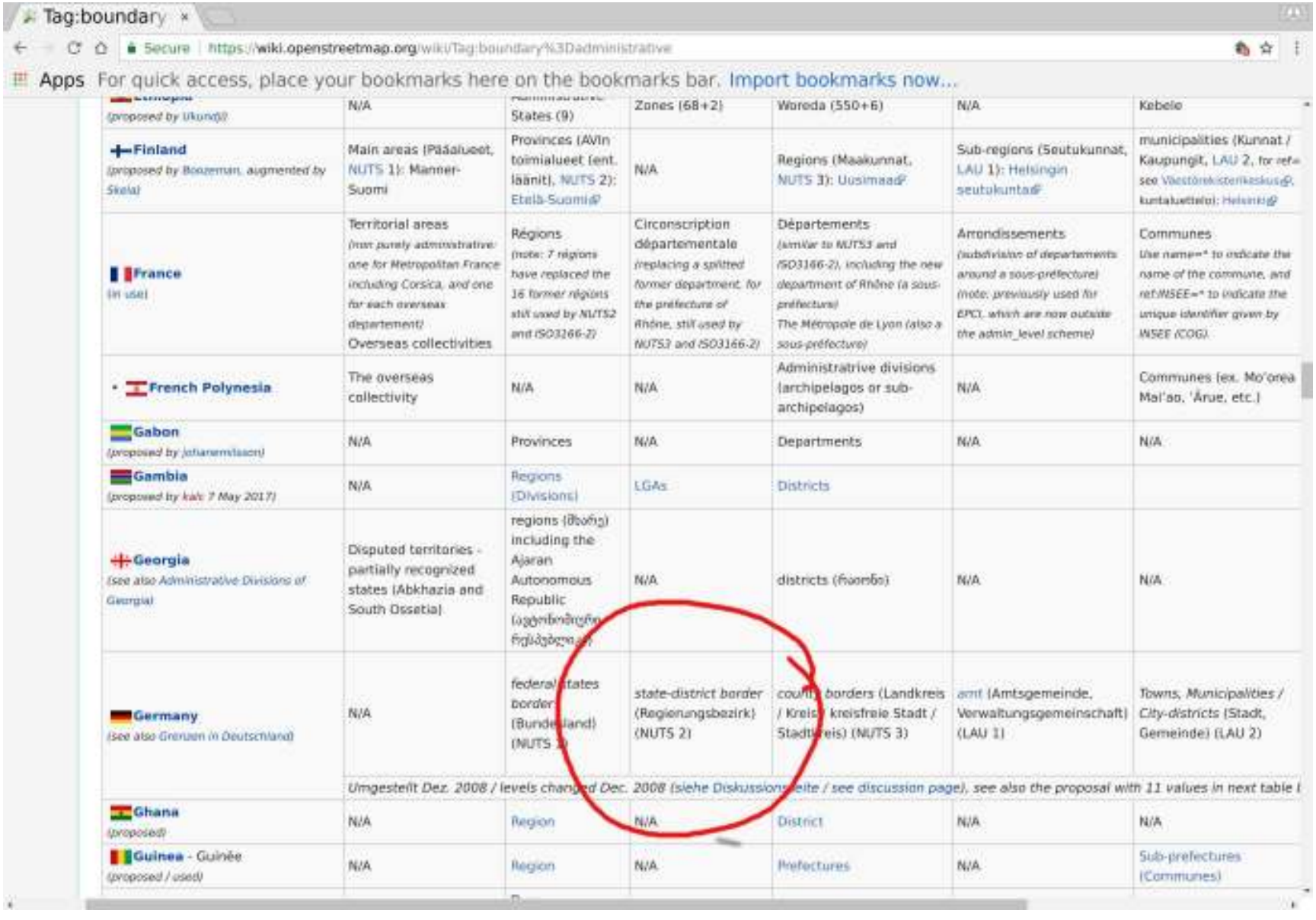

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Place nodes

place
Bremen
Description
The place tag is used on a single node at the centre of a named settlement or on an area outlining it.
Group: Places
Used on these elements
Documented values: 27
Useful combination
name=*
population=*
wikidata=*/wikipedia=*
Status: de facto
taginfo [More...]
4 211 239
612 690
183 392

Places - Admin values

Values

Administratively declared places

Key	Value	Element	Description	Map rendering	Image	Count
place	country		A nation state or other high-level national political/administrative area.			222 0 3
place	state		A large sub-national political/administrative area.			1 803 8 241
place	region					2 756 68 405
place	province					148 1 93
place	district					172 41 1 172
place	county					6 595 25 1 722
place	municipality					909 24 1 833

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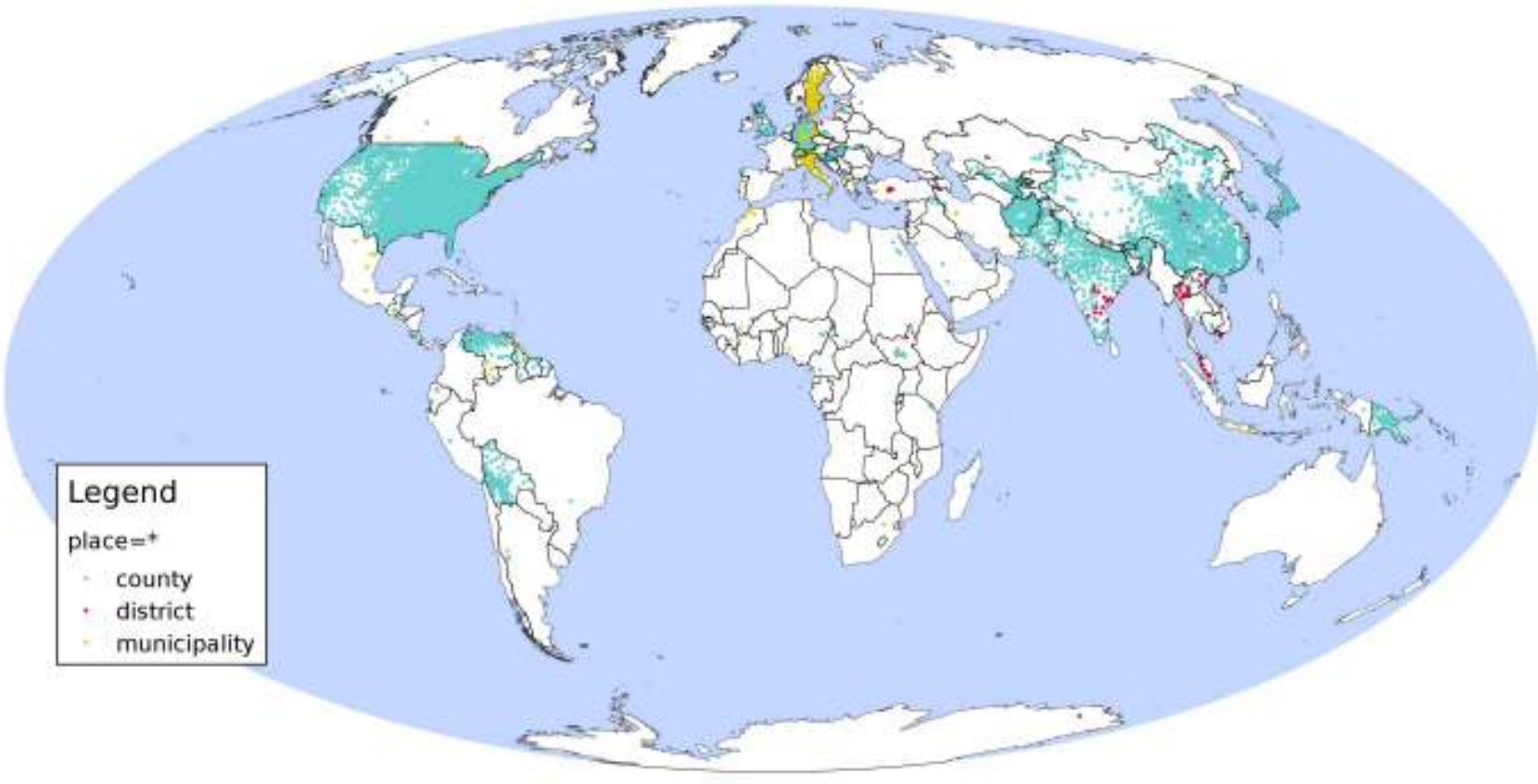
Counties, districts, municipalities



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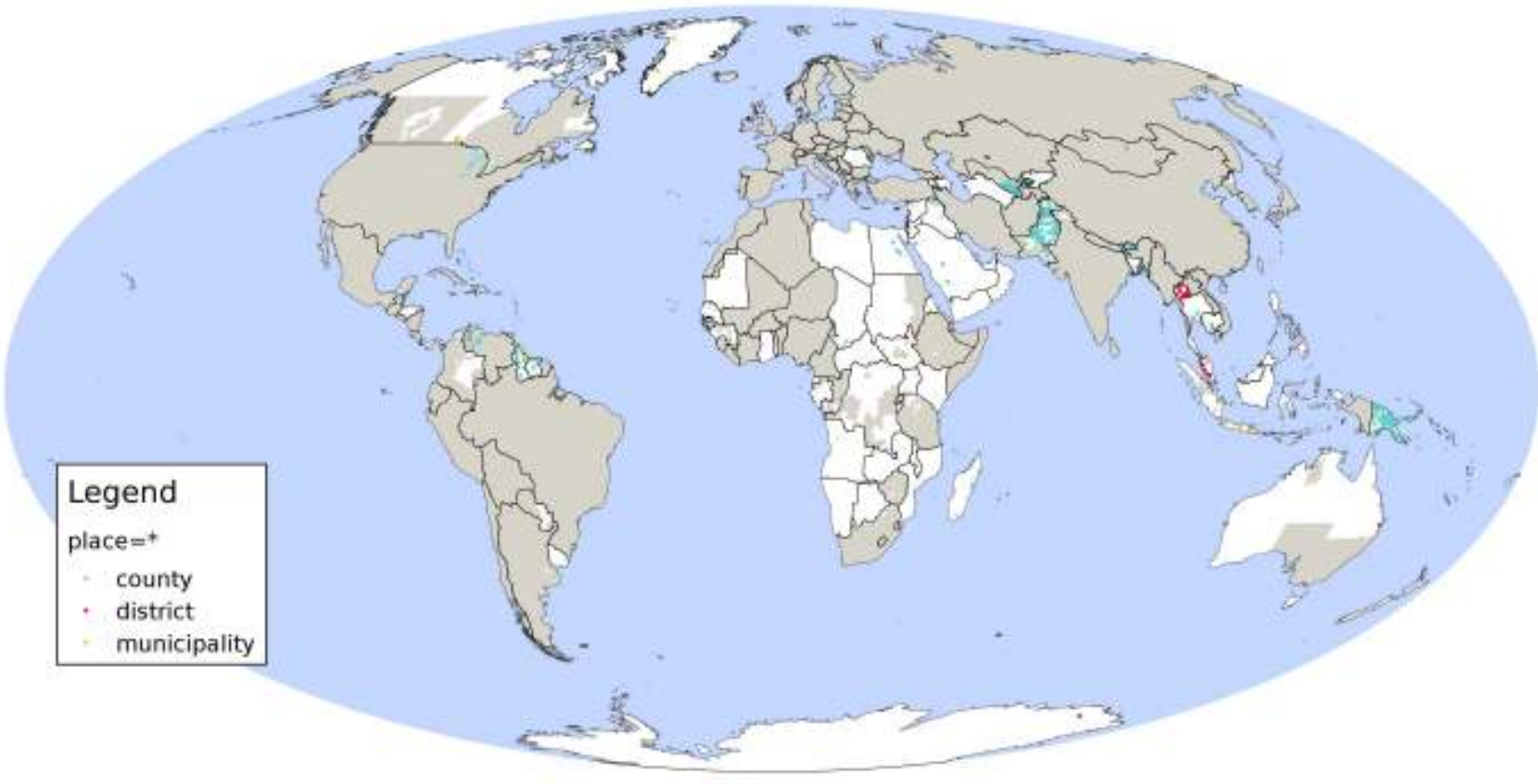

Cities, towns, villages

Populated settlements, urban

Key	Value	Element	Description
place	city		
place	borough		
place	suburb		
place	quarter		
place	neighbourhood		
place	city_block		
place	plot		

Populated settlements, urban and rural

Key	Value	Element	Description
place	town		An important urban centre, between a village and a city in size.
place	village		A smaller distinct settlement, smaller than a town with few facilities available with people traveling to nearby towns to access these.
place	hamlet		A smaller rural community, typically with fewer than 100-200 inhabitants, and few infrastructure.
place	isolated_dwelling		The smallest kind of settlement (1-2 households).
place	farm		An individually named farm.
place	allotments		A separate settlement, which is located outside an officially inhabited locality and has its own addressing

Making Sense of the Data

How to do an Address

1. `addr:*` tags

- sort appropriately

All expected parts there? Done!

2. Administrative boundaries

- sort by `admin_level`, remove less well-known levels
- assign type (country, state, county, ...)

All expected parts there? Done!

3. Nearby place nodes

- remove nodes already covered by boundaries
- sort remaining nodes by hierarchy and use closest node of each level

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Tagging addresses

Mandatory tagging

- `addr:housenumber`, `addr:housename`
- `addr:street` or `addr:place` (not both)

Optional tagging

- other address parts
- `addr:` is not `is_in`

Does not fit your local addresses? Invent and document.

Hierarchies, hierarchies, hierarchies

admin_levels

- well-known vs. governmental-only

Tag relationships

- `admin_level`
- `place`
- `addr:*`

Place types

- hierarchy

Per Country

Example: Japan

OSMの地名・行政単位・郵便住所の対応

File Edit View Insert Format Data Tools Add-ons Help

100% Comment only

RFC - Japanese block addr system

	A	B	C	D	E	F	G		I	J	K	L
1	RFC - Japanese block addr system	-	Country	Region	Keep bit for State system	Province	Sub-Province (振興局・支庁 in Hokkaido)	County	City, or 23 special suburbs in Tokyo	Town	Village	Suburb (include unofficial)
2	admin_level	1	2	-	3	4	5	6	7	7	7	8
3	place	-	nation	region	(state)	province	subprovince	county	city	town	village	suburb
4	addr:* RFC-JP block addr system	-	addr:country	-	-	addr:province	-	addr:county	addr:city	addr:city	addr:city	addr:suburb
5	[ref] addr:* - Using general "Street" system	-	addr:country	-	-	addr:province	-	addr:county	addr:city	addr:city	addr:city	addr:suburb
6	[ref] addr:* - Using "addr:place" system	-	addr:country	-	-	addr:province	-	addr:county	addr:city	addr:city	addr:city	addr:suburb
7	例示											
8	1：[Standard House Number] Province - City/Suburb - Quarter - Neighbourhood - Blocknumber - Housenumber			関東地方		東京都			千代田区			
9				中部地方		愛知県			名古屋市			中区
10				近畿地方		大阪府			堺市			南区
11				近畿地方		大阪府			大阪市			中央区
12				近畿地方		大阪府			大阪市			中央区
13				近畿地方		大阪府			大阪市			鶴見区
14				九州地方		鹿児島県			志布志市			
15	Exception Sample - huge settlement			関東地方		東京都			板橋区			
16				関東地方		東京都			板橋区			
17	2：[take over from Cadestra system] Province - City/Suburb - Quarter - Neighbourhood(may null) - Blocknumber(from cadestra) - Housenumber(branch number, from											

Let's talk

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https://nominatim.org