

Hiking Routes

Introduction

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in Europe

Hiking Routes
in OSM

Summary

Hiking Routes

The Past, the Present and the Future

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11 Nov 2023

SotM-EU
Antwerp

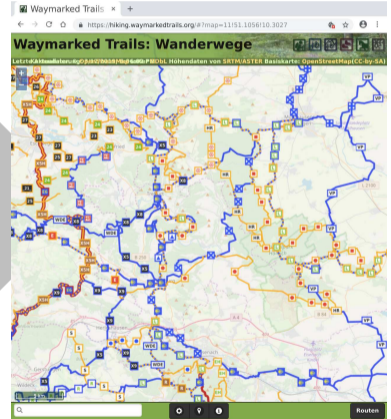
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About this talk

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The screenshot shows the 'Waymarked Trails' website. On the left is a map of a region with several purple and yellow route markers. A sidebar on the right contains a list of navigation links: 'About the map', 'Rendering OSM data', 'Relation hierarchies', 'The osmc:symbol tag', 'Localized rendering', 'Elevation profiles', 'Technical details', and 'Legal and Usage Terms'. The main content area on the right features the heading 'About the map' followed by two paragraphs of text.

Waymarked Trails
Last update: 10/21/23 2:07 PM

About the map

This map shows sign-posted hiking routes around the world.

The routes are overlaid on the standard OpenStreetMap and o

- What kind of routes are mapped as `route=hiking`?
- How do they look like on the ground?
- Can we do better with mapping?

Not in this talk: hikability

Hiking Routes

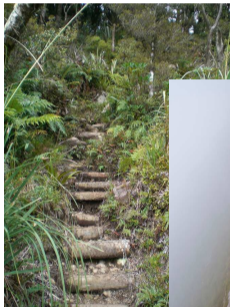
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- highway types (track, path, steps, ladders)
- trail properties (surface, smoothness, chains and railings)
- difficulty (sac_scale, hiking_technique, hiking_exposure)



(C) Ionvia



(C) Marco Volken

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Hiking Routes in Europe

Czech Republic: route No. 1

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Waymarked Trails: Hiking

Last update: 10/21/23 5:03 PM

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Relation 68268

[Č] Chřenovice - Beroun

Mapped length: 159 km
Operator: cz:KČT

Wikipedia

Note: v úseku Beroun - Karlštejn značeno jako Náprstková cesta

Elevation profile

Sections

OpenStreetMap tags

key	value
complete	no
destinations	Chřenovice;Zruč nad Sázavou;Český Šternberk;Sázava;Čerčany;Praha;Karlštejn;Beroun
kct_red	majoor
name	[Č] Chřenovice - Beroun
network	rwn
note	v úseku Beroun - Karlštejn značeno jako Náprstková cesta
operator	cz:KČT
osmc:symbol	red:white:red_bar
ref	0001
route	hiking
source	bing:ortofoto

- National operator: Czech tourist club
- total: 40.000km

Czech Republic: color-coded routes

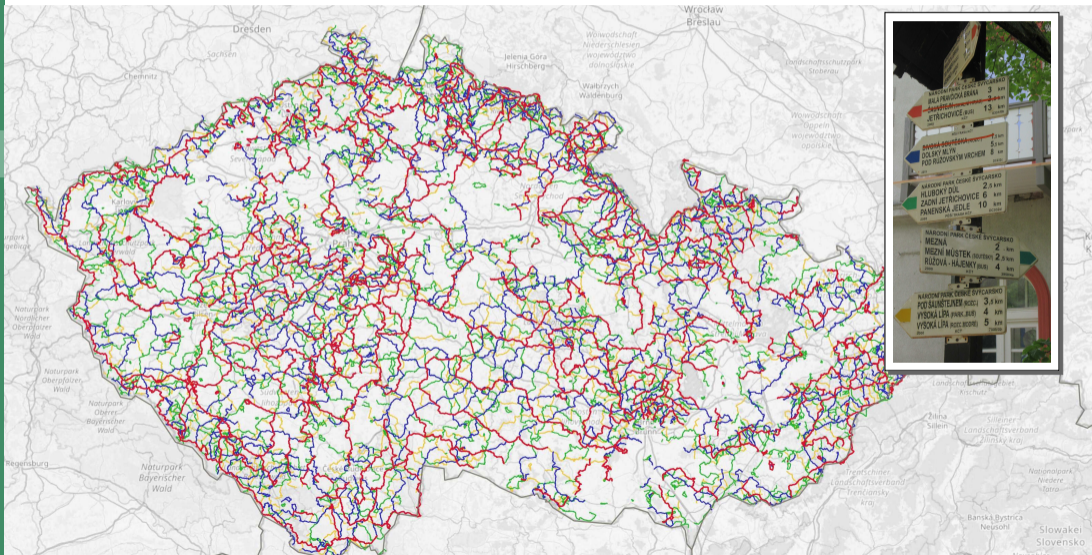
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Czech Republic: color-coded routes

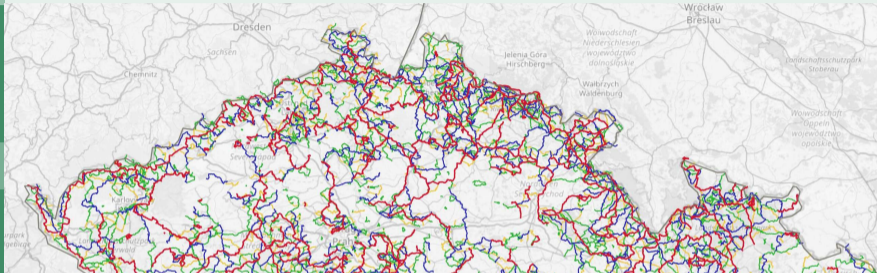
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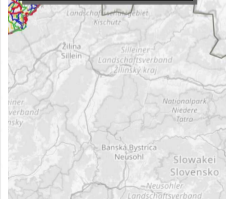
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Recommended types of routes

kct_color=	Label	KČT symbol	osmsymbol=
najor	A normal, banded tourist tag		color:white:color_bar
local	Local brand		color:white:color_corner
learning	Educational trail (not only from KČT)		color:white:color_backslash
ruins	A turn to the ruins of a castle or other building		color:white:color_L
peak	A detour to a peak or viewpoint		color:white:color_triangle
spring	A turn to a well or spring		color:white:color_bowl
interesting_object	Detour to another interesting object		color:white:color_turned_T



Czech Republic: color-coded routes

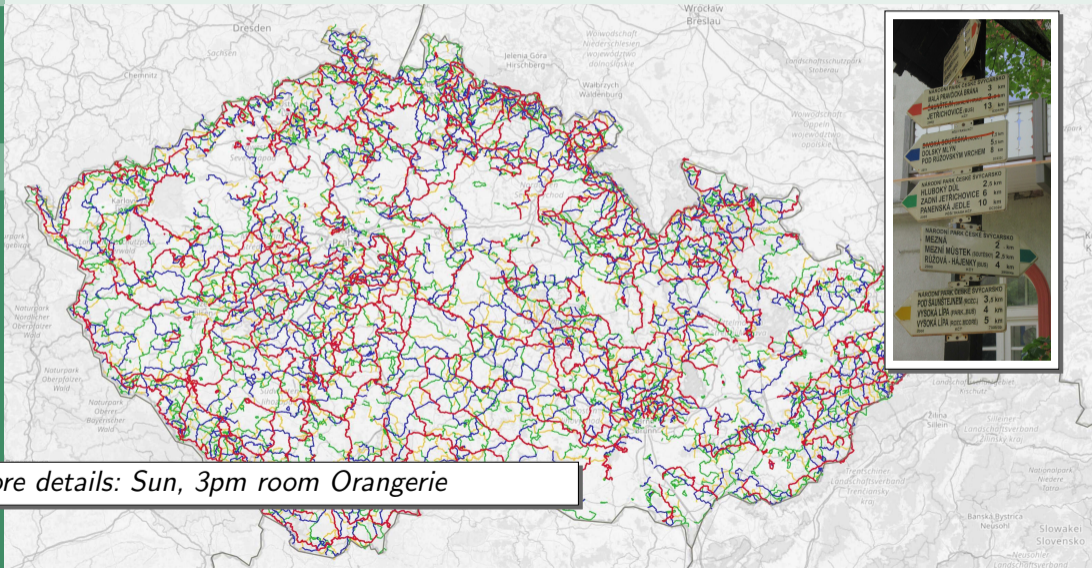
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more details: Sun, 3pm room Orangerie

Netherlands: node networks

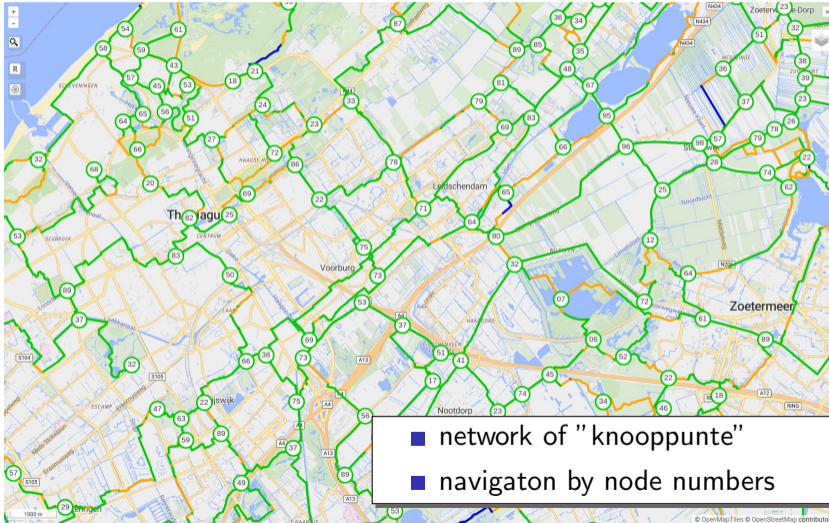
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- network of "knooppunte"
- navigaton by node numbers

Netherlands: node networks with routes

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Waymarked Trails: Hiking

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Routes

Other routes

WNW Twente - Den Ham - groene route	groen
WNW Twente - Hankate-Egede - blauwe route	blauw
WNW Twente - Hankate-Egede - gele route	geel
WNW Twente - Hankate-Egede - groene route	groen
WNW Twente - Hankate-Egede/Meer - rode ro...	rood
WNW Twente - Hankate-Egede - oranje route	oranje
WNW Twente - Hankate-Egede/West-Damm...	paars
WNW Twente - Marle - blauwe route	blauw
WNW Twente - Marle - groene route	groen
WNW Twente - Meer - gele route	geel
WNW Twente - Meer - oranje route	oranje
WNW Vechtdal - Drieling/Lemele - paarse ro...	paars
WNW Vechtdal - Lemele - blauwe route	blauw
WNW Vechtdal - Lemele/Lemelersch - groe...	groen

Node network connections

A90-A	[A90-A91]	A90-A91
A88-A	[A88-A89]	A88-A89
A87-A	[A87-A88]	A87-A88

■ color-coded routes on top of node network

Switzerland: difficulty-based marking

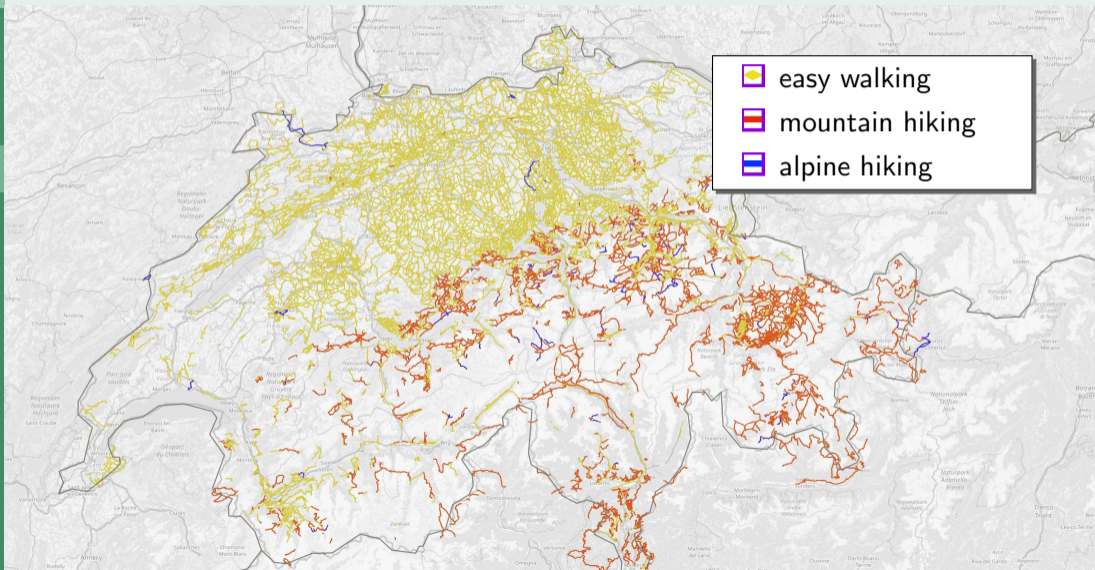
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Switzerland: to route or not to route

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Switzerland: long-distance routes

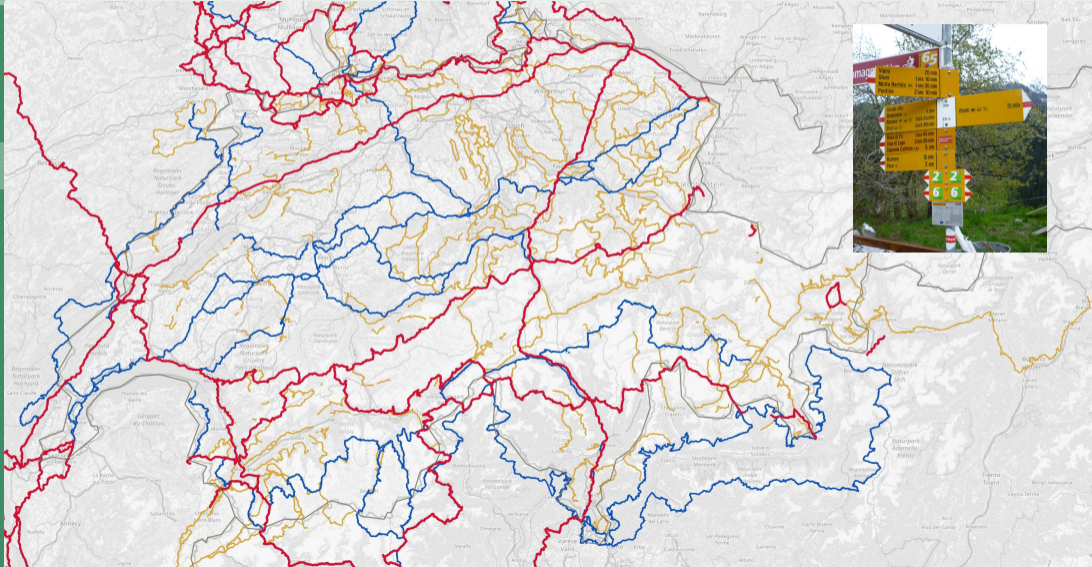
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Germany: land of a thousand operators

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- plenty of operators
 - local hiking clubs
 - municipalities
 - tourist organisations
- high variation in
 - coverage
 - signage
 - state of repair

Germany: Zittauer Gebirge

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Routes

Continental routes

- Zittauer Jakobsweg Görzitz - Prag

National routes

- ZW Fernwanderweg Zittau - Wernigerode ZW
- LAUSITZER SCHLANGE LAUSITZER SCHLANGE
- I24 Way of St. James - Czech part I24
Svatogabubská cesta, Česko

Regional routes

- OBW Oberlausitzer Bergweg OBW
Zittau - Butterberg
- OBW Oberlausitzer Ringweg OBW
- Z2 Butterberg - Pod Ptáčincem

Other routes

- Z2 Karlov pod Ještědem - Hrádek nad Nisou
- DL Dampfbahn-Lehrpfad
- Hartau-Forsthaus Lückendorf
- SPITZBERG
Hrádecký vyhlídkový okruh
- LG-Gelber Punkt
- LG-Gelber Punkt
- LG-Gelber Punkt
- LG-Gelber Punkt
- LG-Gelber Strich
- LG-Gelber Strich
- LG-Gelber Strich
- LG-Gelber Strich - Zittau-Seiffenhensdorf
- LG-Grüner Punkt

Germany: Franken

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Waymarked Trails: Hiking

Waymarked Trails - Hi | x +

https://hiking.waymarkedtrails.org/#routelist?map=13.0/49.7308/11.2373

120%

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Last update: 10/22/23 8:36 PM

Routes

National routes

- Frankenweg FH
Untereichenstein, Oberfranken - Harburg, Schwaben
- Jakobswege Bayern

Regional routes

- Fränkischer Marienweg FH
- Fränkische Schweiz 5-Tage-Wanderung
- Fränkische Schweiz 7-Tage-Wanderung
- Franz-Josef-Kaiser-Weg
- Goßweinstein-Weißenbrunn
- Goßweinstein - Troschreuth
- Höhenweg Unterfeinleitzler-Obertrubach
- IFS-Weg
- Kulturwanderweg
- Lauf-Pegnitz
- Leinleiterweg
- Leo-Jobst-Weg
- Lilachquelle-Kleiner Kulk
- Markgrafenweg Erlangen-Bayreuth
Bayreuth - Erlangen
- Muggendorf - Kirchhehrenbach
- Neuhaus-Ebermannstadt
- Obertrubach-Lindenhardt
- Plech - Wiesenstau
- Pottenzstein-Bairfeld

Zoom in to see more routes.

neustadt harz

Routes

Germany: Neustadt/Harz

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Germany: Harz

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Waymarked Trails: Hiking

Last update: 11/2/23 3:33 PM

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Relation 6447915

HK 48: Stolberg - Rübeland **48**

Mapped length: 31 km
Operator: Harzklub e.V.

► Elevation profile

► Sections

▼ OpenStreetMap tags

key	value
name	HK 48: Stolberg - Rübeland
network	rwn
operator	Harzklub e.V.
ref	48
route	hiking
type	superroute

Show on map | GPX | KML

Routes

Germany: Schwarzwald

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neustadt harz

Routes

Continental routes

- Jakobsweg Grand Est
Chemins de Saint-jacques de Compostelle en Grand Est
- European long distance path E1
Nordkapp - Sicilia

National routes

- Westweg

Regional routes

- Badischer Jakobsweg
Laudenbach - Breisach
- Breisgauer Weinweg
- Hansjakobweg II
- Kandel-Höherweg
- Kenzingen - Lehr
- Kinzigtal Jakobsweg
- Münchweiler - Streiberg
- Oberprechtal - Martinskapelle
- Ortenau-Baar-Weg
- Querweg Lehr-Rottweil
- Rheinauweg
Kehl - Weil am Rhein
- Zweitälerteig

Other routes

- Achtel Achatweg
- AK Alter Kirchweg
- Alter Sportplatz - Hirschwirts Wald
- AGR Aussichtsweg - Große Runde

Other European Countries

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France system of routes 'Grand Randonnee', all trademarked

Italy/Austria numbered routes, signed red/white stripes
(*more info: Sat, 12pm room Öranerie"*)

Belgium node network
+ routes 'Grand Randonnee'

UK base network of 'rights of way'
+ less dense network of long-distance routes

wide-spread: short local routes with custom signage, nature trails, etc.

Outside the system: Pilgrim Routes

Hiking Routes

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Summary

- proliferating all over Europe
- unclear naming and signage
- networks rather than routes



(C) <https://www.sanmartinoiveneto.it>

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Hiking Routes in OSM

What is a route=hiking?

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Recreational route

- long-distance routes
- access routes to mountain peaks
- village round-trips
- nature learning trails

To be followed start to end.

Signed path for pedestrian traffic

- node networks
- route networks

*Pedestrian-friendly connection of
places.*

Two forms of the same infrastructure.

Tagging - Current Usage

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Classification network (95.6%), network:type (33.7%)

Signage osmc:symbol (61.5%), symbol (29.1%), colour (13.1%)

Naming name (55.9%), ref (50.8%)

Trajectory from (17.5%), via (1.13%), to (17.0%)

Type roundtrip (15.0%)

Other operator (37.9%), source (13.1%), note (11.2%), website (11.1%), description (10.6%)

(+ 1170 other keys)

Classification - Current Usage

network =

- iwn** long distance paths that cross several countries
- nwn** walking routes that are nationally significant and long distance paths
- rwn** walking routes that cross regions and are regionally significant
- lwn** small local walking routes

network:type =

- node_network** network of numbered junction nodes connected by node-to-node routes



Classification - Alternatives

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Clean up tag use?

- lwn** long-distance route (200+ km)
crossing multiple countries
- nwn** long-distance route (100+ km)
crossing multiple regions
- rwn** most important 1-3 day routes
within one region
- lwn** everything else

Find a better classification?

- based on function: long-distance, pilgrimage, base network
- based on distance
- other ideas?



Naming

Hiking Routes

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Summary

name The route is known by this name (e.g. Martinsroute, Eifelsteig)

ref The route is known by this reference

Recreational routes

- ✓ Martinsroute
- ✓ Offa's Dyke Path
- ✗ European Long distance path E 4 - part Germany (region Tegernsee, alternative route)
- ✗ Via Sancti Martini HW-60-12 Claye-Souilly - Igny
- ✗ International Appalachian Trail (Newfoundland)
- ✗ [X12] Richard-Schirrmann-Weg

Route networks

- ✓ ref=235
- ✗ [Z] Příbor - Ondřejník
- ✗ Wanderweg Zeutsch-Pöbneck (Gelber Balken)
- ✗ yellow
- ✗ 38-39
- ✗ Wanderweg 235

Naming

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Recreational r

- ✓ Martin
- ✓ Offa's
- ✗ Europe
- (region
- ✗ Via Sa
- ✗ Interna
- ✗ [X12]

The screenshot shows the OpenStreetMap editor interface. A red arrow points from a specific route on the map to the 'Tags' and 'Relations' panels on the right. The 'Tags' panel shows the following information:

Key	Value
int_ref	E 20
name	International waterway E20
network	e-waterway
ref	E20
refaligned	no
route	waterway
type	route

The 'Relations' panel shows a list of 116 relations, including:

- route ("Gelber Balken", 120 members, incomplete) [id: 8 215 154]
- route ("Grüner Strich", 62 members, incomplete) [id: 944 003]
- route ("International friendship trail Eisenach-Budapest (Saxony east-east)", 701 member
- route ("International waterway E20", 163 members, incomplete) [id: 10 904 154]
- route ("Langfaher", 6 members, incomplete) [id: 72 277]
- route ("Lausitzer Schlange - Elbsandsteingebirge", 470 members, incomplete) [id: 2 010 340]
- route ("Malerweg", E29 members, incomplete) [id: 114 289]
- route ("Osttrauer Mühle - Ottendorf", 99 members, incomplete) [id: 1 466 959]
- route ("Postelwitz - Zeughaus", 66 members, incomplete) [id: 8 311 762]
- route ("Radfernweg Sächsische Mittelgebirge (Sebnitz=Altenberg)", 422 members, incom

te, Eifelsteig)

beck (Gelber Balken)

Tagging for the editor

Naming

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Recreational

- ✓ Mart
- ✓ Offa
- ✗ Euro
- (regi
- ✗ Via S
- ✗ Inter
- ✗ [X12

The screenshot shows the 'Waymarked Trails: Hiking' website. The main map displays various hiking routes in the UK, with labels like 'geo', 'HT', 'TCW', 'TCWS', 'TCWWM', 'MW', 'SW', 'MWW', and 'SAW'. A legend on the right side of the page lists the routes and their corresponding tags:

Route Name	Tag
European long distance path E2 west	E2
E2 hiking trail Birmingham	E2B
Arden Way	AW
Geopark Way	geo
Heart of England Way	HEW
Herefordshire Trail	HT
Millennium Way (Warks)	MWW
Monarch's Way	MW
Severn Way	SW
Shakespeare's Avon Way	SAW
Three Choirs Way	TCW
Three Choirs Way (Malvern Hills)	TCWML
Three Choirs Way (Stanford Bishop to Worcester)	TCWSB
Three Choirs Way (Withington to Stanford Bishop)	TCWS

Below the map, there is a search bar with the text 'Wanderweg 310' and a search icon. At the bottom of the page, the text 'Tagging for the renderer' is displayed.

, Eifelsteig)

ck (Gelber Balken)

Towards better naming

Hiking Routes

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Summary

1 Use dedicated tags!

- `ref`
- `from`, `via`, `to`
- `symbol`
- `description`
- `sections`

2 Add tags for renderers/editors?

- `label/display_name` for a renderable name
- `short_label` for a renderable ref

Result: name only set on named routes.

Signage

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[osmc:symbol](#) machine-readable graphical symbol

[symbol](#) human-readable symbol description

[wiki:symbol](#) link to image in OSM wiki

What does it describe?

- symbol of the route
- waymarking of the path
- label you want to see on the map??

What is it for?

- making pretty maps
- describing the on-the-ground situation

Route relation members - What makes up a route?

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- ✓ main paths of the route
- ✓ alternatives, accesses, excursions
- ? stations of a nature learning trail
- ? checkin points
- ? guideposts
- ✗ sights
- ✗ accomodation

For backwards compatibility: add POIs as nodes only.

Route sections

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Why?

- make long routes editable
- simplify handling of alternatives
- reuse route relations

Problems

- no tagging difference between routes and sections
- names contain section information
- processing superrelations is hard

Tagging Proposal for Sections

Hiking Routes

`segment=main/alternative/excursion/approach/connection`

- relation is part of a larger route (with given role)

`name=*`

- (*main segments only*) official name of the route this segment is part of.

`stage=<number>`

- position of the section within the route

`stage:name=*`

- official name of the stage of the route

`stage:description=*`

- unofficial description of the stage

Source: <https://wiki.openstreetmap.org/wiki/User:Nadjita/Routes>

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Work in progress

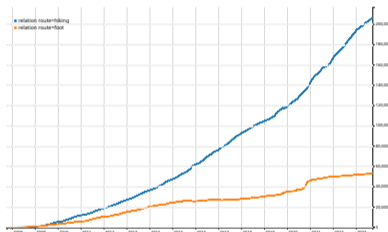
- route classification
- naming (+ `osmc:symbol`)
- signage
- route segments

And also to be discussed

- evolution of node networks
- tagging of almost-node networks

Let's talk!

Birds of feather session - 15:30, room **Columbus**



<https://waymarkedtrails.org>

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