

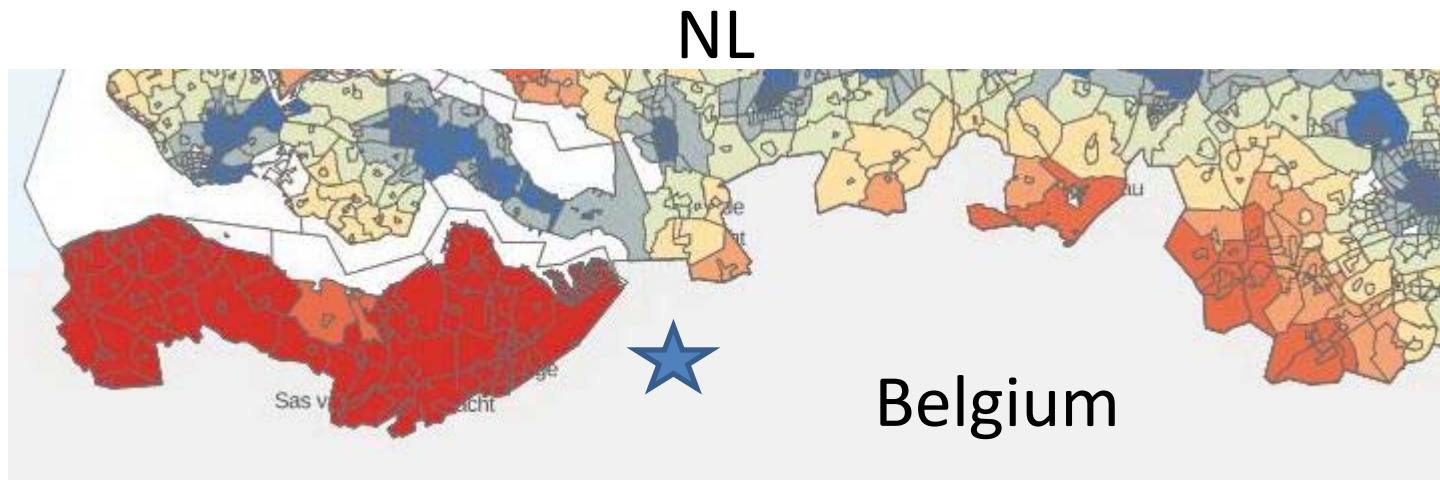
Proximity statistics across borders using INSPIRE

Access to amenities

Pieter Bresters

19 September 2018

What's the problem?



Access to train stations

Content

- Production process proximity statistics
- Search for INSPIRE data
- Conclusions

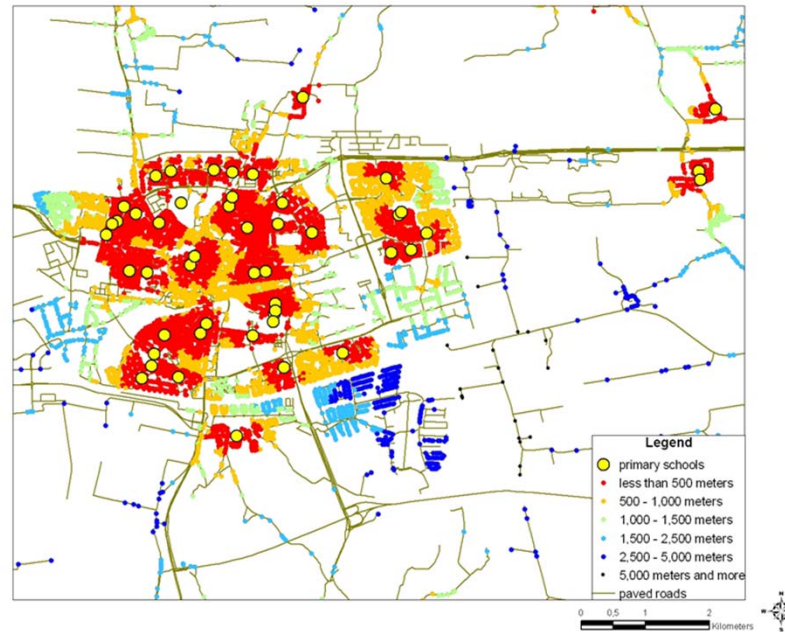


Production process proximity statistics



Distance statistics - Method

Road network; addresses (persons; amenities)



INSPIRE THEMES

Themes, Annex I

Coordinate reference systems
Geographical grid systems
Geographical names
Administrative units
Cadastral parcels
Addresses
Transport networks
Hydrography
Protected sites

Themes, Annex II

Elevation
Land cover
Orthoimagery
Geology

Themes, Annex III

Statistical units
Population distribution – demography
Buildings
Soil
Land use
Human health and safety
Utility and Government services
Environmental monitoring facilities
Production and industrial facilities
Agricultural and aquaculture facilities
Area mgmt./restriction/regulation zones & reporting units
Natural risk zones
Atmospheric conditions
Meteorological geographical features
Oceanographic geographical features
Sea regions
Energy resources
Mineral resources
Bio-geographical regions
Habitats and biotopes
Species distribution



Search for INSPIRE data

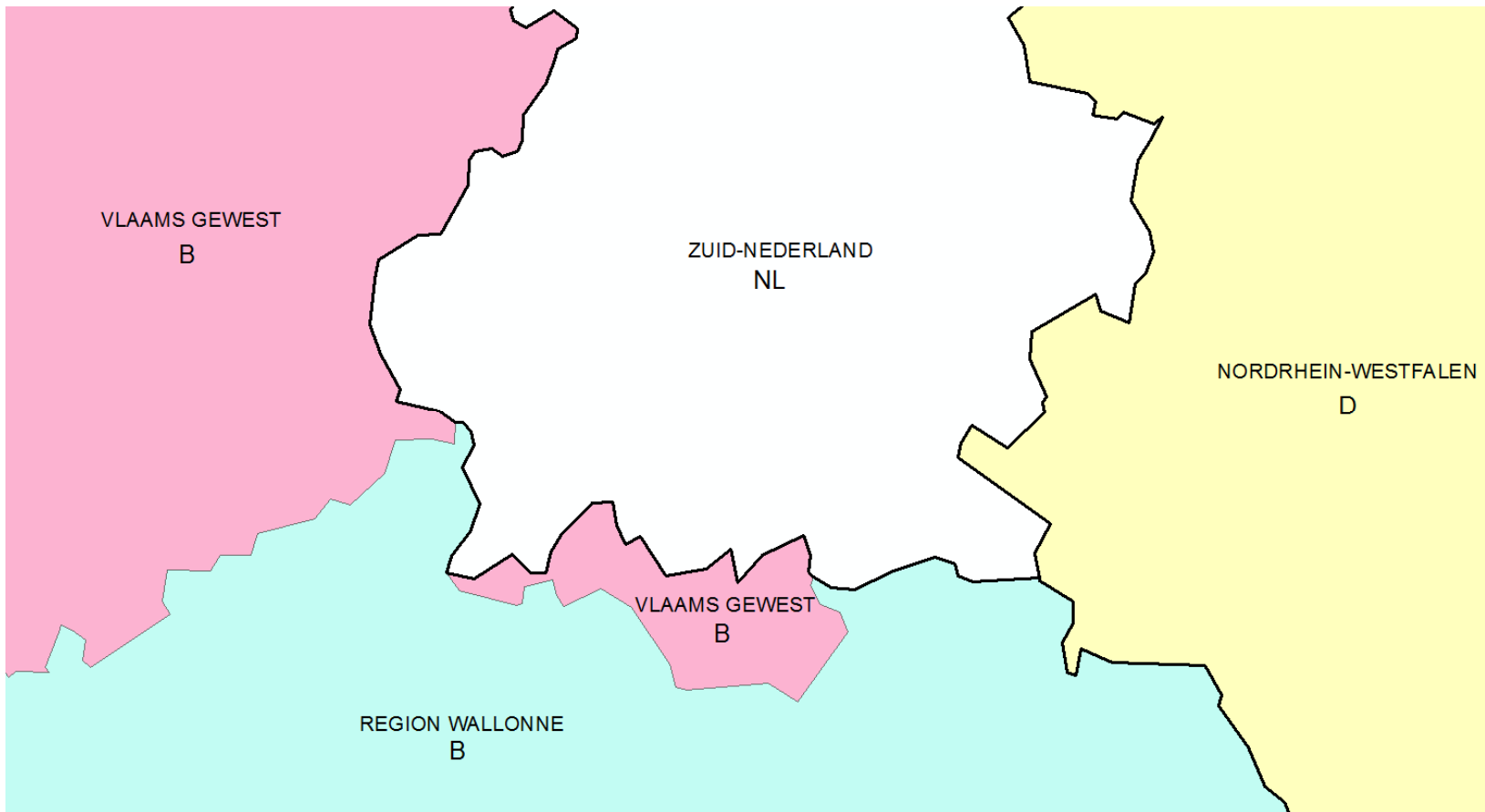


Approach

- Select research area: Limburg province
- Search data
- Download data
- Use data in Tools



Research Area



Search data

- Thematic viewer (<http://inspire-geoportal.ec.europa.eu/thematicviewer/>)
 - ad: Address
 - tn-ro: RoadLink
- Local catalogue services
 - NL: <http://www.nationaalgeoregister.nl/>
 - D: NRW: <https://www.geoportal.nrw/>
 - B: Flanders: <https://www.geopunt.be/>
 - B: Wallonie: <http://geoportail.wallonie.be/>



Search results

	NL			D (NRWF)			B (Flanders)			B (Wallonia)		
	AS-IS	Harmo	remark	AS-IS	Harmo	remark	AS-IS	Harmo	remark	AS-IS	Harmo	remark
Addresses WFS	Yes	Yes, but	max 1000 features for harmonized version	No	Yes, but	bbox does not work	Yes	No		No	No	
Addresses Atom	Yes, but	No	As-is gave many separate xml's	Yes	No	txt ; seperated	Yes	No	gml and shape	Sort of	No	had to register and sign forms
Meta data	Yes	Yes		No	Yes		Yes	No		Yes	No	
Thematic Viewer	Yes, but	Yes, but	unusable stored query	No	Yes, but	missing resource link	Yes	No		No	No	
Road network WFS	Yes	Yes (2x)	RWS and Kadaster version. Only main roads in Kadaster version	No	Yes		Yes	No		No	No	
Road network Atom	Yes	No		No	No		Yes, but	No	had to register	No	Yes, but	had to ask for price
Meta data	Yes	Yes		No	Yes		Yes	No		No	Yes	
Thematic Viewer	Yes, but	Yes, but	missing resource link	No	Yes, but	missing resource link, many entries (165)	Yes, but	No	missing resource link	Yes, but	No	no clear download link

Thematic viewer was not clear about whether data was harmonized



Download

1. WFS directly in tools
2. WFS in GML copied from browser
3. Atom feeds



Using WFS in browser

- BBOX parameters are confusing
- Filtering is too complex
- Max features are set to low

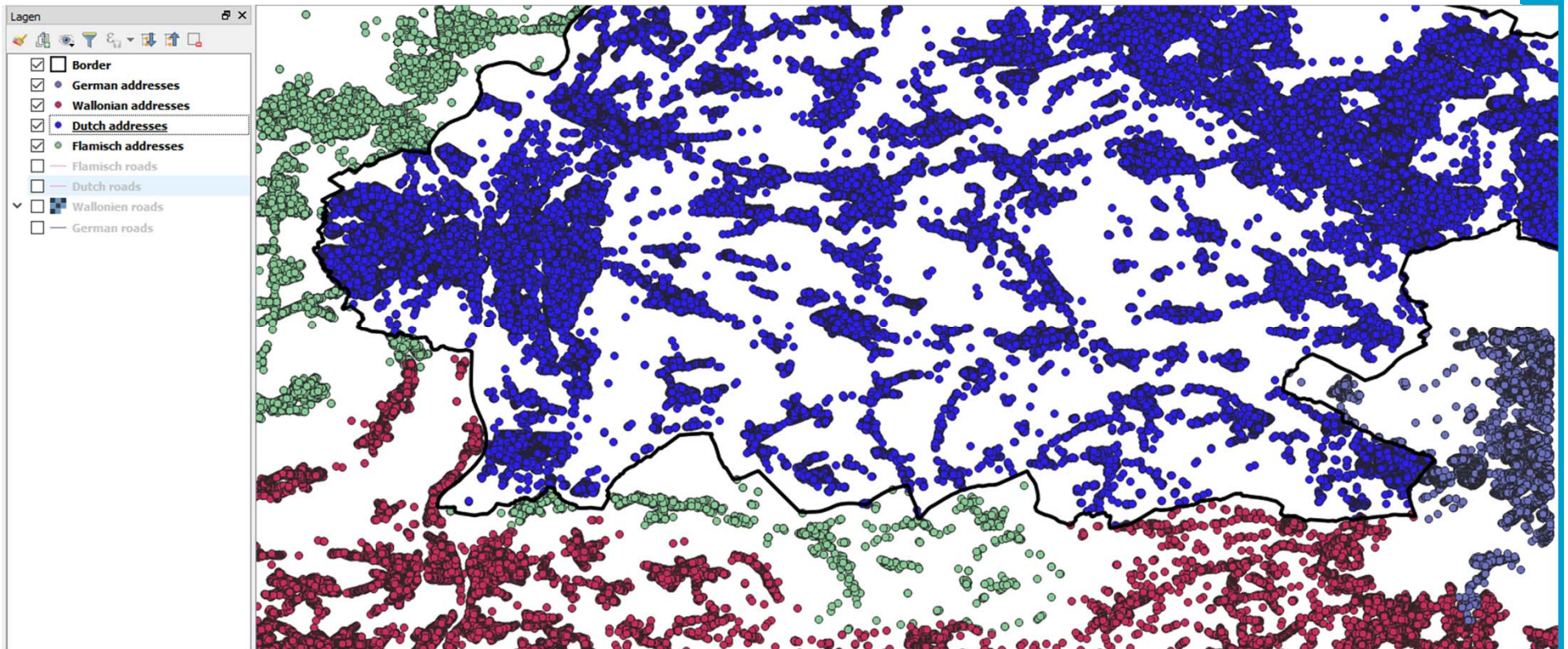


Using tools

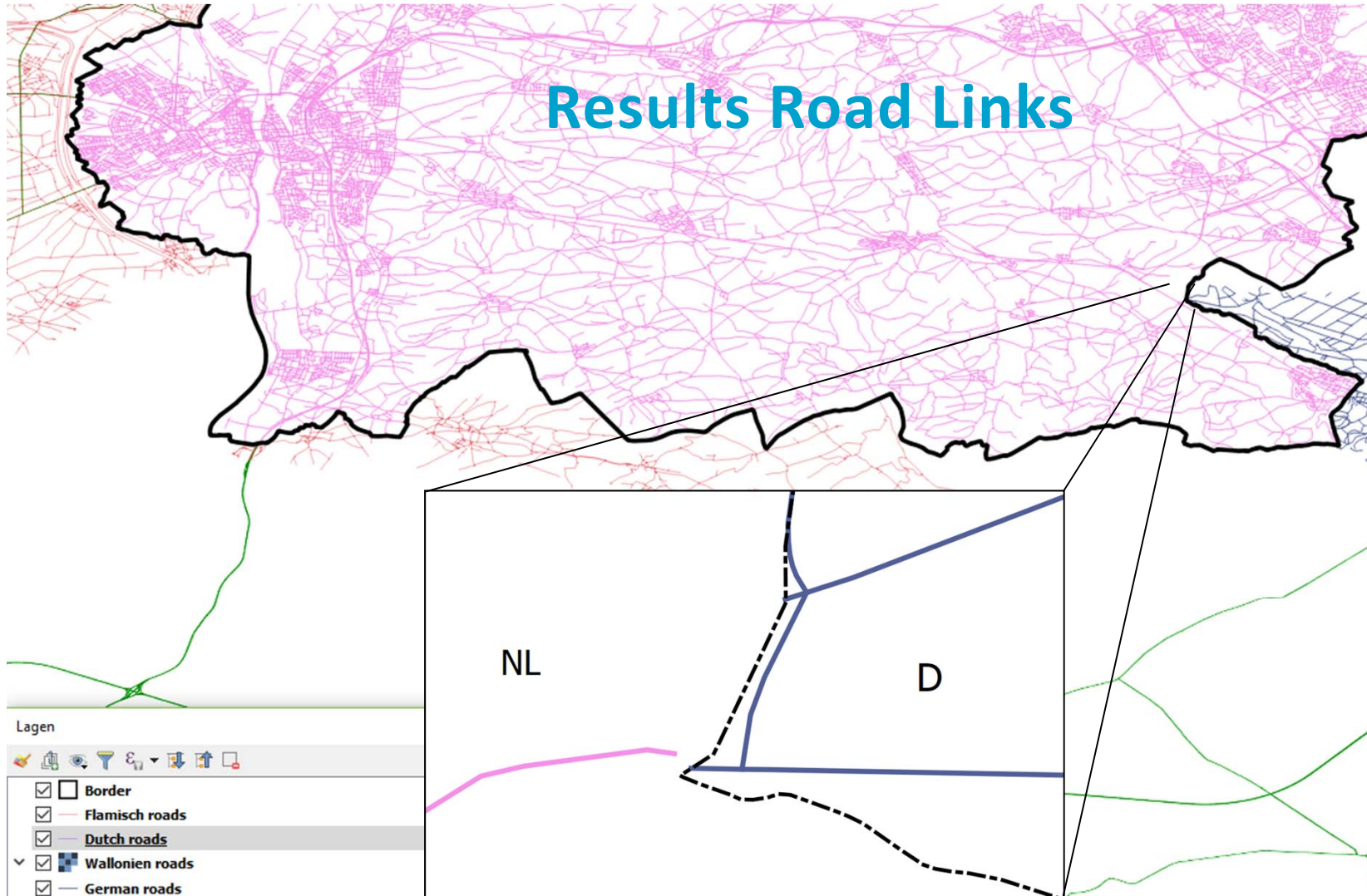
- Harmonized complex features generally don't work
- Downloaded GML files work better than direct WFS, but have problems with nested links
- Using BBOX and filtering are troublesome in tools
- As-is data gave the best results



Results Addresses



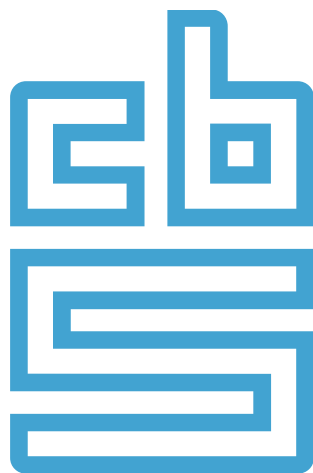
Results Road Links



Conclusions

- Harmonized complex features generally don't work in GIS-tools
- You need to be a GIS, OGC and INSPIRE expert to download data
- Retrieving cross border geodata is still troublesome and the Annex I deadline of November 2017 has not been reached, but 10 years ago, it was all much worse





Facts that matter