

BeGeo 2026  
24/03/2026 - Brussels Expo

La géo-intelligence au service de la résilience  
Geo-intelligentie voor een veerkrachtige toekomst

# Overview of wildfires in Belgium

24 March 2026

Maya Gijssels – Fara Coppens

[begeo.be](https://begeo.be)



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# Agenda

1. Wildfires in Belgium
2. BELWIDAS
3. Wildland Urban Interface



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# Wildfires in Belgium



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# Need for an increased wildfire preparedness and awareness in Belgium



Climate change



Wildfire danger (also NW Europe) ↑

Uncontrollable wildfires ↑

Simultaneous wildfires ↑

Unpredictability ↑

# Additional challenges for Belgium:

- 🔥 Wildland urban interface
- 🔥 No useful data
- 🔥 Little or no expertise
- 🔥 Limited awareness
- 🔥 Attention curve ~ weather conditions

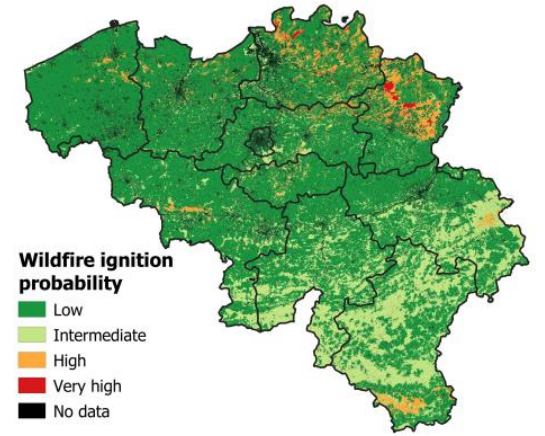


WUI in Trois-Ponts, 02/07/2025

# Some milestones

National action plan  
wildfires  
(IBZ)

Historical wildfire  
database  
(UGent)



Member of the EC  
Expert Group on Forest  
Fires  
(UGent)

First wildfire risk  
assessment  
(UGent)

May 2011: Kalmthoutse heide (500 ha)

# Some milestones

Flemish wildfire  
network  
(FDG-IBZ)



Uniform  
Cartography  
Emergency  
Services  
(FDG-IBZ, NGI)

Report on wildfire  
preparedness  
(CERAC-NGI)



Postgraduaat  
Adviseur  
Natuurbrand-  
beheersing  
(PXL)



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# BELWIDAS

Belgian Wildfire Data collection and Analysis System



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# Partners



**Coordinator**

FPS Interior- Federal Services  
Governor Antwerp



**Partner**

BionamiX (Ugent)



**Partner**

Q-Forest Lab (Ugent)



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# Stakeholders



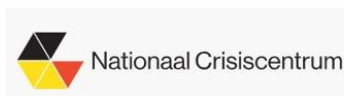
All partners from the Flemish and Belgian Wildfire Network



Federal Services Governor Liège



Direction External relations, partnerships and research



DG for Digital Innovation and Solutions

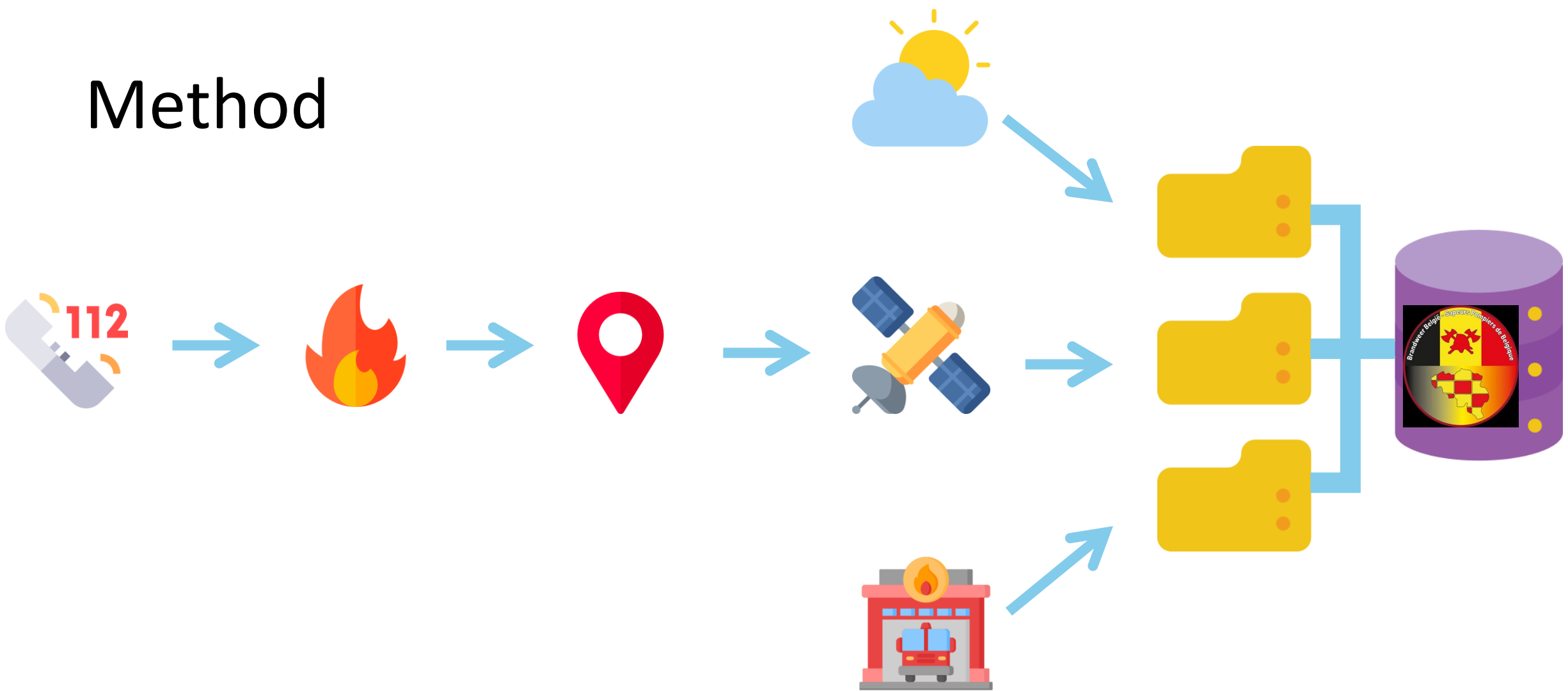


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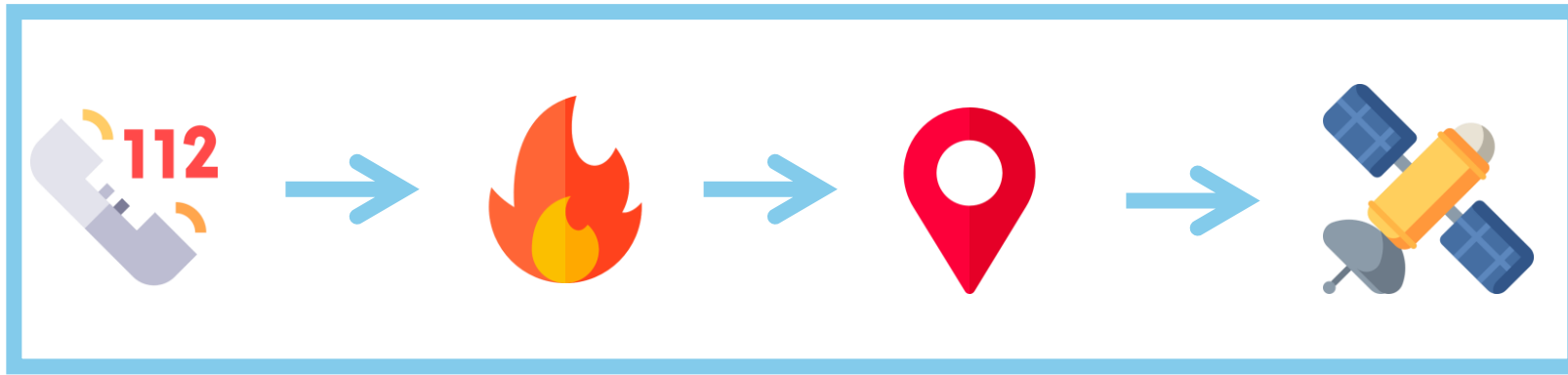


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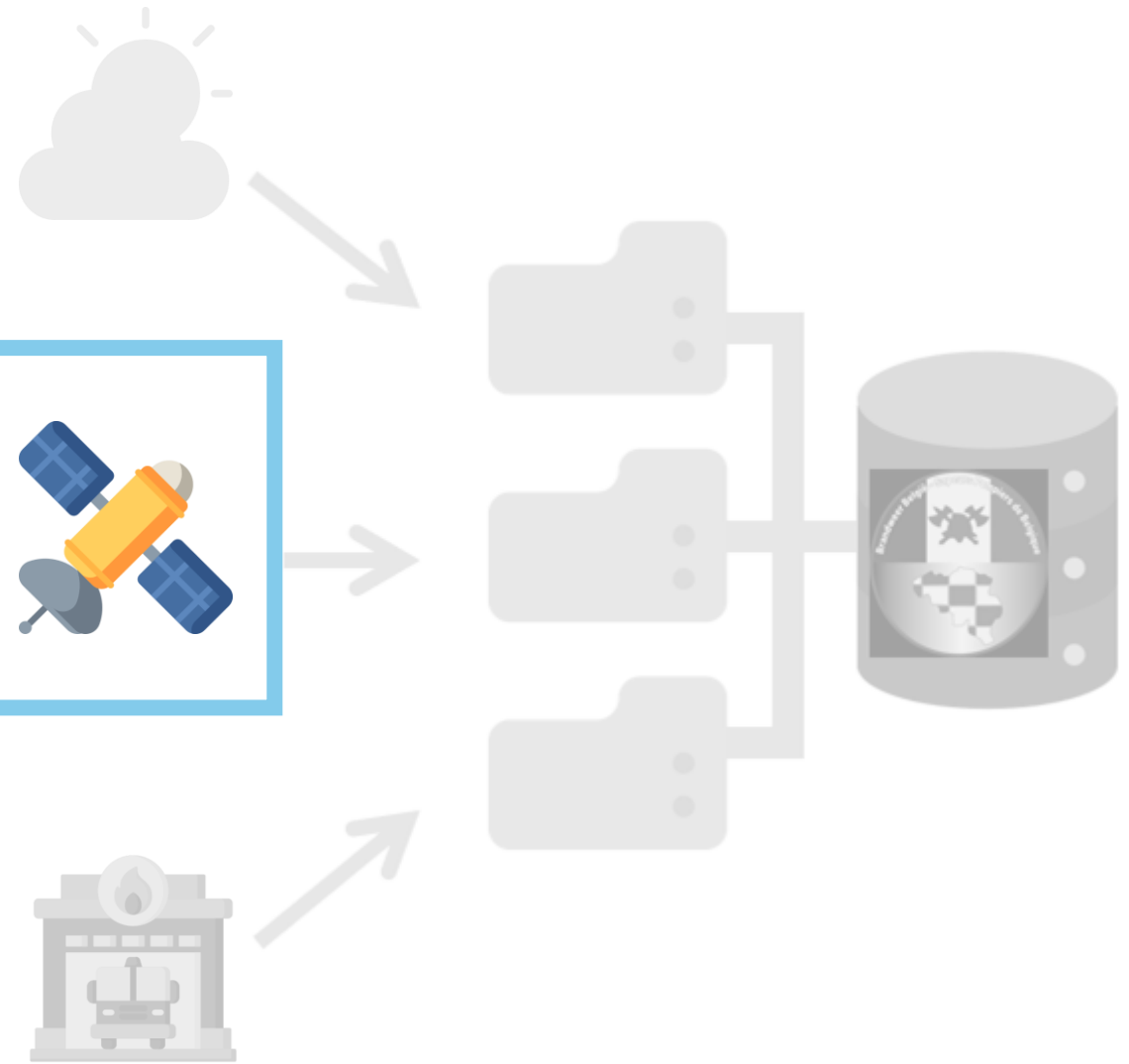
# Method



# Method



1. Data extraction



# 1. Data extraction



Data from public safety answering points (PSAP)



Extraction by query database (terms/codes)



Circular search region (5km)

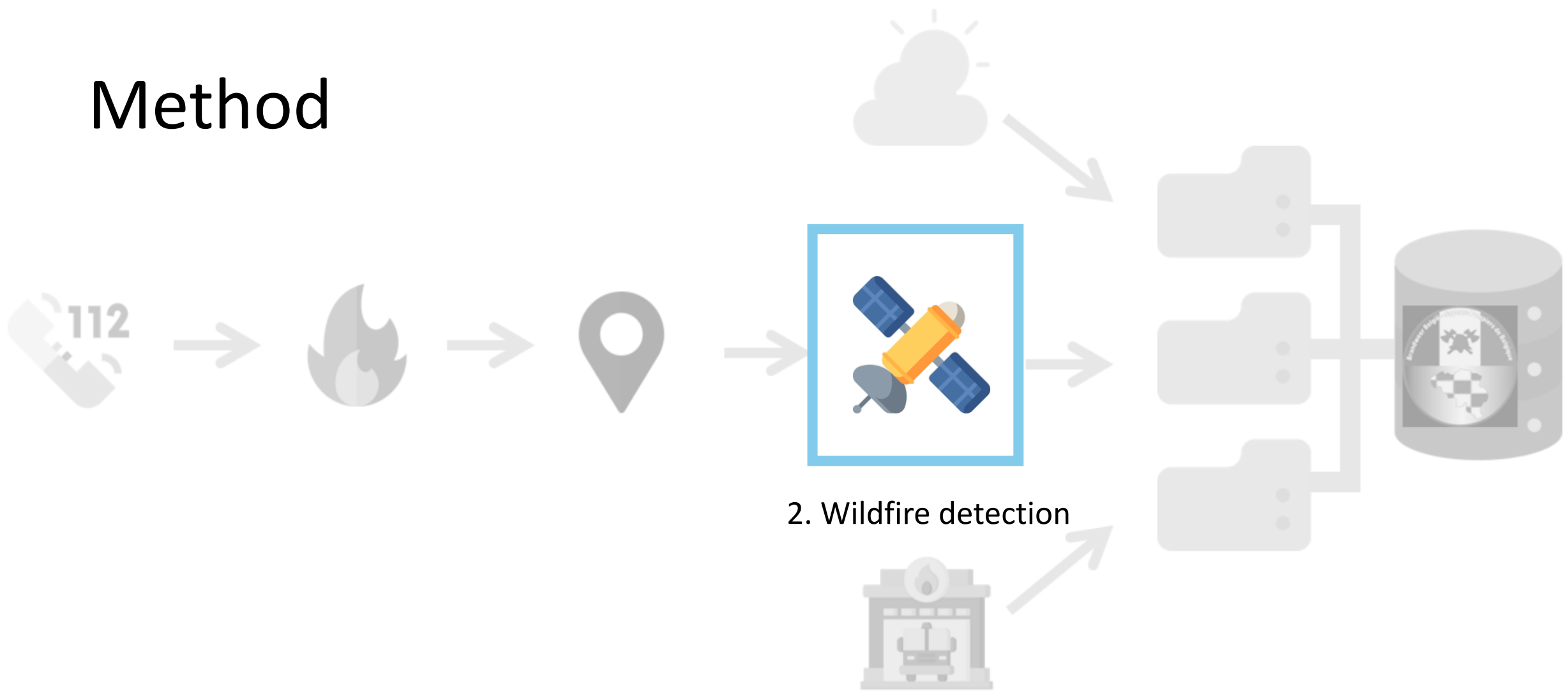


Comparison with Sentinel (4 weeks)



Potential Wildfire Event (PWE)

# Method



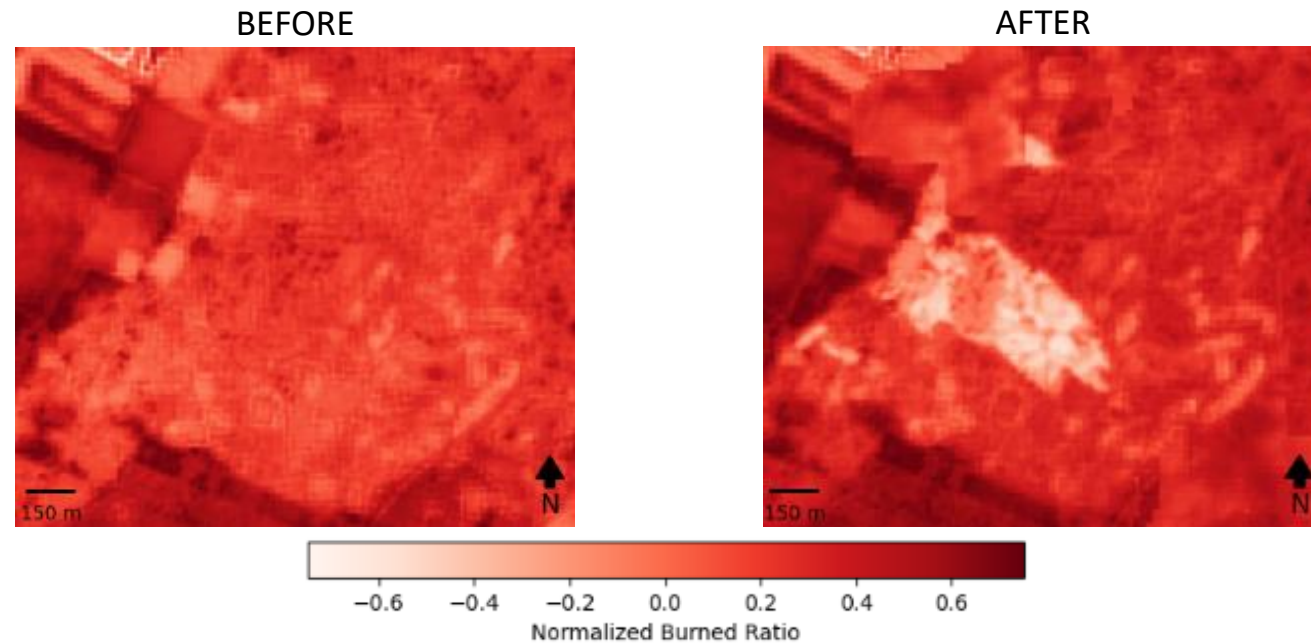


## 2. Wildfire detection

Develop a robust algorithm to confirm PWE and characterize their extent and impact

- 🔥 Spectral indices (NBR, NDVI, ...)
- 🔥 Backscatter differences
- 🔥 Thermal anomalies

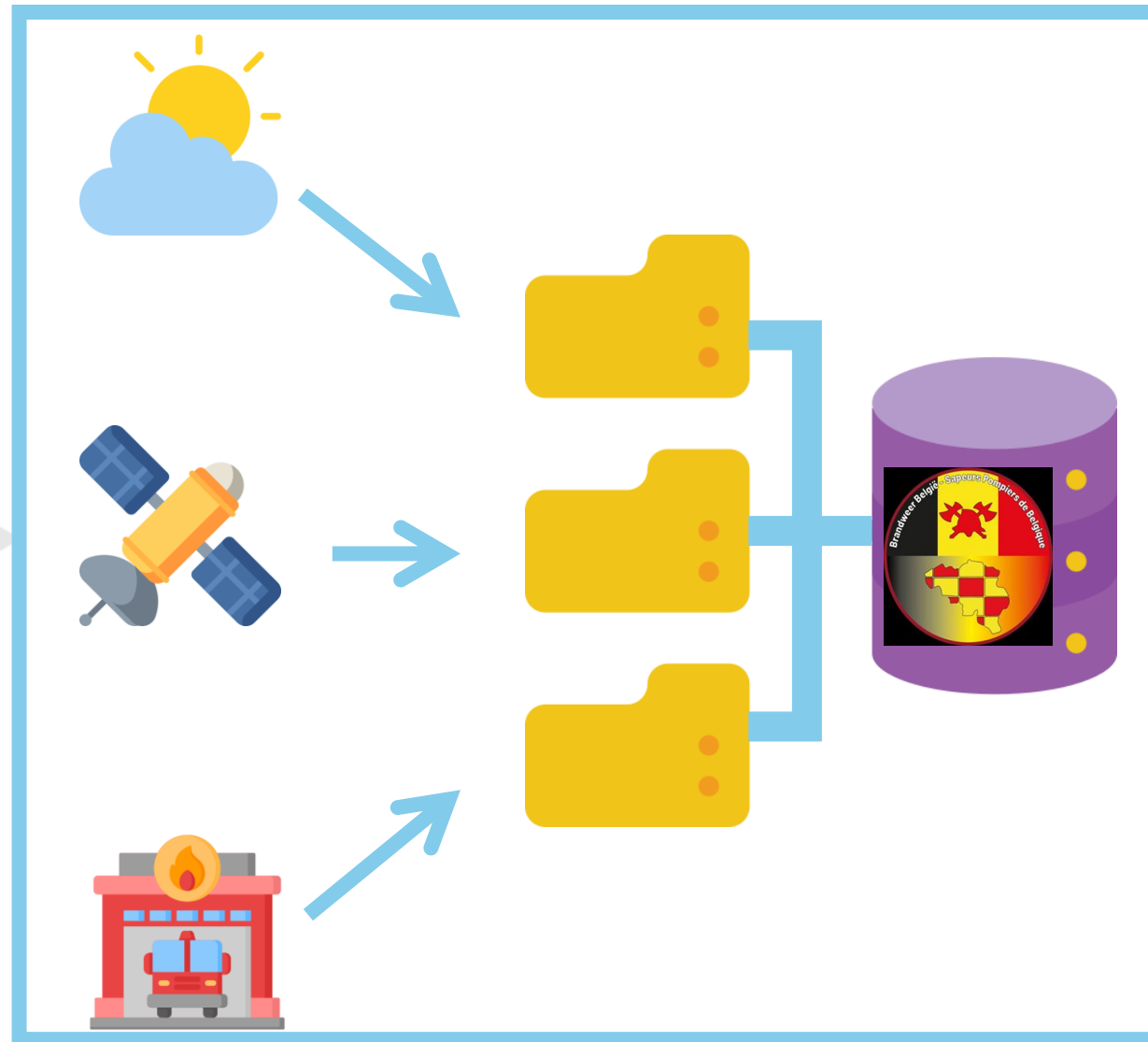
Mechelse Heide 22/05/2025



# Method



3. Database



# 3. Database

Once confirmed → data enrichment

- 🔥 Perimeter
- 🔥 Burnt area
- 🔥 Vegetation and land cover
- 🔥 Meteorological data
- 🔥 Affected infrastructure
- 🔥 Intervention reports





# Wildland Urban Interface

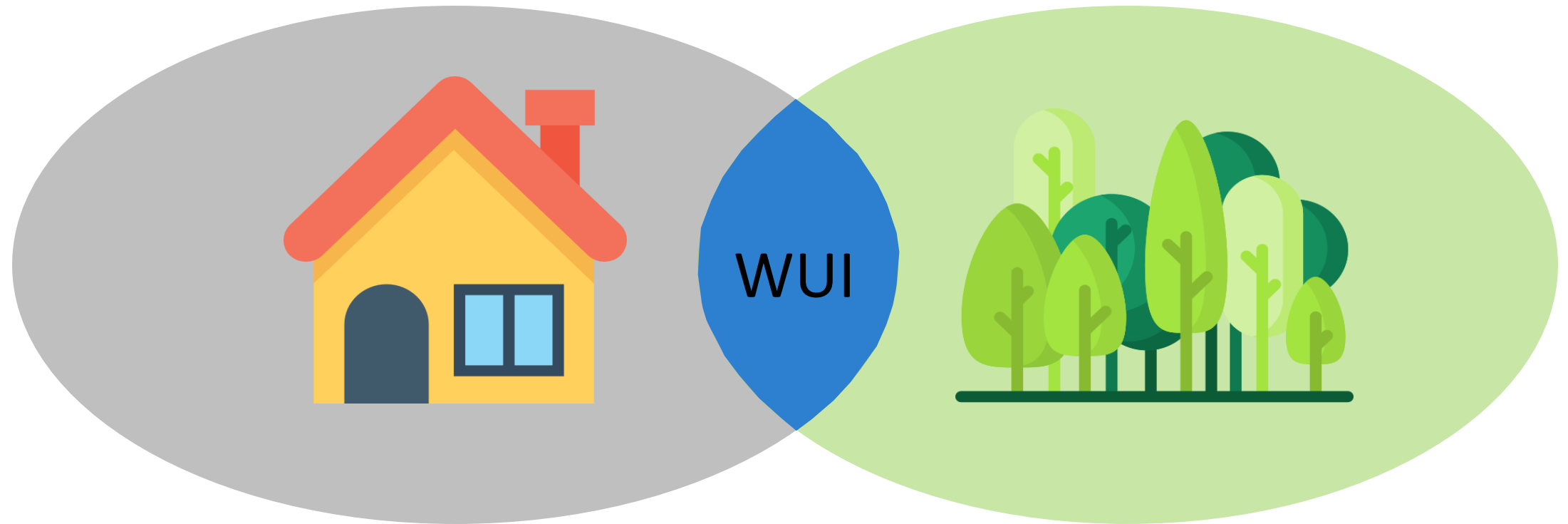


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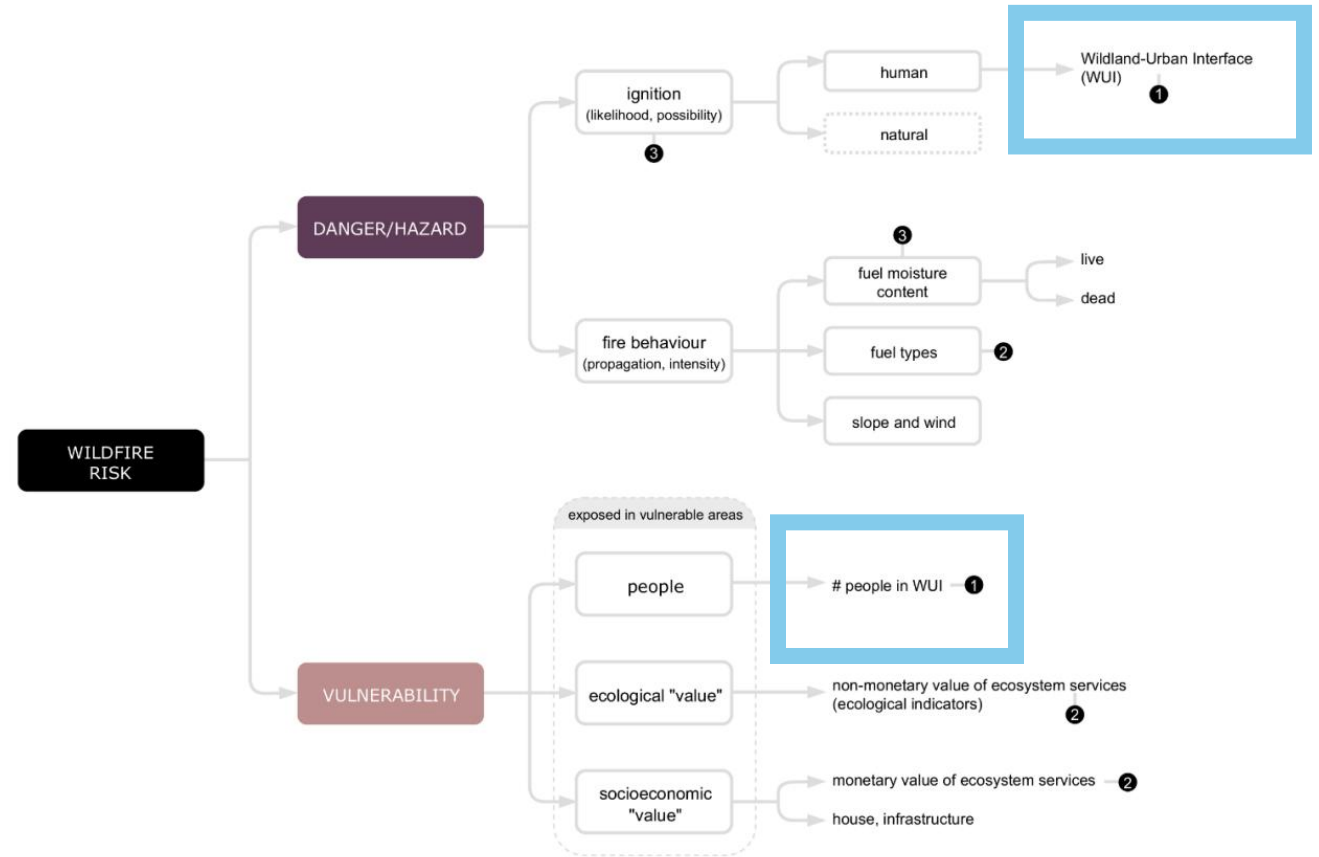
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# What is a Wildland Urban Interface?



# What is a Wildland Urban Interface?

= part of wildfire risk



Sirio Modugno <sup>a, b, \*</sup>, Heiko Balzter <sup>b, c</sup>, Beth Cole <sup>b</sup>, Pasquale Borrelli <sup>d</sup>

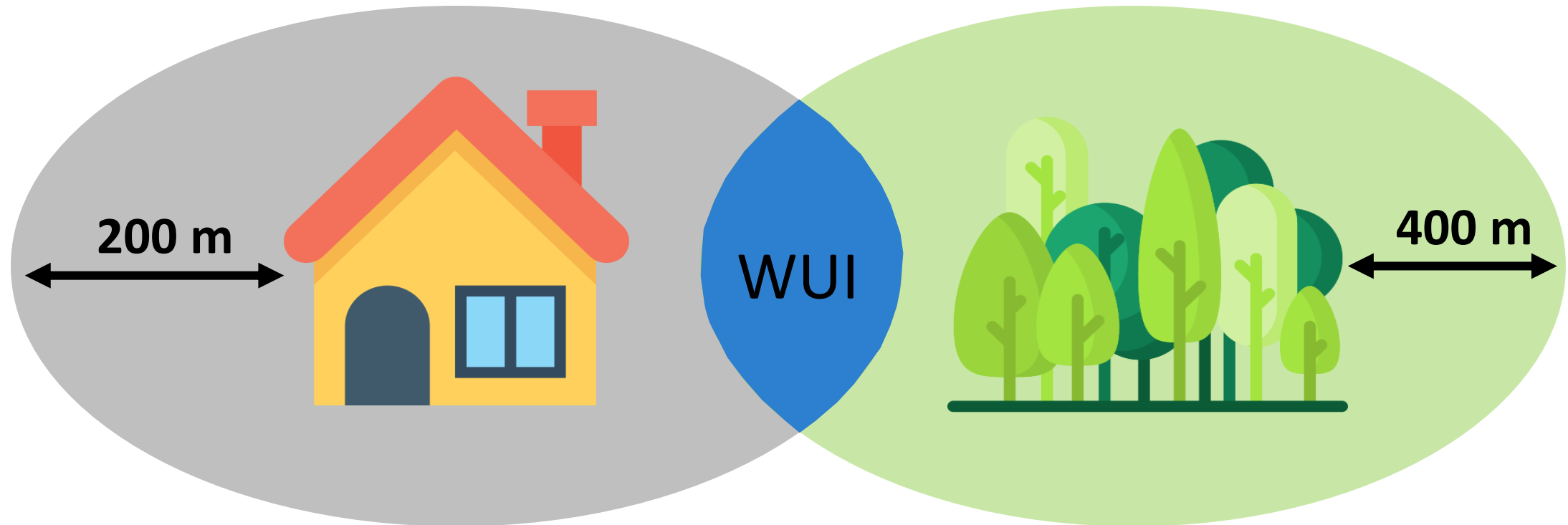
<sup>a</sup> University of Cassino and Southern Lazio, Department of Human Sciences, Social and Health, Campus Folcara, Via S. Angelo – Località Folcara, 03043 Cassino, FR, Italy

<sup>b</sup> University of Leicester, Centre for Landscape and Climate Research, Department of Geography, University Road, Leicester, LE1 7RH, UK

<sup>c</sup> National Centre for Earth Observation, University of Leicester, University Road, Leicester, LE1 7RH, UK

<sup>d</sup> European Commission, Joint Research Centre, Institute for Environment and Sustainability, Via E. Fermi 2749, I-21027 Ispra, VA, Italy

# Method

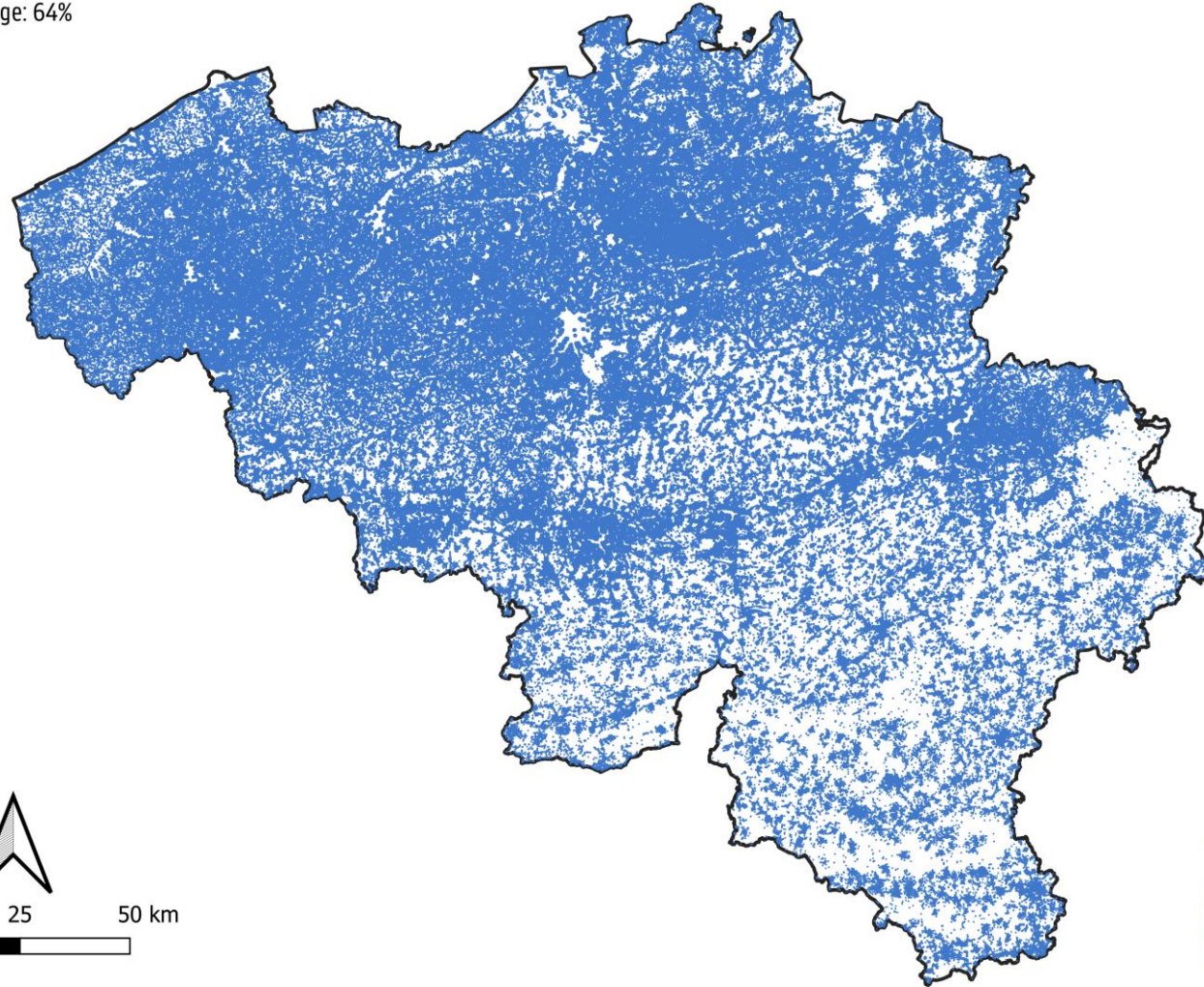


TOP 10 vector laag (NGI, 2023)

> 1ha

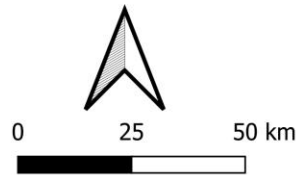
Input layer: Top10Vector (NGI)  
Method: Modugno et al. (2016) + NIPV  
Belgium coverage: 64%

## Wildland Urban Interface



Legend:

■ WUI



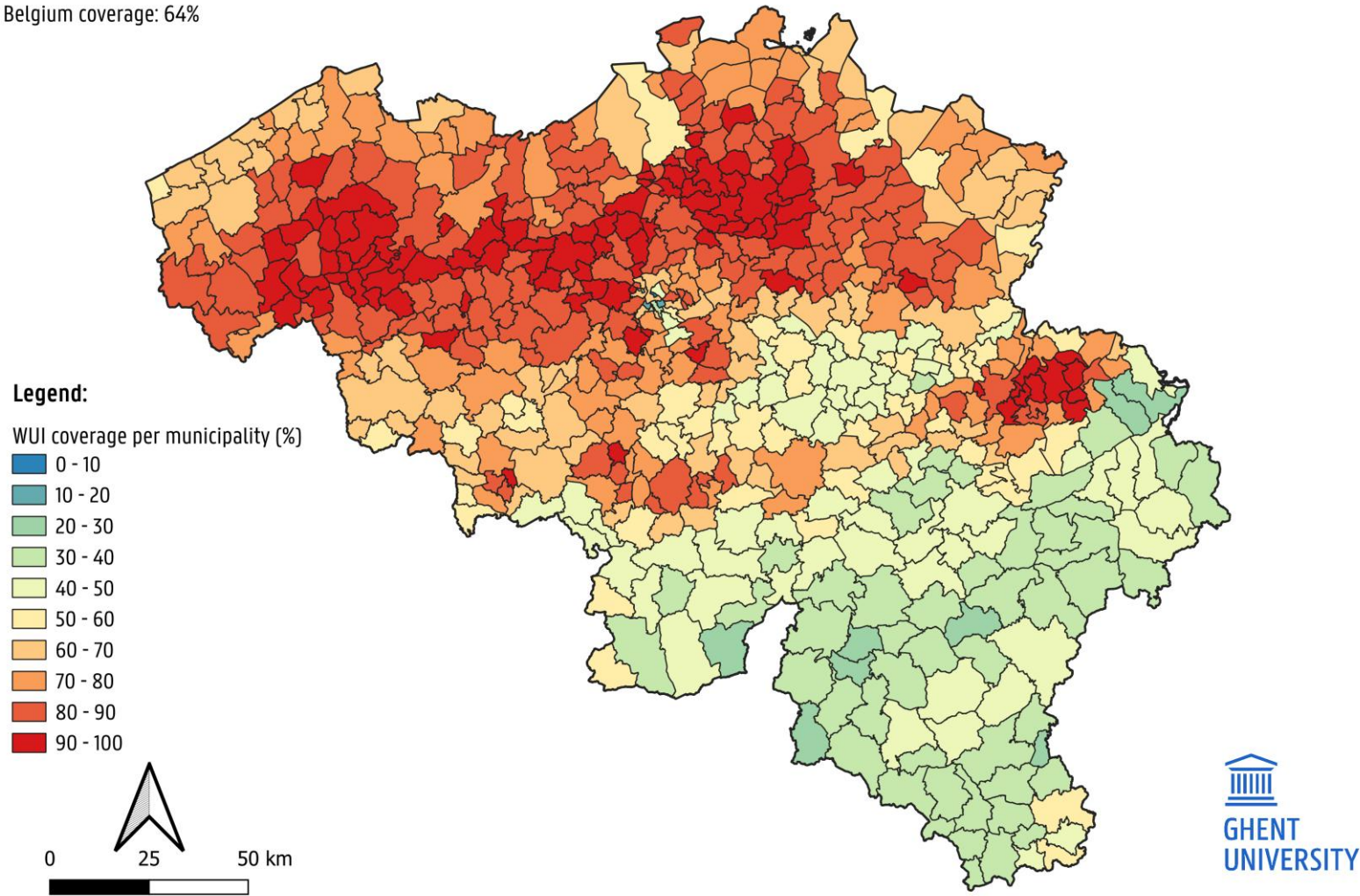
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Input layer: Top10Vector (NGI)  
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Belgium coverage: 64%

## Wildland Urban Interface



NGI IGN

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# Thank you!

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