



# LEVERAGING GOVERNMENTAL GEOSPATIAL INFORMATION FOR RESILIENCE

THE NGI GEOBROKER ROLE IN ACTION

**NGI**  
Nationaal  
Geografisch  
Instituut



**IGN**  
Institut  
Géographique  
National

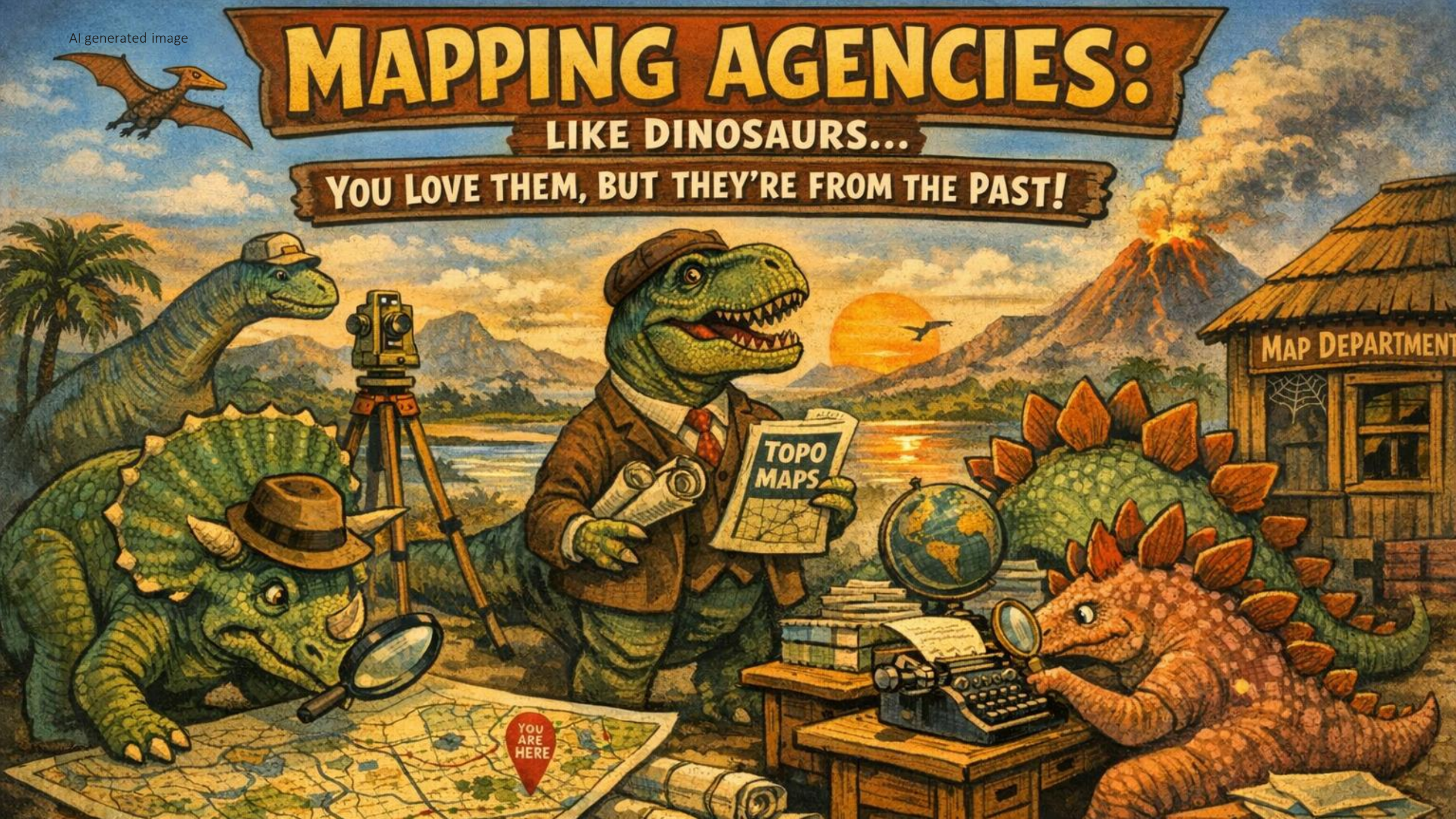


# NGI – THE MAPPING AGENCY OF BELGIUM

# MAPPING AGENCIES:

LIKE DINOSAURS...

YOU LOVE THEM, BUT THEY'RE FROM THE PAST!

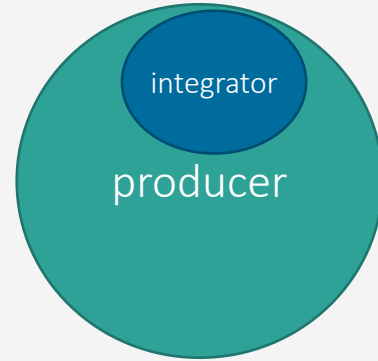
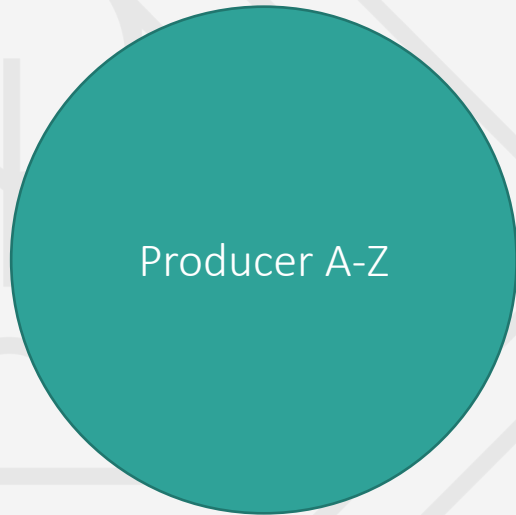


# Geodata als nutsvoorziening

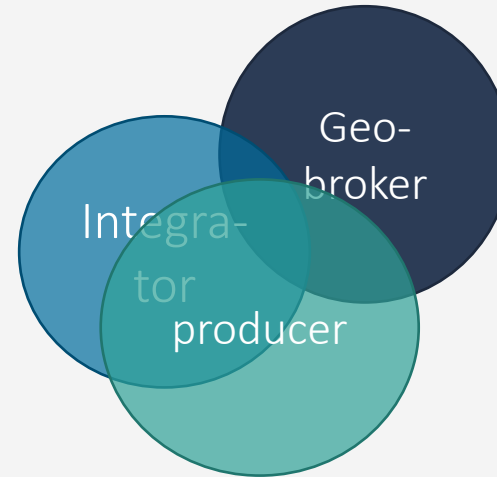


NGI

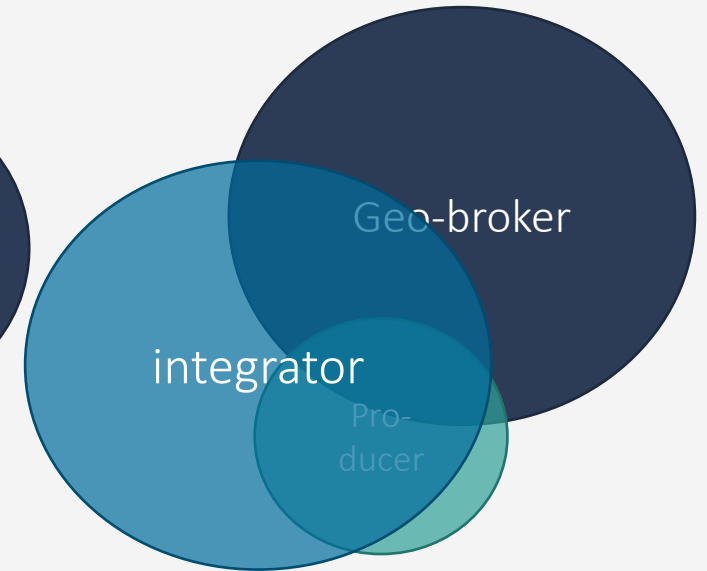
## What is our vision?



ITGI

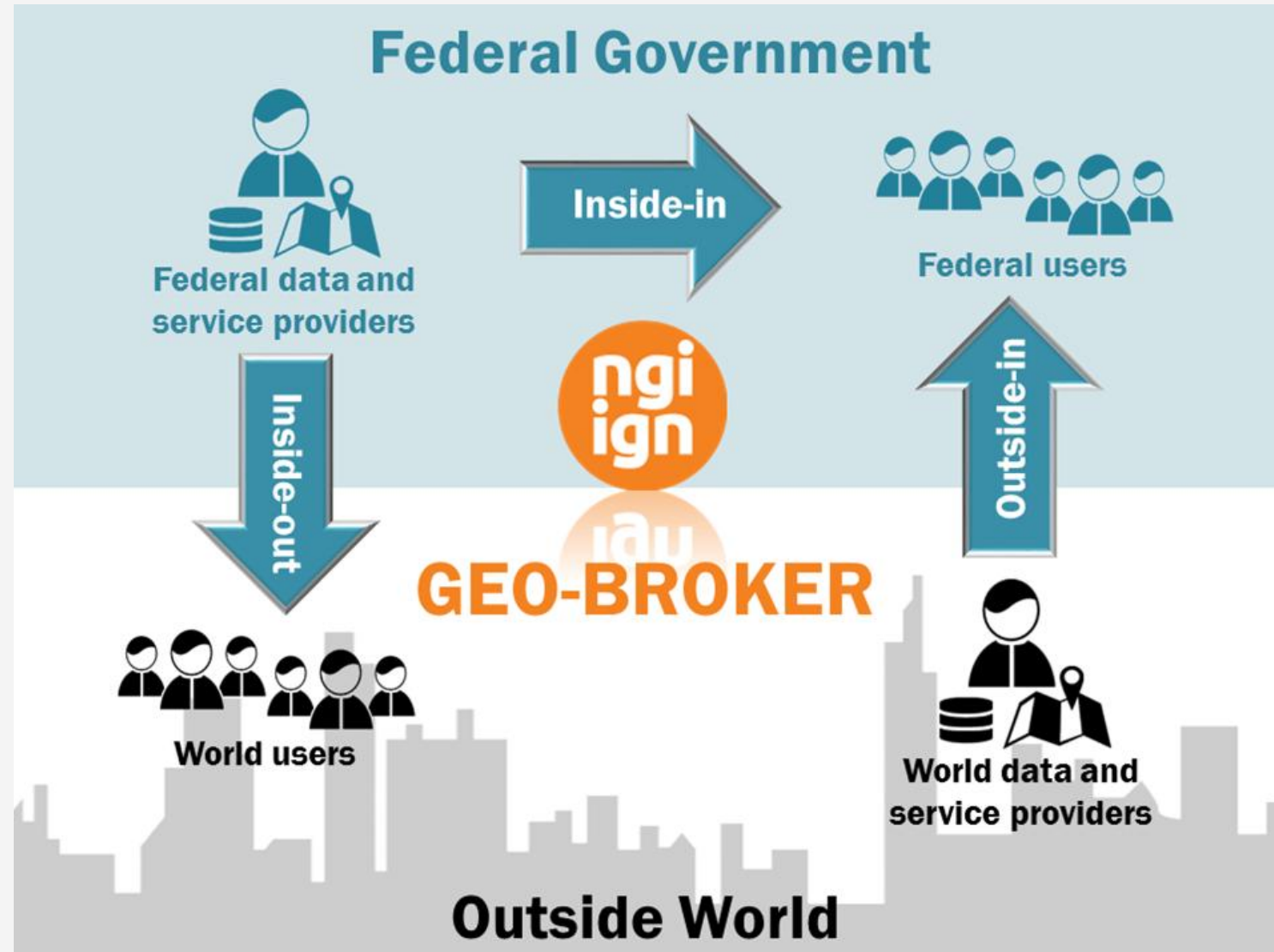


Strategy 2020



Vision 2030

NGI broker  
**Geo-broker**



geobroker

## What do we want to do?



The National Geographic Institute is the recognised **geobroker** in Belgium for **geospatial information**, where stakeholders can easily benefit from the provision and use of geographic information.

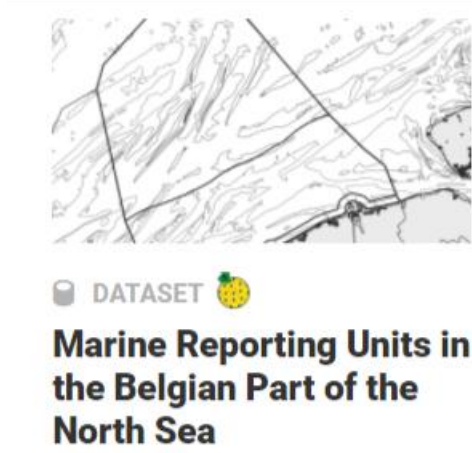
Priority partners:

- Defence
- Emergency and Security management services
- Mobility
- Climate
- Other federal institutions



## Inhoud

- ✓ Datasets (136)
- ✓ Series (1)
- ✓ View services (31)
- ✓ Download services (19)
- ✓ Discovery services (2)
- ✓ Transformatie services (1)
- ✓ Papieren kaarten (6)



## federal partner organisations

Nationaal Geografisch Instituut

Koninklijk Meteorologisch Instituut van België

Koninklijk Belgisch Instituut voor Natuurwetenschappen (KBIN), Operationele Directie Natuurlijk Milieu (OD Natuur), Belgian Marine Data Centre (BMDC)

Koninklijk Belgisch Instituut voor Natuurwetenschappen, Operationele Directie Natuurlijk Milieu, GeoCell

Intergewestelijke Cel voor het Leefmilieu (IRCEL)

FOD Financien - Algemene Administratie van de Patrimoniumdocumentatie (AAPD)

Koninklijk Belgisch Instituut voor Natuurwetenschappen (KBIN), Operationele Directie Natuurlijk Milieu (OD Natuur)

Koninklijk Belgisch Instituut voor Natuurwetenschappen (KBIN), Operationele Directie Natuurlijk Milieu (OD Natuur), Wetenschappelijke Dienst Beheerseenheid van het Mathematisch Model van de Noordzee (BMM)

## Defence - current collaboration

### How?

Multi-year contract (until the end of 2023)

02/2023: signing of declaration of intent NGI-ADIV

12/2023: signing of a more extensive cooperation agreement NGI-Defense

### What?

Geographical products and services in Belgium and abroad

Geocompetence centre



geobroker

## Provider of geospatial data

### Provision of spatial road navigation data (non NGI)

Need identified within the federal government:  
'One dataset for navigation and geolocation for unified response planning'

#### Role of the NGI

- Federal procurement
- Expertise centre
- Delivery of TomTom data (government contract)

#### User group

- Integrated police, 112 service, FPS Interior (fire brigade and medical intervention teams), ASTRID, FPS Mobility and Transport, Defence, NGI
- Expandable for other federal users





### Maps

Proposez une expérience personnalisée et évolutive qui répond concrètement aux besoins de vos utilisateurs avec des plans statiques et dynamiques, des images Street View et des vues à 360°.



### Routes

Indiquez aux utilisateurs le meilleur itinéraire vers leur destination grâce à des données complètes et des informations en temps réel sur le trafic.



### Places

Aidez les utilisateurs à découvrir le monde avec des données détaillées sur plus de 150 millions de lieux. Offrez-leur la possibilité de trouver des endroits spécifiques à partir d'un numéro de téléphone, d'une adresse et de signaux en temps réel.



## Third party geo-solutions

### Google map pro

NGI, in collaboration with federal police and company Localyse (Belgian distributor for Google Maps-solutions) negotiated a specific price list for all public organisations through a public procurement procedure.

geobroker

# National portal for mobility and transportdata

[www.transportdata.be](http://www.transportdata.be)

## Belgium's National Access Point for Intelligent Transport Systems = NAP ITS

National access point for :

- MMTIS
- RTTI
- SRTI
- SSTP

NGI is product owner and manages the user community on behalf of (and paid by) the ITS steering committee



TRANSPORTDATA.BE

Datasets Organizations News About Search

BELGIUM'S NATIONAL ACCESS POINT FOR INTELLIGENT TRANSPORT SYSTEMS (NAP ITS)

SEARCH FOR DATASETS & SERVICES

e.g. car sharing, train, bike hire...

Popular Tags: Rail (including high-speed), Bus, Car

Add datasets and services

Data providers can easily register datasets and services on the NAP ITS.

Need help? Contact our helpdesk: [contact@transportdata.be](mailto:contact@transportdata.be)

More detailed instructions on how to register your dataset(s) and/or services can be found in the about section and in our instruction video.

Subscribe to our newsletter and stay informed

Enter your email address:

DISCOVER THE NAP & REGISTER CONTENT

Transportdata.be is Belgium's National Access Point for Intelligent Transport Systems and includes data regarding:

- Multimodal Travel Information Services (MMTIS)
- Real Time Traffic Information services (RTTI)
- Safety Related Traffic Information (SRTI)
- Safe and Secure Truck Parkings (SSTP)

Obtain practical information on how to register your organization's services.

CONTENT FROM THE NAP ITS

Discover datasets and services from the Belgian transport landscape. Information on how to (re)use datasets and services from the NAP ITS.

Bekijken op YouTube

# Support to Climate Management Actors

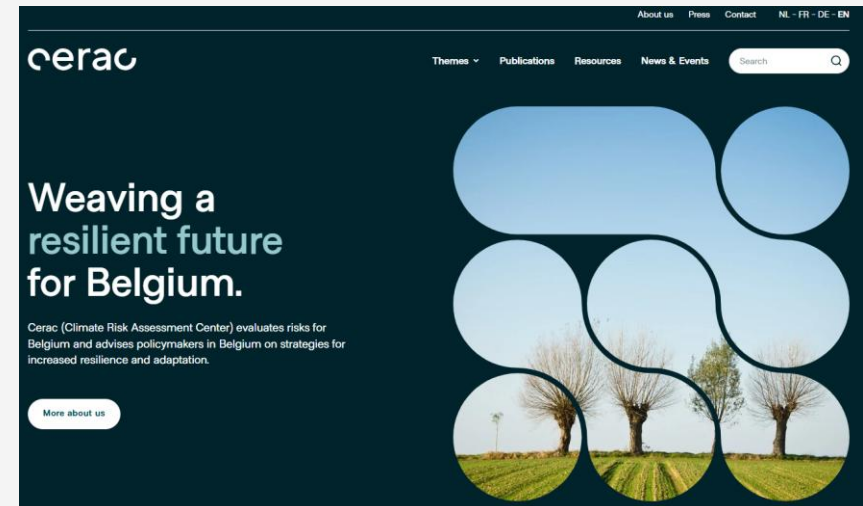
## Belgian Climate Centre

view- and downloadservices for projections on the climate effect in Belgium.

## Climate Risk Assessment Center

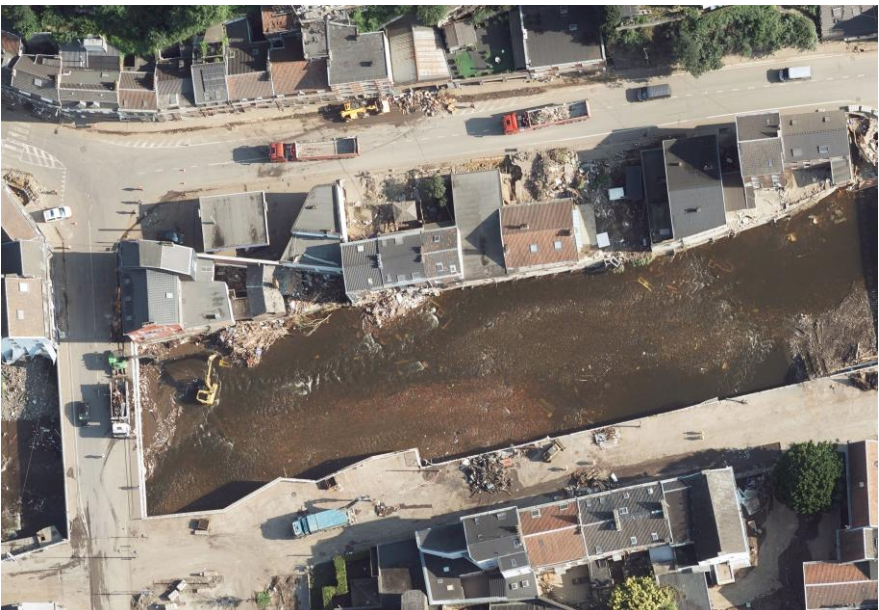
Provision of geospatial expertise

- Assessment of geodata needs
- Tailor made training on use of geospatial tools
- Benchmarking with comparable organisations in UK and DE
- Analysis report on biodiversity loss and fire risk in natural areas
- Advanced mapping development





# GEOSPATIAL INFORMATION FOR RESILIENCE





**DEFENSIE  
LA DÉFENSE**



**Wallonie  
environnement  
SPW**

**AGENTSCHAP  
NATUUR & BOS**



**Vlaanderen  
is natuur**

# Politie Police



**NGI**  
Nationaal  
Geografisch  
Instituut



**IGN**  
Institut  
Géographique  
National



**PROVINCIES - PROVINCES  
GOUVERNEURS**



**ibz**  **Intérieur  
Binnenlandse Zaken**

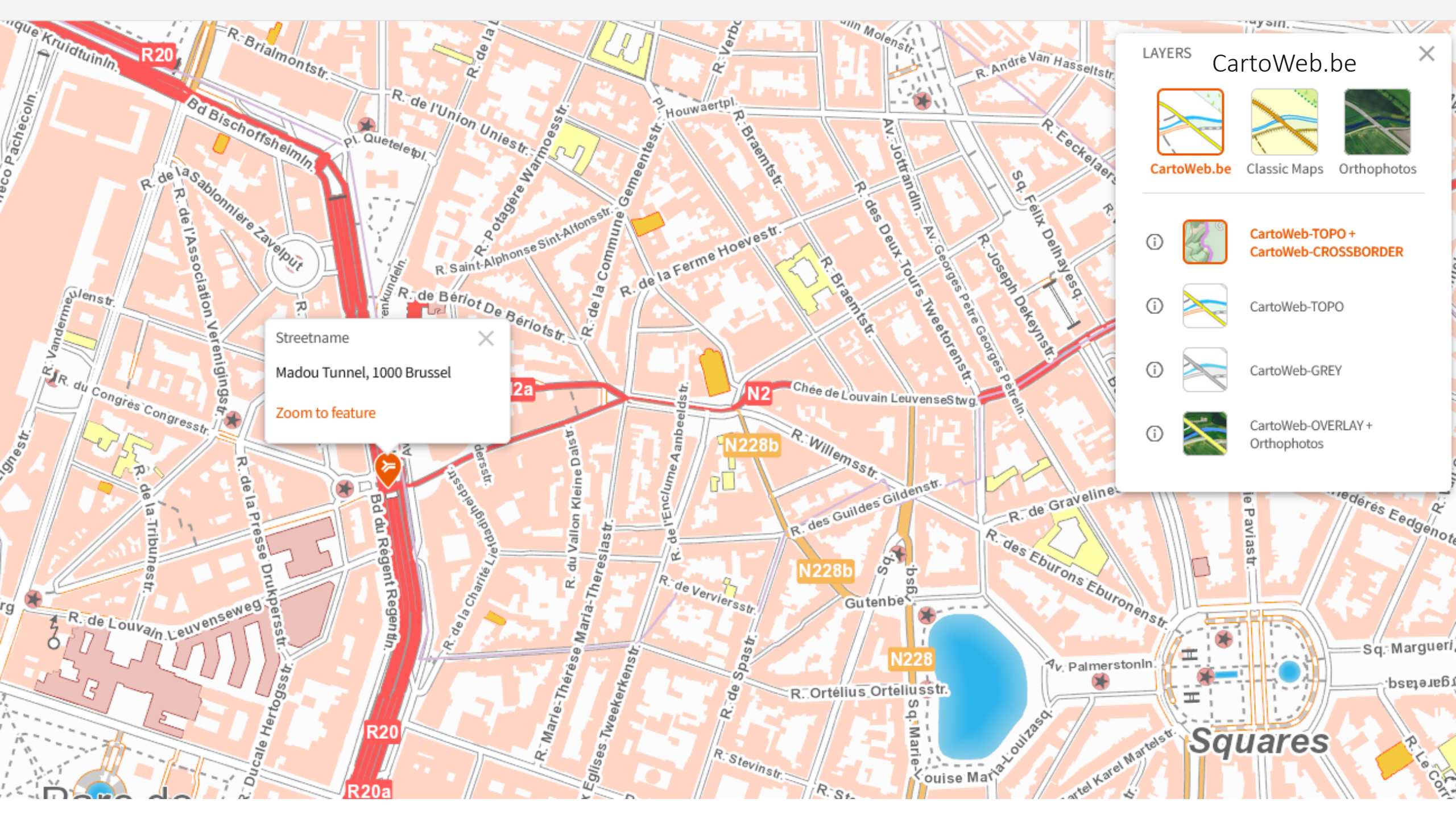


service public fédéral  
**SANTÉ PUBLIQUE,  
SECURITE DE LA CHAÎNE ALIMENTAIRE  
ET ENVIRONNEMENT**



federale overheidsdienst  
**VOLKSGEZONDHEID,  
VEILIGHEID VAN DE VOEDSELKETEN  
EN LEEFMILIEU**





Streetname  
 Madou Tunnel, 1000 Brussel  
 Zoom to feature

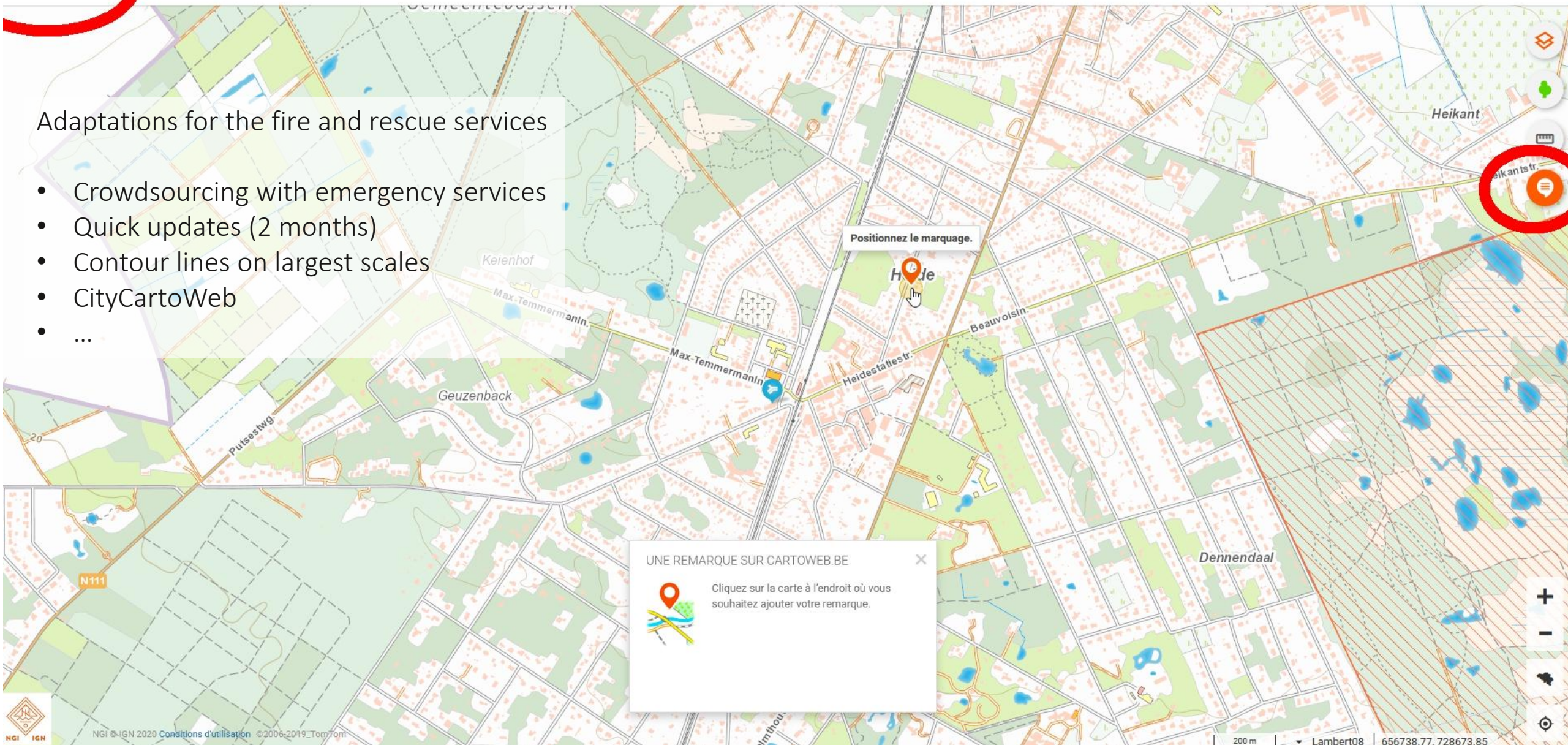
LAYERS CartoWeb.be

CartoWeb.be	Classic Maps	Orthophotos
	CartoWeb-TOPO+ CartoWeb-CROSSBORDER	
	CartoWeb-TOPO	
	CartoWeb-GREY	
	CartoWeb-OVERLAY+ Orthophotos	

Squares

## Adaptations for the fire and rescue services

- Crowdsourcing with emergency services
- Quick updates (2 months)
- Contour lines on largest scales
- CityCartoWeb
- ...

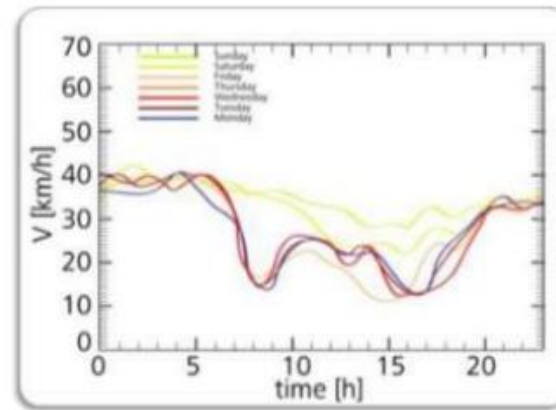
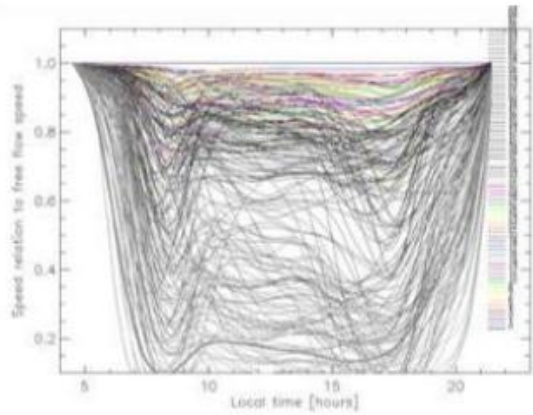


Opmerkingen doorgeven over CartoWeb.be [topomapviewer.ngi.be](https://topomapviewer.ngi.be)

Step 1. Controle melding Step 2. Update in de volgende release (elke 2 maanden)

# GeoOptifed1

- Address points
- POIs
- Historical traffic information
- Up-to-date traffic information
- Geocoding services



## PINPOINT ACCURACY FOR ADDRESSES



**POINT FEATURES:**  
Address points are discrete points with X, Y coordinates.

**LINE FEATURES (NOT INCLUDED):**  
Linear features such as streets, highways, water, and political boundaries are represented using line segments.

**BASE MAPS:**  
Address points can be overlaid on your digital maps or aerial imagery.



# EMERGENCY INDEX GRID MAPINDEX

MapIndex

	04A	05A	06A	01	02	03		
	04	05	06	07	08	09		
11	12	13	14	15				
19	20	21	22	23				
27	28	29	30	31				
36A	36	37	38	39				
	44A	44	45	46				
		51A	51	52				
			57A	57				
			62A	62	63	64	65	
				66A	66	67	68	
					70A	70	71	
						73	74	75



1n	2n	3n	4n
1s	2s	3s	4s
<b>44A</b>			
5n	6n	7n	8n

a1	b1	c1	d1	e1	f1	g1	h1	i1	j1	k1	l1	m1	n1	o1	p1
g2	h2	i2	j2	k2	l2	m2	n2	o2	p2						
g3	h3	i3	j3	k3	l3	m3	n3	o3	p3						
g4	h4	i4	j4	k4	l4	m4	n4	o4	p4						
g5	h5	i5	j5	k5	l5	m5	n5	o5	p5						

44A/7n

a9	b9	c9	d9	e9	f9	g9	h9	i9	j9
a10	b10	c10	d10	e10	f10	g10	h10	i10	j10

W	X
44A/7n-e6	
Y	Z

- Index cell level 0 :
- Index cell level 1 :
- Index cell level 2 :
- Index cell level 3 :
- Index cell level 4 :

# Uniform and shared Geo for the Emergency services

## Geo-enabling Incident- & Crisismanagement

### Components

- Authentic source CartoWeb.be
- Emergency Index Grid (MapIndex)
- Thematical data
- Digital solutions
- Papieren kaarten & atlassen

#### Toegankelijkheid

- PEB
- Barrière
- Obstakel
- Herkenningpunt
- Keerpunt
- Uitkijktoren

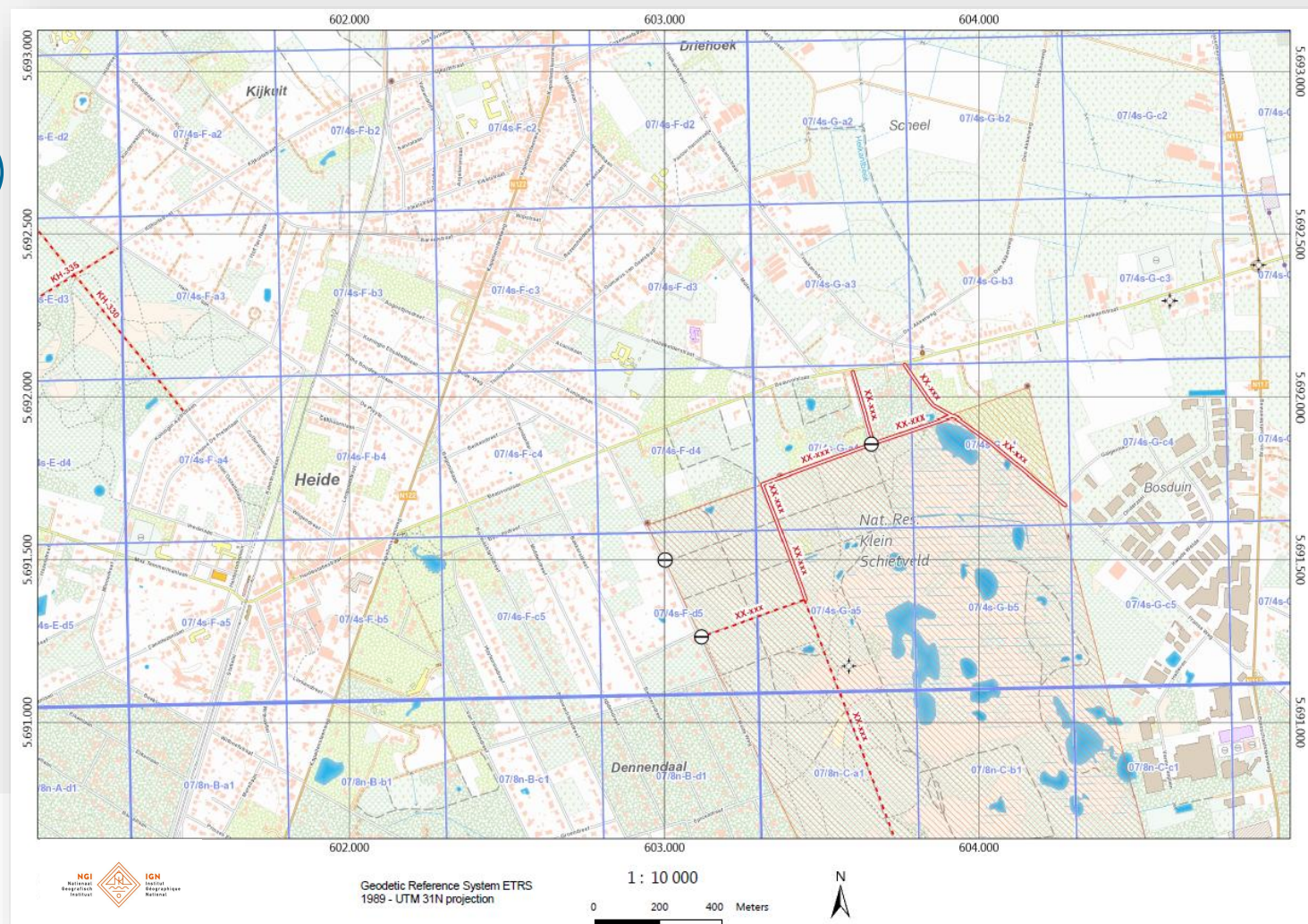
- Brandweg Categorie 1
- Brandweg Categorie 2
- Brandgang

#### Risico's

- Kampeerplaats
- Militair terrain (munitie)

#### Waterbronnen

- Hydrant - Ondergronds
- Hydrant - Bovengronds
- Oppervlaktewater – gegarandeerd / niet-gegarandeerd





- Complete self-service
- A1 : Commando Posts
- A3 : hood-heads-up
- 1:25.000 and detail 1:10.000
- Automatic Indexes (roads, POIs)
- Belgium and  $\geq 30$  km neighbouring areas
- Ready-to-use and Ad-hoc (robust)
- All disciplines (D1,2,3,4 have printers)

CREATE MAPS

Atlases Area maps

Click on the map to select the map sheets with which you want to compose the atlas. Click again to deselect. Have you added the desired map sheets, title and description? Click 'Create atlas'.

Mapleaves

07/4s x 07/3s x 07/8n x

07/7n x 08/1s x 07/4n x

07/3n x 08/5n x 08/5s x

Click on the map to select mapleaves.

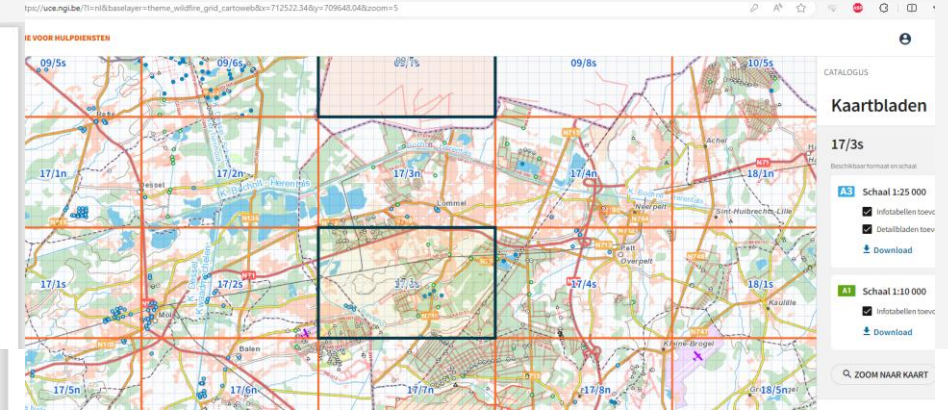
Fill in title

Fill in the description

+ CREATE ATLAS

Uniforme en Gedeelde Cartografie voor de Hulpdiensten

# Uniforme Cartography, from *Proof of Concepts* to *Robust solutions*



## PEB/PPD

peb n°	cel n°	straatnaam	utm coördinaten	peb n°	cel n°
no id	17/3a-j6		31U PS 60526 74668	no id	17/3a-f9
no id	17/3a-k7		31U PS 60916 73976	no id	17/3a-k10

## Wegen

weg n°	cel n°	weg n°	cel n°	weg n°	cel n°
no id	17/3a-d9	EY-002	17/3a-h5, h4	KA-007	17/3a-i
BA-001	17/3a-g2	EY-003	17/3a-h4, j3, j4, k3, l3	KA-009	17/3a-h
BA-002	17/3a-g3, j2, j3, k3	EY-004	17/3a-h4	KA-009	17/3a-k
BA-003	17/3a-g2, h2	EY-004	17/3a-h4	KA-010	17/3a-j
BA-004	17/3a-g2, g3, h3, l3	EY-006	17/3a-h4	KA-011	17/3a-t
BR-001	17/3a-l0, m10, n9	EY-007	17/3a-h5, h6, h4, i5	KA-011	17/3a-k
BR-002	17/3a-k10	EY-008	17/3a-h4, i5, j4, j5, k4	KA-013	17/3a-t
DO-007	17/3a-g1	EY-009	17/3a-k3, k4, l3	KA-013	17/3a-k
DO-008	17/3a-g1, h1	EY-011	17/3a-h4, i5	KA-015	17/3a-k
DO-009	17/3a-g1	EY-012	17/3a-h4, j3, j4, j5	KA-015	17/3a-i
DO-011	17/3a-g1	EY-017	17/3a-i5, j5	KA-016	17/3a-f
DO-013	17/3a-f1	EY-009	17/3a-h6, i5, i6	KA-016	17/3a-t

# ONE MAP EVERYWHERE

Paper

Smartphone

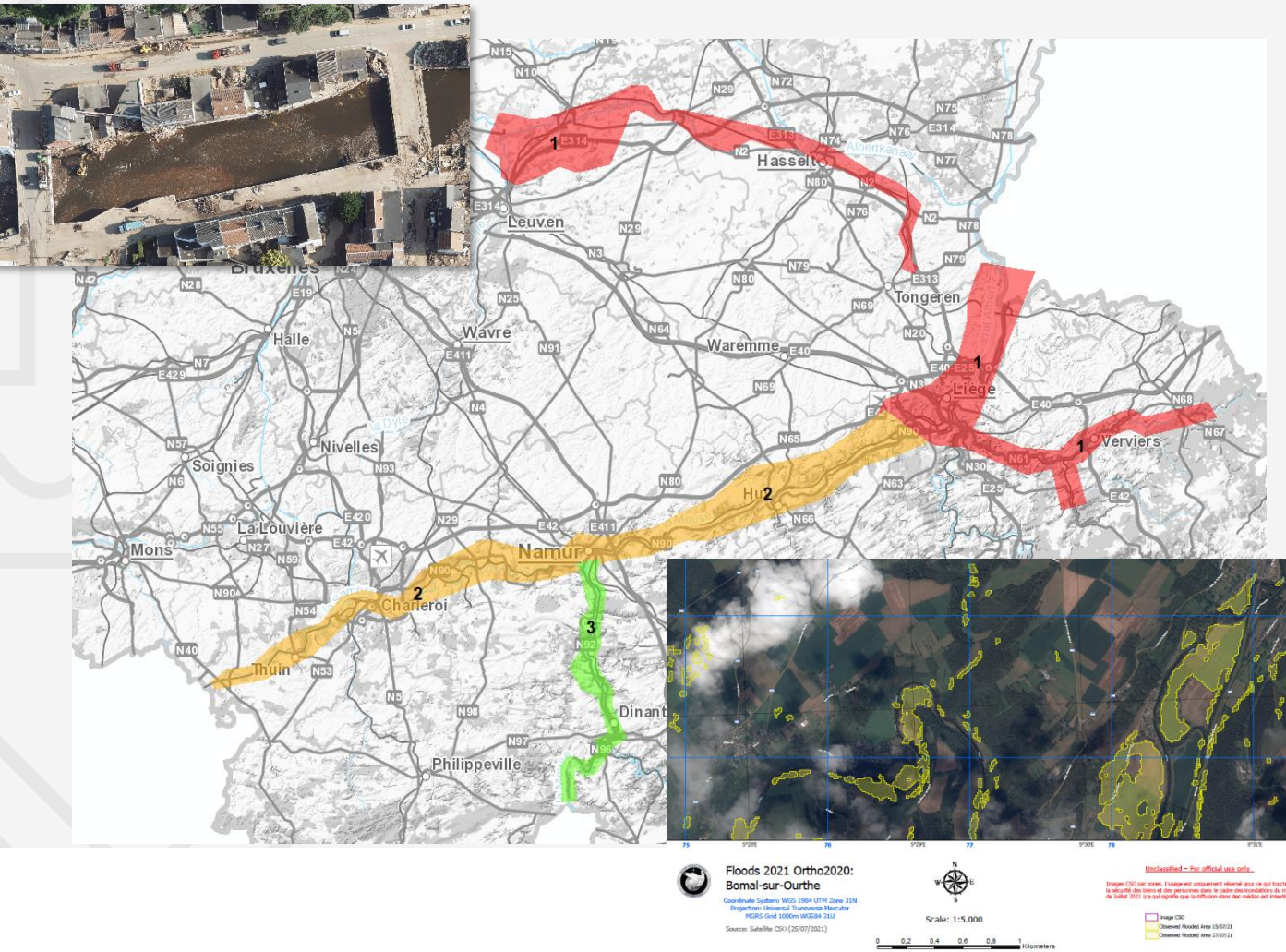
Tablet

Dispatch

CP-Ops (Command-Post Operations)



# Geo4Crisis – Floods July 2021



## Collection of data

Urgent procedure through NGI procurement process

Aerial images, ortho's and DSM via Hansa Luftbild (zone prio 1)

Data of partners

Video-images from drones and helicopters

Flood detection on Sentinel-1 (VITO)

CSO satellite images (Defensie)

International data (NL)

AD-22-07

# Geo4Crisis



**STRATOS**  
SOLUTION

The logo for STRATOS SOLUTION features the word "STRATOS" in a large, bold, blue sans-serif font. Below it, the word "SOLUTION" is written in a smaller, blue sans-serif font. To the right of "SOLUTION" is a blue icon consisting of three curved lines that resemble a signal or a stylized wave.

**VANSTEELANDT**  
*Smart Survey Services*



Improving flood crisis management  
through Earth observation and AI



# USER-CENTERED RESEARCH

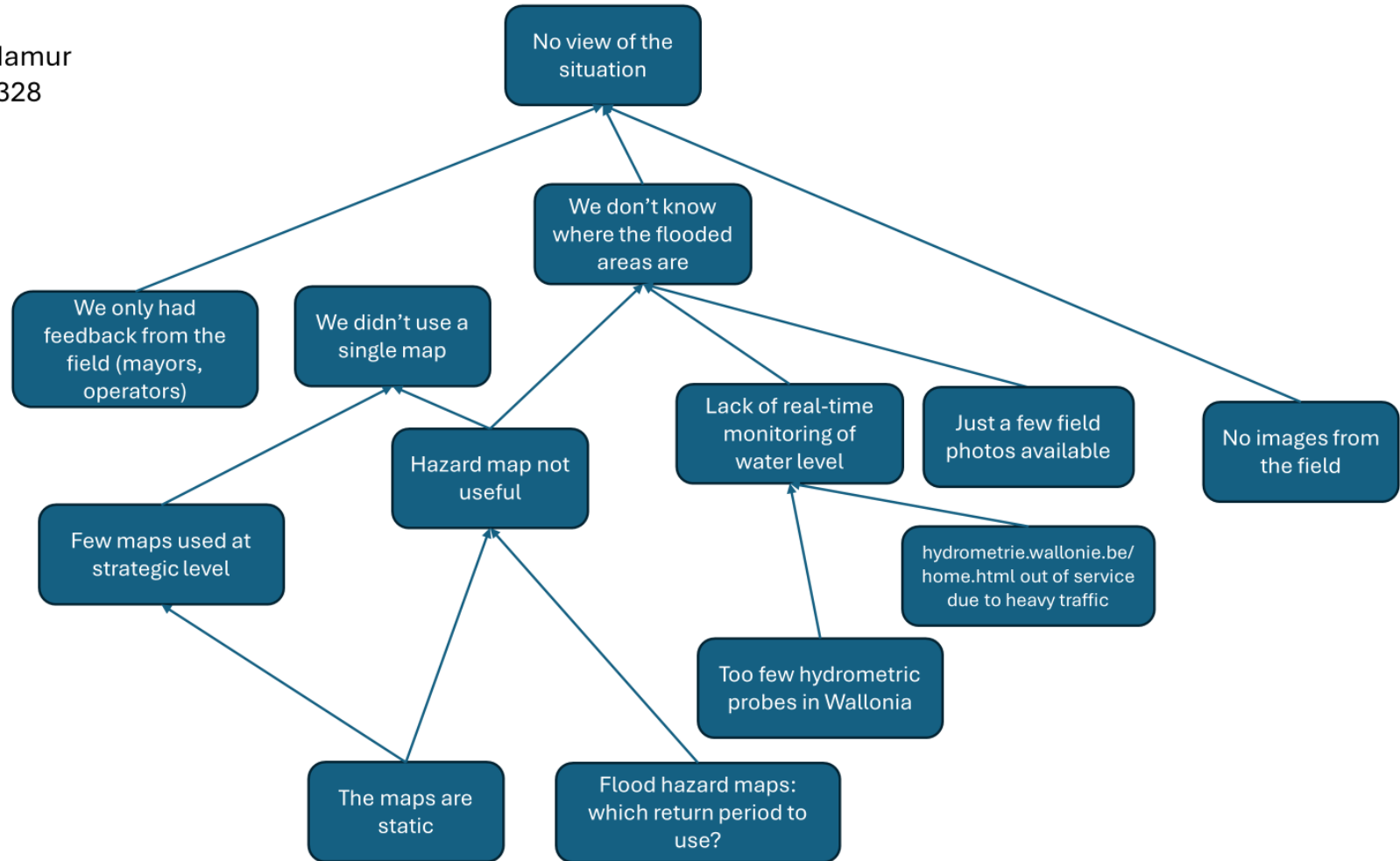
Database with over 80 potential contacts  
Problem trees



Stakeholders' needs

GouvNamur  
20240328

Crisis





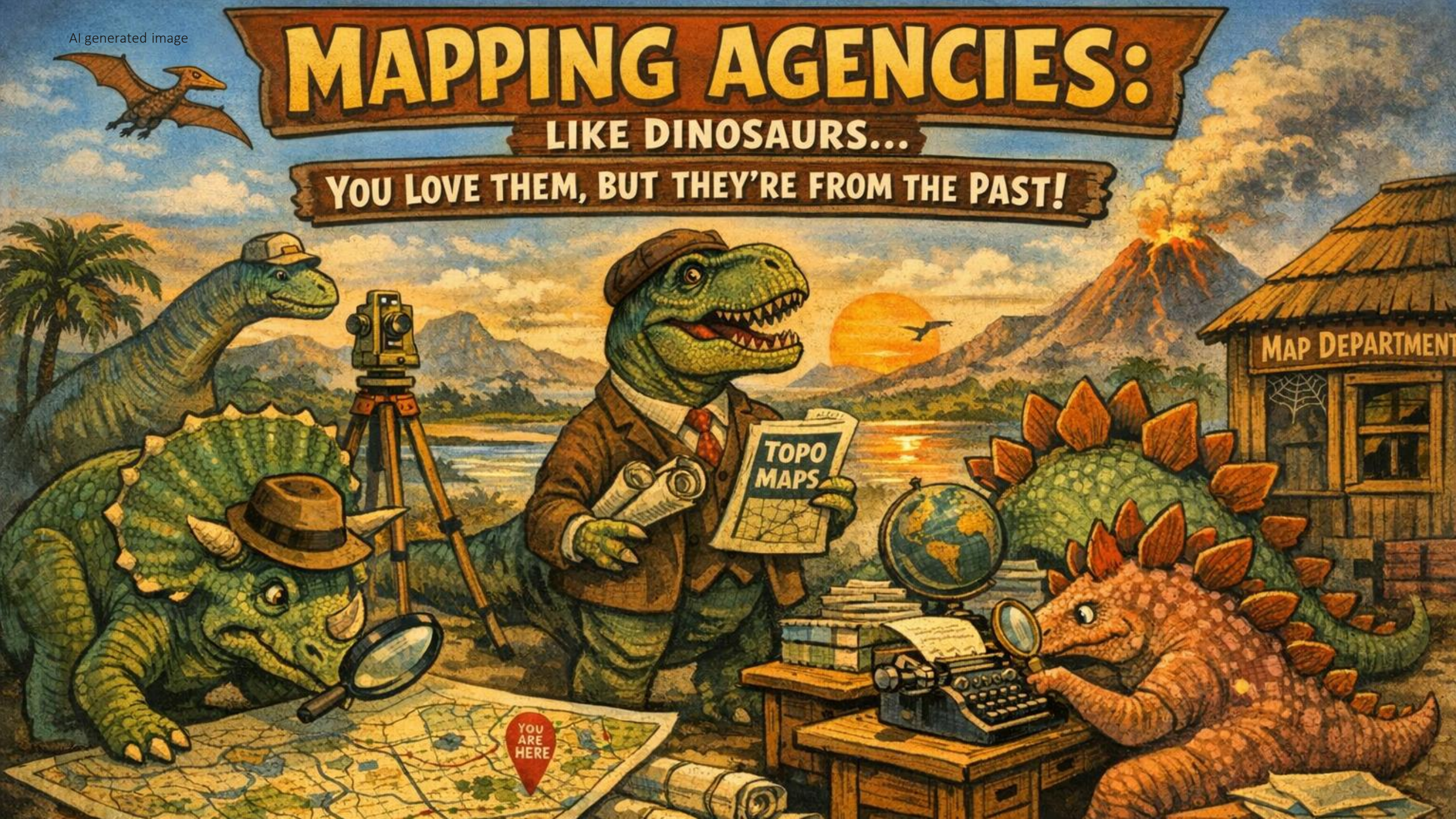
## What does the future look like?

- **F.A.I.R. data for emergency services** (hub, symbology, standardisation)
- **Cross-border Remote sensed data** (int./nat./reg. science → user)
- **Reusable data** across borders (disciplines, shared platform)
- **Reuse of governmental data:** nationwide probability and impact (reuse of existing data, or collect new)
- **COLLABORATION!**

# MAPPING AGENCIES:

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YOU LOVE THEM, BUT THEY'RE FROM THE PAST!



AI generated image

# MAPPING AGENCIES: INNOVATION IN ACTION!

Space Geodesy · Authentic Reference Data Source · Digital Cartography · Geospatial Intelligence





**Q&A?**

**ivb@ngi.be**