PROPOSAL FOR DEVELOPING GAP ANALYSIS FOR RBON IN RA VI

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RA VI Webinar on Regional Basic Observing Network (RBON)
20 November 2025

WORLD METEOROLOGICAL ORGANIZATION

1950-2025 SCIENCE for ACTION

Overview of the process for meteorology

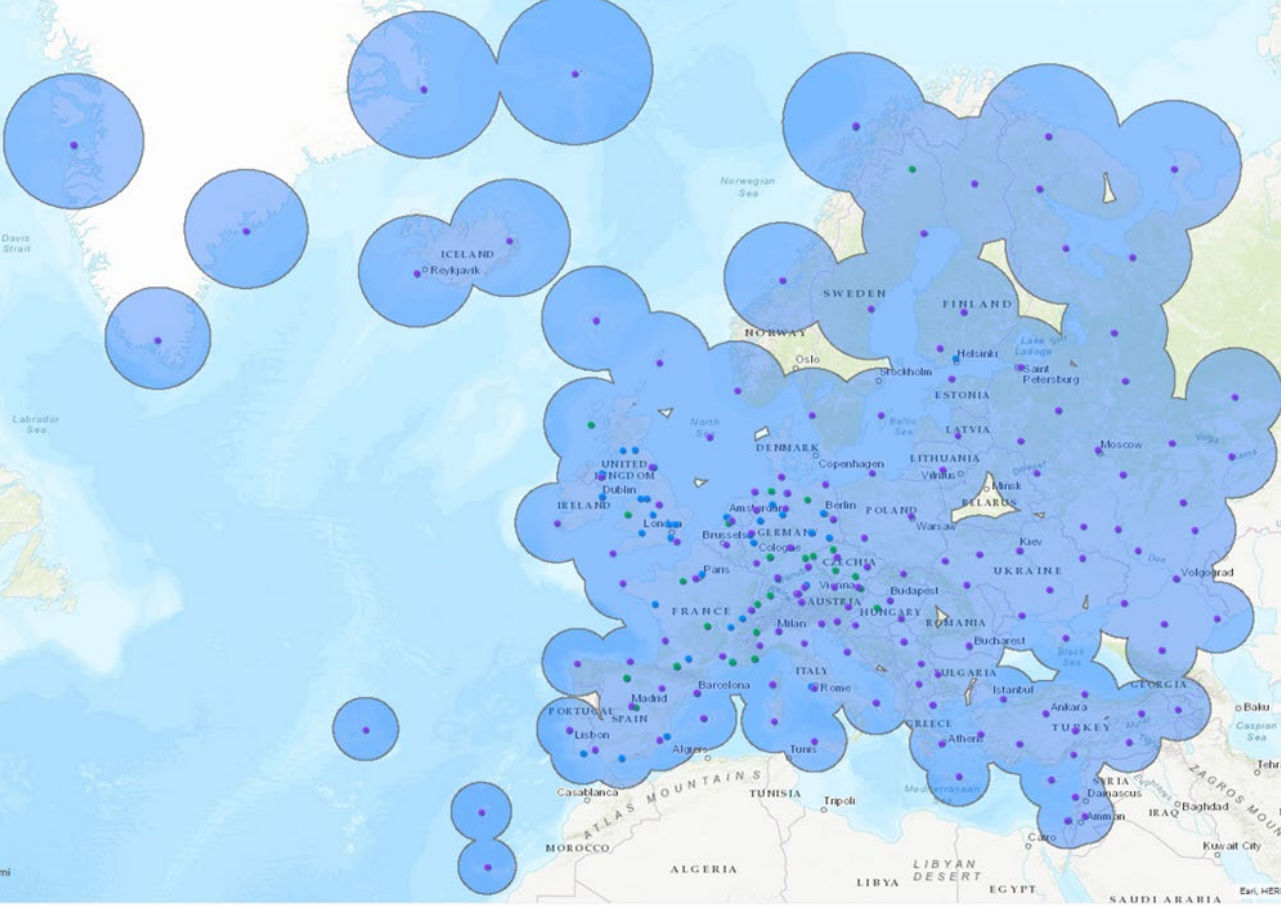
1. Information gathering i.e. Location coordinates of stations capable of providing the observation listed in the RBON-Flood requirement.
2. Generate maps for each variables to highlight spatial and/or temporal gaps.
3. Consider satellite capability: although satellite-based sensors are not included in RBON, consider if/how some of these capability can or will help close some of the gaps identified in (2).
4. Summary to be shared with Members for discussion.
5. Recommendations will feed into the roadmap for continuous evolution of RBON-Flood for RA VI.

Information gathering

Focusing on :

- Profile: wind, temperature, humidity.
- Near Surface: precipitation, temperature, humidity, pressure, wind, snow, soil moisture.

Stations lists provided by ECMWF, EUMETNET, OSCAR/Surface.



Analysis for wind profile observations

Included:

Yellow: ABO profile e.g. Airport

Pink: Radiosonde station

Green: Wind profiler

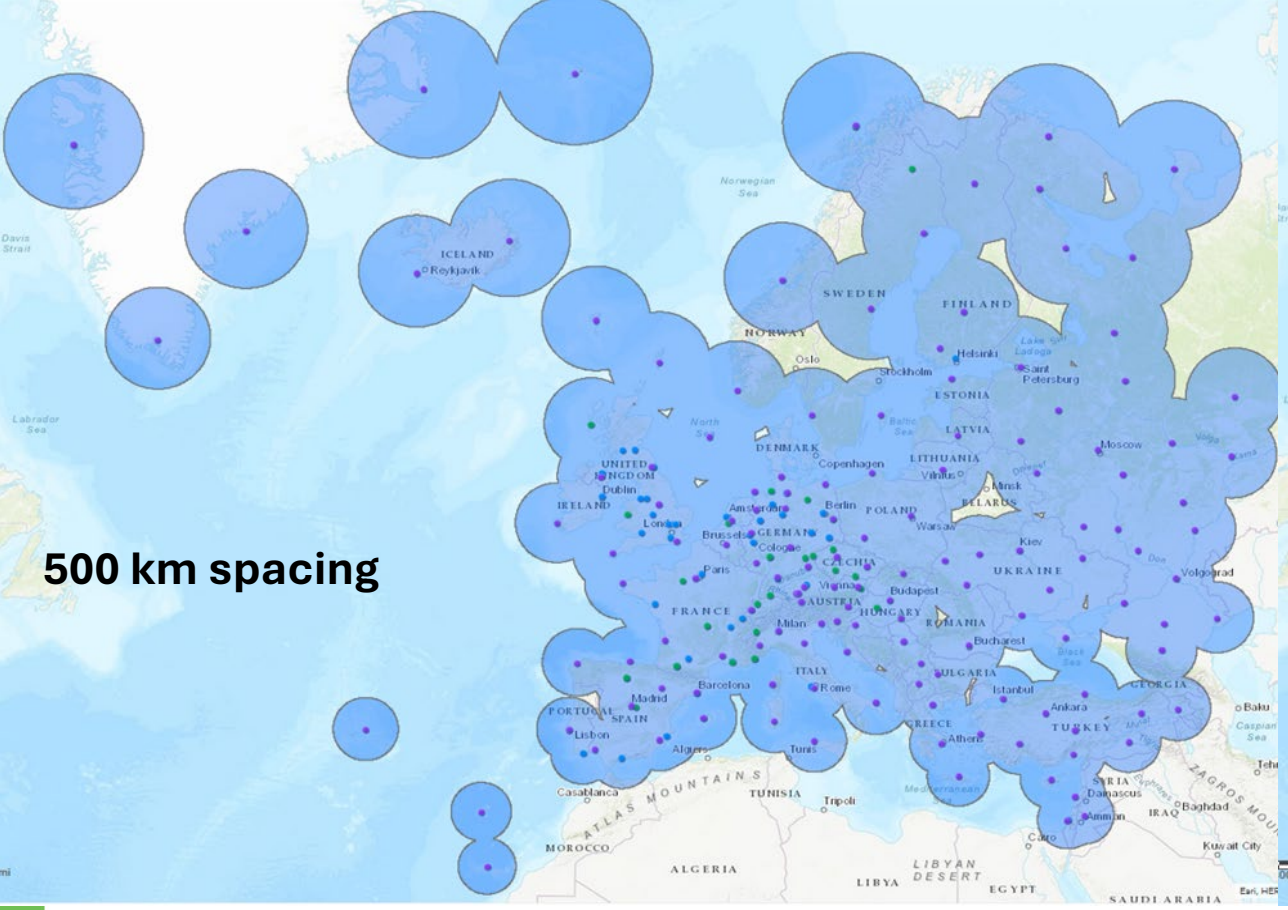
Not yet included:

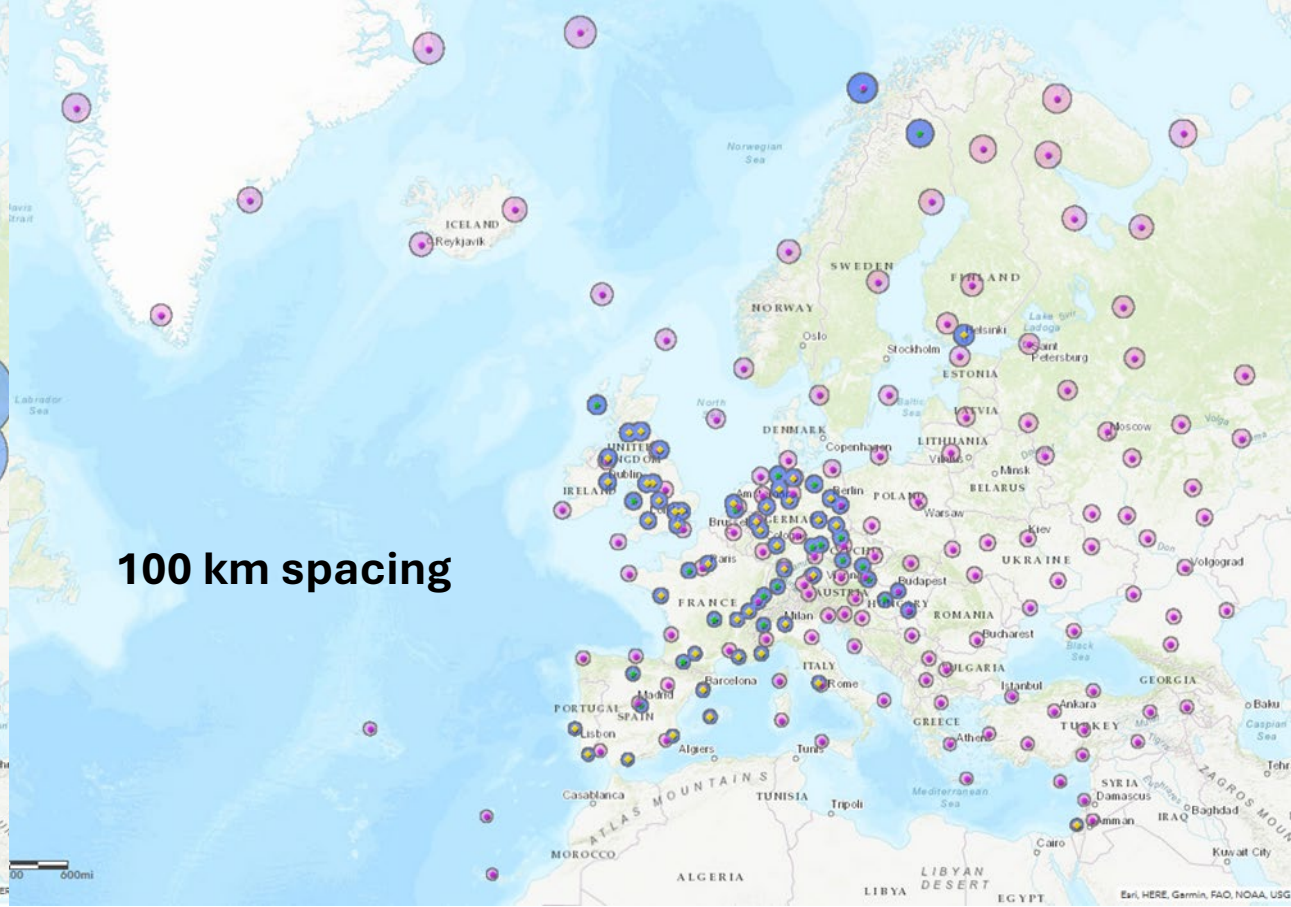
Doppler wind lidar

Weather radar

Blue circles represent 500 km diameter around each station locations, illustrating the quality of the coverage in terms of horizontal spacing against Global NWP requirement.

ID	Variable	Application Area	Layer(s)	Hor.Res. Goal	Hor.Res. Breakthrough	Hor.Res. Threshold	Ver.Res. Goal	Ver.Res. Breakthrough	Ver.Res. Threshold	Observing Cycle Goal	Observing Cycle Breakthrough	Observing Cycle Threshold
781	Wind (horizontal)	2.5 Atmospheric Climate Monitoring	PBL	15 km	100 km	500 km	0.01 km	0.1 km	0.5 km	30 min	60 min	12 h
313	Wind (horizontal)	2.1 Global Numerical Weather Prediction and Real-time Monitoring	PBL	15 km	100 km	500 km	0.5 km	1 km	3 km	60 min	6 h	12 h
385	Wind (horizontal)	2.2 High-Resolution Numerical Weather Prediction	PBL	0.5 km	2 km	10 km	0.1 km	0.2 km	0.4 km	15 min	60 min	12 h
453	Wind (horizontal)	2.3 Nowcasting / Very Short-Range Forecasting	PBL	1 km	5 km	20 km	0.2 km	0.5 km	1 km	5 min	30 min	3 h





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Considering satellite capability – present and planned

WMO OSCAR | Space-based capabilities (OSCAR/Space)

OSCAR

Observing Systems Capability Analysis and Review Tool

Home | Observation Requirements | Space-based Capabilities | Surface-based Capabilities | Analysis

Overview | Programmes | Satellites | Instruments | Frequencies | Agencies | Satellite Status | Gap Analyses

Space-based Capabilities (OSCAR/Space)

This section contains details of environmental satellite missions, instruments and other related information. It also provides expert assessments on the relevance of instruments for fulfilling some WMO pre-defined capabilities (see list of mission types) and the measurement of particular physical variables (see See Gap analyses by variable or by type of mission)

The OSCAR/Space section is managed by the WMO Space Programme Office. See the WMO Space Programme website for more information.

How to get started with OSCAR/Space ?

- **Using the "Quick Search"**
  The "quick search" is present on every page at the right end of the menu bar. Please type e.g. the name of a satellite, instrument or variable. The system will then automatically suggest some items, which you can directly select in the drop down menu.
- **Using the top menu**
  From the top menu, you can select the full tables of satellites, instruments, programmes etc. These tables can then be sorted and filtered according to your criteria.

From any page, you can use the hyperlinks to navigate between your items of interest. The quick search and top menu are available from all pages.
For support and feedback please use the helpdesk form.

Satellite status updates

Recently launched | Planned launches 2025 | Statistics

Launch	Operator	Satellite	Payload
17 Nov 2025	EUMETSAT	Sentinel-6B	DORIS, GPS, LRA, GNSS-RO, Poseidon-4, RMU, AMR-C, HRMR
05 Nov 2025	iQPS	QPS-SAR 14	QPS-SAR
04 Nov 2025	esa	Sentinel-1D	SAR-C
02 Nov 2025	tomorrow	Tomorrow-S8	TMS

Additional related information

- Information and links relating data access are integrated in OSCAR. Access to low-level data is described on the Data access page. Satellite imagery and derived products can be accessed through the Product Access Guide. An overview of related software and processing tools is also available.
- WMO-CGMS Virtual Laboratory for education and training in satellite meteorology (VLab), a global network of specialized training centres provides valuable information in the area of training and education.

OSCAR

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Quick Search...

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Gap analyses by Variable, Type of Mission, or WIGOS Subcomponent

Select gap analysis type

Variable

Select a Variable

Basic atmospheric

ECV Variables only

Atmospheric temperature

Select analysis type

- (•) Simplified, based on mission objectives
- ( ) Expert system, based on instrument properties

Instrument Types	Select	
ECT Range	Select	
Orbit Types	Edit	GEO
Longitude range	Select	
Primary ECV		☐

Measurement timeline for *Atmospheric temperature*

Hint: Move around in the timeline by scrolling up, down, left or right.

Found 33 results Export

This table has a large number of results. Hide lower rated instruments Hide inactive instruments

First Previous 1 Next Last

Instrument	NRT?	Mission Objective	Satellite	ECT/Lon	Orbit	DLR	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	204
GHMS		1 - Primary mission	Himawari-10	140.7°E	GEO								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
GIIRS	Yes	1 - Primary mission	FY-4A	123.5°E	GEO		X	X																							
GIIRS-2		1 - Primary mission	FY-4F	0	GEO							X	X	X	X	X	X	X	X	X											
GIIRS-2		1 - Primary mission	FY-4E	0	GEO					X	X	X	X	X	X	X	X	X													
GIIRS-2		1 - Primary mission	FY-4D	0	GEO				X	X	X	X	X	X	X	X	X														
GIIRS-2		1 - Primary mission	FY-4C	133°E	GEO			X	X	X	X	X	X	X	X	X															
GIIRS-2		1 - Primary mission	FY-4B	105°E	GEO		X	X	X	X	X	X																			
GXS		1 - Primary mission	GeoXO 2	105°W	GEO												X	X	X	X	X	X	X	X	X	X	X	X			
GXS		1 - Primary mission	GeoXO 4	105°W	GEO																					X	X	X			
IRFS-GS		1 - Primary mission	Electro-M N1-1	0	GEO											X	X	X	X	X	X	X	X	X	X	X	X	X			
IRFS-GS		1 - Primary mission	Electro-M N1-2	0	GEO												X	X	X	X	X	X	X	X	X	X	X	X			
IRS		1 - Primary mission	MTG-S2	0	GEO													X	X	X	X	X	X	X	X	X	X	X			
IRS		1 - Primary mission	MTG-S1	0	GEO			X	X	X	X	X	X	X	X	X	X	X													
SOUNDER		1 - Primary mission	GOES-15	61.5°E	GEO																										
SOUNDER		1 - Primary mission	EWS-G1	61.5°E	GEO		X																								
SOUNDER		1 - Primary mission	EWS-G2	61.5°E	GEO		X	X	X	X																					

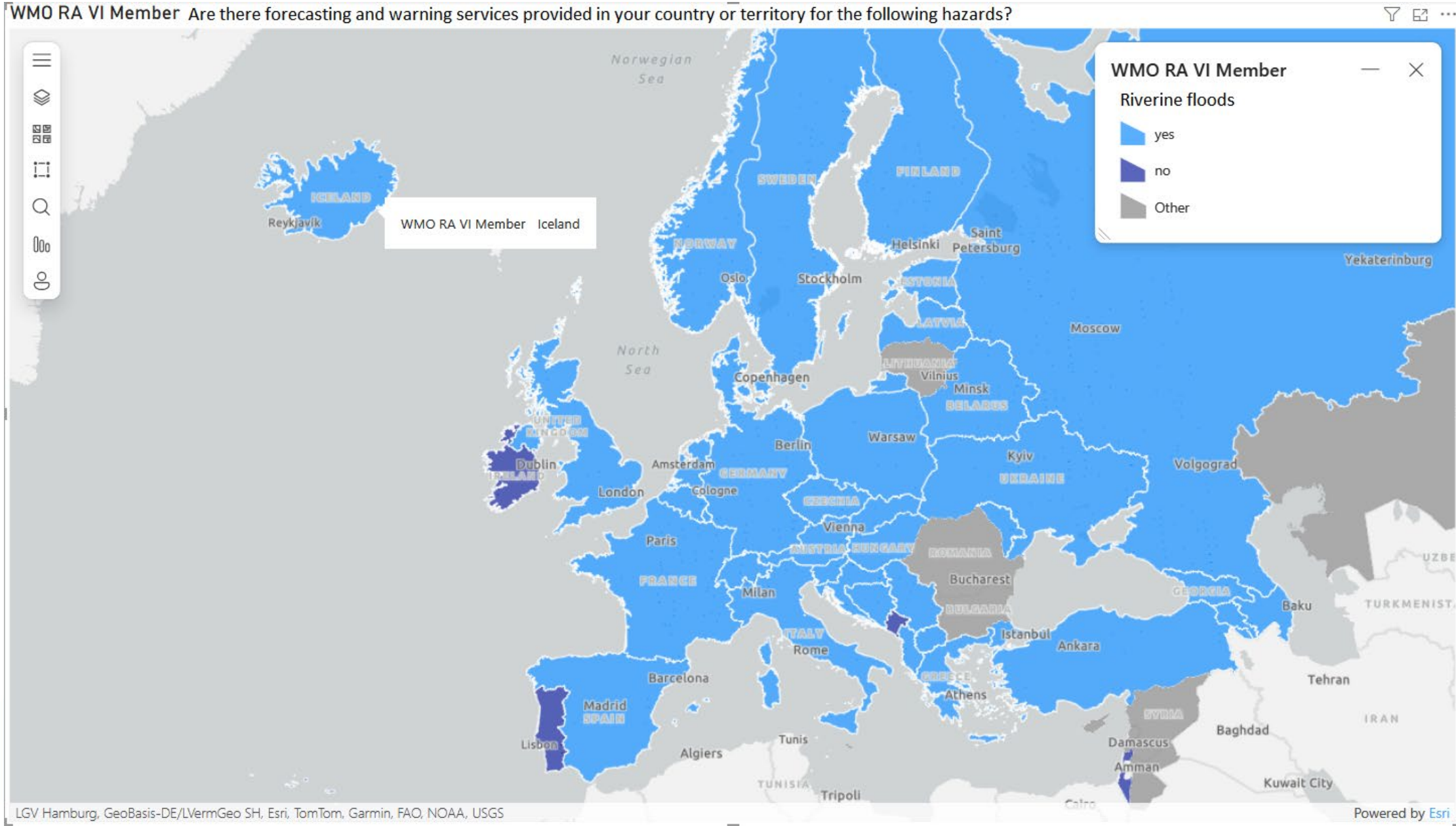
Members contributions

- We will share a summary of our analysis for RBON-Floods-meteorology (along with the maps) - early Q2 2026.
- Feedbacks from Members - Q3 2026.
- RA VI session - Q4 2026.
- We will use your feedback and RA VI session's decision to develop recommendation for the RBON-Flood roadmap.

Overview of the process for hydrology

- Data collection campaign
- International and regional exchange of hydrological data
- Monitoring capacities in flood-prone areas
- Gap analysis summary

DATA COLLECTION CAMPAIGN



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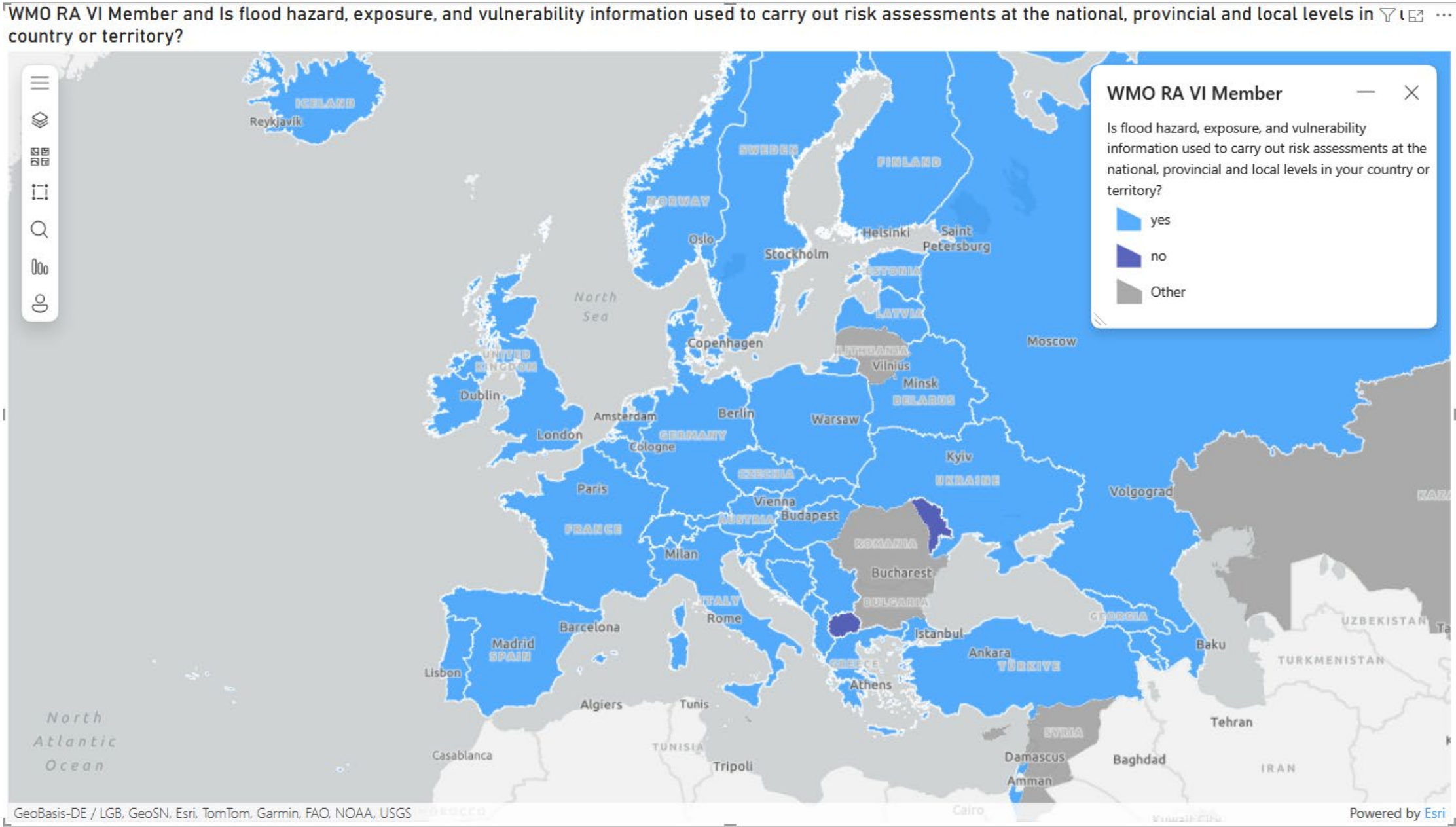

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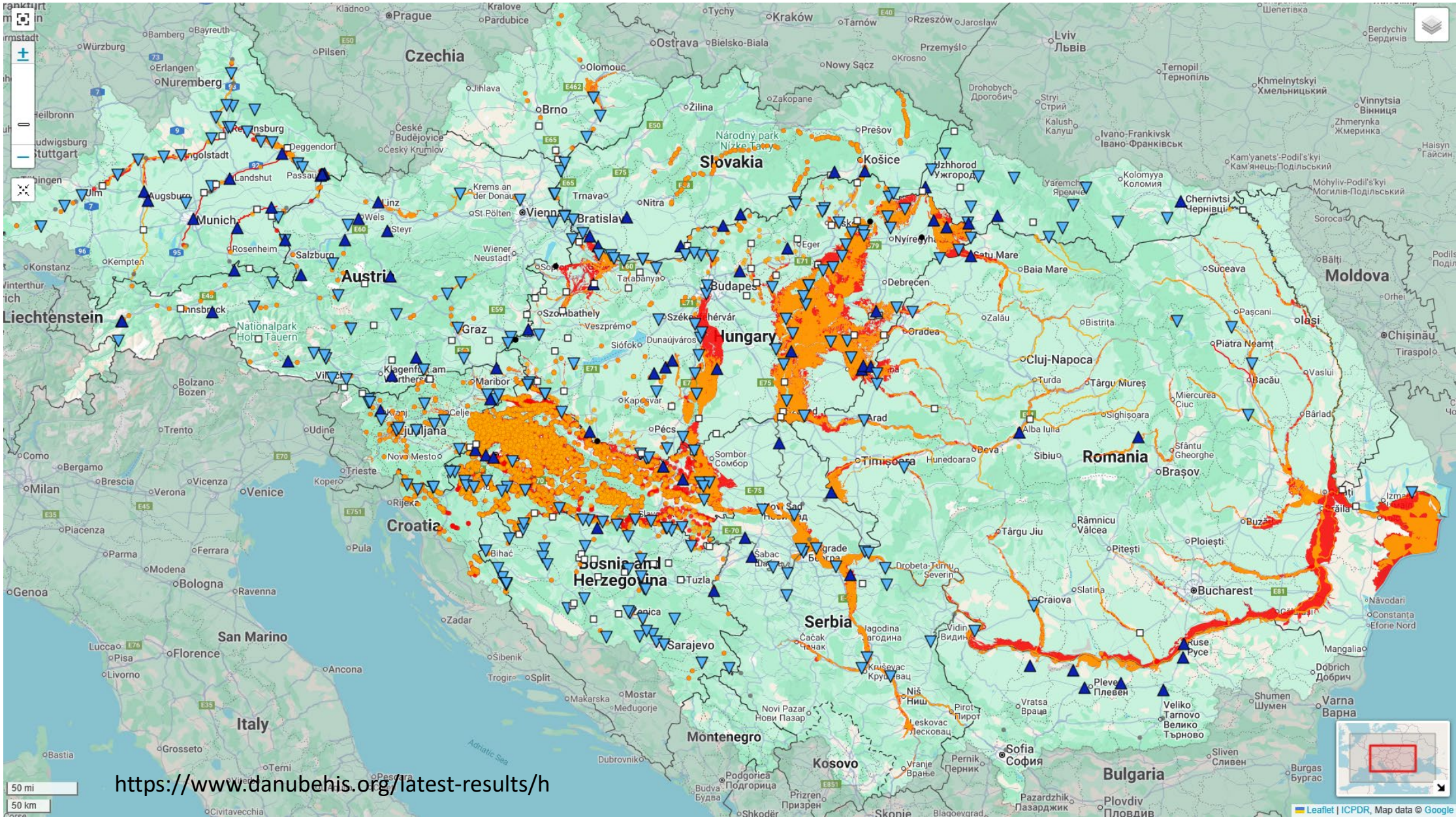
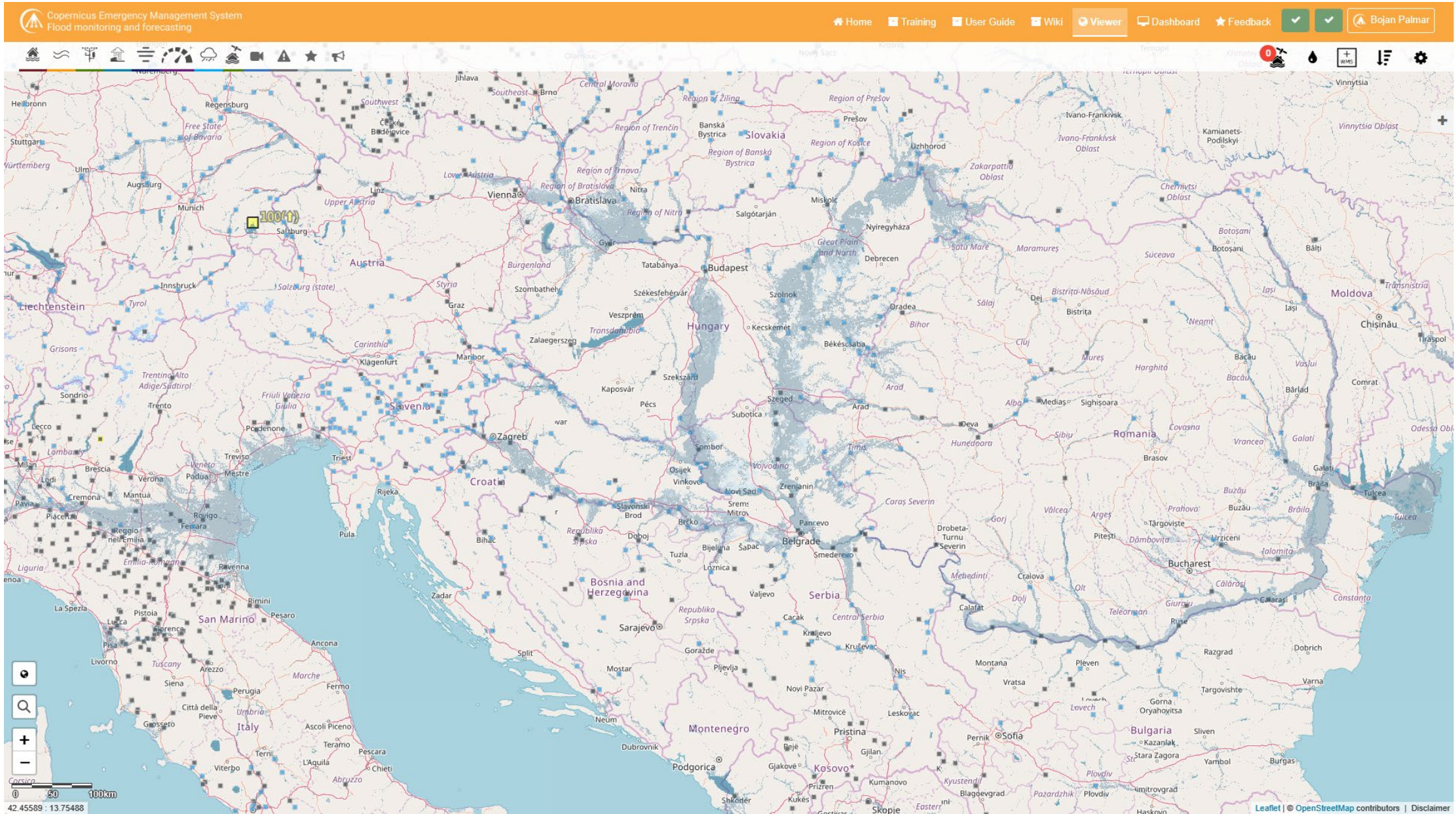
DANUBE HIS (ICPDR)



https://www.danubehis.org/latest-results/h

MONITORING CAPACITIES IN FLOOD-PRONE AREAS, European Flood Awareness System – EFAS



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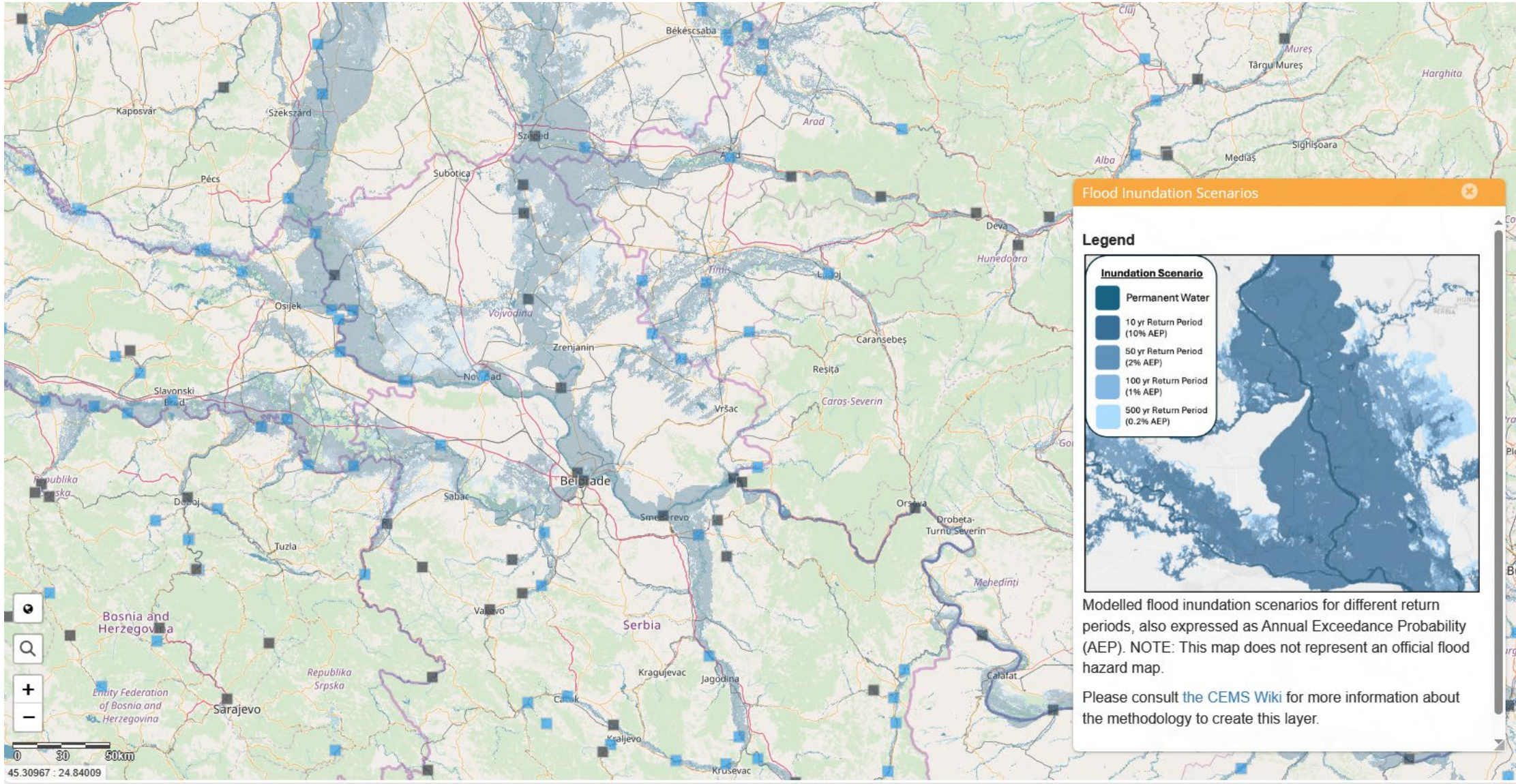
Pilot: Serbia, the confluence of the Danube, Drava, Tisa and Sava rivers



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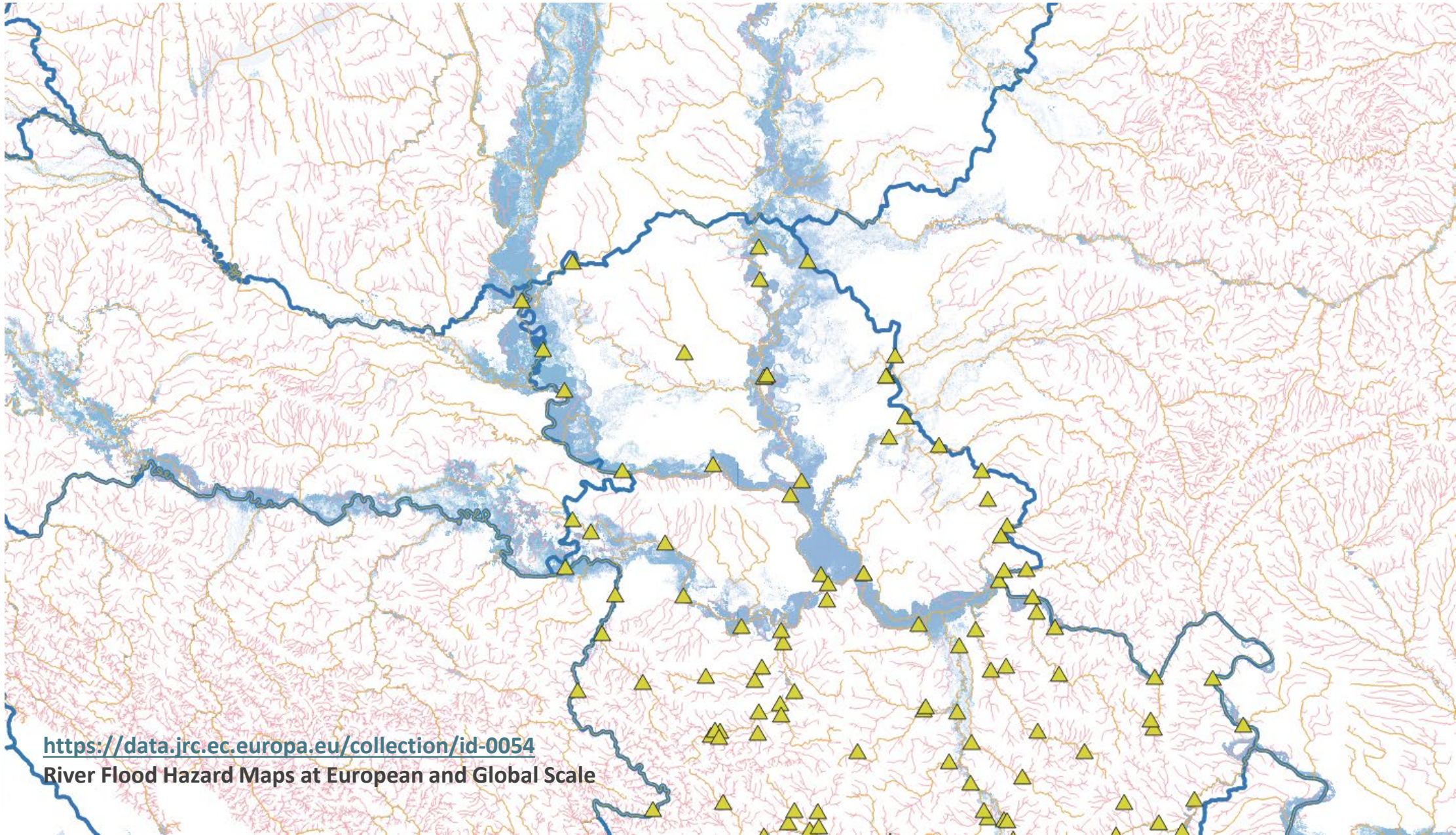

https://data.jrc.ec.europa.eu/collection/id-0054
River Flood Hazard Maps at European and Global Scale

WORLD METEOROLOGICAL ORGANIZATION

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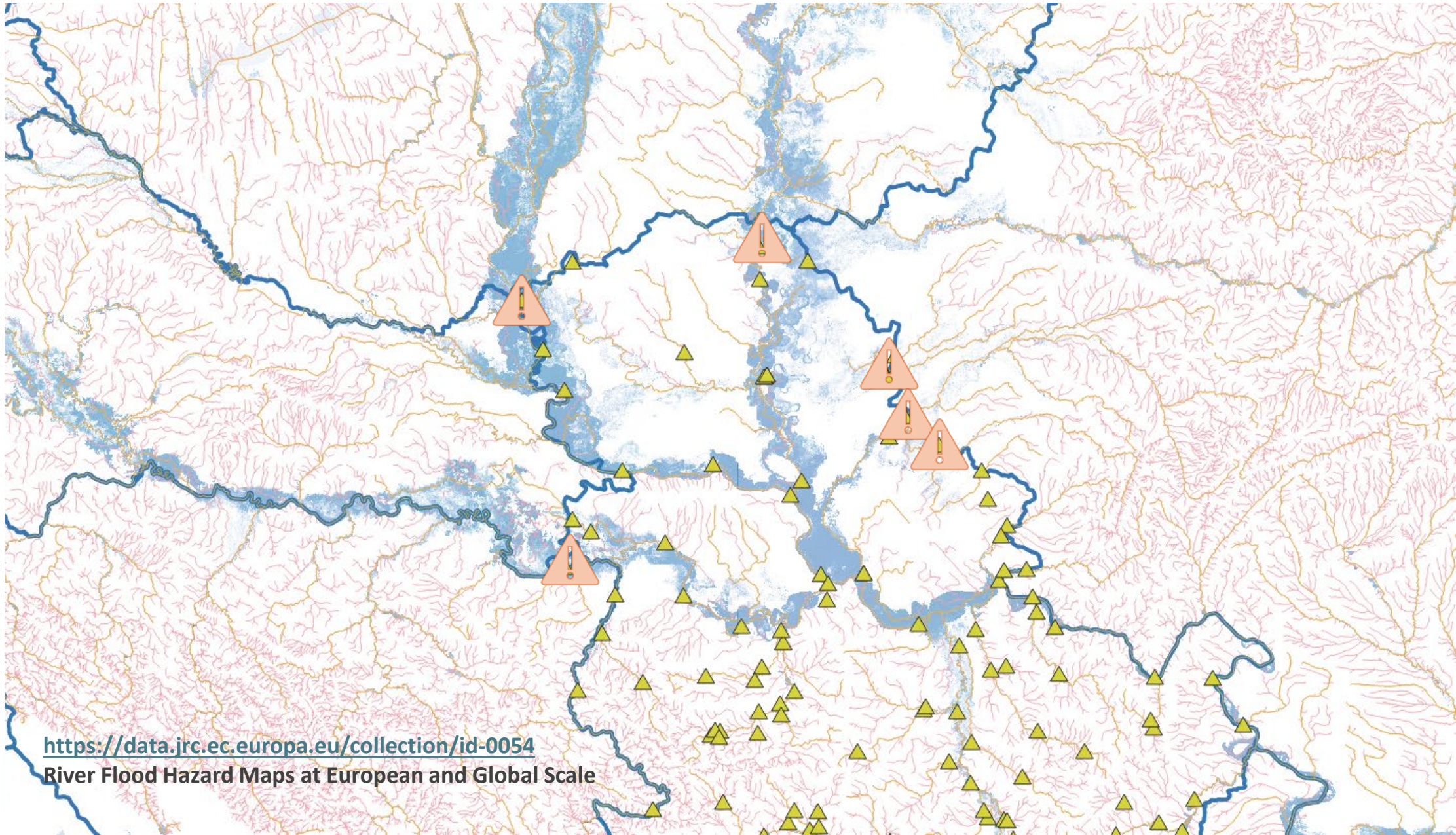

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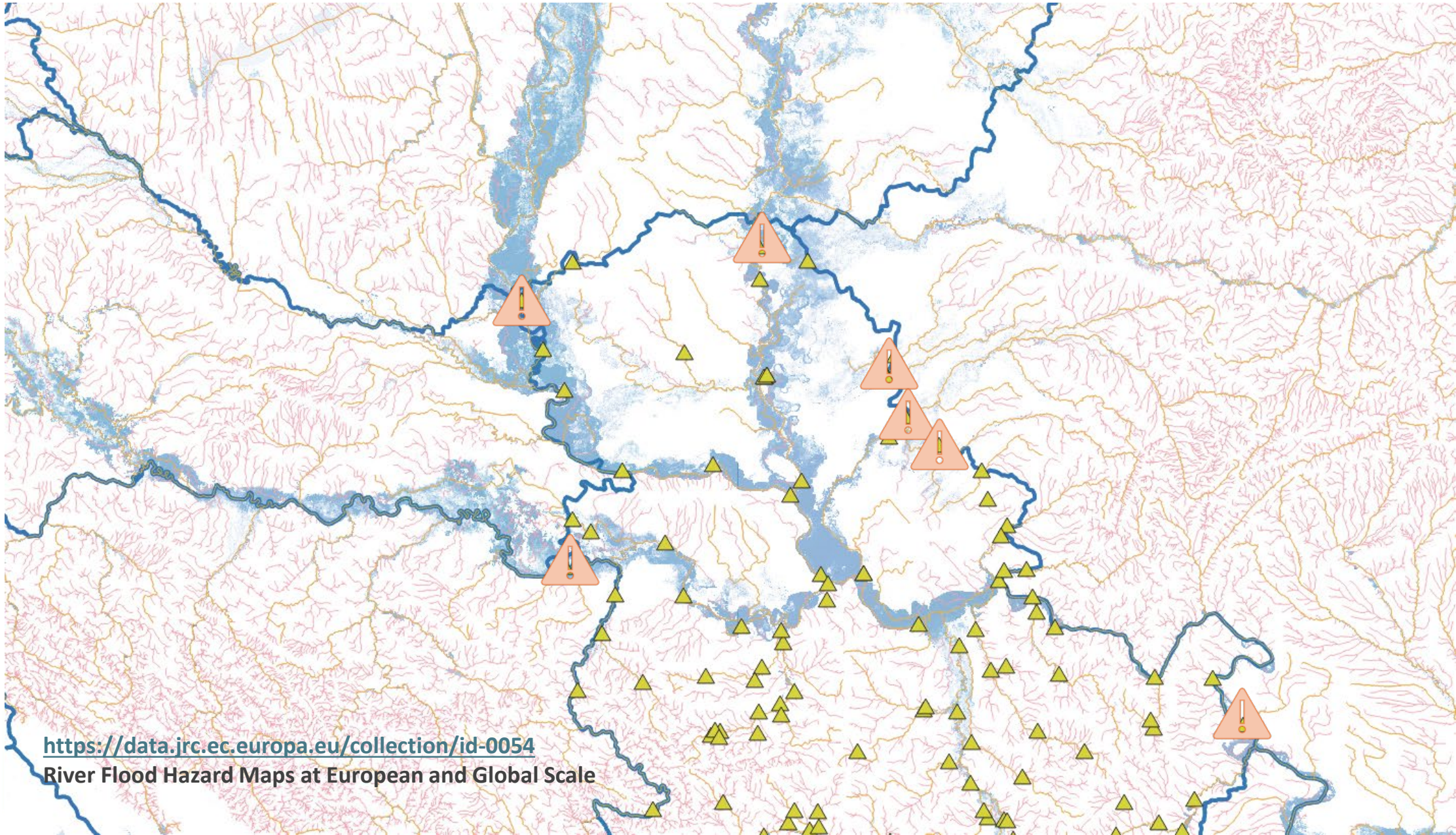

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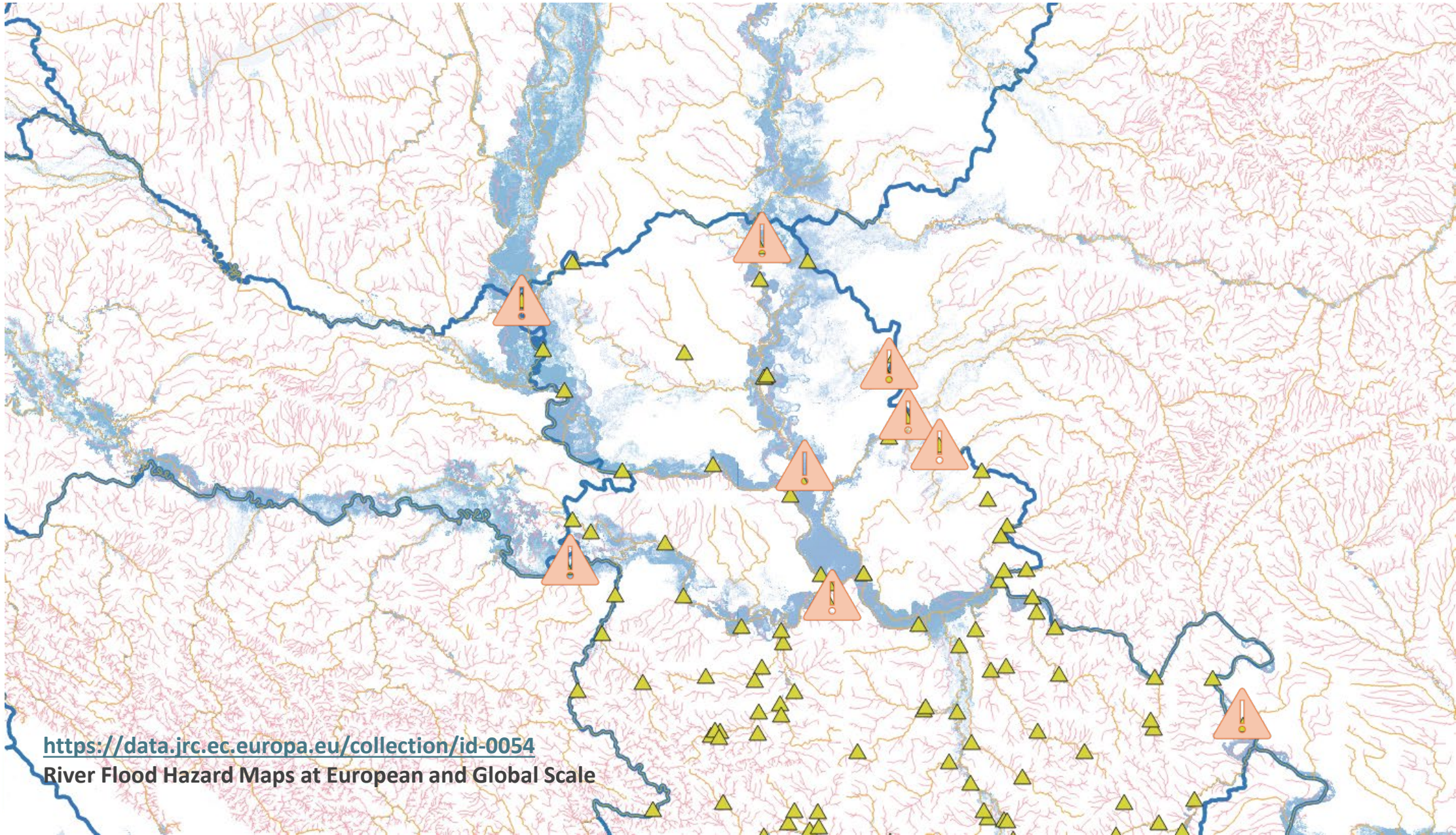

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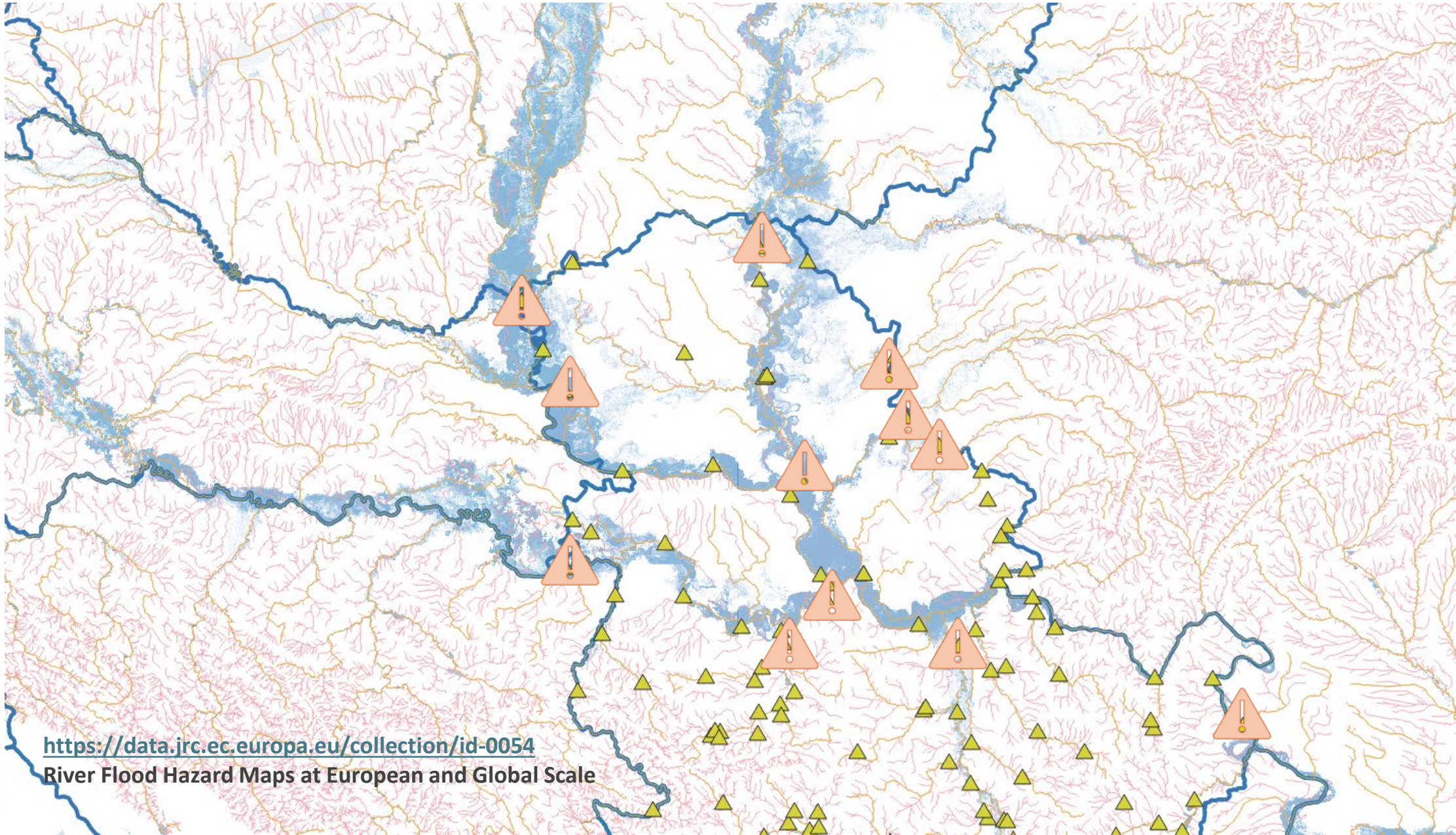

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River Flood Hazard Maps at European and Global Scale

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THANK YOU FOR YOUR ATTENTION