

HYDROMETEOROLOGICAL HAZARDS – RISK AND MITIGATION



PARTNERSHIP

Milestone D.3.2: Defined interactive solutions

DOCUMENT INFORMATION PAGE

Grant Agreement No.: 101101710

Deliverable Due Date: M6

Project Starting Date: 01 January 2023 (24 months)

Actual Submission: December 2023

Deliverable No.: 3.2 (WP3)

Leading Partner: NALAS

KEY WORDS

Defined interactive solutions

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VERSION HISTORY

Release	Status	Date
0.1	Initial Draft	18.12.2023
1.0	Draft v1	22.12.2023
1.1	Final Draft Version	30.1.2024
2.0	Final Version	30.12.2024

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Executive Summary

Europe has experienced devastating hydrometeorological hazards in the past and, with the current climate change prospects, will do so even more in the future. An interconnected world and systems make disaster governance a key issue in dealing with different risks as hydrometeorological hazards can potentially also affect technological infrastructure and be the trigger for further hazards.

Europe faces challenges due to diverse governance structures, varying risk perceptions, and different levels of vulnerability across countries. Effective disaster governance requires collaboration among stakeholders at all levels and investment in research and innovation.

Disaster governance actors include public agencies, emergency and rescue services, academia, NGOs and CSOs, industries, and operators of critical infrastructure. A survey conducted among COVALEX stakeholders revealed that public authorities are the most prominent actors in the network at the moment. Their main concerns are floods, torrential rain, and storms.

Risk perception is an important factor in disaster governance. The participants expect a shift in relevance towards risks such as heat waves, droughts, and wildfires in the next 10 years. In terms of requirements for the COVALEX network, the participants expressed interest in the exchange of best practices and experiences, learning about different disaster governance strategies, collaboration and education.

About COVALEX

COVALEX aims to establish a common and extended community of experts on the experience, geographical coverage and diverse sectoral networks in hydro-meteorological multi-hazards events. Science can practically challenge those phenomena and foster the processes of prevention, preparation and testing. It pools four DG ECHO networks and project-driven first responders' communities, mainstreams the evidence- and science-based risk governances and interoperability communications approach to decision-makers, rescue and humanitarian actors.

The Community will build capacity by engaging 11 partners from 10 countries and their network members. Though we bring together, promote and strengthen the capacities and knowledge of experts, decision-makers, politicians and multipliers as well as public service providers, media, and NGOs. We build a databank of experts that can be further engaged and involved in international and local case studies and events. We bring academia, practitioners, and decision-makers for multidisciplinary and cross-sectoral cooperation to apply scientific knowledge to disaster risk management (DRM), accentuating hydrometeorological and technological driven disasters.

Main outputs: pipeline with scenario-based exercises, living-learning content combined with open-source support tools for decision-makers, scientific community events, including hackathons, themed discussions and boost of science for resilience, over 200 activated experts in the COVALEX database, delivery of three scenario-based experiences with over 200 trainees, one common framework for engaging all actors, scientists and IT developers for greater use of human-centered scientific approach to resilience and civil protection.



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Milestone D.3.2: Defined interactive solutions

D.3.2. Development of a catalogue of IT tools for knowledge awareness

Open Data and IT Platforms for Emergency Situations

Catalogue for Local Government

Proposed material and content for the LibLab

Starting point:

The COVALEX Resilient LibLab will be a knowledge sharing platform for best practices concerning the thematic expertise community (types of thematic multi-hazards), with developed courses and trainings for stakeholders, decision-makers and practitioners across Europe, but also with materials on exercises, resilience plans, publications, and new research findings.

The LibLab will have a section to include catalogue of Data and various IT solutions already developed – IT Toolbox, as well as best practice examples. With the IT Toolbox as a solutions catalogue, the practitioners will be capacitated to understand the tools in use, applications of open and satellite data and by providing trainings, workshops, and research materials; they will be empowered with new and important knowledge for systematic risk management.

The importance of data for evidence-based decisions and critical improvements in disaster decision making is crucial. This IT Toolbox will support the empowerment of users of the LibLab, particularly users from local governments (LG) to understand the need to create, update, and manage data in the applicable format and extend their analysis with the tools and IT solutions already developed.

Based on the identified current needs and challenges of municipalities in Southeast Europe (SEE), this section for knowledge awareness will be of high importance. NALAS is experienced in knowledge sharing via its knowledge management hub serving local governments in SEE. The network provides its knowledge hub via a library of solutions for experts, local practitioners and capacity development embedded in the NALAS e -Academy.

Objective: Identification of the interactive solutions to be included in the IT Toolbox

The primary emphasis of this document lies on identifying the interactive solution to be presented in the IT Toolbox.

Several criteria should be established for selecting the solution(s) to be utilized for COVALEX activities, IT Toolbox, LibLab and trainings and exercises foreseen.

The criteria include, but is not limited to:

- Role of LG (in focus)



- Necessity of involvement of other relevant stakeholders
- Use of local data
- Support for interoperability
- Open-source digital tool
- Availability of training materials
- Application in multiple phases of the DRR cycle.

COVALEX WP3 – Defining interactive solutions D.3.2:

To be able to bring policies closer to the people, local and regional governments, with an objective to make societies more resilient, require connections and partnerships. The COVALEX project has a clear objective of creating partnerships promoting the exchange of knowledge and experiences. The partnership in the area of IT tools and solutions has an important value and implies understanding between stakeholders involved in any humanitarian operation, service delivery and activity destined to saving lives and property. In this context, data collection is always a challenge.

The above mentioned is defined in WP3: LibLab and IT Toolbox which will increase knowledge, efficiency and effectiveness and provide access to:

- best practices, knowledge and resources that will enable development of more effective policy solutions for their communities
- guidance of resources on resilience plans and risk management, procedures, and academic papers
- IT tools and solutions, (commercial, local, open, EU...) to support evidence-based decision making with presentations in either video or PowerPoint format (or both) will be provided for dissemination via LibLaB to ensure maximum outreach among our target audience
- technical details and functionalities of IT tools and solutions, open data use, harmonization and standardization of local data, use of big data and satellite images
- methods for calculation used in the IT tools will be collected and elaborated in the materials provided via LibLab
- options for reusability of the solution and possible training.

Proposed material and content for IT catalogue in the LibLab

Process of delivery

The catalogue topics shall be realized in a series, starting from the initial parts while creating a rich library of identified interactive solutions. All materials will be collected by NALAS and other COVALEX partners and open to the LibLab, thus, contributing to bridging the gap between global and local actions offering understanding of open data standards, principles and services, as well as IT Tools and platforms offered by DG ECHO, JRC, and tools available from other sources. Catalogue shall also be open to include the workshops and trainings, such as the training for Local governments that NALAS will provide to the network members.

Training for Local Government

A comprehensive training curriculum has been designed to address the critical challenges faced by local governments in managing hydrometeorological hazards.

Acknowledging the existing lack in comprehensive knowledge in these areas, the training will offer to bridge this gap by providing a thorough understanding of the topic.

Beyond merely addressing the identified knowledge gap, it also intends to equip participants with awareness of tools and platforms for further improvement, capacity development, and engagement in practical activities.

Part I: OPEN DATA

The initial part for the target groups of local and regional government stakeholders will include understanding the Open Data Concept.

Open data is data in a computer processable format that can be used freely, reused and redistributed, without restrictions. The publication of the data within state institutions contributes to the increase of transparency and accountability of institutions. Also, open data leads to greater efficiency in the operation of state institutions. The fact is that all or part of the data collected by the institution, published and available, results in a significant drop in individual requirements to access public information, thus reducing administrative work on individual responses, saving time and resources.

Open data has its significant value in everyday life, but even more in time of crises and critical incidents, including natural disasters, terrorism, and life-threatening situations. Open data standards for the (local) government gives priority to data sets that are most needed by the citizens, and which local self-governments have an obligation to own/create or are of particular and significant interest.

Open data sets about shelters and evacuation routes for citizens are part of the emergency management and emergency plans prepared by national and local governments for adequate response in time of crises. Risk reduction involves activities of prevention, preparedness and mitigation that can be highly supported by disseminating data to the citizens, informing them and involving them in the preparedness.



Part I of the catalogue of interactive solutions to be included shall focus on capacity development of Open Data for Emergency Management involving:

- **Introduction of Open Data standards and principles**

EU directives on Open Data, *Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information*, EU Open Data portal <http://www.europeandataportal.eu/> and EU INSPIRE Directive *2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)*.

- **Data Technical Format**

In addition to the legal regulation of the "openness" of the data, it is certainly necessary to enable the technical "opening" of the data in an appropriate computer processable format. Computer editable format is a format that can be automatically read and processed by a computer, such as CSV, JSON, XML, etc.

- **Spatial data in open format**

There are special spatial data formats used for open data, based on standards for geo-data interoperability. To mention the most popular ones: GeoJSON - a JSON-based format with specialized features for describing geodata. KML - Keyhole Markup Language, an open-source XML-based geodata format, standardized in the Open Geospatial Consortium. WMS - Web Map Service - a protocol that allows georeferenced maps to be accessed over the Internet. WFS - Web Feature Service - provides requests for geographical features over the Internet.

- **Web services**

In case the data changes frequently, the publishing of the data sets may be irrelevant due to the dynamics of the data change. Therefore, the data should be opened through web services created most commonly as SOAP and REST.

- **Web Data visualization**

Easily accessible tools for web data visualization of open geo-data, such as BingMaps, OpenStreetMap, GoogleMaps, ArcGis Online, Google Earth are several of the most commonly used platforms important to be listed and applied.

Part II: IT Tools and Platforms

Part II of the interactive solutions to be included and presented to practitioners shall focus on understanding of available IT tools and platforms by EU and non-EU Stakeholders.

This part will address the growing importance of technology in hydrometeorological hazard management. The overview of IT tools and platforms provided by DG ECHO and JRC introduces local authorities to technologies specifically designed for disaster response and risk reduction. Understanding these tools is essential for optimizing decision-making processes during emergencies. Presentations and possible demonstrations of their functionalities will empower local officials to use the full potential of these tools, ensuring efficient data analysis, communication, and coordination in the face of hydrometeorological hazards. In times where technology plays a pivotal role in disaster management, this module provides local governments with the skills and knowledge necessary to leverage the ICT for effective response and resilience building.

Commercially available platforms or tools offered via philanthropic organizations can be discussed too.

This part will serve as a bridge between technological tools and the wealth of data and knowledge available, empowering local practitioners to make informed decisions for the safety and resilience of their communities.

It will be an open platform for contribution by all COVALEX experts and partners.

Topics in Part II shall cover some Interactive Tools and Platforms:

- **IT Tools and Platforms by DG ECHO and JRC**

Overview of IT tools and platforms provided by **DG ECHO and JRC**

The European Union's Mechanism for Civil Protection offers a range of IT tools and platforms, such as:

- Copernicus Emergency Management Service (EMS) On Demand Mapping, <https://emergency.copernicus.eu> Copernicus EMS On Demand Mapping provides on-demand detailed information for selected emergency situations that arise from natural hazards or man-made disasters.
- European Flood Awareness System (EFAS) <https://www.efas.eu/en> ; https://www.efas.eu/efas_frontend/#/home ;
- MARINER Knowledge Tool and modelling Platform [mariner-project.eu Favicon http://mariner-project.eu/assets/uploads/mariner/resultados/33a7c-booklet_environmental_monitoring_final.docx.pdf](http://mariner-project.eu/assets/uploads/mariner/resultados/33a7c-booklet_environmental_monitoring_final.docx.pdf)
- Euro-Mediterranean Cooperation on Natural Disasters <https://www.iemed.org/publication/euro-mediterranean-cooperation-on-natural-disasters-civil-protection-and-emergency-management>
- The INFORM risk assessment tool is an open-source and its results support decisions at different stages of the disaster management cycle, including prevention, preparedness and response. <https://drmkc.jrc.ec.europa.eu/inform-index>
- Prevention web https://www.preventionweb.net/files/50823_drmkcnl5final.pdf4 .

• IT Tool – Developed for COVALEX by NALAS

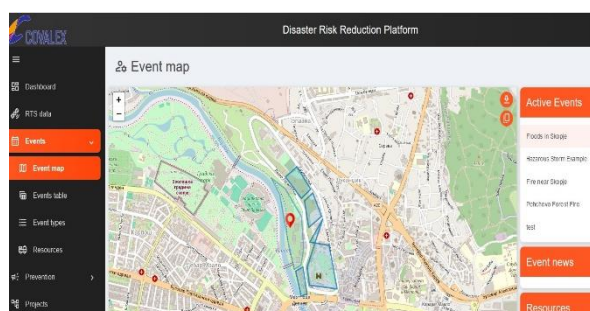
Description of the IT Tool for Disaster Risk Reduction

The IT Tool for Disaster Risk Reduction (DRR) is a comprehensive, web-based platform that enhances data interoperability and decision-making capabilities among municipalities. The tool addresses fragmented disaster management systems by consolidating data from diverse sources, supporting real-time monitoring, and facilitating intermunicipal, cross-border or regional collaboration. It provides municipalities with robust functionalities for risk assessment, data visualization, and public engagement, ensuring informed and efficient responses to disaster scenarios.

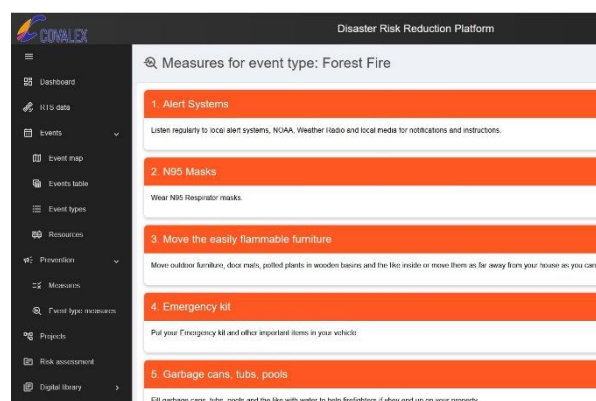
Benefits, Goals and Key Cornerstones of the IT DRR Tool:

- Offer an administrative and public tool for DRR;
- Encapsulate the Risk Assessment process of municipalities
- Promote and Enable municipality cross-border, intermunicipal and regional collaboration
- Map out Hazards and Inform the public / affected stakeholders
- Enhance data integration and data collection
- Better define Risks and providing structure, severity scaling and measures for different instances of the state / public
- Improve Hazards visualization and spread
- Offer tools for transparency to advice, measures and information sharing to affected subjects

This tool is lightweight, open-source, and accessible through standard web browsers without the need for specialized hardware or software. Multilingual support is available, with English as the primary language and the flexibility to add more languages for localization. The tool incorporates accessibility features that comply with Web Content Accessibility Guidelines (WCAG).



The IT tool standardizes data from diverse sources, including municipal plans, GIS systems, real-time sensors, satellite imagery, and global datasets. It adheres to established standards and protocols, ensuring seamless integration and data exchange. GIS and JRC data are integrated for advanced spatial analysis and mapping, providing municipalities with visual insights into risks, vulnerabilities, and resources. Real-time data from sensors and satellite imagery enhance monitoring capabilities, while a user-friendly dashboard allows for the visualization of data in various formats, including maps, charts, and tables. Municipalities can upload and manage their own plans, documents, data and maps, enabling comprehensive data management. Overlapping plans, such as urban and risk



preparedness plans, are visualized on operational maps to highlight interdependencies and support planning.

Collaborative Risk Assessment Document creation tool and Hazard Event mapping

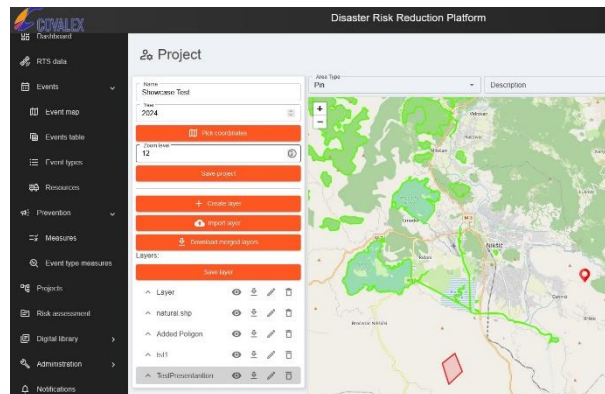
- Enhance collaboration – by simplifying inclusion of cross-border and cross-municipality experts to collaborate on plans, documents
- Create joint-project with GIS mapping for planning and assessment
- Offer easy-to-add and easy to manage document content and GIS project content between neighboring municipalities and cross-border municipalities sharing a region
- Integrates ready-to-use exported layers using KML from different sources and different municipalities

GIS systems in use

- Provides project standardization using KML for exports towards outer GIS systems
- Modeling of realistic hazard options and events
- Simulation in production: realistic HAZARDS mapping and showcase of activities and measures to different reported hazards/events according to the assessment plan and level

Comprehensive documentation and training materials are provided to ensure effective use of the tool. The tool has undergone testing and piloting in at least two municipalities, with feedback integrated to refine its functionality.

The IT Tool for DRR represents a critical advancement in municipal disaster management, enabling data-driven decision-making and fostering collaboration across stakeholders. By consolidating diverse data sources, enhancing visualization capabilities, and promoting real-time engagement, the tool empowers municipalities to mitigate risks, respond effectively to emergencies, and build resilience in the face of multi-hazard threats.



Testing platform is available on the following link <https://covalex.dev.inteligenta.io/> by using the below given credentials.

username: admin01@inteligenta.io

pass : admin

- **IT Tools and Platforms - Practical examples and Case studies**

Overview of IT tools and platforms provided by **cities or local governments, non-governmental and civil society organisations, philanthropic organizations, or commercial companies**

This is not closed list, but an open one that will be continually enriched and updated by COVALEX experts, partners and practitioners.

Some of the identified IT Tools to be included in the IT catalogue – Toolbox are presented below,

(1) The open data portal of the city of Zagreb with a Map of earthquake evacuation zones in Zagreb

The open data portal of the city of Zagreb is proof of the commitment of the local government to open and make available data that may be of interest to citizens, not only for review, but also for further analysis and the initiation of decisions and projects. The portal has a total of 75 data sets that can be viewed through www.data.zagreb.hr and includes a range of data from financial statements, registers of public institutions with addresses and locations, to the start / end analysis (origin / destination) of travel with public transport (as part of the Urban Mobility project, Sustainable Urban Mobility Boost Smart Toolbox Upgrade (SUMBooST2), parking spaces for bicycles, network of bicycle lanes, recycling areas or green island locations in the city (divided by location of address, city quarter, size and description) as well as city parks and green areas with their total capacity and the ability to search by location with coordinates and on a map.

The list of data sets also includes data that is rarely found in municipalities and is of exceptional importance. These are the maps of evacuation zones during the earthquake in Zagreb. The earthquakes that occurred in Zagreb during 2020 showed the vulnerability of the population, but also the importance of available evacuation maps. In some parts of the country where such maps were not available, residents wandered the streets not knowing where to hide and take refuge.

Grid	Graph	Map	67 records	1	67	Search data ...	Go »	Filters
_id	Name	Description	Longitu...	Latitude	Vrsta	Gradska...	Navigiraj do	
5	OS Otok	Ulica Stjepana Gradića	15.9864...	45.7658...	Lokacija...	Novi Za...	https://goo.gl/maps/m9iMjpmZSrewM4HA	
6	Podbrežje	Velika zelena površina uz stambeno n...	15.9764...	45.7690...	Lokacija...	Novi Za...	https://goo.gl/maps/TciWhrpf55AxxQh6	
7	Sajam a...	Sajmišna cesta	16.0191...	45.7708...	Evakuac...	Novi Za...	https://goo.gl/maps/1b73HzQJd9xDDCJDA	
8	Park Tra...	Ulica Božidara Magovca	15.9975...	45.7711...	Lokacija...	Novi Za...	https://goo.gl/maps/Vhq96DKQzksjBqK8	
9	Park ML...	Križanje Av. Dubrovnik i ulice Siget	15.9668...	45.7761...	Evakuac...	Novi Za...	https://goo.gl/maps/kSUFuZVgTb9vroRk9	
10	Igrališt...	Prva gimnazija, Avenija Dubrovnik 36	15.9930...	45.7762...	Lokacija...	Novi Za...	https://goo.gl/maps/KkFwAn1wZSyT5v8HA	
11	Parkirali...	Križanje Av. V. Holjeveca i ulice Damira...	15.9475...	45.7778...	Lokacija...	Novi Za...	https://goo.gl/maps/oJ6CxSEidHoKCDx78	
12	Zagreba...	Parkiralište istok	15.9791...	45.7803...	Lokacija...	Novi Za...	https://goo.gl/maps/u2kjmU3ixi8czK78	
13	ŠRC Jarun	Jarun bb	15.9136...	45.7855...	Evakuac...	Trešnjev...	https://goo.gl/maps/q6WPhfUCkeoEFv478	
14	ŠRC Mla...	Jarunska ulica 5	15.9430...	45.7834...	Lokacija...	Trešnjev...	https://goo.gl/maps/DigrfTSJGfBUcVUp6	
15	Bundek	Križanje Av. V. Holjeveca i ulice Damira...	15.9814...	45.7842...	Evakuac...	Novi Za...	https://goo.gl/maps/6XhcE8j4uh6FvDKs7	
16	Hipodrom	Ulica Radoslava Cimermana 5	15.9743...	45.7849...	Evakuac...	Novi Za...	https://goo.gl/maps/pydyvisTyeuAX461S6	
17	Kineziol...	Horvačanski zavoj 15	15.9447...	45.7849...	Lokacija...	Trešnjev...	https://goo.gl/maps/Lni9ogk16F4Nzazw7	
18	Vodopri...	Petrovaradinska ulica 110	15.9019...	45.7847...	Evakuac...	Trešnjev...	https://goo.gl/maps/YqDNTVnvZyrB9V5K6	
19	NK Posa...	Igralište na Savici	16.0022...	45.7887...	Evakuac...	Trnje	https://goo.gl/maps/QfB1r6HMAujM3nJ7A	
20	Bočarski...	Prisavlje ul. 2	15.9616...	45.7896...	Lokacija...	Trnje	https://goo.gl/maps/P8S5sxzmdfykXWo5A	
21	Okretišt...	Svilkovići ulica	15.8923...	45.7939...	Evakuac...	Trešnjev...	https://goo.gl/maps/ckMboXCXQsU3zb3GA	
22	Savska ...	Velika zelena površina između rijeke S...	15.8895...	45.7936...	Evakuac...	Stenjevec	https://goo.gl/maps/dYDDfufMfMCFknTXc6	
23	Nogome...	Capraška ulica	16.0138...	45.7946...	Lokacija...	Pešćeni...	https://goo.gl/maps/MPthJhnuDT9vXz7	
24	Križanje ...	Križanje Petrovaradinske i Zagrebačk...	15.9082...	45.7960...	Lokacija...	Trešnjev...	https://goo.gl/maps/sNQ8g6turpkYhsRQ9	
25	ŠRC Trnje	Ulica Grada Vukovara 236e	15.9946...	45.7991...	Lokacija...	Trnje	https://goo.gl/maps/DSXgW4kXhoNPf4JE6	
26	Parkirali...	Vukovarska-Donje Svetice	16.0140...	45.8019...	Lokacija...	Pešćeni...	https://goo.gl/maps/9nu4atewvWcYDd2w7	
27	Rudeš	Velika zelena površina uz Rudešku ce...	15.9216...	45.8025...	Lokacija...	Trešnjev...	https://goo.gl/maps/DoRZzCSfFWRTsvn6	

The open data available from the city of Zagreb serves each citizen individually, but also the local authorities to be better prepared, and to protect these areas of importance in critical moments.

The public has also access to the data with the simple use of OpenStreetMap.

Karta sigurnih zona u slučaju potresa

[Go to resource](#)
[Data API](#)

URL: <http://data.zagreb.hr/dataset/c6f859aa-856a-4ae1-a75f-a2e2916d2a23/resource/2b042b5e-a4cc-4056-ad54-01cae270fb3c/download/karta-sigurnih-zona-...>

FROM THE DATASET ABSTRACT

Karta sigurnih zona u slučaju potresa

Source: Karta sigurnih zona u slučaju potresa

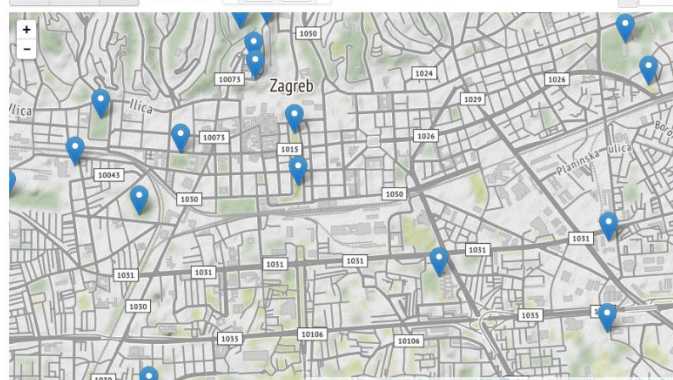
Data Explorer

Embed

Add Filter

Grid Graph Map 67 records 1 67

Search data ... Go » Filters



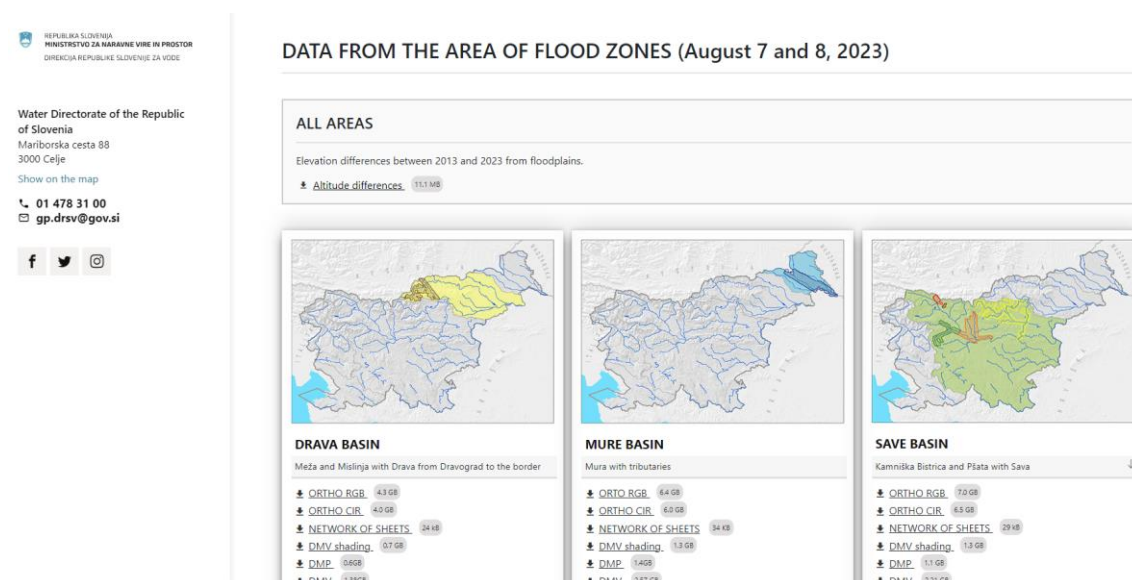
Latitude / Longitude fields
GeoJSON field
Latitude field
Longitude field
Update
☒ Auto zoom to features
☐ Cluster markers

(2) Flood hazard data and hydrological data - Slovenia

Slovenia's flood hazard data is publicly freely available on the website "eVode" (<http://www.evode.gov.si/>) utilizing the publicly accessible web GIS viewer based in the state computer cloud, "Atlas Voda", in accordance with the EU INSPIRE Directive (2007).

The platform "Atlas Voda" (<https://geohub.gov.si/portal/apps/webappviewer/>) features user-friendly interactive maps with flood hazard information, areas affected by past flood events, erosion risk areas, avalanche-prone areas, etc. Notably, the data are continuously updated, providing information on recent floods.

Additionally, real-time hydrological data can be accessed on the Slovenian Environment Agency's website (<https://www.arso.gov.si/vode/podatki/amp/>), enabling early detection of potential flooding or other water-related emergencies. This information is invaluable for issuing timely warnings and implementing emergency response measures to protect lives and property.



(3) Platform of the Western Morava Basin - Serbia

The platform has been set up for cooperation and working together to create a more resilient community to reduce risk, as well as respond and quickly recover from natural disasters and other disasters. Specific Goals of the platform are: Development of general purpose civil protection units; Collection, processing and exchange of data between cities and municipalities and republican institutions; Joint planning and implementation of infrastructure measures in accordance with recommendations, studies and analyzes for the problem of flooding in the West Morava basin; Assessment of seismic hazard, i.e. exposure and vulnerability of residential buildings and infrastructure in the cities and municipalities of the Western Morava basin; Strengthening horizontal and vertical communication in order to improve the early warning system; A strategy for planning financial resources to reduce and transfer risks and efficiently restore and Improving the process of damage assessment and reconstruction after a natural disaster based on the PDNA methodology model (PDNA is an international

methodology for assessing damage and needs after natural disasters, established by UNDP, the World Bank and the European Commission).

Intermunicipal cooperation for the territory of cities and municipalities in the West Morava basin:

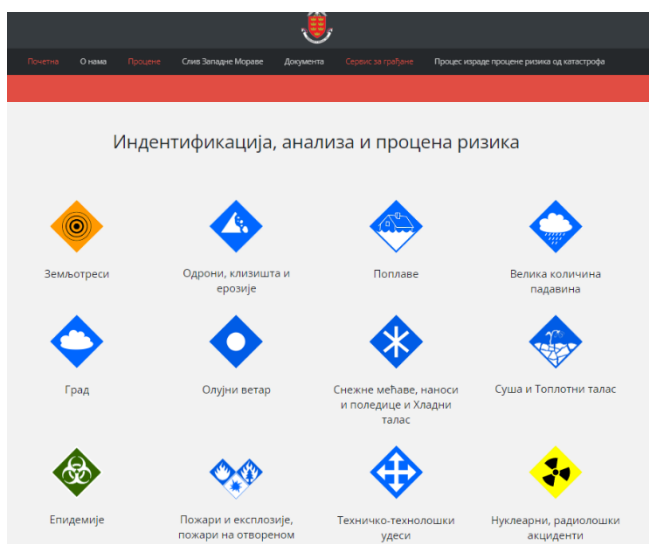
The "West Morava Basin" initiative was launched by the Civil Protection Department of the City Administration of Kraljevo with the support of the Standing Conference of Cities and Municipalities, the Office for Public Investment Management and the United Nations Support Program (UNDP). <https://riskzm.rs/>

Protocol on cooperation between cities and municipalities in the Western Morava basin is also published on: http://civilnazastitakraljevo.rs/PDF/PROTOKOL_ZA_SLIV.pdf

(4) Open data and Interactive Assessment of vulnerability to natural disasters and other accidents, Civil protection Kraljevo municipality - Serbia

These examples of disaster risk reduction systems have resulted from the work of the Civil Protection Department of the City Administration of Kraljevo. The Internet platforms of this Department are unique, both in the country and in the international public, because they represent the results of the work of the local administration. Various partners from the country and abroad were involved in the process of creating these platforms. The importance of these displays is multiple. First of all, it serves for quality planning, as well as the programming of disaster risk reduction and emergency management systems, that is, civil protection. The second purpose is related to the transparency of the civil protection system, while the third, perhaps most important, is the involvement of the public in the process of making policies, that is, strategies in the field of civil protection.

The vulnerability assessment is presented on a special website of the Department of Civil Protection [3] through interactive maps in the Google Earth program, and in the coming period it will also be posted on the GIS platform of the city of Kraljevo.



The objective is to achieve better accessibility, as well as the possibility for more efficient management, updating and exchange of data with the interested domestic and international public.

Important links to be checked: <https://riskzm.rs/>; <http://civilnazastitakraljevo.rs/>; <http://civilnazastitakraljevo.rs/digitalni-atlas-klime-srbije/>;

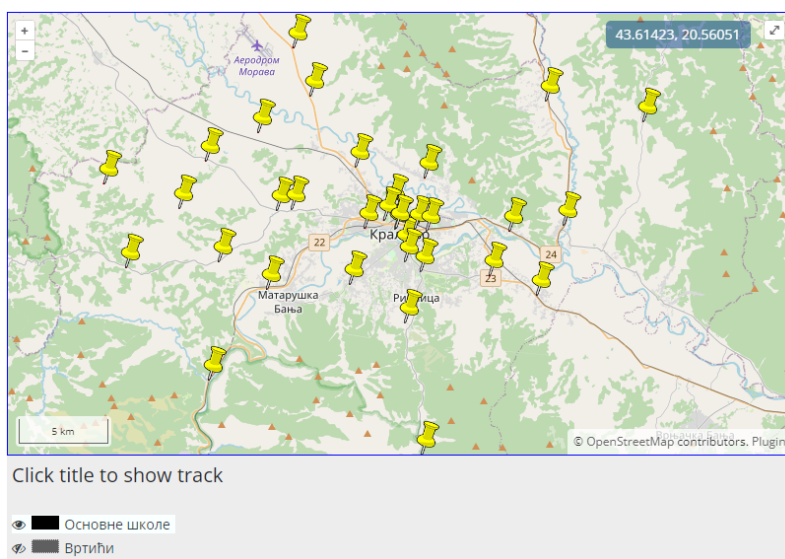
<https://data.gov.rs/sr/datasets/tsivilna-zashtita/>; <https://data.gov.rs/s/resources/tsivilna-zashtita/20220203-230816/kraljevo-kriticnelokacije-tac.geojson>;
<http://civilnazastitakraljevo.rs/%D0%BF%D0%BE%D0%BF%D0%BB%D0%B0%D0%B2%D0%B5/>;
<http://civilnazastitakraljevo.rs/%d0%b8%d0%bd%d1%82%d0%b5%d1%80%d0%b0%d0%ba%d1%82%d0%b8%d0%b2%d0%bd%d0%b0-%d0%bf%d1%80%d0%be%d1%86%d0%b5%d0%bd%d0%b0-%d1%83%d0%b3%d1%80%d0%be%d0%b6%d0%b5%d0%bd%d0%be%d1%81%d1%82%d0%b8/>; <http://civilnazastitakraljevo.rs/hid-met/>



Почетна
О нама
Процене
Слив Западне Мораве
Документа
Сервис за грађане
Процес израде процене ризика од катастрофа

Интерактивна процена угрожености

Home > Интерактивна процена угрожености



- > Вртићи и Школе
- > Популација по насељима

(5) IDEMA Disaster Platform (idema.com.tr) from Türkiye.

An online platform taken as an example shall be:

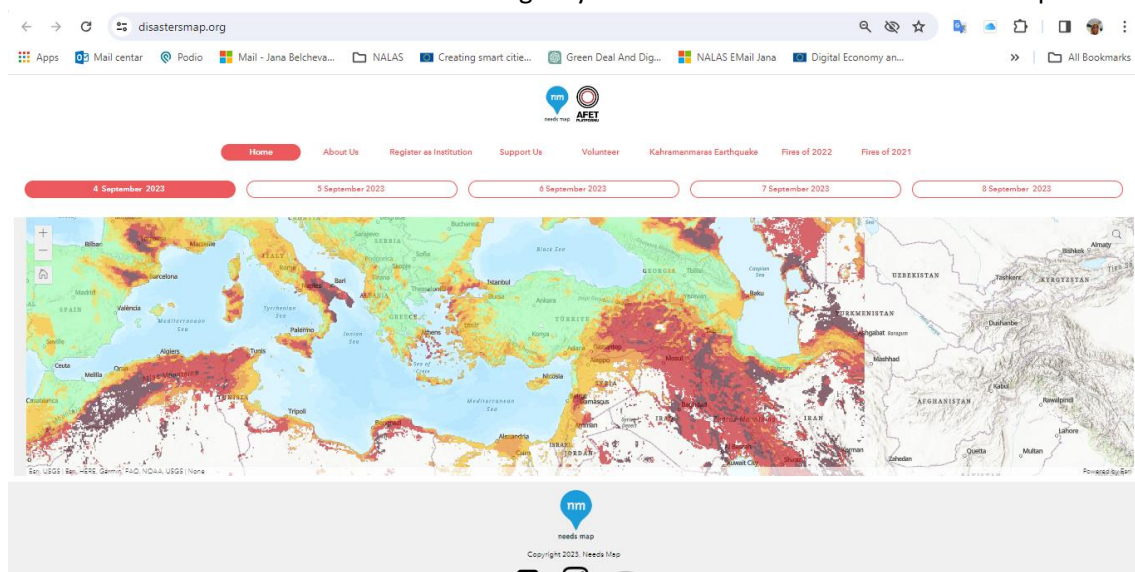
https://admin.ihityacharitasi.org/portal/apps/experiencebuilder/experience/?id=ac95eb8b1c7e44a192a226207ee41894&page=page_0 with its English version on <https://disastersmap.org/>.

As described on their website, the Disaster Platform is a non-governmental network that came together with the mission of minimizing the negative effects of disasters by supporting the social solidarity and inter-institutional cooperation of relevant non-governmental organizations and stakeholders after the ‘Elazig’ earthquake on January 24, 2020. The financing of the platform was done by crowdsourcing with the support of technology companies, consulting firms, businesses, and citizens, who even today can donate. It provides an exceptional way of sharing ownership, thus, safeguarding sustainability of the platform.

A potential presentation or webinar about this platform – where the focus will be on sharing the experience on building resilient communities and businesses - will provide capacity development on risk mitigation and assist in adopting necessary mitigation strategies.

The platform provides real time interactive maps based on **Copernicus** satellite imagery of affected regions, including a Fire Risk Map, a Precision Forecast Map as well as reports for damages in the affected areas collected through a crowd-sourcing web application for desktop and mobile users.

Of great importance is the tool for collecting data from citizens and businesses in the affected area (<https://www.afetharitasi.org/hasartespitformu/>), helping in rapid damage assessment and in improving situational awareness of the emergency in real-time. Rapid damage assessment prepared with this tool is dynamically presented on the web platform and can be used by local and national governments, but also by media, CSOs and relief organizations. Daily reports can be created in pdf formats for wider dissemination and improved decision-making for emergency responders.



(6) EARTHCARE.ai Climate intelligence: AI insights of data from hydrometeorological hazards (wildfires, floods, storms, hurricanes, earthquakes....)

This platform integrates data sources from European Space Agency (ESA) and NASA satellites, official open data repositories of government agencies, and crowd-sourced information from volunteers with Internet of Things (IoT) devices. It includes a broad spectrum of data types, from decades of historical records to near-real-time data streams. Its user-friendly dashboards involve advanced Artificial Intelligence (AI) algorithms enabling users to extract insights from extensive datasets.

Potential data sources include proprietary data from government entities at local, regional, and national levels, aligning with the European Union's commitment to data transparency, standardization and collaboration. This is an advanced possibility for local administrations to harmonize diverse data sources, integrating both historical and recent data. Data integration facilitates precise risk estimation, modeling, prediction of risk impacts, and the formulation of policies and measures in accordance with the European agenda for citizen safety and property protection.

In terms of data management, the platform applies scientific and academic methodologies for high-quality data aggregating, normalizing, and processing. This aligns with the European Commission's emphasis on utilizing precise methods for data analysis. The platform's capabilities extend to advanced data analysis, including Fire Impact Damage Assessment using the Fire Index and analytical processes related to flooding. This comprehensive approach aligns with the European Union's vision for enhancing data-driven decision-making in risk assessment, prediction, and policy development at the local level.



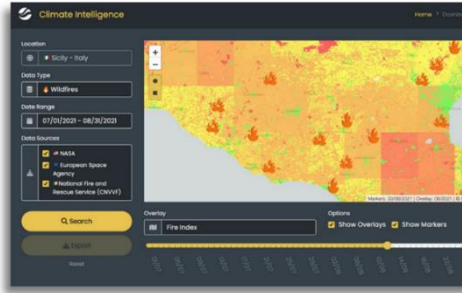
The World's Largest Environmental & Climate Database

Climate change is creating \$300+B in damages every year, yet companies are using little to no data on risk assessment. EarthCare.ai helps insurances, real-estate, retail, finance & supply chain sectors bolster resilience from natural disasters and severe weather using the most accurate historical & real-time environmental data.

We source decades of historical and near real-time data from satellite, local government agency and IoT device sources, normalize it with academic methods, and serve it unified in a single format to customers. Companies can now connect to only one data provider and access 100s of sources!

Top Features

- One Stop Data Shop**
for wildfires, floods, storms, hurricanes, earthquakes...
- Single Implementation Point**
to access multiple sources from satellites, gov. agencies & IoT devices
- Past & Present Data**
combination of near-real time with decades of historical data
- Apply AI Augmentation ***
Get new views on data with our proprietary AI generated insights



Data Types Available

Wildfires	Floods
Burned Area	Hurricanes
Temperature	Heavy Precipitation
Air Quality	River Discharge
Vegetation	Sea Level
Earthquakes	Droughts ...

Target Industries & Verticals

Insurance & Finance Make underwriters and risk teams 10x more effective new data sources	Retail Learn from historical patterns to forecast stock needs in stores
Real Estate & Urban Planning Know the history of a location before investing in new buildings	Supply Chain Management Find weak spots threatened by environmental disasters

No other service will allow you to have direct access to all environmental data, from all sources, in a single unified format that is ready for consumption. Our 10+ year experience in data sourcing is our competitive advantage.

Why is EarthCare.ai's Team Different

Co-founders Gorjan & Dragan have already done this, on a smaller scale. Our previous venture - AirCare, focused on a single data type (air quality) and created the technical infrastructure and product that was featured by Forbes, Google, TED, NY Times and more. Now, we're off to reshape a whole new industry!

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www.earthcare.ai



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