



Location Risk Intelligence

Natural Hazards Edition.

Location analytics for
advanced decision making
and reliable evaluation

1/2

Potential and advantages of Natural Hazards Edition

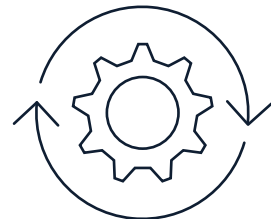
Natural Hazards Edition is the ideal modular SaaS solution for companies wishing to reliably evaluate the current status of their portfolios or individual locations.

Natural Hazards Edition offers high-quality natural hazard expertise for the performance of efficient exposure analyses, and connects local and real-time data seamlessly. You can cluster main risk hot spots, filter dynamically and identify accumulations in your portfolio to provide greater understanding for better decisions. You can also increase the profitability of your business with optimum risk diversification and advanced portfolio management. Integrated into your digital workflows, it drives your spatial exploration, visualisation and evaluation. It automates the entire process of creating scalable insights from big data. The next generation of geospatial services link multiple technological developments such as cloud-based data and artificial intelligence into a powerful decision-making solution. Over 50 million risk assessments every year and an annual customer satisfaction score of over 90% demonstrate that this is a globally proven, trusted tool.



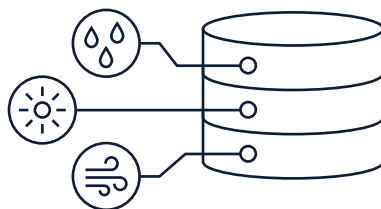
Easy to interpret visualisation

Clear visualisation of the risk scores based on performance indicators in different map types as well as colour shading.



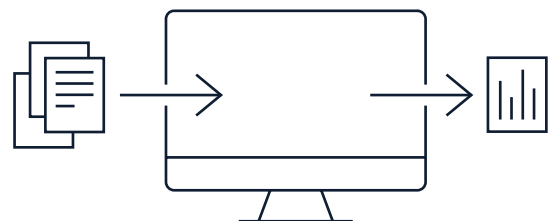
Advanced analytics

Analyse your portfolios with regard to the risks emerging from natural hazards.



Largest global data collection on natural hazards

40 years of natural hazards data collection from Munich Re combined with state-of-the-art scientific data sets for relevant risk scores.



Easy input & output

Portfolio upload and filter search tools/options for an easy start as well as APIs and different file options for a quick output of the results.

Maximum flexibility	<ul style="list-style-type: none"> - Single location, portfolio (multiple locations) and area & line requests - API (Application Programming Interface) - 100% browser based, no plugin or download needed
Search options	<ul style="list-style-type: none"> - Postal address - Regions, e.g. states - Geo-coordinates (latitude/longitude)
Tools	<ul style="list-style-type: none"> - Filter by custom attributes - Drawing tools for filtering a portfolio or for creating a score for a drawn object: polygon, circle, line - GeoJSON upload
Portfolio management	<ul style="list-style-type: none"> - Easy management and organisation of the locations - Uploading your own portfolio from CSV or Excel (templates available)
Available content	<ul style="list-style-type: none"> - Scores for 12 natural hazard types - Four types of risk scores reflecting potential financial damage that we use for our own business - Track record of using natural hazard scores for our own business
Analytics	<ul style="list-style-type: none"> - Peril-specific evaluations with twelve different hazard categories - Different event families (geophysical, meteorological, hydrological, climatological)
Areas and lines scoring	<ul style="list-style-type: none"> - Scoring of geographical areas and lines for improved risk management of e.g. large sites or infrastructure assets - Comparison of scored areas and lines
Visualisation based on KPIs (Key Performance Indicators)	<ul style="list-style-type: none"> - Cluster - Heatmap - Grid - Regions (administrative and postcode regions, CRESTA zones)
Map views	<ul style="list-style-type: none"> - Hazard maps for multiple time horizons and scenarios - Base map views for streets, (dark) grey, hybrid, satellite, topography, terrain
Elevation profiles	<ul style="list-style-type: none"> - Line profile of height differences between two locations displayable
Reports and results	<ul style="list-style-type: none"> - Download as CSV, Excel or PDF - API access for individual further processing of the data - Clear visualisation of results (e.g. sum insured in different risk zones) in pie charts, tables and coloured heatmaps - Peril-specific evaluations with twelve different hazard categories

Scores at a glance

NATHAN risk scores are a powerful tool which enable you to gain an overview of your risk situation and quickly identify high-risk assets. They aggregate the risk of each asset in the portfolio for geophysical, hydrological, meteorological and climatological hazards by drawing on data from Munich Re's long years of claims experience and expertise in natural catastrophe modelling. NATHAN hazard scores describe the hazard level of a location for all hazards.

NATHAN risk scores



Overall

The overall risk score can be used as a primary identifier of red flags. It combines the earthquake, storm and flood risks scores, while also taking wildfires into account.



Storm

The storm risk score can be used to identify storm-related risks and includes tropical cyclone, extratropical storm, hail, tornado and lightning risk.



Flood

The flood risk score can be used to identify flood-related risks and includes river flood, flash flood and storm surge risk.



Earthquake

The earthquake risk score can be used to identify earthquake-related risks and includes earthquake, volcano and tsunami risk.

NATHAN hazard scores



River flood

The river flood hazard score is based on a global flood model from JBA, describing flood extents for return periods of 100 and 500 years, and is available in an undefended as well as defended view, i.e. taking flood protection into account.



Flash flood

The flash flood hazard score describes the hazard level, based on meteorological data, soil sealing information as well as terrain and hydrographic data (slope and flow accumulation).



Storm surge

Storm surges are coastal floods caused by storms such as tropical cyclones and extratropical storms. The storm surge hazard score reflects the inundation area for return periods of 100, 500 and 1000 years.



Tropical cyclone

The tropical cyclone hazard score is derived from globally consistent, basin-specific models for tropical cyclones, and is based on probable maximum wind intensities with a return period of 100 years.



Extratropical storm

The hazard score shows the probable maximum wind intensity occurring during storms in the extratropical region (approx. 30 – 70° north and south of the equator) for a 100-year return period.



Tornado

The tornado hazard score is based on the annual frequency of tornadoes, interpolated from meteorological data.

**Hail**

The hail hazard score describes the hail potential by combining meteorological data, elevation and the global distribution of lightning activity.

**Lightning**

The hazard score shows the global frequency of lightning strikes per km² and year recorded by satellites and ground-based lightning detection networks.

**Earthquake**

The score is graded according to the probable maximum intensity of earthquakes on the Modified Mercalli Intensity (MMI) scale for an event with a return period of 475 years.

**Volcano**

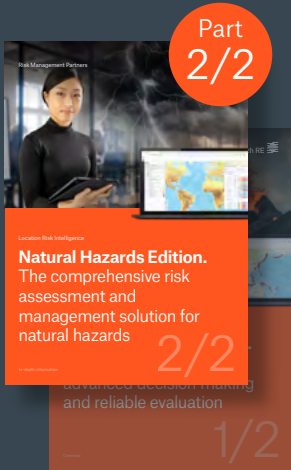
This hazard score is based on volcanic activities, which are classified depending on their VEI (Volcano Explosivity Index) and annual return periods.

**Tsunami**

The tsunami hazard score reflects the inundation areas for return periods of 100, 500 and 1000 years.

**Wildfire**

The wildfire hazard score describes the hazard of wildfire, based on climatological data and land cover data.



Want to know more? Get part 2/2 of our Natural Hazards Edition brochure for more in-depth information

[Download part 2/2](#)

Please contact our team:

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Also see our other editions as part of our Location Risk Intelligence Platform at munichre.com/rmp for:

Climate Change Edition
Wildfire HD Edition
Climate Financial Impact Edition