

# ATLAS 2.0

## Ground-shaking intensities at multiple return periods all over the world

ATLAS 2.0 is GEM's new hazard data service that allows users to access and interact with the outputs from the GEM Global Mosaic, used to generate the Global Seismic Hazard Maps. Available for public-good and commercial applications, users can now access full sets of hazard curves that describe the intensity of ground-shaking for different soil conditions, at multiple return periods, all over the world.



## KEY FEATURES

### Global Coverage

Homogeneous coverage of the world with 3.6M sites on a hexagonal grid spaced every ~6.5 km, using Uber's H3 geospatial indexing system.

### Soil Conditions

For each site, two sets of seismic hazard curves are available: for reference rock conditions and for site-specific conditions based on the USGS Global Vs30 Mosaic.

### Multiple Metrics

Ground-shaking intensity is available for peak ground acceleration (PGA) and spectral acceleration at periods of 0.2, 0.3, 0.6 and 1.0 seconds.

### Access

Available through an interactive web platform allowing users to access the data graphically, or through an API for internal framework integration.

ATLAS 2.0 simplifies the use of GEM Hazard Data for various applications. Whether you are looking for data to support your research, evaluate global portfolios of assets, complement structural design demands or provide your corporate clients with innovative insights; ATLAS is ready to fit your use case.

### Public good

- Research
- Disaster Agencies
- Humanitarian



### Commercial

- Insurance
- Engineering
- Corporate



ATLAS 2.0 results are calculated using GEM's state-of-the-art, open-source software the OpenQuake Engine, collating results from regional models based on the best science available for each area.

### BUILT WITH THE LATEST SCIENCE

**Check out our comprehensive model documentation:**

<https://hazard.openquake.org/gem/models/>

### FROM LOCAL TO GLOBAL

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**See our contributors for each model:**

<https://hazard.openquake.org/gem/contributors.html>

## WHAT IS NEW?

### ATLAS 1.0

- Created with data from the global model released in 2019
- Ad-hoc spatial grid with 9-12 km spacing
- Access through web platform only
- Three intensity measures (PGA, and spectral accelerations at periods of 0.2 and 1.0 seconds)

### ATLAS 2.0

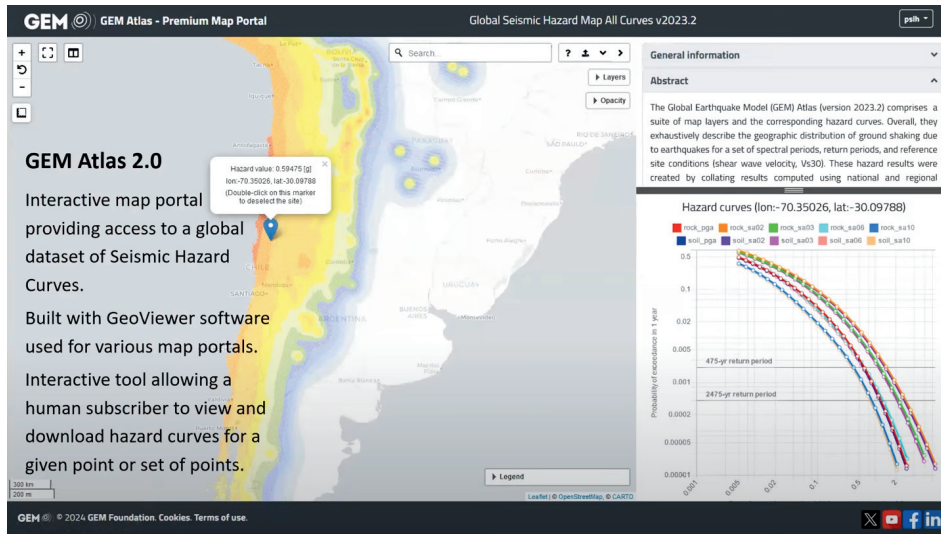
- Created with data from the global model released in 2023
- Uses H3 Geospatial grid with more stable ~6.5 km spacing (2.5X higher resolution)
- Access through web and API
- Five intensity measures (PGA, and spectral acceleration at periods of 0.2, 0.3, 0.6 and 1.0 seconds)

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**[WWW.GLOBALQUAKEMODEL.ORG/PRODUCTS](http://WWW.GLOBALQUAKEMODEL.ORG/PRODUCTS)**

The GEM ATLAS 2.0 provides an interactive web interface for users to explore global seismic hazard data. Users can zoom into specific locations and view hazard curves for different ground motion intensities and return periods. The data can be downloaded for further analysis or uploaded in bulk for portfolio assessments.

ATLAS 2.0 also offers a programmatic interface (API) for integrating hazard data into custom applications. This allows engineers and researchers to leverage GEM's global seismic hazard models within their own workflows.



## Watch ATLAS in action



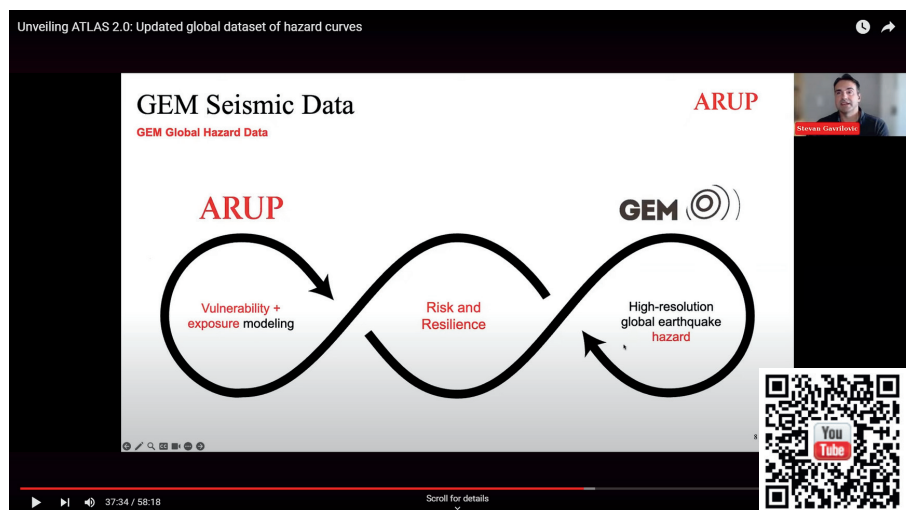
Scan to watch on YouTube.

## Discover how others are using ATLAS 2.0

Stevan Gavrilovic, an engineer at Arup, presented a testimonial for the GEM Foundation's ATLAS 2.0 application launch in April 2024. Arup is a structural engineering firm that incorporates seismic hazards into their risk and resilience assessments. They automate this workflow using a cloud-based risk platform they call "HAPPY." A key component of this platform is the GEM ATLAS 2.0 service, which provides global seismic hazard curves through an API (Application Programming Interface).



"At Arup, we leverage GEM ATLAS' global seismic data to automate risk assessments, providing our clients with a clearer view of potential losses across their portfolios."  
 – Stevan Gavrilovic, PhD, Digital Risk and Resilience Engineer-Arup



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The Global Earthquake Model (GEM) Foundation, is a non-profit organisation, committed to open access to reliable and scientifically robust risk information for public benefit. Profits derived from commercial sales of products or services are used to fund GEM's core programs, with an emphasis on providing support to developing countries. Core programs include advancing capabilities in earthquake and multi-hazard risk, pioneering scientific risk assessment methods, and expanding risk and resilience applications to downstream users.



## GET STARTED TODAY!

GEM offers customised pricing for its consulting services and product licensing, tailored to the unique needs of each client. Contact [product@globalquakemodel.org](mailto:product@globalquakemodel.org) to schedule a demo of our flagship products and learn more about our flexible pricing schemes and subscription options.

Unlock the power of GEM's products and services to enhance your risk assessment and mitigation strategies.

## WANT TO LEARN MORE?

Request a trial account or contact the team to learn more about ATLAS 2.0 and how it can fit your use case.

Request a free, personalised demo account to see how it can fit your needs.



Have questions about API access? Connect with our product experts for a chat.

