Providing a web map service for investigating European Ground Motion

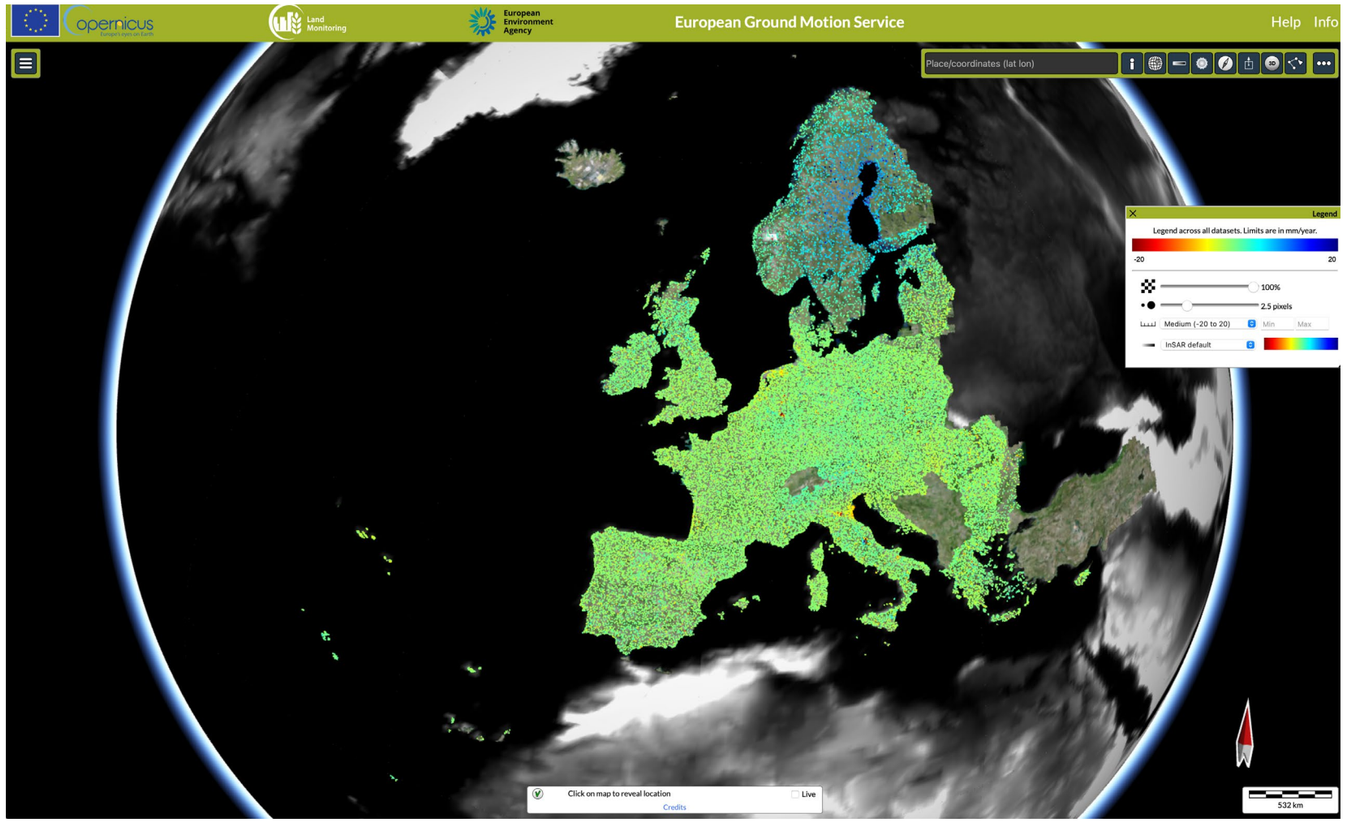
"The use of EuroRegionalMap open data in the European Ground Motion Service data viewer not only demonstrates the value of information available from National Mapping, Cadastral and Land Registration Authorities, but also highlights the benefits of our cooperation. We fully support the ambition to include map data from all Copernicus Participating States in future releases of Open Maps For Europe."

Henrik Steen Andersen
Contract Manager,
Copernicus In Situ Data

The European Environment Agency (EEA) is using multi-themed topographic open data from official sources as a selectable background map in its European Ground Motion Service (EGMS). Provided through the Open Maps For Europe interface, EuroRegionalMap provides an option for users of the EGMS data viewer who prefer to use maps rather than satellite images.

Challenge

Measurement points provided by the EGMS usually coincide with buildings, artificial structures, and non-vegetated areas, such as cities, roads, or bridges. As users can often more easily identify these features on a map rather than a satellite image, the data viewer needed a background option based on a trusted topographic dataset. With no web map service available, the EGMS needed to find an existing open data solution which also ensured content and quality.



Source: Copernicus Land Monitoring Service. Produced with funding by the European Union.

Benefits of using Open Maps For Europe

- Allows the EGMS to easily provide a web map service created using authoritative data available from National Mapping, Cadastral and Land Registration Authorities.
- Enables users to select the most relevant background layer for their needs in the EGMS.
- Demonstrates value of cooperation between EEA and European National Mapping, Cadastral and Land Registration Authorities.

Solution

The EGMS meets user demand for free-of-charge ground motion data at continental scale.

It provides consistent and reliable information for studying geohazards, such as slow-moving landslides, subsidence, and volcanic impact, over the Copernicus Participating States, and across national borders, with millimetre accuracy. In doing so, it represents a baseline for ground motion applications at continental, national and local level.

As a Copernicus Service, the EGMS needs easy access to open, up-to-date, reliable and harmonised geospatial information across Europe.

EuroRegionalMap, seamless 1:250 000 scale topographic harmonised open data, was therefore chosen as a selectable background map. Created using official geospatial information from 31 European National Mapping, Cadastral and Land Registration Authorities (NMCAs), it is easily available as a web map service via the Open Maps For Europe interface.

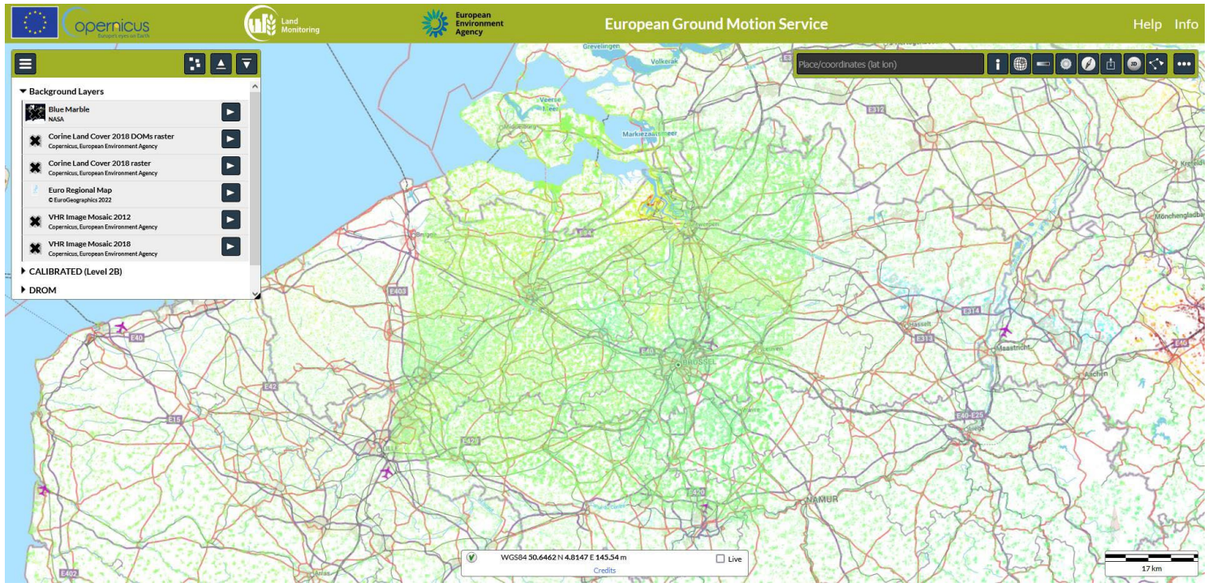
Produced using data from official national sources, it complements the aim of the EGMS to give users reliable and updated information on ground motion to provide an unprecedent opportunity to study geohazards and movement caused by human impact. These include slow-moving landslides, subsidence due to groundwater exploitation or underground mining, and volcanic unrests, as well as providing a starting point for investigating ground motion affecting buildings and linear infrastructures.

Henrik Steen Andersen explains: “Setting up a web map service for the EGMS was not a core task for us. It is a priority to have authoritative data produced by Member States, so we used EuroRegionalMap open data as it was already available, and the content and scale is well-suited for our purposes even though it does not yet cover all Copernicus participating states”

“Users of the service have the option of different background layers but, in some cases, it is more relevant for them to relate a measurement point to a map rather than a satellite image. For example, if I’m interested in the measurements in a city, I have a clear idea of where the city is on the map or if I’m especially interested in bridges or main roads, again this is fairly easy to see on a map. So, it was important for us to add this possibility to the EGMS viewer.”

“We fully support the ambition to include map data from all Copernicus Participating States and hopefully in the future there will be a full dataset, that would be great.”

Open Maps for Europe provides easy online access to harmonised pan-European geospatial open data from official sources.



Source: Copernicus Land Monitoring Service. Produced with funding by the European Union.

The Open Maps For Europe project is co-financed by the Connecting Europe Facility of the European Union. It is coordinated by EuroGeographics, the membership association for European NMCAs, in partnership with the National Geographic Institute (NGI) Belgium.

This is the first time that the datasets, created using EuroGeographics’ unique data integration process, have been easily discoverable, accessible, and released as open data. They include topographic data, a digital elevation model, imagery, a cadastral map, and a gazetteer.

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https://egms.land.copernicus.eu

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