Delivering authoritative data in Latvia for assessing damage from record-breaking windstorm

To meet end user requirements regarding data content and quality, Copernicus Services need access to up-to-date, and harmonised geospatial information across Europe. Data produced by National Mapping, Cadastral and Land Registration Authorities, the members of EuroGeographics, is therefore key to its success.

Typically, geospatial data is relevant for all the different services, but we have identified three key services which require geospatial data: the Copernicus Emergency Management Service and its rapid mapping, and risk and recovery mapping; the Copernicus Land Monitoring Service; and the Copernicus Security Service which supports, inter alia, the EU External Action Service.

By working closely together, we can improve the use of authoritative data and services by Copernicus and ensure National Mapping, Cadastral and Land Registration Authorities are recognised for their essential contributions.

Jose Miguel Rubio Iglesias Copernicus In-Situ Component, European Environment Agency (EEA)

Introduction

Authoritative data provided by the Latvian Geospatial Information Agency (LGIA) was essential for assessing forest damage in the aftermath of a record-breaking storm.

Challenge

August 2023 saw thunderstorms hit central and western regions of Latvia causing unprecedented damage to life, property and infrastructure. Agriculture and forestry suffered extensive losses in the wake of intense gusts of wind and large hailstorms which destroyed at least 100,000³ metres of timber, as well as crops and wildlife. Reliable, up-to-date and detailed hydrographic, topographic and geographical name data was needed to analyse the impact on ecosystems, and in particular to the different species of trees found in forest areas.





Benefits

- Provides reliable, up-to-date, detailed data for assessing the extent and impact of damage.
- Integrates authoritative national geospatial data with national data from the state administration to provide an overview of the situation on the ground.
- Supports post-emergency recovery by enabling analysis by area of interest and level of damage to individual species of trees.
- Demonstrates value of cooperation between EEA and European National Mapping, Cadastral and Land Registration Authorities.

Solution

"As the official national source of geospatial data, LGIA is committed to ensuring services, such as those responding to the unprecedented storms of 2023, can access trusted information. The insight gained from the various analysis not only identified the levels of damage in different areas but also contributes to the on-going recovery of these important ecosystems."

Märtinš Liberts

Director General, Latvian Geospatial Information Agency (LGIA). LGIA data was combined with the state administration's farmers dataset, forest inventory, and forest register to provide an overview of affected areas. This was used in conjunction with pre- and post-storm satellite imagery and ancillary data to assess the impact, spatial distribution and extent of damage.

Vegetation in each of the 32 areas of interest was graded as 'destroyed', 'damaged', or 'removed' as a result of the storm. The final step was to then crossreference this information against the tree species dataset to analyse damage per species at both national level and by area of interest. LGIA's database of geo names, topographic and hydrographic network service was also integral to the reference dataset showing the up-to-date situation in the areas of interest. Again, the authoritative national data was combined with ancillary sources to produce the reference map.

National geospatial data from LGIA was provided via the Copernicus Framework Licence agreement between the European Environment Agency (EEA) and not-for-profit organisation, EuroGeographics, which represents Europe's National Mapping, Cadastral and Land Registry Authorities.

As a result of the Agreement, EuroGeographics is simplifying access to official pan-European geospatial data from its members and in doing so, is increasing the number of datasets available via the Copernicus Reference Data Access (CORDA) database. In addition, the partnership is exploring solutions for providing full, free, and open access to geospatial data for the Copernicus programme, including the geospatial data component of the CLC+ System, the CLC+ Backbone, and is improving Copernicus services' access to pan-European datasets and services available through the Open Maps for Europe interface.

The activation of the Copernicus Emergency Management Service Risk and Recovery Mapping was triggered by State Fire and Rescue Service, Latvia.









ACTIVATION

https://emergency.copernicus. eu/mapping/list-of-components/ EMSN176







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