

Assessing flood risk and economic impact in the Drin river basin

“To meet end user requirements regarding data content and quality, Copernicus Services need access to open, 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 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
Geospatial Data Management Expert,
European Environment Agency (EEA)

Introduction

Detailed elevation data provided to the Copernicus Emergency Management Service by the State Authority for Geospatial Information (ASIG), Albania was essential for assessing flood risk and its economic impact in the Drin river basin.

Challenge

The Drin catchment area covers a significant part of Albania. It is extremely important for the Albanian economy, and in particular its national electrical production due to the location of four major hydropower facilities. Furthermore, the river basin is recognised by conservationists as a unique and complex habitat that not only hosts many indigenous species, but also sustains and affects coastal and marine ecosystems in the Adriatic through its freshwater flow.

With the highest peaks of the mountainous region reaching more than 2,500 metres and flat land characterising the coastal areas, accurate relief information is critical for analysing flood risk, extent and economic and environmental impact.



Benefits

- Integrates hazard mapping, information about economic assets and historical analysis to provide a detailed picture to understand and manage flood risk.
- Supports international cooperation by guiding the development and implementation of national and transboundary river/lake basin management plans.
- Contributes to the development of the Drin Basin Management Plan in accordance with the EU Water Framework Directive and the UNECE Water Convention.
- Protects vital national infrastructures including power and water supplies.
- Helps to conserve an important international ecosystem.
- Demonstrates value of cooperation between EEA and European National Mapping, Cadastral and Land Registration Authorities.

Solution

“Flooding along the Drin river has caused high economic and environmental losses to the infrastructure of the region – from houses to power distribution, gas stations and water supply. As the National Mapping Agency of Albania, our trusted relief information and height data is vital for assessing, managing and, therefore mitigating, flood risk in this important environmental and economic region.”

Vilma Tomco

General Director, State Authority for Geospatial Information (ASIG), Albania

High-resolution Digital Elevation Models (DEM) were provided by the National Mapping Agency of Albania – the State Authority for Geospatial Information (ASIG). ASIG also provided digital national orthophotos of 8 cm and 20 cm resolution, retrieved through CORDA.

As a vital component of the large-scale, accurate geo-referenced information showing the extent and location of Areas of Potential Significant Flood Risk, these played a key role in identifying areas of historical flooding, economic assets and infrastructures, as well as in assessing economic risk.

The resulting insights underpinned the decisions required to implement policies and strategies, and serve the scope of the Drin River Cooperation agreement on the sustainable management of water resources in the area.

The activation of the Copernicus Emergency Management Service Risk and Recovery mapping was triggered by the GMLZ, Federal Office of Civil Protection and Disaster Assistance (BBK) on behalf of the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH in Albania.



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<https://geoportal.asig.gov.al/en>



ACTIVATION
<https://emergency.copernicus.eu/mapping/list-of-components/EMSN054>

