FLOPRES
FLASH FLOOD PREDICTION AND PREVENTION SYSTEM

Flood protection thanks to Slovak-Polish cooperation

The consortium of Slovak and Polish partners implements the FLOPRES project – a unique system for forecasting and preventing against flash floods in response to the increasing threat of flash floods due to climate change. The project started in September 2023.

The contract was signed with CINEA – European Climate, Infrastructure and Environment Executive Agency, as a delegate of the European Commission.

The FLOPRES project is implemented by these partners:

- **ESPRIT spol. s r.o., Banská Štiavnica**
- **GOSPACE LABS s. r. o., Bratislava**
- **Prešovský samosprávny kraj**
- **Mateo Spółka Z Ograniczoną Opdowiedzialnością, Warszawa a Małopolska Agencja Rozwoju Regionalnego S.A., Krakow.**

FLOPRES project proposes an integrated solution to support flood modelling, forecasting, early warnings, integration and analysis of multimodal data both for authorities responsible for water and emergency management at all levels and private persons who might be impacted by the consequences of climate change-related hazardous events. Our intention is also to raise awareness of the public and various stakeholders on a nature-based solution to adapt to climate change and make local communities and authorities work together efficiently under the same objective. As a result, the resilience of municipalities and their citizens to climate-change-related events will be strengthened and the risks stemming from climate change lessened.

Project progress and results

Final selection of pilot plots where we will develop the early-warning system (12/2023)

Within Prešov Self-Governing Region in Slovakia and Malopolska region in Poland, we finally selected pilot plots – the areas, where the monitoring elements of the warning system will be subsequently installed. The sites were identified and selected in cooperation with local authorities with an emphasis on maximum efficiency and stability of the system, minimisation of damage to life and property, as well as availability of historical meteorological and hydrological records of the sites necessary for calibration and validation of the system.

Signing of Memorandums of understanding (02/2024)

To set out the principles of cooperation in the implementation of project tasks with relevant stakeholders, we signed Memorandums of Understanding with some municipalities within selected pilot plots in Slovakia and Poland.

Support letters from Slovak and Polish water agencies (02/2024)

To underline the full support of project stakeholders for the project idea, the regional Slovak Water Management Authority in Košice signed a support letter on Slovak side and the Regional Water Management Authority in Krakow signed a support letter on Polish side.

Installation of first sensors in Slovakia (05/2024)

We started to install the first sensors in pilot plots in Slovakia!

Installation of the first sensors in Poland (10/2024)

We started to install the first sensors in pilot plot in Poland!
First results of the FLOPRES project:
new sensors on the Roztoczanka Stream – FloPres

All Slovak pilot plots covered by all types of sensors within the project (12/2024)

We made significant progress in our mission to build a comprehensive flash flood warning system. As part of the project, the installation of 176 smart (IoT) sensors in three pilot catchments of the Prešov self-governing region in Slovakia has been successfully completed, representing a crucial step in the development of advanced prediction and prevention infrastructure for flash floods. The installations included the catchments of Ladomírka (district of Svidník), Šibská voda (district of Bardejov) and Malá Svinka (district of Sabinov).

A total of 38 water-level sensors have been installed in 22 municipalities of

the Prešov Region, which allow for a more accurate estimate of how water in watersheds will behave in different weather conditions. At the same time, 138 other sensors were installed in 20 municipalities of the region – precipitation sensors providing data important for predicting water flow in rivers, thermometers measuring air temperature and soil-moisture sensors measuring the water content in the soil.

FLOPRES Achieves Major Milestone in Flood Prevention:
176 Smart Sensors Installed in Prešov Region – FloPres

Development of Early-Warning System (01/2025)

We are on track to develop the web-based early-warning system with real-time hydrological modelling and data integration from IoT sensors. The integration with IoT sensor data from slovak pilot plots is already done. After installation of all sensors in Poland, we will continue with the integration with IoT sensor data from polish pilot plots. The integration with meteorological forecasts is also incorporated in the system. The alpha-version has been already prepared and will be continually tested internally and in the next stage also by the end-users.

Project events

- **Kick-off meeting in September 2023**
- **First roundtable about project in Slovakia on 7th February 2024**
  Video from the event: **PROJEKT FLOPRES**
- **First roundtable about project in Poland on 27th February 2024**
  Video from the event: **Projekt i system FLOPRES, Gródek nad Dunajcem, 27 lutego 2024 r.**
- **Second roundtable about project and its updates in Slovakia on 29th May 2024**
  Video from the event: **PROJEKT FLOPRES**
- **Second roundtable about project and its updates in Poland on 5th June 2024**
  Video from the event: **Project FLOPRES, 2nd round table meeting, Kraków**
- **Project presentation for mayors and media in Svidník, Slovakia, 27th September 2024**

For more information, see the project's website: www.flopres.eu
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Spolufinancovaný Európskou úniou