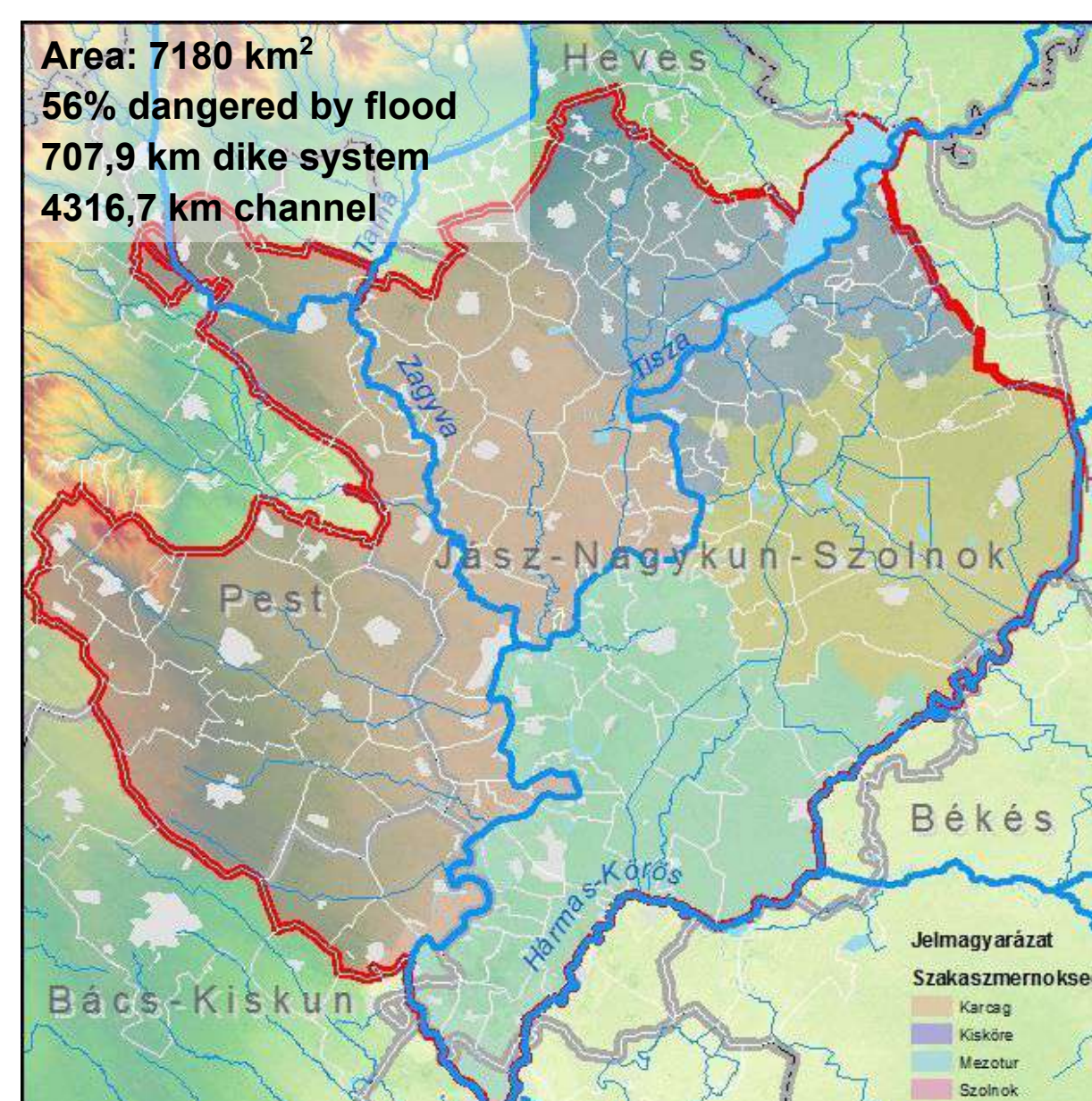


The Danube River Basin



Middle Tisza District Water Directorate (KÖTIVIZIG)



Characterization of Middle Tisza district:

- Flat land areas
- Main rivers: Tisza, Zagyva
- Lake Tisza – Kisköre dam
- Main rural use: arable land,
- 105 settlements

Main water management related challenges in the Tisza River Basin:

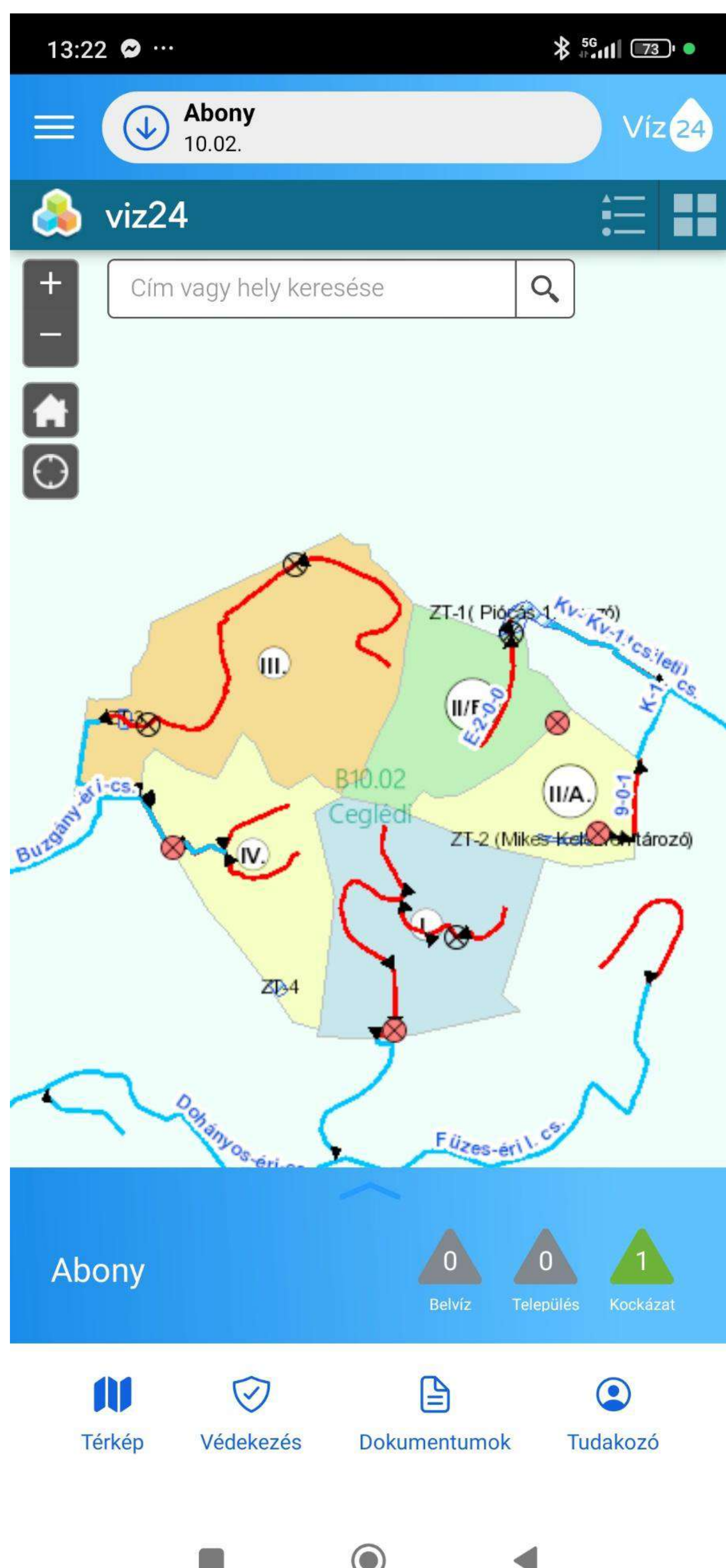
- Flood (fluvial and pluvial)
- Drought
- Inland excess water
- Water contamination

VÍZ24 (Water24) mobile phone application

The responsibility of protection against pluvial flood in urban areas belongs to the concerned municipalities. In general, municipalities do not have professional staff for that purpose. In order to manage emergency situations, the Middle Tisza District Water Directorate (KÖTIVIZIG) developed VÍZ24 (Water24) mobile phone application to help activities of municipalities in their water protection work.

The main functions of VÍZ24:

- Maps (Channels, Pump stations, Rain reservoirs, Borders of settlements, Pluvial flood risk map, Protection level of pluvial flood)
- Contains emergency plans, intervention plans
- Contains phone numbers of the responsible persons
- Alarm system in case of heavy rain
- Risk assessment



Users can download the application from Google Play or App Store but only the water directorate can give access.

There are 3 level of user:

- Municipalities
- Water management experts
- Administration

The VÍZ24 mobil application has more than 300 registered users.

Effects of pluival flood in urban lowland areas



Pluvial floods are occurred in lowland area due to two different phenomena

Heavy rain events

After snow melting in spring and long periods of lower intensity rainfall when the soil is saturated by water and the receivers (surface water) are full.

Two different warning system for two different phenomena

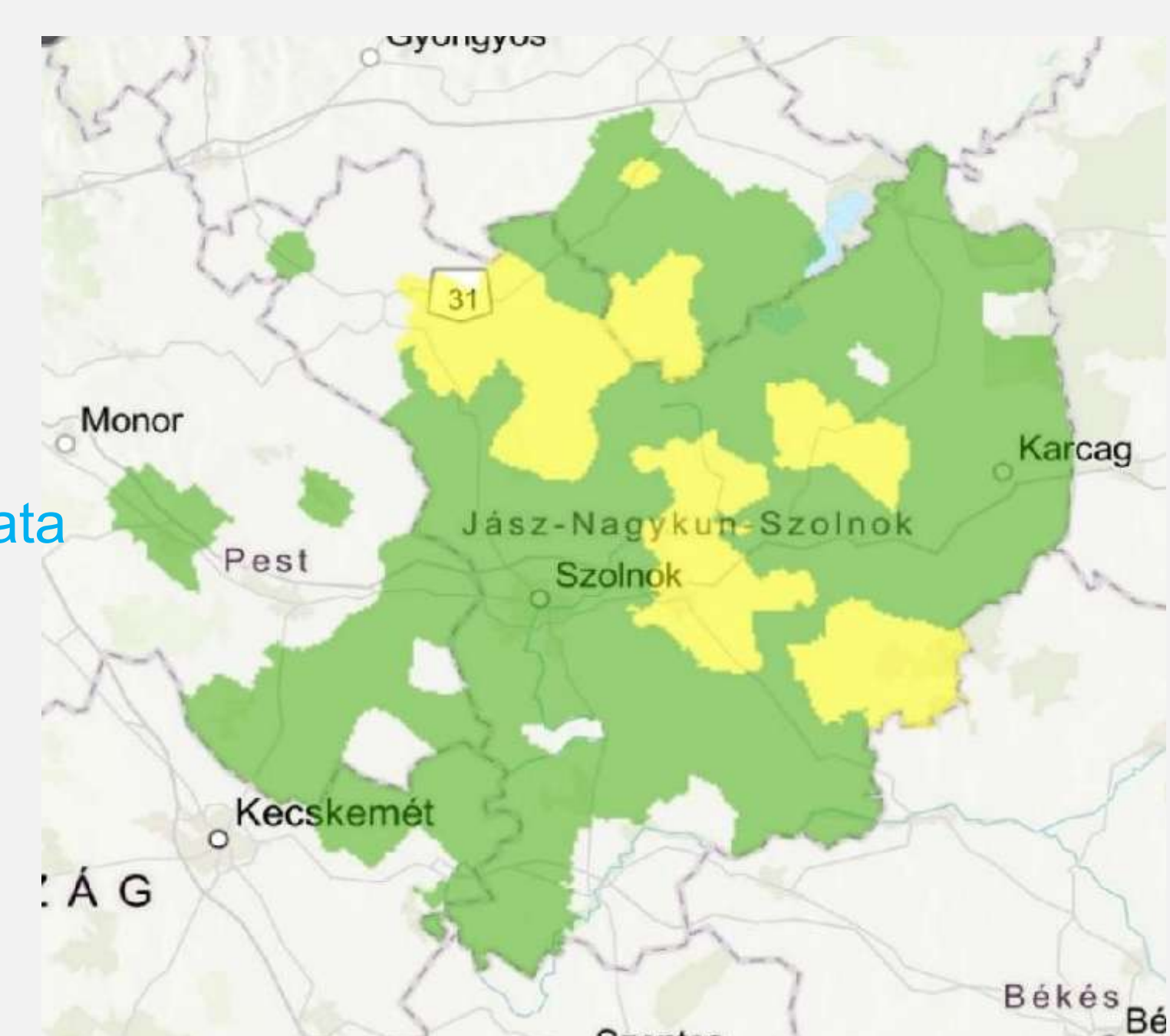
National heavy rainfall alarm for suddenly events

Risk assesment

Risk assesment

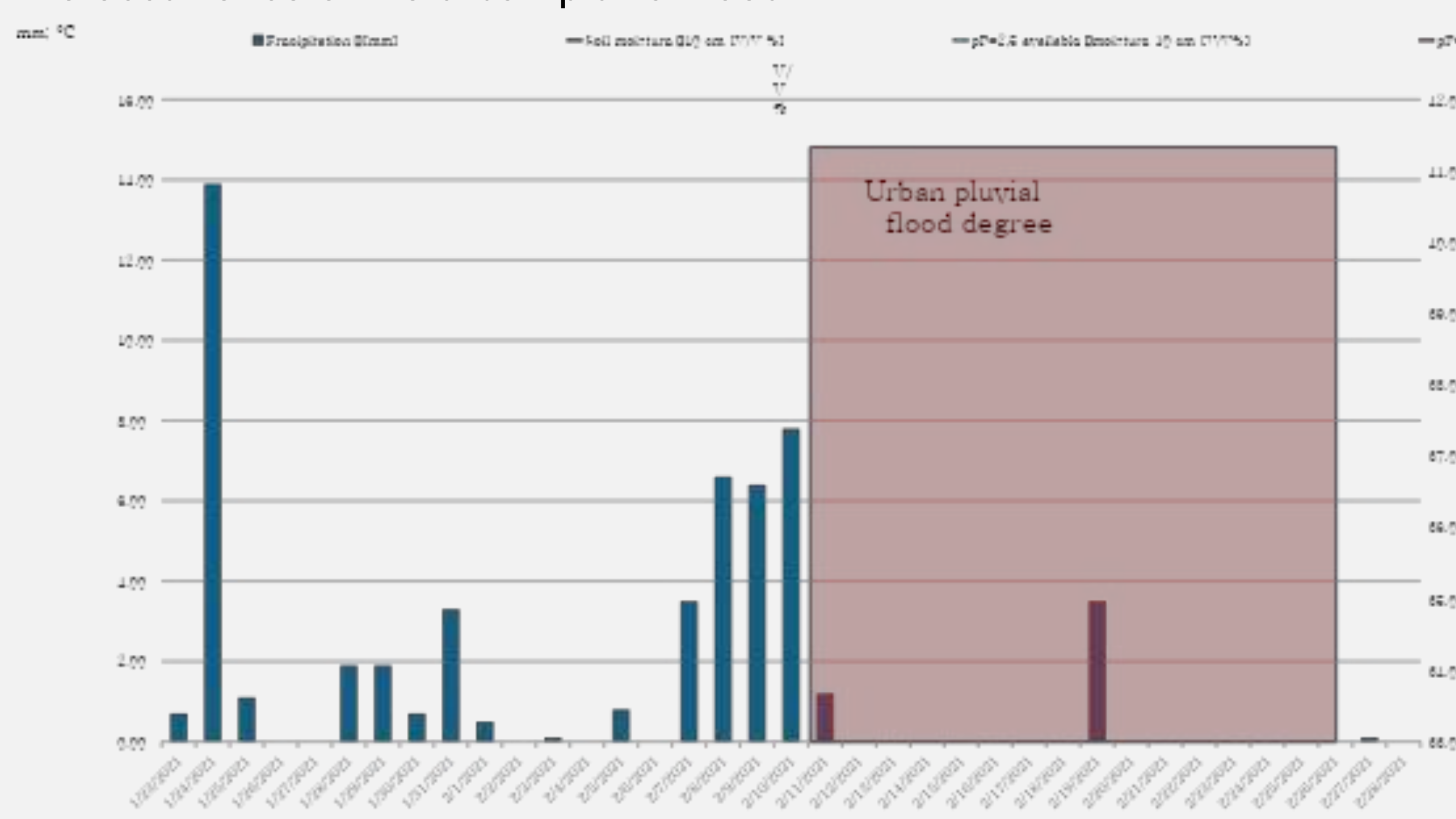
Vulnerability factors:

1. Pluvial flood risk map (type of soil, geographical situation) **Static data**
2. Municipal pluvial flood protection levels (urban) **Dynamic data**
3. Water directorate's (KOTIVIZIG) pluvial flood protection levels (rural) **Dynamic data**
4. Condition of drainage systems in settlements (urban area) **Static data**
5. Condition of receivers (bigger chanel) **Static data**
6. Soil moisture status (Decagon 5TM on 6 different depht) **Dynamic data IoT**



Multipurposes uses of drought monitoring gauges

Increase in soil moisture at the Mezőtúr station prior to the occurrence of the urban pluvial flood.



Soil moisture sensor
Decagon 5TM – GSM