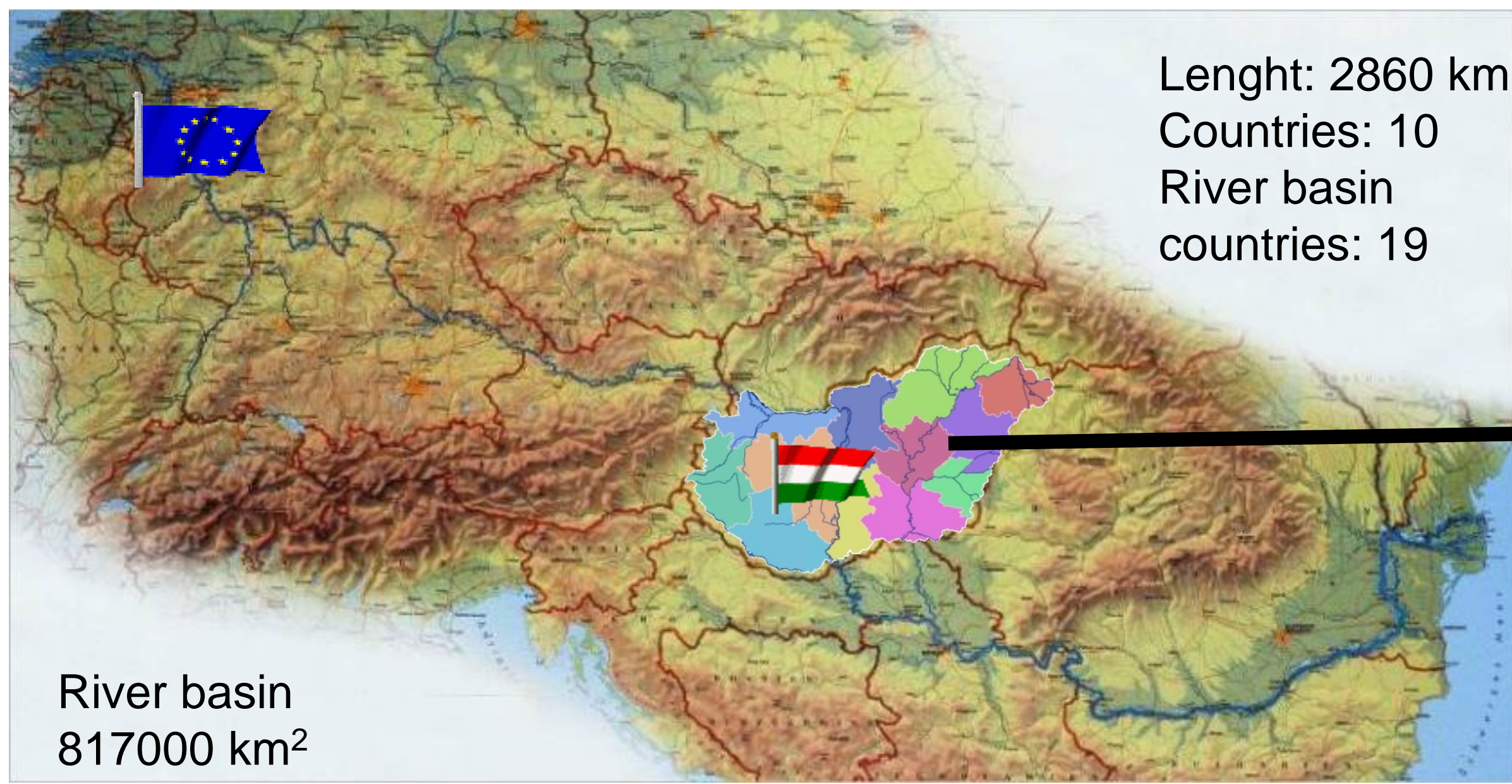
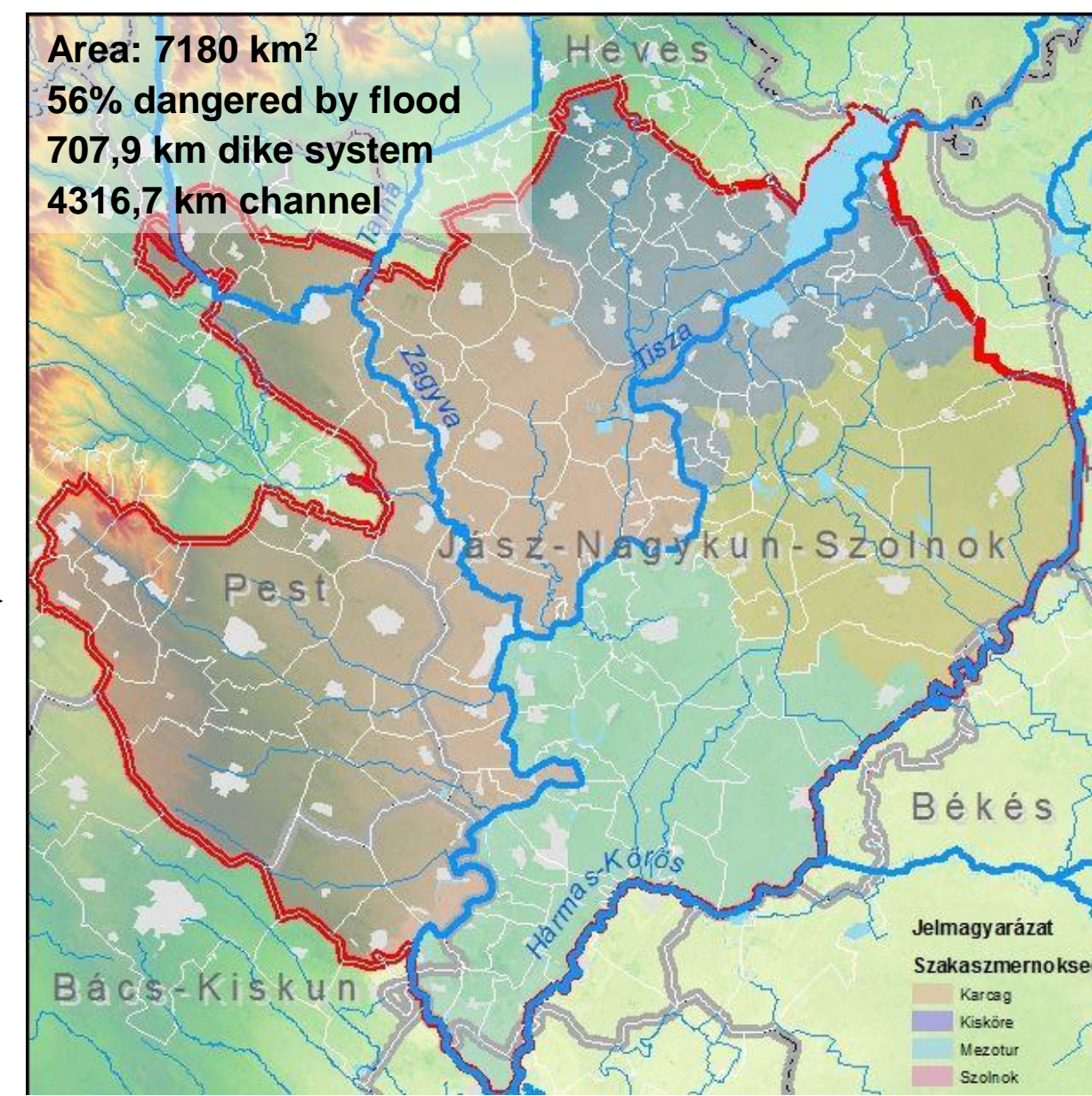


## The Danube River Basin



## Middle Tisza District Water Directorate (KÖTIVIZIG)



## Characterization of Middle Tisza district:

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



## Main water management related challenges on the Tisza River Basin:

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

## VÍZ24 (Water24) mobile phone application

The protection against pluvial flood in urban areas is the responsibility of 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) prepared 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



Térkép Védekezés Dokumentumok Tudakozó

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.

## Affect of pluival flood in urban lowland areas



## Pluvial flood occurs 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 received surfaces water are full.

Two different warning system for two different phenomena

National heavy rainfall alarm for suddenly events

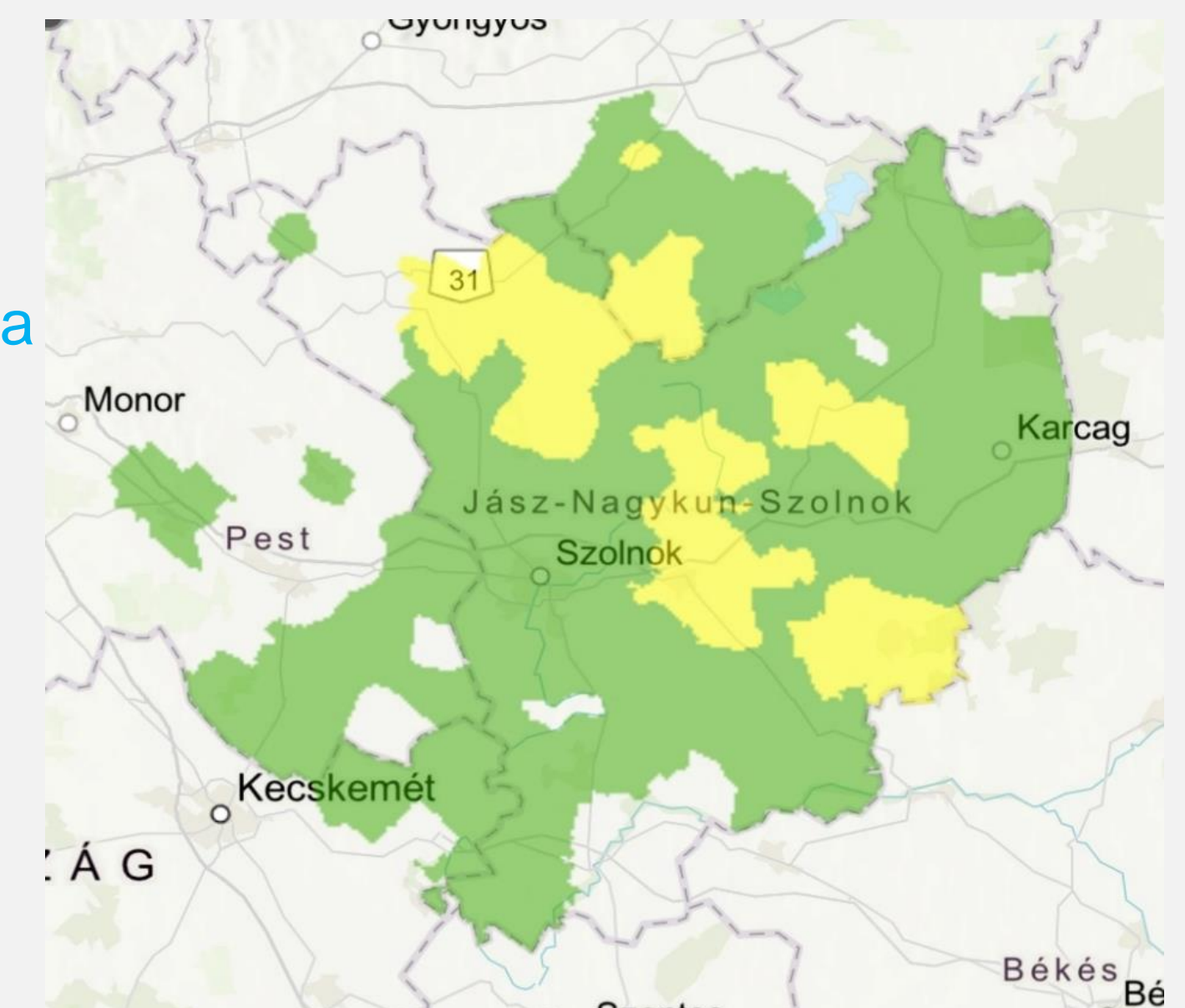
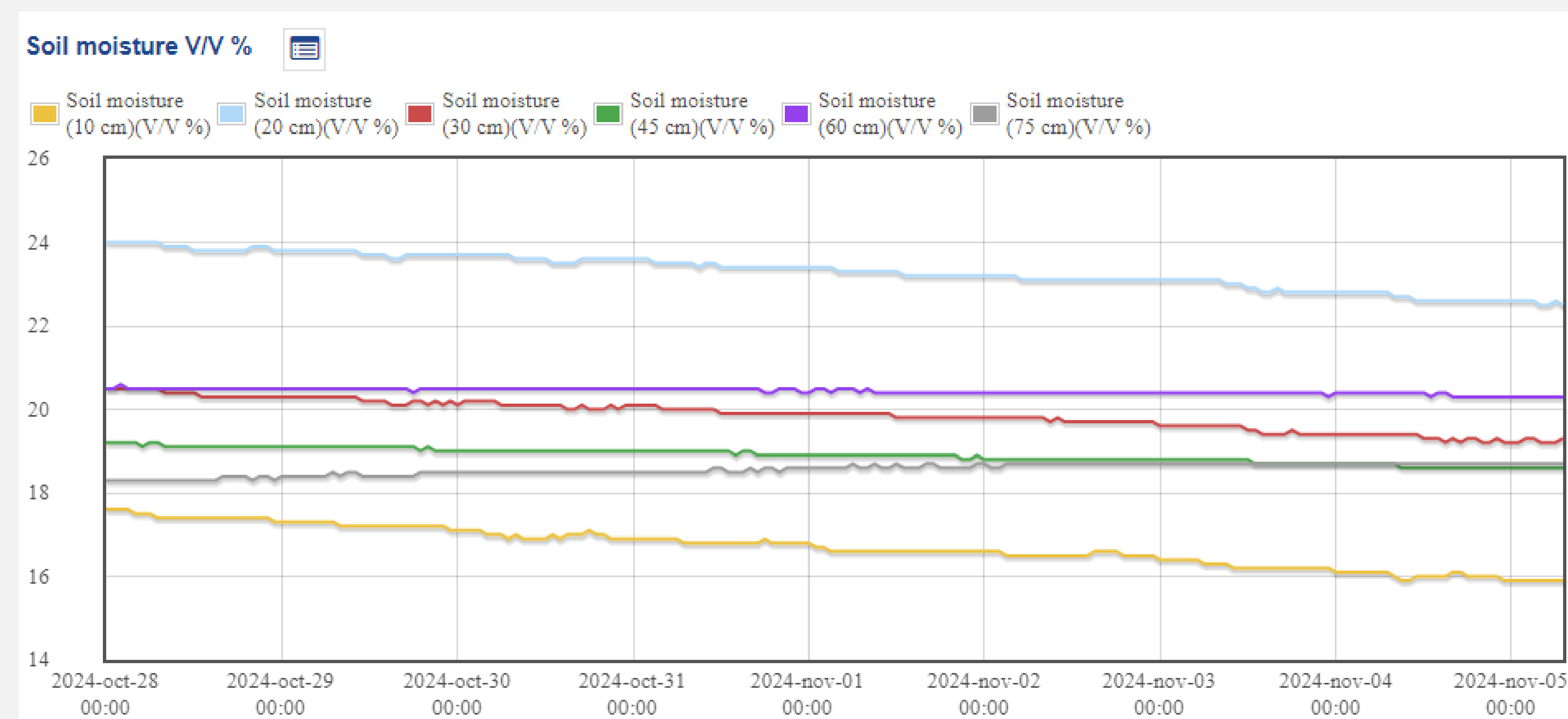
Risk assessment

## Risk assessment

### Vulnerability factors:

1. Area at risk of flooding (type of soil, geographical situation) **Static data**
2. Municipal pluvial flood protection levels (urban) **Dynamic data**
3. Water directorate's (KÖTIVIZIG) 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 draught monitoring gauges



Soil moisture sensor  
Decagon 5TM – GSM