Water Utilisation, Water Damage Prevention

Inland excess water: a "hungaricum"

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The famous "puddle-map"

TERÜLETEI Z ÁRMENTESÍTŐ ÉS APOLÓ MUNKÁLATOK EGKEZDÉSE ELŐTT.

Hungary is fully placed in the Carpathian basin. The Carpathian basin is a sub-basin of the basin of the river Danube. The Carpathian basin's area is 420.000 km2. The area was exposed to flooding water before the great river training is marked with light blue.

The cross-section of a river and its floodplain with flood protection dikes



Inland excess water

- Flood protection dikes create closed basins (from which the water cannot access the river).
- Any water gathered in those closed basins is called inland excess water.
- This is a specific definition of such waters in Hungary.
- In other countries, upstreaming groundwater can also be meant as inland excess water.
- The Hungarian definition from another point of view: the inland excess water is runoff water that gathers on the surface of the terrain in closed basins and can not infiltrate to the ground.



Excess water risk map of Hungary



However, nowadays droughts give us greater challange!

Map of 2022 drought in Hungary (by Hungarian Meteorological Service)



Future directions?

- Let the water flood the land again?
- Alternative agricultural solutions?
- More irrigation or different ways of irrigation?



2. ábra: Magyarország felszíni vízkivételei (Forrás: OVF)

Recent (2020) water budget of Hungary

Questions

- What do we call ,,inland excess water'' in Hungary and how does it connect to the river training works (cutoffs and flood protection dike constructions)?
- Sketch the cross-section of a river with its floodplain and flood protection dikes and the corresponding water levels.
- What was the goal of the river training (cutoffs and flood protection dike constructions)? What disadvantages resulted from the river training nowadays?
- Why is the great plain in Hungary the most endangered for inland excess waters and droughts?