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# INLAND EXCESS WATER MAPPING USING RAPID EYE IMAGES

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### **Inland excess water occurs due to:**

- lack of runoff in flat terrains
- insufficient evaporation
- low infiltration capacity of the soil
- upwelling of ground water

### **Typical problem in flat, lowlands causing:**

- crop losses, damages, diseases
- soil and environmental pollution
- damage to buildings and infrastructure

**The scale and wider social implications of these problems are not fully recognized by the public or decision makers!**

### **The solution requires:**

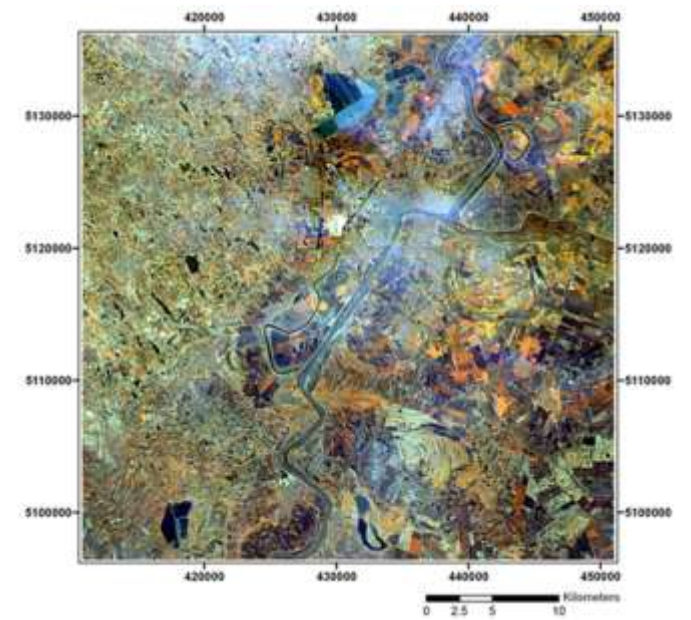
- intensive monitoring (remote sensing)
- interdisciplinary research of spatio-temporal patterns
- integrated, cross border water management
- land use management

### **Monitoring of inland excess water:**

- inundated areas are inaccessible
- very limited ground measurement
- inundated areas change rapidly
- need for a quick and efficient assesment



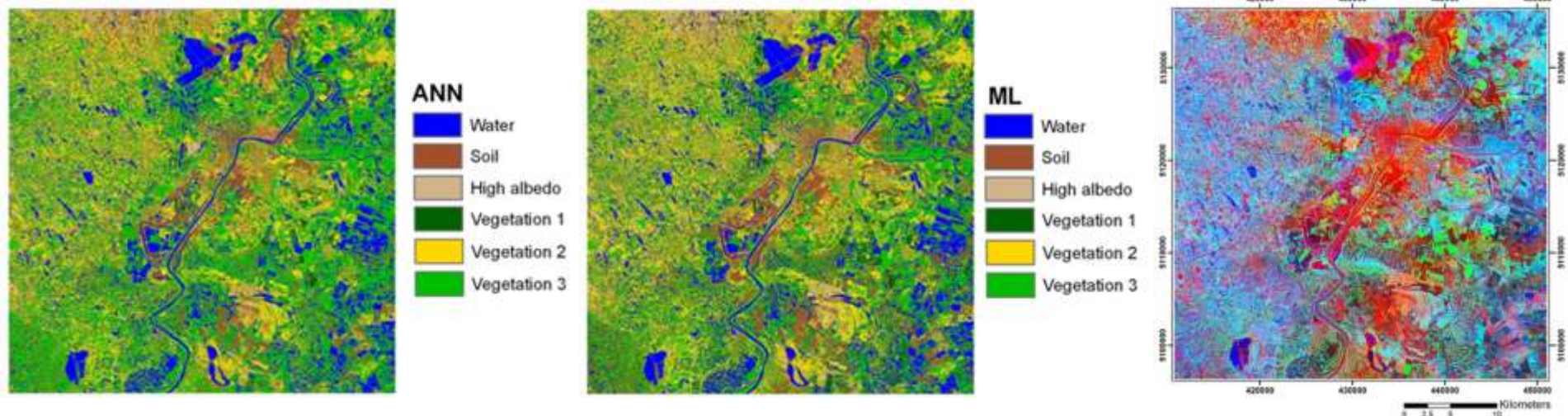
# Research area (northern Serbia, southern Hungary)



**ME**asurement, monitoring, management and **R**isk assessment of inland **EX**cess **W**ater in South-East Hungary and North Serbia (Using remotely sensed data and spatial data infrastructure )

## Methods of pixel classification used:

- maximum likelihood (ML)
- spectral mixture analysis (SMA)
- artificial neural network (ANN)



All three methods can be applied to classify inland excess water successfully and provide high quality maps of the inundations based on satellite data from a large area.

