



Advances in satellite based inland excess water monitoring

Boudewijn van Leeuwen¹, Balázs Kajári¹, Zalán Tobak¹

¹*University of Szeged, Hungary*

**leeuwen@geo.u-szeged.hu*

Due to climate change, we can expect that extreme weather patterns will occur more often in the Carpathian Basin. Intense rainfall, especially at the end of the winter can cause inland excess water to develop on the flat regions of the Great Hungarian Plain. To mitigate problems caused by the phenomenon, it is important to monitor the inundations. Since several years, for this purpose, we develop monitoring workflows based on freely available, active and passive medium resolution satellite data. State-of-the-art machine learning algorithms allow to monitor the floods over a large area, with high spatial and temporal resolution without the need for continuous supervision by humans. Our latest adaptation of the algorithm utilizes deep learning methods for automatic segmentation of the inland excess water patches giving superior results compared to earlier algorithms.