

**BREAKING****NEWS**

# Cracking Ground Truth Barriers:

## Harnessing the Power of Transfer Learning for Crop Mapping



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## II - Methodology

**Initial model:** Built using leave-one-year-out approach on the source domain. Best performing model selected.

**Transfer learning:** Retraining using limited target domain data around the departure point.



Find out more:

Pandžić, M., Pavlović, D., Matavulj, P., Brdar, S., Marko, O., Cmojović, V. and Kilibarda, M., 2024. Interseasonal transfer learning for crop mapping using Sentinel-1 data. *International Journal of Applied Earth Observation and Geoinformation*, 128, p.103718, <https://doi.org/10.1016/j.jag.2024.103718>



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## I - Data

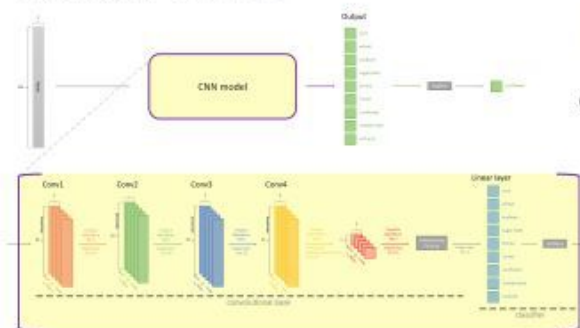
**Satellite:** Sentinel-1

**Ground truth:** Field inspection

**Source domain:** 2017 - 2020

**Target domain:** 2021

**Method:** CNN-1D



## III - Results

Buffer radius	F1 score	Transfer learning (area restricted)	Training model from scratch	Pretrained model applied	Transfer learning (distributed)
20 km (~ 100 parcels)		0.74	0.69	0.78	0.83
25 km (~ 170 parcels)		0.79	0.73		0.84
30 km (~ 450 parcels)		0.83	0.78		0.86

