

SAR and Agriculture in the Pannonian Basin

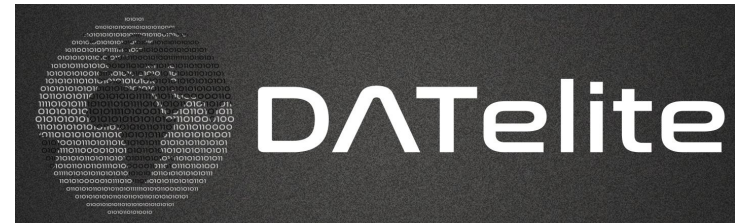
13th ESA Training Course on Earth Observation 2023

Osijek, Croatia

20|09|2023

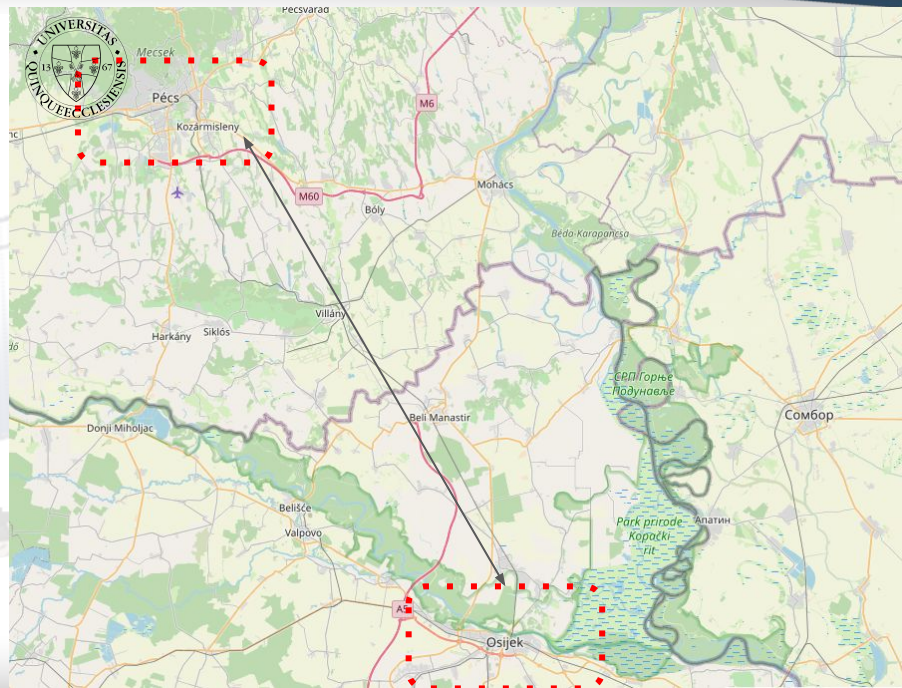
DATelite Ltd

Ronczyk Levente, PhD



Outline

- Introduction
- Key approach of SAR data interpretation
 - Changes
 - Considerations
- Next actions, plans



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DATelite Ltd is an official spin-off company of University of Pécs.



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1833

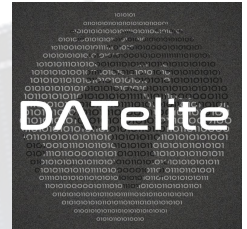
1998

2017



University of
Zurich ^{UZH}

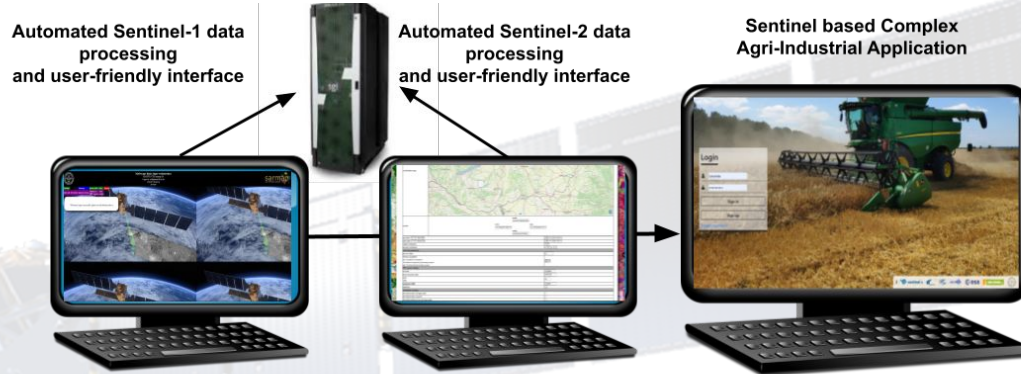
sarmap
your information gateway



sarmap SA is an official spin-off company of UZH

Main competencies > ESA ITTs

Earth Observation



2017

Dedicated supercomputer based Sentinel-1 processing chain

2018

<http://sentinel1.ttk.pte.hu>

Integrated, timely relevant application of Sentinel data fusion in agricultural sector

2019

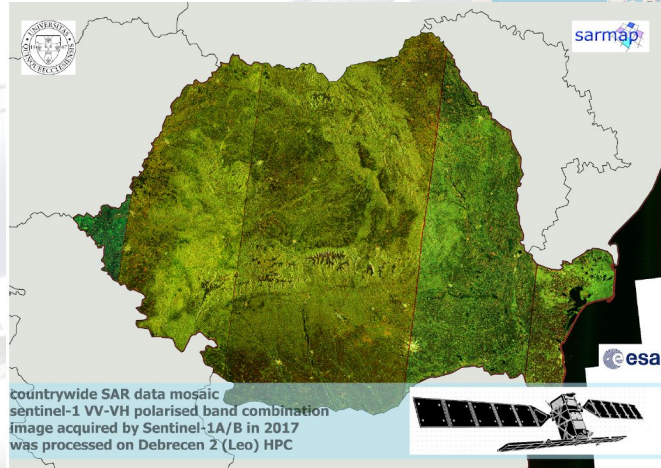
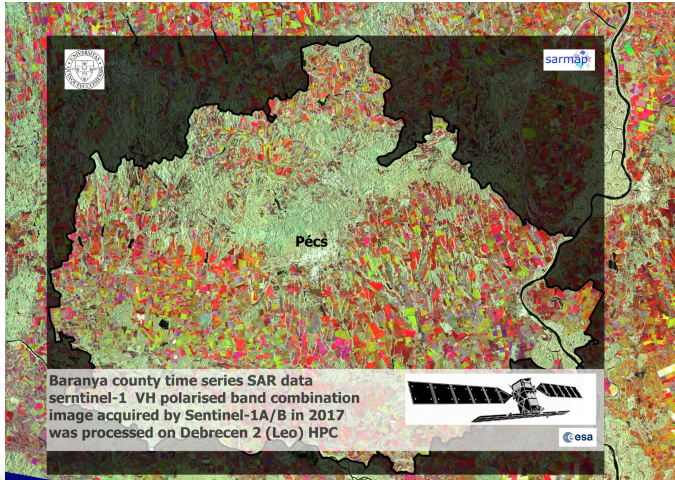
<http://sentinel2.ttk.pte.hu>

2020

<http://sentinel12.ttk.pte.hu>

2021

Different Sentinel-1 product

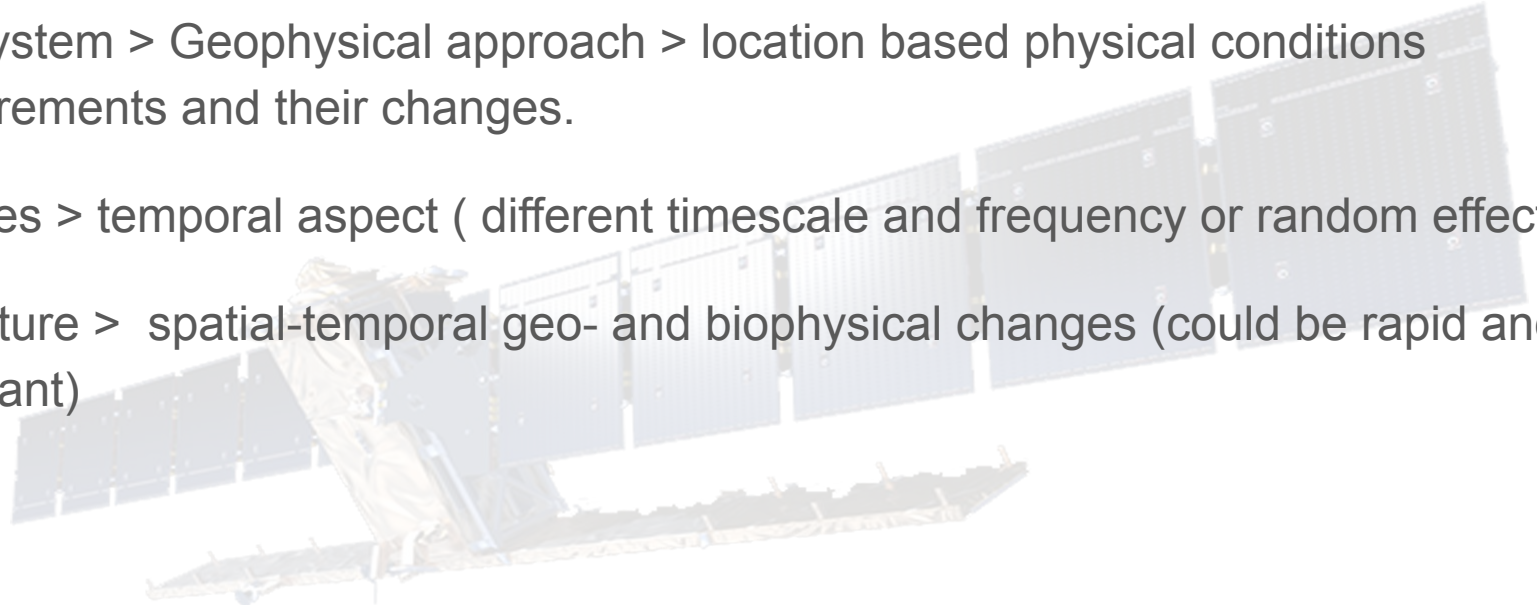


Key approach

SAR system > Geophysical approach > location based physical conditions measurements and their changes.

Changes > temporal aspect (different timescale and frequency or random effects).

Agriculture > spatial-temporal geo- and biophysical changes (could be rapid and significant)



R=13.01.2015 G=09.10.2014 B=01.05.2015

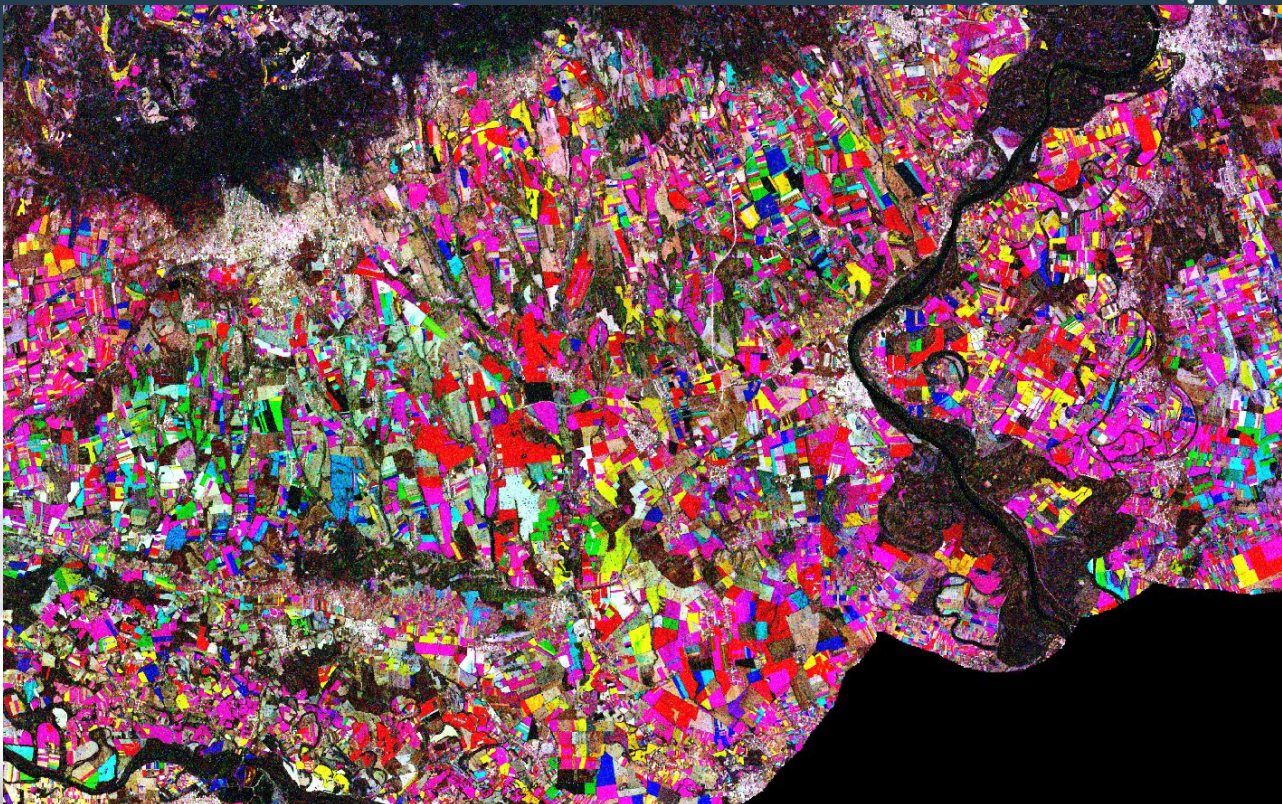


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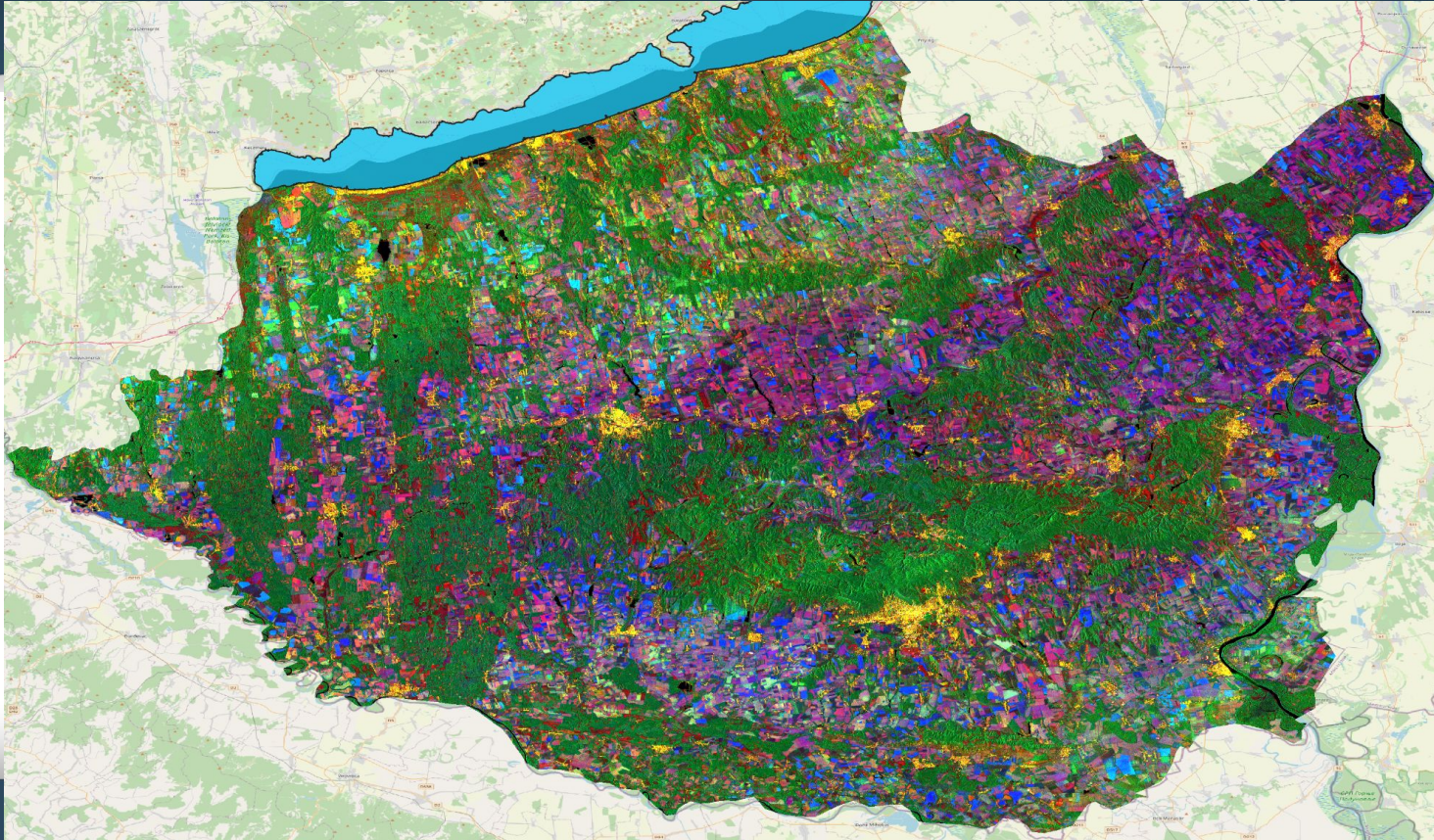
datelite@datelite.hu

02.03.2015-14.03.2015 / 14.03.2015-26.03.2015 / 26.03.2015-07.04.2015

CCD



Color composite of CCD, DPSVI, MTF values

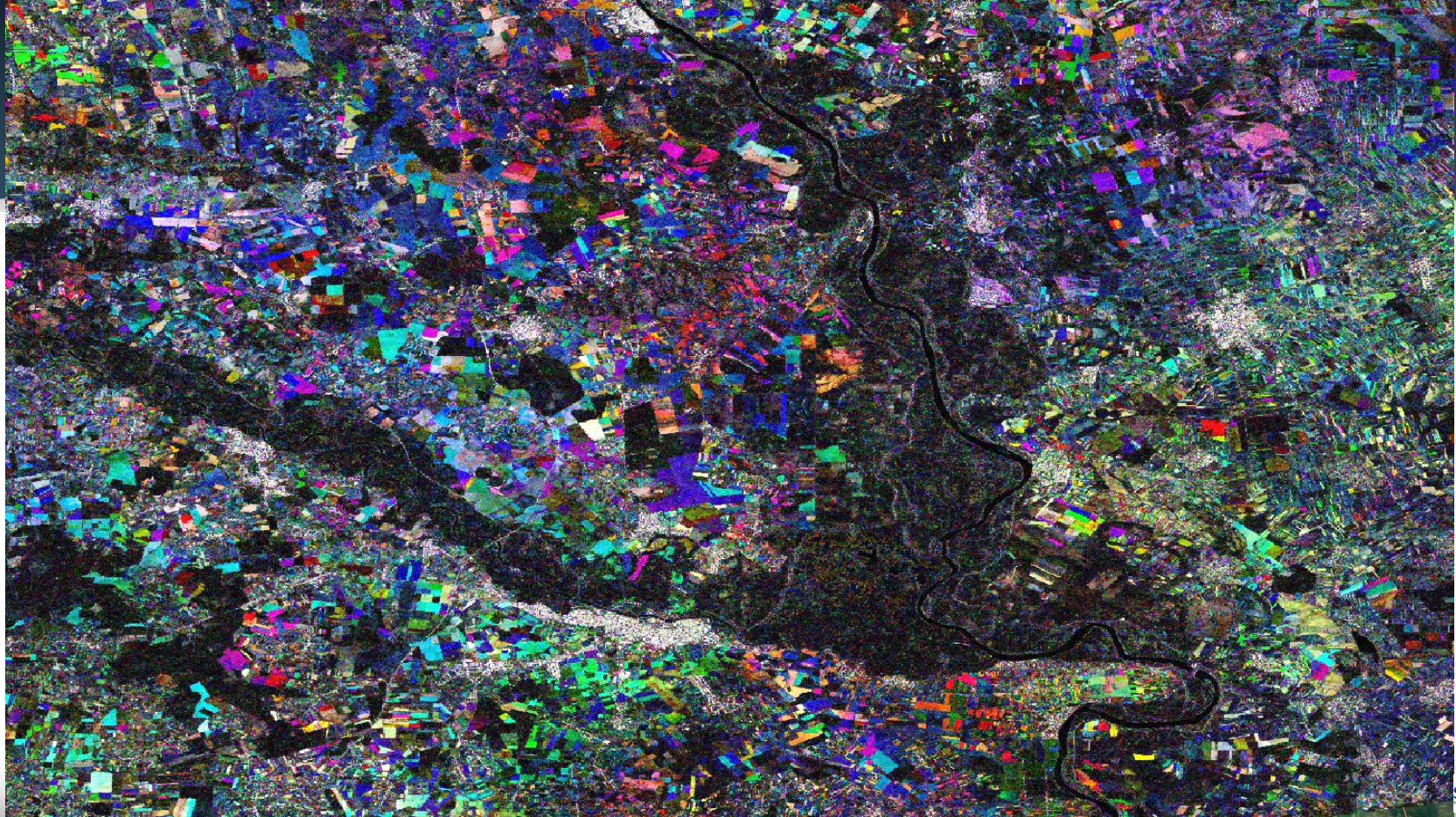


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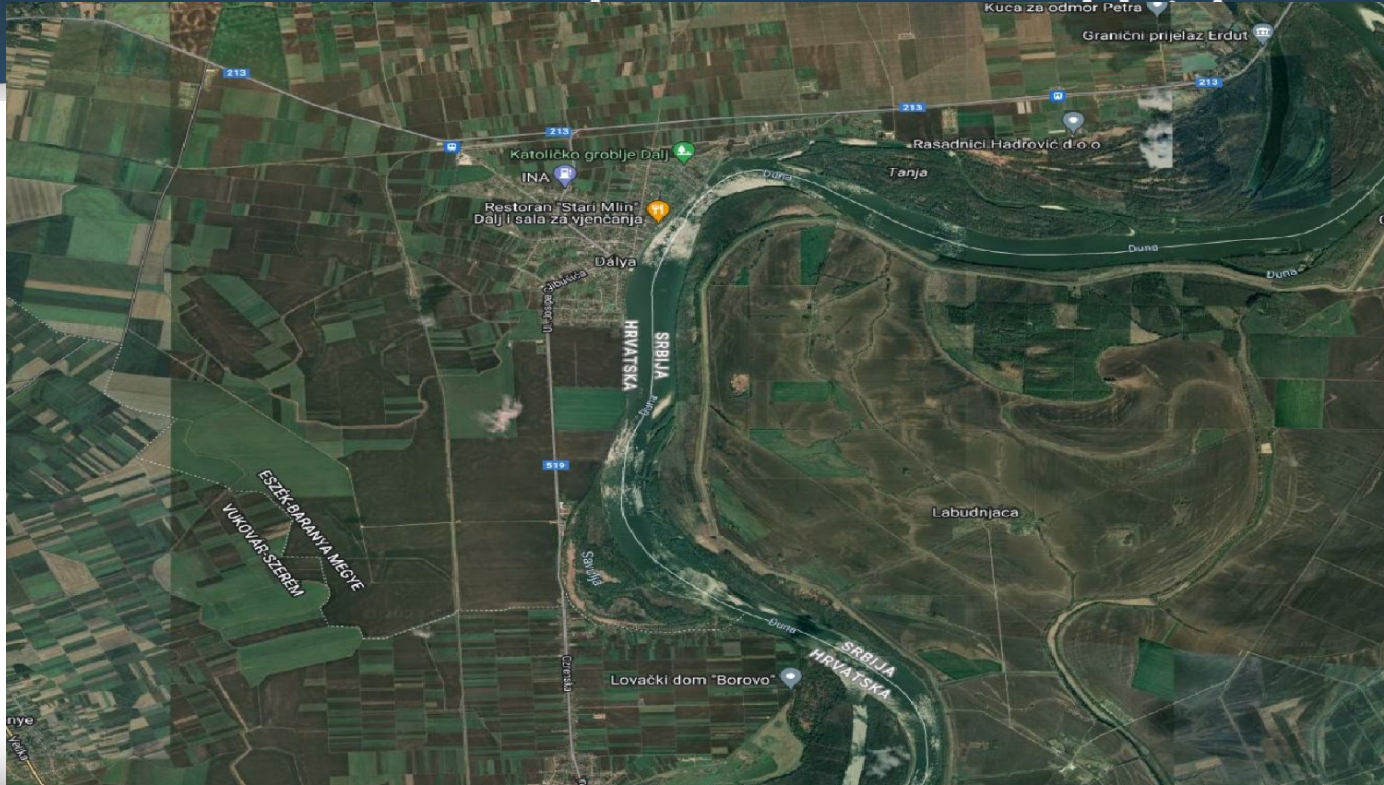
sarmap



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Local example



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Sentinel-1 VH



Red band	Band 7: 20230819	
	Min 0.00917225	Max 0.0582925
Green band	Band 8: 20230831	
	Min 0.00788583	Max 0.0562115
Blue band	Band 9: 20230912	
	Min 0.00647865	Max 0.0494088



Coherence Color Composite

R 07.08 -19.08
G - 19.08 -31.08
B - 31.08 - 12.09



Let's play!

DATAelite

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