

SCERIN background; Beetle damage status, detection and monitoring in SCERIN

Summary: Croatia

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Detection and monitoring of the pests and diseases in forestry

- Diagnostic and Forecasting Services in forestry (CFRI – Division of forest protection, from 1980)
- Plant Health Act (Zakon o biljnom zdravstvu NN 75/05)
- Regulation (EU) 2016/2031 of the European Parliament of the Council of 26 October 2016 on protective measures against pests of plants,

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Portal izvještajno – prognoznih poslova u šumarstvu

Izveštajno prognozni poslovi (IPP) u šumarstvu


Hrvatski šumarski institut, Zavod za zaštitu šuma i lovno gospodarenje



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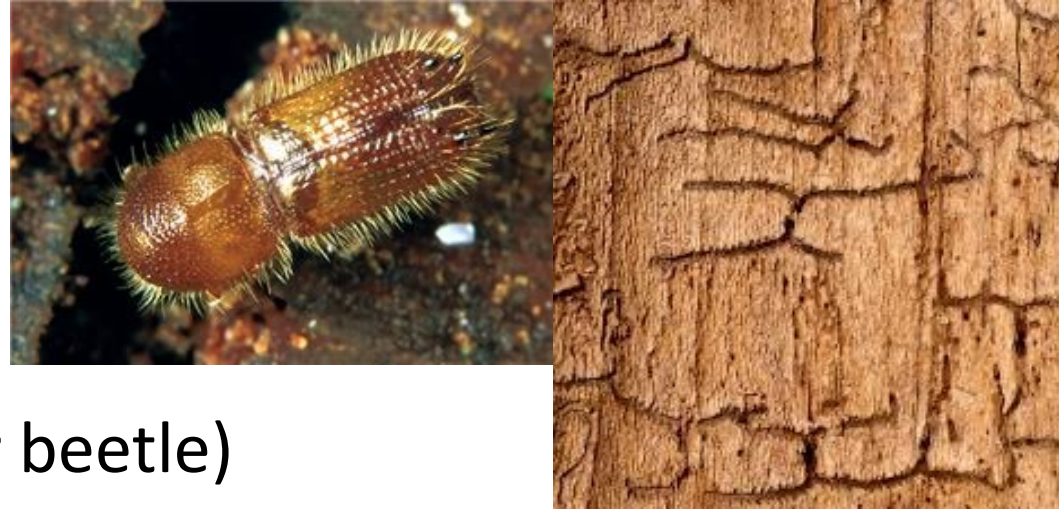
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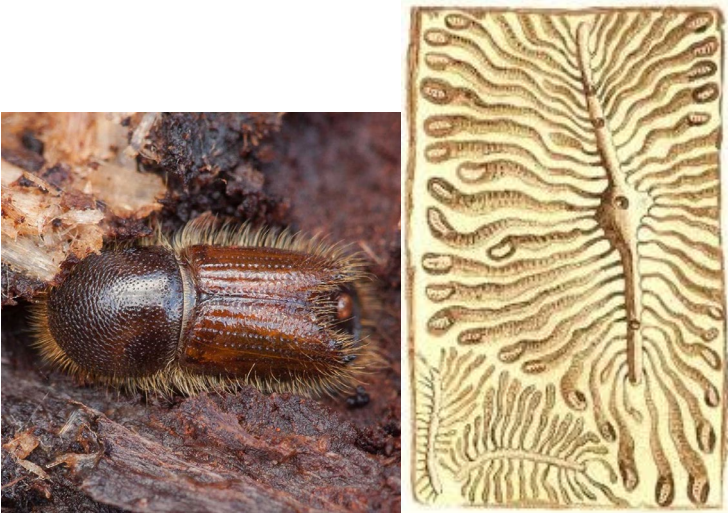
19.1.2021.

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Bark beetles



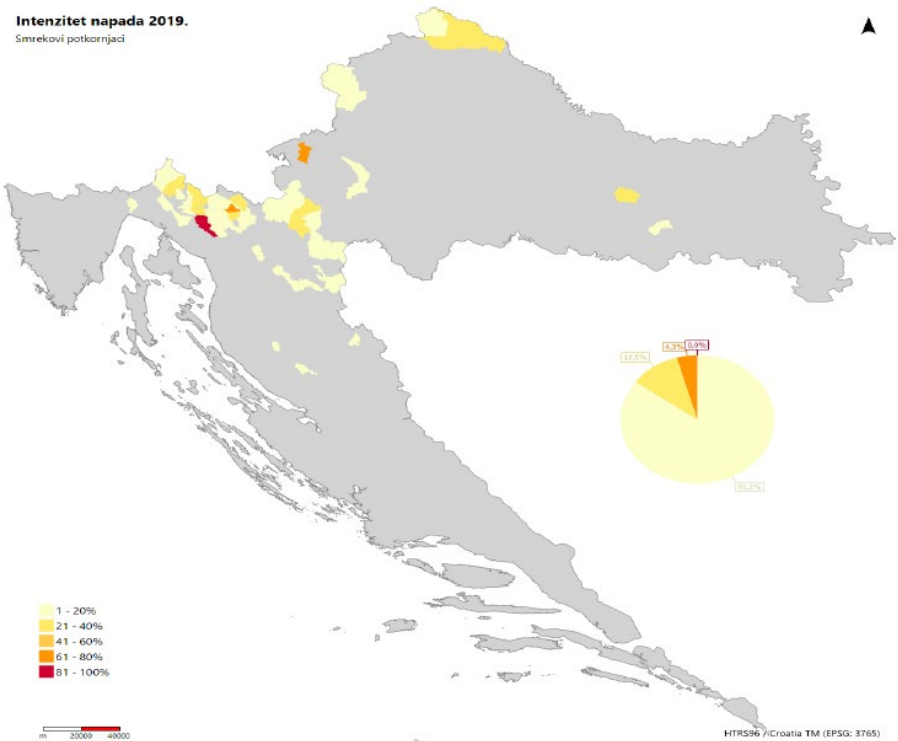
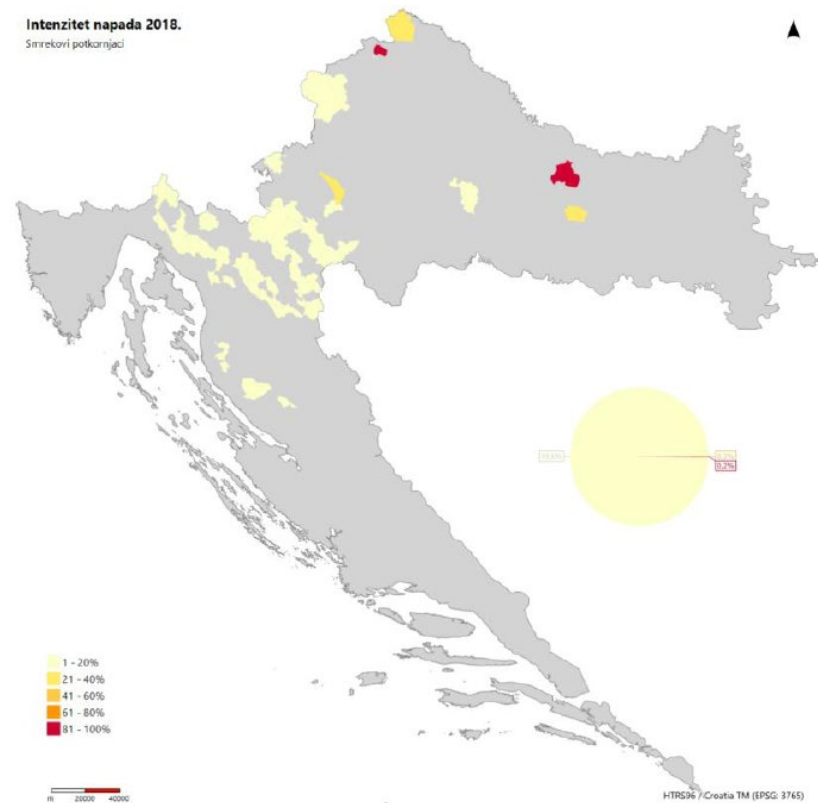
- *Pityokteines curvidens* (fir engraver beetle)
- *Ips typographus* (eight-toothed bark beetle)
- *Orthotomicus erosus* (Mediterranean pine beetle)



Ips typographus (common spruce)

2018

2019



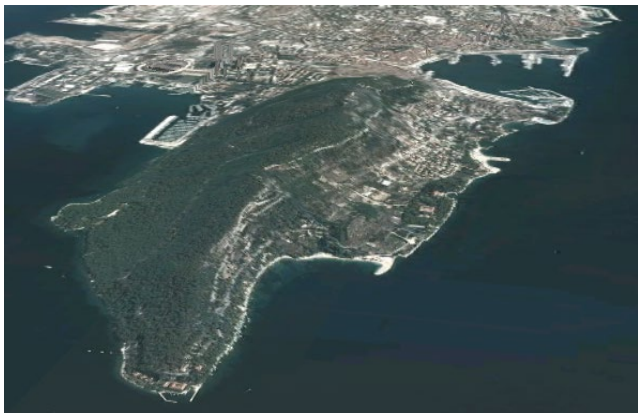
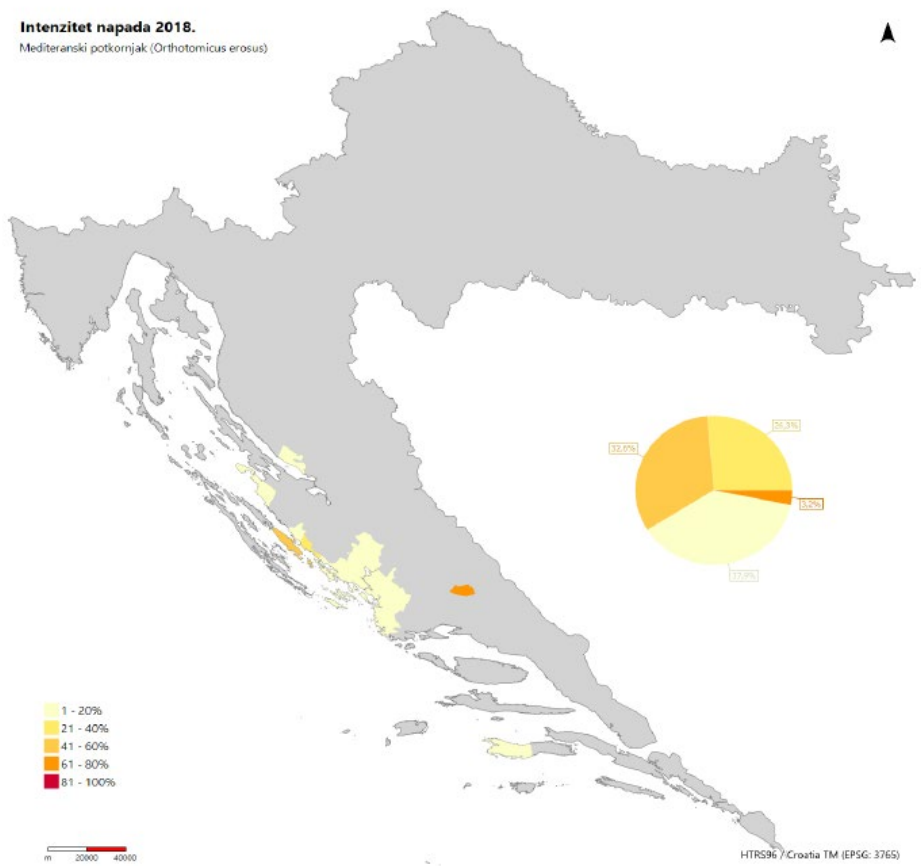
Slika 17: Intenzitet napada smrekovih potkornjaka u 2019. godini po gospodarskim jedinicama

Orthotomicus erosus (Aleppo pine)

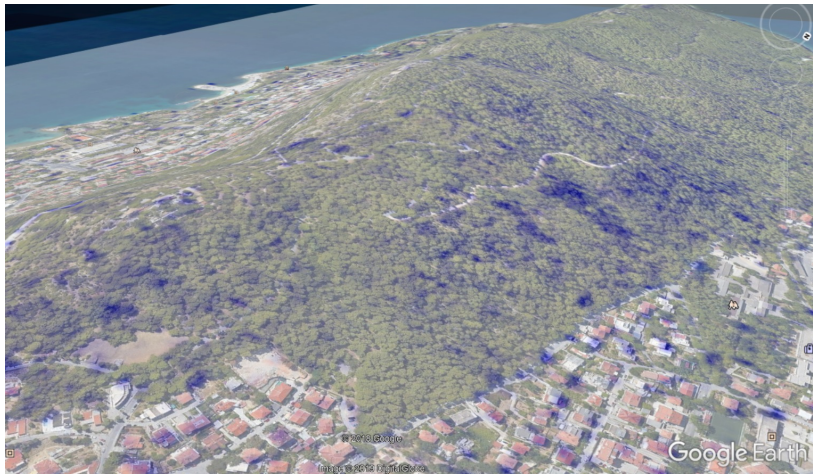
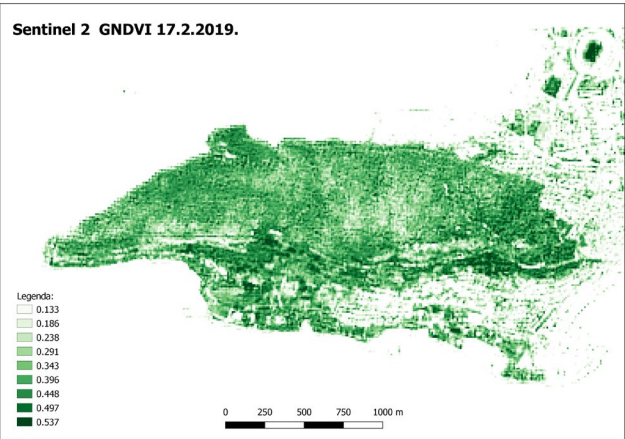
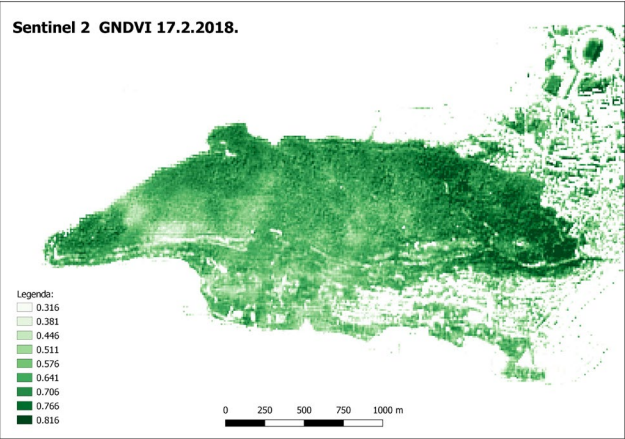
Split – Marjan park

2018

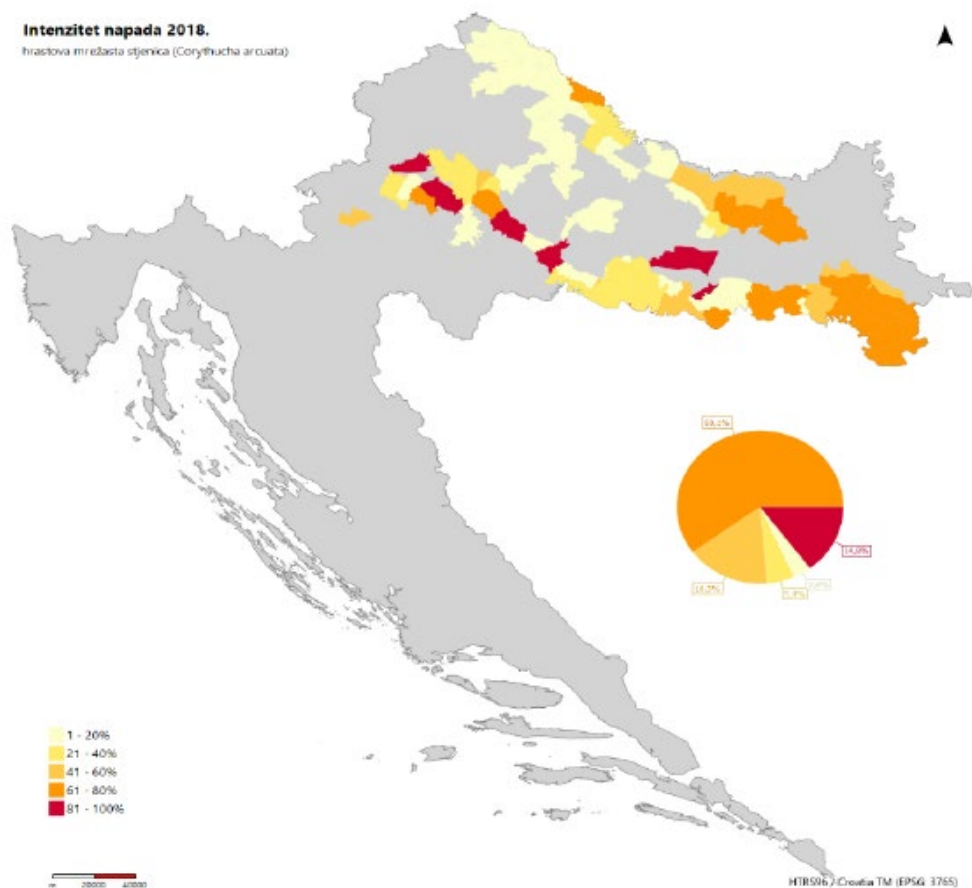
Intenzitet napada 2018.
Mediterranski potkornjak (*Orthotomicus erosus*)



Sentinel-2 change detection



Corythuca arcuata (Oak lace bug)

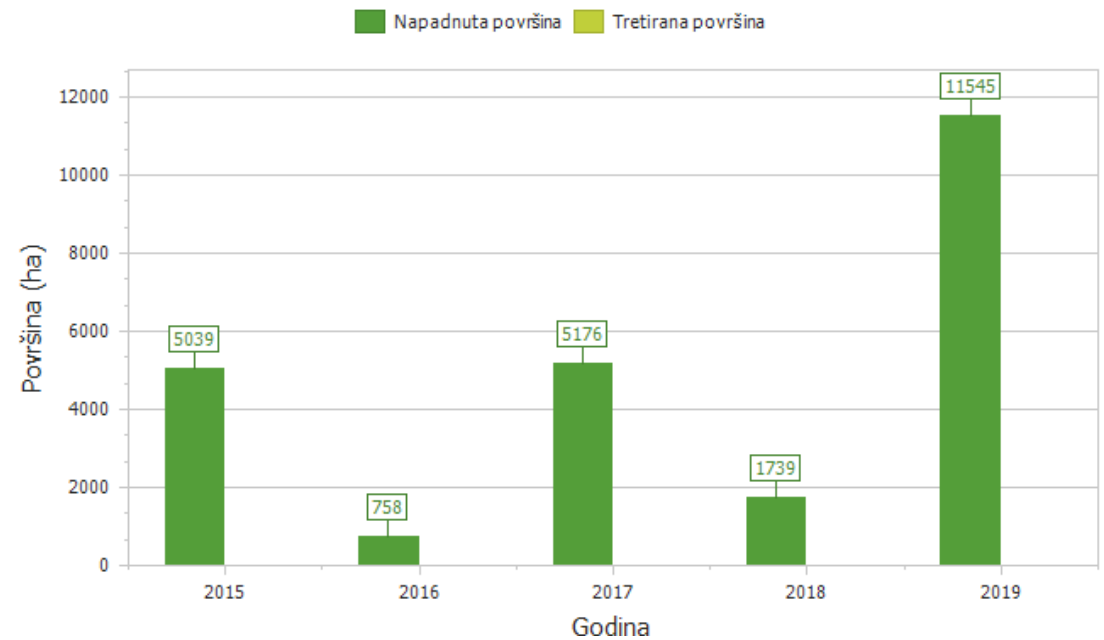
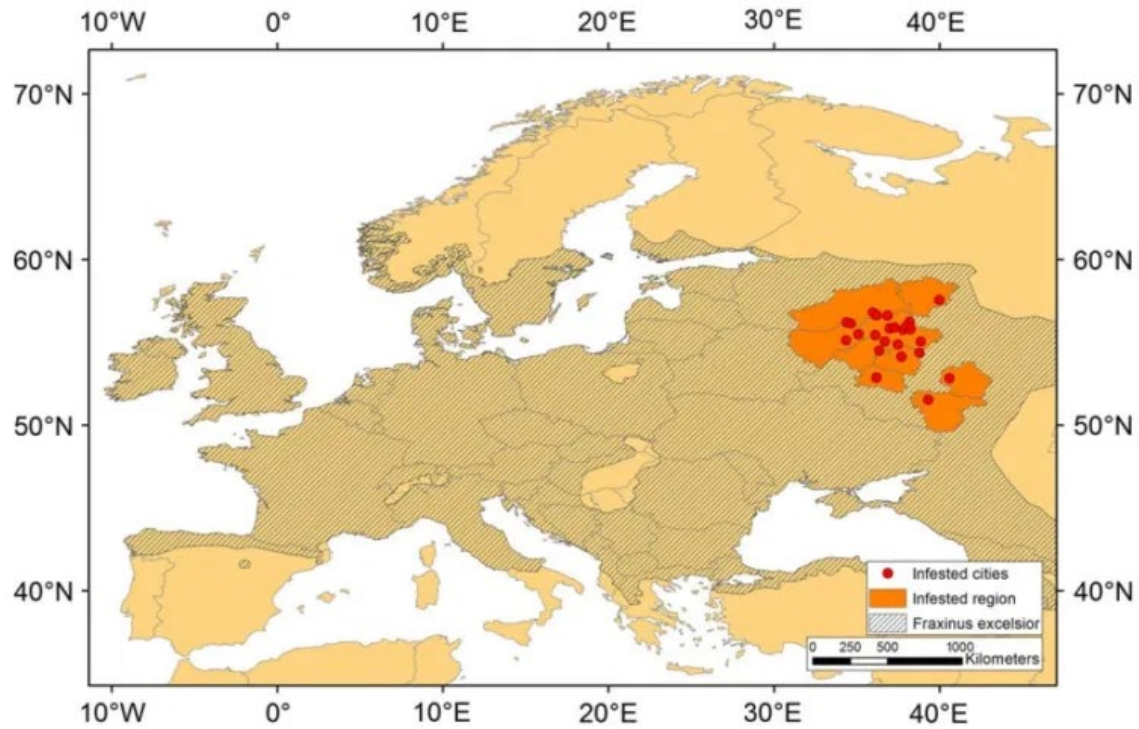


140 000 hectares (*Quercus robur*)

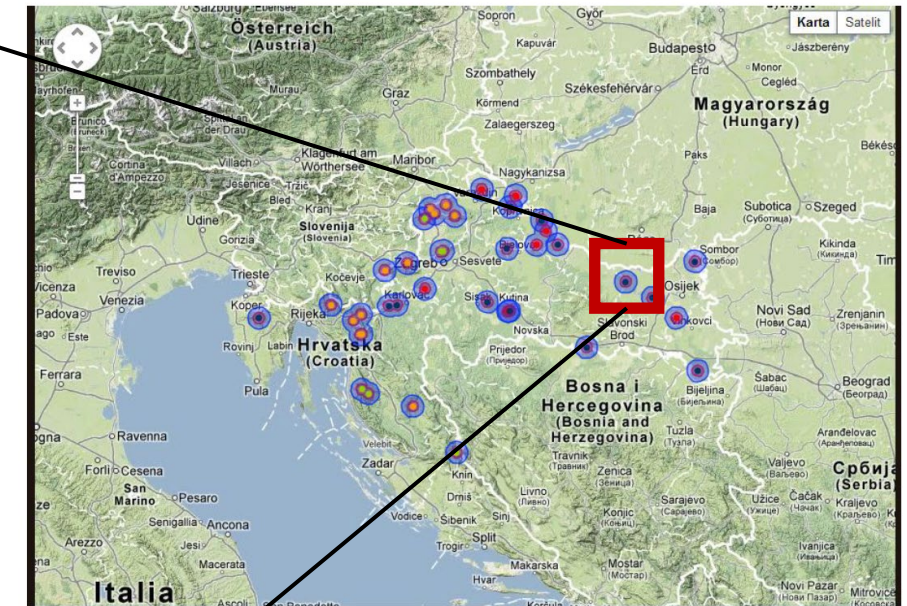
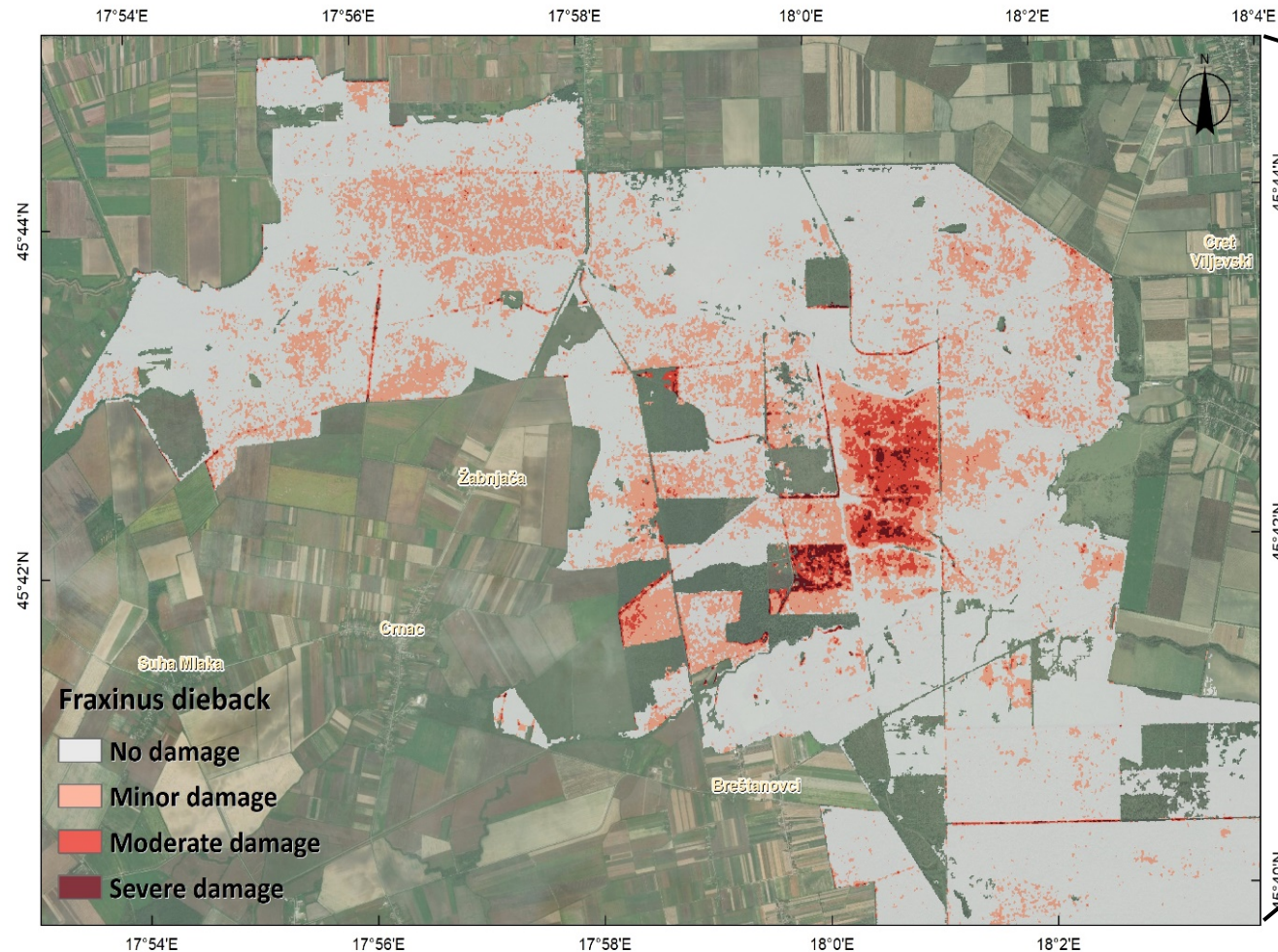


Goran Šafarek
Photography and Cinematography

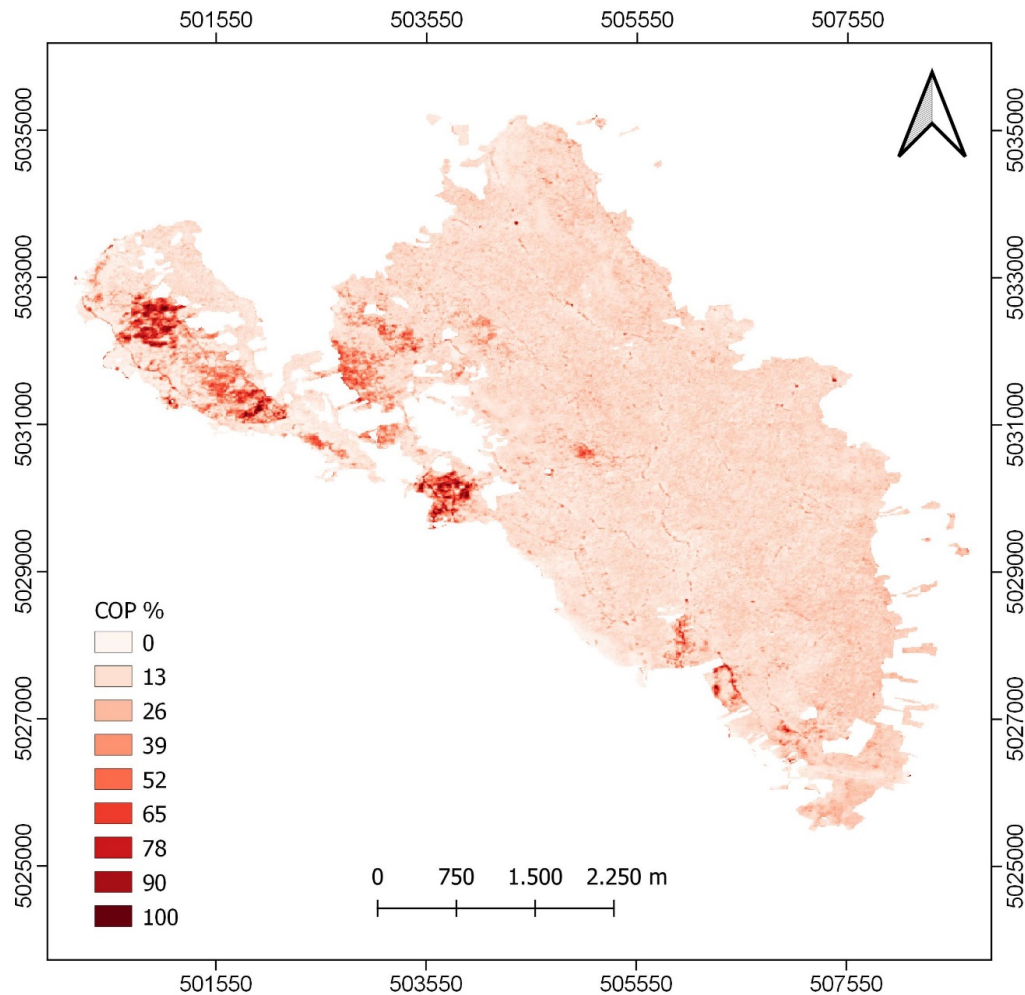
Ash dieback (*Hymenoscyphus fraxineus*)



MySustainableForest: Biotic damage (GMV) – Ash dieback in the area of the Lowland forest (Eastern Croatia)



Pityokteines curvidens (fir engraver beetle) + windstorms



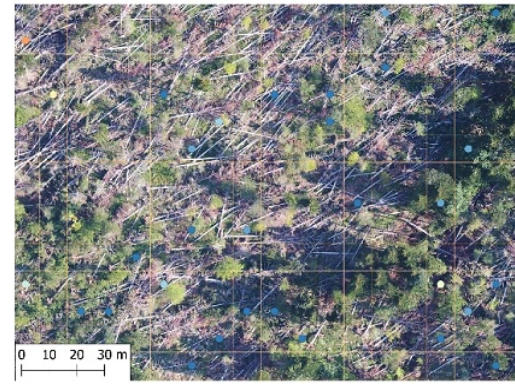
remote sensing



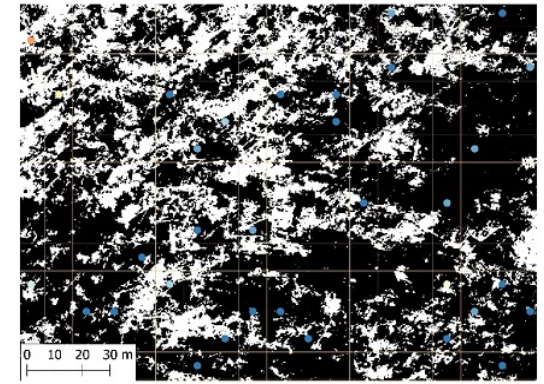
Article

Mapping of the Canopy Openings in Mixed Beech–Fir Forest at Sentinel-2 Subpixel Level Using UAV and Machine Learning Approach

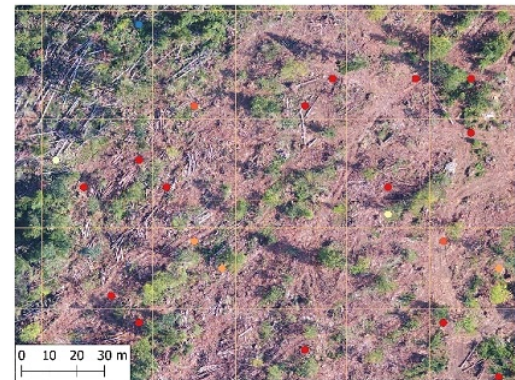
Ivan Pilaš ^{1,*}, Mateo Gašparović ² , Alan Novkinić ³ and Damir Klobučar ³



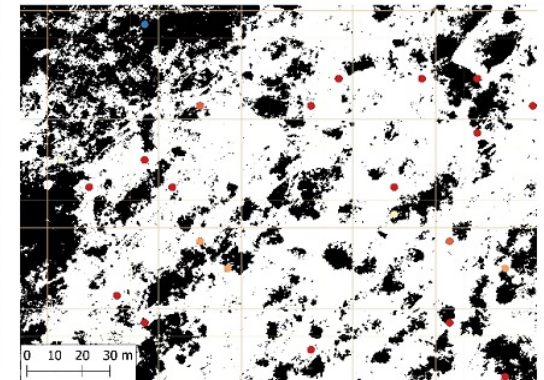
(a)



(b)



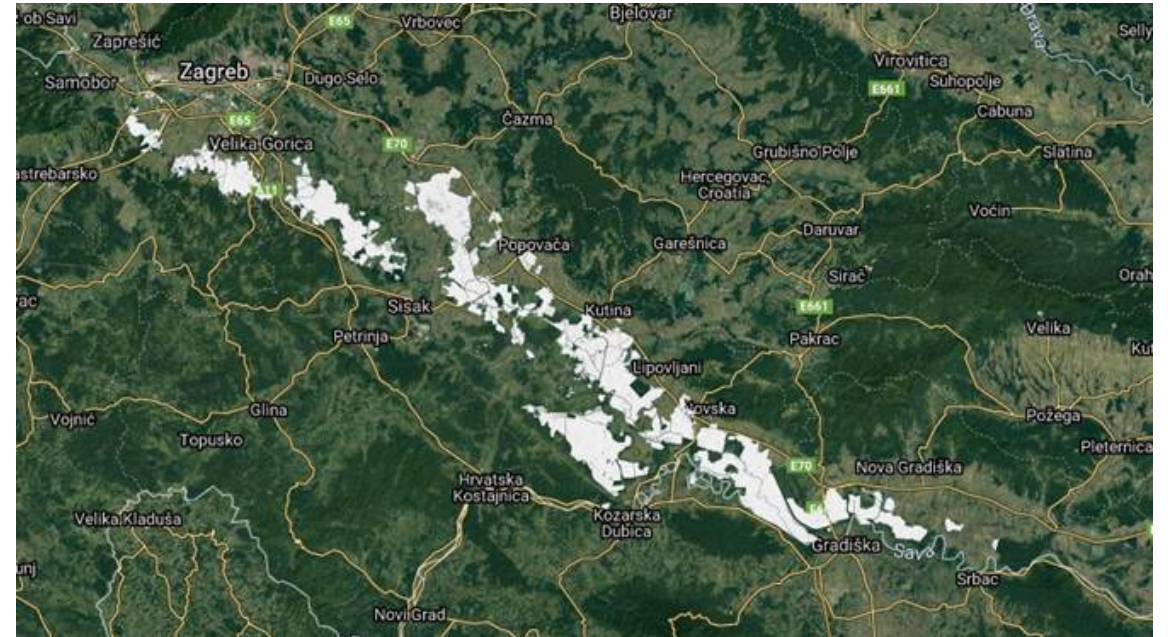
(c)



(d)

Current research: Ash dieback (NW Croatia lowlands)

- Spatio-temporal dieback pattern (Landsat time series 2000-210)
- Change detection (Bfast Spatial, GEE...)
- Impact of environmental condition (soil, microrelief, stand structure, seasonal climatic properties) that influenced severe dieback (Hypothesis)
- Specific (niche) factors where Ash showed resistance (If any?)



- Thank you!