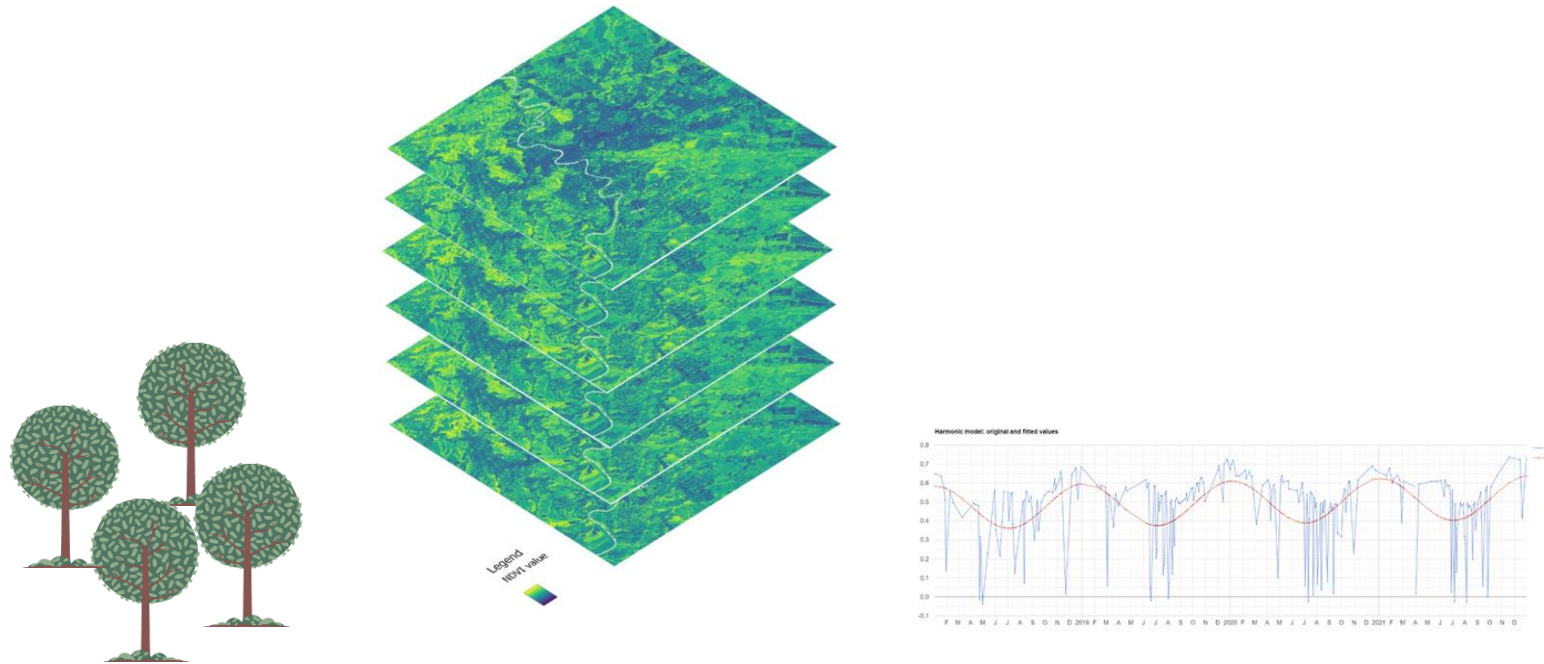# Satellite SAR multi- and hyper-temporal monitoring for vegetation

R Lasaponara[1,] L Telesca[1], F. Faridani[1], M. Lovallo[2], G. Cardettini[1], A. Aromando[1] N. Abate[3] , N. Masini[3]

[1] *CNR-IMAA,* [2]*ARPAB, -Potenza, Italy,* [3] *CNR-ISPC ,*

Outlines

- *CNR-IMAA Facilities and ongoing projects*

- *CNR activities in the context of Smart Forest*

- *Open issues and scientific challenges*

- *Use cases*

- *Ongoing and Future activities*

Open Issues And Scientific Challenges

The contribution of CNR

- --which type of data processing can be adopted to suitably transform spectral information into vegetation parameters?

- -- How to remove the seasonalilty to capture the "inner" trend /temporal behavoir of vegetation cover?

- --- How to move from lab to society: from publication to operational applications?

- ---How move from the mapping the infected areas to the early identification of affected plants

- **--- Which is the minimum mapping unit (pixel, cadastral parcel or segment level) to be considered from satellite Sentinel 2?**
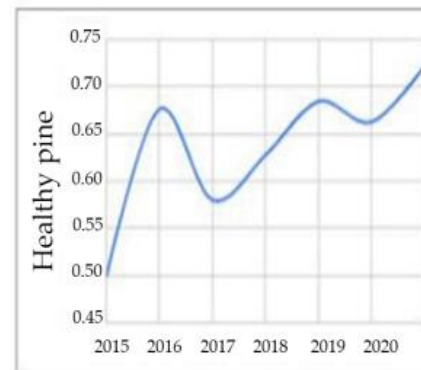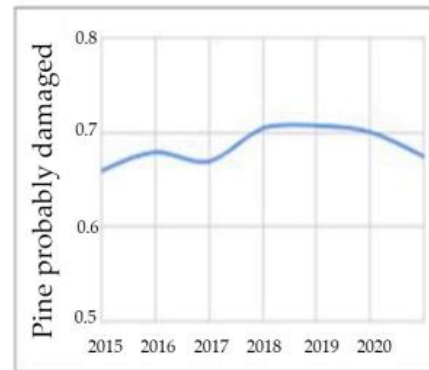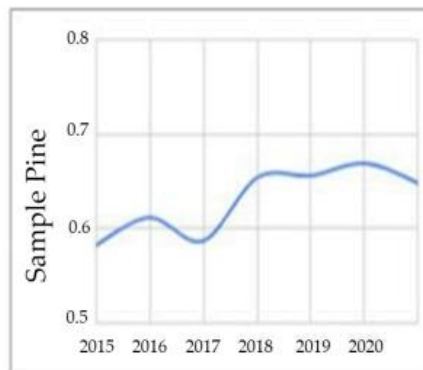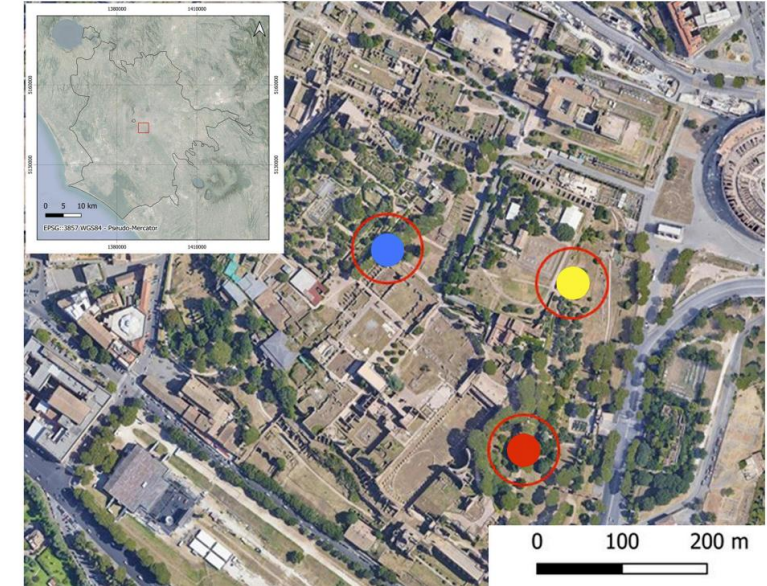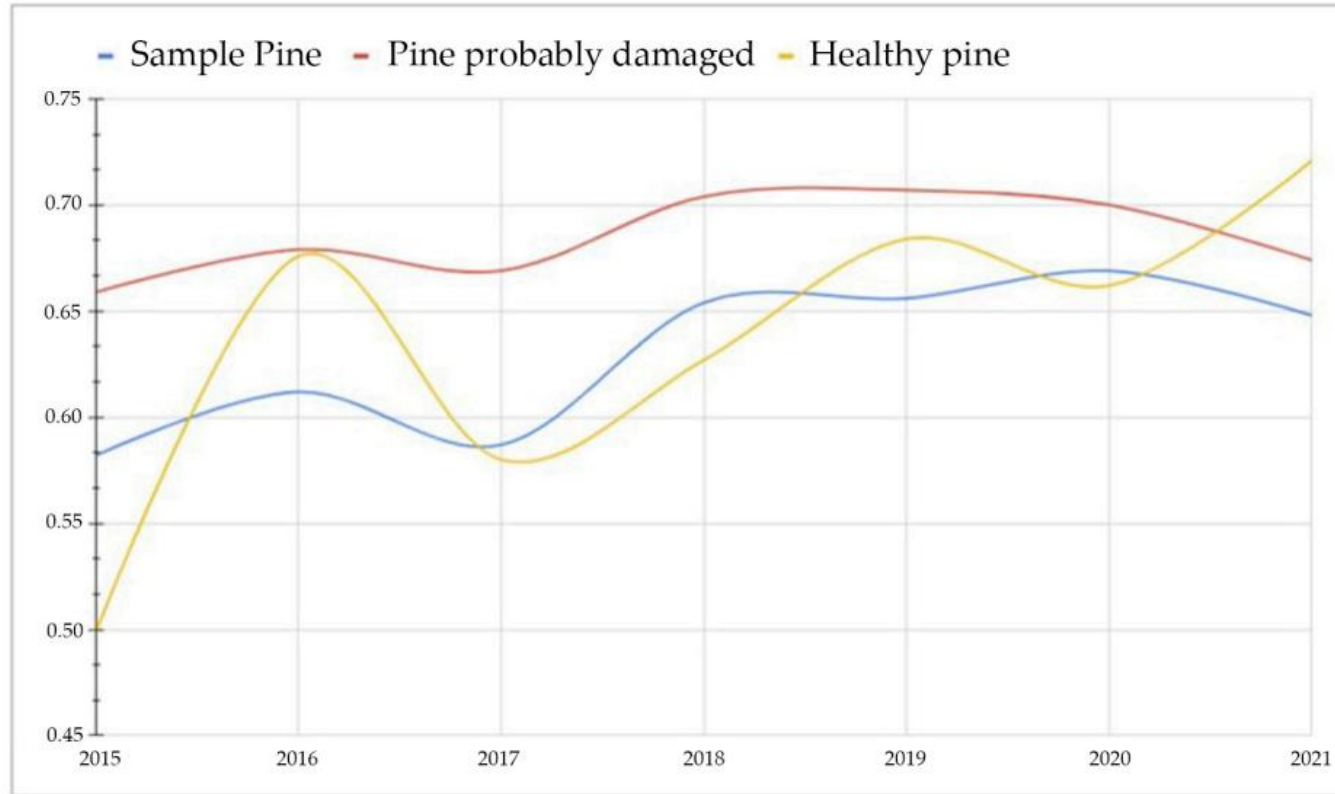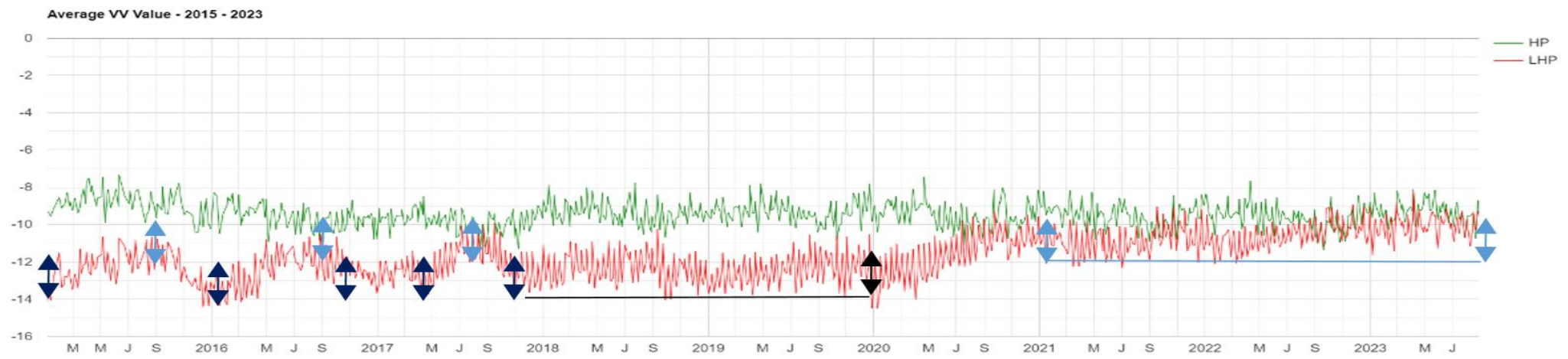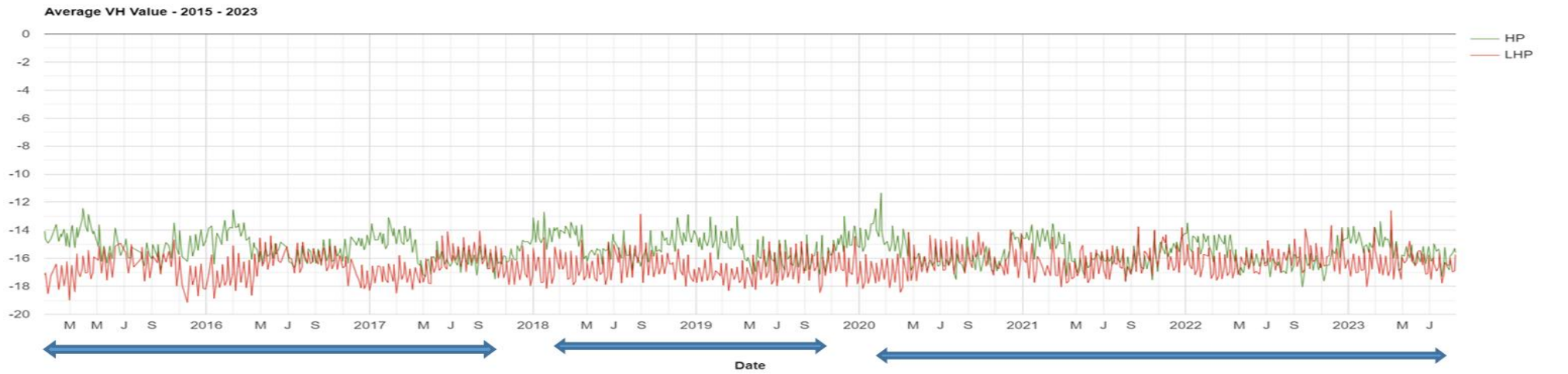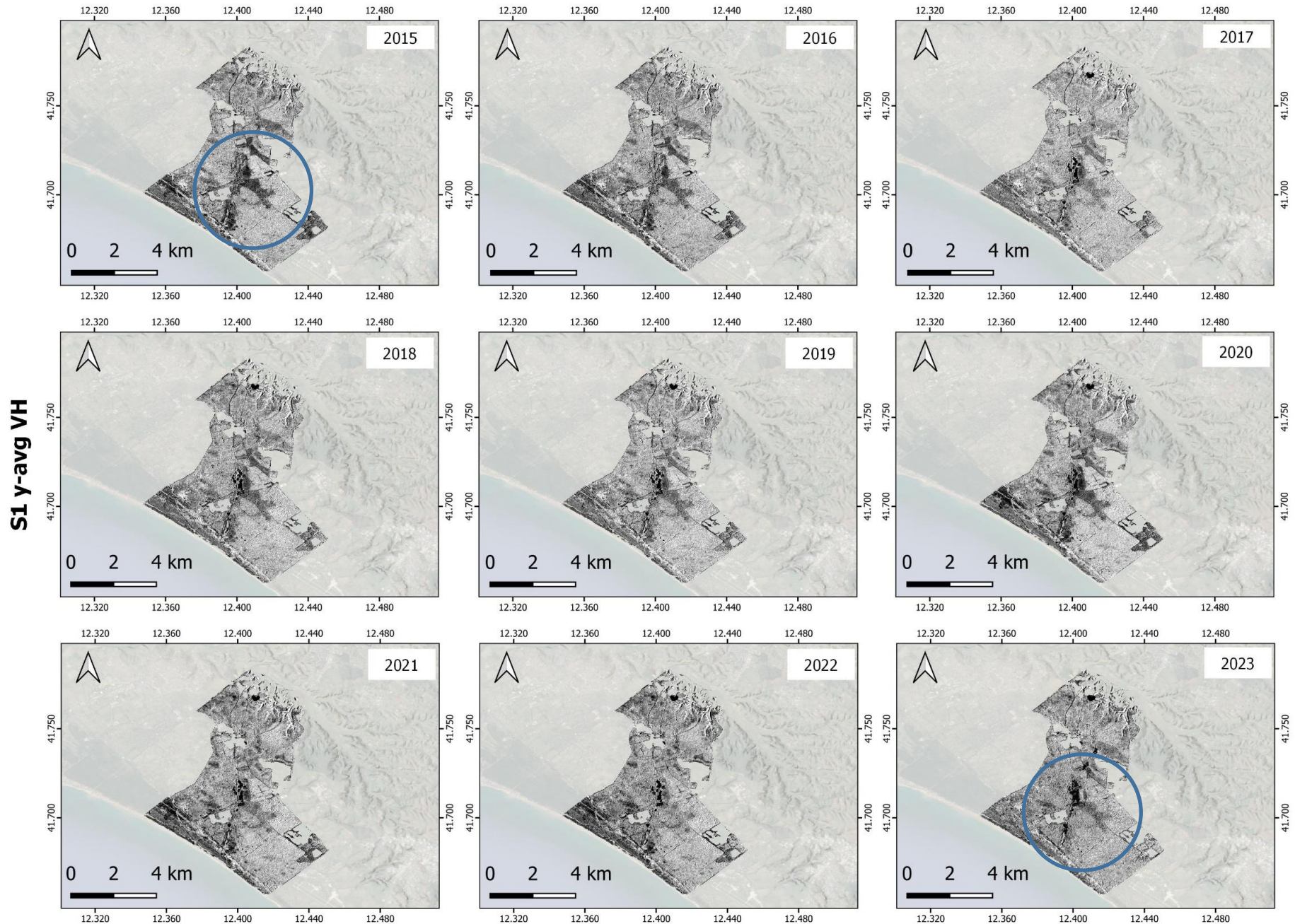
Which is the minimum mapping unit?
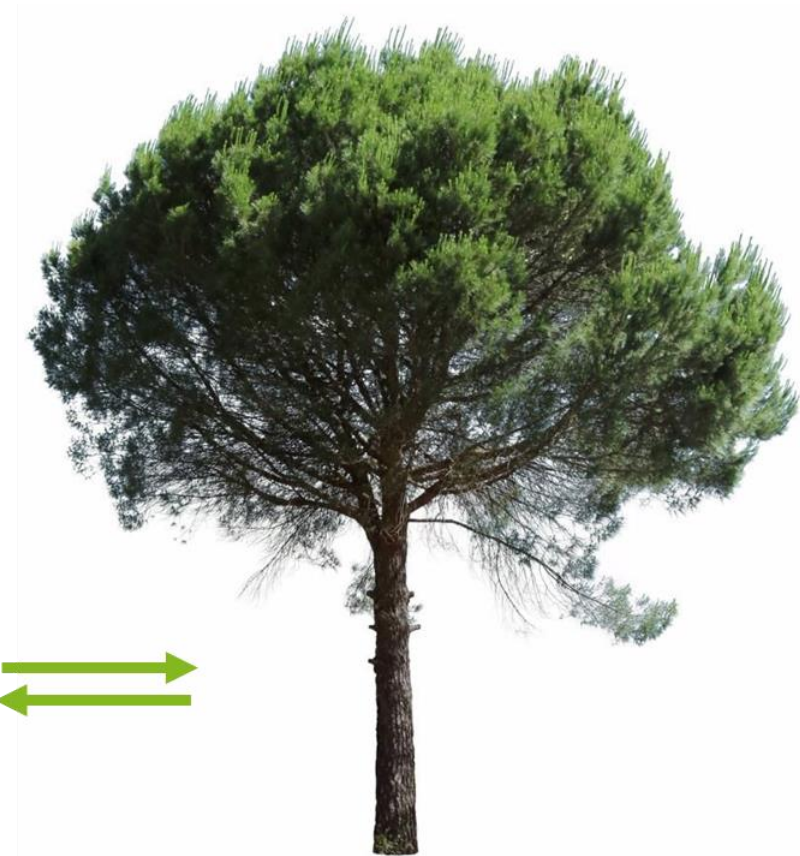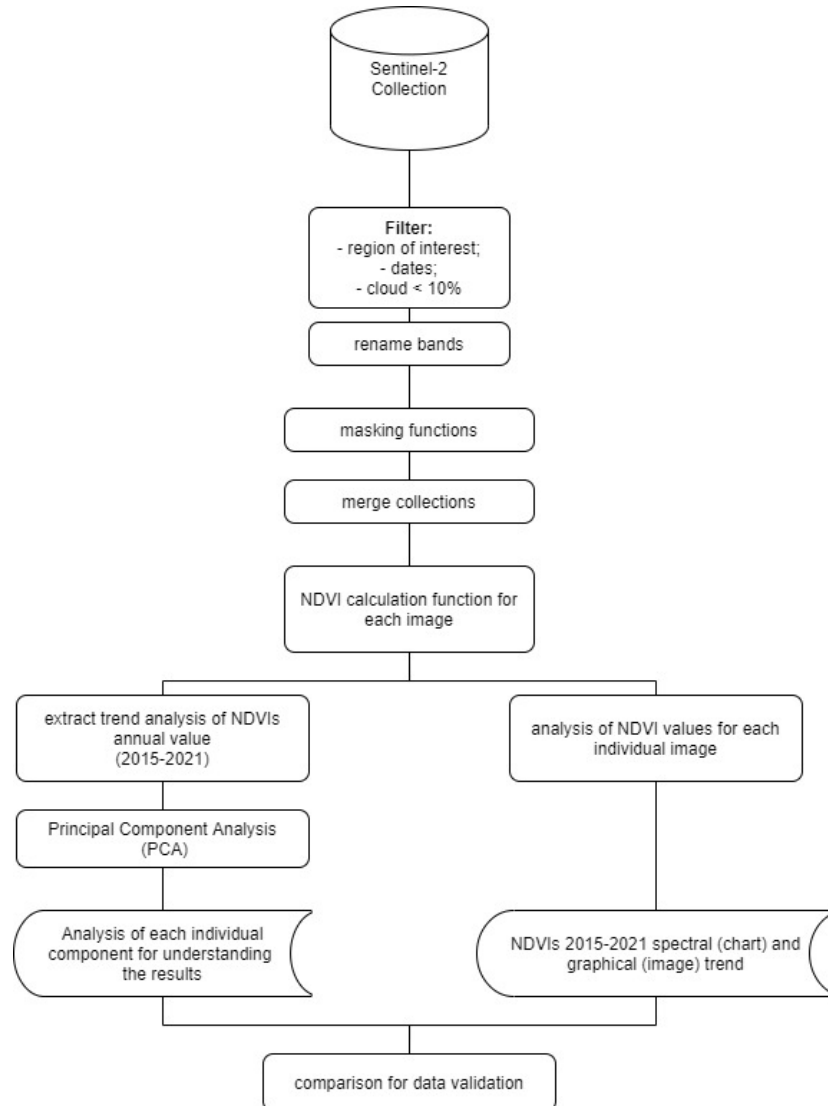
S2 for parasite identification

S1 for degradation and parasite identification

S1 for parasite identification from single pixel to site map
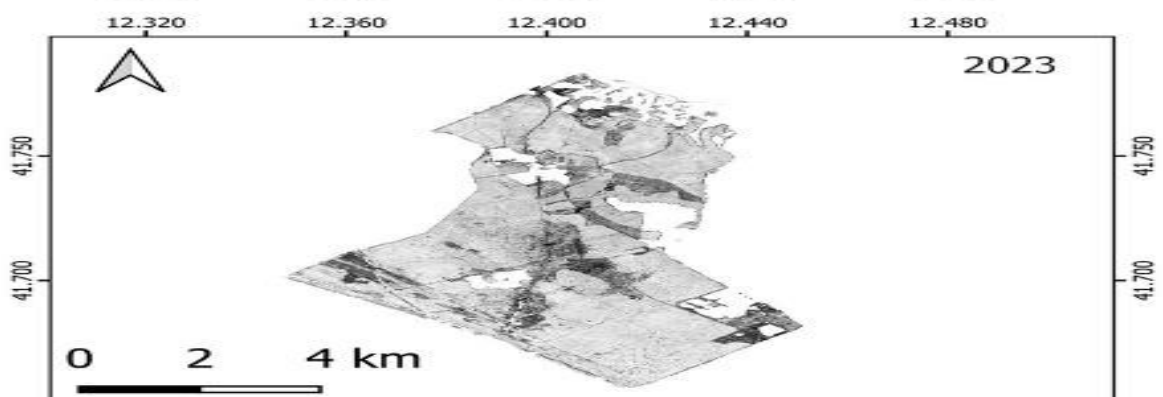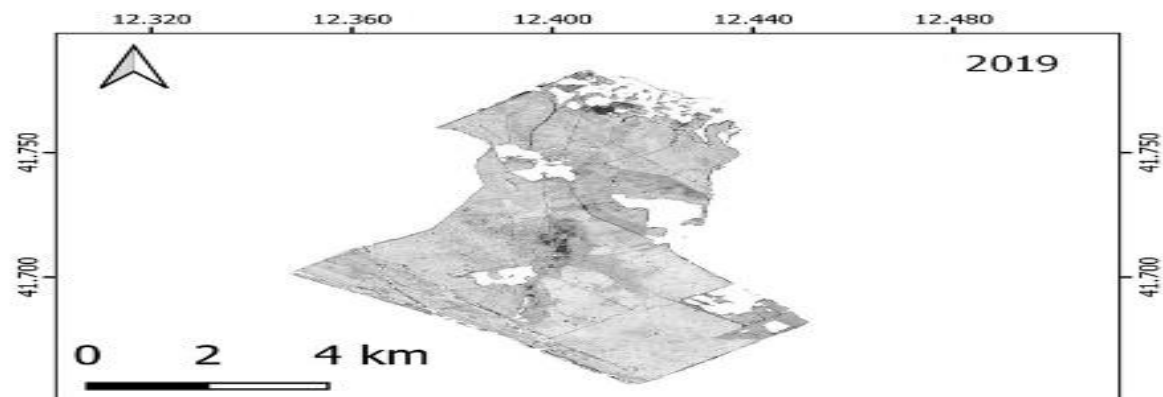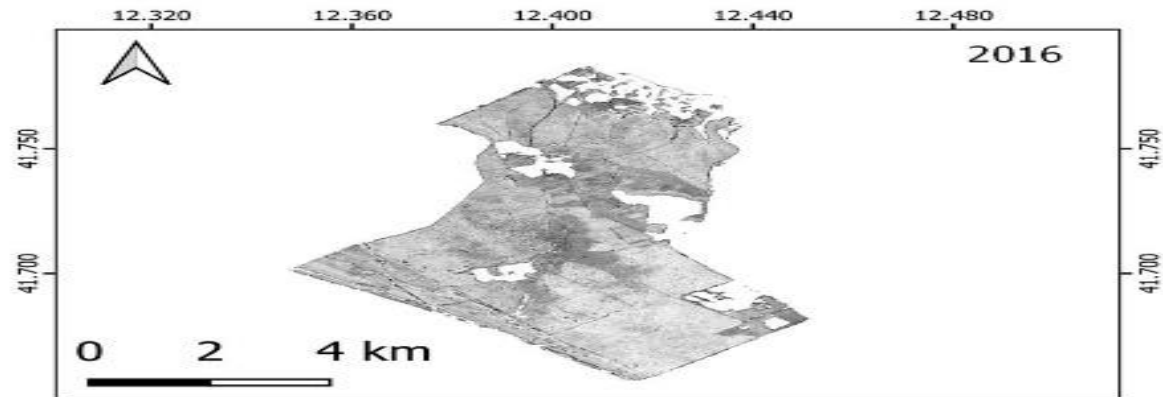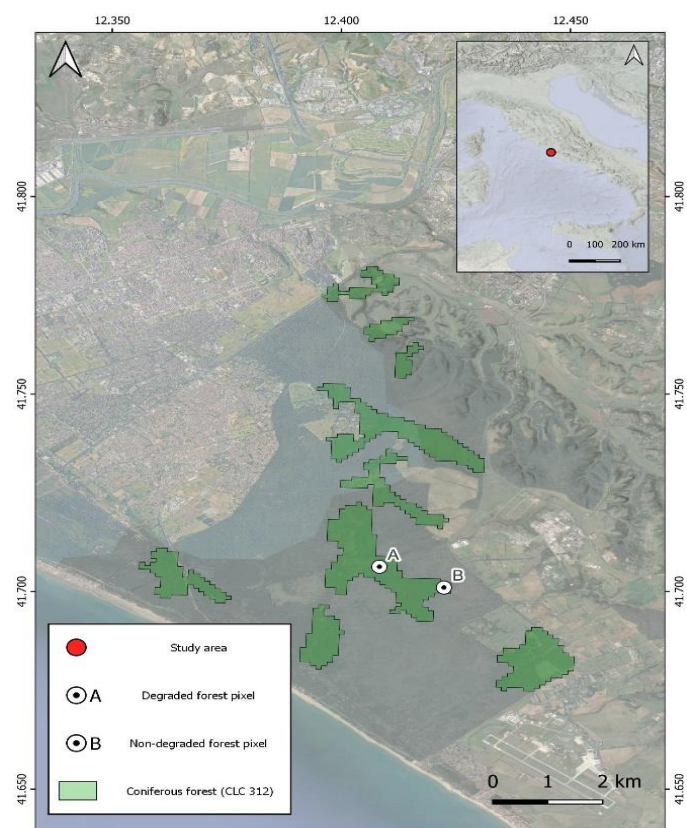
S1 for parasite identification from single pixel to site map

(a)

loss of the normal phenological cycle

normal phenological cycle

(b)

Lat: 42.89761 Lon: 10.78399

normal phenological cycle

(c)

Lat: 41.70105 Lon: 12.42236

normal phenological cycle

Legend:
- Study area
- A Degraded forest pixel
- B Non-degraded forest pixel
- Coniferous forest (CLC 312)

2016

2019

2023
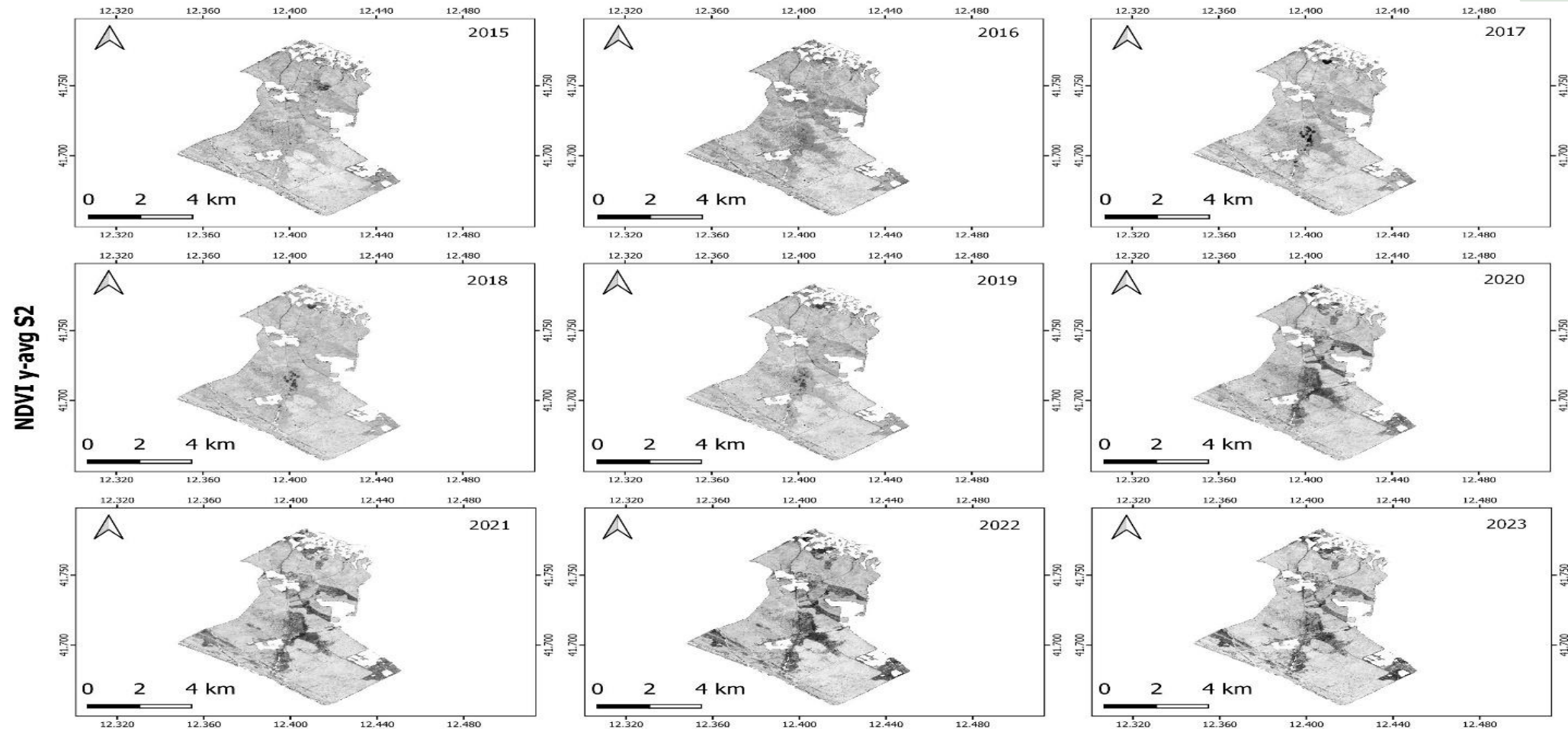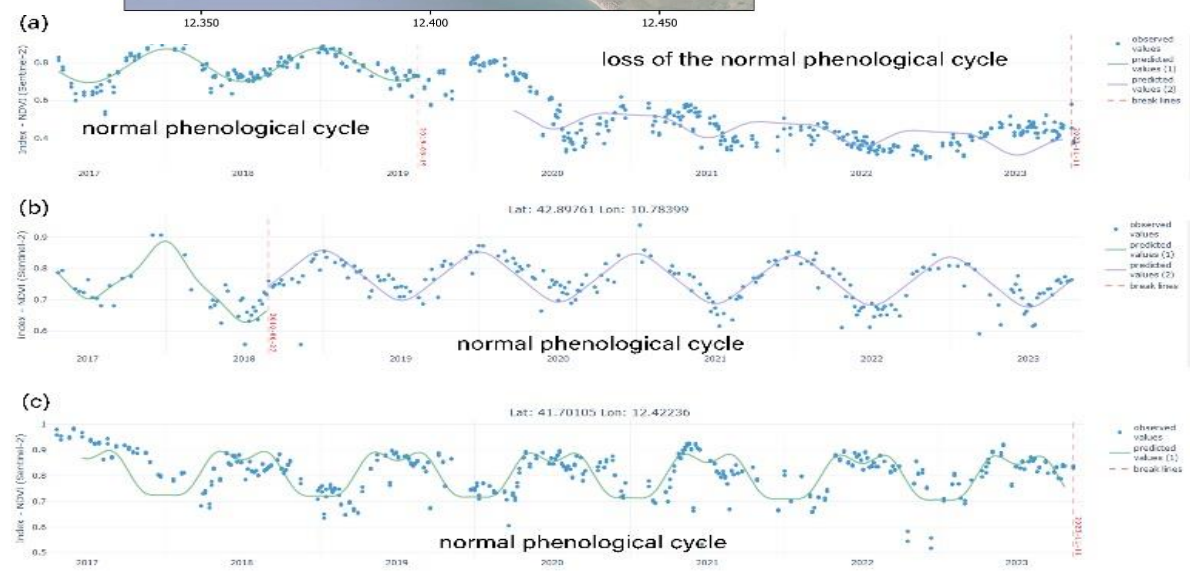
S1 for parasite identification from single pixel to site map

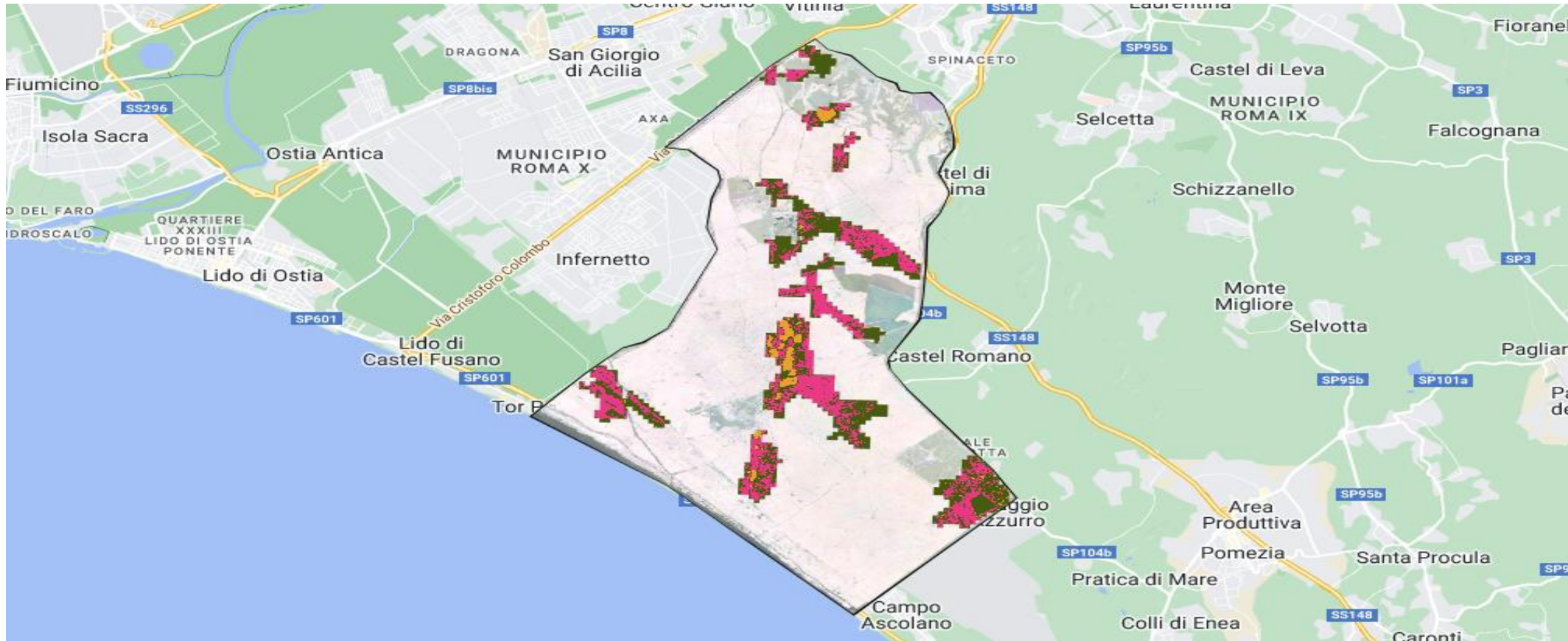## Categoritation of degration levels

Thank you