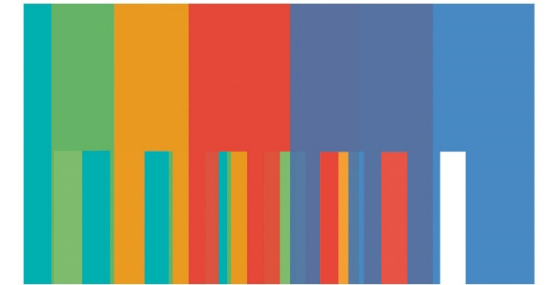


Belgian Science Policy Office



belspo



GARMON

The Garden Monitor – mapping and characterizing gardens using remote sensing



Jozefien Hermy
jozefien.hermy@vlaanderen.be



Prof. Dr. Ben Somers
ben.somers@kuleuven.be



**INFORMATIE
VLAANDEREN**

Jo Van Valckenborgh
jo.vanvalckenborgh@kb.vlaanderen.be



Context - policy

*Importance of the **green network**
as a fundamental condition
for the **local environmental quality of life***

- *MINA-plan 5 'Gardens as part of the blue-green infrastructure' **
- *Witboek Beleidsplan Ruimte Vlaanderen (2016) – Beleidskader 'Robuuste en Samenhangende Open Ruimte' ***
- MINA 4 (Environmental Policy Plan 2011-2015)
- the Policy Documents of the minister of Environment

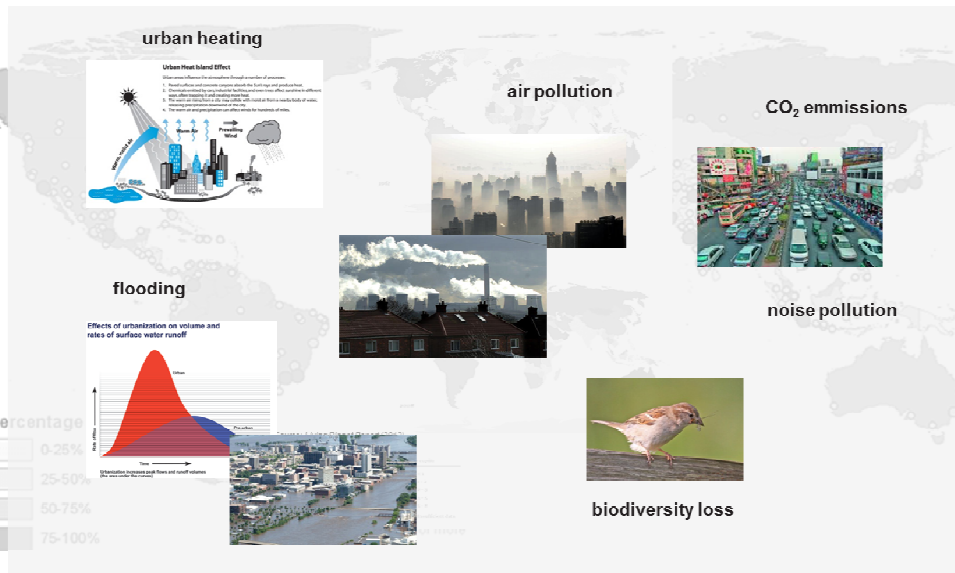
* Schauvlieghe, 2014

** Ruimte Vlaanderen, 2016

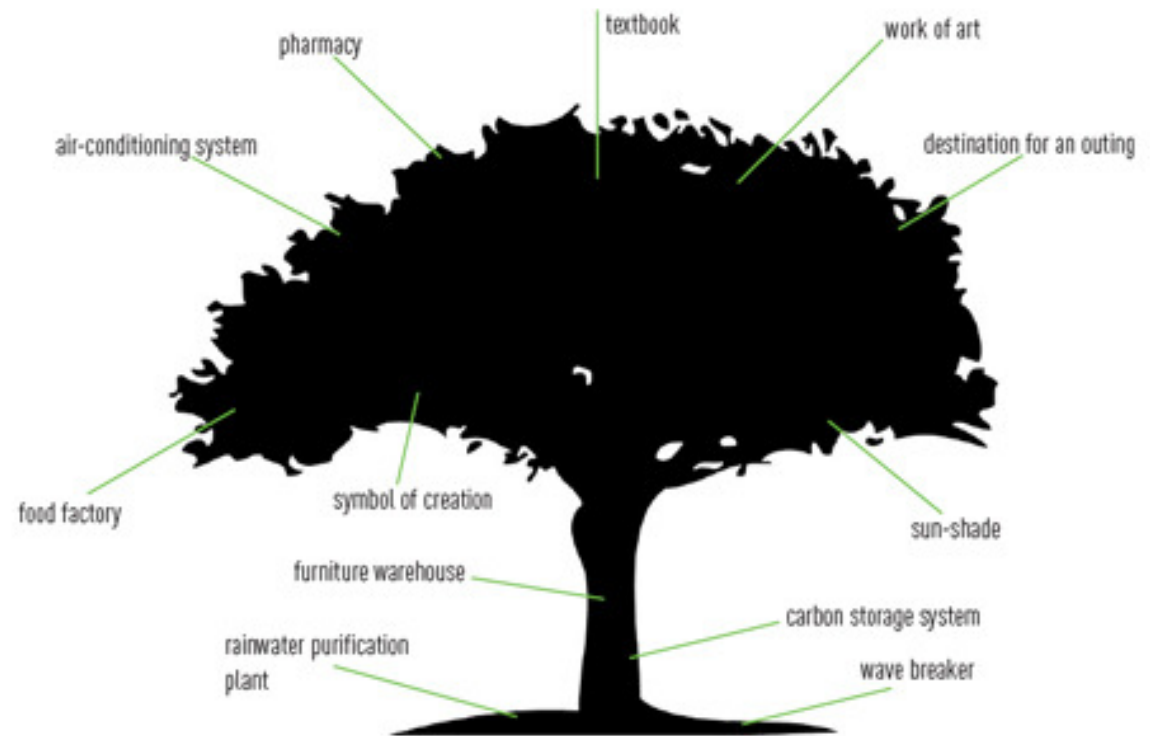


Context - scientific

→ *ECOSYSTEM SERVICES*



The tree – a service station for human beings





Green network in Flanders

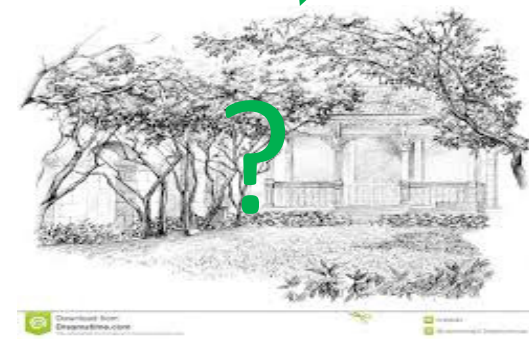
- *about 8% of the Flemish territory exist out of domestic gardens*
- *forests cover about 11%*
- *nature conservation areas about 3%*
- *about 11% of built-up area and sealed soil*



Public green



Forests



Private green

→ the garden complex

strategic places for the local environmental quality of life!



The GARMON project

OBJECTIVE

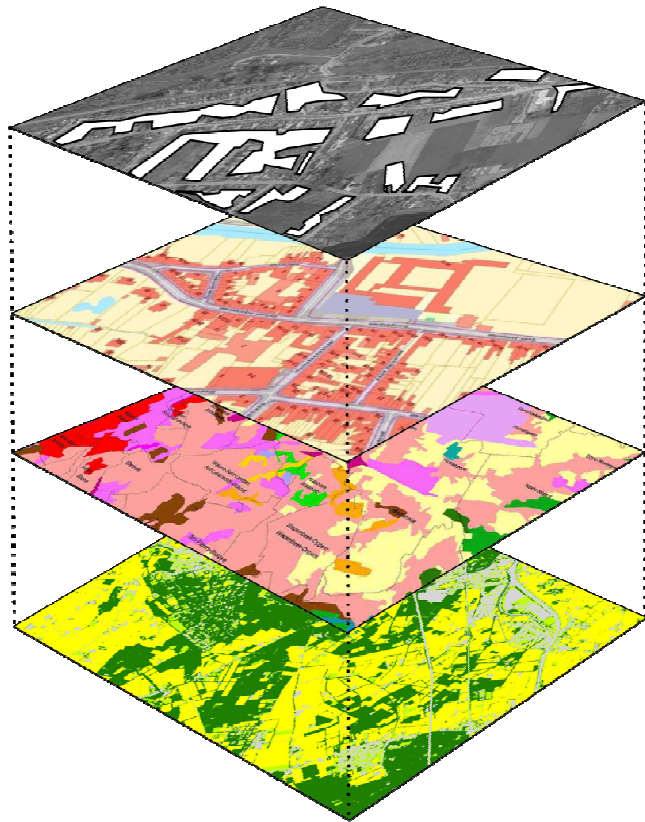
This proposal aims at the development of a Garden Monitor application that collects **spatially-explicit data on the garden ecosystem (land cover, vegetation characteristics)**. The collected garden data will allow the calculation and optimization of regulating ecosystem services of garden vegetation (like carbon sequestration, cooling effect, air quality, water regulation).

POLICY SUPPORT

- **Policy preparation:** insights in the current state of the garden complex as a starting point for the determination of specific policy goals, e.g. tree cover and soil sealing;
- **Policy execution:** identification of 'hot spots' where policy action is required, e.g. neighbourhood with limited tree cover and high degrees of soil sealing in gardens;
- **Policy evaluation:** monitoring of the effect of a specific policy initiative, e.g. initiative aiming at the increase of tree cover in gardens.



The work plan



Track 1 – development of a Flanders-wide spatially-explicit garden map based on the vegetation map, the soil sealing map



Vegetation map (groenkaart)

Soil sealing map

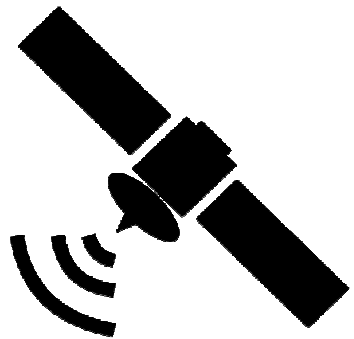
Enmalige Perceelsregistratie (EPR)

Grootschalig Referentiebestand

LiDAR-data



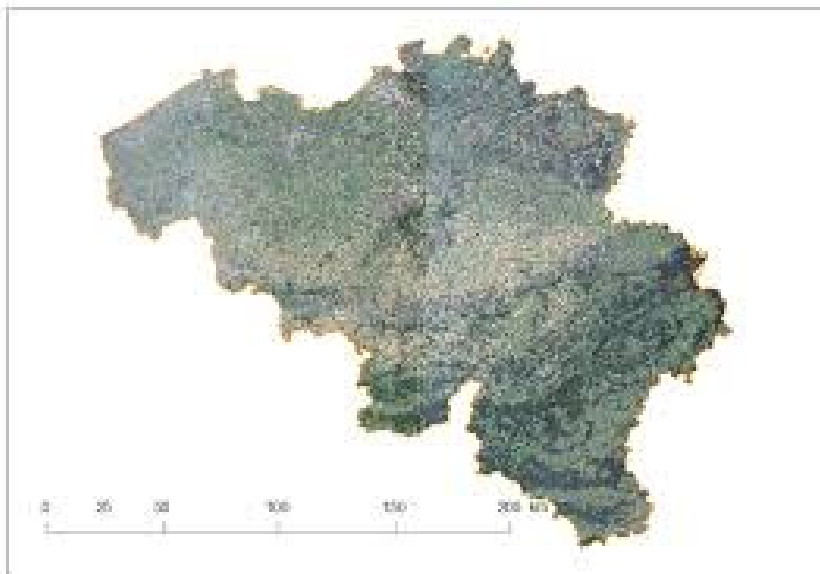
The work plan



Sentinel 2

Pleiades

Track 2 – proof-of-concept of developing added value products from high resolution satellite imagery like Pleiades and Sentinel 2 to characterize garden cover and dynamics

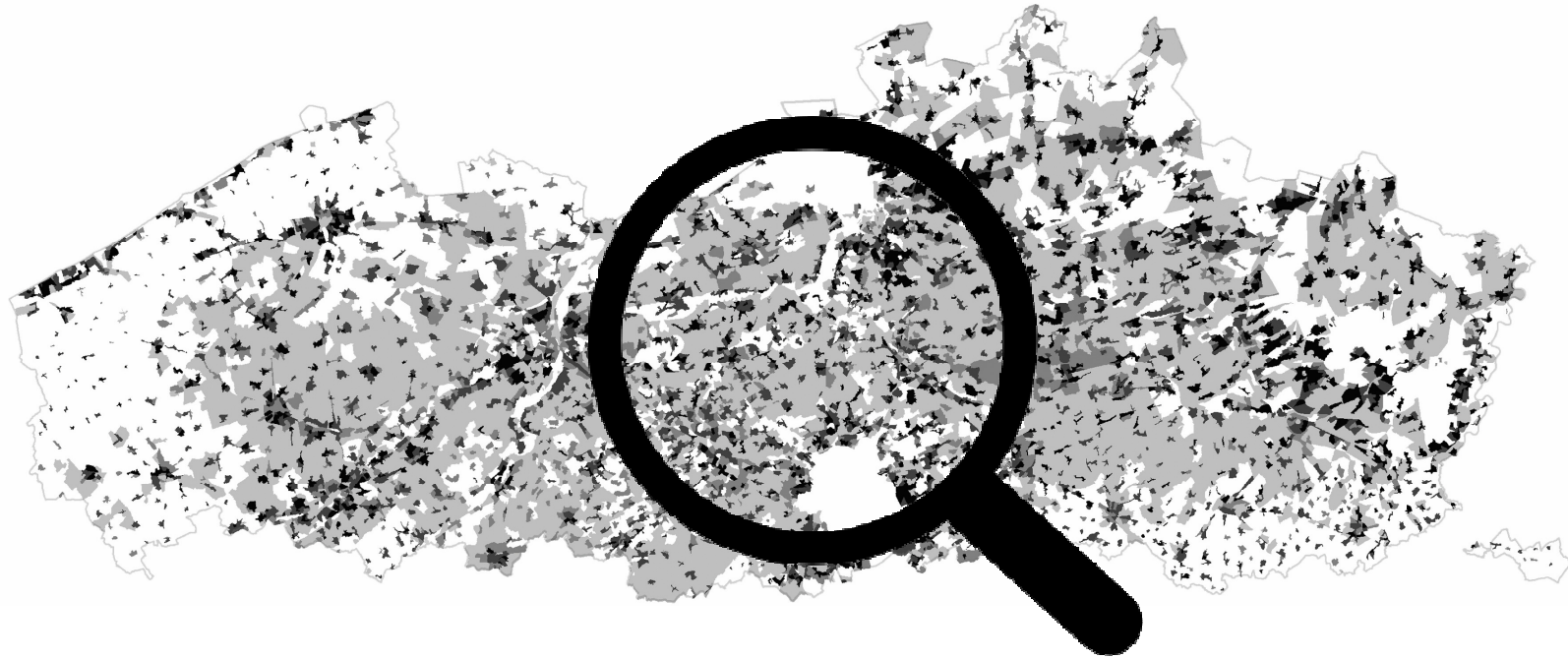


In-house developed subpixel and object-based classification techniques will be applied and tested on the regional scale

Previous BELSPO projects (UrbanEARs, Remedy, Vegemix, VIPER2, ...)



The Garden Monitor...



→ Project from 1/12/2017 until 30/11/2019