



# Swedish National Land Cover Database



SWEDISH  
ENVIRONMENTAL  
PROTECTION  
AGENCY



Myndigheten  
för civilt försvar



Statistics Sweden



TRAFIKVERKET  
SWEDISH TRANSPORT ADMINISTRATION

Swedish Agency  
for Marine and  
Water Management

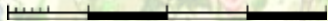


Rymdstyrelsen  
Swedish National Space Agency



SKOGSSTYRELSEN  
SWEDISH FOREST AGENCY

LANTMÄTERIET



SLU  
SWEDISH UNIVERSITY  
OF AGRICULTURAL  
SCIENCES



Boverket  
Sweden's National Board of Housing,  
Building and Planning



Jordbruks  
verket

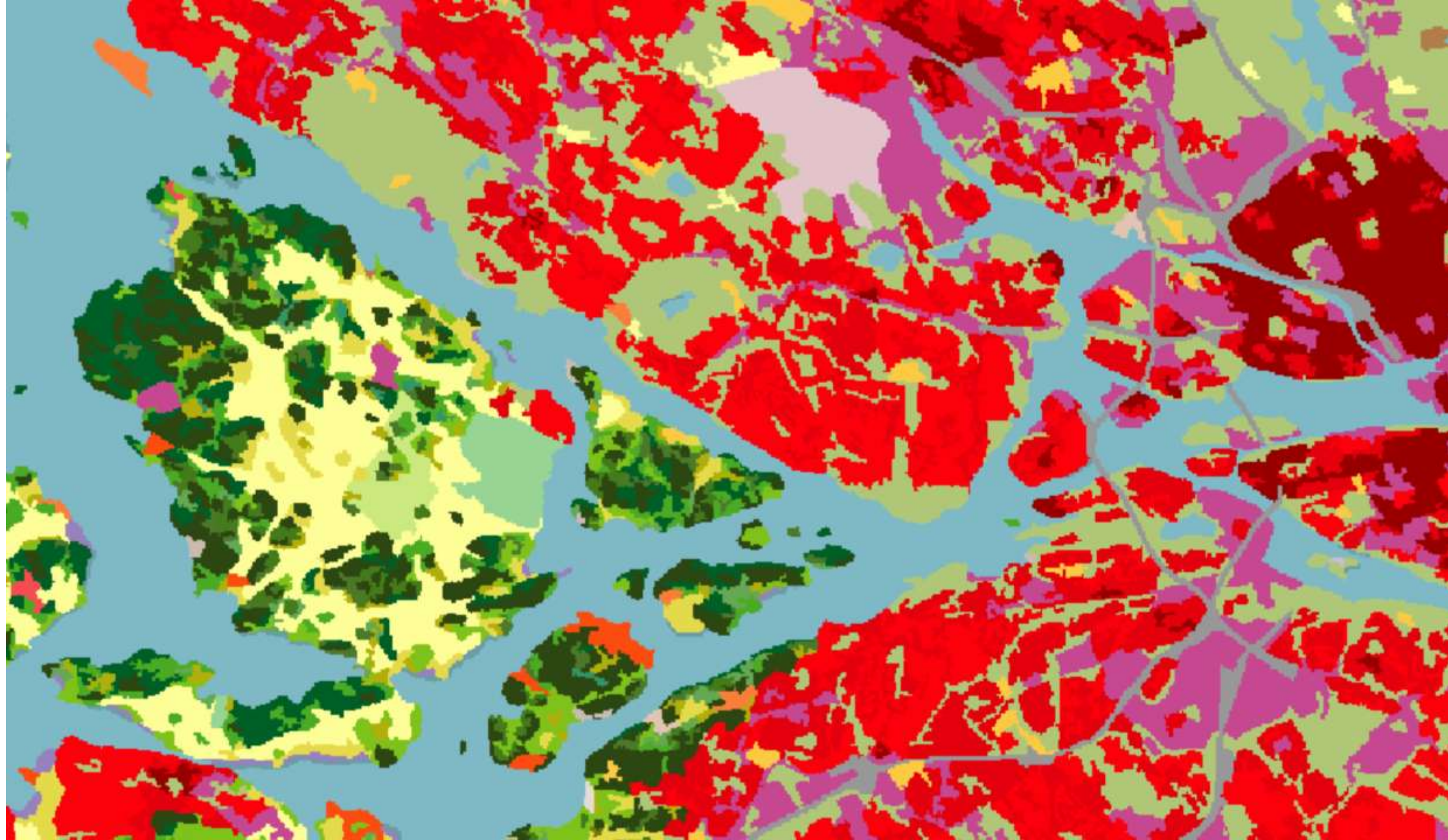


Miljö-  
direktoratet

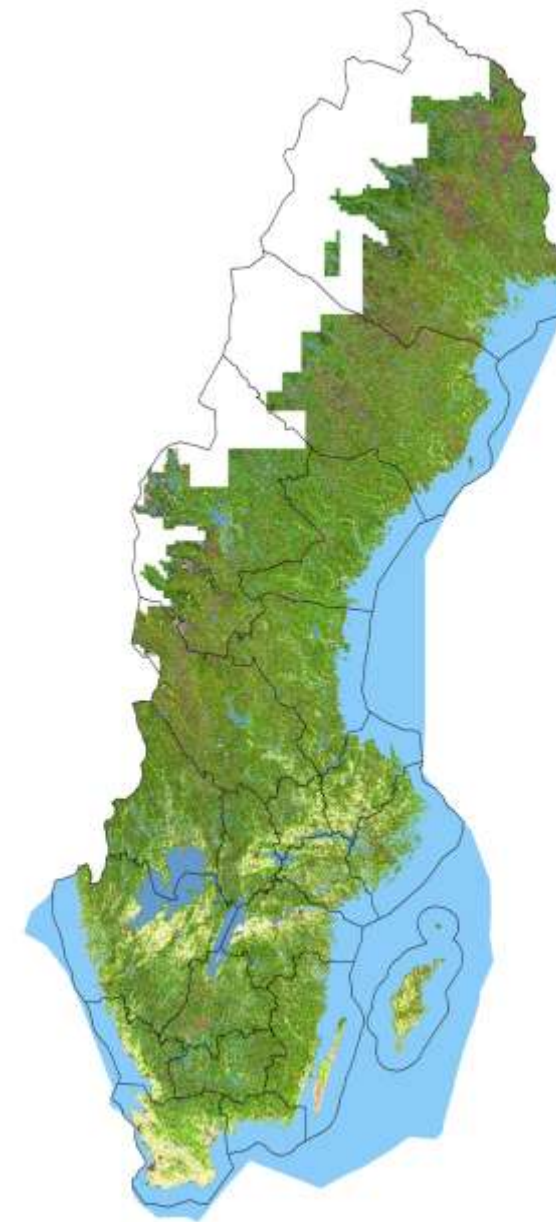
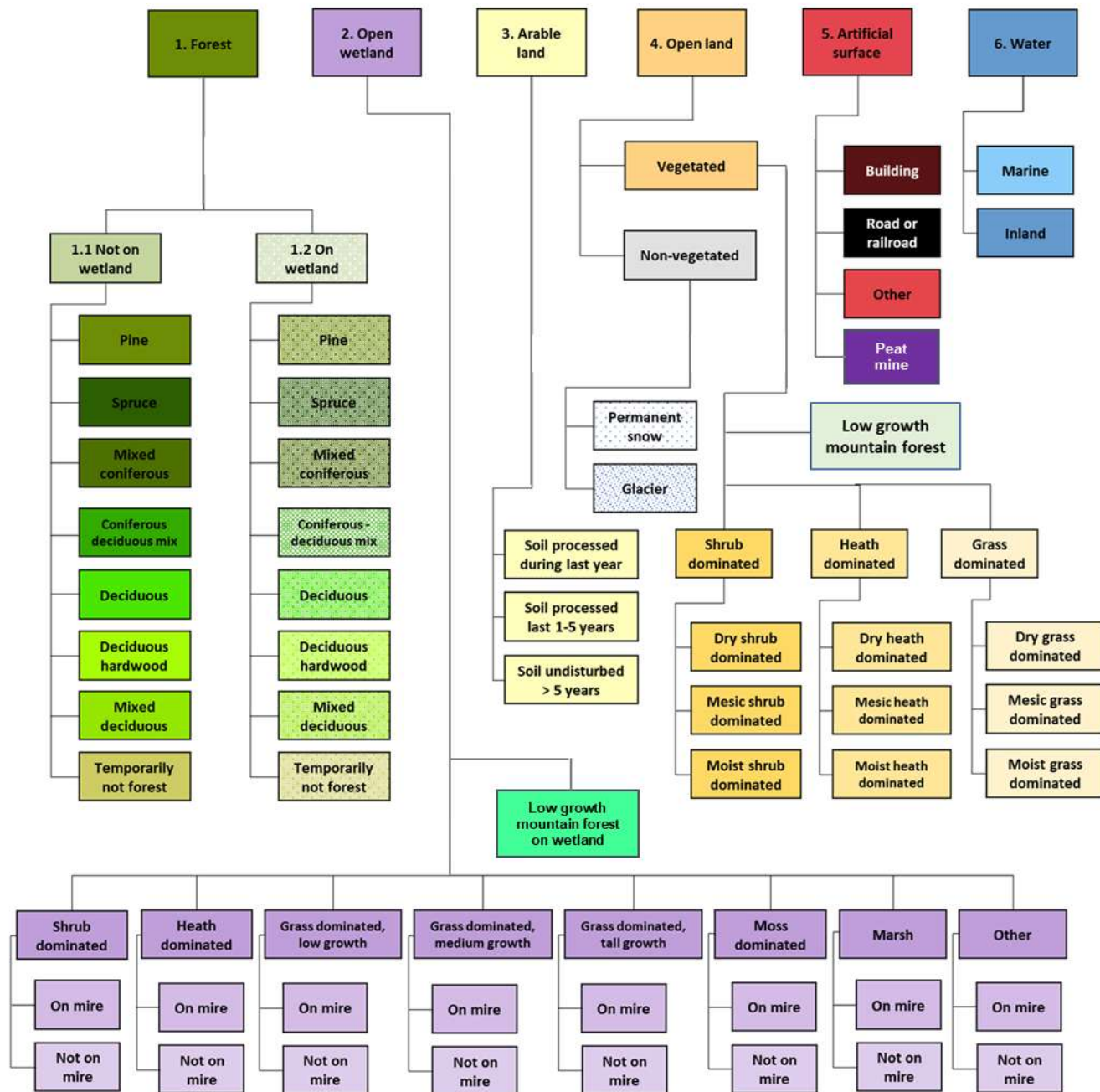


## Swedish National Land Cover Database (NMD in Swedish)

- 10m resolution raster product
- 54 thematic classes
- Based on:
  - Copernicus satellite imagery
  - LiDAR-data
  - Thematic sources
- Auxillary data for different contexts
- Produced by Metria with funding from several government agencies
- First published in 2018
- Now in it's second iteration (2023)
- Currently produced in versions with different thematic complexities.





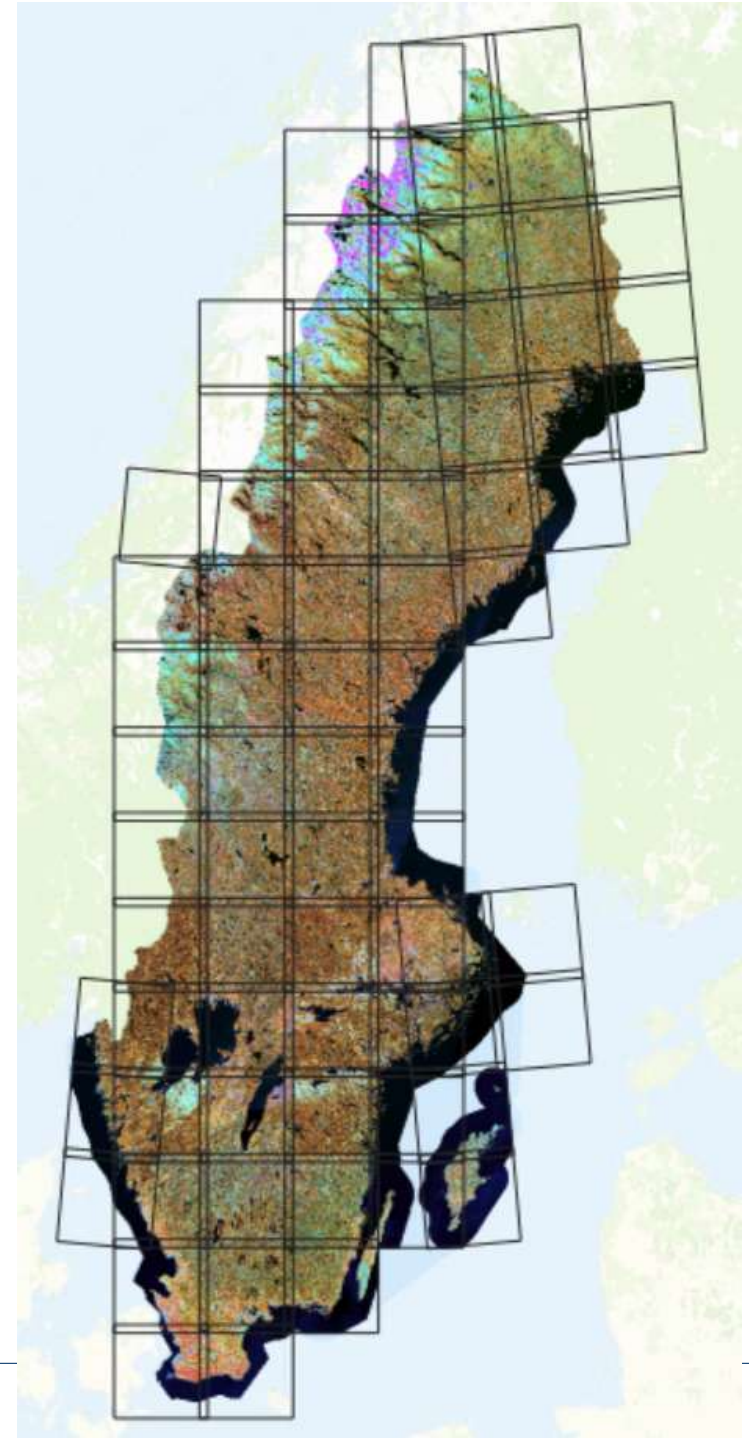


NMD2023 version 2.1

Geographic coverage reflects LiDAR availability

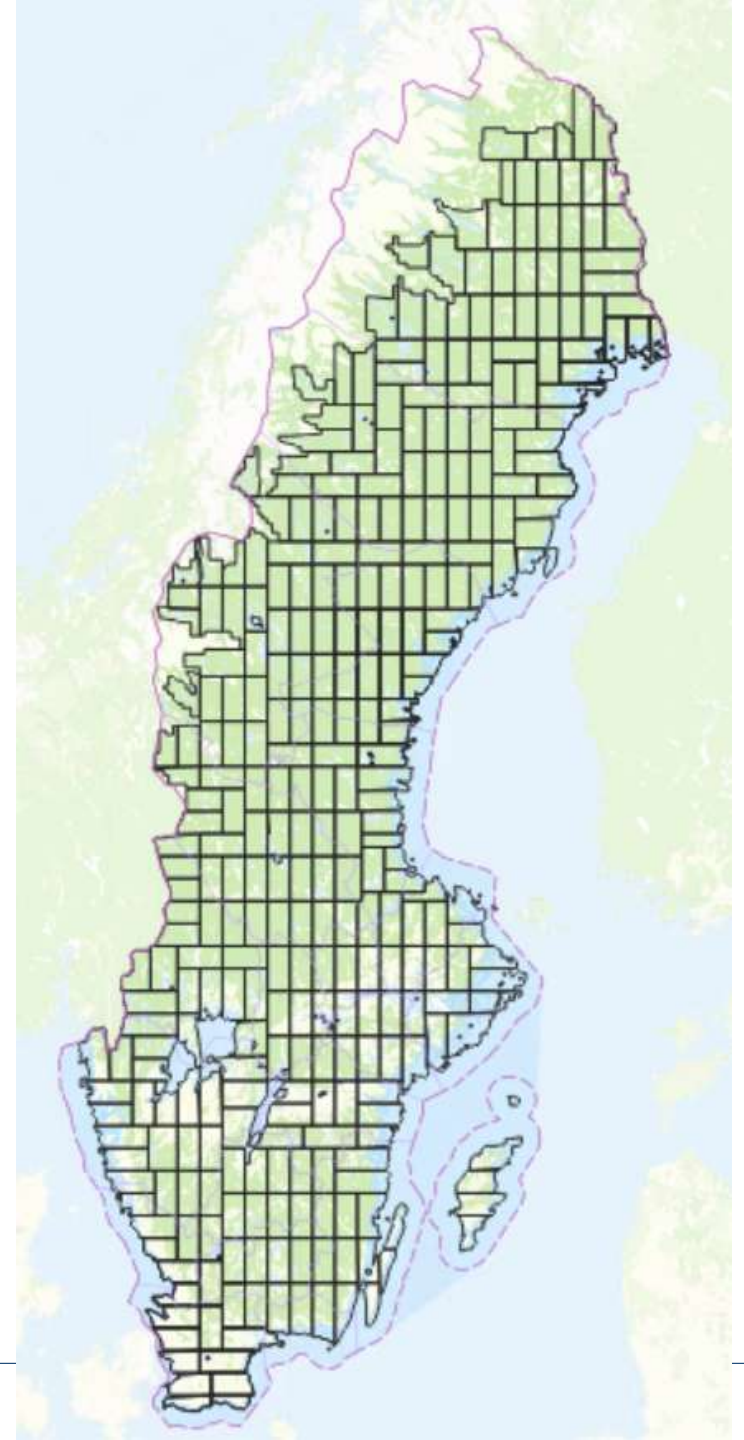
# Production basics

- Sentinel-2 data are downloaded and processed by Metria
- Example uses in NMD:
  - Maximum NDVI for vegetation thresholding.
  - Machine-based mapping of:
    - Tree species.
    - Field layer.
    - Open wetland not identifiable by topography.
  - Analysis of arable land use.
  - Mapping of productive forest.

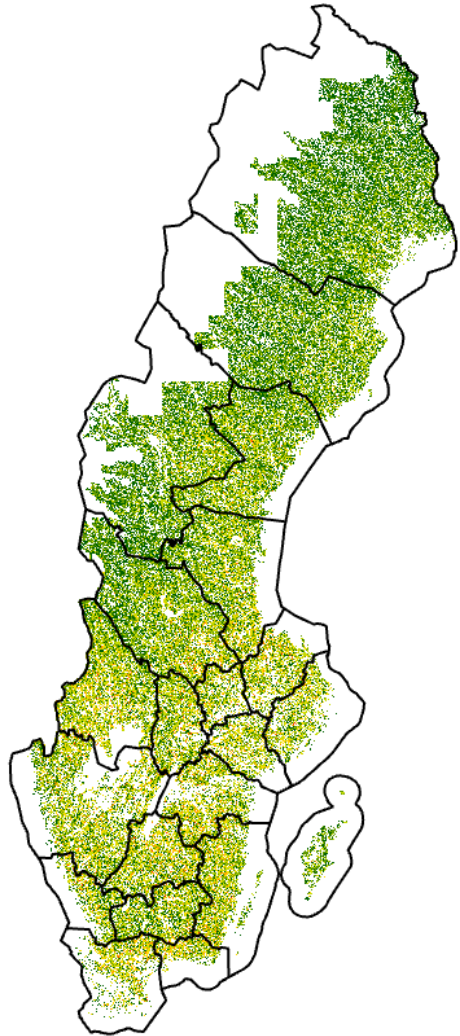


# Production basics

- LiDAR data are used for:
  - Deliniation of forest and shrubland (in combination with NDVI).
  - Deliniation of open wetlands (by means of wetness indices).
- NMD2023 uses the second national iteration (1-2 points per m<sup>2</sup>).
- NMD2018 used a resolution of 0.5-1 points per m<sup>2</sup>



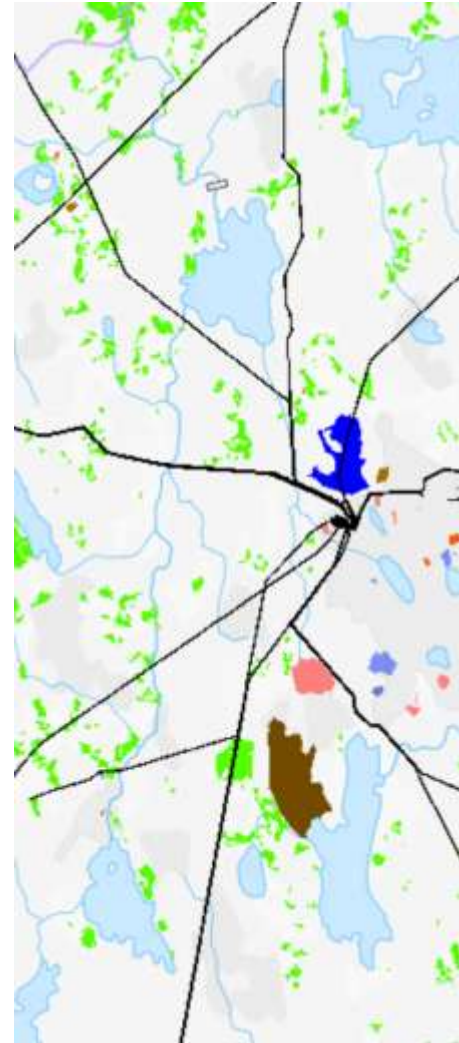
# Auxillary data complement thematic classes



**Tree height  
and coverage**



**Forest productivity**

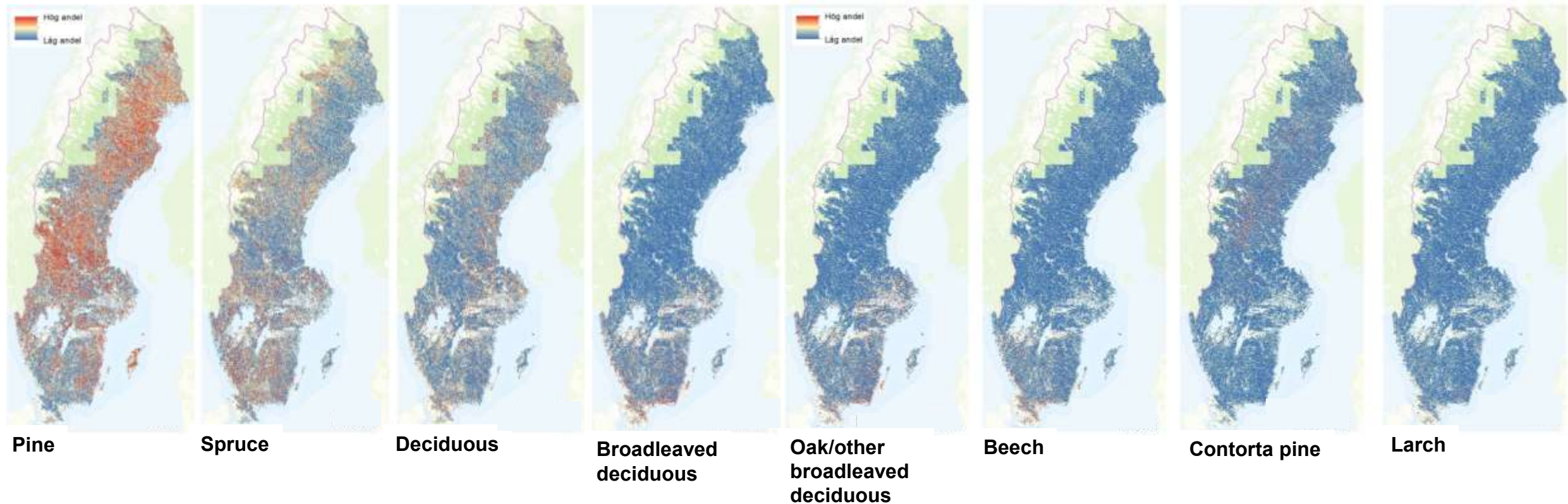


**Infrastructure and  
land use objects**



**Tilling intervals**

# Auxillary data complement thematic classes



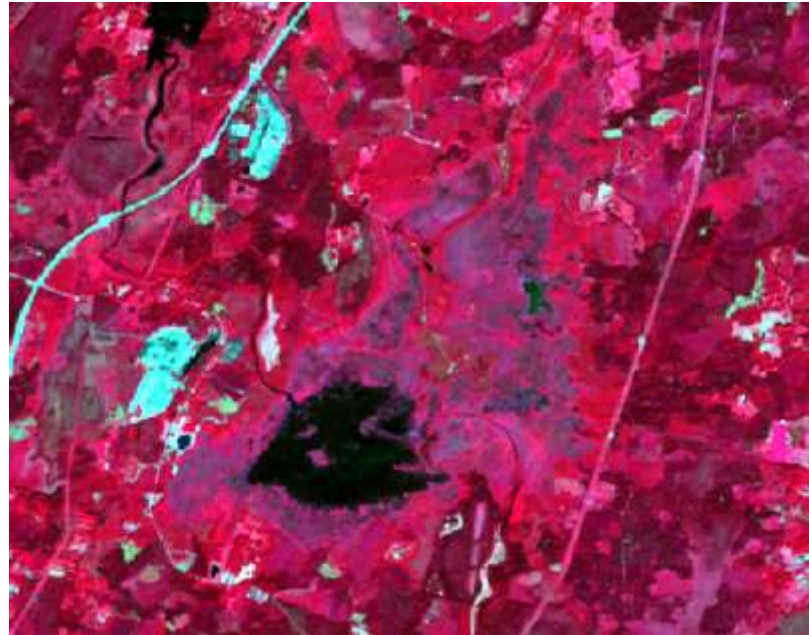
**Tree species**

# Future development goals

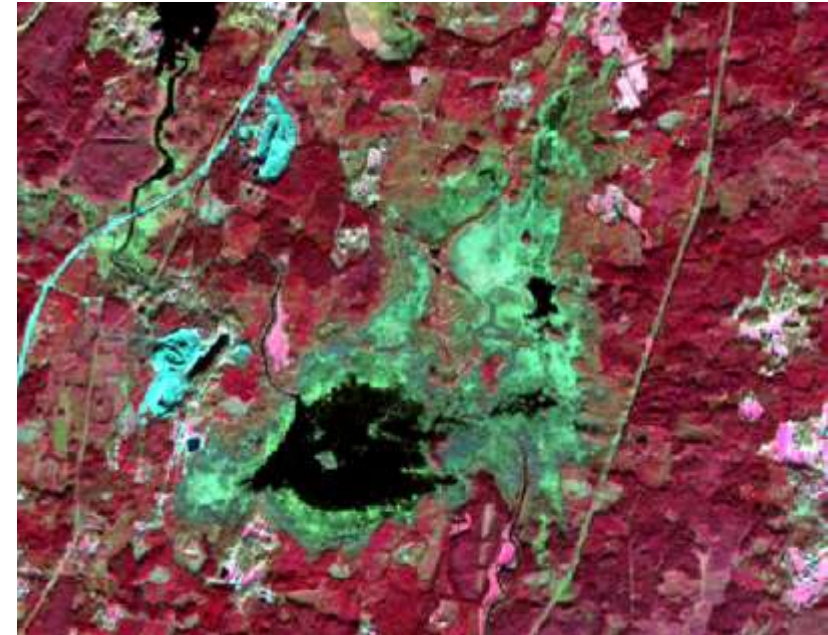
- Use of satellite data, LiDAR and thematic sources for continuous updates, rather than current ~5-year updates of static base map.
- Introduce temporal information as auxiliary data.



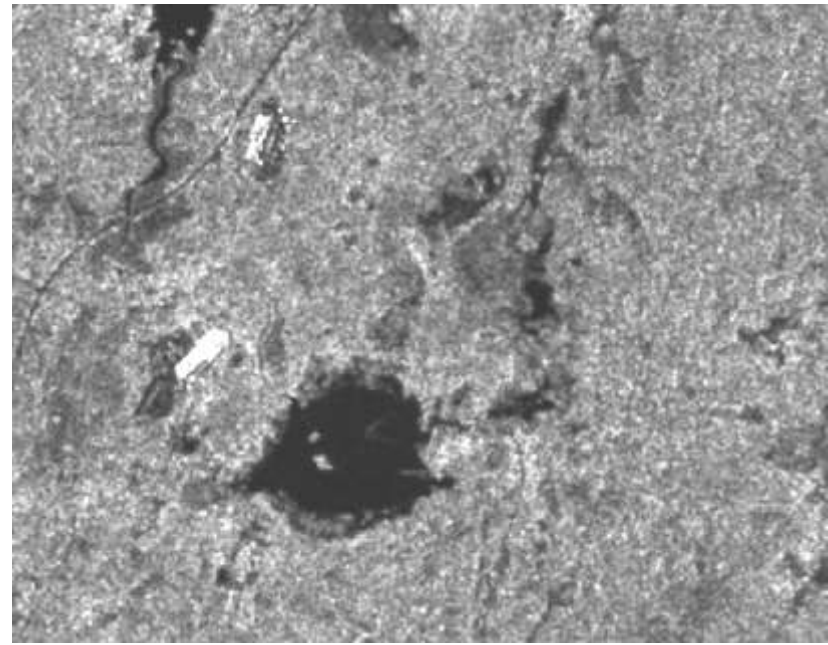
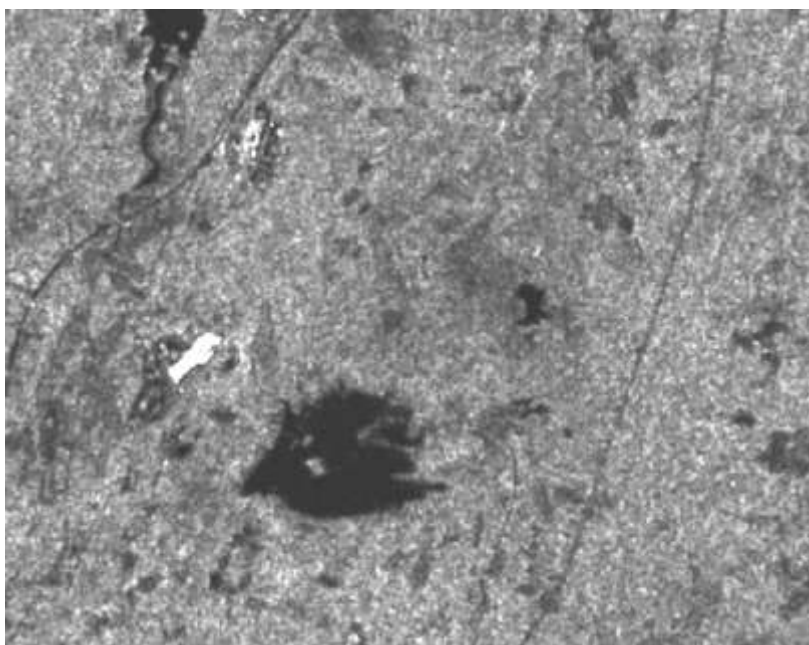
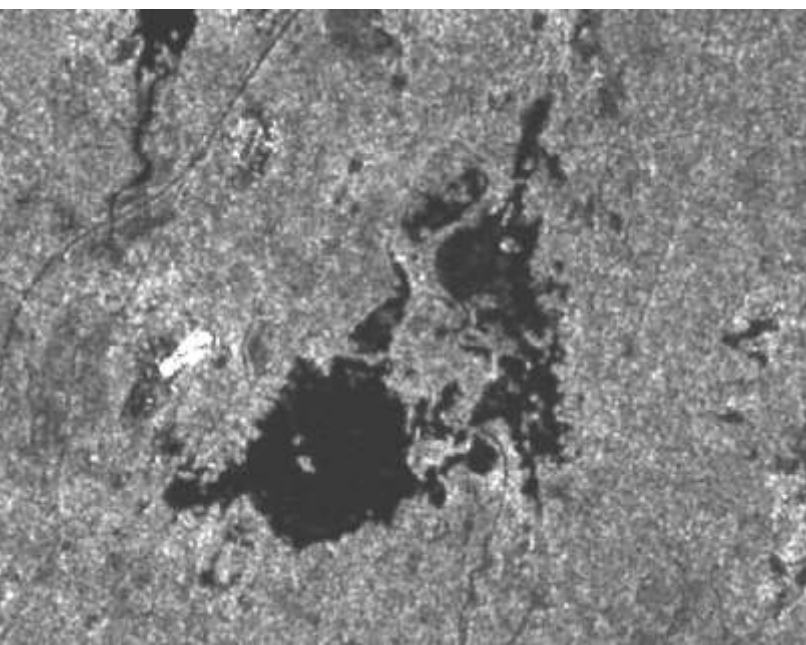
March



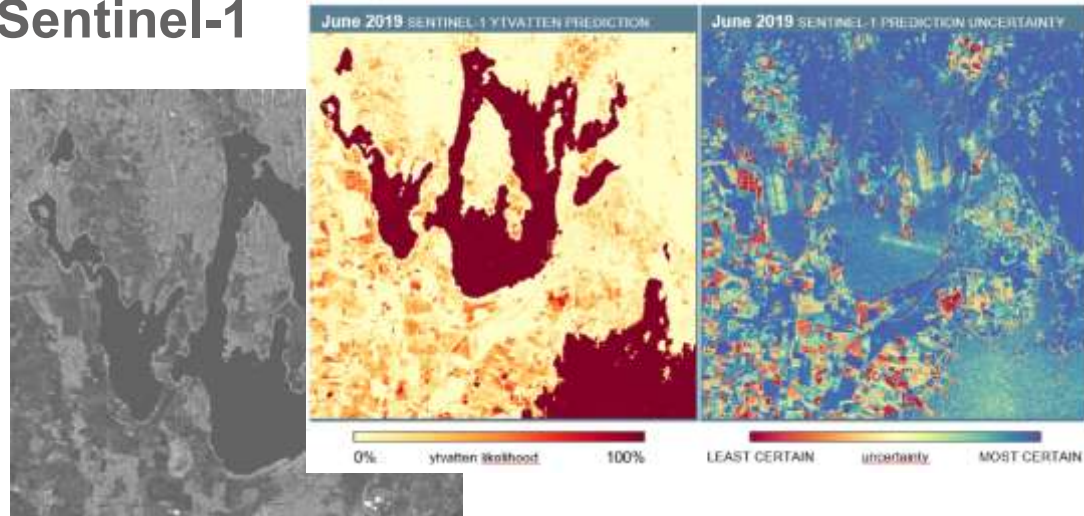
June



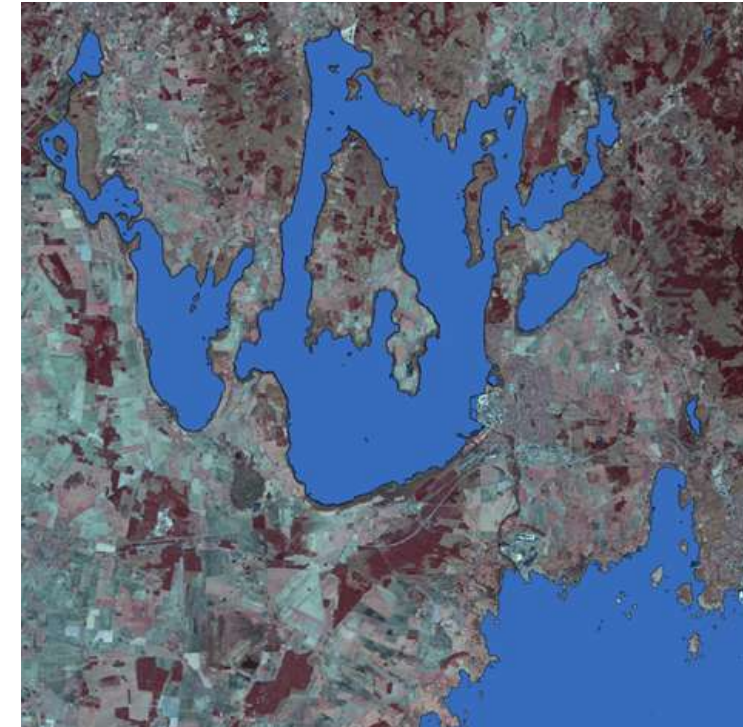
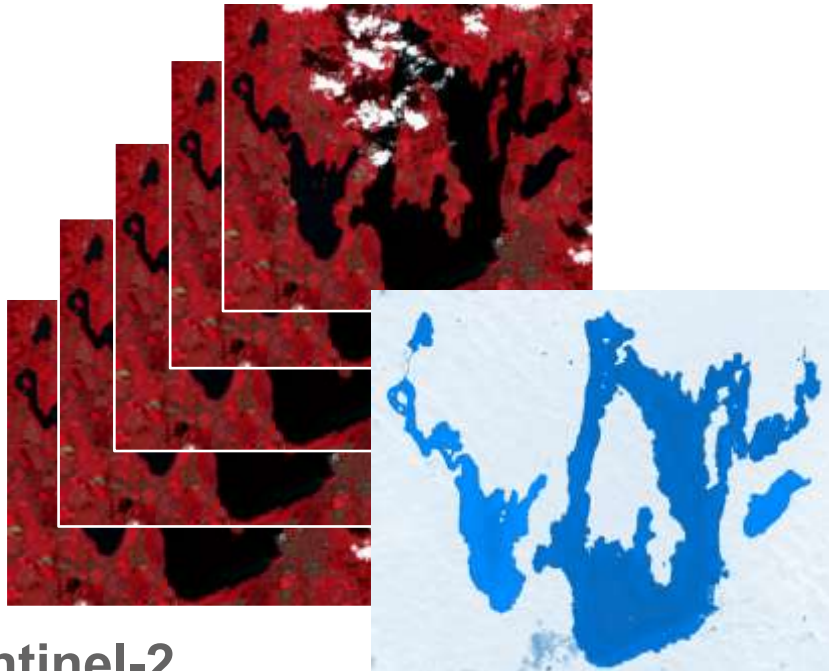
October



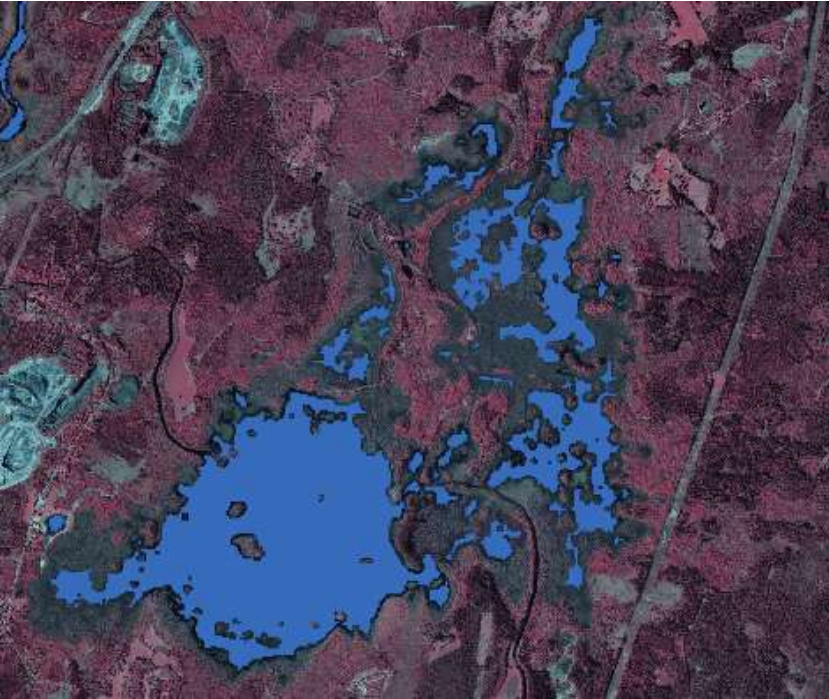
## Sentinel-1



## Sentinel-2



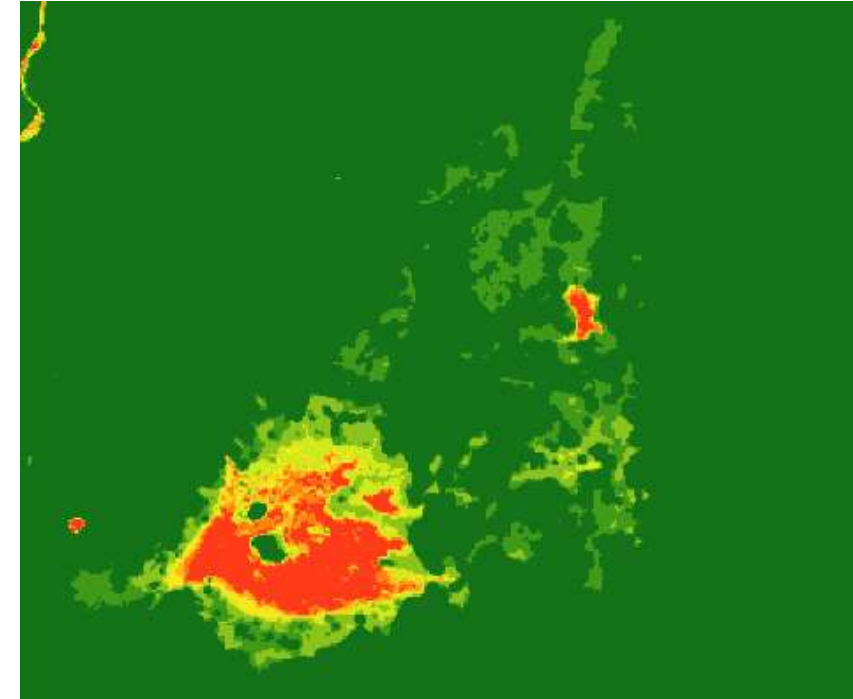
Maximum



Minimum



Frequency (number of months)



# Questions?

NMD data are publically available via SEPA:

<https://geodata.naturvardsverket.se/nedladdning/marktacke/>