



Regulative monitoring requirements related to sustainable forest management in Finland

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Finnish Forest Centre

- Operating under the guidance of Ministry of Agriculture and Forestry
 - › Forestry legislation enforcing
 - › Forest data collection and sharing
 - › Forestry promoting
 - › Landowner advising

Use of Copernicus products

- In production
 - › Sentinel 2
 - › Cutting monitoring
 - › Landowner advising
 - › Forest law issues
- Under development
 - › Sentinel 1
 - › Wind disturbance monitoring
 - › Sentinel 2
 - › Young stand improvement monitoring

Cutting monitoring

- Forest use declaration must be done from almost all cuttings
 - › 10 days to 3 years in advance
 - › +100 000 declarations (~ 400 000 individual areas) per year
- Automatically detected cuttings from Sentinel 2 images are being automatically compared with forest use declarations
 - › If spotted cutting intersects with right kind of forest use declaration
→ OK
 - › Cutting without declaration → NOK, needs further clarification
 - › In most cases further clarifications can be done manually with Sentinel 2 images

Landowner advising

- NDVI index based on Sentinel 2 combined with forest use declarations or e.g. subsidy areas
 - › “High” index value → NOK, something needs to be done
 - › Send email to landowner
 - › Add case to inspection list for manual inspection or drone inspection
 - › “Low” index value → OK, no further actions

Forest law issues

- Sentinel 2 based change detection alerts of cutting in forbidden areas, near special habitats, etc.
- 10 x 10 m resolution is too inaccurate for making these inspections → after alert further inspections are done by drone or fully manually

Summary

- Sentinel 2 suits well for monitoring forest use in large areas
- In most cases 10m x 10m (or even higher) spatial resolution is not problem
 - › This data show places where 5cm x 5cm data should be collected
- Sentinel 1 data is very potential for further development



Thank you

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