Satellite products for agricultural subsidies control: Application for MAVI

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SEN3APP: Stakeholder WORKSHOP

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MAVI: Agency for Rural Affairs

- End-user: Control of EU agricultural subsidies

- Need tools and processes to
  - decrease the work-load of control and
  - shorten the time used for control

- Specific needs
  - plant classification, at least in general level
  - ploughing

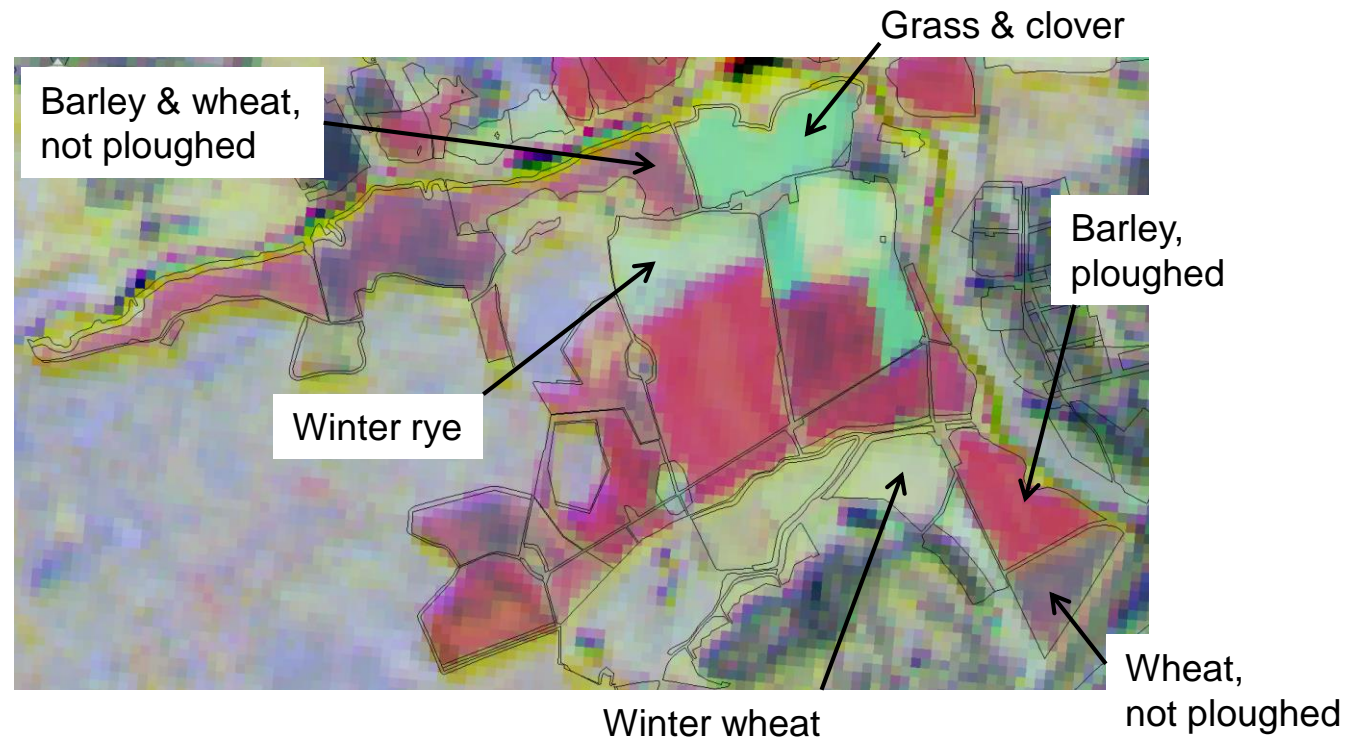- Remote sensing was used until 2003 but stopped due to lack of imagery

Landsat-8 OLI

- In principle, time series of vegetation index images would be good tool
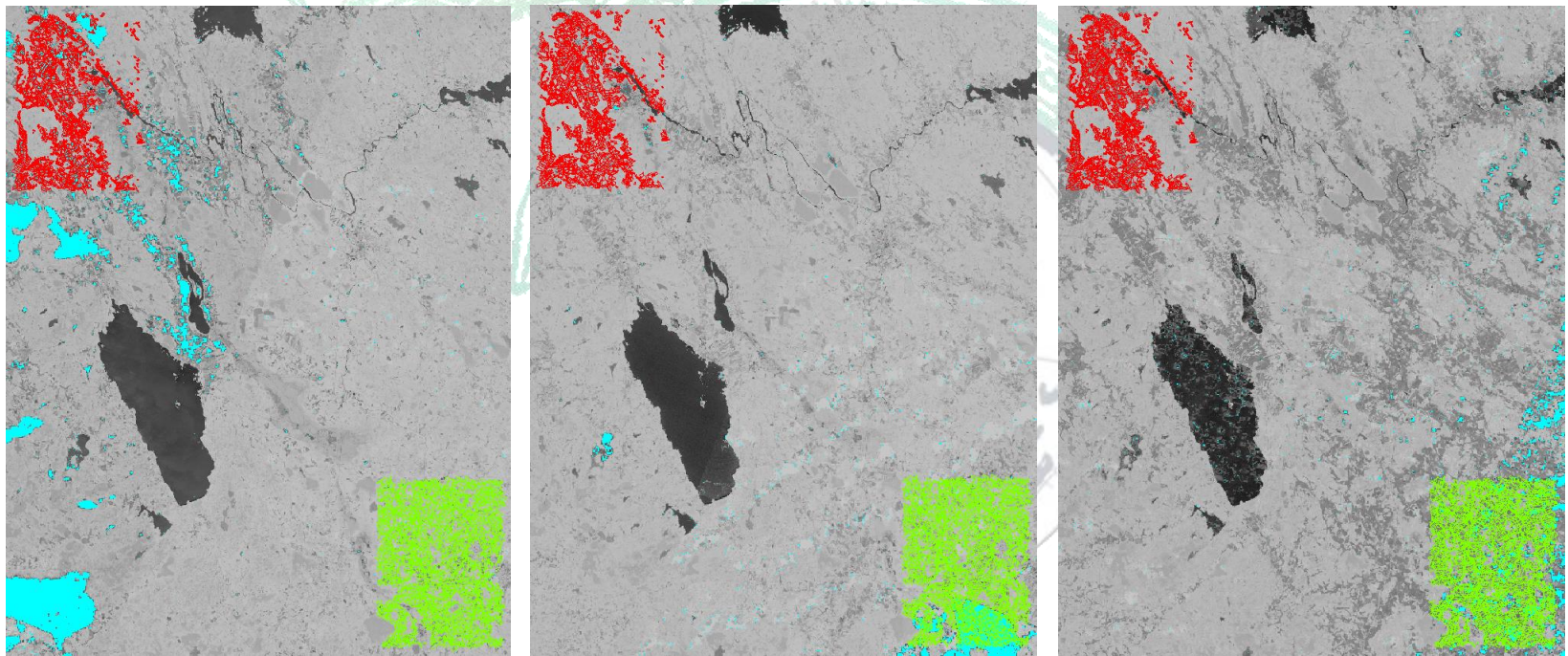
Haltiala
R: 3.7.2015
G: 25.5.2015
B: 13.3.2015

Grass & clover

Barley & wheat,
not ploughed

Barley,
ploughed

Winter rye

Winter wheat
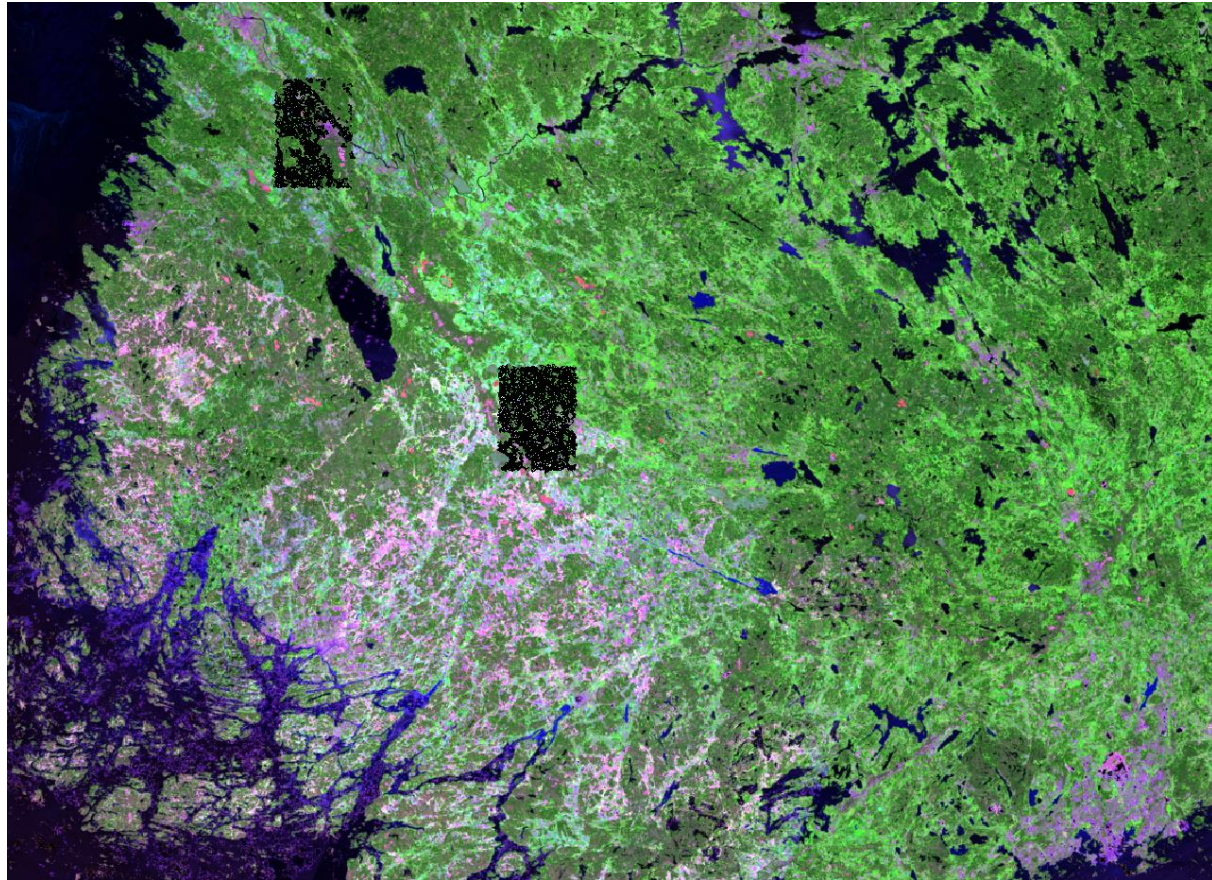
Wheat,
not ploughed

Landsat-8 OLI

- MAVI Nakkila (red) and Loimaa (green) test areas
  - light blue: clouds
- Maximum NDVI mosaics of June & July (left), August (middle) and September & October (right)
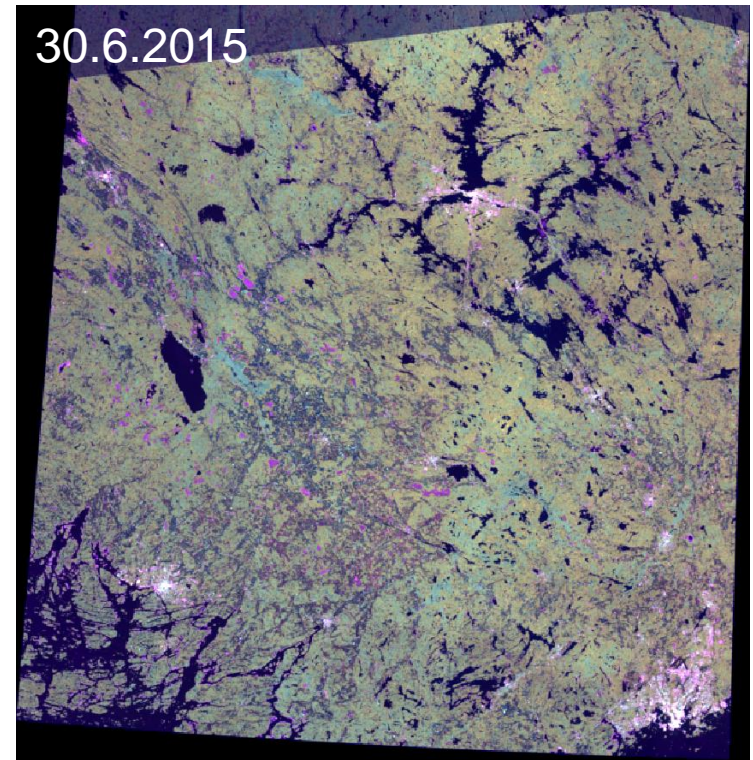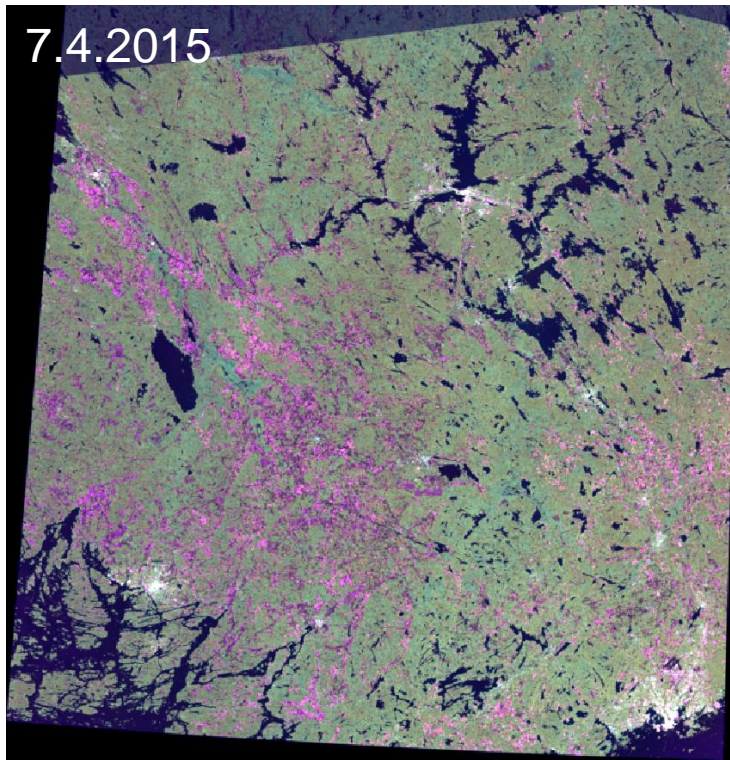
Landsat-8 OLI

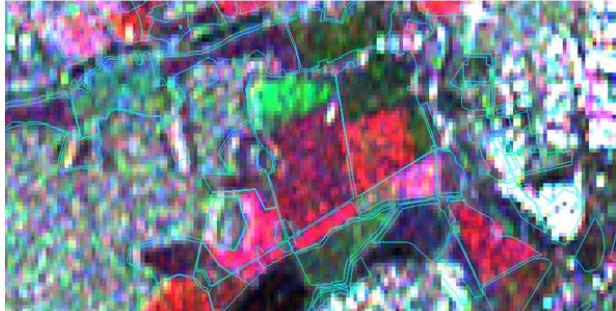- Reflectance mosaic of South-Western Finland, year 2015

Sentinel-1 SAR

- Independent of clouds and darkness
- Average Sigma0 from descending and ascending orbits
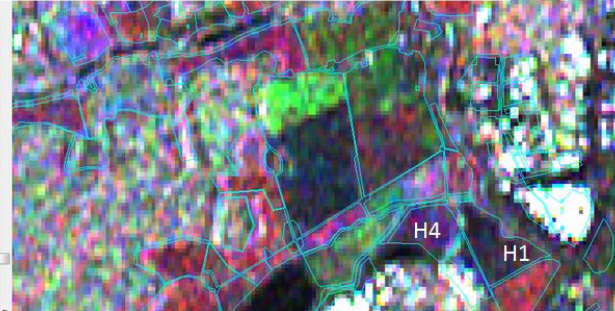 - R: VV-pol., G: VH-pol., B: ABS(VV – VH)

7.4.2015

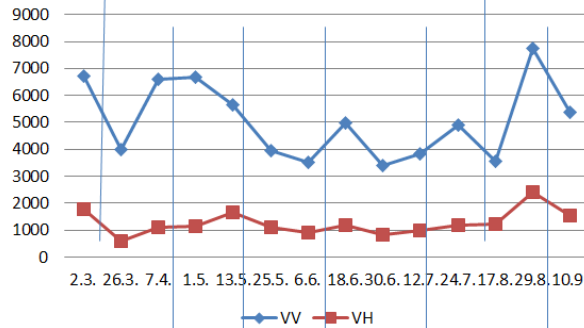30.6.2015

Sentinel-1 SAR

RGB: VV 13.5.2015, 12.7.2015, 10.9.2015

RGB: VH 13.5.2015, 12.7.2015, 10.9.2015

12.3. no snow   13.8. H: 90 cm   12.3. no snow   13.8. H: 85 cm

Autumn wheat (H4)   **Spring barley (H1)**

18.4. new crop   4.9. threshed

20.5. H: 20-30 cm

12.6: H: 40-45 cm

15.7. H: 80 cm
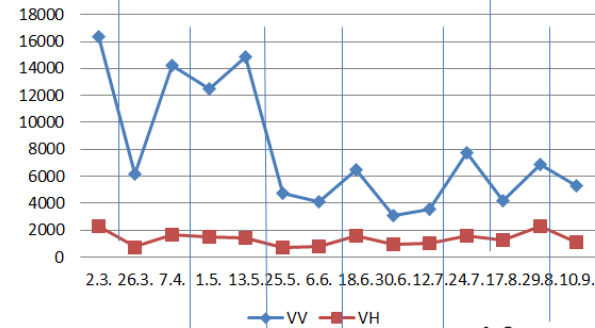
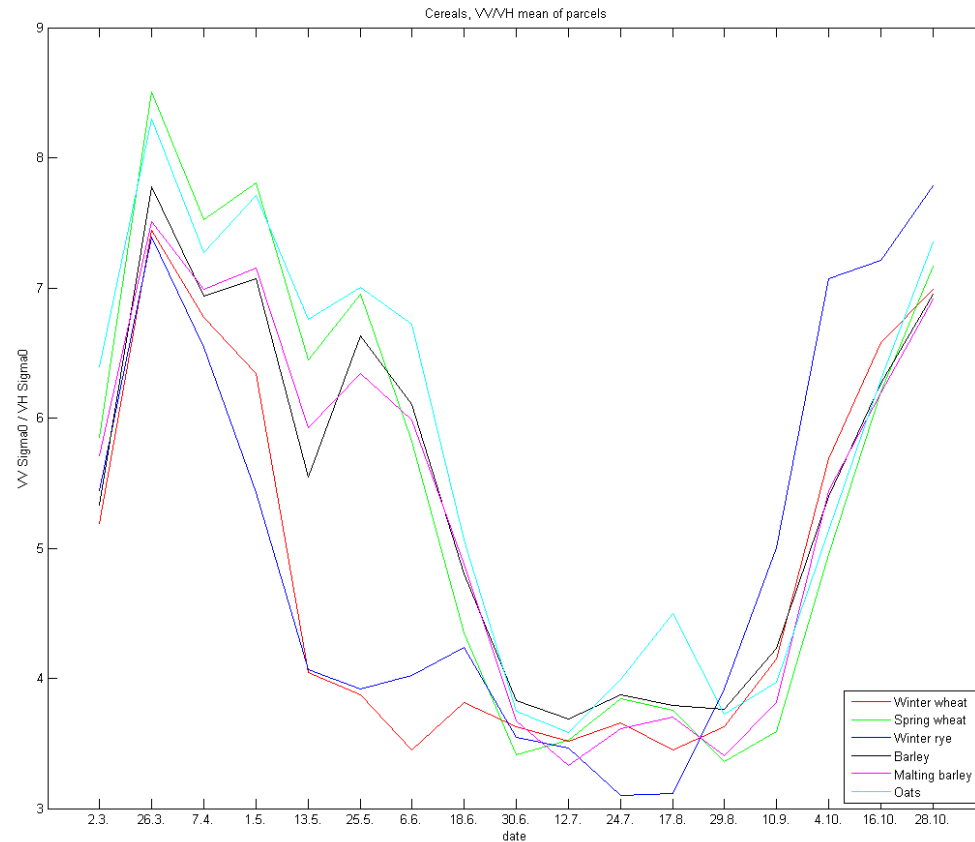18.4. ploughed   4.9. threshed

20.5. sowed   15.7. H: 80 cm

12.6: H: 25-30 cm

Sentinel-1 SAR

- The average VV/VH Sigma0 ratios of cereals from Nakkila and Loimaa test areas

Thank you for your attention!