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NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

COUNTRY REPORT – NORWAY
MARIEHAMN, ÅLAND 2.9.2015

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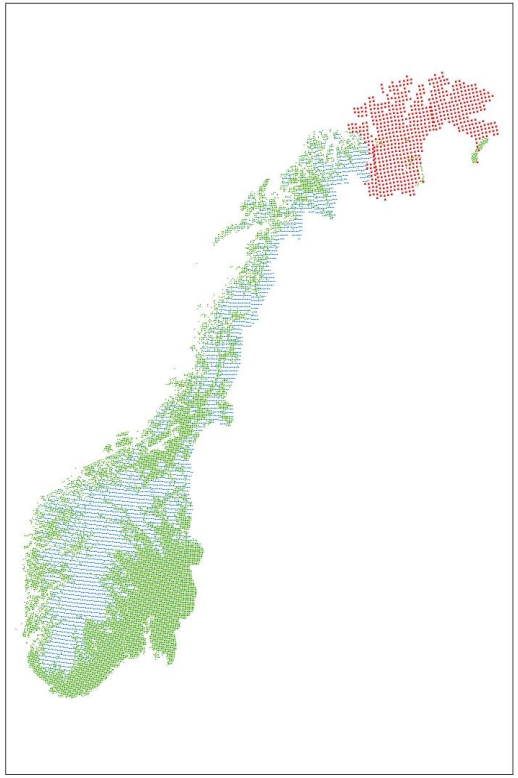
1. National Forest Inventory

NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH WAS ESTABLISHED 1.7.2015

- One of Norway's largest research institutes (staff ca 700).
- Formed by a merger between:
  - Norwegian Institute for Agricultural and Environmental Research (Bioforsk)
  - Norwegian Agricultural Economics Research Institute (NILF)
  - Norwegian Forest and Landscape Institute (Skog og landskap).
- NIBIO is owned by the Ministry of Agriculture and Food
- The NFI is a section under the Division of Forestry and Forest Resources
- The NFI section currently has 15 employees
  - 5 researchers (PhD) and 1 PhD student
  - 1 senior advisor
  - 9 engineers (including 2 on short term contract)

THE CURRENT NFI

- 2015: Starting the fifth remeasurement of the permanent plot network (11th NFI 2015-2019)
- Five-year cycle - ca 2 500 forest plots/yr



- The default: 3×3 km grid
- Alpine birch forest : 3×9 km grid
- Birch woodland in Finnmark: 9×9 km grid

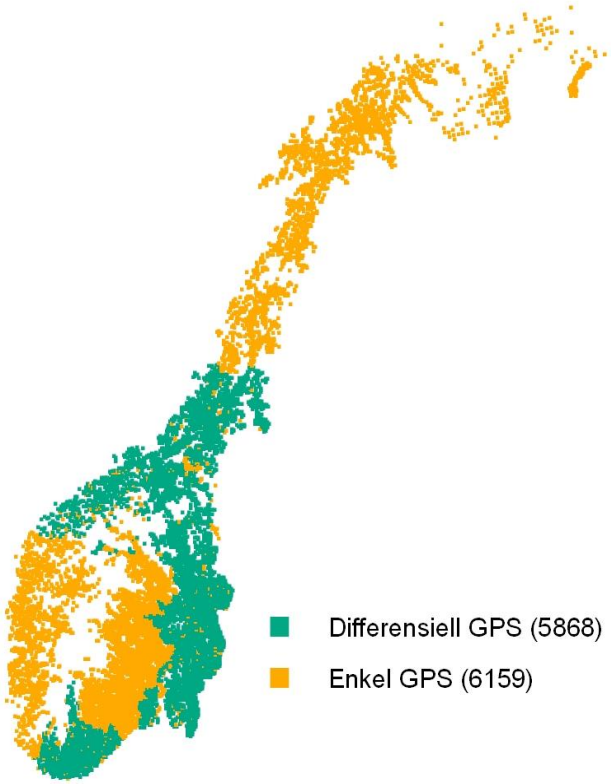
SOME NEW PARAMETERS FROM 2015:

- Presence of the invasive species *Sambucus racemoca*
- Extended damage recording on sample trees, and cause of mortality on all trees that have died the last 5 years
- Increment core is now taken from one spruce or pine in conifer-dominated stands (adjacent to the permanernt plot)

SUPPLEMENTS TO THE REGULAR NFI FIELD WORK

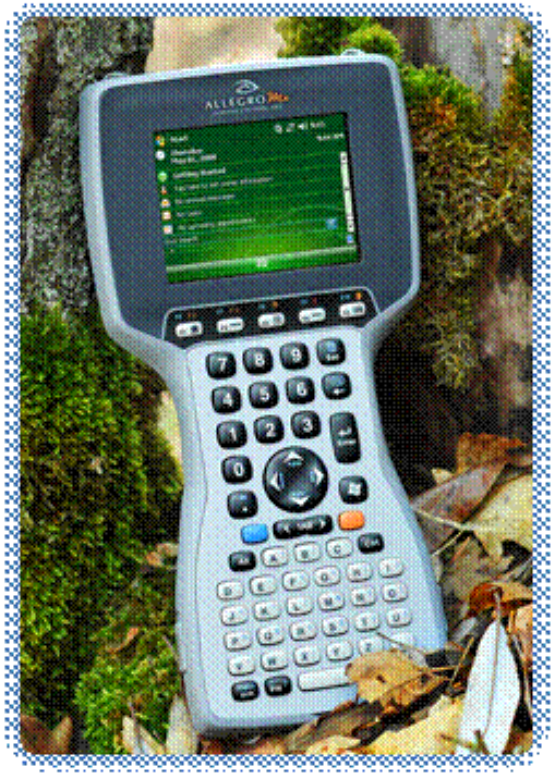
- 2012-2016: Establishing additional permanent plots in forest reserves
  - 1.5 x 1.5 km grid
- 2011-2015: Field work for county inventories in:
  - Nord-Trøndelag, Østfold, Aust-Agder, Vest-Agder and Akershus (with Oslo)
  - Combining permannet + temporary plots
  - Starting field work for another third of Norway's counties in 2016
- Logging of permanent plot locations with differential GPS
  - Proceeding county by county, at a speed that funding allows...
  - As of today, near half of the permanent forest plots have been logged with diffGPS

STATUS: DIFFERENTIAL GPS POSITIONING



NEW HAND-HELD FIELD DATA COLLECTOR:

- Allegro MX
- Windows Mobile
- Programming has been resource demanding
- Feedbacks from the crews are positive ☺



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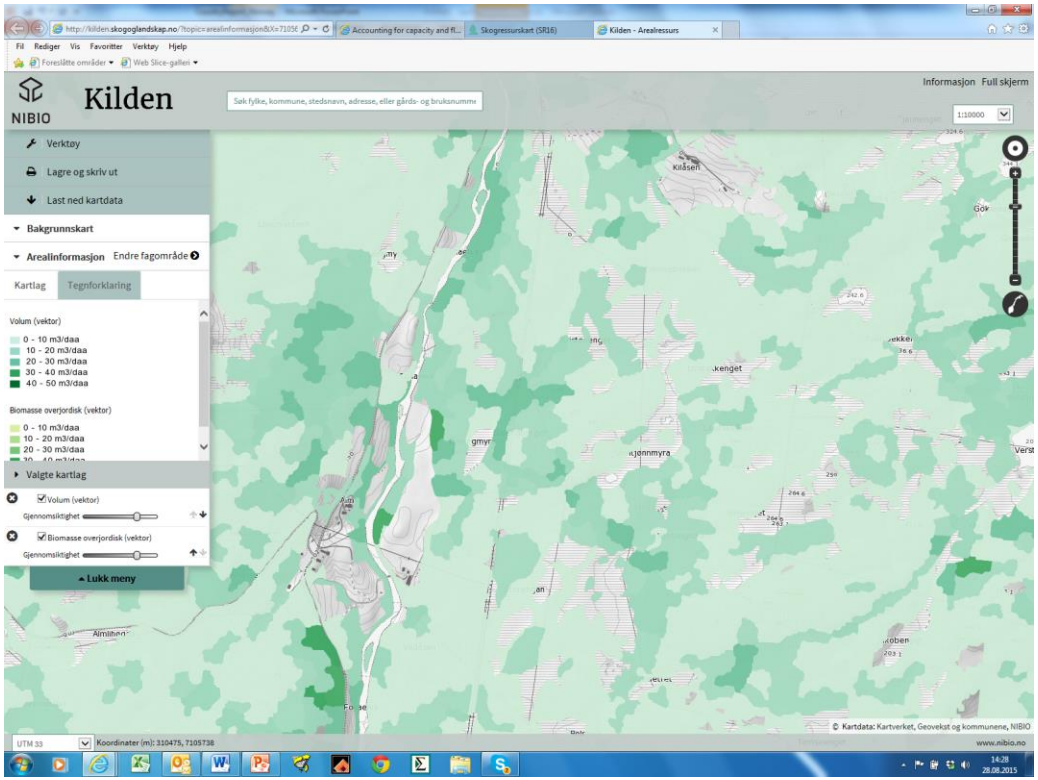
1. Ongoing research and development

NEW FOREST MAP LAUNCHED THIS SUMMER:

- 3D Photogrammetry or laser + DEM + NFI plots
- Covering Nord-Trøndelag as the first county in line, more to come...



NEW BIRCH BIOMASS FUNCTIONS:

- 67 birch trees sampled accross Norway (17 sites)
- Above and below ground
- Comparisons with currently used Swedish birch biomass functions (Marklund 1987/1988; Petersson and Ståhl 2006) show strikingly similar predictions in southeast Norway, but differences in the west and North
- Aaron Smith. PhD defence, Oct. 22, *2015: Characterizing individual tree biomass for improved biomass estimation in Norwegian forests*

References:

Smith A, Granhus A, Astrup R, Bollandsås OM & Petersson H 2014. Functions for estimating aboveground biomass of birch in Norway. Scand. J. For. Res. 29: 565-578.

Smith A, Granhus A & Astrup R 2015. Functions for estimating belowground and whole tree biomass of birch in Norway. Submitted to Scand. J. For. Res.

INTERNATIONAL REPORTING ETC:

- 2012-2014: Preparation of the report “Sustainable forest management in Norway”, a national criteria & indicators report (in Norwegian)
- 2013-2014: Preparation of national report to FAO’s Forest Resources Assessment (FRA) 2015
- 2014: Preparation of national report on quantitative indicators to FOREST EUROPE’s State of Europe’s Forests (SoEF) 2015
- 2014 – 2015: Contribution to FOREST EUROPE’s revision of pan-European indicators for sustainable forest management
- 2015: Contribution to writing of SoEF 2015
- Ongoing: Participation in the DIABOLO project (Distributed, integrated and harmonized forest information for bioeconomy outlooks).

NEW NATURE TYPE DESCRIPTION SCHEME FOR NORWAY (NIN):

- A new nature type description scheme («Nature types in Norway» – NiN) has been developed, applicable to all nature types in Norway
- NiN recently been recognized by the Parliament as the only «valid» scheme for nature type mapping in Norway
- NiN is basically a mapping tool where the level of details is adjusted to different mapping scales, but there is a great need for good statistics about the presence of different nature types as well
- Pilot project 2015: Testing two alternative sampling approaches forthe NFI plots
- Most likely there will be a full-scale implementation of the NiN system within the NFI from 2016
- Demanding in terms of competence building and staff training

ASSESSMENT OF THE DRAINAGE STATUS ON NFI PLOTS

- Drainage history/status on Norway's NFI plots is unknown as regards drainage that has taken place earlier than ca. 1965
- This means that we can expect drainage to have affected about twice the number of plots where such activity actually bhas been documented.
- New registration next year
- Testing alternative methods in 2015

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THANK YOU