VALERI activities at the Järvselja test site

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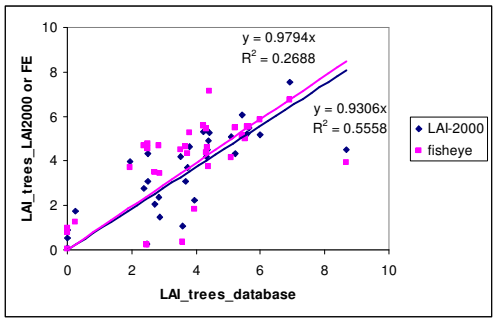
VALERI campaign in 2005

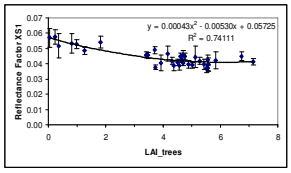
- 56 plots, mixed sub-boreal forest: birch, pine and spruce.
- Measurements:
  - Hemispheric photos
  - LAI-2000
- Data processing (32 plots):
  - Fish-eye photos processed separately by 3 persons with CAN_EYE, gap fraction average of the results used in further analyses.
  - LAI-2000 and average from hemispheric photos gap fractions were used to estimate the tree layer LAI using Nilson's (1999) method.

A lot of uncertainty in the LAI estimate



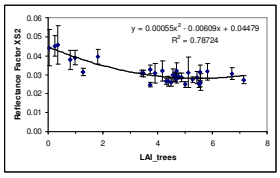
SPOT2 image

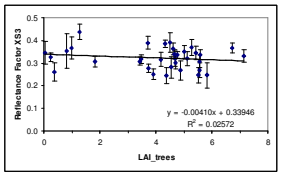
(June 20, 2005)



Although the R^2 of the relations is acceptable, there is saturation at large LAI.

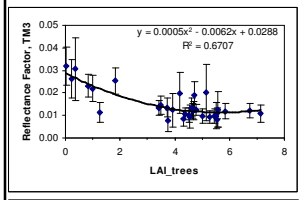
No sensitivity in the NIR band.

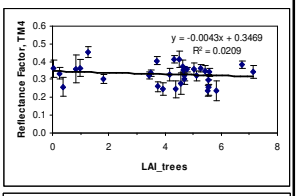


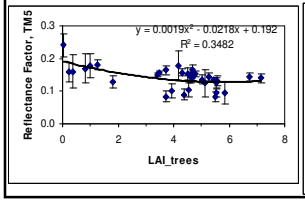


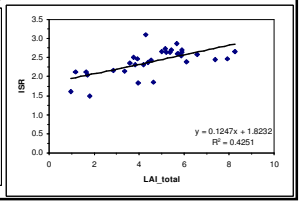
Similar problems with Landsat 7 ETM+(scl-off) image

(July 10, 2005)









Conclusions & Future

- A lot of uncertainty in ground reference estimates of LAI.
- The use of bulk regressions to estimate forest LAI seems not too optimistic in Estonian forests.
- CHRIS data will be analyzed next.
- Next field campaign in July 2007?
- Järvselja could also be offered as a test data set for RAMI 4 (Andres Kuusk: andres@aai.ee).

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