

Lake remote sensing in Estonia

Tiit Kutser

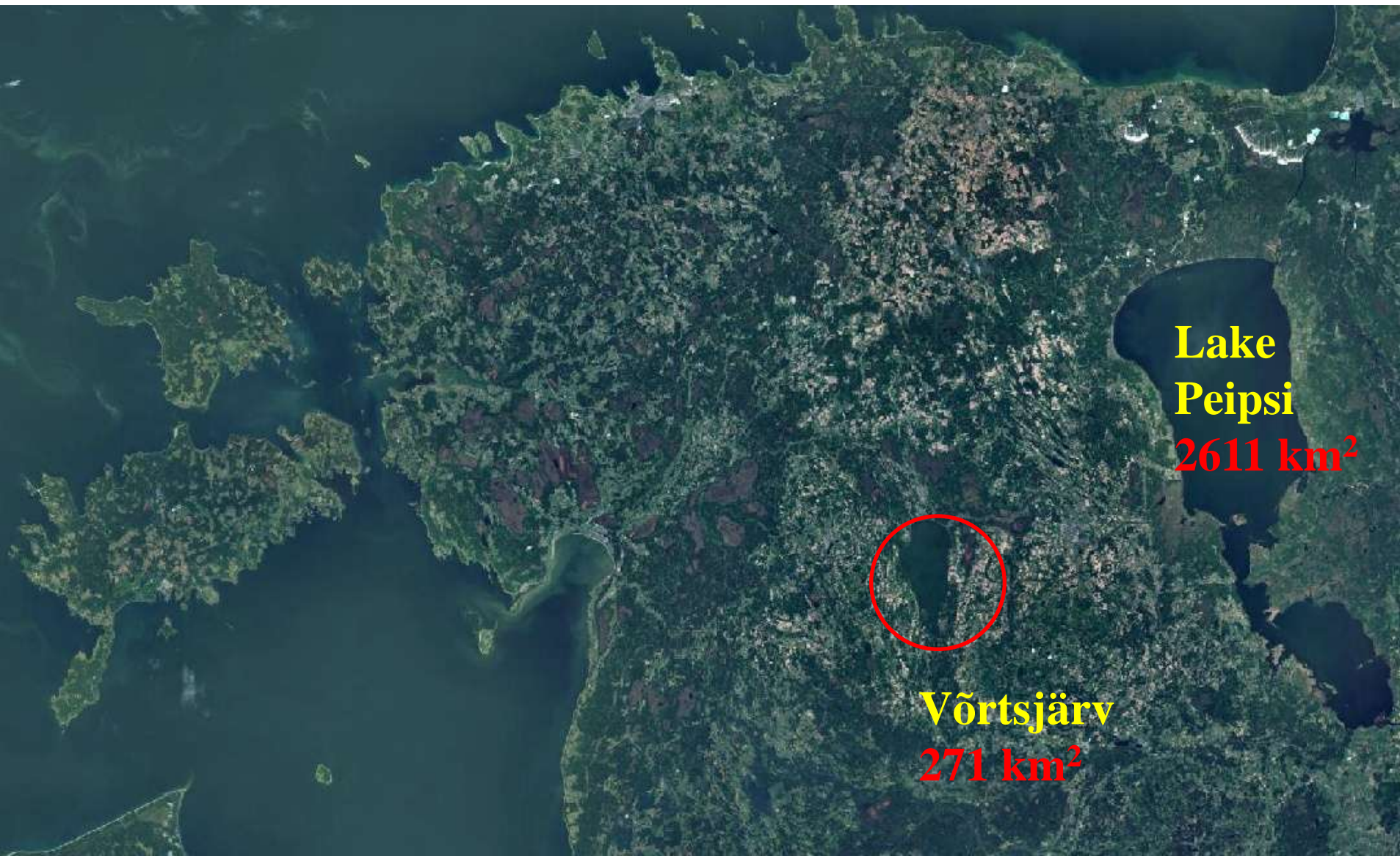
Estonian Marine Institute



Hyperspectral remote sensing measurements on Lake Peipsi and small lakes since 1986



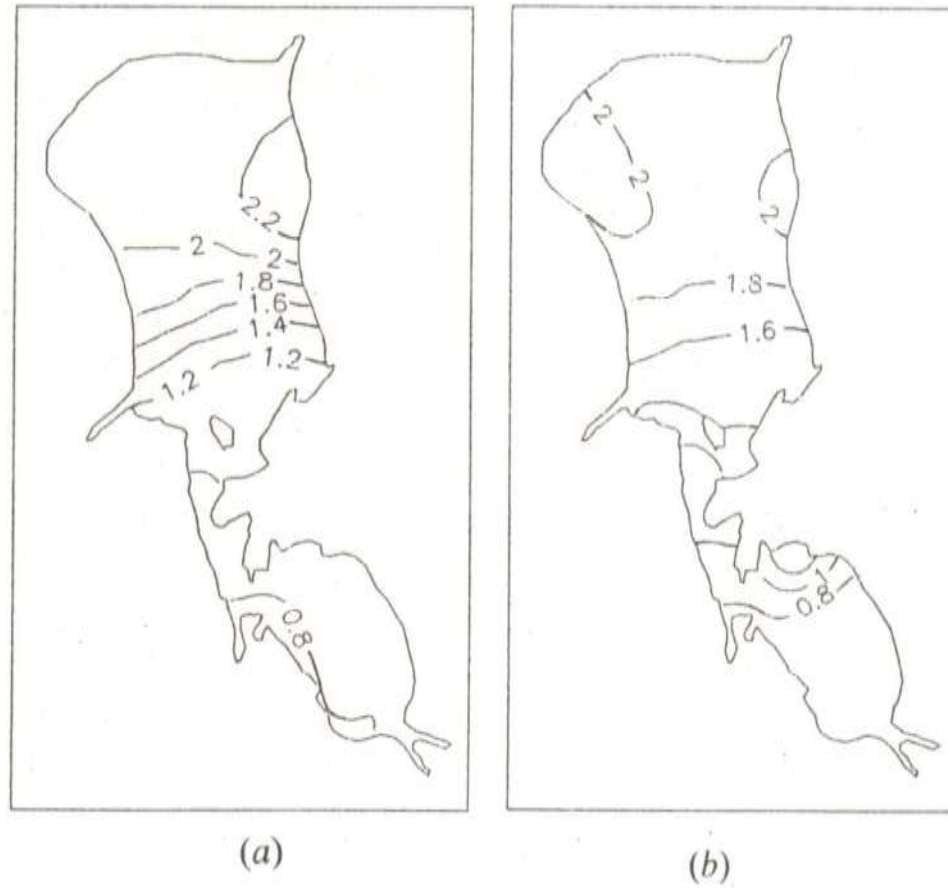
Largest Estonian lakes



Lake
Peipsi
2611 km²

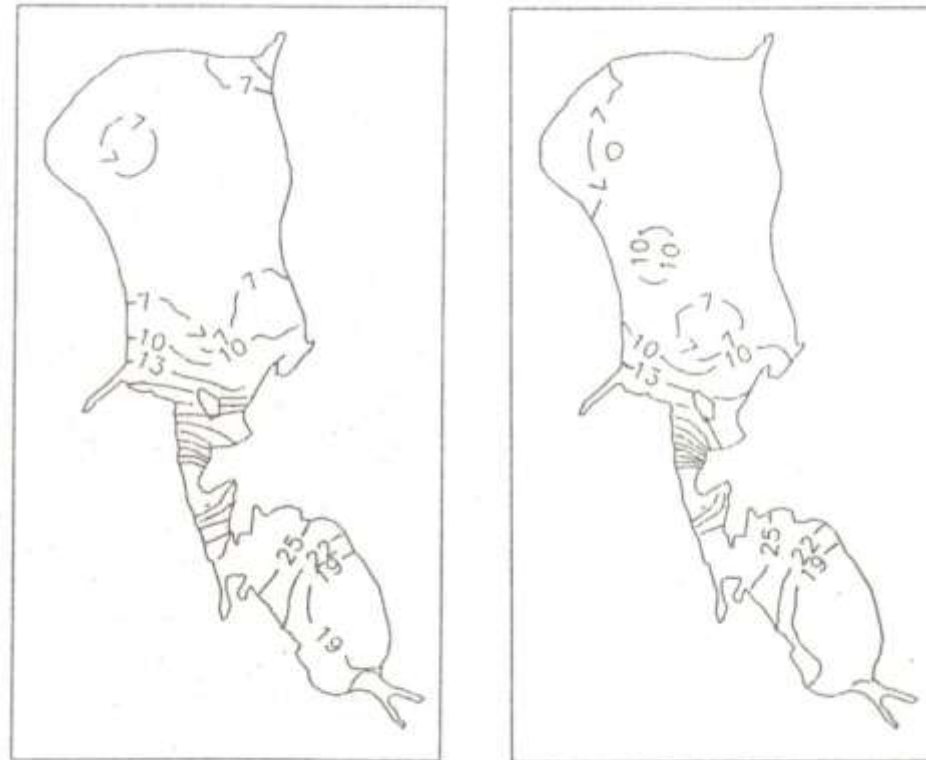
Võrtsjärv
271 km²

Secchi depth



a) *in situ*, b) remote sensing, $R=0.85$

Chlorophyll-a

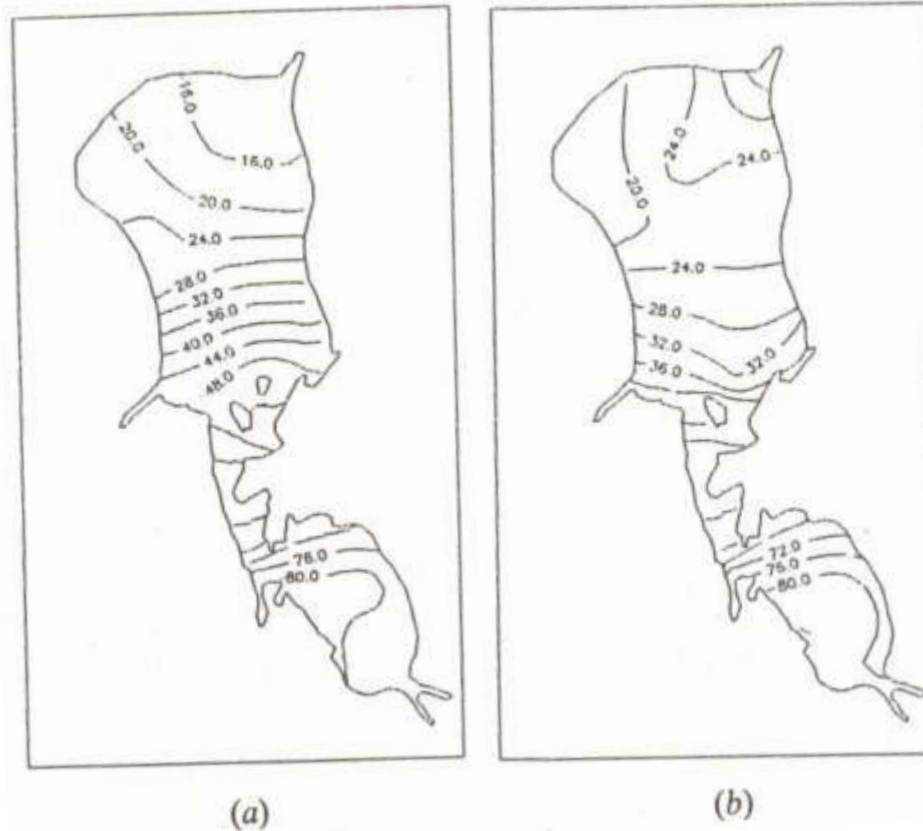


(a)

(b)

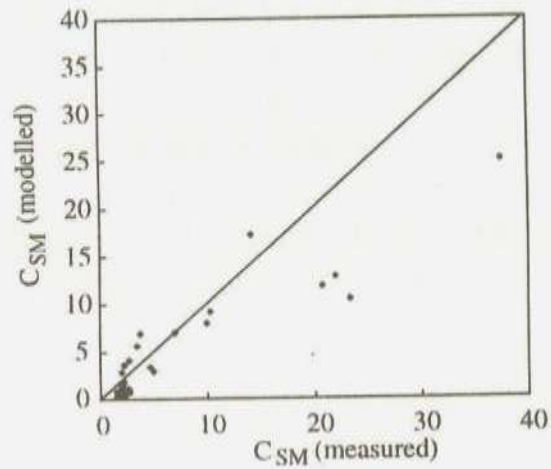
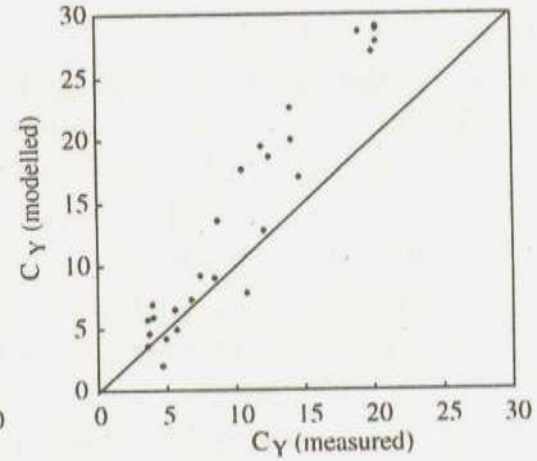
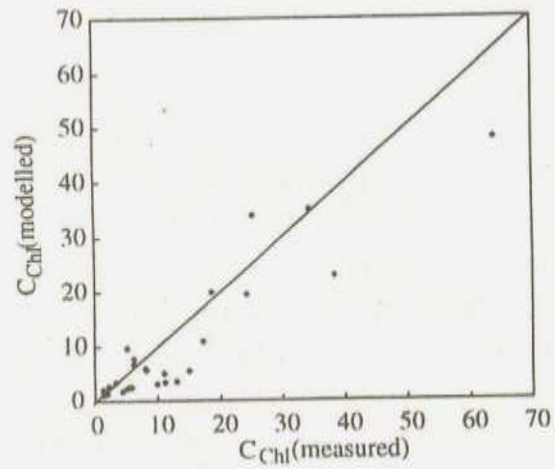
a) *in situ*, b) remote sensing, $R=0.85$

Total Phosphorus



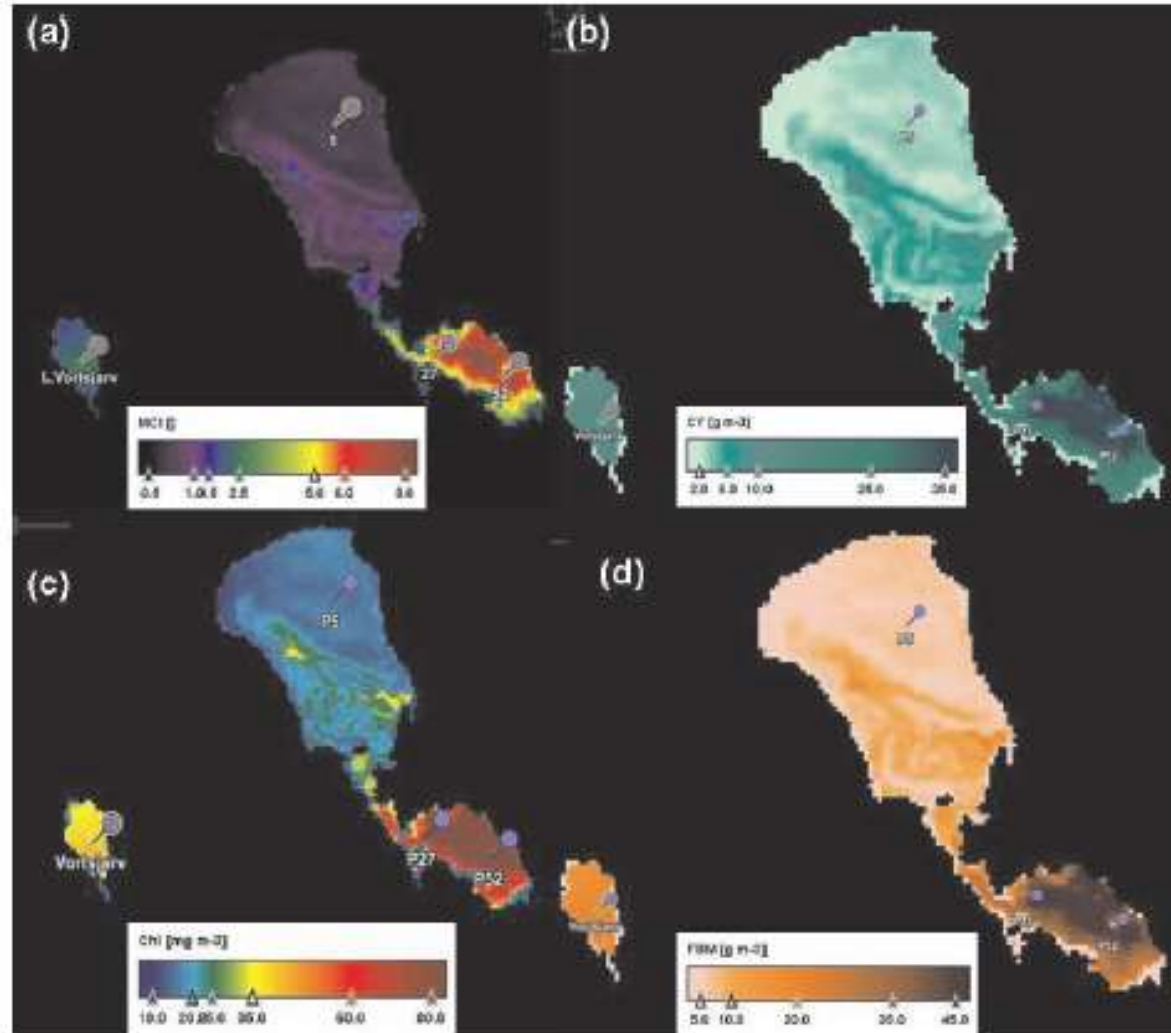
a) *in situ*, b) remote sensing, $R=0.87$

Model inversions





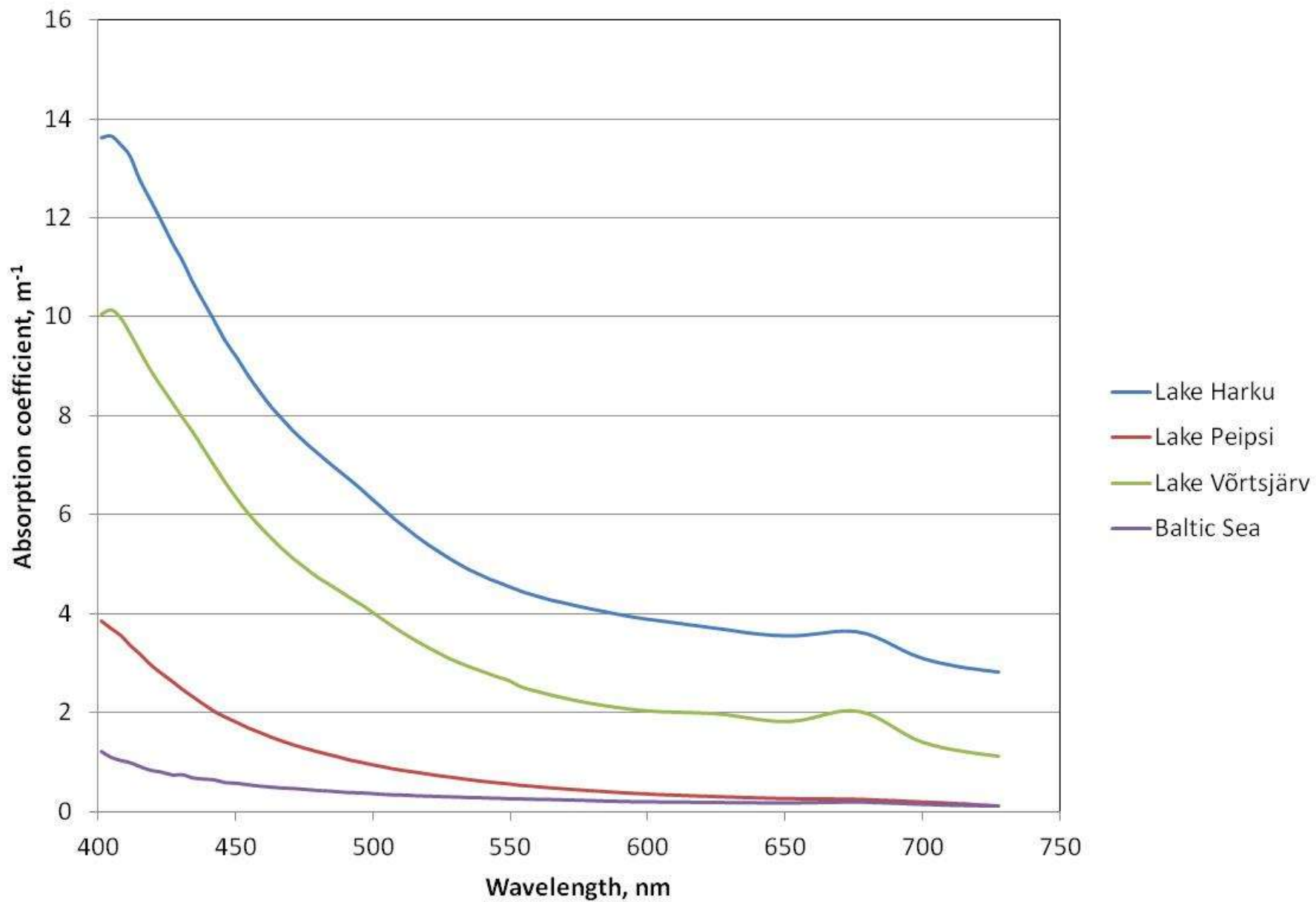
Lake remote sensing in Tartu Observatory

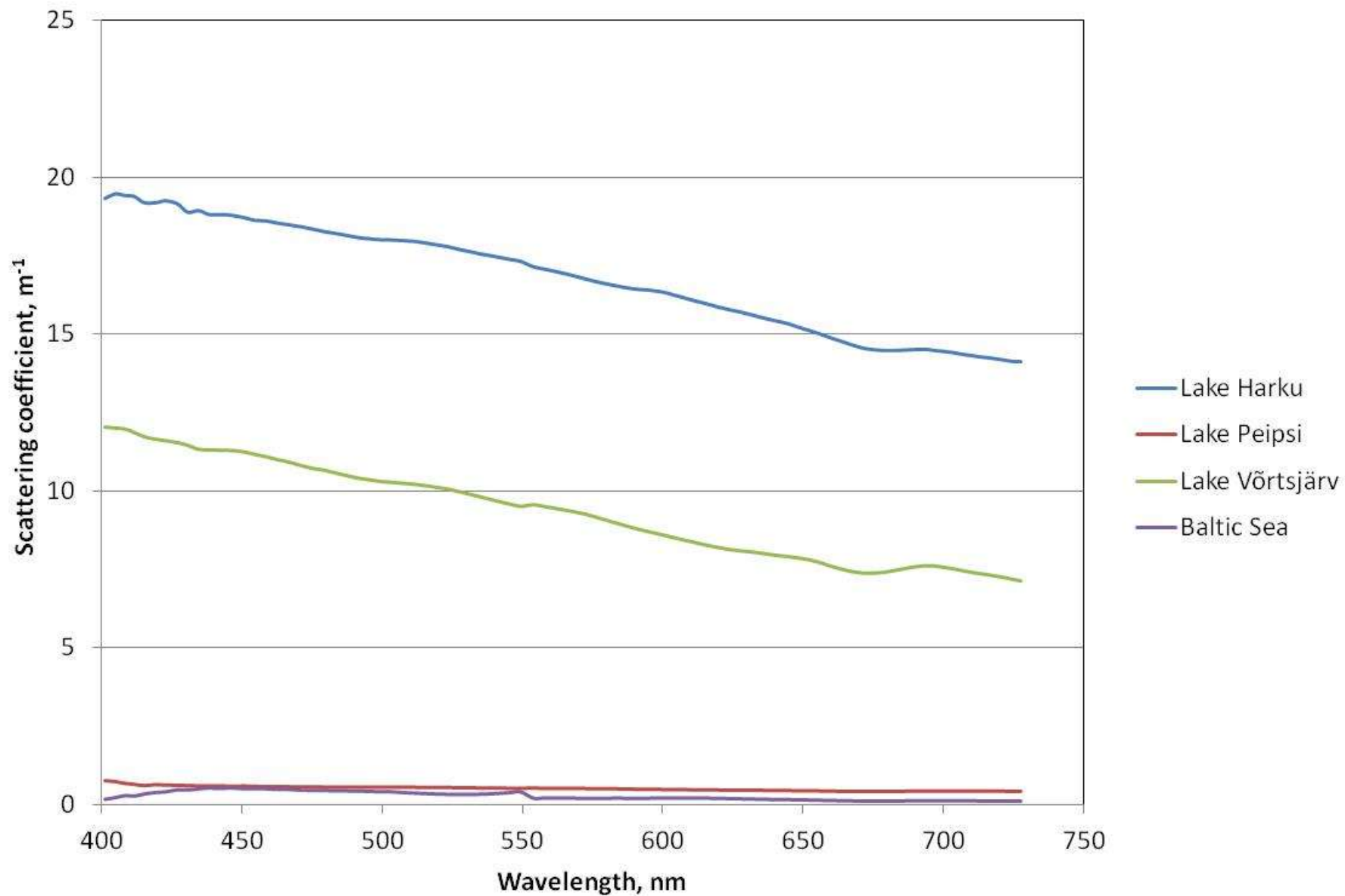


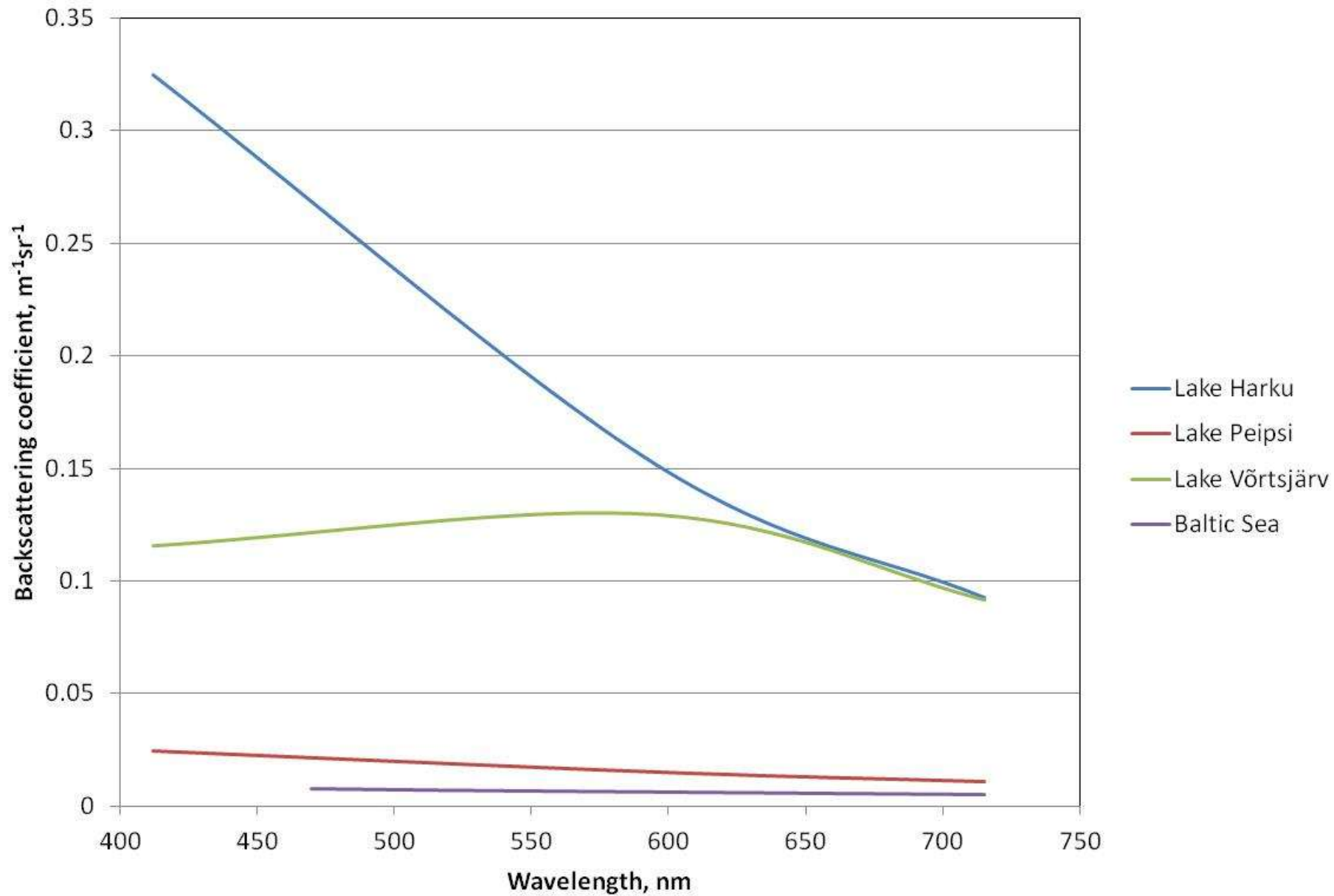


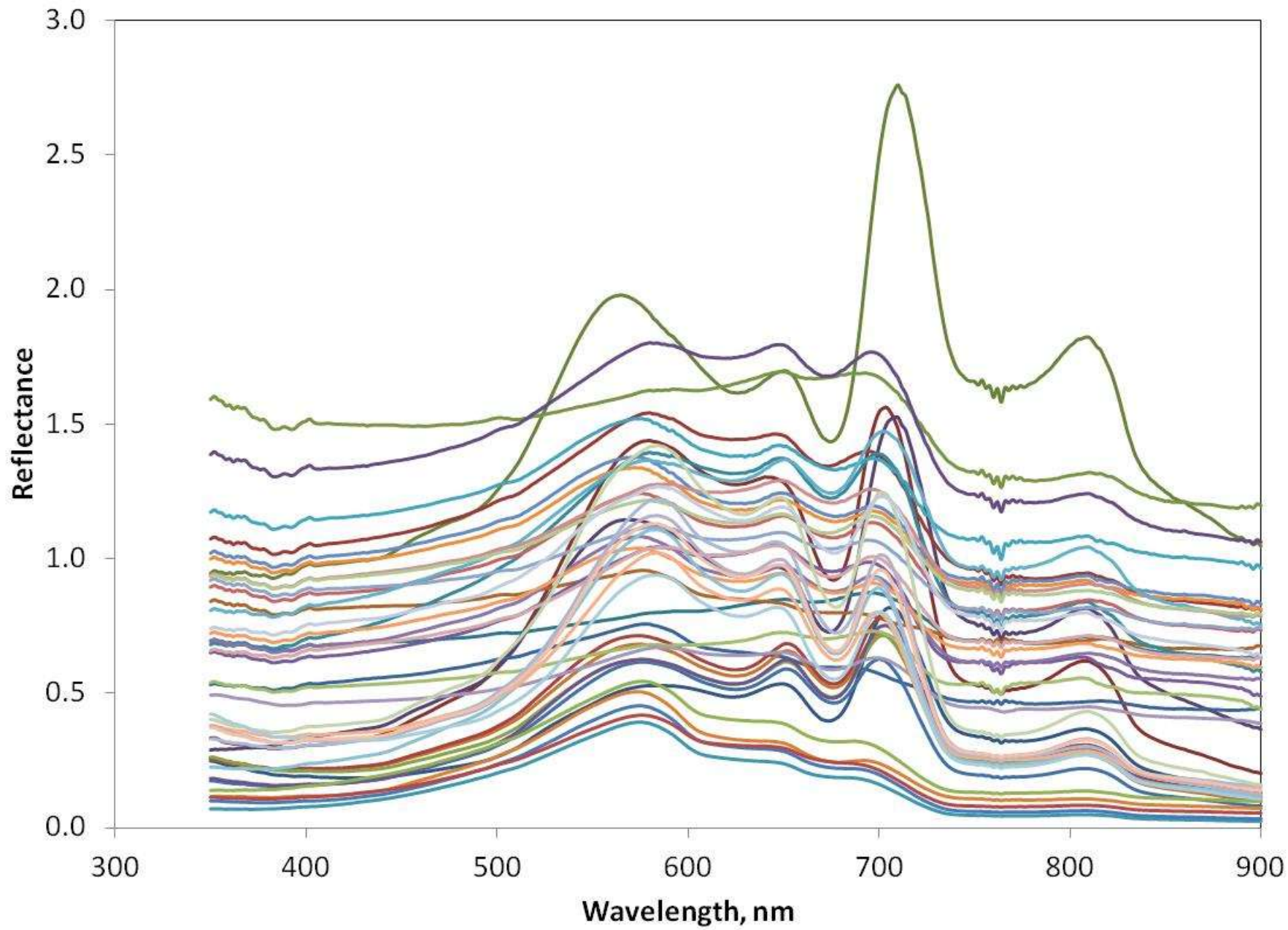
UNIVERSITY OF TARTU





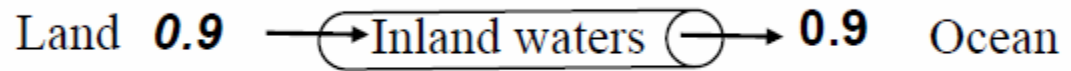




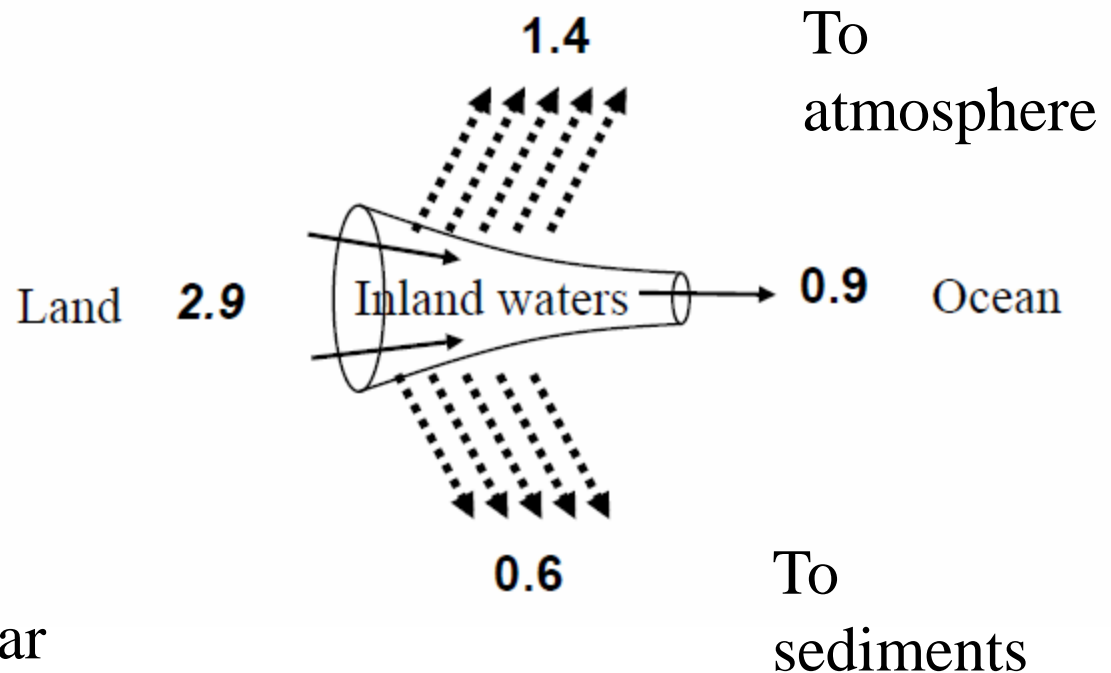


The role of land, inland waters and oceans in global carbon cycle

Models used
by the IPCC

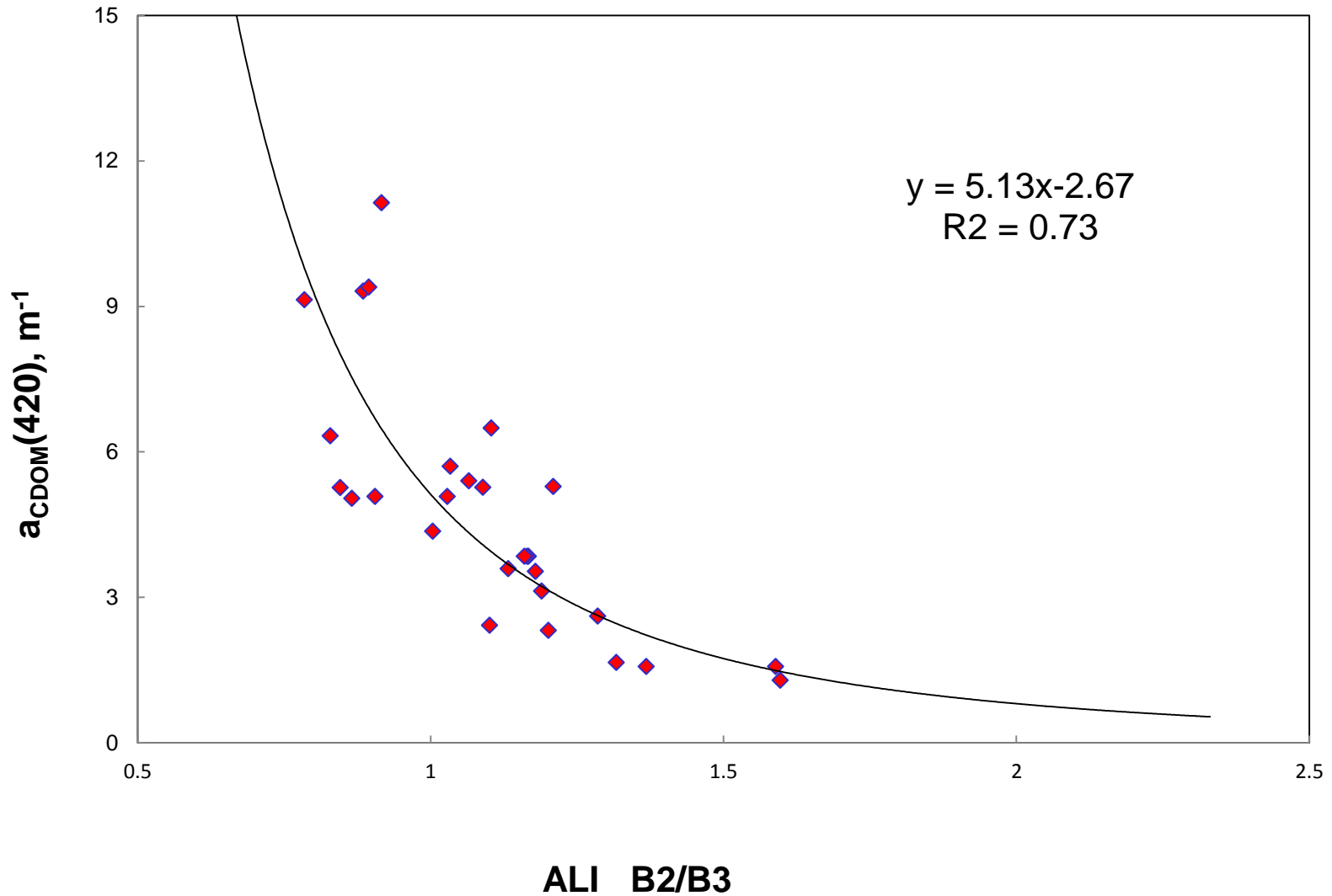


Current estimate
based on the latest
literature (Tranvik
et al. 2009)

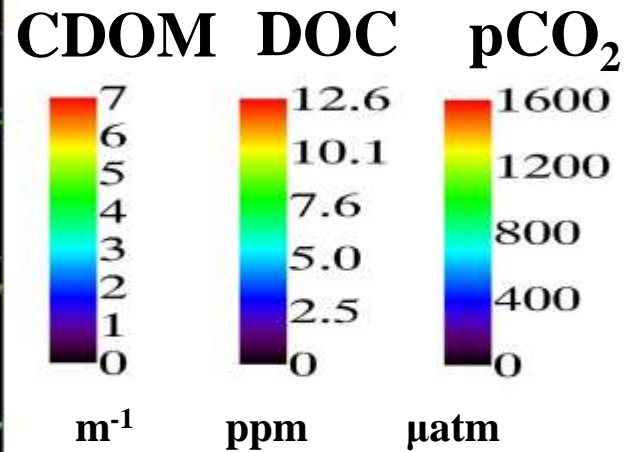
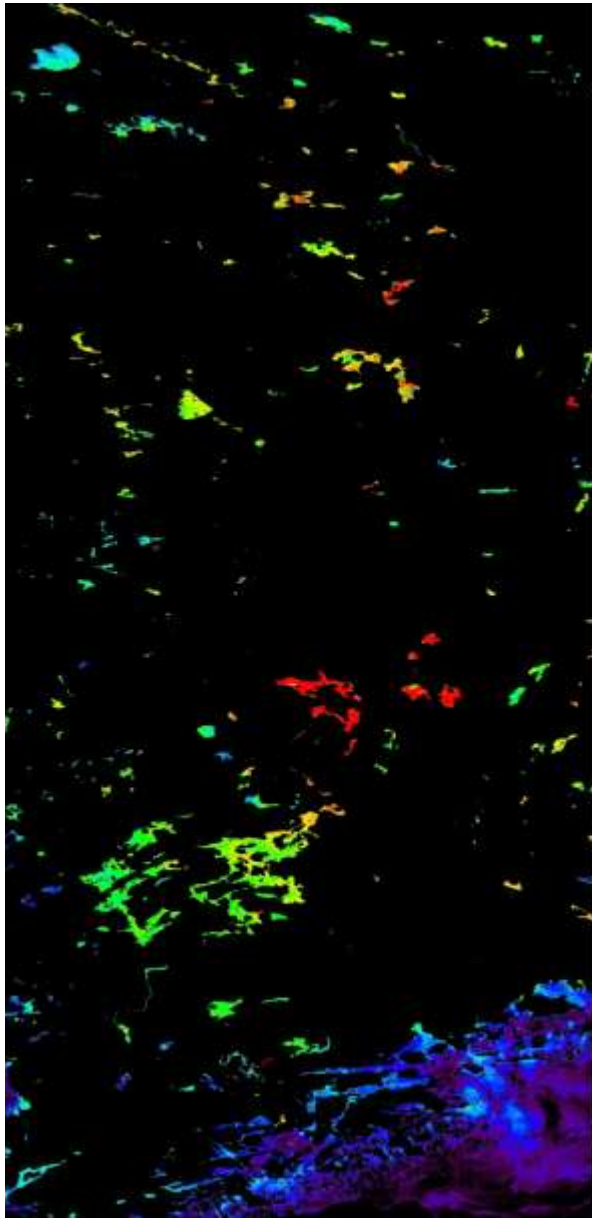


Units in Pg C per year

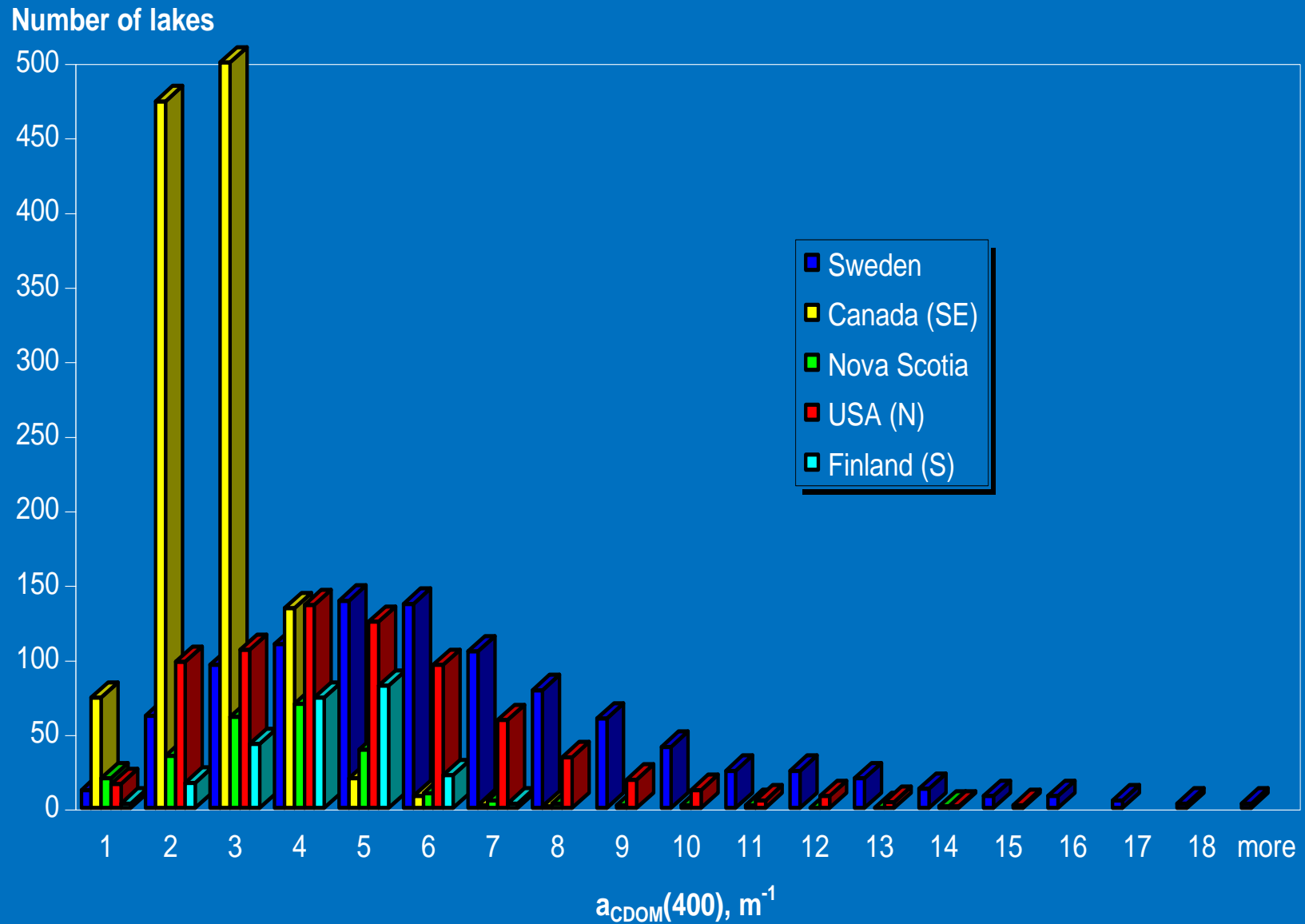
ALI Finnish and Swedish lakes



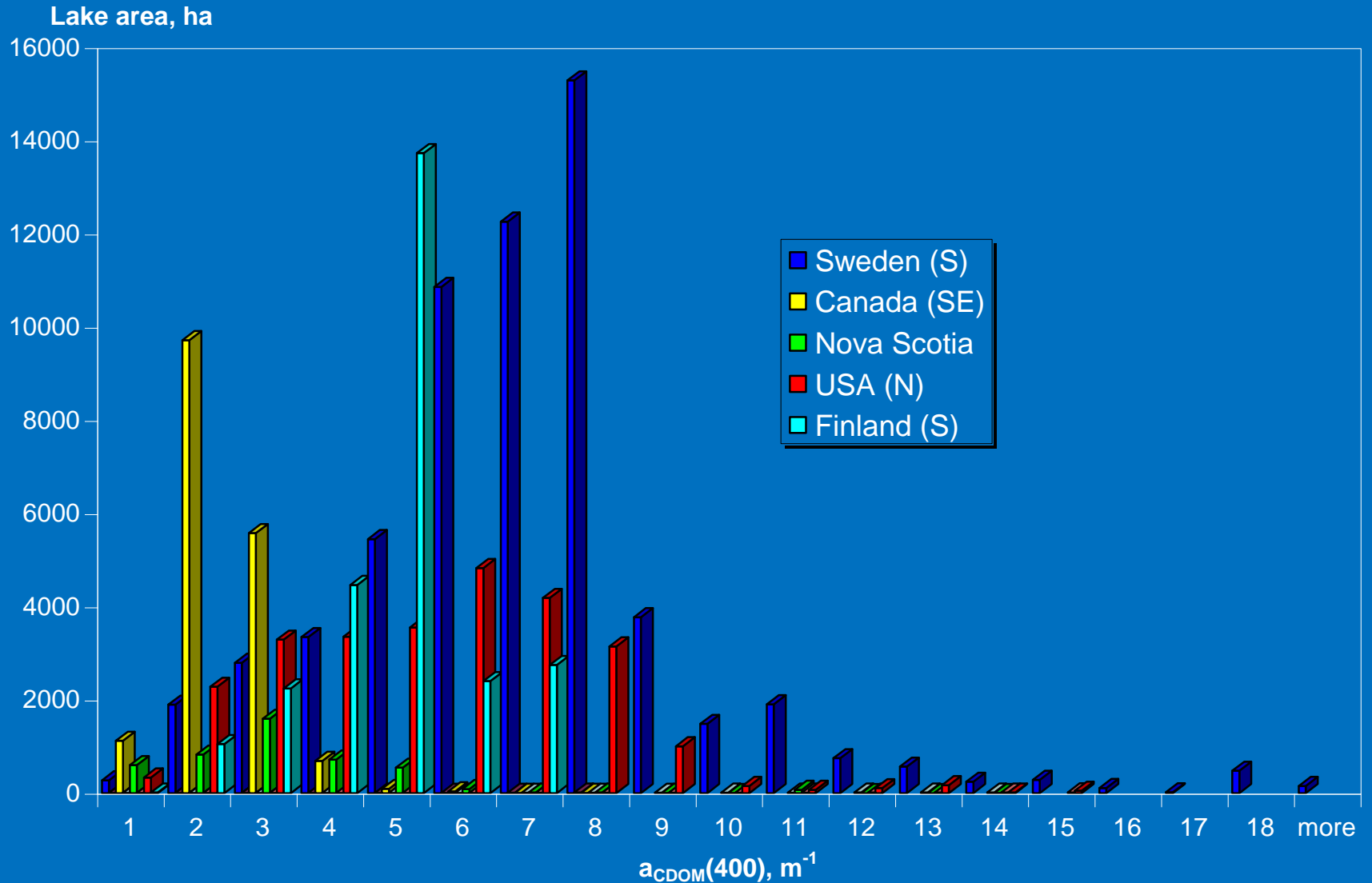
Creating global lake carbon estimate



Creating global lake carbon estimate



Creating global lake carbon estimate





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Thank you!