

Supplementary Information of Boreal Env. Res. Vol. 31: 111–124, 2026
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Supplementary Information of

Yearly Ozone Uptake Accumulation Periods for Swedish Forest Trees and Agricultural Crops

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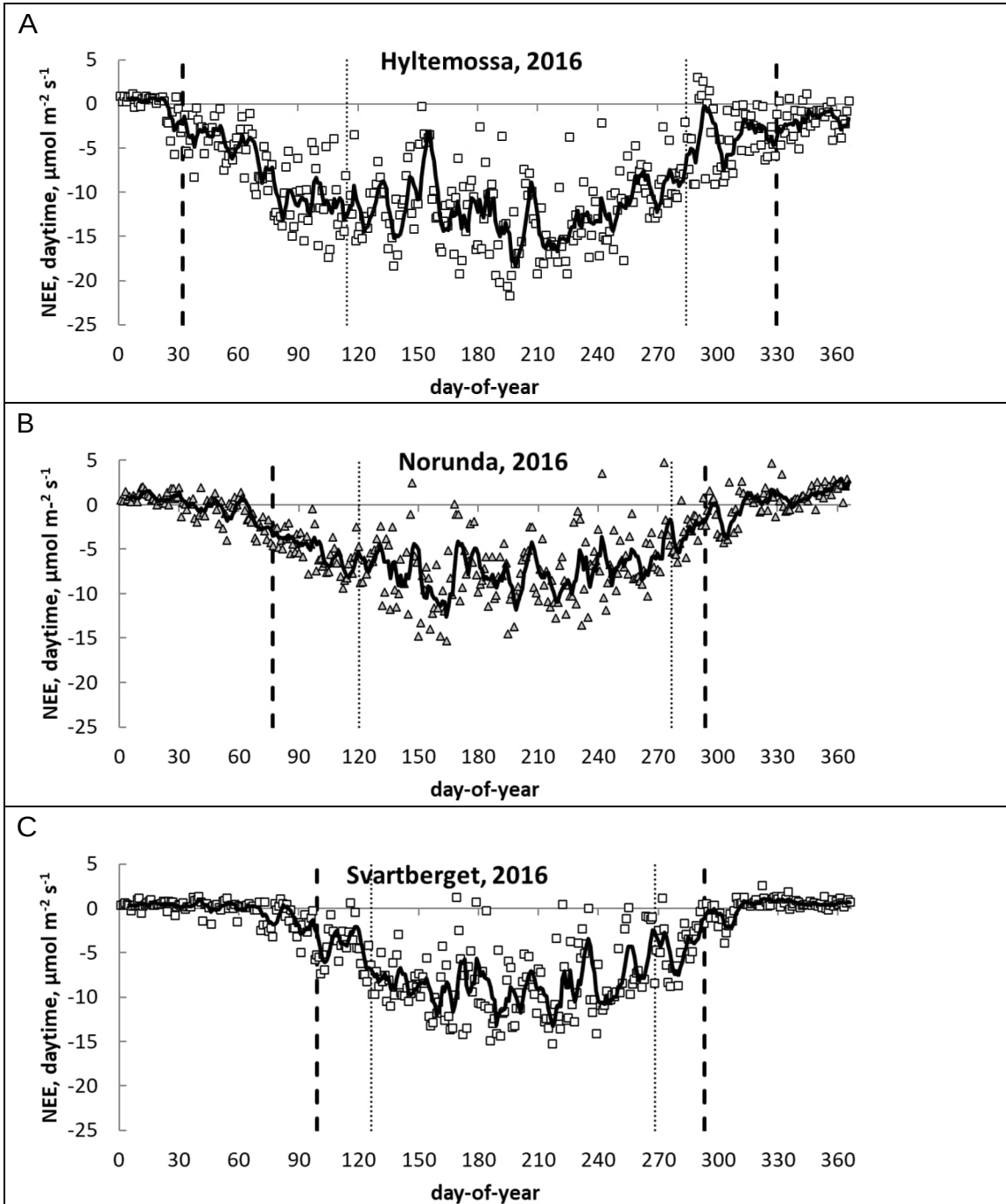


Fig. S1. Daily values for NEE as mean values for the middle of the day (10:00 – 13:59) for the year 2016, for Hyltemossa (A), Norunda (B) and Svartberget (C) plotted versus day-of-year. A solid black line indicates the running five-day mean values.

Vertical broken black lines indicate the Astart and Aend estimated with the new method suggested in this study based on 24h mean air temperatures. Vertical dotted black lines indicate the Astart and Aend estimated with the current methods in the Mapping Manual.

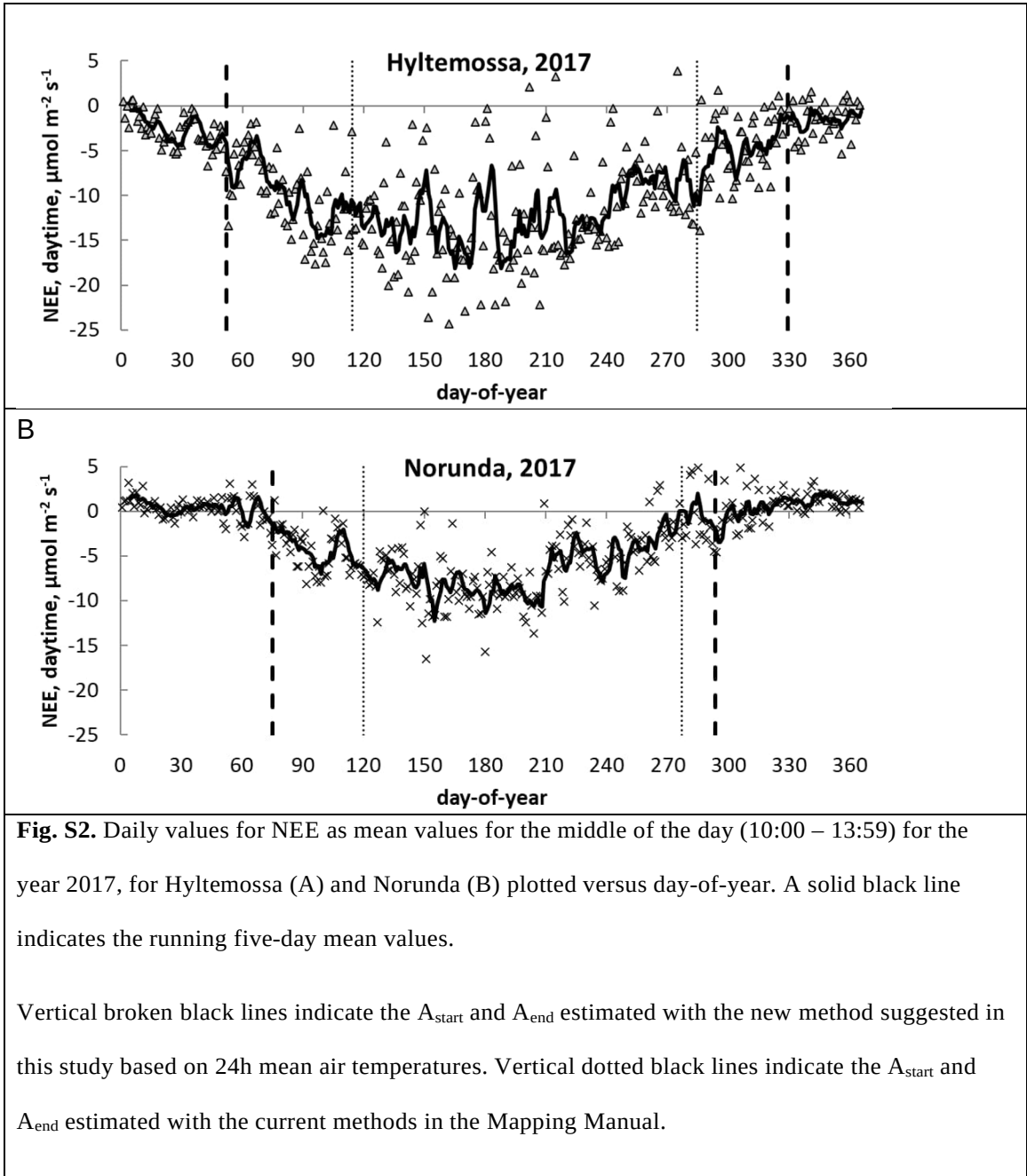


Fig. S2. Daily values for NEE as mean values for the middle of the day (10:00 – 13:59) for the year 2017, for Hyltemossa (A) and Norunda (B) plotted versus day-of-year. A solid black line indicates the running five-day mean values.

Vertical broken black lines indicate the A_{start} and A_{end} estimated with the new method suggested in this study based on 24h mean air temperatures. Vertical dotted black lines indicate the A_{start} and A_{end} estimated with the current methods in the Mapping Manual.

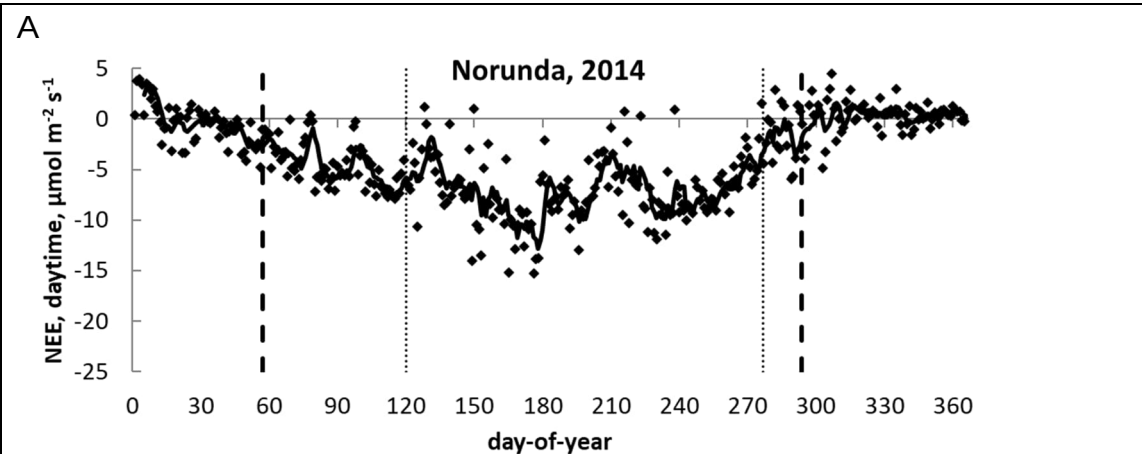
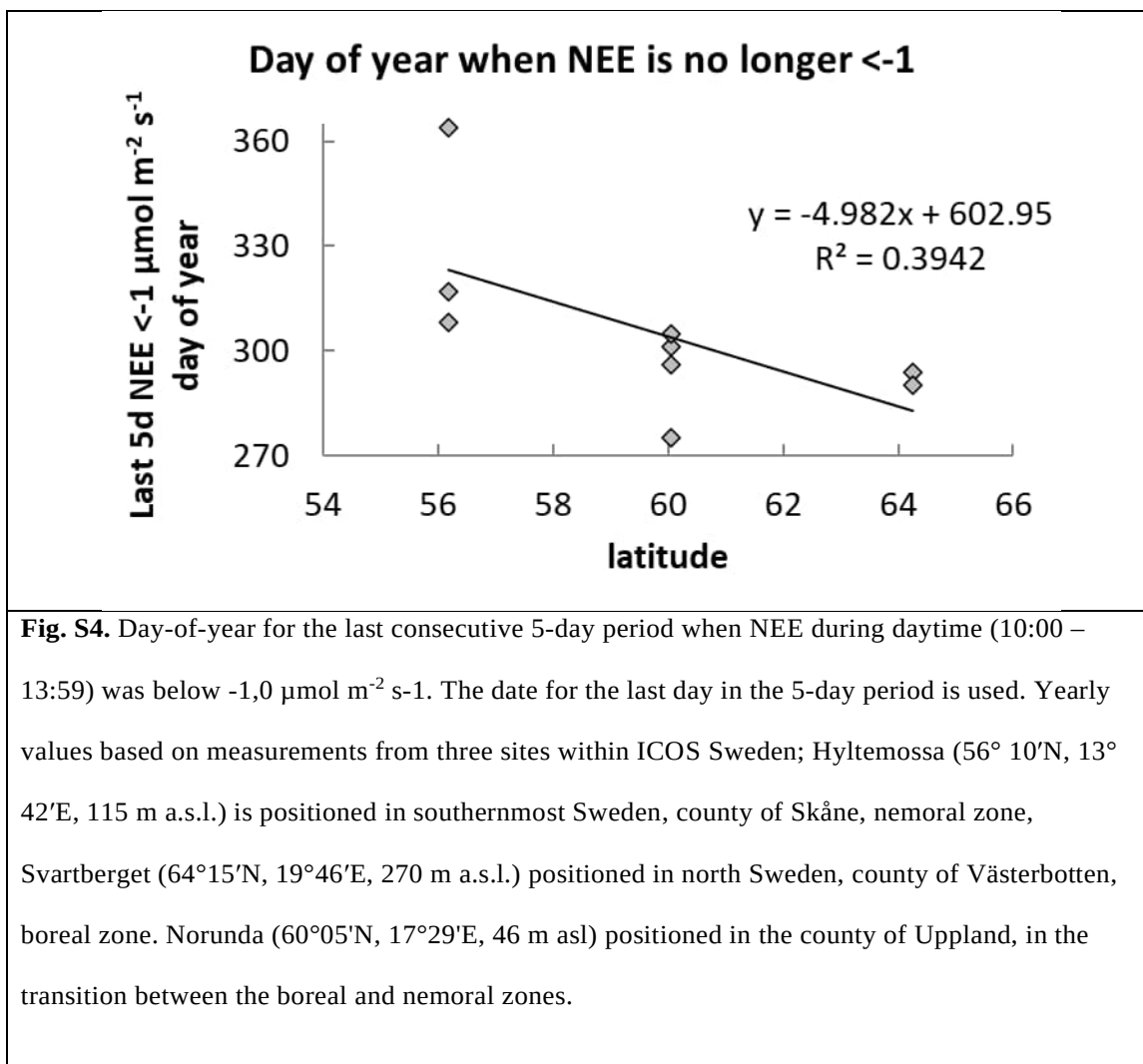


Fig. S3. Daily values for NEE as mean values for the middle of the day (10:00 – 13:59) for the year 2014, for Norunda (A) plotted versus day-of-year. A solid black line indicates the running five-day mean values.

Vertical broken black lines indicate the A_{start} and A_{end} estimated with the new method suggested in this study based on 24h mean air temperatures. Vertical dotted black lines indicate the A_{start} and A_{end} estimated with the current methods in the Mapping Manual.



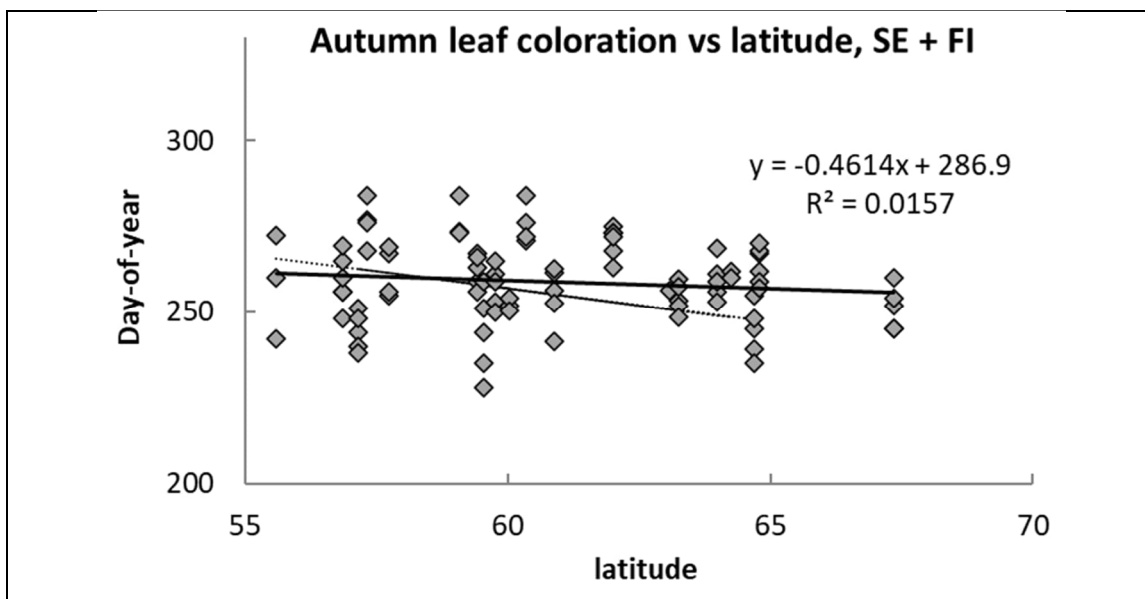


Fig. S5. Day-of-year for the start of autumn leaf coloration related to the site latitude. Yearly values are based on phenological observations from 17 different sites in Finland 1997-2011 and 6 different sites in Sweden 2013-2016. The estimate of the day-of-year for leaf coloration was based on the classification "bbch 94", which is defined as when 50% of the leaves are coloured. The analysis is based on pooled data for both *Betula pendula* (Silver birch) and *B. pubescens* (Downy birch). The thin dotted line shows the day-of-year for the end of the ozone accumulation period, subtracted with the $f_{\text{phen}} 4$, as estimated with the latitude model described in the Mapping Manual (UNECE, 2017).

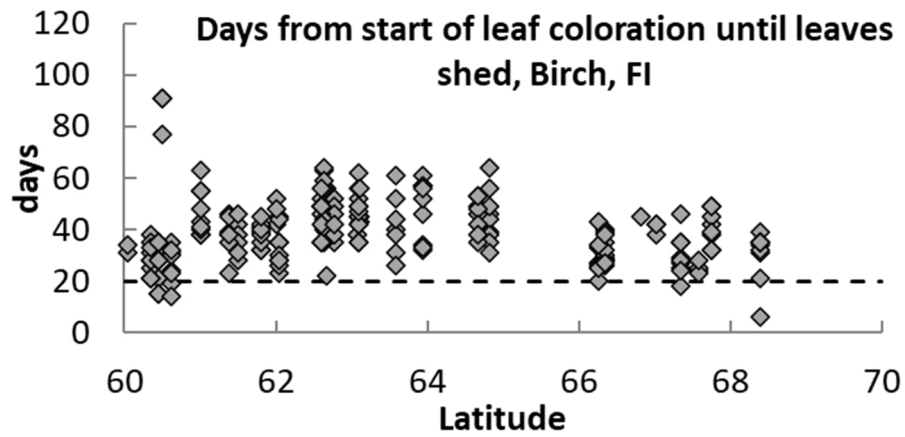


Fig. S6. Number of days between the start of the leaf autumn coloration and the leaf detachment for Birch, based on observations made in the phenology network in Finland, 1997-2006. The horizontal broken black line indicates the value 20 days suggested in the Mapping Manual (UNECE, 2017). Data source: Eero Kubin, Finnish Forest Research Institute, Muhos Research Unit.