



## **Tree-ring growth concordance across northwest Eurasia for the last 2000 years**

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This work describes variability in tree-ring growth concordance at several locations in the high latitudes of Eurasia, providing a wide regional comparison over a 2000-year period (Briffa et al., 2008). The study focuses on the nature of local and widespread tree-growth responses to recent warming seen in instrumental observations, available in northern regions for periods ranging from decades to a century.

Ring-width measurements from the AD portions of selected long chronologies comprising data from a mixture of living and sub-fossil trees were reprocessed and used to create 3 long-term tree-ring chronologies: 1) Fennoscandia regional chronology (Grudd et al., 2002; Eronen et al., 2002; Helama et al. 2002), 2) Yamal regional chronology (Hantemirov & Shiyatov, 2002) and 3) Avam–Taimyr regional chronology (Naurzbaev et al., 2002; Sidorova et al., 2007).

Moving Kendall's concordance coefficient was used to estimate a time-dependent spatial similarity in tree-ring growth (Briffa et al., 2008).

Analysis of concordance coefficient provides strong evidence that the extent of recent widespread warming across northwest Eurasia, with respect to 100- to 200-year trends, is unprecedented in the last 2000 years. An equivalent analysis of simulated temperatures using the HadCM3 model fails to show a similar increase in concordance expected as a consequence of anthropogenic forcing.