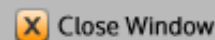




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CONTROL ID: 1484159**TITLE:** Comparing NDVI and observed stem growth and wood density in forests of Northern Eurasia

ABSTRACT BODY: To what extent does NDVI (Normalized Difference Vegetation Index) observed from space co-vary with directly observed stem radial increment and latewood density? To address this question we made correlation analyses between NDVI and paired tree-ring width (TRW) and maximum latewood density (MXD) records from 19 locations North of 54 degrees in the Russian Federation. The period of temporal overlap between the three sets of records started in 1981 and ended between 18 and 28 years later. We compared monthly NDVI at 8 km resolution for a region 24X24 km around each of the 19 locations with well-replicated TRW and MXD time series. Maximum correlation most often occurred in July of the current year, and was similar for both TRW (mean 0.34, minimum 0.04, maximum 0.63) and MXD (mean 0.31, min 0.09, max 0.61). There was a tendency for July correlations to be greatest with larch TRW and lower for spruce and pine TRW, with MXD following a similar pattern. Also, the greater the mean correlation (\bar{r}) between the component samples making up a location's mean tree ring time series, the greater that series' correlation with NDVI tended to be. We conclude that at the locations studied, which we believe to represent quite a large portion of the boreal forest, NDVI does co-vary with directly observed stem radial increment and latewood density, but to a rather modest degree. We will discuss the implications of our findings for the use of both data types, NDVI and tree rings, in tracking forest productivity on large spatial scales.

CURRENT SECTION/FOCUS GROUP: Global Environmental Change**CURRENT SESSION:** GC019. Environmental, Socio-economic and Climatic Change in Northern Eurasia and Their Feedbacks to the Global Earth System**INDEX TERMS:** [1615] GLOBAL CHANGE / Biogeochemical cycles, processes, and modeling, [1640] GLOBAL CHANGE / Remote sensing.**AUTHORS/INSTITUTIONS:** M.K. Hughes, M.V. Losleben, Laboratory of Tree-Ring Research, University of Arizona, Tucson, AZ;

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