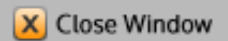




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**CONTROL ID:** 1498413**TITLE:** Recent Shift in Eurasian Boreal Vegetation Growth Response Associated with Drought Stress

**ABSTRACT BODY:** Terrestrial ecosystems in the northern high-latitudes are currently experiencing drastic climatic changes. Initial findings based largely on satellite vegetation records and atmospheric CO<sub>2</sub> data suggested that in response to warming these regions increase productivity as low temperature constraints on plant growth are diminished. In recent years, however, multiple lines of evidence showed that for the circumpolar boreal forests this pattern has not continued and that this biome is becoming increasingly vulnerable to warming-related factors including temperature-induced drought stress, shifts in fire regimes and insect outbreaks.

Here we analyze interannual and longer-term variations in boreal vegetation growth and relationships with abiotic drivers using a satellite vegetation record spanning nearly 3 decades (1982-2008) in conjunction with climate data and newly available upscaled ecosystem flux data. Our results suggest that due to continued summer warming and shifts to earlier spring onsets in the absence of sustained increases in precipitation trends a turning point has been crossed around the mid-1990s that shifted portions of the Eurasian boreal forests into a more water-limited regime resulting in large-scale declines of vegetation growth.

If the detected decadal trend continues into the future, the forest dieback induced by drought and heat stress as predicted by vegetation models may start earlier than anticipated.

**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:** [0439] BIOGEOSCIENCES / Ecosystems, structure and dynamics, [1630] GLOBAL CHANGE / Impacts of global change, [1640] GLOBAL CHANGE / Remote sensing.**AUTHORS/INSTITUTIONS:** W. Buermann, B. Parida, G.M. MacDonald, , Univ of Calif Los Angeles, Los Angeles, CA;

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