



## **Growth response of oaks, beech and pine to Standardized Precipitation Index (SPI)**

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Climate change may have various consequences on forests, from more frequent forest fires and windstorms to pest and disease outbreaks. Standardized Precipitation Index (SPI) was chosen for the evaluation of climate change impact to radial forest growth, after comprehensive testing of different climate parameters from CARPATCLIM database. SPI was calculated for periods between 3 and 36 months for different forest stands (lowland and mountainous parts of Serbia, Southeast Europe). Observed were following tree species: *Quercus robur*, *Q. cerris*, *Fagus sylvatica* and *Pinus sylvestris*. Bootstrapped Pearson's correlation between SPI monthly indices and tree-ring widths was calculated and ranked for all species. We found that 12-month SPI for summer months may be a good predictor for growth of different species at different sites. The strongest positive correlation between tree-ring width indices and SPI was particularly from the year of growth, since the strongest negative correlation for all four species was exclusively from the year prior to growth. The strongest positive correlation were between 12 and 14-month SPI from June to September, which suggests that the high growth rates are expected when autumn of previous-year, winter, spring and summer of the current year are with high precipitation rates.