

Phenology cameras observing boreal ecosystems of Finland

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Cameras have become useful tools for monitoring seasonality of ecosystems. Low-cost cameras facilitate validation of other measurements and allow extracting some key ecological features and moments from image time series.

We installed a network of phenology cameras at selected ecosystem research sites in Finland. Cameras were installed above, on the level, or/and below the canopies. Current network hosts cameras taking time lapse images in coniferous and deciduous forests as well as at open wetlands offering thus possibilities to monitor various phenological and time-associated events and elements.

In this poster, we present our camera network and give examples of image series use for research. We will show results about the stability of camera derived color signals, and based on that discuss about the applicability of cameras in monitoring time-dependent phenomena. We will also present results from comparisons between camera-derived color signal time series and daily satellite-derived time series (NVDI, NDWI, and fractional snow cover) from the Moderate Resolution Imaging Spectrometer (MODIS) at selected spruce and pine forests and in a wetland. We will discuss the applicability of cameras in supporting phenological observations derived from satellites, by considering the possibility of cameras to monitor both above and below canopy phenology and snow.