

Supplementary material for wind risk paper

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Dynamic parameters contributing to wind risk

Species composition

The intensification of the harvesting changes the stand species composition over time (Fig. ??). Intensification of the harvesting favorize the proportion of the Norway spruce and others (deciduous) tree species instead of Scots pine, which likely in turn increases wind risk over the stands. Proportion of the pine lowers with higher harvest intensities.

Dominant tree heights

The intensification of the harvest reduce mean tree height for other species to half (from 20 m to 10 m) in RF, while CCF slightly increases mean tree heights. For pine and spruce trees, harvest intensification maintain the mean tree height of the stand to 20 m (other) to 22 m (spruce). Spruce is higher then pine and other stree species.

Tree count

Frequency of open stands

The proportion of the open edge stands remains very high over whole simulation run, which is likely due to the fragmeneted landscape (85-95% of stands by species, Fig. 2, Fig. XX). However, increasing harvest intensity lowers number of stands with open edge when dominated by other species, whereas increases those numbers for pine and spruce dominated spatnd, especially under RF. The CCF and ALL management groups maintain the number of the open edge stands similar to completely set aside stands.

Thinning frequency

the highest frequency of thinnings is under CCF management regimes, which lineraly increase with harvesting intensity for all tree species. Numbers of thinnings in RF remains relatively low comparing to CCF and ALL, and strongly increases at high harvest intensity (from 3K for pine and from 5K for spruce). The frequency of thinnings in CCF increases 3-4 times in CCF comparing to RF.

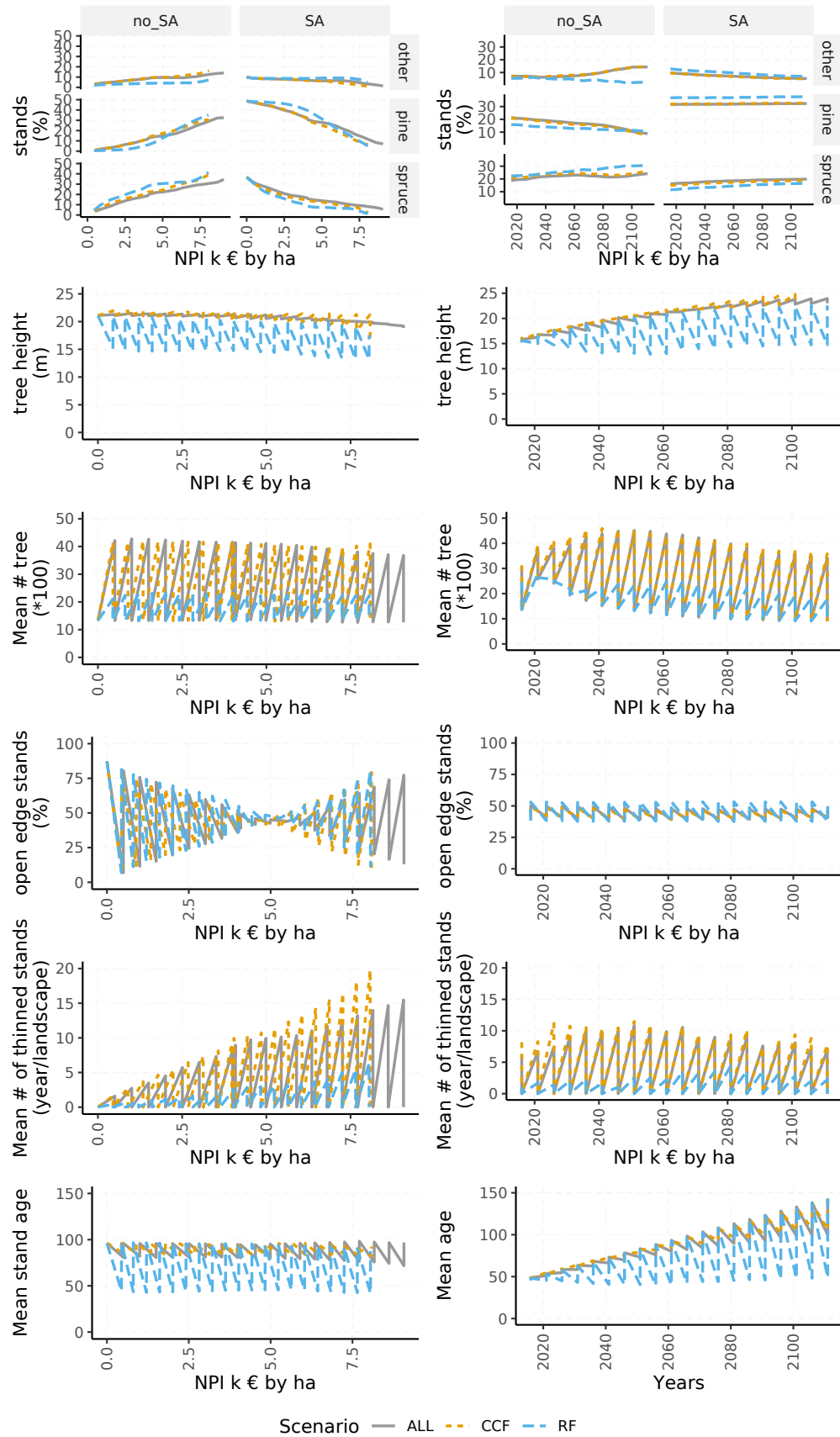


Figure 1: dynamics variables over harvest gradient and years