Review of “Projected changes in forest fire season, number of fires and burnt area in Fennoscandia by 2100” by Kinnunen et al.

In this paper, Kinnuen et al. projected the length of forest fire season, number of fires and burnt areas in Fennoscandia by 2100, based on simulations from three models that are driven by projected meteorological conditions under climate change scenarios of RCP4.5 and RCP8.5. Overall, the research is well conducted. The results are well articulated and the discussion is appropriate. The topic is suitable and meaningful. The paper is publishable after some revision. I provide the following suggestions for the authors to consider when revising their paper.

It seems that air humidity is overlooked in this research. It is true that relative humidity is related to air temperature; as air temperature increases, relative humidity decreases; this will lead to an increase in fire activities. However, variation of absolute humidity is independent of air temperature. It is reported that trend of fire activities is decreasing in some regions during some of the past decades, possibly due to a wetter atmospheric environment. Is air humidity considered? How?

Please provide more information on FDI, as it is a key variable in this research.

Specific
Abstract: In addition to the range of the variation in the fire variables, the mean values are also important.

L19, “Newer the less”->“Nevertheless”.

L19, “point”-> “pointed”.

L79, because FDI is a key variable in the simulation, please explicitly express how FDI is estimated. Is there a formula for FDI? What decides environmental dryness, relative humidity, soil moisture or both?

L100, please explain RCP4.5 and RCP8.5 more explicitly. For example, scenarios without additional efforts to constrain emissions ('baseline scenarios') lead to pathways ranging between RCP6.0 and RCP8.5 (IPCC, AR5).

L149, “for the whole domain”, is this area-weighted average?

L122, change to “Lasslop et al. (2014).”

L136, which 9 fire variables? Which 3 derived variables?

L136, change to “simulated”.

Section 3.1 and 3.2. When discussing the results, the authors provided the mean values and ranges for simulated fire variables, including start and end dates, number of fires, and burnt areas from scenarios. The authors sometimes only provided the ranges for the variables, especially in section 3.2. Please provide the mean values for the simulated results. When doing so, please also explicitly indicate that the mean and associated standard deviation are based on what. Is it an areal mean? Yearly mean? A mean of three models?

L230, “temperature and precipitation are the leading cause of …” How about air humidity?

Conclusions: More quantitative results, in the mean and associated variations, are beneficial to the audience.