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Comment

Interactive comment on “Effects of fire on ash thickness in a Lithuanian grassland and short-term spatio-temporal changes” by P. Pereira et al.

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We are aware of the controlling factors problem. In relation to vegetation recovery we consider that this was a case study and we were surprised how fast grass recovers. This lead us to study the effects of grassland fire in vegetation in other areas and the results are equally amazing. The paper is now in revision. In this case unfortunately we do not have quantitative data (in the paper we mentioned this). However we think that the pictures can give an idea of this fantastic recuperation. We make some reference to the influence of wind and that it is an important erosion agent in recently burned areas, but poorly studied. Since ash plays such an important role in the

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hydrologic response after fire and in the regrowth of vegetation, we launched this study to try to quantify the thickness of ash and the evolution with time. For logistical reasons we could not install a meteorological station in the immediate period after the fire to measure wind velocity and direction. We agree it is a shortcoming that must be improved in the future. From another point of view wind effects on ash (re)distribution can be complex to evaluate since wind can be variable in direction and velocity. You are completely correct that this has to be accurate but in the moment we could not do it. In absence of rain only wind, fauna (we add some photos to support our arguments) and human impact (impossible to measure) could influence ash removal. After the rainfall, previous studies mentioned in the references already observed that runoff can induce ash transport and deposition in other parts of the burned area. We agree that some factors that we use for explanation need to be measured and this is where we are going. However they seem to be logical. This is novel study (in international literature few studies exist about ash dynamics) raise many questions that we are trying to answer. We think that this contribution is a step forward to the knowledge about ash dynamics on the soil surface. We rearranged the discussion and changed the title according to your suggestion and we added in the figures caption the meaning of DG, W, B and LG.

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/4/C754/2013/sed-4-C754-2013-supplement.zip>

Interactive comment on Solid Earth Discuss., 4, 1545, 2012.

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