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Interactive comment on “Agricultural losses related to frost events: use of the 850 hPa level temperature as an explanatory variable of the damage cost” by K. Papagiannaki et al.

Anonymous Referee #2

Received and published: 9 April 2014

General Comments

The paper focuses on analysing the risk of frost events and their relationship with agricultural losses, studying the relationship between the daily minimum temperature at the low levels of the atmosphere and more precisely at the pressure level of 850 hPa, and monetary compensations for crop damages attributed to frost. I would like to know why the authors have not used the surface temperature; topographic factors and variations in the boundary layer can mean that the data are not representative. The authors should include a more complete logistical model, in which the explained variance increases, validated using an independent sample. I would therefore recommend that a

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series of changes be made to the paper.

Specific comments

1. In Section 1 (Introduction): The authors refer to Climate Change and agricultural risks, but do not go on to analyse this in the paper. I think that the introduction could be significantly improved with a more meticulous line of argument.
2. In Section 2: The annual variability has not been analysed, probably because the annual data set is short. Is it possible that other meteorological factors such as precipitation may affect the sensitivity of crops, and that this causes changes in the damage caused by frost events? Should other meteorological fields be analysed that may include synergies, like precipitation?
3. In Section 3 (Methods): I consider that the data treatment and conclusions are slightly lacking in content, and should be analysed in greater detail. I would like to see a contingency table in which the forecasting equations are applied to an independent sample. What are the FAR or POD of the logistic models? 4. The graphic quality of the figures has to be improved to adapt them to the required level for a scientific article.

Interactive comment on *Nat. Hazards Earth Syst. Sci. Discuss.*, 2, 865, 2014.

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