

Interactive comment on “The Irish famine of 1740–1741: causes and effects” by S. Engler et al.

Anonymous Referee #1

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[General Comments] The paper studies a historical climate extreme that has received little scholarly attention, particularly in the chosen Irish context. The event is clearly relevant to the journal's agenda. Additionally, the authors propose an integrated methodology that reflects current approaches in the field of historical climatology in line with the journal's broader aims.

However, the treatment of the underlying data (on prices, climate, and migration) is in serious need of clarification. The use of historical source material is below standard. As a result, the paper's conclusions and the proposed model (FVAM and vulnerability indexes) remain vague and sometimes flawed. Its presentist drive is somewhat at odds with the journal's orientation. The paper also need thorough English language editing.

[Specific comments] The paper makes extensive use of a) price b) climatological and c) migration quantitative data. The quality and reach of this material in the 18th century,

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poses serious challenges that need to be addressed more clearly:

a) the author's state that oat and potatoes constitute the major dietary sources of the population in question. The paper, however, provides wheat prices only. The reader can only guess that oats prices were either missing or required more archival research. The substitution of readily available wheat price series for those of more widespread food is common practice, but has attracted major criticism (in the work of John D. Post for example). This discussion needs to be addressed in the paper. Particularly, as the authors use rising prices as an indicator for "food availability decline" that is central to their paper – a link (prices to harvests) that again has been questioned in more recent work on non-market economies, "economies of makeshift" (Hufton) or the "micro-politics of subsistence" (John Walter).

b) the authors repeatedly claim that the climate data they provide is "for Ireland" (p. 1029) – a phrase that suggests data from Ireland is used. The referenced works, however, all focus on "Europe". My guess is, that the climate models presented, work by extrapolation based on modern climate reconstructions, without the use of any historical data from Irish proxies at all. Again, this substitution and the low- resolution (3-monthly averages) of the data needs to be addressed and its impact on the relevance of the data spelled out – particularly as an "integration" of climate and societal data is a central goal of the paper.

c) migration is a central topic of the paper, the model proposed (FVAM) and the working group that inspired the authors. However, the data presented on migration is either varying widely (between 1.000 and 12.000 people p.a., p. 1037) or anecdotal. No independent verification or archival work seems to have been undertaken – the authors simply state that official records "are missing". Considering the central position of this field in the paper's argumentation, these lacunae need to be addressed and assessed frankly.

A second area of concern is the treatment of the historical material and argumentation

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of the paper. Considering the limitations of the quantitative data (above), it is surprising, that qualitative material is used reluctantly and inexpertly.

As no archival material has been accessed, the authors focus on printed tracts and newspapers. These are often cited as objective validations of rather sweeping assumptions (absence of relief measures, shortcomings of the administration, general crisis). There are virtually no efforts to qualify the validity of historical authors or the text genres used. This is particularly awkward in the area of market regulation or relief, that were hotly debated by contemporaries and certainly reflect the personal background of the authors in question or their audience (Powell, Prior, Dublin Gazette).

These deficiencies, however, seem to point to more general shortcoming in the historical placement of the event in question. The assertion of the authors that short life-spans and illiteracy limited the perception of disasters or climate runs contrary to the substantial research on historical disasters. The offhand remark that welfare was poor, because "only" the Church provided it, betrays a fundamentally ahistorical perspective. With regard to the journal's focus and the large amount of relevant literature (not least by co-author Mauelshagen), the historical passages need revising. The scientific reader will also manage without the information that flight was not available in the 18th century (p. 1024).

As a result, the paper's conclusions are of limited value. They centre on the known fact that the 1740s saw a crisis in Ireland and that climate played an important part, with little to no orientation given to its position and relevance in its own time. Indeed, the paper seems to be motivated almost exclusively by the contemporary debate on climate change. A fact that is irritatingly obvious to the reader in frequent anachronistic references, definitions, and comparisons.

In order to strengthen the paper's historical perspective I would recommend a revision of the "index system" the authors use. At the moment its broad categories serve only to unfavourably compare pre-modern/developing and developed societies (reinforcing

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established pre-modern/modern dichotomies and teleologies). Its heuristic value for historical societies is limited. In its current form, it would produce the same results for almost any society of 18th century Europe! Once it is refined, the scores need to be discussed to make sense. What does a +7 in "policy" tell the reader?

Before the case study is compared to modern societies, it should, however, be compared to and placed amongst contemporary examples. To what extent are "poor roads", the dominance of church based relief and "low" exchange entitlements an "Irish problem"? What sets the Irish case apart from other 18th century societies? Such an approach would strengthen the thesis of the authors that climate (not just policy) played a crucial role.

[technical corrections] The text needs substantial English language editing. Some of the phrases that need revising are:

posed questions / further re-included (1015)

combination of socio-environmental factors (1016)

forth (=fourth) (1017)

breadstuff (1018)

portrayal (1019)

even at low / was ... was / Therefore ... therefore (1020)

constitute / real scarce times (1022)

Thus did trade (1025)

decent (=recent?) (1027)

shrinking situation (1028)

was claimed (1037)

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frosty (1038)

as well as some phrasal verbs

the Horn of Africa is often understood as an example for political rather than pure climate impacts (1016)

the term "vulnerable" needs a definition, when used on historical societies

the reference for the claim that 1740 is the coldest year is inconclusive (1018)

"good governance" is an ancient Greece rather than British concept (1021)

the acute cold (relevant for humans) and the drought (relevant for plants) need to be differentiated better (1030)

p. 1031 line 21 needs a reference

p. 1033 line 18 is missing a reference

claim that recent famines support the findings needs a reference (1038)

fig. 3 needs a better description. What do the black columns indicate (historical or modern data)? Why are the corresponding historical figures only represented by yearly rather than 3-monthly averages - are these figures missing, insignificant or uncertain? Why are the results relevant? The precipitation shows marked deviation only in winter, when it is less relevant to agriculture.

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