Clim. Past Discuss.,
https://doi.org/10.5194/cp-2018-155-RC2, 2018

Climate of the Past Discussions

Interactive comment on "Extracting Weather Information from a Plantation Document" *by* Gregory Burris et al.

Anonymous Referee #2

Received and published: 19 December 2018

There is much to like about this article. It explains how a source rarely used for quantitative environmental reconstructions - a plantation document - can in fact yield a wealth of remarkable data that shed light both on changes in the natural world and on social responses. The co-authors introduce a remarkable database - the product, apparently, of some 3,000 hours of work - that now has over 20,000 entries. They have the potential to make a substantial contribution to the disciplines of historical climatology and environmental history, one that certainly merits publication in a journal like Climate of the Past.

Yet their article, at present, does not adequately engage with prior scholarship in historical climatology; does not explain how its database improves existing climate reconstructions; and pushes some of its conclusions beyond what its data can sustain.

First, on engagement with prior scholarship: there is, of course, a very long tradition of European and Chinese historical climatology, and the authors should clearly explain how they are drawing from this tradition. In particular, it is striking to see no mention of Christian Pfister, whose work has made studies like this one possible. The authors attempt to describe scholarship that quantifies weather data in other documents, but their summaries a) do little justice to the sheer diversity of documents that historical climatologists have now deciphered, and b) scarcely engage with existing scholarship on the documents they mention. Any mention of ship logbook reconstructions, for example, should at the very least cite Dennis Wheeler and Dagomar Degroot.

Second, the authors should more carefully consider who is taking the observations they have databased, and why. Several additional sentences on the observers - ideally at the beginning of the article - would shed more light on how seriously we should take the observations. More importantly, the authors should clearly explain how their database can improve - or at least supplement - existing climate reconstructions that either draw from different documents or use entirely different sources (notably paleoclimatic proxy data and model hind-casting). To that end, the authors really should have included a reconstruction of temperature - on an ordinal scale - developed using their database. Does that reconstruction show what we expect? What does its (presumably) high resolution do for us?

Third, the section on malaria is poorly introduced. Terms and key relationships are referenced offhand before they are explained, and that will need some reworking. More importantly, it seems to me that the authors too directly link temperature to the first cases of malaria on the plantations. Of course, temperature has a major impact on malaria, but it is far from the only variable to consider. Plantations were artificial hotspots for malaria, and annual changes in first cases could well reflect human actions, decisions, and programs. Malaria is also very sensitive to rainfall, particularly alternating droughts and deluges (as John McNeill, among many others, has explained). At the very least, such complexity should be thoroughly acknowledged and articulated.

Finally, the article is, at present, rife with baffling typos and grammatical flaws - ones that should have been weeded out well before submission. It also contains some unintentionally comedic passages, such as: "summer temperatures were entered in the nineties, making it most likely that measurements were in degrees Fahrenheit rather than degrees Celcius" (and again, note the typo). Obviously these problems should be corrected for the revision.

In short: the article should be published, in my opinion, but only after major revisions.

Interactive comment on Clim. Past Discuss., https://doi.org/10.5194/cp-2018-155, 2018.