Clim. Past Discuss., 11, C465–C467, 2015
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Climate of the Past Discussions

Interactive comment on "The historic reality of the cyclonic variability in French Antilles, 1635–2007" *by* E. Garnier et al.

Anonymous Referee #1

Received and published: 27 May 2015

General comments:

This article reconstructs landfalling cyclones in the French Antilles from the mid-seventeenth to early-twenty-first centuries. It utilises a new set of primary archival material that has not been previously adopted for cyclone reconstruction in this region. The strength of the paper is in its use of both primary sources and under-utilised French-language materials. Unfortunately it suffers from some major limitations. As I understand it this paper represents the first stage in the development of a new database of historical natural disasters, that will combined historical reconstruction and modelling approaches. The French Antilles have been selected to demonstrate the methodology. However, there is no explanation of how the methodology was developed, neither does there seem to be any validation of the methodology. Moreover the engagement with

the wider literature is fairly limited.

Specific comments:

The criticism of the sources used in previous studies seems justified, although rather too much emphasis is placed on criticism, rather than a discussion of what this paper will contribute. There doesn't seem to have been a systematic literature review per se. There is a large literature on reconstructing cyclones, including the work of Chenoweth, Boose and Caviedes, but also others (Garcia-Herrera, Mock, Nash, Liu etc) and a full review of this work is important, given that the principal contribution the paper is making is methodological. The section on the climatology of the region also needs to be fully references. The paper needs a detailed discussion of how the SSHWS is translated to the HHWS - this is the most important limitation. A discussion of how the the HHWS would translate to the Fujita scale would also be useful given that this new scale is presented as its replacement (although the criticism of using the Fujita scale to reconstruct cyclones is noted). Some kind of verification of the new scale is also needed - at least descriptively if not statistically. It is stated that the new scale does not estimate recent hurricanes well; if this is the case there needs to be more justification as to why it should be seen as a reliable tool for reconstructing pre-twentieth-century cyclones. Statistical analysis is also lacking from the results - at the least it would be useful to see a test for randomness and a spectral analysis. The comparison with the Chenoweth and Caviedes series is presented in a confusing way, and it would be better if this was presented only as a comparison with French Antilles cyclones. Lastly, given the differences in data noted across the time series (i.e. only travel writings in the 17th century, through to details archives after the 20th century), is it justified to make conclusions relating to decadal variability in cyclones?

Technical corrections:

Remove references to modelling in the abstract and introduction. This is confusing as the study does not involve any modelling. Section 2.1 - needs a proper literature review

of the climatology of the region Section 2.2 - avoid the use of the term 'scientific plan', which seems a bit vague Section 3.1 - needs a new title Section 3.1.2 - a few issues with tenses (e.g. 'governor is appointed', 'local authority informs the king' Section 3.1.3 - it is unclear why the archives were split around 1789, as this doesn't seem to have actually affected the content of the archives Section 4.1 - the phrases 'not more numerous than before' and 'progress appreciably' are unclear Section 4.2 - final paragraph repeats what was said earlier Section 5 - section on the importance of historical data for uncovering vulnerability is outside the scope of this paper

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Interactive comment on Clim. Past Discuss., 11, 1519, 2015.