

Interactive comment on “Origin of the Hawaiian rainforest ecosystem and its evolution in long-term primary succession” by D. Mueller-Dombois and H. J. Boehmer

Anonymous Referee #1

Received and published: 4 April 2013

General comments This discussion paper is a concise, well-written summary of the successional processes in a Hawaiian rainforest and is the product of decades of research, much of it by the primary author. Most of this information exists elsewhere, but never has it all been compiled in such a clear, straightforward manner. The authors begin with a nice description of the early stages of primary succession on new lava flows, then provide an overview of the various transitional stages through dieback, cohort senescence and auto succession, and finally to long-term ecosystem development. This paper should be required reading for any class that covers the vegetation ecology of island ecosystems.

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Specific Comments As this is a discussion paper, most of the methods and results have been reviewed and published elsewhere. In particular though, I was struck by the authors success in synthesizing this information into a coherent story. Please see specific comments below:

1. Does the paper address relevant scientific questions within the scope of BG? Yes, although I admit I am not completely familiar with the scope of BG
2. Does the paper present novel concepts, ideas, tools, or data? As this is a discussion/synthesis of data collected earlier, this may not be applicable.
3. Are substantial conclusions reached? Yes, With respect to providing a better overall understanding of succession in Hawaii.
4. Are the scientific methods and assumptions valid and clearly outlined? Yes- this manuscript addressed many of the long-held assumptions and predictions for the mechanisms of the various stages of succession in Hawaiian wet forests. The authors demonstrated which assumptions were valid based on long-term data sets, as well as which assumptions still require further support.
5. Are the results sufficient to support the interpretations and conclusions? While more data would always be nice, the results reported here are generally sufficient to support the conclusions made.
6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? N/A
7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution? Yes- while there are more studies that support the conclusions made by the authors, they do note that this is a shortened version of a larger book that is due to be published soon
8. Does the title clearly reflect the contents of the paper? It is good but perhaps not great

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9. Does the abstract provide a concise and complete summary? Yes

Interactive comment on Biogeosciences Discuss., 10, 2415, 2013.

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