

Interactive comment on “Design droughts as planning tool for ecosystem establishment in post-mining landscapes” by D. Halwatura et al.

Anonymous Referee #1

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General comments: This article had used the severity-duration-frequency (SDF) of short-term and long-term droughts as a design and management tool to overcome challenges of early vegetation establishment and ecosystem resilience in Eastern Australia. The drought-analysis techniques such as different drought indices, bivariate drought distribution using copulas, and recurrence interval of drought severity and duration are very common in drought literature. However, using the results of drought analysis for planning ecosystem establishment is encouraging. But, this part is not well presented in this manuscript. This manuscript needs major revisions before it can be considered for acceptance.

Specific comments: 1. The reviewer's major concern about this manuscript is the section 4.2. This section should be the focus of this manuscript. Presentation in this
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section does not reveal how to apply the results such as Figures D1 and D2 as the management tool for ecosystem rehabilitation planning at different locations. 2. Many results are relating to Table 3 as the authors stated in pages 10 (lines 15, 17, 20), 11 (line 5), and 12 (lines 12, 18, 24). But this manuscript does not contain Table 3. The authors should check whether the wrong table number is used or Table 3 is missing in this manuscript. 3. Does the Appendix C stated in pages 11 (line 25) and page 13 (lines 2 and 5) mean Figures C1 and C2 (pages 38 and 39)? 4. The Conclusion section (page 17) should be more specific to include the obtained results of the Eastern Australia. 5. Other minor editorial suggestions: (1) Page 7, line 15. RDI₃, the I should not be typed as a subscript. (2) Page 13, line 24. “Hodgkinson and Flagship, 2010” should be “Hodgkinson et al., 2010”

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