February 27, 2023

Thank you for considering our original research article titled “Propagating uncertainty in predicting individuals and means illustrated with foliar chemistry and forest biomass” for publication in Ecosystems.

This paper builds upon earlier work published in Ecosystems by some of the same authors, in which we provided advice on how to correctly propagate uncertainty in tree allometry (Yanai et al. 2010). This new paper advances the field by demonstrating how to take into account uncertainty in both the population mean (the focus of the previous advice) and the uncertainty in predicting individuals (which turns out to be important in plots with relatively small numbers of individuals, as is common when measuring trees).

The previous paper (Yanai et al. 2010) has been cited 99 times, even though the statistics described in that paper are rather elementary. Having struggled to read papers by biometricians, I appreciate the need for papers written for non-biometricians. We have tried to eliminate jargon from this paper and to use simple language, taking under advisement the advice of one of the pickiest of biometricians, our friendly reviewer Ron McRoberts.

Finally, the original impetus for this new paper was to combat a very tempting mistake in error propagation, which is to include ONLY the uncertainty in predicting individuals (the error calculated in this manner approaches zero as the number of individuals increases). We hope that publication in Ecosystems will help all of this advice reach the greatest number of practitioners.

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