To the editors of New Phytologist,

It is my pleasure to submit a manuscript to New Phytologist entitled: “The partitioning of gross primary production for *Eucalyptus tereticornis* trees exposed to experimental warming and drought”

1. What hypotheses or questions does this work address?

How will climate warming and drought impact tree C allocation? The literature suggests that warming will increase C allocation aboveground, while drought will increase C allocation belowground. We test this for the first time using unique infrastructure allowing extensive measurements of large trees in a field setting.

1. How does this work advance our current understanding of plant science?

We address the question above using detailed measurements of growth and whole-crown flux measurements to infer the impacts of warming and drought on the C allocation of *Eucalyptus tereticornis* trees. This robustly addresses an important question in plant science in a realistic setting using large (9-m-tall) field grown trees.

1. Why is this work important and timely?

Allocation is challenging to measure, and is thus highly uncertain. Our work demonstrates that C allocation is not static, and is likely to be impacted by aspects of climate such as temperature. In particular, increased allocation aboveground in a warmer world may stimulate leaf area development and aboveground growth during conditions of sufficient soil resource supply. This manuscript is timely and important for the improvement of allocation schemes in models used to predict future climate.

Thank you for considering our manuscript. Kind regards,

-John Drake