We feel that a further response to the reviewer is required. We have separated our response into points that are germane to the paper currently under review, and some additional points regarding a previous paper that the reviewer is taking issue with (Medlyn et al. 2011).

For the paper under review:

1. We stated in the paper: "*To disentangle the potentially contributing role of D, we also estimated GPP × $D^{0.5}$ in line with the theoretical expectation of the effect of D on g_s*". The reviewer took this statement to indicate an equation. His comment indicates that our statement was insufficiently clear; we will clarify that our theoretical expectation is that ET is approximately proportional to GPP × $D^{0.5}$. This expectation is based on optimal stomatal theory (Lloyd et al. 1991; Medlyn et al. 2011) and is used in the "underlying WUE" approach proposed for eddy covariance data by Zhou et al. (2014, 2015). We will add citations to this latter work. Since this is a proportionality, not an equation, it cannot be dimensionally incorrect. As previously indicated, we will clarify this explanation thoroughly in the revised methods.
2. This proportionality is illustrated in Figure 5 of the paper. As we previously indicated, we agree that units should be added to x-axis of this Figure.
3. The reviewer dislikes the choice of the symbol "g_1" for the parameter in this equation and suggests that an alternative be chosen. While we appreciate their reasoning, we are following precedent in the stomatal literature here; a parameter g_1 with units other than mol m^{-2} s^{-1} is in common usage and has been for many years (e.g. Leuning 1990; Lloyd 1991). The nomenclature g_1 for a parameter with units $kPa^{0.5}$ as defined by Medlyn et al. (2011) has been used in a large number of papers since, and it would be very confusing to change this nomenclature now.
4. We can change the label "density" on Figure 4 to "Probability density".
5. We thank the reviewer for spelling out the hypothesis regarding the effect of temperature presented in their paper. Their hypothesis is that WUE should decline as temperature increases because of the change in specific humidity with temperature. This hypothesis is actually consistent with our baseline theoretical expectation that ET is proportional to GPP × $D^{0.5}$ where D increases with temperature. The hypothesis does not predict the divergence from proportionality under temperature conditions

that we are interested in, and hence we maintain that it is not directly relevant to the work presented here.

Additional points regarding Medlyn et al. (2011):

1. The reviewer queries equation 7, which reports an equation from Hari et al. (1986). Belinda Medlyn thanks the reviewer for highlighting this equation; unfortunately, the equation is missing the pressure term "P" from the numerator under the square root sign. After correcting the equation by adding this term, the equation is dimensionally correct. As this equation is not used in any further derivation, the missing term does not have any impact on the theory presented in the rest of the paper. We also note that the version of this equation presented by Hari et al. (1986) is in a slightly different form and expresses the vapour pressure difference in concentration units; it is also dimensionally correct.
2. In Medlyn et al. (2011), the parameter g_1 was used as a slope parameter in each of three models (Ball et al. 1987, Leuning 1995 and Medlyn et al. 2011). The parameter is different in each of these models, having a different value and different units. In retrospect, it may have been clearer in that paper to distinguish those parameters with different names (e.g. $g_{1,L}$ and $g_{1,M}$). However, that is not an issue in the current paper, which only has one equation.
3. Neither of these comments has any bearing whatsoever on the validity of the theory presented in Medlyn et al. 2011. We believe this theory has been proven to be a powerful framework for understanding stomatal behaviour, as witnessed by the large number of experimental and theoretical papers building on that work and urge the reviewer to rethink their assessment of it.