Thanks very much for your comments. We have made the suggested changes , and added some clarifying language. We admit that the uncertainty intervals on Figures 2 & 3 allowed misinterpretation. We have made revisions according to your comments and response point by point.

Please give special attention to Figure 2. In the version I see, some text remains hidden (lower left), text does not uniformly align with graphics (e.g. on the ascending side versus the descending side), etc.

Reply: We are sorry we did not realize the dislocation in last revision, and we have adjusted it to make everything all right.

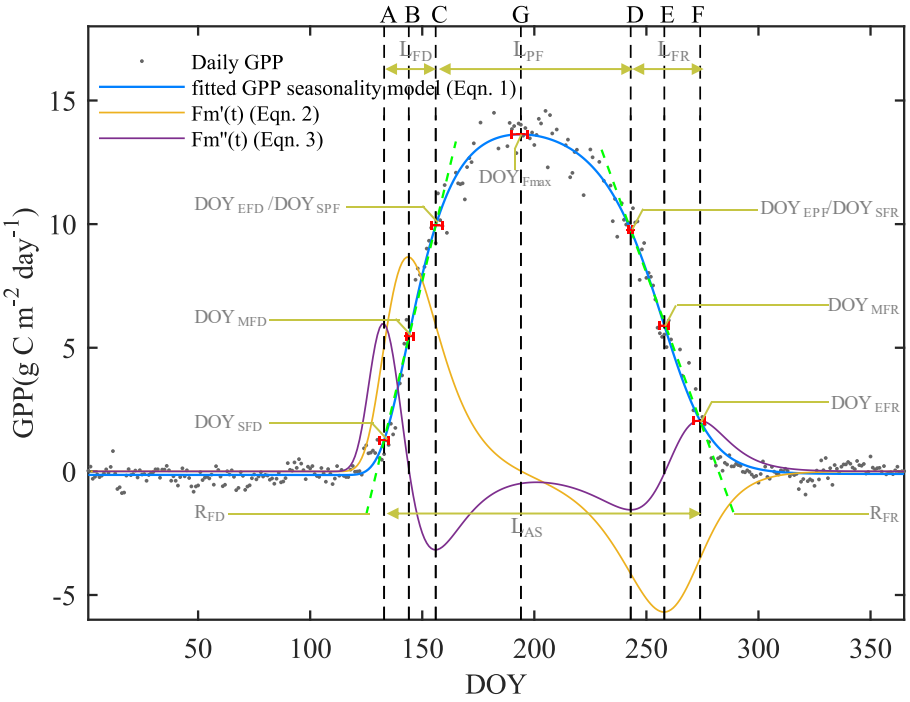


**Figure 2: An example of the seasonal dynamics of gross primary productivity (GPP), and metrics of transition points of different phases derived from the extremes of the first ($F_m'(t)$) and second ($F_m''(t)$) derivatives of the fitted logistic function (Eq. 1). For visual clarity, the scales of the first and second derivatives are enhanced 20-fold and 200-fold, respectively (orange and purple lines). The blue line indicates the double-logistic model (Eqn. 1) fitted to the observed flux time series (black dots). The slope of the green dash lines indicates the rate of change during the flux development/ recession period. The phenological transition points are marked with the vertical dashed lines, and the bootstrap estimates of 90% confidence intervals of these metrics are indicated with the horizontal red error bars about the 7 key transition points.**

Please clarify the displays of 95% CI from the bootstrapping Monte Carlo runs. In figures with red lines (Figure 2, Figure 3) identified in the labels as representing the magnitude of the 95% CI, a reader sees only a lower line, not - as most might expect. - min and max representing plus/minus 95CI. In text (lines 244, 245) authors give uncertainties in terms of days, and therefore of course always positive. But in Figs 2 & 3, one often sees negative values for 95CI and - as mentioned - only a single value rather than a range. Fix the figures, clarify that the values show by red cross hatches represent absolute values, explain how one represents 95CI with only a single line? Change something to clarify.

Reply: "The error bars refer to phenological metrics, which are time points along the X-axis. The span of the red line indicates the entire CI, from the lowest to the highest value along the X-axis. Uncertainty of fluxes (Y-axis) was not discussed in this paper. The CI are also non-symmetrical about the best estimate, as they were determined using bootstrapping. We have noted this in the legend of Figure 3 to indicate to the reader that this is correct, and not an error of alignment in plotting.

We also moved the CI markers from along the X axis onto the fitted model, and think that this will aid in the interpretation of the figure. The same change was made on Figure 2.

And we added in Lines 194-195: The uncertainties of 7 key transition dates are shown in Fig. 2, as red horizontal error bars to indicate the uncertainty intervals."

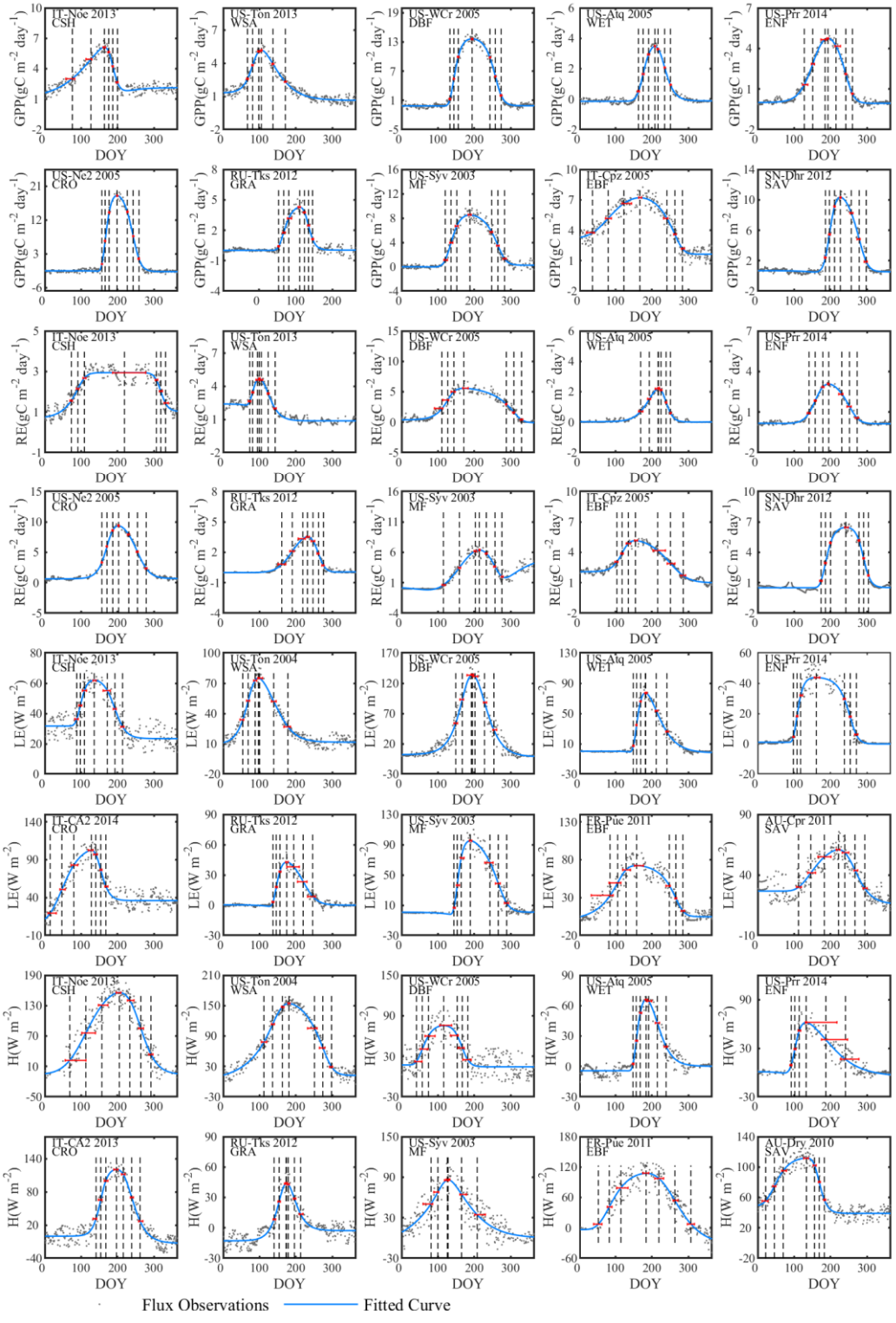

**Figure 3: Examples of the seasonal dynamics of different fluxes for 10 sites representative of different biomes. One biome, open shrubland was left off because of space limitations on a single page. The blue line indicates the double-logistic model (Equation 1) fitted to the observed flux time series (black dots). The phenological transition points are marked with the vertical dashed lines, and the bootstrap estimates of 90% confidence intervals of these metrics are indicated with the horizontal red error bar for corresponding transition points. Note that the confidence intervals are not always symmetrical to the best estimate.**