

*Supplement of*

**Satellite-derived Constraints on the Effect of Drought Stress on Biogenic Isoprene Emissions in the Southeast US**

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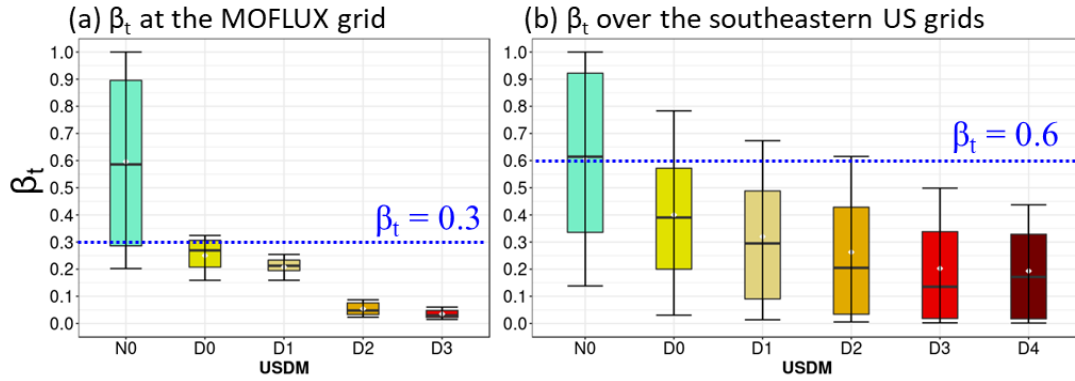
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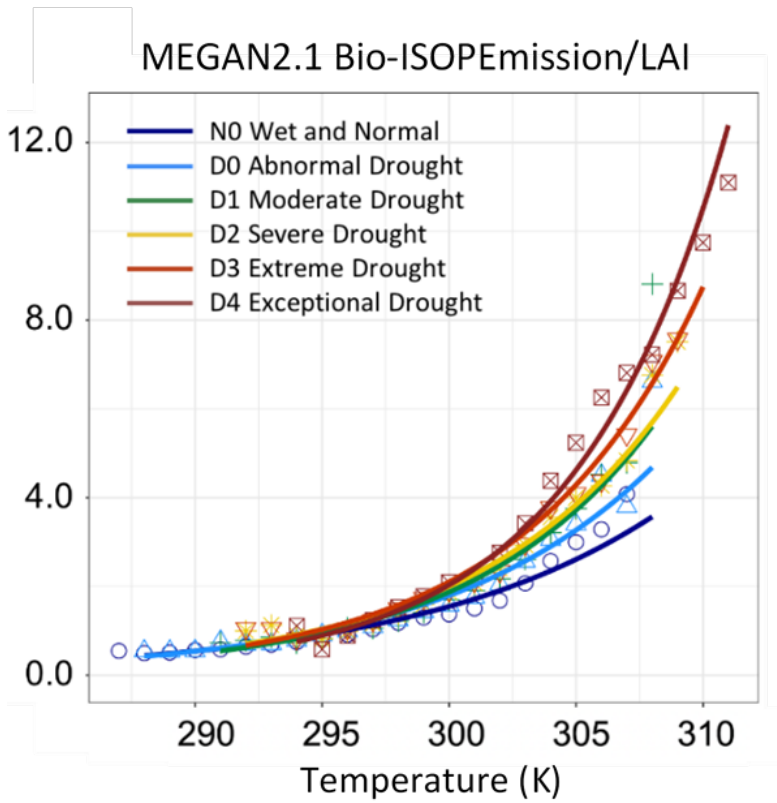
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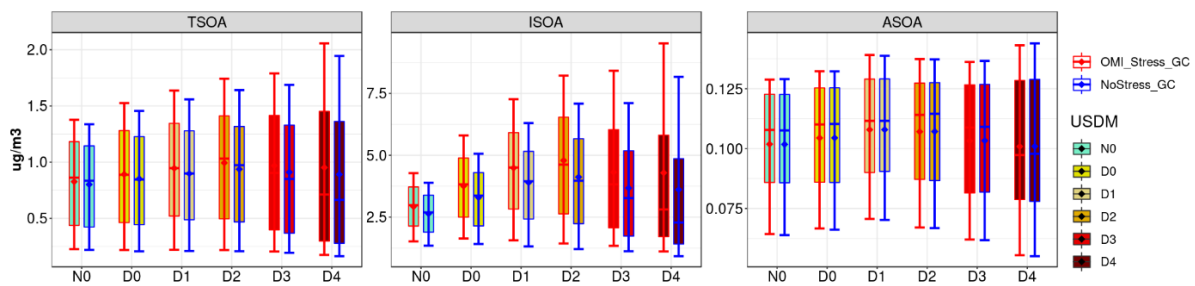
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**Figure S1.** Boxplot of  $\beta_t$  statistical distributions at the MOFLUX grid during May-September 2012 (a) and over the southeastern US grids during 2005-2017 JJA (b).



**Figure S2.** Temperature (K) response of the ratio between MEGAN2.1 biogenic isoprene emissions ( $10^{-10} \text{ kg m}^{-2} \text{ s}^{-1}$ ) and LAI (ratio Bio-ISOP Emission/LAI) for different drought levels in JJA 2005-2017.



**Figure S3.** Boxplot of three SOA components in GEOS-Chem ComplexSOA scheme for NoStress\_GC and OMI\_Stress\_GC simulations. ASOA, TSOA, and ISOA stand for anthropogenic, terpene and isoprene SOA, respectively.