Supplementary figures

S1. MEGAN architecture and main differences between versions

The main differences of MEGAN v.2.1 to MEGAN v.2.04 are:

1) v2.04 does not have soil moisture or CO2 response (but these were not used for MEGAN v.2.1 simulations in this study);

2) MEGAN v.2.04 uses a different emission factor database and has different light response algorithms (which are nearly the same for isoprene and mostly impact other compounds);

3) MEGAN v.2.04 uses different parameters in the canopy environment model.

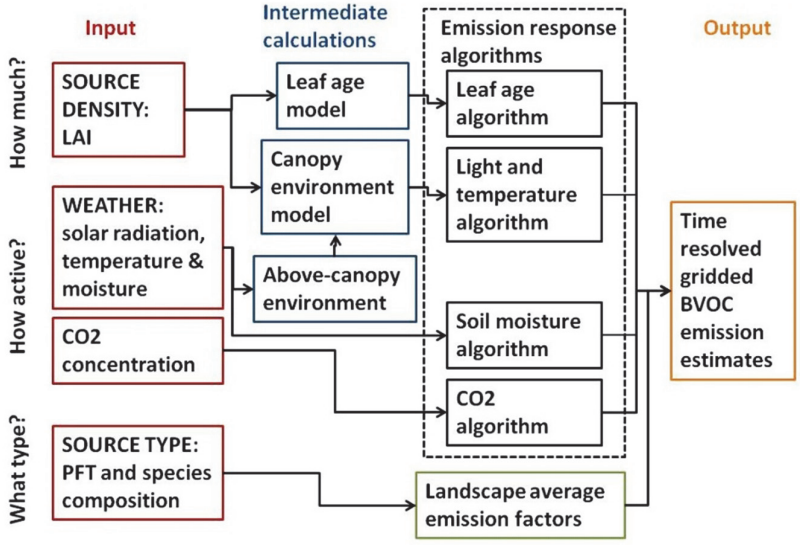

Figure S1. Schematic of MEGAN v.2.1 model components and driving variables (taken from Guenther et al., 2012).

S2. Fires may have impact on isoprene emissions

Although the study has not focused on this question, generally, the fires lead to decreased emissions, or may change emission strength if the trees regrow. This points to the need of frequent updates to the landcover. Figure S2 shows affected areas of the track were this effect would be expected.

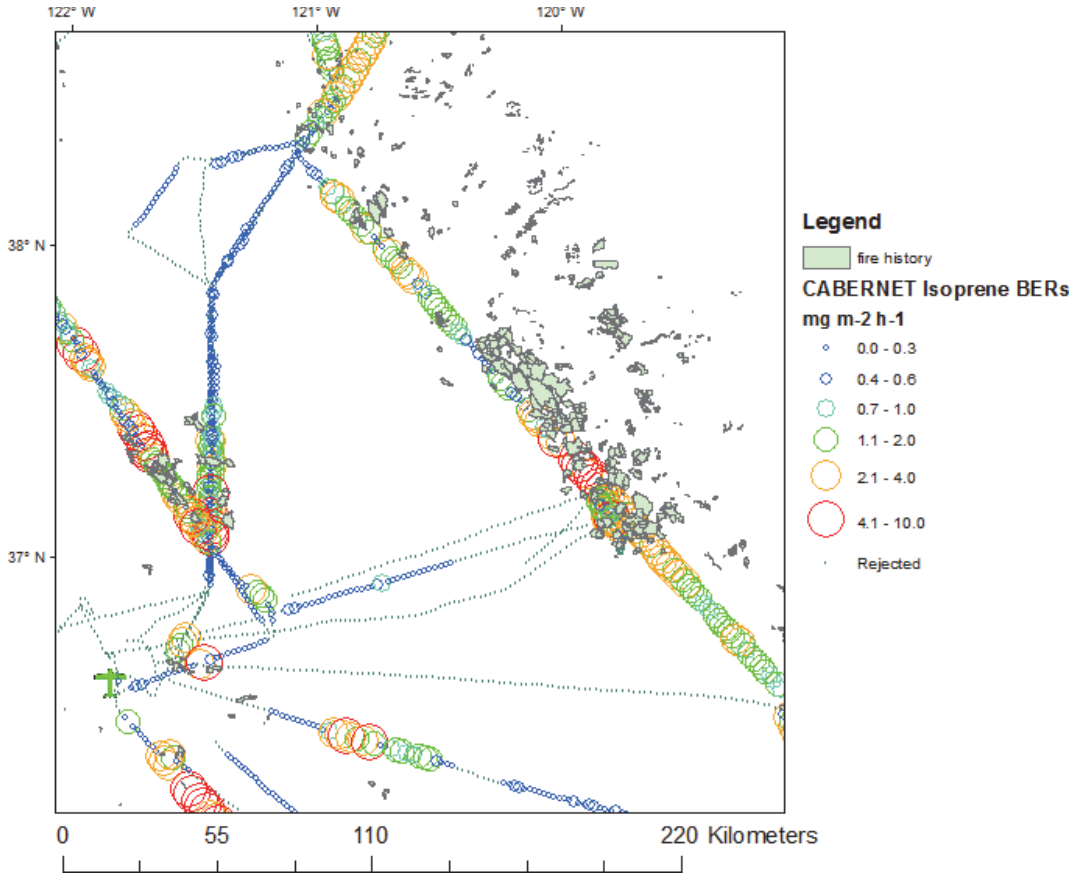

Figure S2. Part of the track showing areas previously affected by fires (fire history areas taken from CALFIRE database http://www.fire.ca.gov/).

Supplementary references:

Guenther, A. B., Jiang, X., Heald, C. L., Sakulyanontvittaya, T., Duhl, T., Emmons, L. K., and Wang, X.: The Model of Emissions of Gases and Aerosols from Nature version 2.1 (MEGAN2.1): an extended and updated framework for modeling biogenic emissions, Geosci Model Dev, 5, 1471-1492, 10.5194/gmd-5-1471-2012, 2012.