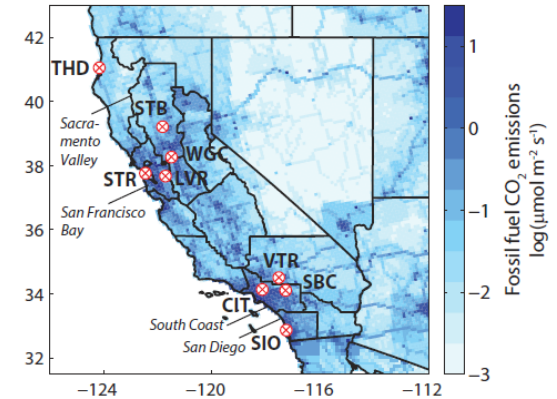


Assessing California's Fossil Fuel CO₂ Emissions Using Atmospheric Observations and Models

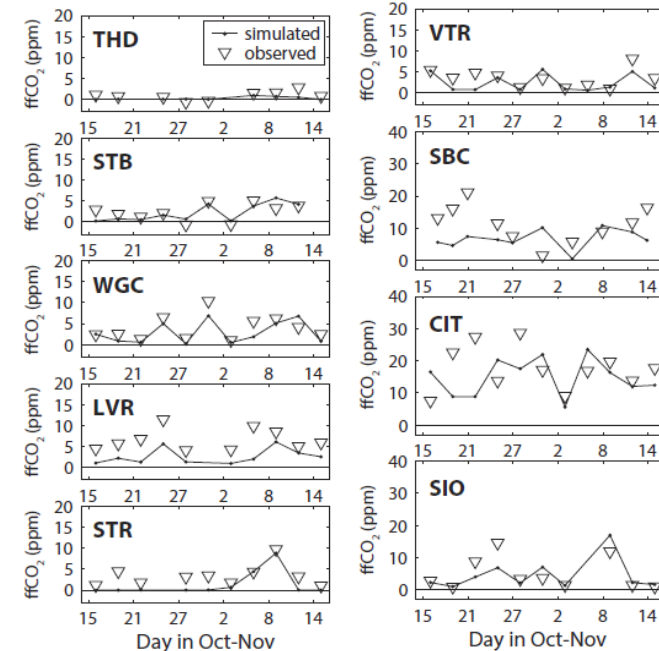
HD Graven, ML Fischer, T Lueker, S Jeong, TP Guilderson, RF Keeling, R Bambha, K Brophy, W Callahan, X Cui, C Frankenberg, KR Gurney, BW LaFranchi, SJ Lehman, H Michelsen, JB Miller, S Newman, W Paplawsky, NC Parazoo, C Sloop, SJ Walker *ERL* 2018

<https://iopscience.iop.org/article/10.1088/1748-9326/aabd43>

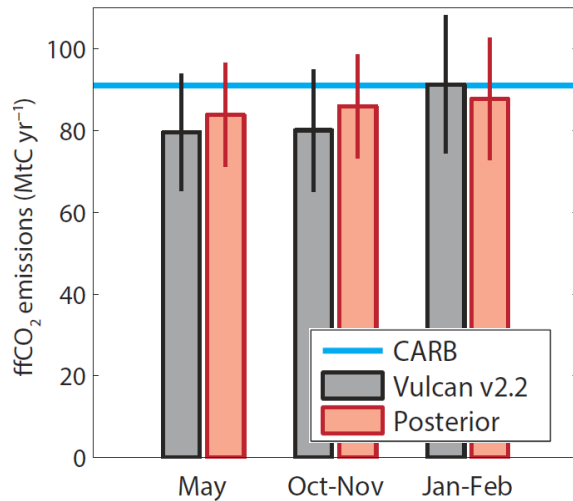
Observation sites and prior flux estimate:



Observed and simulated ffCO₂ in Oct-Nov



California State Total Fossil Fuel CO₂ Emissions



Observed fossil fuel CO₂ (ffCO₂) using radiocarbon at nine sites in California over three month-long field campaigns in 2014-15

Good agreement with ffCO₂ simulations using high resolution model (WRF-STILT) and fossil fuel CO₂ flux estimate (Vulcan)

Inverse estimates of fossil fuel emissions are consistent with Vulcan and California Air Resources Board (CARB) reported emissions

Long-term observations could potentially validate target reductions for 2020 to 2030 in California (40% for all greenhouse gases)

See also:

<https://doi.org/10.1002/2016JD025617>

<https://doi.org/10.5194/acp-2018-473>