Interactive comment on “Limited impact of El Niño – Southern Oscillation on the methane cycle” by Hinrich Schaefer et al.

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Received and published: 28 August 2018

Dear editor,

I was recently pointed to this manuscript on the role of ENSO on the methane cycle. The manuscript argues for a limited role of ENSO on the methane cycle; however, the manuscript makes little mention of two important factors that impact atmospheric methane and are strongly influenced by ENSO: (1) atmospheric transport and (2) loss via hydroxyl. These factors seem particularly pertinent to a discussion of the role of ENSO on the methane cycle. There have been a number of recent papers on these two topics in the last two years that the authors seem to have overlooked. Specifically, McNorton et al. (2016), Turner et al. (2017), and Rigby et al. (2017) showed how changes in the methane loss via oxidation by hydroxyl was an important factor in the interpretation of methane trends. More directly related to ENSO, Corbett et al. (2017) showed the influence of ENSO on the spatial distribution of methane via changes in atmospheric transport while Turner et al. (2018) showed how ENSO can strongly influence the methane lifetime.

• McNorton et al., ACP (2016): “Role of OH variability in the stalling of the global atmospheric CH₄ growth rate from 1999 to 2006”, https://doi.org/10.5194/acp-16-7943-2016.


Regards,
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