

***Interactive comment on “Analysis of CO<sub>2</sub> mole fraction data: first evidence of large-scale changes in CO<sub>2</sub> uptake at high northern latitudes” by J. M. Barlow et al.***

**Anonymous Referee #2**

Received and published: 5 July 2015

This paper has applied wavelet analysis for decomposing atmospheric CO<sub>2</sub> time series. They have then analysed the growth rates, and seasonal cycle amplitude and phase measured at various locations by NOAA. The topic of this research is interesting and ongoing for long time. Using the wavelet analysis tools, the authors did find results well established in the community. However, the authors often did not give due credits to many of the earlier studies where decadal mean growth rates have been discussed, or the other statistical tools that have been in the market for decomposing CO<sub>2</sub> time series and gap filling. This is evident from very short list of references.

For me the paper was hard to read and extract novel scientific information. All through

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the manuscript sounded like a technical document. Unless a complete overhaul is made to the manuscript, I do not see the manuscript getting published in general section of ACP. The manuscript however can be published as technical note section of ACP.

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Interactive comment on Atmos. Chem. Phys. Discuss., 15, 7089, 2015.