Geoscientific
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Interactive comment on "Twelve-month, 12 km resolution North American WRF-Chem v3.4 air quality simulation: performance evaluation" *by* C. W. Tessum et al.

Anonymous Referee #2

Received and published: 7 January 2015

In this manuscript the authors present an evaluation of the regional 12 km WRF-Chem CTM, coupled to the RACM chemistry mechanism and the MADE aerosol model. In particular, the authors present evaluation for PM2.5 and ozone. The manuscript is well written and exhaustive, and will provide an excellent reference for future studies using WRF-Chem at 12 km resolution. I do not have any major comment on the manuscript and I think that it could be published as is. agree with reviewer number 1 that seasonal statistics are more useful than annual statistics, but I do find annual statistics interesting to get a first idea of the model performances. I suggest to add some maps of the different species making up for PM2.5 to the main text. Some species are more sensitive to emission errors, other to scavenging efficiency, others result from chemistry, so

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comparing these measurements can give an idea of what is causing the bias.

Interactive comment on Geosci. Model Dev. Discuss., 7, 8433, 2014.

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