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Interactive comment on “Understanding high wintertime ozone pollution events in an oil and natural gas producing region of the western US” by R. Ahmadov et al.

Anonymous Referee #1

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The authors present a thorough analysis of the modeling of ozone in the Uintah Basin. The central outcome is that modeling of ozone in 2013 with the use of a top down emissions estimate (from measurements) is better able to reproduce episodic ozone than with bottom up emissions estimate (from inventory calculations). This is an important point in particular given the apparent lack of difference in 2012. The authors explore the importance of model setup besides emissions and provide useful observations.

The paper could be improved by some re-working of sections as noted below:

Abstract reads like a summary and could be shorter to ensure main points are not too

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diluted. Also the issue of under or over estimation is inferred from the performance of ozone modeling. Emissions are not validated directly against measurements of the given emission parameters. So the abstract has the cart before the horse.

Summary is too long and seems like an extension of the discussion of results. It also explicitly states some important points for the first time (e.g. p20322 line 9 Air quality models.....; p20323 line 21 Since the analysis.....; p20324 line 12 Our results suggest.....). The latter example is a critical point that is somewhat buried by surrounding material.

Perhaps a conclusions section would help bring the main points into clearer focus?

Finally letters labels in Figure 2 seem to be invisible.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 20295, 2014.

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