

## ***Interactive comment on “Predictive modeling of hourly probabilities for weather-related road accidents” by Nico Becker et al.***

### **Anonymous Referee #1**

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This paper is a sensitivity analysis of the most important factors which can lead to road collisions. The authors compare accident data to observed precipitation data, reanalysed data and ensemble weather forecasts then use logistical regression models to investigate which factors are most important when trying to forecast accidents in the future.

Overall the paper is interesting and well written. It uses appropriate data and the models are relevant. It is a useful paper for the scientific community. I recommend a few minor revisions before publication but otherwise happy for publication.

My comments are mainly suggestion for small edits to wording with details below: Abstract - Line 1 first word - use ‘The’ instead of ‘An’ - Line 2 - suggest ‘This study investigates hourly...’ instead of ‘We study hourly...’ - Line 8 - suggest ‘approximately’ instead

of 'about'

Introduction - Line 16 - space needed between 2016 and ( - Line 23 - add 'The' before 'aim' - Page 2, line 31 - check Mills et al reference - Page 3, line 9 - add 'The' before 'aim' - Page 3, line 16 and 17 - change 'Sect.' to 'Section'

Data - Page 4, line 4/5 - suggest 'Radar reflectives cannot...' instead of 'As from radar reflectives we cannot...' - Page 4, line 9 - suggest 'projects aim to combine the...' instead of 'projects thus aims at combining the...'

Methods - Page 5, line 15 - check brackets in equation - Page 5, line 29 - is a comma needed at end of equation? - Page 8, line 1/2 - suggest 'This allows the performance of the model for different districts to be assessed.'

Results - Page 9, line 4 - suggest 'P ranges from <0.001' instead of 'It ranges from below 0.001' - Page 9, line 25 - remove comma and include 'and' after 0 - Page 9, line 26 - clarify what 'they are' means - Page 9, line 32 - add 'a' after 'as'

Summary, discussion and conclusions - Page 13, line 24 - add 'by' after 'increases' - Page 13, line 25 - add 'the' after 'of' - Page 13, line 33 - add 'a' after 'that' - Page 14, line 3 - 'road user is rather interested in their individual...' instead of 'road used is rather interested in his individual...'

Tables and figures general comment - these should be able to stand on their own so acronyms need defining a much as possible. Table 2 - In caption refer to Table 1 for definitions of Formula variations Table 3 - de-acronym Figure 4 - can the 3 hour variations in the AUCSS be explained in the body of the text? Figure 6 - can the observed data be displayed to compare the model data to? This would be helpful to see to show that the models are a good representation and show which model set are better.

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