

Dear Sir,

We would like to thank you for your comments and for your remarks in the reviewer's reports. A new manuscript version was uploaded on the GMD website, which included corrections requested by the reviewers. A point-by-point reply to reviewer's comments is also provided.

Please do not hesitate to contact us for any further information. We wish you a pleasant holiday season.

Sincerely yours,

Abderrahmen Khalifa

Anonymous Referee #1

General comments

Very generally, I find this paper very long and very technical. I wonder if this is really necessary. It is very much report like (we did this, we did that, ...)

Answer: The paper as submitted resulted in corrections requested by reviewers, including the addition of details in equations. The paper is therefore longer but helps its readability.

A general comment as reviewer: why are text, figures and tables separated? In a printed paper these are compiled together to improve readability - why is readability not an issue when reviewers are involved? I can see no reason for such splitting - the age auf typewriter has long gone ...

Answer: The paper was submitted according to the GMD instructions to authors.

Specific – technical – comments:

Question

The abstract should focus more on the results, the outcome of the study and not list in short the content.

Answer: The abstract was modified accordingly.

Question

Line 10: Grammar? "... with all the energy interactions, with two approaches to evaluate traffic incidence on RST."

Answer: The text was corrected accordingly.

Question

Generally the language is ok, but there are still several spelling mistakes in the text.

Answer: spelling mistakes were corrected when identified.

Question

Line 58: "other ones"

Answer: The text was corrected accordingly.

Question

Line 69: textdegreeC !?

Answer: The text was corrected accordingly.

Question

Generally: between a number and a unit has to be a space (in tex \, is a good choice to achieve a fixed width). Furthermore it is ok to say for instance “between 2 and 3 °C”. I would prefer saying “between 2 °C and 3 °C”, but this is not mandatory. However, the authors are mixing the style, one time they use one style the next line the other one, this has to be harmonized.

Answer: The text was corrected accordingly.

Question

Line 81 – 82: these 2 °C two times is confusing – why not saying that the result by Paramenter & Thornes was confirmed by Chapman et al. ?

Answer: The text was corrected accordingly.

Question

Line 100: the abbreviation TEC should not be introduced in the heading but in the text (this is especially ugly as in 3.1 again the unabbreviated version is used ...).

Answer: The text was corrected accordingly.

Question

Line 116: for readability $(pc)_{road}$ is maybe nicer?

Answer: The text was corrected accordingly.

Question

Line 118: the unit is wrong: it has to be $J m^{-3} K^{-1}$!

Answer: The text was corrected accordingly.

Question

Line 123: what’s the need for this statement?

Answer: The text was changed as suggested.

Question

Line 213: I find the phrase of “Inspired by ...” somewhat crude.

Answer: The text was changed to remove the word Inspired.

Question

Line 236: “have”!

Answer: The text was corrected accordingly.

Question

Equation (13) and many other: a very general comment. Aren't these equations empirical relations? So they are not resulting from fundamental equations (like $F = m * a$); so, wouldn't it be more appropriate to use a " \cong " instead of a " $=$ "?

Answer: These equations are indeed empirical. The text was corrected accordingly.

Question

Lien 306: "The remainder ..." ???

Answer: The text was corrected accordingly.

Question

L 352: "profile"

Answer: The text was corrected accordingly.

Question

L 407: "implement"

Answer: The text was corrected accordingly.

Question

Chapter 5: Why not just say "Results" and delete discussion?

Answer: This chapter included both results and their discussion. The title is then maintained.

Question

L 457: "an urban"

Answer: The text was corrected accordingly.

Question

L 492: delete "not enough ..."

Answer: The text was corrected accordingly.

Anonymous Referee #2

Question

L118 Equation is missing an "m" for $J \text{ m}^{-3} \text{ K}^{-1}$.

Answer: The text was corrected accordingly.

Question

L161 and L162 subscript "road_wat" should probably be "road_wet".

Answer: The subscript "road_wat" stands for the presence of water.

Question

L251 What is meant by "bolting"? Traffic congestion?

Answer: Bolting indeed stands for traffic congestion.

Question

L438 and L439 In this case the dates can be easily inferred, but ofte this date notation is ambiguous with respect to days and months. Better: 20 November 2014 and 17 December 2014.

Answer: The text was corrected accordingly.

Question

L510 and L534 The authors repeatedly refer to "first approach" and "second approach", assuming the reader remembers at all times which is which. A more mnemonic naming convention would be helpful.

Answer: The text was modified accordingly with a mnemonic naming convention.

Question

Conclusions: In the conclusions I am missing a summary statement by the authors how their approach performs in practice. Does this addition to the model give better estimates of RST?

Answer: A short statement was added to the conclusion.