**CANDIDATE:**  Declan Valters (Corrections submitted August 31st 2017)

***Section 4 – DETAILS OF MINOR CORRECTIONS REQUIRED (recommendation Aii only)***

*Please provide details of any thesis corrections required, as per recommendations Aii only. If you have selected recommendations Bi, Bii, Biii, Cii or Ciii, you must provide a detailed statement separate from this report which must be agreed and signed by both examiners. See section 24 of the University’s Examination of Doctorate Degrees Policy for guidance.*

*It is important that your responses are full, clear and legible. Please type or write clearly.*

***Details of the corrections carried out are listed below under each item in the original report. Page numbers refer to the corrected thesis pdf sent with this email to the Internal Examiner.***

* There are a number of typographical errors throughout the thesis which have been clearly indicated in the hard copies which have been given back to the candidate to correct for the final hard bound thesis.
  + **These errors have now been amended following the annotations made in the thesis examination hard copies.**
* Consider re-naming Chapter 6 to be more reflective of the content of the chapter. It is essentially about how the model is setup as a pre-cursor to chapters 7 and 8.
  + **The new title of this chapter is now: “Model setup and parameterisation of two flash flood events in the UK”.**
* GRIDDED\_ and GRID\_ are used interchangeably throughout chapters 7 and 8, it would be useful to select one of these and ensure it is used uniformly throughout the thesis.
  + **“GRIDDED\_” is now used consistently throughout the thesis text and figures.**
* It would be useful to give the thesis a more reflective title as it goes beyond the current title as it also explores the erosional parameters. Also, perhaps include some indication of either the catchment names or at the very least, include ‘UK’ in the title to reflect where the study has taken place.
  + **The amended title of the thesis is: “Modelling catchment sensitivity to rainfall resolution and erosional parameterisation in simulations of flash floods in the UK”**
* Figure 5.2 is not sufficiently clear, only 2 of the lines on the graph are clear. Please ensure all lines are clearly visible on this figure for the final version of the thesis.
  + **The colour scheme on the figure has been changed, and the lines made semi-transparent to allow overlapping lines to show through more. Dashes are also used instead of solid lines so that overlapping lines can be seen better. The figure has also been enlarged to fill the full page when rotated.**
* Page 94, please outline which compiler was used and why. It does not appear to be documented within the thesis.
  + **In Section 5.3, the text has been expanded to introduce the two compilers that are used to compile the HAIL-CAESAR model. (new pp. 94-95)**
* It would be useful if the candidate could add a short paragraph at the end of Chapter 9 summarising future research plans or potential applications of HAIL-CAESAR.
  + **This has been added under a new section, Section 9.5 (new pp. 197-199)**
* Where multiple references exist by the same author, reference list to be chronological as well as alphabetical.
  + **The reference list has been fixed to be alphabetical by first author, then chronological by date where multiple references to the same author existed.**
* Need to justify choice of CAESAR as the basis for modelling.
  + **The choice of the CAESAR-based model has been justified now in a new Section 3.5. (new pp. 66-67).**
* Table from page 238 needs to go in chapter 2
  + **This table has been inserted in Chapter 2 and a reference to in the preceding text. (new p. 43)**
* Explain why you have decided to use the “wetted cells” approach rather than whole catchment in hydrological model.
  + **The reasoning for using the wetted cells approach has now been expanded on in Chapter 5, Section 5.2.3, paragraph 1 (new p. 86), as well as in Section 5.2.4 at the end of paragraph 2 (new p. 88).**
* A critical discussion is needed on figures 5.3 and 5.4. There are unexplained discrepancies in 5.3 (e.g. straight line segments) and the deviation of CAESAR Lisflood and HAIL-CAESAR in 5.4 also needs a critical discussion
  + **Critical discussion addressing these figures and their discrepancies has been added to a new Section 5.3.2 (new pp. 96-97) in Chapter 5.**
* Need an explanation e.g. page 116 of the two erosion laws used in the thesis.
  + **This has been added to Chapter 6, Section 6.4.1, explaining the two erosion laws used. (new pp. 123-124)**
* Need a critical discussion of the choice of m, particularly for the gridded dataset and the value chosen for Boscastle
  + **Critical discussion has been added to Chapter 7, Section 7.2.1, in the last 2 paragraphs, which provides more justification for the choice of the value of m for the simulations. (new p. 133)**
* Need a critical discussion of Figure 7.4 and its implications for the conclusions of the thesis.
  + **Critical discussion has been added in Section 7.4.2, last paragraph. (new pp. 160-161) explaining the difference between predicted and observed hydrographs, and the implications for this, as well as a brief discussion for the direction for future work to address these issues.**