We would like to thank the referee whose comments helped to improve our article. We answer point by point to all these remarks, and have modified our article accordingly when necessary.

On the CFL condition (Section 2.1, equation 8 in the manuscript) :

- *First, I'm not sure that the velocity u = q/h has been introduced before.*

Done

- *Why do the authors not use the less restrictive CFL condition*
- *What motivates the choice instead of the classical choice*

It was a mistake, we have corrected it in accordance with the referee's remark.

- *What is the form of the CFL condition for the 2d computations ?*

It is the one for 2D thanks to the 0.5 prefactor

On the computation of the source term (Section 2.2 in the manuscript) :

- *The authors propose a second order accurate (in time and space) discretisation of the ux term but a firrst order in time discretization of the source term. Would it be possible to propose a stable second order in time discretisation of the source term, especially for the friction term, and then to obtain global second order accuracy in Figure 4 ?*

Indeed, this is a possibility. On the other hand, the characteristic time related to friction is much longer than the characteristic time of dynamics. The time step used is therefore much smaller than the one related to friction, and therefore this friction time does not affect the error, even if it is of order 1. For the cases testing convergence of the error, the error comes mainly from the edges of the domain.

- *Rain and inltration source terms are added in the mass equation only. How do the authors justify that they have no impact on the momentum equation ?*

The ratio between the momentum brought by the rain and the momentum of the flow is of the order of R/u. The characteristic velocities for very heavy rainfall R are of the order of 100mm/hour while the fluid velocities u are of the order of 1 m/s. We can reasonably neglect the momentum brought by the rain.

- *Equations (13) and (15) should be rewritten. The equality is valid in a code where we assign a value but not in a mathematical sense.*

Done

On the comparison with analytical solutions and laboratory experiments (Section 3 in the manuscript) :

- *Since it happens in flash flood events, it would be interesting to test the software agains an analyicial solution with dry areas, as the well known Thacker test case.*

This was done for the saint solver from basilisk, from which b-flood is derived. (http://www.basilisk.fr/src/test/parabola.c) You can find many other tests made on the Basilisk solver at this address : http://www.basilisk.fr/src/test/README#shallow-water-flows .

- *I do not understand what the sentence "For adaptive renement, the error threshold is set at 5 mm on the water level field" means. Does it mean that there is only two level of renement, one for value of h lower than the threshold and one for value of h greater than the threshold ? It does not seem to be the case on the numerical results, Figure 9.*

The 5 mm threshold is the error allowed between two level of refinement. You will find more explenation on the paragraph 2.4 : Adaptative refinement.

- *"Errors" defined by (17)-(18) are not errors since they can vanish for non identical solutions. The only errors here are the L2 errors defined by (19)-(20). Another word has to be used.*

Done

- *The words "and the presence of houses" at the end of Section 3.2.1 should be removed since the houses are introduced in the next section.*

The fluvial case also includes very small houses representing the real houses of the Toce Valley. You can see them disturbing the flow by zooming in on figure 9.

- *It would be interesting to give some snapshots of the mesh at different times to see the effect of the AMR strategy.*

We added the film as additional material.

- *"We record the maximal value of the water depth field during the entire event, as shown on gure 18 highlighting the flood extent." Is it possible to have access to a map of the flood as it happens in October 2015 or at least to some data at certain location that could be used for comparison with the numerical results ?*

This is the exact subject of another article that has already been published. We have added the reference at the end of the paragraph concerning the Cannes case. This article concerns other cities of the French Riviera because no data has been collected in Cannes (to our knowledge).

- *I know it is a huge work (probably out of the scope of this paper), but it would be interesting to analyse the sensibility of the results to the friction and inltration coefficients. In particular, a first attempt could be to reproduce the same event but with a larger high vegetation zone and to see if the results are signicantly dierent or not.*

Indeed, this type of study is beyond the scope of this article. The purpose of the article is to validate the b-flood code in the case of floods. We have added the case of Cannes to show that simulating a flash flood in a sufficiently short time is possible. Since b-flood is completely free, we hope that other teams will use our software to carry out studies like the one mentioned by the referee.