Geosci. Model Dev. Discuss.,
doi:10.5194/gmd-2016-283-RC2, 2017

Geoscientific Model Development Discussions
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Interactive comment on "Itzï (version 16.8): An open-source, distributed GIS model for dynamic flood simulation" *by* Laurent Guillaume Courty et al.

Anonymous Referee #2

Received and published: 6 March 2017

This manuscript introduces an open source, GIS based hydrodynamic model. The model combines the hydrology (rainfall and infiltration) and routing in using cells and a modified version of the shallow water equations, which are previously published. The author show the results of three test case, with increasing complexity, for validation. While many of the building blocks of this manuscript have being previously published, the novel aspect of this work is the integration into a GIS platform for dealing with input data of different spatial and temporal resolutions and the ability to use absolute time references. The manuscript is well written and there is a clear description of the model and the verification of the model results. This should enable the reproduction of the results, especially with code and documents been made open source. I recommend

Printer-friendly version

Discussion paper

publication of the manuscript with a few minor changes.

Page 2, line 12: "environments" should be "environment".

Page 5, line 7-8: I suggest rewriting the line starting "Following the proposed..." to clarify the meaning.

Page 5, section 2.2: I suggest you use a different symbol for flow calculated at cell interfaces. The authors use n here and then later in manuscript n is used for Manning's n.

Page 9, line 6: What are the values of roughness coefficients used? Maybe include in Table 1.

Page 12, line 4: I suggest using a different word than "handy". Slight colloquial term.

Model Verification: The manuscript is missing details on the model simulations. How long did the simulations take? On what type of CPU? Do mass and volumes errors get calculated per timestep? If so what are these values? The additions of these details would benefit the manuscript.

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