ESSDD

Interactive
comment

Interactive comment on "A high space-time resolution dataset linking meteorological forcing and hydro-sedimentary response in a mesoscale Mediterranean catchment (Auzon) of the Ardèche region, France" *by* Guillaume Nord et al.

Anonymous Referee #2

Received and published: 8 November 2016

This work describes a comprehensive dataset that includes hydrometeorological, and hydrological data collected from a number of sensors (in situ and remote) over a mesoscale catchment in Mediterranean. The number of observed variables, the various sensors involved and the space/time resolution of this comprehensive dataset makes it a unique contribution to research community. I agree with the authors that such a dataset can serve as an excellent benchmark for evaluating and improving process based models used for understanding triggering rainfall properties, runoff generation mechanisms and erosion processes during Mediterranean floods.

My recommendation is to accept the paper for publication in ESSD journal. Below I list only some minor points/corrections that may help to improve information provided in some specific parts of the text. However, I want to share also the concerns raised by reviewer#1 regarding the conditions that may potentially apply on the use of this dataset. My understanding from reading the manuscript is that the "non public" data require simply a registration to HyMeX before they can be retrieved and used. If there is more into this (see points/concerns of reviewer#1) it needs to be clarified and dataset needs to be subsequently adjusted to include only data that are unconditionally available.

Minor points

1. P1L29: "...quantity and type of sensors", consider improve wording 2. P2L4: "...measure water discharge...", do you mean water stage or "estimate water discharge"? 3. P2L26: "Indeed, the water and sediment discharges simulated by distributed models...are generally poorer...". It is stated as a universal truth. I suggest to revise statement to mention that "many studies have shown...", for example. 4. P2L28: "this raises the question of the improvement...." Improve wording/syntax. 5. P3L6: "...to exceed the current limitation..." consider changing this to "to improve distributed models" or "to address current limitations" 6. P3L16: I am not sure about the "leaser extent on-board satellites...". What is the basis for stating that? Especially since you are referring to rainfall all around the world where in many parts satellites are the only source of information. 7. P3L21: "rainfall is not steady..." what do you mean by stead rainfall? 8. P3L22: "..the scales of operational rain gauge...". I am not sure what is your reference here but at a global level the typical temporal scale of rain gauge observations is daily. 9. P3L24: "operational radars is essential", for what? The sentence ends rather abruptly. 10. P4L25: Have you previously define what SOP and EOP stands for? 11. P7L19:which one is the MXPol? Is it the EPFL-LTE? It is a bit confusing. 12. P8L12:"..is made thanks to a Hobo..." consider revising and avoiding "thanks to" 13. P14L27: Not clear what you mean by "radar-rain gauge" here.

Do you refer to a merging technique? OR just a geostatistical-based interpolation to obtain "radar-like" QPE from gauges. Please clarify. 14. P15L31: "...we saw during the events of the 2014", how did you see that? Please explain. 15. P16L12-13: NSE and PBIAS are not defined previously. 16. P16L22: "5-10 yr return period". This is interesting and I am wondering what is the basis for this estimate? Are there any flood frequency curves available for the area? It would be interesting to have this infor for other flood events in the record. 17. P17L28: "...quality (size, fall velocity...", please revise because size and velocity of hydrometeors is not a qualitative measure.

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