

# ***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 #1**

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The manuscript submitted by Nord et al. describes a dataset for the Mesoscale Auzon catchment. The dataset contains numerous time series (starting 2011) and geodata related to meteorology, hydrology and geomorphology/soil sciences. Most data was acquired within the HYMEX project and have already enabled numerous scientific publications.

general comments ————— The submitted manuscripts describes a dataset of impressive extent: To my knowledge, the associated collection is unique in sheer size, detailedness and aspects covered for a catchment at this scale. Numerous studies

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have already built upon this data; opening it to the public will doubtlessly maximize the scientific payoff of the measurement efforts. While some parts of the data may have been available before (e.g. via MISTRAL database and related DOIs, Llasat et al. 2013a,b), the well-written manuscript creates a thorough overview of the available information. The data is mainly stored within the well-designed MISTRAL database in well-documented and common formats. The suggested\* "bundled data" further facilitates the already quite convenient access for the reader. I am convinced that the scientific community will gratefully accept this valuable contribution. While I suggest (mainly cosmetic changes) to the manuscript itself, I ran into several issues concerning the accessibility, completeness and consistency of the data. None of these do severely impair the scientific value, but will still require amendments. Since I could not access many referenced files, subsequent revisions may reveal further issues in these. I recommend moderate revisions.

specific comments \_\_\_\_\_ (The annotated PDF contains numerous, mostly minor comments and details for the points raised here.) 1. The number of authors seems unduly high. However, considering the tremendous measurement effort involved it MIGHT still be warranted. The editor should make a decision on this. 2. The manuscript is relatively long (39 pages). ESSD states that "Long articles are not expected." However, apart from the introduction (see below), the examples (see below) and some figures I could not identify any obsolete content. 3. intro could be shortened and better structured. Suggestion: identify three main potential usage groups for the dataset (i.e. process understanding, model development/testing, management support). Then briefly outline concrete scientific questions/studies for these categories. The current line of thought is somewhat erratic. 4. The manuscript claims "All the data presented here have undergone careful (mostly manual) quality assurance." It would be helpful to elaborate, wherever possible, what exactly this means, ie what aspects/error sources were screened. Since I ran into several flaws by random checks, this needs to be clarified. 5. Section 4 gives examples of use of the data. While these examples are certainly interesting, it seems there are also numerous other studies



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based on the dataset. Thus, instead of picking examples, an overview table listing the key questions addressed using the data and the corresponding publications would be more useful and streamline the paper. If, however, this section is to be remain, some details of the examples need better explanations. 6. minor issues about soil moisture measurement description 7. The stream gauges feature multiple redundant systems. It is not fully clear, which of the reported devices were used in the end. 8. I could not find any explicit statement on this, but it appears that at least some of the instruments are still running. This should be stated, wherever possible. In that context, the MISTRAL website suggests that the respective data is still being supplemented. On the one hand, further extending the data is certainly useful. On the other hand, in the context of reproducibility and benchmarking, it needs to be stated if and how "old" versions of the data are preserved (example: Scientist XY uses discharge data for a study, HYMEX team later performs more Q-measurements and updates hQ-relationship and Q-series.) 9. Exhaustively scrutinizing the provided dataset is beyond my time and knowledge limits. Instead, I have sampled 21 features listed in Tables 5 and 6. Of these, I could not find any flaws for 2, but ran into multiple access and data consistency issues for the others (for details see `test_access.xlsx`). Similar (or other) issues may also affect the dataset I did not check. General issues: a) information on timezones (UTC, CET, CEST?) should be provided wherever possible \*b) Providing "bundled data" seems to be a very useful idea. I could not abstract how to obtain these bundled data in the respective zip files, though. c) turbidity data is more useful when SSC-samples are provided d) Some data mentioned in the manuscript are apparently not part of the publication (e.g. geology map). It should be made clear wherever this is the case. e) The provided information on publication policy is misleading. From the entries I tested, only one required no registration and was truly public. Conversely, many datasets labeled as "Associated scientist" were completely inaccessible for me.

Please also note the supplement to this comment:

<http://www.earth-syst-sci-data-discuss.net/essd-2016-32/essd-2016-32-RC1>

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