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Interactive comment on "Monitoring ephemeral, intermittent and perennial streamflow: A data set from 182 sites in the Attert catchment, Luxembourg" *by* Nils H. Kaplan et al.

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Dear Referee,

Thank you for your helpful comments and questions to our manuscript. We appreciate your recommendation for the publication of the dataset. Please find your questions and comments marked as e.g. « R2.C1: question/comment» followed by our answer marked as e.g. R2.A1: below.

Best regards, Kaplan et al.

« R2.C1: Geodata When it comes to the geodata I have some questions regarding the

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description of the file. »

R2.A1: Thank you for your justified questions regarding the information of the geodata. We will clarify the data description and update a revised data description. My suggestion is to update the “Methods” section in the data-description with a new paragraph “4.4 Geodata” with a detailed description of the geodata processing. Please find your questions answered below.

« R2.C2: The file contains catchment area (c_area). I’m missing the unit. m2, ha, sqr feet? »

R2.A2: The catchment area’s unit is m2, we will add it to the data-description.

« R2.C3: How was it calculated? Using a DEM? »

R2.A3: GIS analyses were performed using QGIS and SAGA on a 15 m resolution digital elevation model (DEM), which is based on a combined 5m resolution LIDAR scan of Luxembourg (Modèle Numérique de Terrain de Luxembourg, Le Gouvernement du Grand-Duché de Luxembourg, Administration du cadastre et de la topographie, 5m LIDAR, https://data.public.lu/en/datasets/bd-l-mnt5/) and 10m resolution LIDAR scan of Belgium (Relief de la Wallonie - Modèle Numérique de Surface, Service public de Wallonie, Département de la Géomatique. 10m LIDAR, http://geoportail.wallonie.be/catalogue/6029e738-f828-438b-b10a-85e67f77af92.html). The generated 15m DEM has been pre-processed by burning in the digitalized stream network (min. border cell method, epsilon = 3) and filling sinks (Wang Lui algorithm, minimum slope = 0.1°). The catchment area was calculated by using the pre-processed DEM with 15m resolution and the catchment area recursive tool from the SAGA toolbox using the D-8 method.

« R2.C4: Is it possible to also share the catchment boundaries? »

R2.A4: We never calculated catchment boundaries of complete (nested) subcatchments. We calculated the catchment boundaries using the “Watershed” tool from

the ArcGIS toolbox. This results in a raster layer showing the areas which belong to each part of a sub-catchment between the pour point and the corresponding upstream pour point(s). Without the information of stream network and the longitudinal topology between the sub-catchments the data does not enhance visual exploration of the data. Although to our knowledge there is no standard GIS function available which derives individual catchment boundaries for multi points, we will try to add a dataset with shape-files for each site containing the catchment boundaries.

« R2.C5: slope_avg; I'd like a more thorough description in the pdf of the average slope, average of what? »

R2.A5: This is indeed not self-explanatory. We will include a more detailed description in the new paragraph "4.4 Geodata". Slope average is the average slope of the sub-catchment for the specific site.

« R2.C6: How was slope calculated? »

R2.A6: The "slope, aspect, curvature" tool from the SAGA toolbox was used to calculate the slope with the 9 parameter 2nd order polynom method (Zevenbergen & Thorne 1987) which uses a 3x3 pixel window of the DEM to calculate the slope. Degree and radians were both calculated. In this geodata the radians have been included. We will add this information to the description file.

« R2.C7: Based on a DEM, what resolution? »

R2.A7: The same DEM which has been used to calculate the catchment area was used to calculate the average catchment slope. We will clarify this in the revised manuscript.

« R2.C8: In radians or degrees? »

R2.A8: Radians are included in this dataset. Including also degrees would be convenient, but can easily be calculated from radians.

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