

Interactive comment on “Water-balance and hydrology research in a mountainous permafrost watershed in upland streams of the Kolyma River, Russia: a database from the Kolyma Water-Balance Station, 1948–1997” by Olga Makarieva et al.

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We appreciate the comments of Dr Restrepo and his support of the idea of the Kolyma station reviving. Below we provide the corrections and responses which were made according to Dr Restrepo's comments.

Editorial comments/suggestions: 51: it would be good to have the geographic coordinates at the beginning. The coordinates were added (line 49)

163 and 164: Do you mean “. . .Osipiev AND the hydrologist-technician. . .”? Yes, exactly. Corrected accordingly (line 195)

166: what does it mean partially? Only part-time? Clarified, line 197

170: what do you mean by rationalization of the network? We changed from rationalization to optimization meaning the establishment of rain gauges in new locations and shutting down some non-representative rain gauges (lines 201-203)

172: what are the sensors included in the water balance sites? Water-balance plot is the part of the slope bordered by walls and equipped with devices to intercept and account for surface and subsurface runoff and soil erosion. The plots were equipped with the trays which allowed for flow accounting from surface and different soil horizons. Water from the water intake trays enters the measuring pavilion, where flow is measured in tanks equipped with “Valdai” water level recorders, as well as needle and hook water level gauges. Additionally precipitation was measured by Tretyakov gauge and pluviometer, also snow depth and density at several points, and thaw/freeze soil depth. In presented database we do not publish the data of water-balance plots, therefore their description is skipped.

196: max and min temperature? No, only mean daily air temperature was published in the Observation Reports and is presented in the database.

214: cliff? Do you mean slope? Cliff is almost vertical, too steep to have a station there. Cliff is changed to slope (line 246)

223: What do you mean by “The angle of the horizon is 4 224 degrees”? This is the special characteristic of the location of meteorological station describing its position towards large obstacles (buildings, forest, hills). It is used in Russian climatology for correction or estimation of such meteorological elements as wind, sun radiance, etc. We eliminated this characteristic from the text because it is too specific and would require long explanation.

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415: eliminate "could" from the sentence Corrected

425: "Considering the insufficient. . ." Corrected

Figures 5, 6 and 9 should have a source cited. All captions of the figures containing historical photos are corrected by citing the source of photos.

Also, Figure 9 appears as Figure 7 in its caption. Corrected

You use "till" instead of "until". While "till" is correct, it is every informal. I recommend that you change it to "until" on technical papers. It is similar to using "gonna" instead of "going to" Corrected

Please also note the supplement to this comment:

<https://www.earth-syst-sci-data-discuss.net/essd-2017-125/essd-2017-125-AC3-supplement.pdf>

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2017-125>, 2017.

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