

Correction

Correction: Aga, A.O. et al. Estimating the Sediment Flux and Budget for a Data Limited Rift Valley Lake in Ethiopia. *Hydrology* 2019, 6, 1

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The authors wish to make the following corrections to this paper (Aga et al., 2019 [1]): There were texts that were not properly cited, rephrased or references missing in the course of revisions. The authors would like to apologize for any inconvenience caused to the readers by these changes.

1. Change in Main Body Paragraphs

We have recently become aware that there were some errors and omissions in the Introduction, Methodology, and Discussion sections of our recent paper. These changes are on rephrasing as well as providing a better presentation of some of the sentences in this paper. Background information taken from other sources is properly cited or rewritten. No results are changed.

Page 1, Abstract section, Lines 7 to 9, currently reads as follows:

“Sediment yield (SY) of ungauged rivers were assessed by developing and using a model that includes catchment area, slope, and rainfall, whereas bedload was estimated. As a result, the gross annual SY transported into the lake was”

To set straight the scientific record we would like to make the following corrections:

“The contribution of the ungauged basin was estimated by developing a model that included the terrain attributes and measured sediment yield (SY). The bedload of the rivers was estimated and the total amount of sediment transposed into the lake was calculated as”

Page 1, Abstract section, Lines 11 to 14 currently reads as follows:

“The annual sediment deposition in the lake is 2.039 Mton/year with a mean sediment trapping efficiency of 98%. Based on the established sediment budget with average rainfall, the lake will lose its volume by 0.106% annually and the lifetime of Lake Ziway will be 947 years.”

To set straight the scientific record we would like to make the following corrections:

“As a result, the net sediment deposition rate of the lake was estimated as 2.039 Mton/year and its trapping efficiency was 98%. Accordingly, the lake is losing its volume by 0.106% annually and the half-life of the lake is estimated as 474 years.”

Page 1, Introduction section, the 1st paragraph, Line 2, currently reads as follows:

“It is estimated that 1% to 2% of the existing storage volume of reservoirs in the world is lost each year due to sedimentation.”

To set straight the scientific record we would like to make the following corrections:

“Some reports show that reservoirs are losing about 1–2% of their volume annually due to sedimentation”

Page 1, Introduction section, the 1st paragraph, Lines 11 to 14 currently reads as follows:

“Hence, sediment budgeting for lakes is useful to identify the dominant catchment processes and estimate the rate of deposition [4], and it comprises identification and quantification of the sources, pathways, and sinks of eroded material within a catchment [5]. Conceptually [6], a sediment budget consists of three major components: sediment inflow (i.e., eroded soil or sediment yield (SY) transport into depositional area), outflow (i.e., sediment load exported from a depositional area), and the change in storage.”

To set straight the scientific record we would like to make the following corrections:

“Estimating the sediment loads of lake basins is important to assess lake siltation, identify sediment source areas, plan watershed management programs, and evaluate the effect of sedimentation on water resources [4,5]. Sediment budget estimation of watersheds will require identifying major sediment sources (upland erosion, gully or channel erosion, riverbank erosion, and also river bed contributions) [6].”

Page 1, Introduction section, Paragraph 2, Lines 1 to 2 currently reads as follows:

“Hence, studying the sediment budget of the basin is necessary to obtain more realistic information regarding the rate of siltation and the implications of the annual loss of lake storage over time.”

To set straight the scientific record we would like to make the following corrections:

“Tackling sedimentation in water bodies will require a research-based approach to properly understand the processes that govern the sediment detachment, transport, and deposition.”

Page 2, Introduction section, Paragraph 2, Lines 3 to 8 currently reads as follows:

“While different erosion and sediment yield prediction methods are in use, no single catchment erosion and sediment yield prediction method can be presumed to be applicable to all possible conditions [25,26]. All methods have limitations and advantages, and the choice of method to apply should consider a number of influencing factors. These factors include catchment characteristics, site conditions, ecological considerations, dam engineering requirements, availability of time, economics, data requirements, and data availability. Hence, studying the sediment budget of the basin is necessary to obtain more realistic . . . ”

To set straight the scientific record we would like to make the following corrections:

“There are a number of empirical and non-empirical approaches to quantify sediment yield of watersheds but none of them are believed to be applicable to all watersheds [25,26]. The absence of a robust approach for estimating sediment yield will necessitate the use of modified approaches that take in to account the topography, soils, land cover, watershed management, and other factors.”

Page 2, Introduction section, Paragraph 2, Lines 8 to 15 currently reads as follows:

“It is cumbersome to obtain the required data for these models [31]. The reason is that these models were originally developed for areas that have large amounts of data; and almost all of the models need intensive data with many parameters that might be available centrally in developed countries but not in developing countries such as Ethiopia. Next to modeling, direct sampling of sediment in rivers and using sediment transport equations are among the popular means of estimating sediment loads and their respective transport. While direct measurement is the most preferred and trusted method, it is not always practical; it is expensive and laborious. For most rivers, observed data are limited and fragmented.”

To set straight the scientific record we would like to make the following corrections:

“It is believed to be difficult to acquire the complete datasets for these models [31]. Most of the sediment modeling tools were developed for data-rich areas making them less applicable in data-scarce regions of the world. While field measurement of sediment load is reliable, it is not always feasible since it is expensive and time-consuming.”

Page 2, Introduction section, Paragraph 3, Lines 1 to 5 currently reads as follows:

“In addition, there is a connection between semi-distributed models and rating curves in sediment studies. Rating curves have been used to validate models. Previous simulations to predict sediment load in the Lake Tana basin [39–41], and in the Lake Ziway basin [42], used sediment load rating curves to generate the observed sediment load data for calibrating and validating the sediment load In the Soil and Water Assessment Tool (SWAT).”

To set straight the scientific record we would like to make the following corrections:

“In addition, sediment rating curves have proven to be useful for estimating sediment loads from ungauged watersheds. They are also useful for validating sediment yield models. A number of researchers have used sediment rating curves in the Lake Tana basin [39–41] and Lake Ziway [42] to generate observed sediment data in places and periods where there are no field data. This has also been used for calibrating and validating sediment simulations in models like Soil and Water Assessment Tool (SWAT).”

Page 2, Introduction section, the last paragraph, Lines 1 to 2 currently reads as follows:

“Hence, studying the sediment budget of the basin is necessary to obtain more realistic information regarding the rate of siltation and the implications of the annual loss of lake storage over time.”

To set straight the scientific record we would like to make the following corrections:

Remove the sentences.

Page 3, Introduction section, the 1st paragraph, Lines 3 to 4 currently reads as follows:

“(2) estimate overbank sedimentation on the floodplains of the Lake Ziway tributary rivers; and (3) establish a sediment budget of the lake.”

To set straight the scientific record we would like to make the following corrections:

“(2) calculate the sediment flux rates of the lake tributary rivers; and (3) determine the sediment accumulation rates of the lake.”

Page 3, Study Area (Location and Topography) section, the 1st paragraph, Lines 1 to 2 currently reads as follows:

“Lake Ziway is located in the Central Ethiopian Rift Valley basin (Figure 1), where it fills a depression at an elevation of about 1637 m above sea level.”

To set straight the scientific record we would like to make the following corrections:

“Lake Ziway is located at the northern end of the southern Rift Valley (Figure 1).”

Page 3, Study Area (Climate) section, the last paragraph, Lines 1 to 3 currently reads as follows:

“The long-term (1987–2016) mean annual rainfall of Arata, Bekoji SF, Ketera Genet, Kulumsa, Meraro, Ogolcho, Adamitulu, Bui, Butajra, Koshe, Maki, and Ziway meteorological stations ranges from 620 to 1225 mm, and the”

To set straight the scientific record we would like to make the following corrections:

“There are twelve meteorological stations within and near the basin namely Arata, Bekoji SF, Ketera Genet, Kulumsa, Meraro, Ogolcho, Adamitulu, Bui, Butajra, Koshe, Maki, and Ziway; and their long term (1987–2016) mean annual rainfall ranges from 620 to 1225 mm. The”

Page 4, Study Area (Climate) section, Figure 2 currently reads as follows:

“Average annual rainfall depth (1989–2016) in the Lake Ziway basin based on the inverse distance square interpolation method (IDW) of data using nearby meteorological rain gauge stations.”

To set straight the scientific record we would like to make the following corrections:

“Spatially interpolated long-term average annual rainfall depth (1989–2016) of the Lake Ziway basin.”

Page 4, Study Area (2.4. Geology, Soil, and Land Use) section, the 1st paragraph, Lines 1 to 4 currently reads as follows:

“The geology of the basin is mainly dominated by basalt. This basaltic group is comprised of Wonji and Silte volcanics. The Wonji lava field is located at the eastern escarpment of Lake Ziway, and the other lava field, Silte, is located at the western escarpment [49]. Next to basalt, alluvial deposits are also scattered around the lake.”

To set straight the scientific record we would like to make the following corrections:

“The geology of Lake Ziway basin is divided into four major groups of rock units that are based on age-Precambrian to Early Paleozoic crystalline basement succession rock, Mesozoic sedimentary rock, Oligocene to middle Miocene pre-rift volcanic rock, and middle-Miocene to Holocene syn-and post-rift volcanic rock and unconsolidated sediments [47,49].”

Page 6, Methodology (3.2. Field Data Collection) section, the 1st paragraph, Lines 1 to 4 currently reads as follows:

“For the collection of suspended sediment (SS) samples, the total stream width was divided into four equal widths, and individual depth-integrated samples were collected at the centroid of each increment.”

To set straight the scientific record we would like to make the following corrections:

“Suspended sediment samples (SS) were collected by dividing the river into four cross-sections of equal width and then samples were collected at different depths from each of the four sections.”

Page 6, Methodology (3.2. Field Data Collection) section, the 1st paragraph, Lines 7 to 10 currently reads as follows:

“Individual samples from each centroid were kept primarily in one-pint glass bottles, with each vertical increment generally contained within a single bottle. Care was taken not to overfill the sample bottle. If a bottle was inadvertently overfilled, the contents were discarded, and the vertical increment was re-sampled.”

To set straight the scientific record we would like to make the following corrections:

“Each of the samples from the different depths and cross-sections was kept in a 1-pint glass bottle without overfilling the bottles. Any overfilled sample was discarded and resampled.”

Page 6, Methodology (3.2. Field Data Collection) section, Paragraph 2, Lines 2 to 3 currently reads as follows:

“For the Gravimetric methods involve filtering the sediment from a known sample volume using a vacuum filtration process [52].”

To set straight the scientific record we would like to make the following corrections:

“Vacuum filtration process was employed in the gravimetric method for filtering sediment from the samples [52].”

Page 9, Methodology (3.4. Estimating the Sediment Deposition on Rivers Floodplains) section, the title currently reads as follows:

“3.4. Suspended Sediment Load Deposited on Floodplains”

To set straight the scientific record we would like to make the following corrections:

“3.4. Estimating the Sediment Deposition on Rivers Floodplains”

Page 9, Methodology (3.4. Estimating the Sediment Deposition on Rivers Floodplains) section, the 1st paragraph, Lines 1 to 8 currently reads as follows:

“Due to periodic flooding and sediment deposition, large areas of floodplain in the eastern and western parts of the Lake Ziway basin were formed on top of the exhumed lake deposits [56]. Overbank sedimentation on floodplains can result in a significant abstraction of the suspended sediment load transported by a river, and thus, represents an important component of the catchment sediment budget [57]. As shown in Figure 5 below, there is the phenomenon of floodplains along the rivers and sand mining activities across sections of the rivers. Hence, the soil lost on the floodplains needs to be quantified. However, no study has been done in the Lake Ziway basin to estimate the amount of sediment deposited on its floodplains.”

To set straight the scientific record we would like to make the following corrections:

“Floodplain upstream of the lakes can serve as sediment trapping areas as large alluvial soils can be deposited by rivers [38]. The two tributaries of Lake Ziway drain a large part of the floodplain (Figure 5) which retains most of the sediment transported and can be used as a site for intensive sand mining activities across sections of the rivers [56].”

Page 9, Methodology (3.4. Estimating the Sediment Deposition on Rivers Floodplains) section, Paragraph 2, Lines 1 to 12 currently reads as follows:

“To quantify the deposition rate on floodplains and river channels, suspended sediment and discharge measurements were taken at the upper and lower monitoring stations of the Maki and Katar rivers (i.e., Duguda and Maki town stations for Maki River and Fite and Abura for Katar River, Figure 4), which cross large floodplains in the low-lying catchment areas and have a length of 41.6 and 37.5 km inside of Maki and Katar, respectively. Deduction of

the sediment yield at the lower gauge station from that at the upper station results in the sediment load (Load A) deposited on parts of the floodplains and river channels that lay between the two stations. To estimate the sediment deposited in the parts of floodplains and river channels that are located in between the lower monitoring station and the lake (Load B), the deposition rate per unit river length is assumed constant along the river reach. Then, the values of Load B were estimated as:

$$\text{LoadB} = \frac{\text{LL1}}{\text{LL2}} \times \text{loadA} \quad (6)$$

where LL1 is the length (Km) of the river reach between the two gauges and LL2 is the length (Km) of the river reach between the lower station and the lake."

To set straight the scientific record we would like to make the following corrections:

"In the lake basin, the sediment trapped in the floodplain is a yield for the basin but it is not the budget for the lake [38,57], which needs to be quantified. To do this, the suspended sediment concentrations were collected on the lower and upper gauging stations of the two tributary rivers (Maki and Katar). For the case of Maki, the gauging stations Duguda and Maki were selected and for Katar, Fite, and Abura, gauging stations were also selected. The length between the two gauging stations Duguda and Maki was 41.6 km and between Fite and Abura it was around 37.5 km. To estimate the sediment deposited on the river channels per length, the sediment yield estimated in the upper gauging station is deducted from the lower gauging station and divided by the river channel length as follows:

$$\text{Sediment Loss Per Length} = \frac{\text{Load of upper gauging station} - \text{lower gauging station}}{\text{The length of the river reach between the two gauge}} \quad (6)''$$

Page 10, Methodology (3.4. Estimating the Sediment Deposition on Rivers Floodplains) section, the 1st paragraph, Lines 1 to 2 currently reads as follows:

"Finally, Load A and Load B were summed to produce the net sediment mass deposited on floodplains that border the river."

To set straight the scientific record we would like to make the following corrections:

"Lastly, to estimate the net amount of sediment transported into the lake, the average per length loss rate calculated in Equation (6) is multiplied by the distance between the lower station and the lake."

Page 10, Methodology (3.6. Suspended Sediment Outflow from Lake Ziway) section, the 1st paragraph, Lines 1 to 8 currently reads as follows:

"Hence, the annual suspended sediment yield from ungauged catchment was estimated by establishing an empirical regression model that relates sediment yield of the gauged stations to several catchment characteristics, namely drainage area, slope, and average annual rainfall amount. The three explanatory factors were calculated for gauged and ungauged river catchments, i.e., areas of catchments and slope were processed from the digital elevation model (DEM) and their mean annual area rainfall was calculated based on the inverse distance weighted interpolation of the nearby meteorological stations (Figure 2)."

To set straight the scientific record we would like to make the following corrections:

"Hence, the contribution of the ungauged basin was estimated by developing an empirical model that relates the terrain attributes, namely drainage area, slope, and average annual rainfall with sediment yield [38]. From this, the three explanatory factors, the area, and slope of the ungauged basins were extracted from the 30 × 30 DEM of the basin and the mean annual rainfall was determined from the basin area rainfall depth map (Figure 2)."

Page 9, Methodology (3.6. Suspended Sediment Outflow from Lake Ziway) section, the title currently reads as follows:

“3.6. Suspended Sediment Outflow from Lake Ziway”

To set straight the scientific record we would like to make the following corrections:

“3.6. Sediment Trap Efficiency of Lake Ziway”

Page 10, Methodology (3.7. Estimation of Bed) section, the title currently reads as follows:

“3.7. Estimation of Bed”

To set straight the scientific record we would like to make the following corrections:

“3.7. Bedload Estimation”

Page 10, Methodology (3.7. Estimation of Bed) section, the 1st paragraph, Lines 2 to 6 currently reads as follows:

“However, in most studies in Ethiopia, the bedload component is frequently ignored due to measurement constraints [58–60]. In most rivers, bedload to suspended load ratio is in the range of 10% to 30% [61], and in mountain rivers (high slope) ranges up to 35% of the suspended load [62]. In this study, the Maki and Katar rivers flow on gentle slopes for more than thirteen kilometers before joining Lake Ziway. Hence, we assumed the bedload was 10% of suspended sediment load.”

To set straight the scientific record we would like to make the following corrections:

“In Ethiopia, most studies [38,58–60] ignored the bedload contribution. However, in most rivers, bedload to suspended load ratio is in the range of 10% to 30% [38,61], and in mountain rivers (high slope) ranges up to 35% of the suspended load [38,62]. In this study, the Maki and Katar rivers flow on gentle slopes for more than 13 km before joining Lake Ziway. Hence, we assumed the bedload was 10% of suspended sediment load.”

Page 10, Methodology (3.8. Sediment Budgets of Lake Ziway) section, the title currently reads as follows:

“3.8. Sediment Budgets of Lake Ziway”

To set straight the scientific record we would like to make the following corrections:

“3.8. Sediment Balances of Lake Ziway”

Page 10, Methodology (3.8. Sediment Budgets of Lake Ziway) section, the 1st paragraph, Lines 1 to 8 currently reads as follows:

“The sediment budget in its simplest form [63] for a lake is:

$$SY_{in} = SY_{out} + \Delta S \quad (7)$$

For establishing the sediment budget of Lake Ziway, Equation (7) was refined and reorganized as:

$$\Delta S_{LZ} = SY_g + SY_u + SY_b - SY_{bl} \quad (8)$$

where ΔS_{LZ} is the net annual sediment deposition in Lake Ziway, SY_g and SY_u are the annual suspended sediment yields transported into the lake from gauged and ungauged rivers, respectively, SY_b is the annual bedload transported into the lake, and SY_{bl} annual sediment yield exported from the lake through the Bulbula River.”

To set straight the scientific record we would like to make the following corrections:

“Sediment balance for Lake Ziway is based on the law of conservation of mass [38,63].

$$\Delta V = SS_{in} - SS_{out} \quad (7)$$

where, ΔV is the volume of sediment deposited inside the lake, SS_{in} the amount of sediment transported into the lake, and SS_{out} is the amount of sediment exporting from the lake.

For the case of Lake Ziway, the net amount of sediment deposited in the lake can be calculated as:

$$SS_N = SS_g + SS_u + SS_b - SS_{bl} \quad (8)$$

where SS_N is the net annual sediment deposition in the lake, SS_g and SS_u stands for annual gauged and ungauged basins sediment flow, respectively, SS_b stands for bedload sediment flow, and SS_{bl} is sediment outflow from the lake through the Bulbula River.”

Page 11, Result and Discussion (4.1. Suspended Sediment Discharge from Gauged Catchments) section, the 1st paragraph, Lines 5 to 12 currently reads as follows:

“Despite the limited range of suspended sediment yields in the dry season and the rather large scatter in a few cases, a clear trend in mean sediment yield was observed at most of the monitoring stations, i.e., for a given river discharge, suspended sediment concentration values were smaller towards the end of the rainy season (September) than at the beginning of the Belg—small rainy season. This may be related to the depletion of sediments and the development of a vegetation cover through the rainy season. Despite the fact that no study has been done on the sediment mechanics of the Lake Ziway tributary rivers, a similar pattern was found by a study done in Northern Ethiopia in”

To set straight the scientific record we would like to make the following corrections:

“For all monitoring stations, the suspended sediment concentration was decreasing after the end of the main rainy season (September) and increases at the beginning of the short rainy season (Belg). During most dry seasons, the tributary rivers carry less sediment and a clear trend in mean sediment yield was observed. This season, suspended sediment flow pattern observed in the basin is similar to those found by a study done in Northern Ethiopia by”

Page 14, the title of Figure 9 currently reads as follows:

“Monthly variation of mean suspended sediment concentration (SSC) and lake outlets.”

To set straight the scientific record we would like to make the following corrections:

“Suspended sediment concentration (SSC) and lake outlets.”

Page 15, the title of Table 3 currently reads as follows:

“Overview of suspended sediment discharges from four gauged catchments in the Lake Ziway basin.”

To set straight the scientific record we would like to make the following corrections:

“Suspended sediment discharges from four gauged catchments in Lake Ziway.”

Page 15, the title 4.2. Suspended Sediment Load from the Ungauged Rivers currently reads as follows:

“4.2. Suspended Sediment Load from the Ungauged Rivers”

To set straight the scientific record we would like to make the following corrections:

“4.2. Suspended Sediment Discharge from the Ungauged Streams”

Page 15, Result and Discussion (4.2. Suspended Sediment Load from the Ungauged Rivers) section, the 1st paragraph, Lines 1 to 3 currently reads as follows:

“The annual suspended sediment yield from ungauged catchments was estimated by establishing an empirical regression model that related sediment yield of the gauged stations to several catchment characteristics namely, drainage area, slope, and average annual rainfall amount (Figure 10).”

To set straight the scientific record we would like to make the following corrections:

“The contribution of the ungauged basin was estimated by developing a model that relates the gauged stations terrain attributes, namely drainage area, slope, and average annual rainfall with annual suspended sediment yield (Figure 10).”

Page 15, Result and Discussion (4.2. Suspended Sediment Load from the Ungauged Rivers) section, the 2nd paragraph, Lines 1 to 3 currently reads as follows:

“After model application to ungauged catchments, a total sediment yield of 0.16 million ton/year was obtained.”

To set straight the scientific record we would like to make the following corrections:

“For ungauged catchments, the model estimates the mean annual suspended sediment yield of 0.16 million ton/year.”

Page 16, Result and Discussion (4.2. Suspended Sediment Load from the Ungauged Rivers) section, the 2nd paragraph, Lines 1 to 4 currently reads as follows:

“Furthermore Reference [68] suggested that in conditions where measurement of suspended and bedload sediment is not possible, a rough estimation of SSY for an “average” Ethiopian catchment could be derived based on Equation (10), and Reference [59]”

To set straight the scientific record we would like to make the following corrections:

“In the absence of measured suspended and bedload sediment data, Equation (10) can be applied for Ethiopian watersheds [68] and Reference [59]”

Page 16, Result and Discussion (4.3. Suspended Sediment Deposited in Floodplains Suspended Sediment Load from the Ungauged Rivers) section, the 1st paragraph, Lines 1 to 5 currently reads as follows:

“The measured sediment discharges in both rivers show that the sediment yield of each upper monitoring station was larger than that of the corresponding lower station. On average 20.6% of the sediment load from hilly catchments was deposited in the floodplains and did not reach Lake Ziway (Table 4). This corresponds to an average aggradation rate of 19.2% for the Maki River and 22% for the Katar River, which indicates less deposition is occurring inside of the Maki sub-basin.”

To set straight the scientific record we would like to make the following corrections:

“A net annual suspended sediment deposited in the floodplains was estimated as 178.76×10^3 ton/year. This corresponds to 20.6% of the total sediment yield of the basin (Table 4). The result indicates that as the average sediment aggradation rate along the Maki River and Katar were about 19.2% and 22%, respectively.”

Page 16, Result and Discussion (4.3. Suspended Sediment Deposited in Floodplains Suspended Sediment Load from the Ungauged Rivers) section, Paragraph 2, Line 1 currently reads as follows:

“Reference [68]”

To set straight the scientific record we would like to make the following corrections:

“Study by [38] and [68]”

Page 16, Result and Discussion (4.3. Suspended Sediment Deposited in Floodplains Suspended Sediment Load from the Ungauged Rivers) section, Paragraph 2, Lines 6 to 8 currently reads as follows:

“Here on average, the floodplain storage rate of our study basin is lower than estimated for Northern and Central Ethiopia and the Kalaya River basin in Zambia.”

To set straight the scientific record we would like to make the following corrections:

“Therefore, the suspended sediment deposited on the floodplain of our study basin is lower than what is estimated for the Kalaya River basin in Zambia and Lake Tana basin in Ethiopia by [38].”

Page 17, the title of Table 4 currently reads as follows:

“Sediment deposited on the floodplain and net sediment yield delivered to the lake.”

To set straight the scientific record we would like to make the following corrections:

“Sediment flux rates of the tributary rivers.”

Page 18, Result and Discussion (4.6. Sediment Budget and Deposition Rates of the Lake) section, the 1st paragraph, Lines 1 to 6 currently reads as follows:

“A net annual suspended sediment deposition of 2039.59×10^3 tons could be calculated from the estimated influxes and outflows (Figure 11). Dividing this mass by the bulk density of sediment particles could give the equivalent volumetric deposition rate. Use of the calculated bulk density of 1.22 ton m^3 resulted in a volumetric suspended sediment deposition rate of $1.67 \times 10^6 \text{ m}^3$ per year. If this spread evenly over the depositional area of the lake bottom (423 Km^2 at 1637 msl) it would give an average thickness of 3.98 mm/year.”

To set straight the scientific record we would like to make the following corrections:

“The net annual sediment flow of the lake was calculated as the sum of the total of sediment load obtained for gauged and ungauged catchments (Figure 11). The estimated mean annual suspended deposition was 2039.59×10^3 tons. The volumetric deposition rate, which is the ratio of total sediment load to sediment bulk density of the area was computed. For the study area, the dry bulk density of 1.22 ton/m^3 was determined and as the result, the volumetric sediment deposition rate is $1.67 \times 10^6 \text{ m}^3$ per year, which is equivalent to a uniform suspended sediment deposition rate of 3.98 mm/year for the mean lake surface area of 423 km^2 at 1637 msl.”

Page 18, the title of Figure 11 currently reads as follows:

“Sediment budget of Lake Ziway”

To set straight the scientific record we would like to make the following corrections:

“Sediment budget calculated for Lake Ziway”

Page 18, Result and Discussion (4.6. Sediment Budget and Deposition Rates of the Lake) section, the 1st paragraph, Lines 1 to 2 currently reads as follows:

“The sediment trap efficiency of Lake Ziway was also calculated from the estimated fluxes using Equation (9). The result indicated a trap efficiency value of 98%.”

To set straight the scientific record we would like to make the following corrections:

“The amount of sediment retained by Lake Ziway (sediment trap efficiency) was estimated using Equation (9) and it was found to be about 98%.”

Page 18, Result and Discussion (4.6. Sediment Budget and Deposition Rates of the Lake) section, the last paragraph, Lines 1 to 4 currently reads as follows:

“In terms of volume loss of the lake, the total accumulated rate of the sediment is $1.67 \times 10^6 \text{ m}^3$ per year and by taking the volume of the lake at elevation of 1637 msl (1580 Mm^3), the annual reduction in storage capacity could be estimated as 0.106%. With the estimated sediment deposition rate, it requires 9.47 years for the lake to lose 1% and 947 years to lose its total volume.”

To set straight the scientific record we would like to make the following corrections:

“In terms of lake volumetric loss, the total accumulated sediment is estimated as $1.67 \times 10^6 \text{ m}^3/\text{year}$, which is about 0.106% of the total lake volume (1580 Mm^3). As per this rate, the lake will lose 1% in 9.47 years and in 947 years, it will lose its total volume.”

Page 19, Conclusions section, the last paragraph, Lines 1 to 4 currently reads as follows:

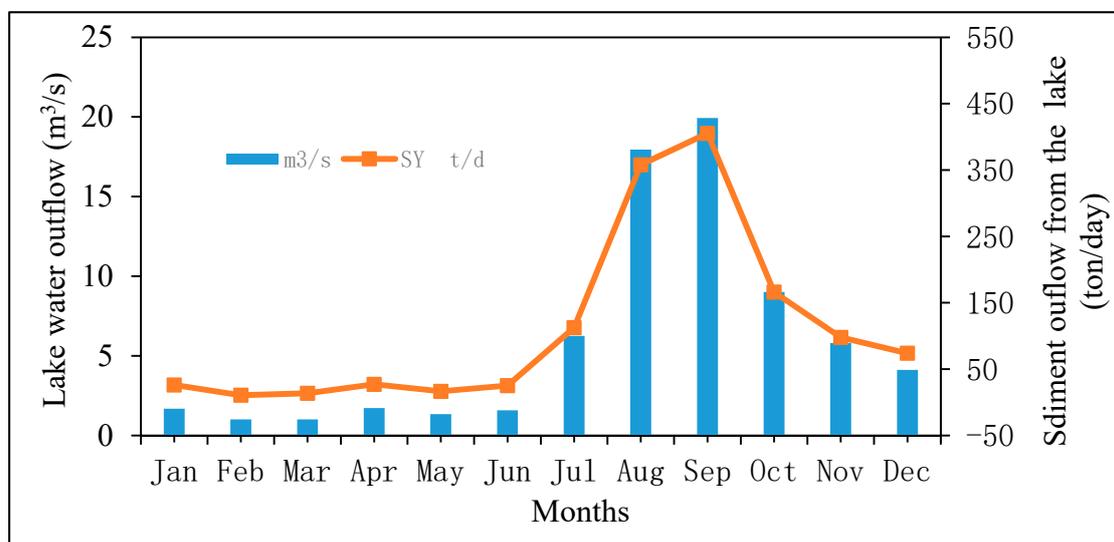
“Though a uniform sedimentation pattern is unusual, the average deposition rates will have a depth of 3.98 mm/year on the lake bottom and the volume loss per year is 0.106%. The analysis shows a mean lake trapping efficiency of 98% and by assuming such a uniform sedimentation pattern, the expected half lifetime of the lake is 473.5 years.”

To set straight the scientific record we would like to make the following corrections:

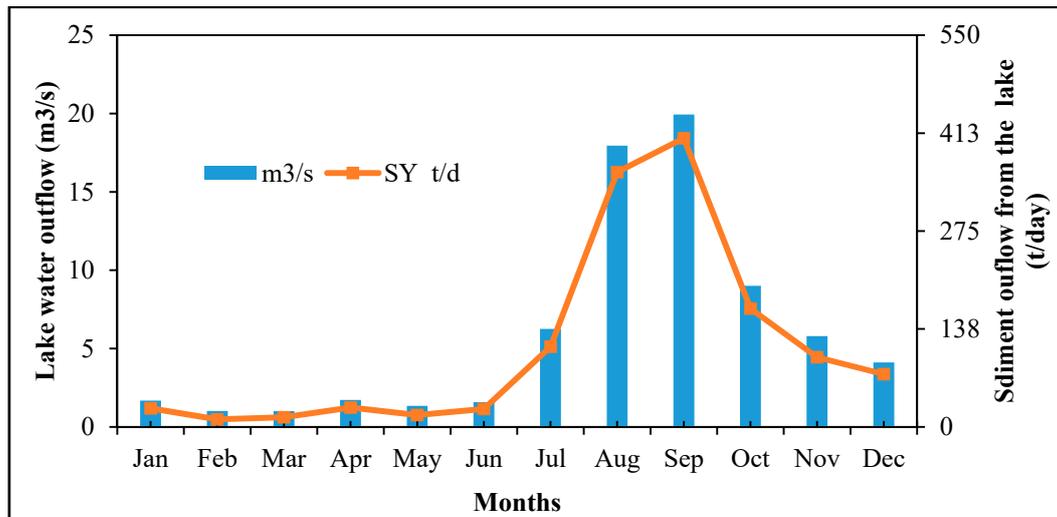
“In terms of lake storage capacity loss, the annual reduction due to siltation is found to be 0.106% and 3.98 mm in terms of lake depth. The lake has a sediment trapping efficiency of 98% and the expected half lifetime of the lake is 473.5 years.”

2. Change in Figure

The author wishes to make the following correction to this paper (Figure 9). Due to mislabeling (negative value on Y axis), replace:



with



Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

References

1. Aga, A.O.; Melesse, A.M.; Chane, B. Estimating the Sediment Flux and Budget for a Data Limited Rift Valley Lake in Ethiopia. *Hydrology* **2019**, *6*, 1. [[CrossRef](#)]



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