

Central Andean (28–34°S) flood record 0–25 ka from Salinas del Bebedero, Argentina – CORRIGENDUM

Jay Quade, Elad Dente, Alyson Cartwright, Adam Hudson, Sebastian Jimenez-Rodriguez and David McGee

DOI: <https://doi.org/10.1017/qua.2022.1>; published online by Cambridge University Press 20 April 2022

In the original publication by Quade et al. (2022) textual errors occurred throughout the article. Some of these errors were regrettably made by the authors; others have been mandated by the United States Geological Survey (USGS). The corrected texts are reproduced below; the original article has also been corrected to reflect all changes outlined in this notice.

Line 22: Stratigraphic and shoreline evidence shows that floods occurred most frequently from 14.3 to 11.4 ka, followed by lesser events between 14.3 to 11.4 ka, and during the late Holocene from 2.6 to ca. 0.2 ka.

Line 197: In the early twentieth century, a canal, the Cañada de los Molles, was built across the low drainage divide that diverted the Río Desaguadero into Salinas del Bebedero (Fig. 2), creating up to a ~20 km² lake.

Line 284: U-Pb ages of zircon grains were determined by ablation by a Photon Machines Analyte G2 Excimer laser equipped with a HelEx ablation cell and with a spot diameter of 20 µm; samples were analyzed on a Thermo Element2-HR ICPMS (Gehrels et al., 2006; Gehrels and Pecha, 2014).

Line 288: For strontium isotope analysis, extracts of waters and mollusks were subjected to clean column elution and thermal ionization mass spectrometry (TIMS) at the US Geological Survey Denver Radiogenic Isotope Laboratory.

Line 403: The modeled floods detailed in the Results section and in Supplemental Table 3 and Supplemental Figure 4 looked at the flood volumes, including those of historic floods, that were necessary to simply reach various points downstream up to the area of the Bebedero Basin without filling it.

Line 485: Two *C. parchappii* valves from profile BD-2 (Figs. 3a, b; 4) cut into a high shoreline berm yielded ages at the >35ka limit of ¹⁴C dating for carbonates (Table 1; samples BD-2b, f: 40,480 ± 370 ¹⁴C yr BP, 36,310 ± 40 ¹⁴C yr BP).

Line 727: LGE-6 is represented by a single channel fill located at BD-31 (400m asl; Fig. 2; Supplementary Figure 3h), where >2m of channel fill cuts into LGE-3 sediments.

Line 733: **Late Holocene events (LHE-1 to LHE-4)**

Cite this article: Quade J, Dente E, Cartwright A, Hudson A, Jimenez-Rodriguez S, McGee D (2022). Central Andean (28–34°S) flood record 0–25 ka from Salinas del Bebedero, Argentina – CORRIGENDUM. *Quaternary Research* 109, 207–208. <https://doi.org/10.1017/qua.2022.40>

Line 783: The samples form a linear array ($r^2 = 0.95$) with a slope of about 3.7 that intersects the Global Meteoric Water Line (GMWL) at $\delta^{18}\text{O}$ (VSMOW) = -5.4‰ , close to the value of Beazley tap water (Fig. 6).

Line 791: Projection of this data point using a slope of 3.7 back onto the GMWL yields a $\delta^{18}\text{O}$ water (VSMOW) value of $\sim -12.8\text{‰}$, similar to the composition of rainfall and snow falling at >4000m in the modern eastern Andes (Fig. 6; Rohrmann et al., 2014; Dettinger and Quade, 2015).

Line 822: Samples were taken from LHE-1 at site BD-35 along Bebedero Creek, the LGE-2 shoreline complex on the north side of the basin (Fig. 4) that is composed of grusy sand mainly derived from the Sierra de San Luis (BD-2c), and from the Río Desaguadero (BD-36) 50 km northwest of the basin.

Line 825: Samples were taken from LHE-1 at site BD-35 along Bebedero Creek, the LGE-2 shoreline complex on the north side of the basin (Fig. 4) that is composed of grusy sand mainly derived from the Sierra de San Luis (BD-2c), and from the Río Desaguadero (BD-36) 50 km northwest of the basin.

Line 852: Both peaks indicate Andean sources: the former from Permian–Triassic plutonic rocks (including the dominant Choiyoi Igneous Complex) exposed in the frontal Cordillera, and the latter from Andean volcanic sources mainly in the western Cordillera of the Andes.

Line 975: This temperature range yields an estimated $\delta^{18}\text{O}$ water VSMOW value of $-13 \pm 1.5\text{‰}$ (Fig. 8) using $\delta^{18}\text{O}$ shell VPDB = -12.3‰ .

Line 1026: *H. parchappii* is a small (3–5 mm) hydrobiid (Fig. 3d) that is generally adapted to fresh water but tolerate a wide range of salinities up to 23%, such as is found in evaporative lakes and river estuaries (Prieto et al., 2004; De Francesco and Hassan, 2009).

Line 1114: The channel fills are locally composed of shell coquinas dominated by *B. peregrina*, indicating fresh, lentic, oligotrophic host water.

Line 1249: In Patagonia, numerous moraine-dammed lakes were formed by the advance of glaciers during the Little Ice Age, followed by recent recession (Anaconda et al., 2015; Wilson et al., 2018).

Line 1282: Many avalanches are triggered seismically (e.g., Ferrer, 1999), but historically large rainfall events causing slope failure seem to be the primary cause for avalanches (Moreiras, 2005).

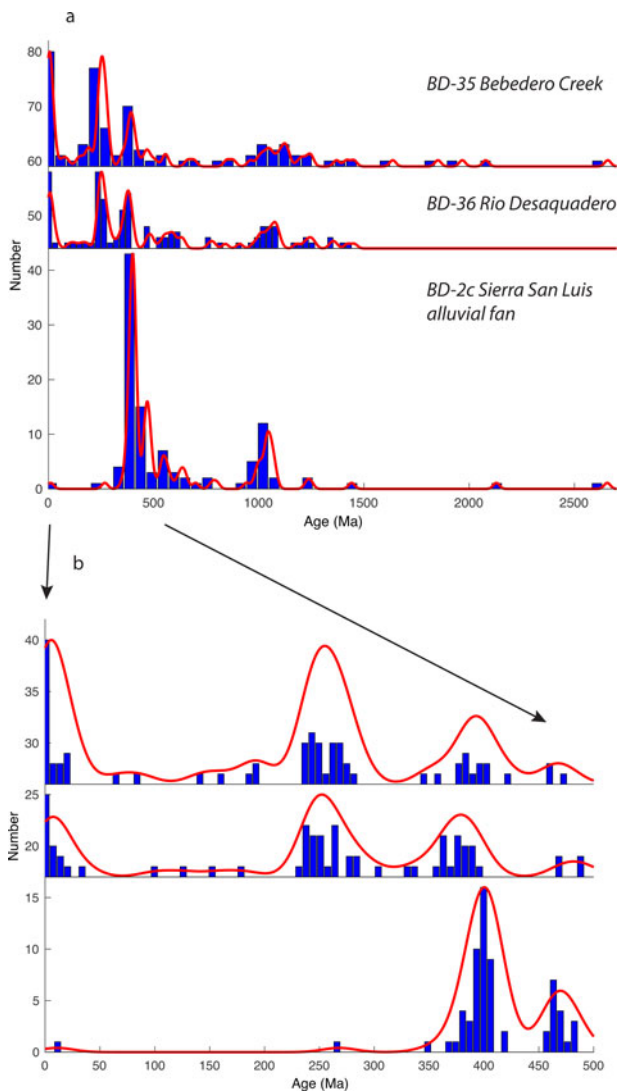


Figure 8. Values for U-Pb ages derived from detrital zircon from three samples (BD-2c, BD-35, BD-36) versus abundance from ~ 105 grain analyses. Abundance expressed in 5 Ma increments in blue histograms, red line is smoothed kernel density of abundance (Saylor and Sundell, 2016); (a) Age values from 2700 Ma to present; (b) Enlargement of graph (a) from 500 Ma to present.

Line 1294: The lake began to rise dramatically starting 18–17 ka and reached its hydrologic maximum between 16.4 ka and 14.1 ka, when the lake covered $\sim 55,000$ km² (Placzek et al, 2006).

Line 1438: This may explain why the chronology of late glacial flooding at Bebedero closely matches the periods of megalake development and wetland expansion in the subtropical latitudes of Chilean Atacama Desert and Bolivian Altiplano.

Additionally, the original article contains an error in figure 8. The correct figure 8 and caption is reproduced below:

Per the USGS, the acknowledgments section has been corrected to read as below:

This study was supported by the Comer Family Foundation and NSF EAR-1702438 to McGee and Quade. This paper is in remembrance and acknowledgment of the contribution of Wally Broecker and his wife Elizabeth Clark to this study and our field in general. We also thank Dr. Jorge Strelin for his support of the project, and Mike Kaplan and Kathleen Springer for thoughtful discussions and review. Giovanni Zanchetta provided helpful comments on the manuscript. Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Lastly, the address for author Adam Hudson has been corrected to read: US Geological Survey, Geosciences and Environmental Change Science Center, Denver, CO, 80225, USA.