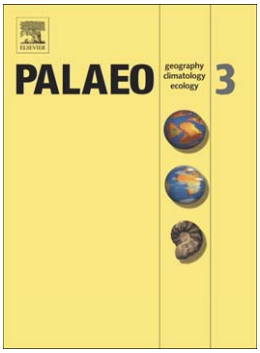

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Anna Bird[1,2], Thomas Stevens[1,3], Martin Rittner[4], Pieter Vermeesch[4], Andrew Carter[4, 5], Sergio Andò[6], Eduardo Garzanti[6], Huayu Lu[7], Junsheng Nie[8], Lin Zeng[7], Hanzhi Zhang[7], Zhiwei Xu[7]

[1]*Department of Geography, Royal Holloway University of London, Egham, Surrey, TW20 OEX, UK*

[2]*Current address: Department of Geography, Environment and Earth Sciences, University of Hull, Hull, HU6 7RX, UK.* a.bird@hull.ac.uk

[3]*Current address: Department of Earth Sciences, Villavägen 16, Uppsala University, Uppsala, 75236, Sweden*

[4]*London Geochronology Centre, Department of Earth Sciences, University College London (UCL), London, WC1E 6BT, UK*

[5]*School of Earth Sciences, Birkbeck College, University of London, London, WC1E 7HX, UK*

[6]*Dipartimento di Scienze Geologiche e Geotecnologie, Università di Milano-Bicocca, Piazza della Scienza 4, 20126 Milano, Italy*

[7]*School of Geographic and Oceanographic Sciences, Institute for Climate and Global Change Research, Nanjing University, Nanjing 210093, China*

[8]*Key Laboratory of Western China's Environment System, Ministry of Education, Lanzhou University, Lanzhou, Gansu 730000, China*

ABSTRACT

The Chinese Loess Plateau in north central China contains one of the most valuable Cenozoic climate archives on land. Establishing the origin of this substantial archive of aeolian sediments is critical for the interpretation of loess climate proxies, past atmospheric wind patterns and changing climatic/tectonic controls on erosion over potentially the past 25 Ma. Despite this significance there are a number of disagreements over the precise source areas and the extent to which these vary through time and across the plateau. To address this, we utilize a multi-technique, approach of combined detrital single-grain zircon U-Pb dating and heavy mineral analysis to establish the sources of loess through the Quaternary and constrain their variation geographically across the Loess Plateau. We combine our data with suitable published single-grain datasets from loess and possible source regions. The results