

Yibo Yang, Albert Galy, Rongsheng Yang, Yudong Liu, Weilin Zhang, Xiaobai Ruan, Xiaomin Fang, Zhangdong Jin, Bowen Song, Maodu Yan, Guibin Zhang, Kai Cao, Tianyi Shen, Ziqiang Mao, Fuli Wu, and Fei Zhang, 2022, Intense metamorphism-generated radiogenic Sr regulated Cenozoic water Sr isotope evolution on the NE Tibetan Plateau: A perspective on Qilian orogen denudation and Asian eolian transport: GSA Bulletin, <https://doi.org/10.1130/B36525.1>.

Supplemental Material

Table S1. The chemical composition of the dissolved load of rivers in the Xining and Linxia Basins.

Table S2. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of acetic acid leachates of various sediments in the Xining and Qaidam Basins.

Table S3. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of acetic acid leachates of carbonate bedrocks and pebbles in the NE Tibetan Plateau.

Table S4. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of carbonate-free fraction of river/lake sediments in the Xining and Qaidam Basins.

Table S5. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of water and acetic acid leachates of the lower HLD section sediments in the Linxia Basin.

Table S6. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of water and acetic acid leachates of the XJ section sediments in the Xining Basin.

Table S7. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of water and acetic acid leachates of the GJS section sediments in the Xining Basin.

Table S8. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios of acetic acid leachates of the LMS section sediments in the Tianshui Basin.

Table S9. Nd isotopes of carbonate-free sediments of the GJS section in the Xining Basin.

Table S10. $^{87}\text{Sr}/^{86}\text{Sr}$ distribution of various waters in North China and Mongolia.

Table S11. $^{87}\text{Sr}/^{86}\text{Sr}$ distribution of water-soluble salts in surface sediments in North China.

Table S12. $^{87}\text{Sr}/^{86}\text{Sr}$ distribution of carbonates in surface sediments and carbonate bedrocks in North China.

Table S13. $^{87}\text{Sr}/^{86}\text{Sr}$ distribution of decarbonated fraction (silicate) of surface sediments in North China and Mongolia.

Table S14. AFT central age distribution of bedrock around the Qilian Shan and adjacent regions.

Table S15. Detrital AFT P1 age and lag time for Cenozoic sediments in the basins surrounding the Qilian Shan.

Table S16. $^{87}\text{Sr}/^{86}\text{Sr}$ distribution of various waters around the Tibetan Plateau.