Lake Qinghai is located in the northeastern margin of qinghai-tibet plateau. It’s very sensitive to climate change. Through the research of modern sedimentary environmental change in Lake Qinghai, We expect to gain the information about its response to global environmental change. Our study collected three sedimentary columns of Lake Qinghai in the northwestern, Column samples’ length are 12, 13, 14 cm respectively. We have calculated the deposition rate of Lake Qinghai in the northwestern based on the $^{137}$Cs and $^{210}$Pb geochronology which could be tested with each other. The result shows that the deposition rates which are calculated through $^{137}$Cs and $^{210}$Pb are relatively consistent. With the $^{137}$Cs peak of three sediment column samples we have figured out the average mass accumulation rate. They are 0.0329 g·cm$^{-2}$·a$^{-1}$、0.032 g·cm$^{-2}$·a$^{-1}$、0.0371 g·cm$^{-2}$·a$^{-1}$. The deposition rate are 0.1406 cm·a$^{-1}$、0.1429 cm·a$^{-1}$、0.1535 cm·a$^{-1}$. The deposition rate by $^{210}$Pb, calculation are 0.0422 g·cm$^{-1}$·a$^{-1}$、0.0307 g·cm$^{-1}$·a$^{-1}$、0.0347 g·cm$^{-1}$·a$^{-1}$. In this paper, the results of deposition rate are close to the predecessors’.

### Sedimentary Environment Change in Northwestern of Lake Qinghai Based on the $^{137}$Cs and $^{210}$Pb

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![Geological diagram of Sampling area](image)
northwest of the lake slightly greater than what in southeast of the lake. What’s more, we find that the change of the deposition rate and the overall change of annual average rainfall stay consistent.

Key words: Lake Qinghai, 137Cs, 210Pb, Modern deposition rate, Environmental evolution

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References

Figure 2 spatial distribution of radioactive elements activity changes with depth

Figure 2 spatial distribution of radioactive elements activity changes with depth (in Chinese)


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