

ГЕОМОРФОЛОГИЧЕСКИЙ МЕТОД ДЛЯ ОПРЕДЕЛЕНИЯ ВЕКА ОБРАЗОВАНИЯ ТЕКТОНИЧЕСКОГО НАРУШЕНИЯ В РАЙОНЕ КАНСОЕ

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Аннотация: сегодня, развивая уровень жизни, культуры людей, они надеются жить без болезней. Поскольку человеческое тело состоит из воды на 70%, употребление здорового напитка является очень важной проблемой. Здесь минеральная вода играет большую роль в качестве хорошего напитка для здоровья. Поэтому нам нужно найти много минеральных вод и замечательную обработку. Следовательно, мы должны быть знакомы с условиями образования минеральных вод, и научные исследования должны быть проведены. В этой статье предлагается один геоморфологический метод, который может быть использован при исследовании минеральных вод.

Мы провели геоморфологическое исследование для определения возраста образования тектонических нарушений в Кансо районе минеральных вод методом базового анализа.

Ключевые слова: минеральная вода, тектоническое нарушение, геоморфологический метод, анализ на базовом уровне, поиск.

GEOMORPHOLOGIC METHOD FOR FINDING THE FORMATION AGE OF TECTONIC FAILURE IN THE KANGSO REGION

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Abstract: as the present day develops, humans hope to live without disease. Since people are made up of water in 70 % of the body, drinking a healthy drink is very important problem. Here, the mineral water is playing a great role as a good health drink. Therefore, we need to find a lot of mineral waters and fine processing. Then, we have to be familiar with the conditions of the formation of the mineral waters, and scientific exploration should be carried out. In this article suggest one geomorphological method that can be used in the exploration of the mineral waters.

We carried out on the geomorphologic study for finding the formation age of tectonic failure in the region within Kangso mineral waters by base-level analysis method.

Keywords: mineral water, tectonic failure, geomorphological method, base-level analysis, exploration.

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1. Geomorphological analysis

Kangso mineral water is a mineral spring groundwater located in the intersectant point of the north-south directional and the east-west directional failure in V-river basin.

Therefore, the formation process of mineral water in this area is closely related to the formation of the tectonic failure. The tensile forces above the plastic limit acting on the crust destroy its continuity and then a crack or fault is formed. The failure is one of the main factors that cause the formation of crust blocks and change of terrain from the beginning of crustal development [1].

This means that the position of the tectonic failure shown in the crustal block and its formation process can be revealed through the analysis of the topography formation process.

As the crustal block is expressed by the height difference of the surface topography, it is possible to reveal the formation period and the spatial position of the tectonic failure which is the boundary between the blocks when knowing the process of changing the height of the topographic surface and its relative formation age.

2. Formation age of failures and formation of mineral water

Based on the geomorphological analysis of the relative age of formation and the process of change of the gradational river valley's base-level, we evaluated the age of formation of the Kangso region tectonic failure and its influence on the formation of mineral water.

First, the gradational river valley's base-level was selected and its relative age was defined (Figure 1).

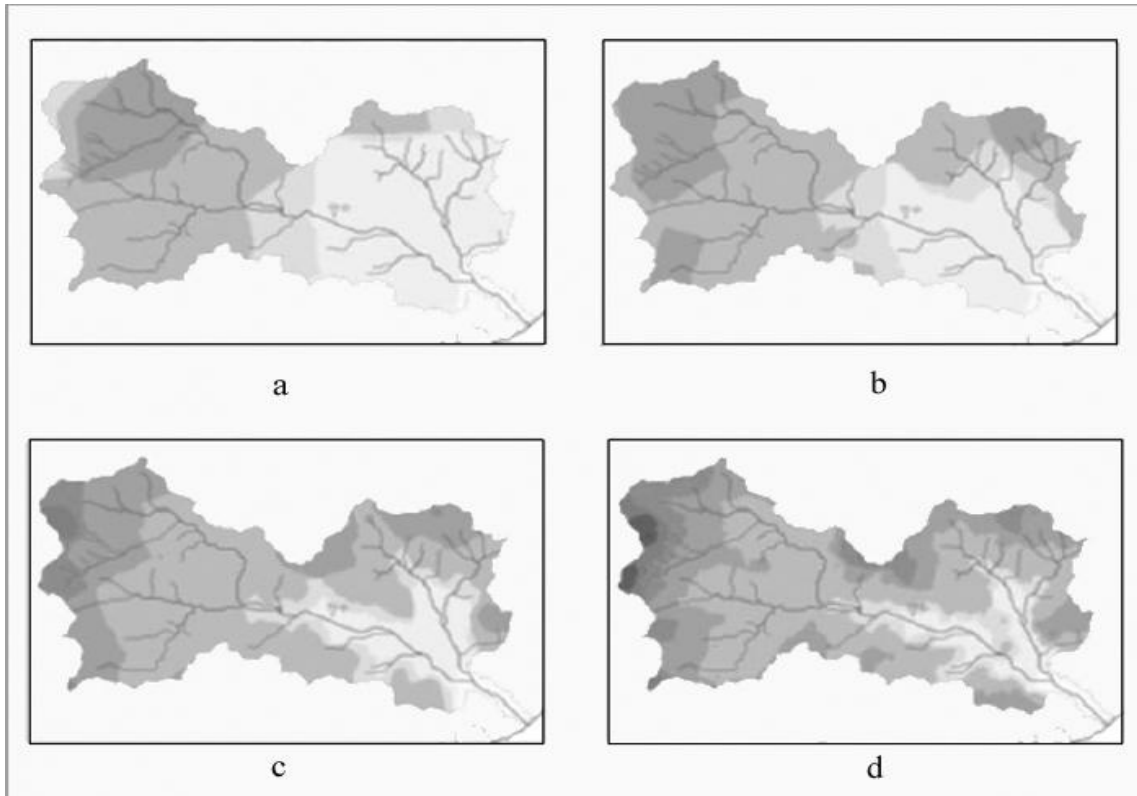


Fig. 1. Gradational river valley's base-level of a river basin
 a- Vgrade, b- IVgrade, c- IIIgrade, d- IIgrade base-level

The numbers of gradational river valleys are the same as in the table.

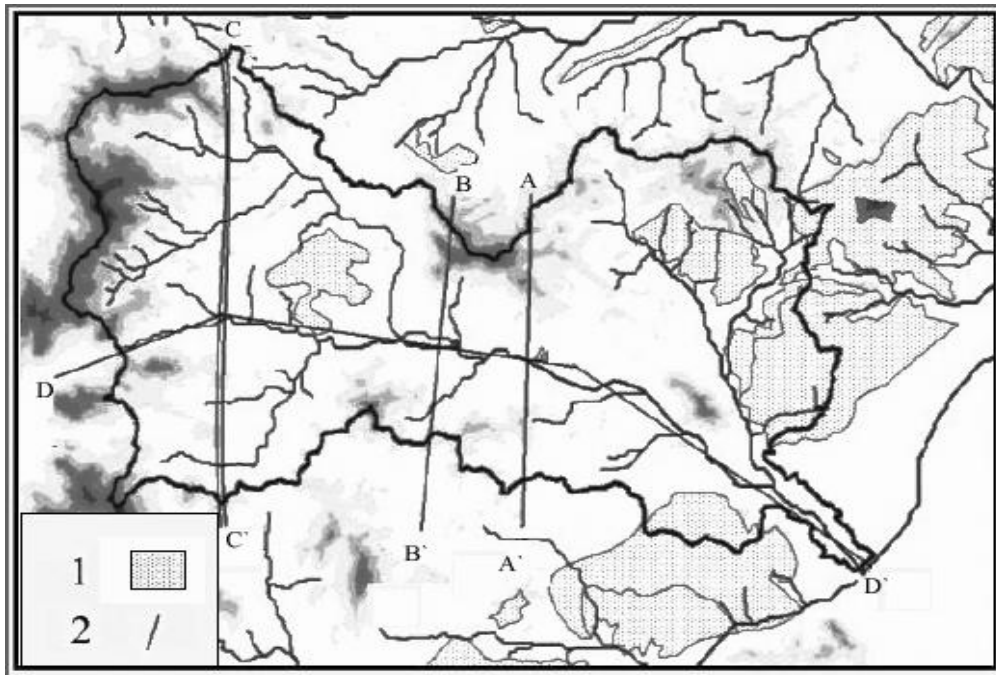
As can be seen in the table, the river valleys below IV grade are older than middle Pleistocene. In whole of our country, such age rule of river valley is common.

Table 1. Numbers of gradational river valleys

Grade of river valley	Age of fracture developed in river valley				Total
	Q ₂	Q ₃	Q ₄	Unconfirmed	
I		28	287	11	326
II	2	48	10	4	64
III	11	3	2	2	18
IV	4	1			5

From this, in the study area it can be seen that the base-level of IV grade or higher has the old age before the Pleistocene, and the base-level below IV has the old age of the Pleistocene-Holocene.

Figure 2 shows the distribution map of failure explicated in the study area.



*Fig. 2. The distribution map of failure
1-Mesozoic sedimentary rocks, 2-failures
A-A', B-B', C-C': north-southward failures, D-D': east-western failure*

As shown in Figures 1 and 2, A-A' and B-B' were formed in the period before the Pleistocene (a in Fig. 1). These failures can be regarded as the result of the Mesozoic tectonic movement as an initial failure separating the tectonic basin of the eastern part of the study area and the western part of O- mountain mass. In this time V- river basin was not formed.

After, in the first period of the neotectonic movement of the middle Pleistocene, the C-C' failure corresponded in the axis of O- mountain chain was formed (b in Fig.1). As the boundary of the failure, the axis of mountain chain was risen, and the ridge of the southern V- river basin and V- river valley were formed.

In the next time of the neotectonic movement corresponding to the upper Pleistocene, it extends east-westward about the northern ridge with the southern ridge of the B- river, then the mean direction of this river i. e. the east-western failure was formed(c in Fig. 1). This suggests that the process of formation of the anticlinorium is consistent with the formation time of the D-D' failure. In Holocene, the successive terrain of the modern tectonic movement phase was formed (d in Fig. 1).

Finally, we analyzed the influence of the formation of mineral water. In the b of Fig. 1 and on the right side cut by A-A', B-B' of Fig. 2 failures Kangso mineral water locate, and the fragments of Mesozoic sedimentary rocks are distributed. This indicates that these mineral waters are distributed within the Mesozoic sedimentary basin.

In c of Fig. 1, it can be seen that the failure in the D-D' direction was formed by crossing almost vertically with the two north-southward failure.

The mineral water and hot spring often originate from the intersectant zone of failures, the age of formation of this mineral water can be regarded as the upper Pleistocene-Holocene. Kangso mineral water was formed at the intersections of the different rocks, in the crossing part of failures from the much direction, and within the Mesozoic sedimentary basins.

Therefore, these mineral waters are the pressure water.

Conclusion

1. The failure of Kangso region was formed in three stages period from the end of the Mesozoic to the Holocene.

2. Kangso mineral water is one of the type of pressure water located within the Mesozoic sedimentary basin, in the intersection area of three of north-southward failures and one of east-western failure and.

References

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