

Distribution Characteristics and Causes of Collapse Erosion

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Abstract: Collapse erosion is the most serious type of erosion in South China. This paper analyzed the space distribution and genesis of collapse erosion. The results show that collapse is mainly distributed in the humid subtropical zones on the south of the Heather River, concentrated in the areas of granite parent materials, and vertically distributed in the hilly regions with a height of 100 ~ 150 meters. The characteristics of formation and distribution are in close connection with the following 3 factors: 1) hot and rainy climate in humid subtropical zones provided deep weathering crust and strong erosion dynamic for collapse formation; 2) Collapse erosion is closely related to the physical properties of weathering crust. Weathering crust particles determines their physical properties. Weathering crust particles is one of the most fundamental factor affecting collapse erosion. Granite weathering crust particles led to its special nature of low shear strength, which tends to collapse instability; 3) the deep soil, runoff scouring and strong gravitational energy in hilly regions cause consequence that soil is prone to collapse into collapse hill.

Key words: collapse erosion; distribution characteristics; formation genesis

封面照片: 浪巴铺土林景观

浪巴铺土林景区位于云南省元谋县城西 33 km 处新华乡境内,距班果土林 15 km,地处元谋、大姚、牟定 3 县交界处。浪巴铺土林景区又名新华土林,土柱高大密集,类型齐全,圆锥状土林发育良好,一般高 3 ~ 27 m,最高达 42.8 m,高度居元谋土林之冠,其色彩丰富,土柱顶部以紫红色为主,中部为灰白色,下部则以黄色为基调,其间夹杂有褐红、灰白、棕黄、灰黑等多种颜色。土柱的形态各异,有圆锥状、峰丛状、雪峰状、城垣状等。远望新华土林,就像一座座绚丽的宫殿,走进景区,犹如置身于古堡画廊。浪巴铺土林是元谋县 13 座土林群落中景点最集中、发育最典型、造型最奇特、色彩最丰富、最具震撼力的土林。照片为元谋浪巴铺湖相地层及侵蚀后形成的典型土林地貌景观。

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