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Uplift phase evidences from karst valley and karst hills morphometry

in Blambangan Karst, Java-Indonesia

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Morphological evidence of uplift phases in karst areas are generally based on marine terraces and caves levels. This research on the other hand tried to explore morphological evidence of uplift phases from karst valley and karst hill morphometry interpreted from aerial photographs. Special interest was attributed to the relationship between phase of uplifting on one hand and karst landform development and differentiation on the other hand. Morphometric variables involved in this research were karst hill distribution, karst hill density, karst valley drainage density, valley width, and valley depth. Morphometric data were acquired mainly from panchromatic aerial photograph (at the scale of 1: 30,000) incorporated with field survey. Field survey was conducted to collect cave entrance altitude and to check the interpretation results. The result showed that karst hill dispersion, karst valley density, karst valley depth, and karst valley width were proven having been differentiated as a result of uplifting phases. The oldest terrace is characterized by scatter karst hills with no karst valley networks, middle terrace is recognized from deep incised valley with high valley density, whereas the younger terrace is characterized by nearly flat morphology with no karst valley and karst hills.