Some progress on flood risk analysis

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Flood & waterlog disaster catch the worldwide special attention because of its frequent happening and greatest loss. Great achievements have been gained in flood control and disaster decrease in China today. Flood risk analysis occupies a very important position in non-engineering measures. The flood risk analysis methods has shown a progress from DI (Direct Integral) method, MC (Monte Carlo) method, MFOSM (Mean First Order Second Moment) method and SO(Second Order) method, to AFOSM (Advanced First Order Second Moment) method, JC method, etc. The expectations are suggested: (1) To make the connotation of risk analysis clearly and unified; (2) To carry out 'risk of risk analysis' research; (3) To introduce and advance the basic theory and methods into risk analysis, such as the entropy theory, fuzzy information optimization technology and so on.

Mesozoic geological events in southeastern China and Pacific subduction

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Southeastern China is famous for its large scale magmatism and associated mineralization in the Mesozoic. Several tectonic models have been postulated to account for the Mesozoic evolution of SE China [1–3]. Major debates focused on whether these Mesozoic magmatic activities represent post-Indosinian magmatism related to intraplate lithospheric extension, or constitute arc/backarc magmatism associated with the subduction of the Pacific plate, or collision. Here we propose a slab rollback model to account for the zonations in igneous rocks and associated deposits from the Jurassic to the Early Cretaceous in SE China. Igneous rocks become progressively younger northeastward from 180-160 Ma in the Nanling region to 140-125 Ma in the Lower Yangtze River belt [3–5]. Mineralization ages also decrease northeastward [6–8]. Consistently, three Jurassic metallogenic belts are recognized from northeast to southwest: Dexing Cu-(Au)-(Mo) metallogenic belt in the northeast corner of the South China block, Xiang-Gang Pb-Zn-Ag metallogenic belt in the middle, and the famous Nanling W-Sn metallogenic belt in the southwest. The distribution of these metallogenic belts are analogous to that in South America, where Fe deposits are distributed close to the subduction zone, followed by Cu porphyry deposits and Pb-Zn-Ag deposits in the middle and finally Sn, W deposits away from the trench. All these observations can be best explained by the southwestward subduction of the Pacific plate before the Early Cretaceous [9] and corresponding slab rollback.

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