Risk mapping and automatic zonation system of Geo-hazard based on GIS techniques

Zhu Liang-feng and Pan Xin

Key Laboratory of GIS for Ministry of Education, School of Resources & Environment Science, East China Normal University, Shanghai, P. R. China (zhuliangfeng@163.com / Phone: +86 21-62237221)

Geo-hazard is not only a kind of natural phenomenon, but also a kind of socioeconomic phenomenon. The social economic attribute of geo-hazard made us should distinguish it from the traditional engineering geology study. It will get more social benefit from the assessment of the geo-hazard in the social economic attribute. The hazard and the vulnerability of the element control the risk level of the regional geo-hazard. It is one of the most important directions that the risk assessment supported by GIS in geo-hazard study. Based on the author's studies in the last years, a risk mapping and automatic zonation system of regional geo-hazard has been developed which is explored on the basis of software MAPGIS. The paper introduces the train of system design, the structure and the workflow of this system. As a case study, the paper also deals with the risk zonation of the regional landslide hazard of China.

Key Words: Geo-hazard, GIS, risk mapping, zonation, landslide