

應用GIS探討防災據點服務範圍之研究

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摘要

Taiwan is located in Pacific seismic belt, one of the three largest seismic belts in the world. This is the primary seismic belt that has the most and strongest earthquakes. In the last decade with rapid urban population growth in Taiwan, there have been several serious natural disasters. Particularly, the 921 earthquake in 1999 signaled a lack of urban planning system and disaster prevention plan. Since then, the local government and the central government have increasingly stressed the importance of disaster prevention plan and urban disaster prevention has become an important work in urban planning. However, formulating urban disaster prevention plan must consider civilian evacuation behaviors and the geographical conditions of each region, and include appropriate temporary refuge shelters in response to civilian needs at the time of disaster. From research literatures, it is found that the distance between shelter and home is an important selection factor and the designation of evacuation range is currently an important subject in urban disaster prevention.

This study is aimed at Jhubei City, an important heartland for nourishing Taiwan's technological development, to study the designation of urban evacuation range, and estimate the population within the range by utilizing the spatial attribute data established in the geographic information system, as the basis of shelter service scope. Graph overlapping is also conducted with the estimated shelter serviced population (quantity) and range (circle) in different designations to compare different disaster prevention plans and describe the effect of effective shelter range on promoting disaster prevention work. The results can be used as references for temporary urban refuge for earthquake and designation of evacuation range.

關鍵字：Shelter, Evacuation Range, Geographic Information System