

推估淹水影響人數探討

A Study on Estimating of Affected Population by Flooding

國家災害防救科技中心坡地與洪旱

助理研究員

助理研究員

研究員

傅鑣漩

林聖琪

張志新

Huei-Syuan Fu

Sheng-Chi Lin

Chih-Hsin Chang

摘 要

近年來淹水災害頻繁，因應通報與 IOT 技術，可以快速確認淹水點位及深度。但一直以來較少探究，淹水災害所造成的影響人數為何。本研究比較既有的人口登記人數、電信信令人口和歐盟產製全球 GHLS 人口網格等數據，計算與比較淹水影響人數。登記人口結果，受限於調查頻率與範圍，僅能一年固定一至二筆資料數據，另外登記人口尺度大小，包括有：縣市、鄉鎮區、村里、第一二級發布區和最小統計單元，統計範圍大小不同。電信信令分析人流分布數據，可以用於災害發生當下，掌握即時靜態與被動之人流掌控。歐盟全球 GHLS 人口網格，係以衛星影像對於光點密度搭配當地人口數據進行地球觀測數據轉化，屬於次級資料。藉由人手一機的現象，可從手機訊號來取得人流資訊，相對靜態資料而言，人流資料更能呈現較符合實際情況。

關鍵詞：淹水影響人數、電信人流、戶政人口、GHLS

Abstract

In recent years, flooding disasters have been frequent, People use the alarm and IOT technology development to rapid obtain the distribution and depth of flooding. But we few research has been done on how many people were affected by flooding. This study compares existing population registrations whit population of mobile devices and European Union's Earth observation programme supports GHLS data. To calculates the difference in the number of people affected by flooding based on different data results. This has led us to conclude that the population of mobile devices is dynamic data, without time and spatial restrictions. The static data cannot represent the real number of people in the environment.

Keywords: Affected population by flooding, Population of mobile devices, Household registration population, GHLS