地震衝擊資訊平台(TERIA)改版與推廣

Revision and Promotion of Taiwan Earthquake Impact Research and Information Application Platform (TERIA)

國家災害防救科技中心 地震與人為災害組

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摘　要

國家災害防救科技中心自 2015 年建置地震衝擊資訊平台(簡稱 TERIA)，經多年來開發各種基本評估功能及根據操作者使用經驗修改平台分析模組與展示介面，目前已具備地動、液化、山崩潛勢、建物、人口、避難人口、震後收容、道路、橋梁、軌道橋梁、供水、電力、天然氣管線、通訊等分析模組。TERIA 擁有基本資料查詢與展示、衝擊分析、分析結果查詢與展示等功能，且可自動化匯出衝擊分析結果的圖資與數值資料，提供使用者下載以進行後續的加值利用，已實際應用於每年國家防災日演練與各地方政府的地震防災規劃。

為提升圖資發布效能與節省伺服器儲存空間，TERIA 將基本資料庫轉換成空間資料，使整體系統運算效能更符合實際需求。另外新增環域分析功能，以 TERIA 模擬地震震度分布圖進行環域分析，套用重要設施與動態人口圖資等，推估強震區內高風險設施與特徵時段高風險人口分布，有助於中央與地方政府針對震災高潛勢地區進行重要設施耐震能力評估與補強優先排序、震後人員疏散方式、避難收容處所安置等減災規劃。

關鍵詞：地震，減災，衝擊評估

Abstract

Taiwan Earthquake Impact Research and Information Application Platform (referred to as TERIA) has been developed by National Science and Technology Center for Disaster Reduction (NCDR) since 2015. Over the years, various assessment functions have been implemented, and the analysis modules and user interface have been continuously improved based on user experience. TERIA now includes impact analysis modules for ground motion, liquefaction, landslide potential, buildings, population, evacuees, shelters, roads, bridges, railway bridges, water supply system, electric power system, natural gas pipelines, and telecommunications. Users can query the inventory data, conduct earthquake scenario impact assessment, and view the spatial distribution of the analysis results on the platform. TERIA

also supports the automated export of maps and numerical data from impact assessment, allowing users to download them for further applications. The platform has been practically applied in annual National Disaster Prevention Day drills and in earthquake disaster prevention planning by local governments.

To enhance the efficiency of map data publication and save server storage space, TERIA has converted its database into spatial data, improving overall system performance to better meet practical needs. Additionally, a new buffer analysis function has been added. By using simulated seismic intensity distribution maps generated by TERIA, this function performs buffer analysis by integrating data on critical facilities and dynamic population distribution. It helps estimate the distribution of high-risk facilities and high-risk specific population distribution within high-intensity earthquake area. This supports central and local governments in prioritizing seismic capacity evaluations and reinforcements of critical infrastructure, planning for post-earthquake evacuation and shelter placement, and other disaster mitigation strategies.

Keywords: earthquake，disaster reduction，impact assessment