Asia-Pacific Economic Cooperation

2018/SOM1/EPWG/021
Agenda Item: 11.2

Hualien Earthquake, 6 Feb 2017

Purpose: Information
Submitted by: Chinese Taipei

APEC 2018 PAPUA NEW GUINEA

13th Emergency Preparedness Working Group Meeting
Port Moresby, Papua New Guinea
24-25 February 2018

Hualien Earthquake

on Feb 06, 2017

Chinese Taipei

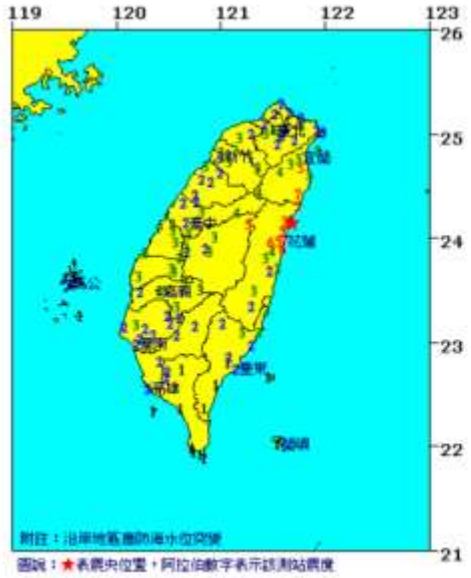
13th APEC Emergency Preparedness Working Group Meeting

Numbers and facts related to the Hualien Earthquake

- **Date of strike**
  - At **23:50 on February 06, 2018**
- **Magnitude**
  - **6.0**
  - **90+ foreshocks and 300+ aftershocks**
- **Intensity**
  - Max. value **“7” (> 400 gal)**
- **Casualties**
  - **17 dies** and 283 injured
- **Damages**
  - **4 buildings collapsed**
  - Ground transportation
  - Public services

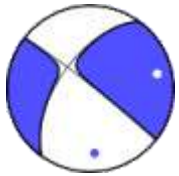
Photographed by National Land Surveying and Mapping Center

Geo-profile near the hypocenter and earthquake mechanism



中央氣象局地震報告

編號： 第107022號
日期： 107 年 2 月 6 日
時間： 23 時 50 分 42.6 秒
位置： 北緯 24.14 度，東經 121.69 度
即在 花蓮縣政府北偏東方 18.3 公里
位於 花蓮縣近海
地震深度： 10.0 公里
芮氏規模： 6.0



hypocenter

fault

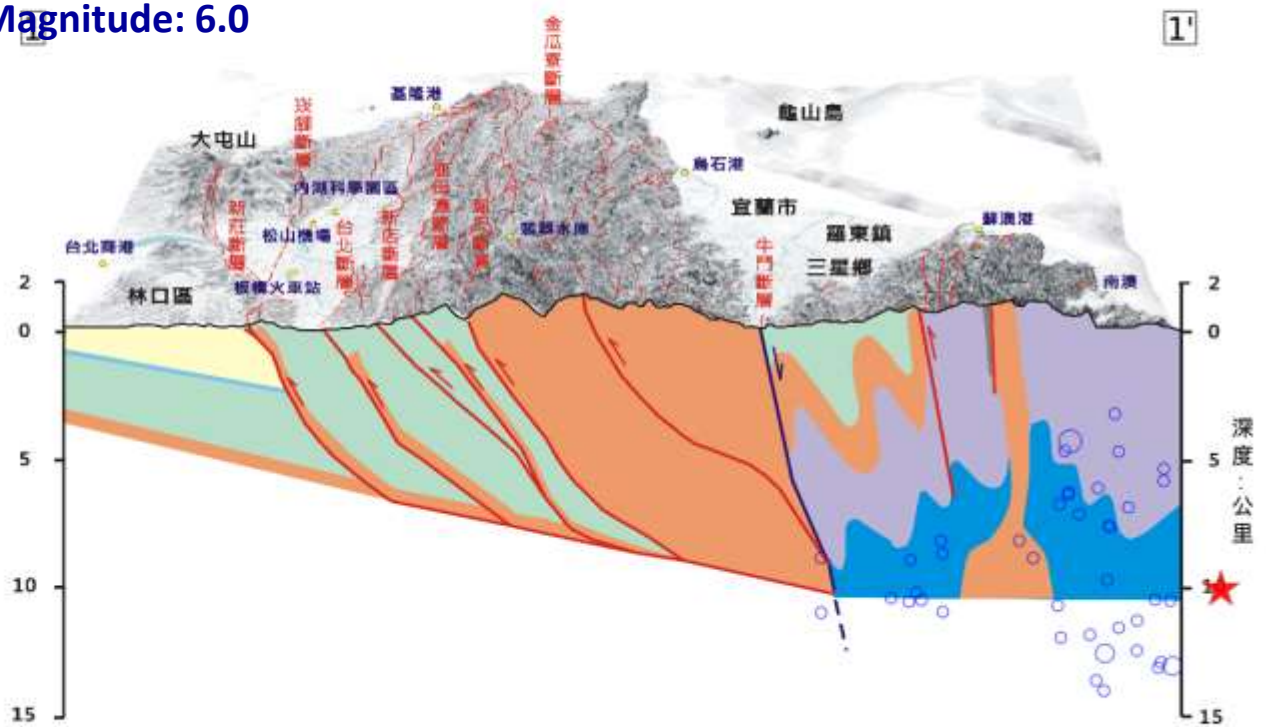
Focal depth: 10 km

Magnitude: 6.0

各地最大震度 Intensity

花蓮縣花蓮市	7級	彰化縣彰化市	3級
宜蘭縣南澳	7級	雲林縣斗六市	3級
南投縣合歡山	5級	嘉義市	3級
臺中市衛基	4級	新北市	3級
雲林縣草嶺	4級	苗栗縣竹南	3級
桃園市三光	3級	臺南市佳里	3級
宜蘭縣宜蘭市	3級	新竹市	2級
新竹縣竹東	3級	苗栗縣苗栗市	2級
臺東縣長濱	3級	臺中市	2級
臺北市信義區	3級	基隆市	2級
臺北市	3級	新北市萬里	2級
新竹縣竹北市	3級	新北市石門	2級
新北市五分山	3級	高雄市桃源	2級
南投縣南投市	3級	臺東縣臺東市	2級
嘉義縣阿里山	3級	臺南市	2級
彰化縣員林	3級	屏東縣九如	2級

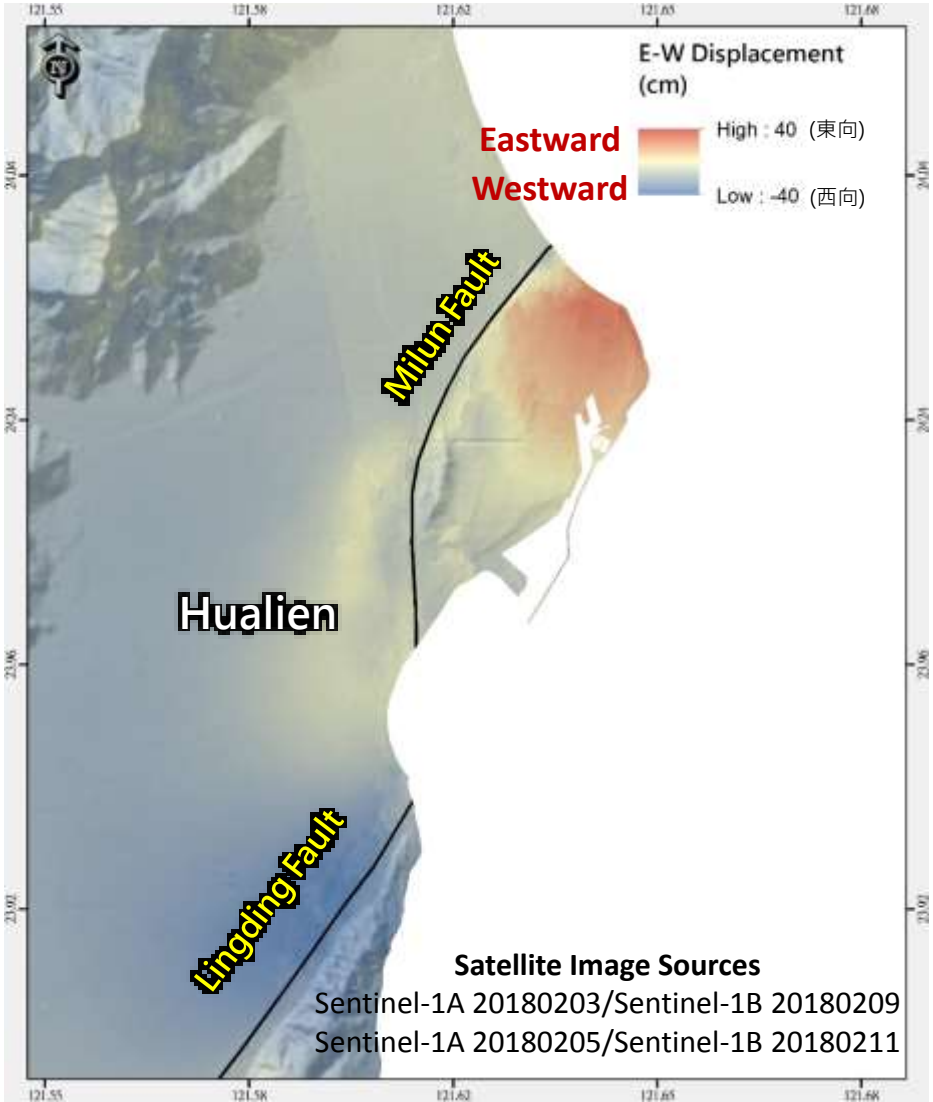
本報告係中央氣象局地震測報即時地震資料地震速報之結果。



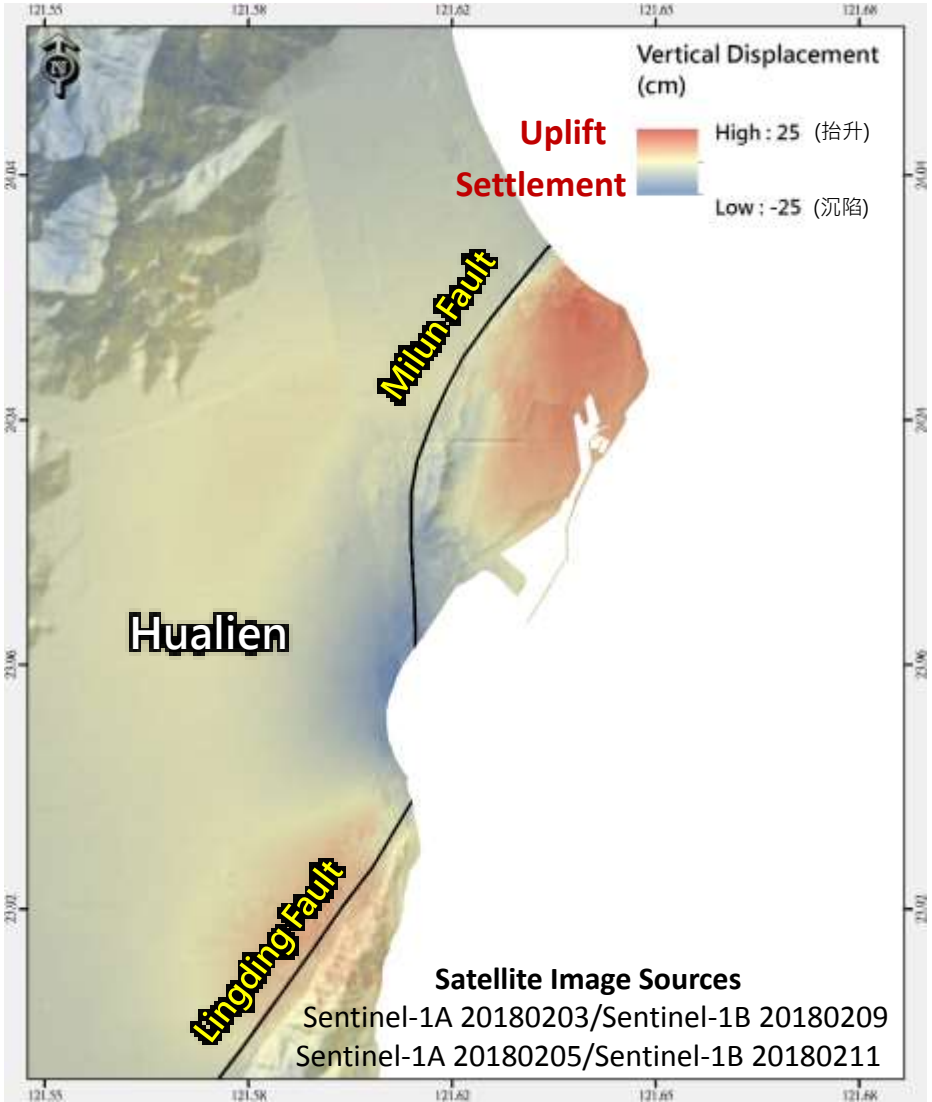
地質剖面：陳文山教授

Ground displacements after the quake measured by using DInSAR data

- East-West ground displacement



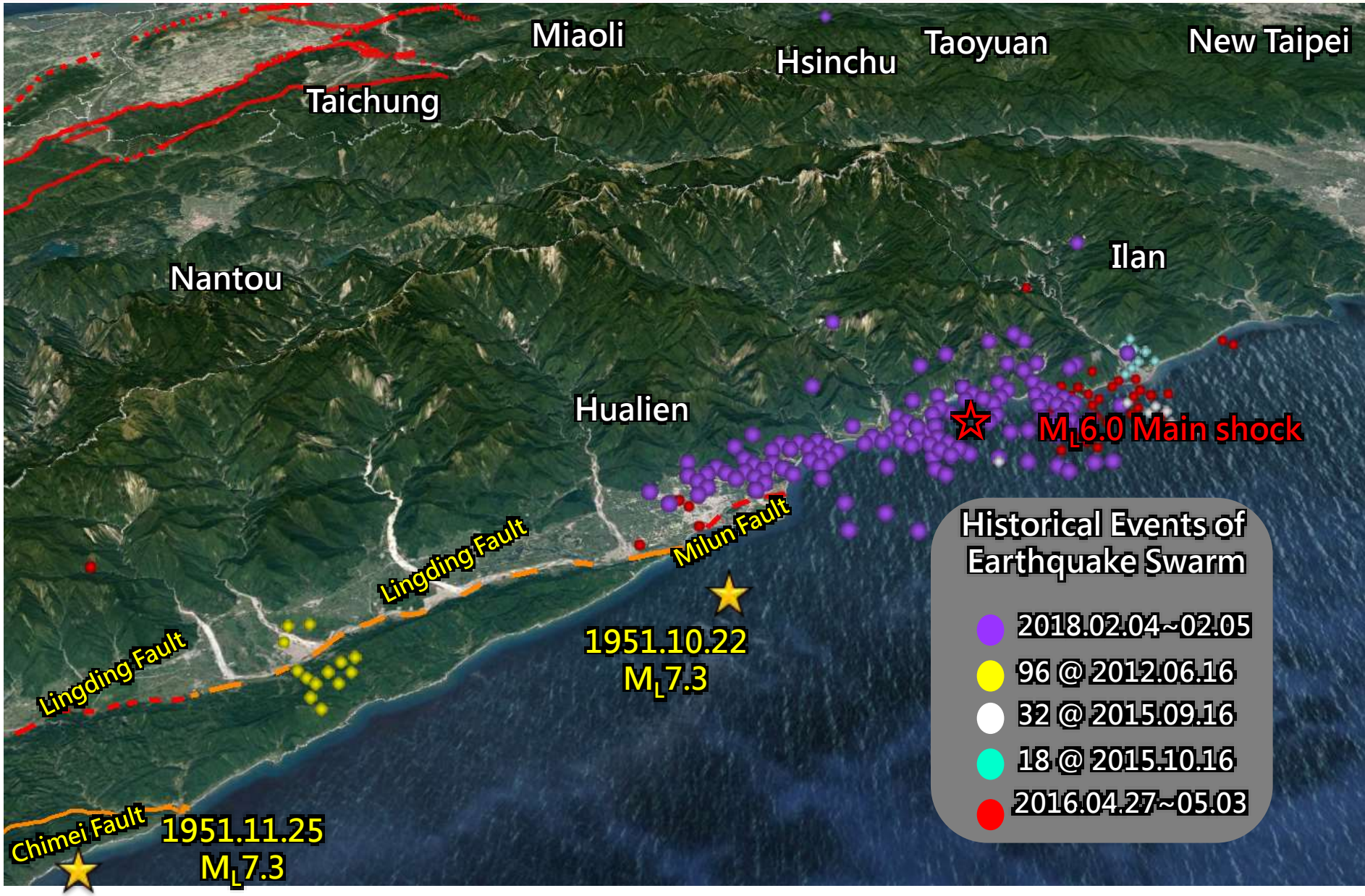
- Vertical ground displacement



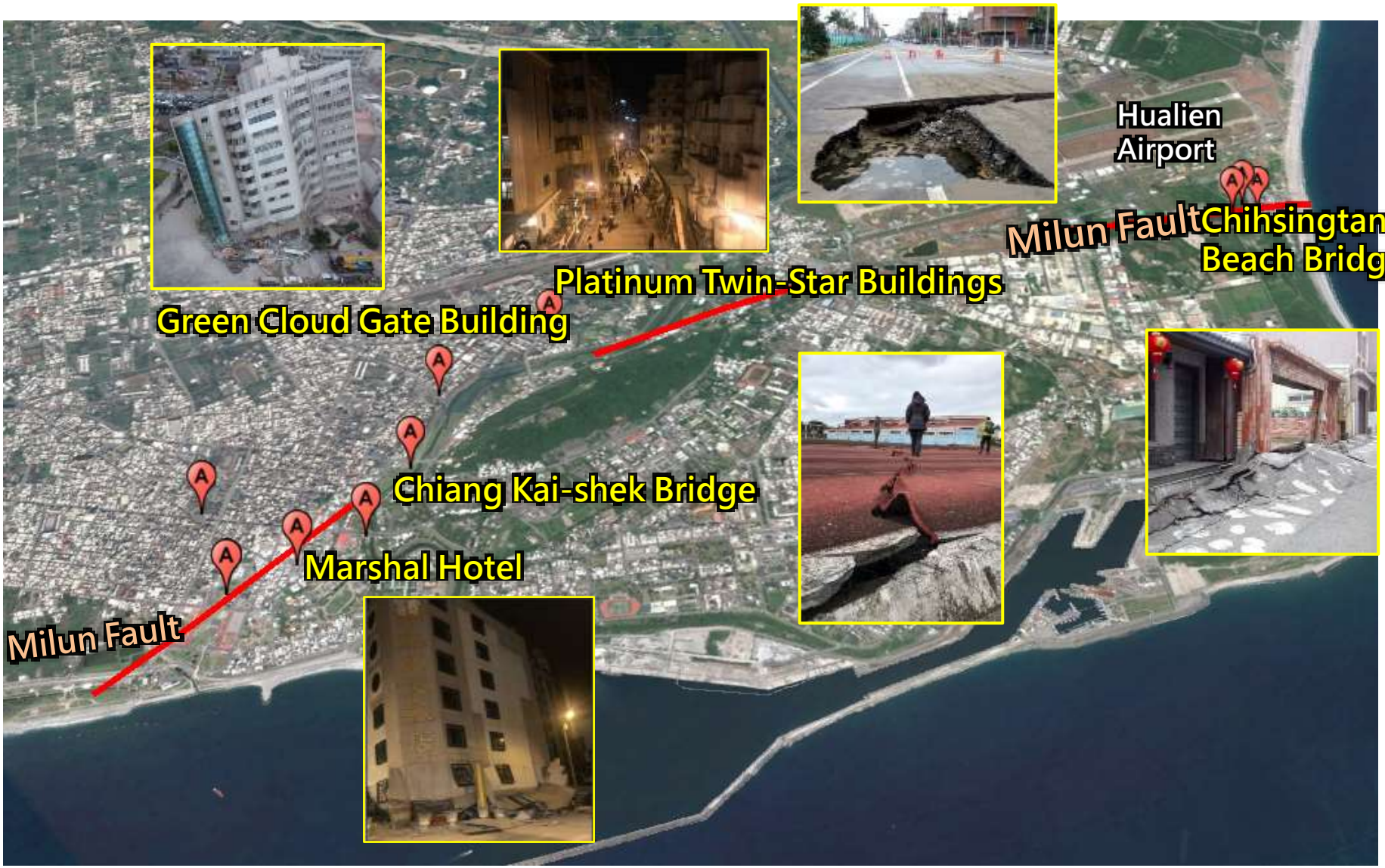
Distributions of fore- and after- shocks

Till 02/07 07:50 am

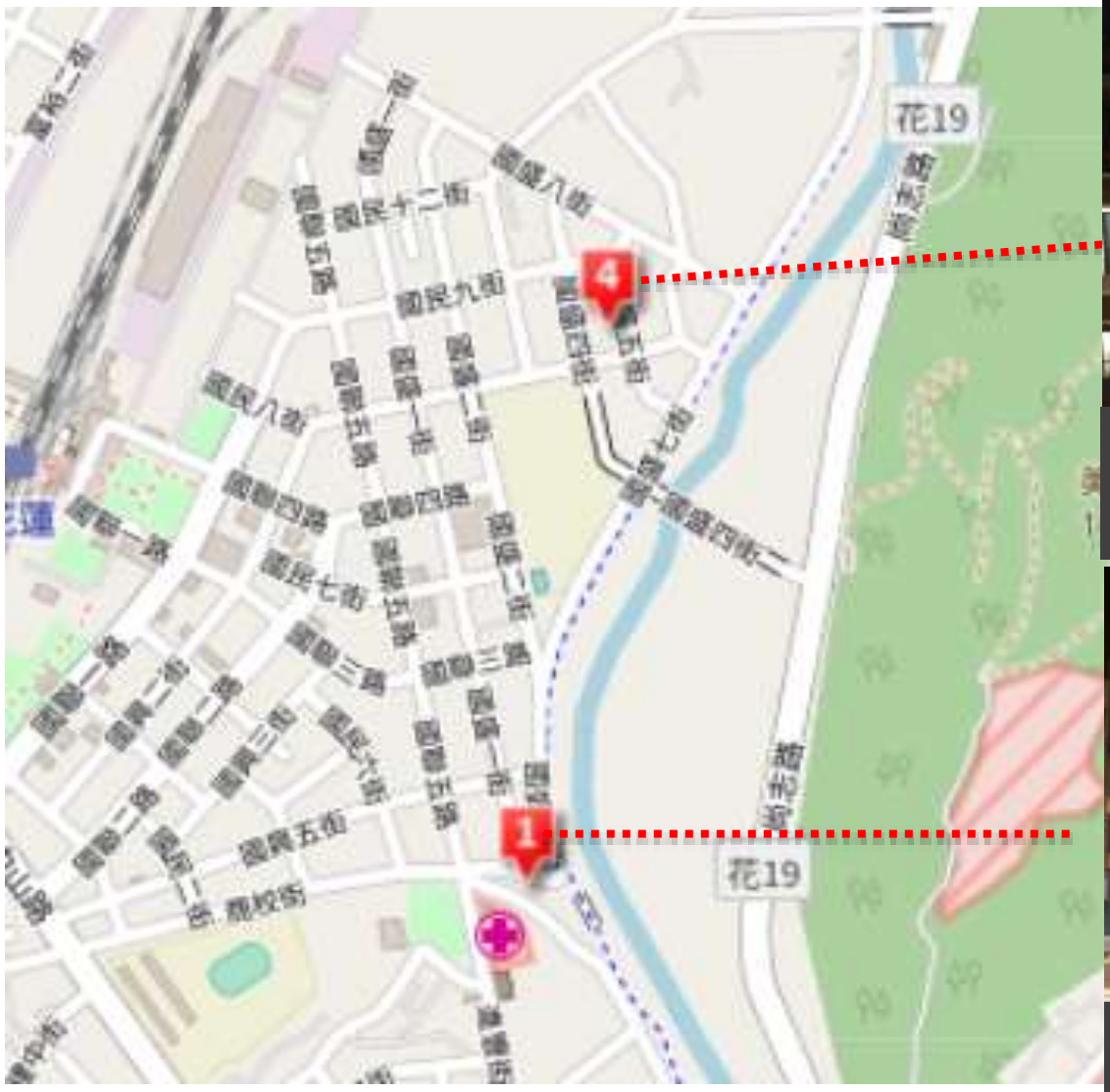
Historical Events of Earthquake Swarm



Damaged sites distributed along the Milung Fault



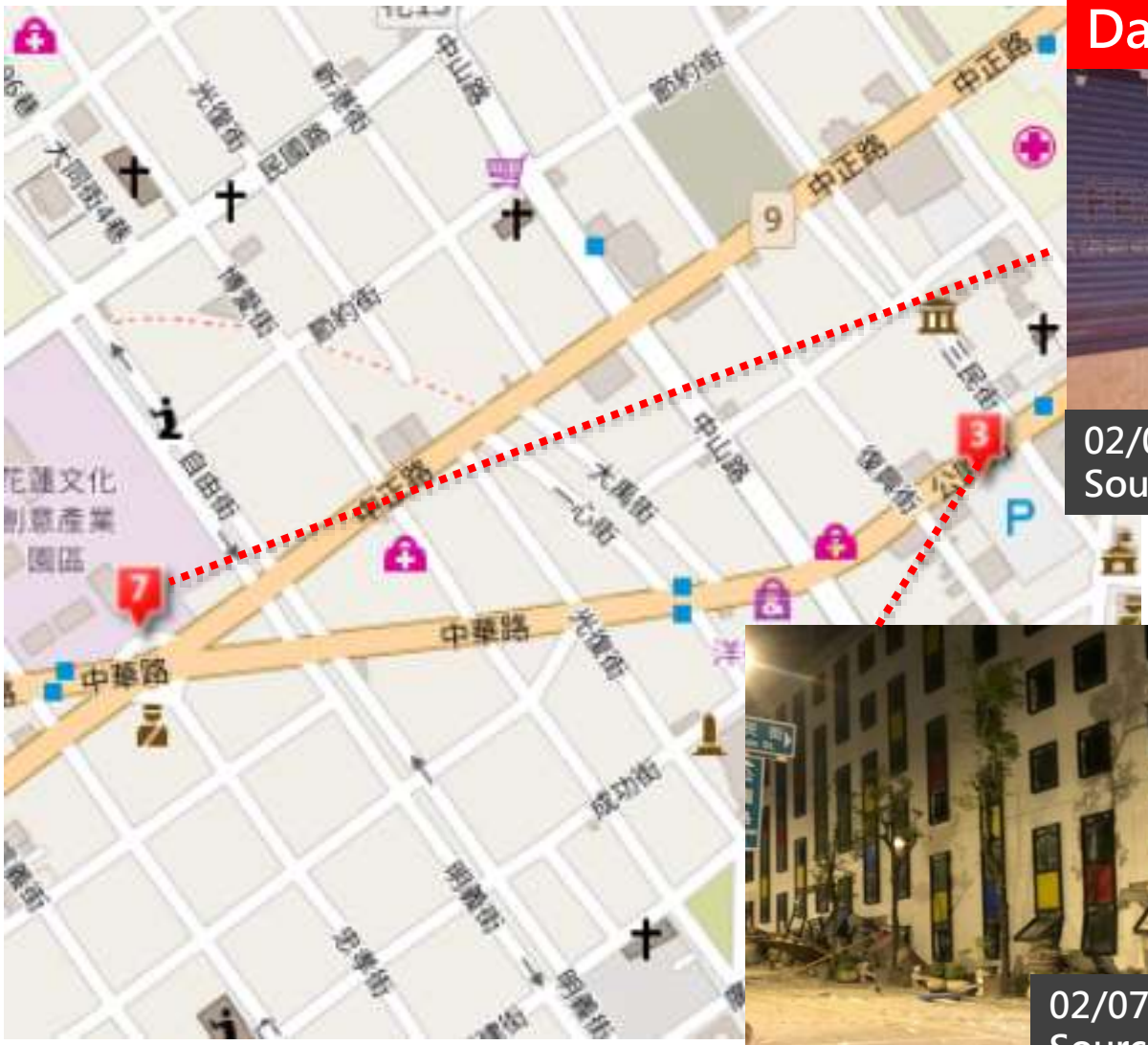
Collapsed buildings



02/07 00:36
Platinum Twin-Star Buildings
Source: Facebook

02/07 00:06
Green Cloud Gate Building
Source: Facebook

Damaged building



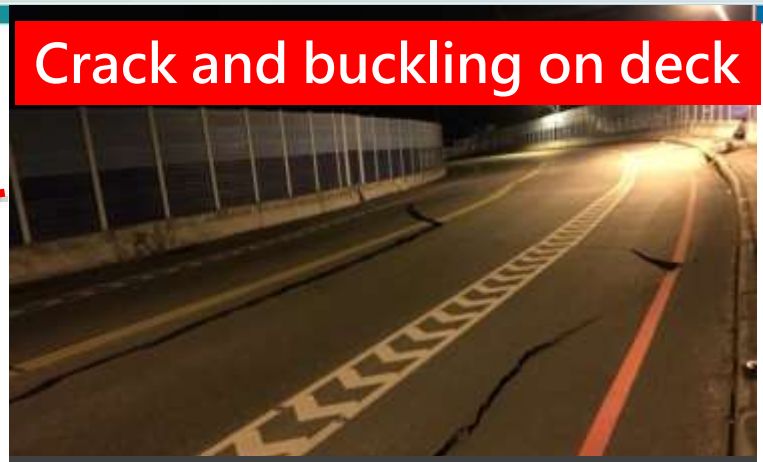
Damaged site

02/07 00:50 Far-eastern Building
Source: Facebook

Collapsed site

02/07 00:31 Marshal Hotel
Source: Facebook

Damaged bridges



Crack and buckling on deck

02/07 00:11 Chihsingtan Beach Bridge
Source: Facebook

Buckling on deck

02/07 00:42 Hualien Bridge
Source: Facebook

Rock fallings along Highway #8

Near Changchun Temple

Dam site in Taroko Creek

Findings and lessons learned

- **Private-owned-for-public buildings could be hot spots to focus on checking seismic capacity**
  - Hotels, malls, theaters, hospitals, banks….
- **Structures with open space, but without sufficient shear walls**
  - Ex. Weak story because of the 1st floor garage
- **Information preparedness to conduct screening and highlighting disaster hotspots**
  - An **automatic system generating reports** after earthquakes to help decision makers in the emergency operation room
- **Early warning system to alert citizen for up-coming hits**
  - Disaster alerts sent through the Cell Broadcasting Service to mobile phone

Thanks
for
your attention