

**STATUS REPORT – to be presented to the Intelligence Team by 1200hrs daily.**

<b>Event: Christchurch Earthquake</b>		<b>Section/Function/agency:</b>
<b>Date:</b> 17/03/2011	<b>Time:</b> 1200	<b>Science Liaison Team</b>
<b>Operational Period:</b>		<b>Originator Record #:</b> 019

**Current situation** (incidents, action taken, resource status, personnel numbers etc)

***Earthquake Activity & Deformation:***

- Appendix A illustrates the magnitude and frequency of aftershocks from 22 February to 17 March 2011.
- Appendix B illustrates the number of aftershocks with magnitude  $\geq 3.0$  since 22 February.

***Landslides:***

- Rockfall remediation is underway at the following areas: Evans Pass, Sumnervale, opposite Shag Rock, SH74/Tunnel Road and Bowenvale. Preparation work is underway at Avoca Valley.
- A media release is being prepared about rockfall remediation work underway at present.
- Monitoring of tension cracks and potential landslides continues, including Glendever Rd, Kinsey Tce, Vernon Tce and Egnott Heights. Data from the landside sites has been “regionally filtered” to remove plate tectonic motions and “common mode noise” from their time series.
- Appendix C illustrates the current lifelines and residential property hazard map, generated from the geotechnical mass movement data base.

***Structural Engineering***

- *Reinforced Concrete (RC) Buildings Projects:* While completing operational (CD) structural assessments in the CBD, the UC structural assessment team (Pampanin) is also currently collecting field damage data on:

- a) Damage data, building information and structural detailed of all reinforced concrete buildings built prior to 1992, and selected case study building built post-1992.
- b) Assessment and emergency repair of critically damaged buildings.
- c) Distribution of structural and non-structural damage (CBD wide study).
- d) Forensic structural analysis on the collapsed buildings. Structural drawings being studied/modelled.
- e) Precast concrete stairwells in multi-storey highrise buildings.

- *International Reconnaissance Teams:* The (~20 member) UC structural team is hosting several local/international reconnaissance teams from EERI (USA), AIJ/JAEE (Japan), EEFIT (UK), University of Auckland and several smaller groups. A total of ~40 have been helping with the UC Structural engineering assessment, reconnaissance and building evaluation (within CCC/CD operation).

- Earlier security/access (into cordon) issues for manpower for the engineering reconnaissance projects have largely been resolved.

**Social Science:**

- *Lifelines*: Local researchers met with lifeline providers yesterday to finalise the 4-9 April TCLEE workshop.
- *International liaison*: Numbers of international engineering and geotechnical researchers arriving at the EOC continue to rise.
- International medical (EERI) researchers met with local social science researchers yesterday to discuss information sharing, and the potential for future collaboration, and will meet with senior UC social science researchers today.

**Outstanding Issues / Challenges / Problems:****Anticipated Priorities / Activities:** (For future operational periods)**Structural Engineering:**

- Ongoing support/reporting to the operational projects for the recovery of the CBD (BSE, critical building project, demolition).
- Collection of perishable damage data before demolition.

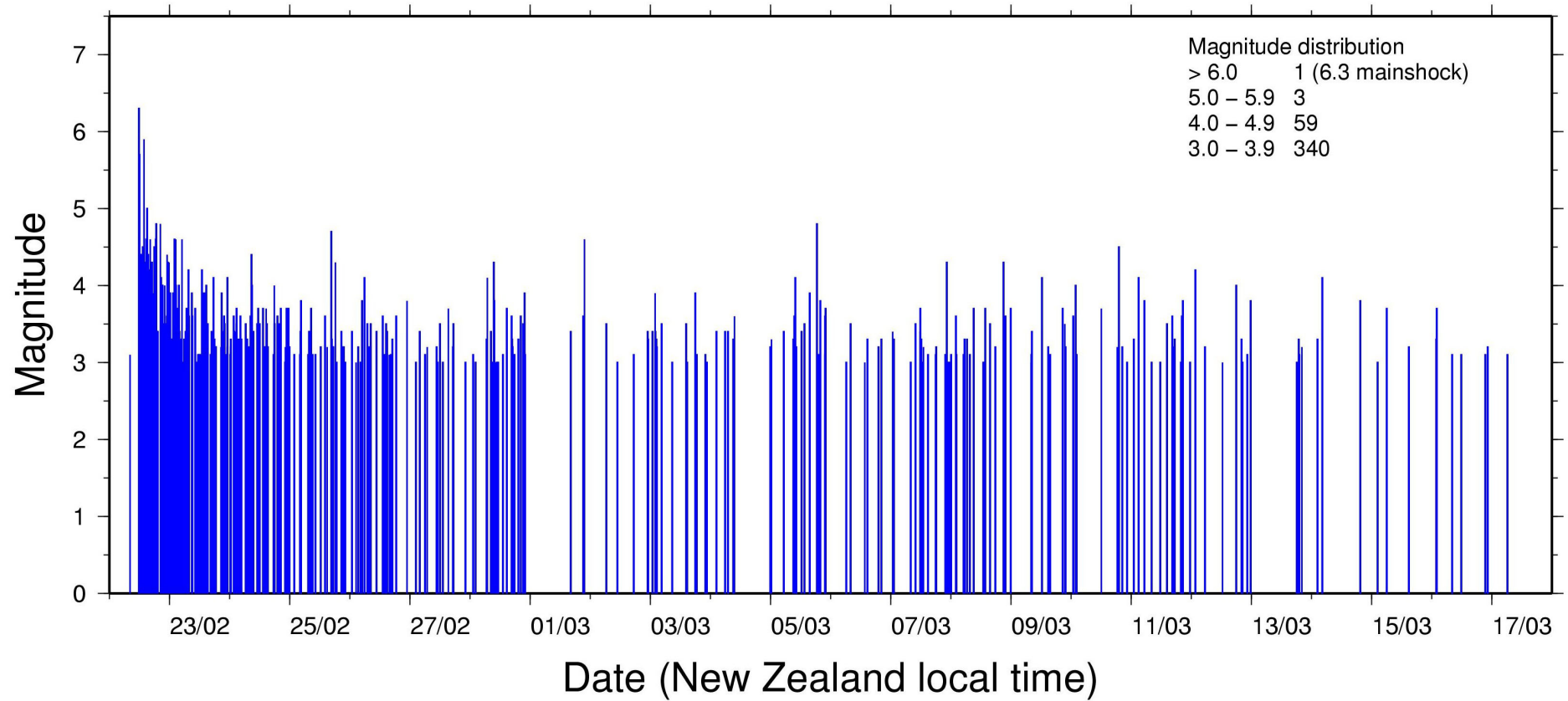
**Social Science:**

- *Lifelines Workshop*: TCLEE, Canterbury engineering lifelines group and NZ Society for Earthquake Engineering will be hosting a five day international Lifelines conference on the 5th-9th April.

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**APPENDIX A:**

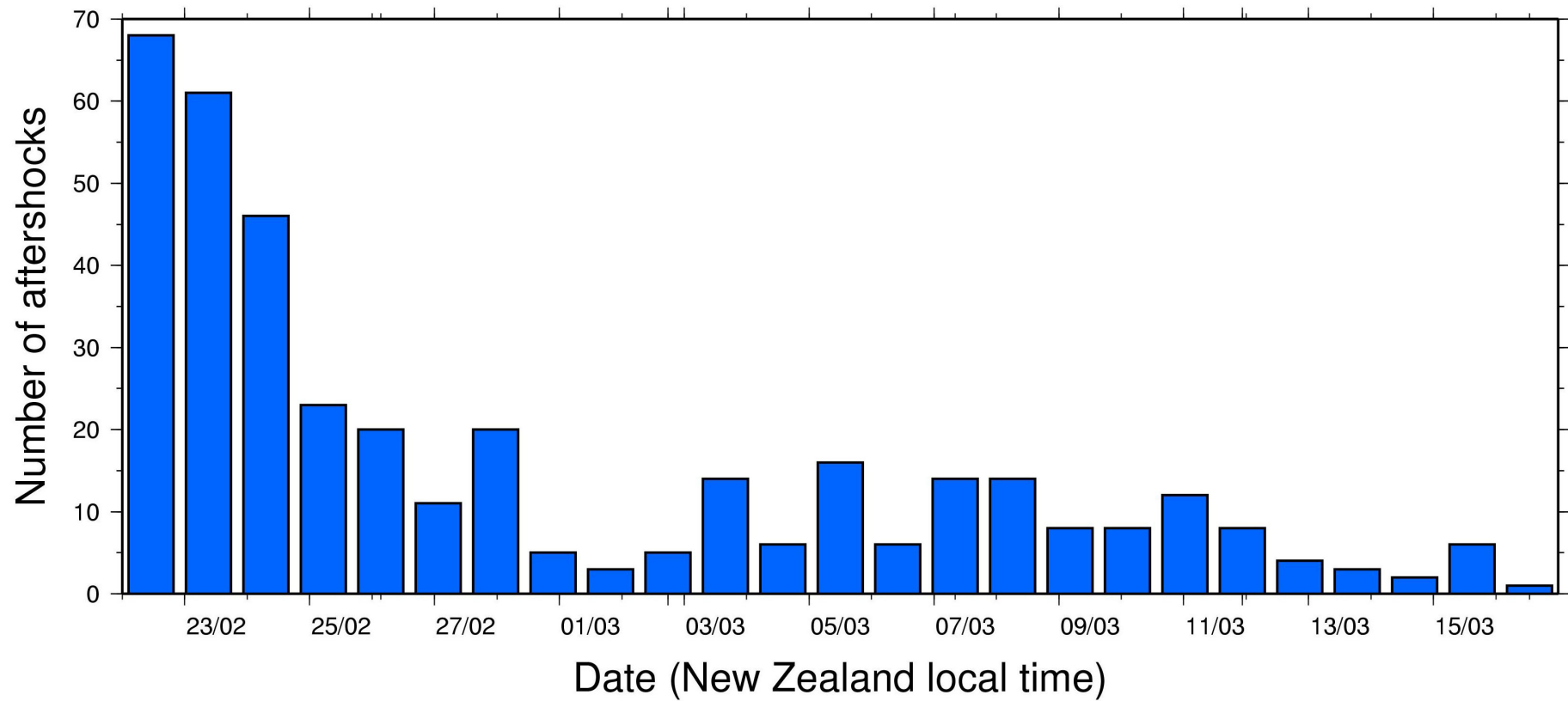
Magnitude and frequency of aftershocks from 22 February to 17 March 2011.

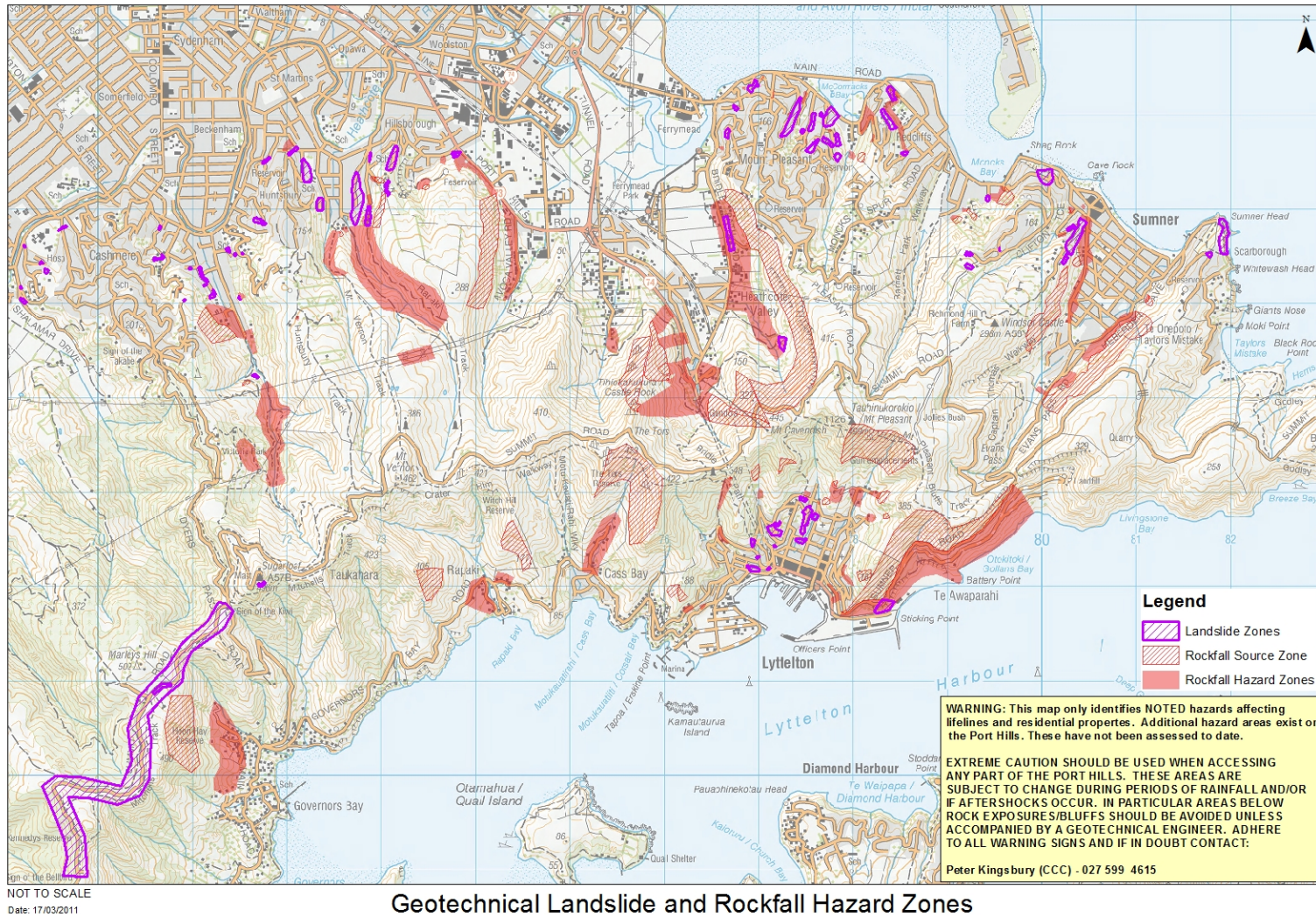


**APPENDIX B:**

Number of aftershocks per day with magnitude  $\geq 3.0$  since 22 February.

## Number of aftershocks per day with $M \geq 3.0$



**APPENDIX C:****Current lifelines and residential property hazard map.**

**Geotechnical Landslide and Rockfall Hazard Zones  
Lifelines and Residential Properties Only**