Impacts of Earthquake-Induced Landslides

Impact on Sediment Processes

- Debris flow runout into the Conway River just north of the Inland Road bridge at Cloudy Range Rd
- Influx of landslide debris in Canterbury rivers will affect sediment transport and floodplain

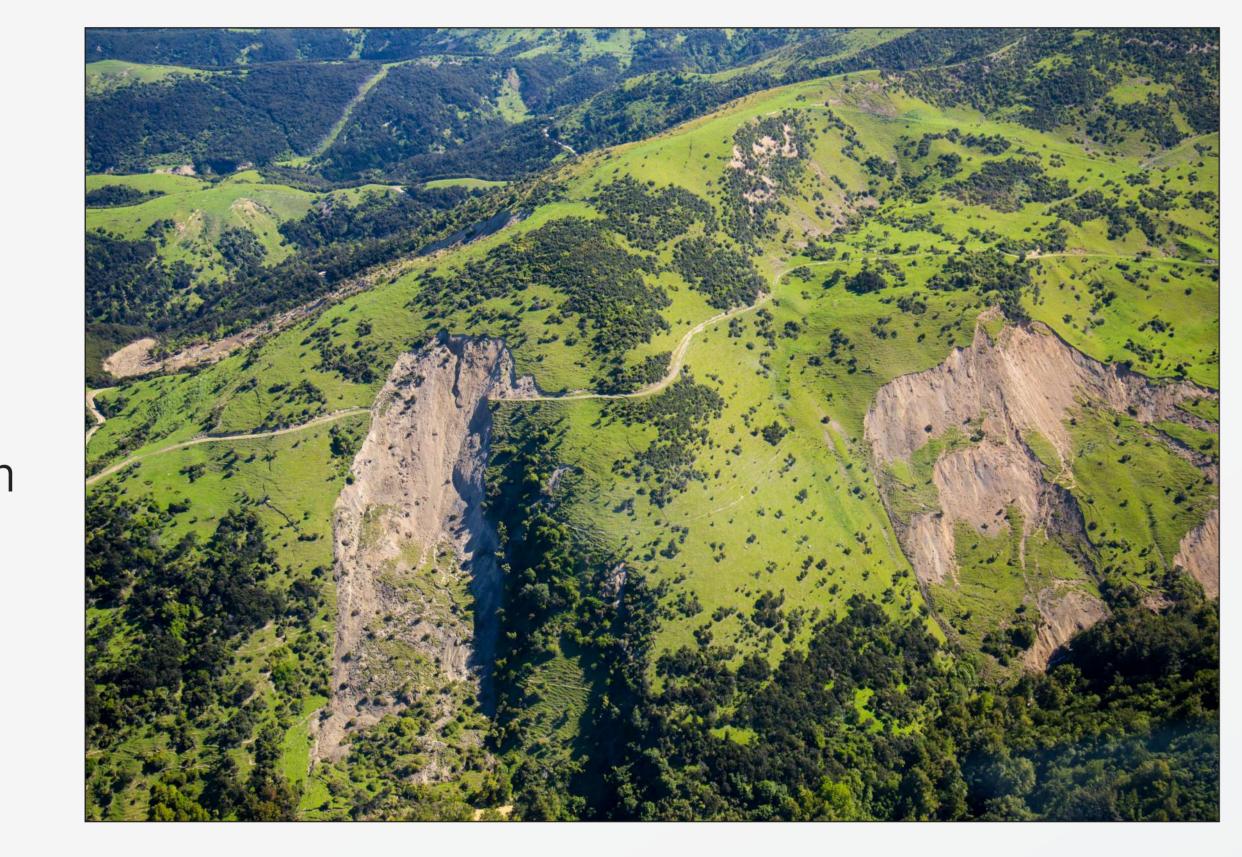
deposition for many years



Impact on Agriculture

- Landslides on a 4WD track in the Black Hills near the Gelt River
- The track needs to be cleared and assessed for stability before
- resuming access

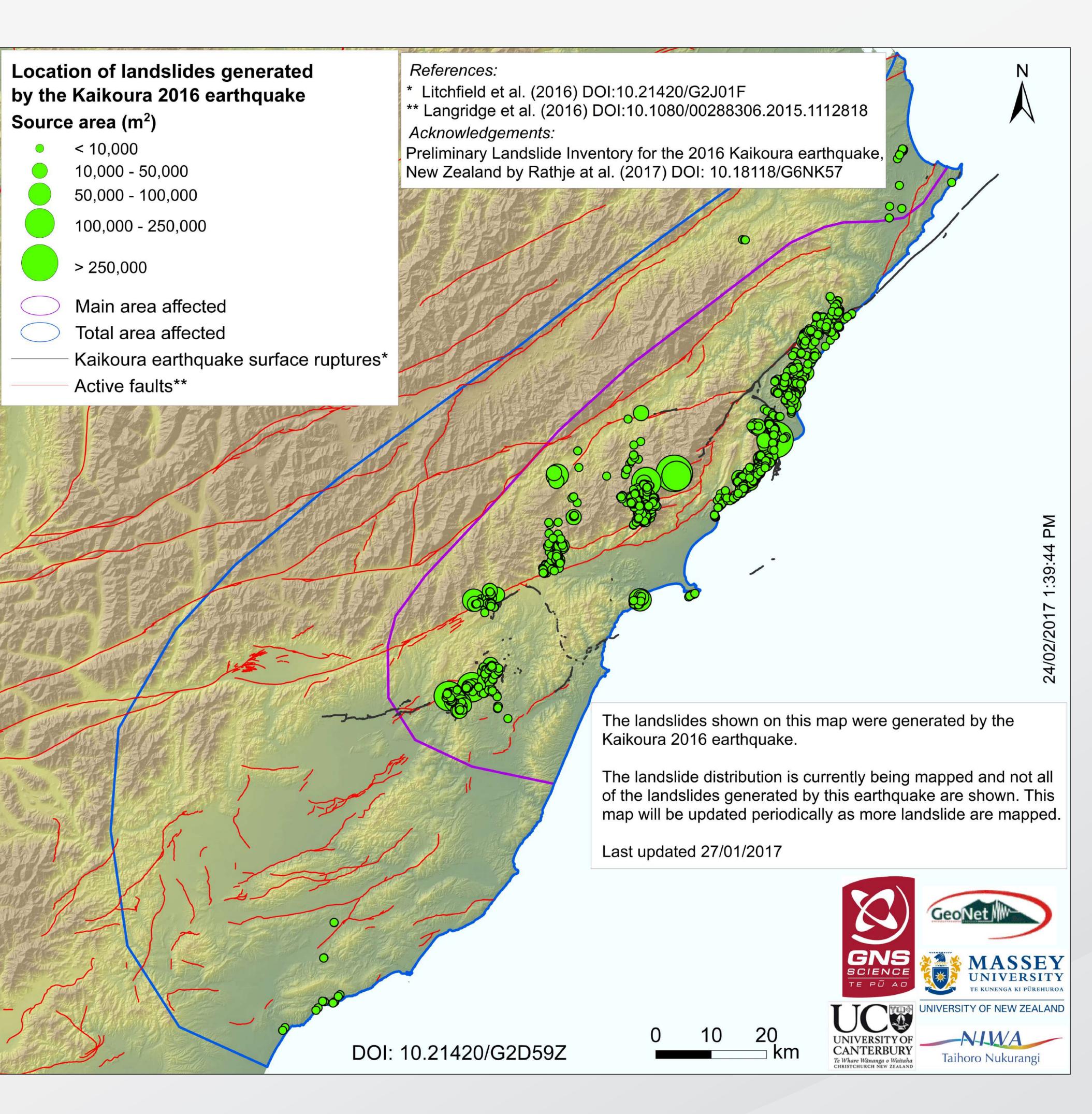
 Loss of grazing land associated with even minor landslides



Impact on Agriculture

- Large (~3 million m³) landslide on the Stanton River
- River is dammed in two places
- Erosion is visible at the lower right of the upper dam
- Some land flooded upstream of upper dam, encroaching on a hut





Summary

Landslide mapping based on satellite, LIDAR and air photo imagery up to 18th February 2017. Individual landslides mapped by a group of a dozen researchers. Compiled into a large database available for use by the public, government and researchers.





Impact on Rivers

Large (~4 million m³) landslide damming the Leader River northeast of Waiau

Rapid failure of dams poses a hazard to downstream communities
Overtopping began 31st January
Dam breached on 14th February

Downstream aggradation of sediment and loss of farm infrastructure

Lake Rebecca level has dropped 3 m



Impact on Rivers

Large (~700 000 m³) reactivated rock avalanche on the Conway River north of Mt. Lyford

Associated landslide dam beginning to erode as of the 20th November Lake level beginning to decrease by the 21st November



Impact on Recreation

Rock fall affecting several hundred metres of the Blind Saddle Rd over the Seaward Kaikoura into the Clarence valley

The road must be cleared of debris

Stability of the road cut will need to
be assessed for continued use of the

4WD track

