



## Highly erodible land 2012 South Island

Title	Highly erodible land
Creator	Stats New Zealand
Date	2012
Date	2019-03-12
Date	2017
Description	<p>This metadata record describes an image of land predicted to be at risk of severe mass movement erosion for the South Island. The image was produced using the Highly Erodible Land model that identifies land at risk to the main forms of mass-movement soil erosion in New Zealand: landsliding, gullyng, or earthflow erosion. If the land has protective woody vegetation, then it is not at risk (Dymond et al., 2006). The Highly Erodible Land model identifies five classes of land at risk of erosion: (1) High landslide risk - delivery to stream; (2) high landslide risk - non-delivery to steam; (3) Moderate earthflow risk; (4) Severe earthflow risk; and (5) Gully risk. Landsliding occurs on steep slopes where the soils do not have protective tree roots. The slope angle at which land is considered at risk to landsliding depends on rock strength. Where land is steeper than this slope threshold and does not have woody vegetation, it is considered at risk to landsliding. There is no slope threshold for land at risk to gullyng or earthflow erosion. Where land is at risk to gullyng or earthflow erosion and does not have woody vegetation, it is considered at risk. The different types of mass-movement soil erosion are not ranked in severity, except for earthflow risk which has extreme and moderate classes of risk. Use: These data provide a regional perspective on land at risk of soil erosion.</p>
Source	<p>A summary of methodology: These national maps of soil erosion are modelled from three factors: (1)slope; (2) land cover (from satellite imagery LCDB v4.0, nominal date 2012/13); and, (3) rock type. Further details... The Highly Erodible Land (HEL) system identifies land highly susceptible to mass-movement erosion using a combination of the erosion terrains derived from the NZLRI database, a 15-metre digital elevation model (DEM) to determine topography, and land cover mapping. It considers the main forms of mass-movement erosion in New Zealand (landsliding, earth flows, and massive gullyng). Highly erodible land was defined as "land with the potential for severe erosion if it does not have protective woody vegetation" and was identified by:</p> <ul style="list-style-type: none"><li>•defining slope thresholds for each erosion terrain and assigning all land above the threshold to HEL on the basis of landslide risk (thresholds ranged from 24° on weak Tertiary-age mudstone to 45° on hard greywacke) Note that slope thresholds shown as 90 and over represent no threshold, i.e. any slope is at risk of erosion.</li><li>•assigning all pixels mapped with moderate or severe earth-flow erosion and gully erosion (from the NZLRI) to HEL</li><li>•determining whether land identified as HEL has existing woody vegetation cover (if protected it is excluded from HEL). Space-planted trees, a soil conservation measure, are not taken into account in the HEL model. John D has estimated that 5 - 10% of HEL actually has space-planted trees. Because it uses the DEM to identify slopes, the HEL system is capable of higher spatial resolution than the NZLRI approach alone.</li></ul>
Coverage	-47.400747 166.264966 -40.336922 174.552817
Identifier	<a href="https://data.mfe.govt.nz/layer/99896-highly-erodible-land-2012-south-island/">https://data.mfe.govt.nz/layer/99896-highly-erodible-land-2012-south-island/</a>
Type	

grid

Language

eng

Subject

New Zealand

Subject

GEOSCIENCES-Geomorphology

Subject

HAZARDS-Landslip

Subject

SOIL-Erosion

Subject

environment

Subject

geoscientificInformation