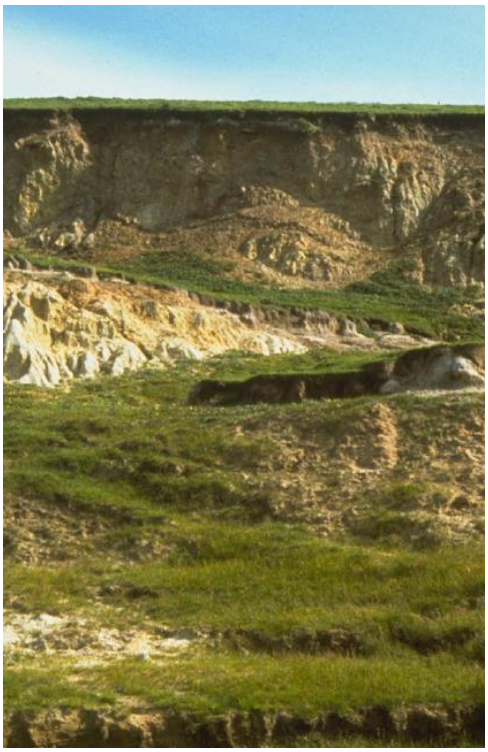
Mass movement (landslip)

The combination of steep cleared slopes and wetness is potentially hazardous. Landslips are an extreme example of what can happen.



Land affected by mass movement

Mass movement occurs on sloping ground where large slabs of the ground surface separate and slide or flow downhill. The phenomenon is probably the result of loss of binding in the soil mass following clearing of woody vegetation, but is almost certainly triggered by either excessive wetness in the soil causing simultaneous loss of strength and increased mass, and/or earthworks such as track cuttings. The potential for mass movement, based on existing occurrences, is closely linked to underlying geology.

Land assessment in southern South Australia

Land with potential for mass movement and land which is already affected were identified. Slope is a critical factor influencing mass movement and virtually any slope steeper than 30% is at risk once cleared. However, some landscapes are more susceptible than others. For example:

- unconsolidated and slowly permeable substrate materials on slopes as low as 12%
- sodic shale or quartzite bedrock on slopes exceeding 20%
- strongly laminated shaly bedrock where rock laminations are parallel to the ground surface. Lubrication of these layers by water can cause slippage of the overlying soil where slopes exceed 20%.

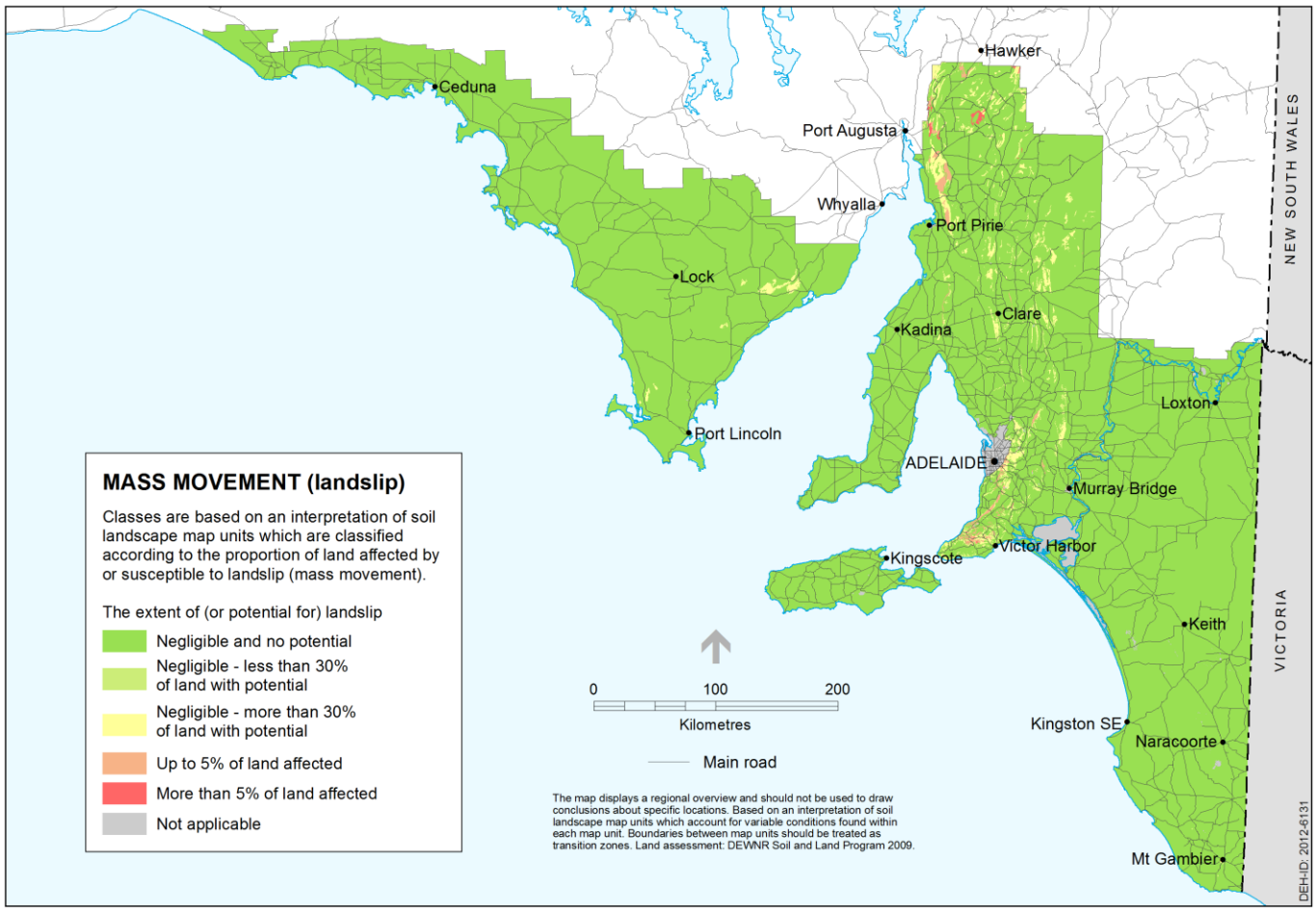
Soil properties can vary across the landscape in a subtle or dramatic fashion. Mapping at a regional scale is not able to display this level of variability, however proportions of each *Mass movement (landslip)* class (e.g. L1, L2, etc.; see table below) have been estimated for each map unit.

Further information can be found in Assessing Agricultural Land (Maschmedt 2002).

Area statistics

Presence of mass movement	Area	Cleared land	Class*
Not affected and negligible potential	96.34%	97.21%	L1
Not affected but with potential	2.25%	1.12%	L2
Affected	0.02%	0.01%	L3
Not applicable	1.40%	1.67%	LX
TOTAL HECTARES	15,765,460	10,439,300	

* The letter 'L' denotes classes that are specific to *Mass movement (landslip)*



Hillslopes affected by mass movement

Displaying data in soil maps

Soil and land attribute maps display a simplified version of underlying data. Mapping classes are based on an interpretation of soil landscape map units which are classified into six legend categories according to the proportion of land affected by or susceptible to *Mass movement (landslip)*.

Further information

- View data on NatureMaps (→ Soils)
- Read the metadata for this layer
- Read more about soil attribute mapping
- Contact Mapland

Download from Enviro Data SA:

- Statewide map and spatial dataset
- Assessing Agricultural Lands (Maschmedt 2002)
- Soils of Southern SA book Part 1 and Part 2