Exposure

Exposed landscapes are associated with reduced plant productivity and increased livestock discomfort

Exposure of land to wind, and to some extent to the sun on western facing slopes, can significantly reduce productivity. *Exposure* to wind can retard plant growth through desiccation, growing tip bruising or removal, bud damage or loss, reduced grain or fruit set and disturbance of near surface roots. In coastal areas, these problems are exacerbated because the wind carries salt picked up from the ocean surface. *Exposure* to excessive sun causes desiccation and leaf and fruit scorch.

Exposure is governed by local topography and the direction of prevailing winds. The distance of uninterrupted wind flow, and wind run (combination of velocity and duration) are key factors. Elevated land that is unprotected by nearby higher land is at greatest risk. Exposed land is also at greater risk of erosion, due to the higher incident wind energy and the greater chance of soil exposure due to reduced productivity.

There is little that can be done to protect crops and pastures from the effects of exposure other than to avoid the worst areas. Windbreaks may provide some protection, but effects are usually localized. For the protection of livestock, windbreaks can play an important role, as can removal of stock from exposed areas during extreme weather conditions.

Land assessment in southern South Australia

Assessment of *Exposure* can be highly subjective, and in this case, only topographic position and proximity to the coast are considered to judge whether or not the land is unprotected by nearby high ground. This is designed merely to signal that it is a factor to consider in certain situations.

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 *Exposure* class (e.g. Y1, Y2, etc.) have been estimated for each map unit.

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

Coastal landscapes have high exposure

Area statistics

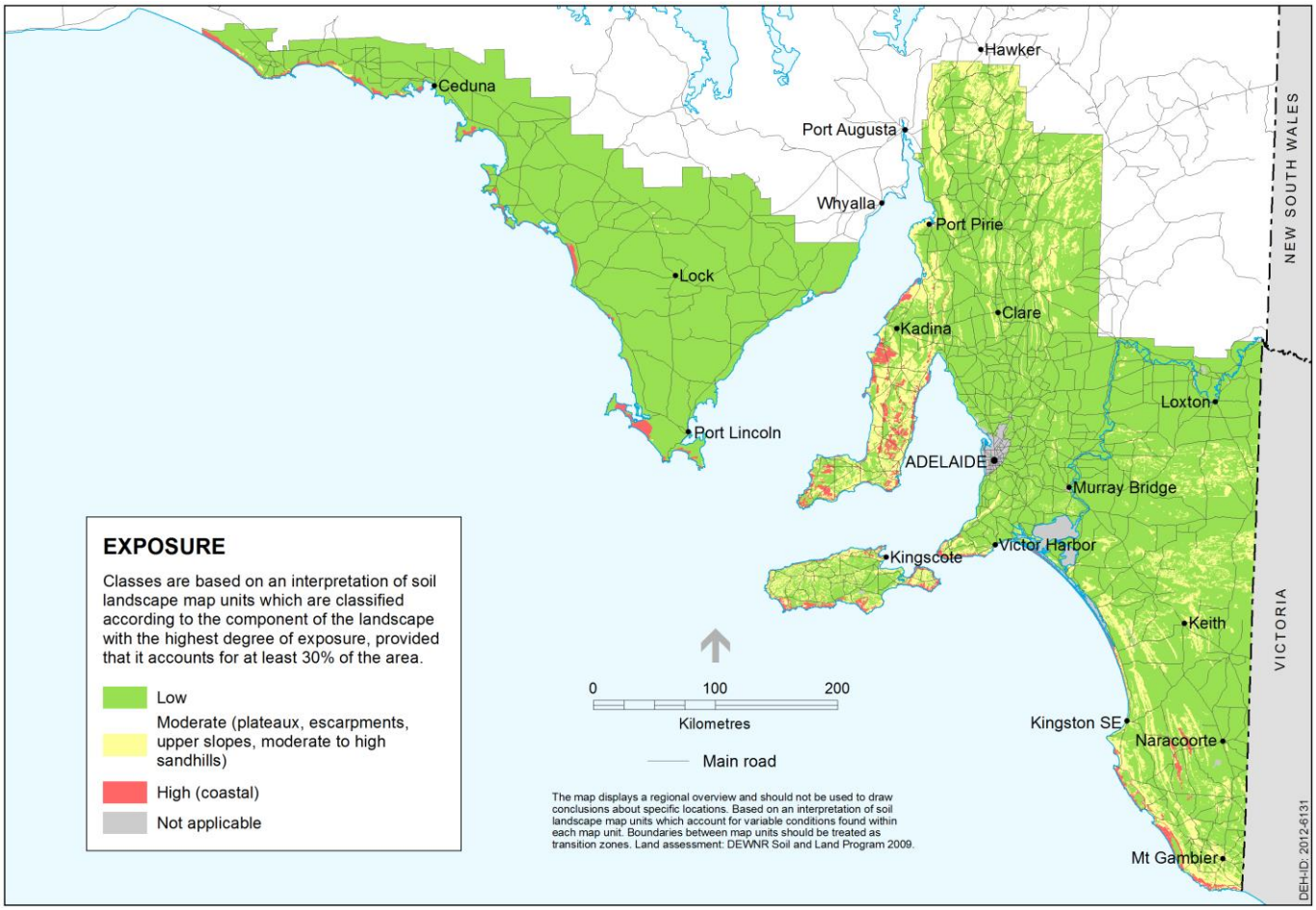
Degree of exposure	Area	Cleared land	Class*
Low	84.74%	87.90%	Y1
Moderate (plateaux, escarpments, upper slopes, moderate to high sandhills)	11.92%	9.32%	Y2
High (coastal)	1.98%	1.14%	Y3
Not applicable	1.35%	1.64%	YX
TOTAL HECTARES	15,765,460	10,439,300	

* The letter 'Y' denotes classes that are specific to *Exposure*

Displaying data in soil maps

Soil and land attribute maps display a simplified version of the underlying data. Mapping classes are based on an assessment of soil landscape map units which are given legend categories corresponding to the proportion of the map unit with the highest degree of exposure, provided that it accounts for at least 30% of the map unit area.

Upper slopes assessed to have moderate exposure



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