

Waterlogging susceptibility

Many South Australian soils have subsurface hydraulic barriers, so can be waterlogged without any surface indication

Waterlogging susceptibility is affected by the permeability of the soil, depth to watertable, and position in the landscape. Waterlogging occurs when all or part of the soil profile is saturated with water. The degree to which a soil becomes waterlogged depends on how much water enters the soil and how quickly it leaves it, either by deep percolation, lateral seepage or evapotranspiration. Some soils are effectively never waterlogged, while others are saturated all of the time. Low-lying ground is more prone to waterlogging than higher ground, while areas which get little rain or have excessive runoff are unlikely to be significantly affected.

Land assessment in southern South Australia

Waterlogging susceptibility classes take account of the period of time that all or part of the soil profile is waterlogged. This is invariably an estimate based on observable soil and landscape features, and on opportunistic recordings of soil wetness under different weather conditions. The level of waterlogging is rarely consistent within a landscape.

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 *Waterlogging susceptibility* class (e.g. W1, W2, etc.) have been estimated for each map unit.

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



Waterlogging caused by rainfall perched on top of a low permeability clay layer at shallow depth

Area statistics

Drainage	Degree of wetness	Area	Cleared land	Class*
Rapidly to well drained	Soil never wet for more than two days	72.09%	66.36%	W1
Moderately well drained	Soil wet for up to one week	12.01%	15.07%	W2
	Soil wet for several weeks	7.08%	8.97%	W3
Imperfectly drained	Soil prone to saturation very early in the growing season	2.97%	3.67%	W4
Poorly drained	Soil wet for several months	2.11%	2.27%	W5
Very poorly drained	Soil wet for most of the year	1.95%	1.66%	W7
Inundated	Land permanently under water	1.31%	1.33%	W8
Not applicable		0.47%	0.67%	WX
TOTAL HECTARES		15,765,460	10,439,300	

* The letter 'W' denotes classes that are specific to *Waterlogging susceptibility*

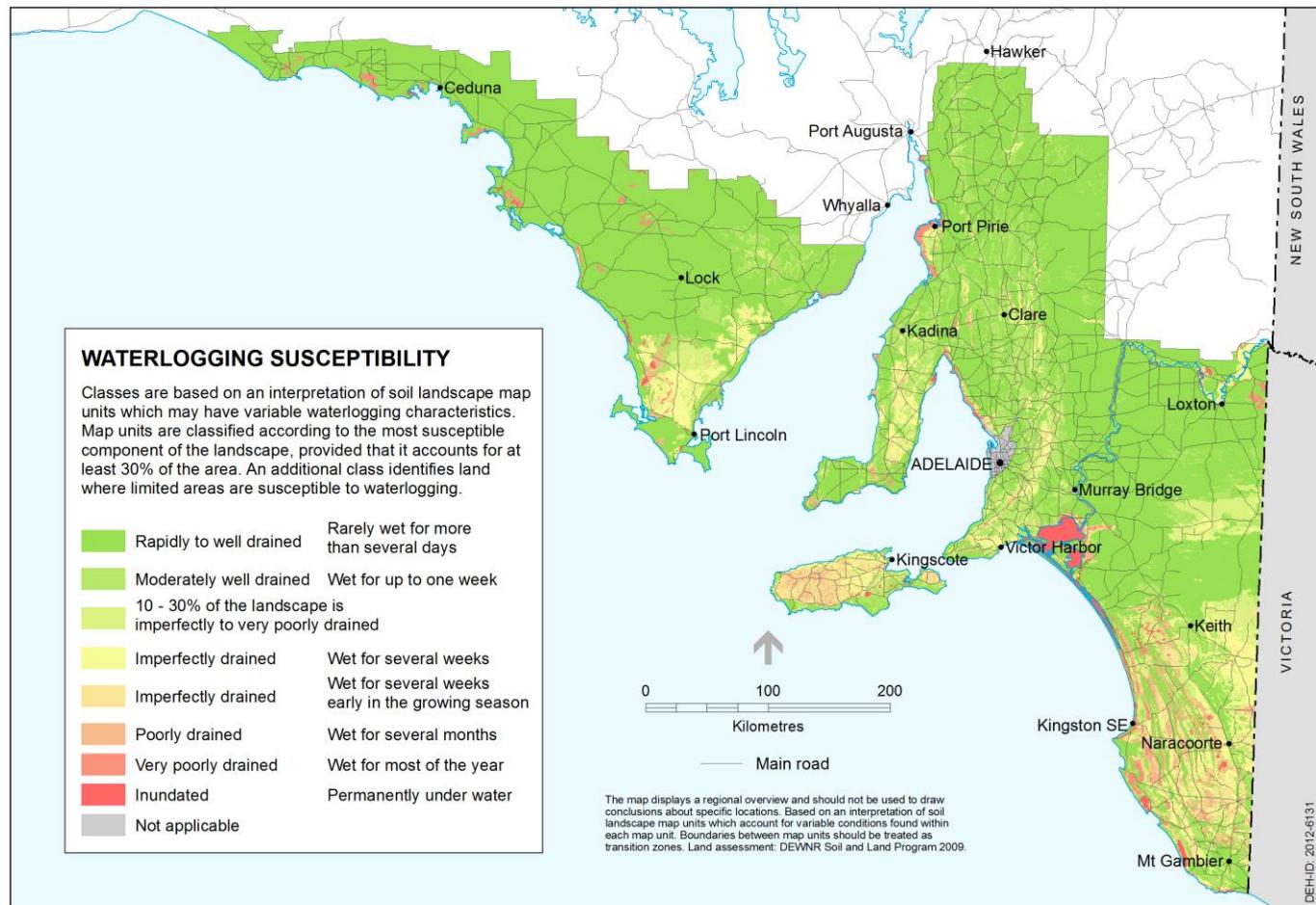


Displaying data in soil maps

Land and soil attribute maps display a simplified version of the underlying data. This is because, at the scale of mapping, a number of landscape elements and a range of *Waterlogging susceptibility* classes may be captured in each map unit. In this case, map units are classified to highlight the most severely waterlogging prone areas, provided they comprise at least 30% of a map unit. (This means that up to 70% of a map unit can be less severely affected than the map suggests).



Mounding in this orchard helps to manage imperfectly drained soils



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](#)



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