

# Rootzone depth potential –

## Horticultural crop type **CD** – root crops

**Most soils have some form of chemical or physical barrier that restricts root growth. Understanding these limitations is particularly important in irrigated soils**

**Rootzone depth potential** of irrigated crops is affected by a range of soil parameters, including soil physical condition, hard rock or hardpan, soluble salts (including boron), alkalinity, acidity and sodicity. Some crops are more sensitive than others to at least some of these factors.

Five horticultural crop type groups are considered:

- CA** [sensitive crops](#) (e.g. citrus, avocado)
- CB** [intermediate sensitivity crops](#) (e.g. stone fruits, almond, pome fruits)
- CC** [hardy crops](#) (e.g. grapes, olives)
- CD** **root crops (e.g. potatoes, carrots, onions)**
- CE** [above ground annual crops](#) (e.g. brassicas)

### Land assessment in southern South Australia

*Rootzone depth potential* is assessed as follows:

- The main soils occurring in each map unit component are defined.
- For each soil, criteria are used to estimate the rootzone depth potential for each crop type. These consider limitations due to poor subsoil structure, basement rock or calcrete, soil salinity, boron, pH, and sodicity.
- Average rootzone depths are then calculated for each component.

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 *Rootzone depth potential* class (e.g. DCD1, DCD2, etc.) have been estimated for each map unit.

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



*Deep, well drained, stone-free sandy loam — ideal for root crops*

### Area statistics

Average potential rootzone depth – root crops	Area	Cleared land	Class*
More than 100 cm	10.34%	9.04%	DCD1
80–100 cm	2.04%	2.44%	DCD2
60–80 cm	5.46%	5.78%	DCD3
50–60 cm	5.53%	5.26%	DCD4
40–50 cm	7.45%	8.54%	DCD5
30–40 cm	12.72%	15.61%	DCD6
20–30 cm	20.17%	21.83%	DCD7
Less than 20 cm	34.78%	29.72%	DCD8
Not applicable	1.50%	1.77%	DCDX
<b>TOTAL HECTARES</b>	<b>15,765,460</b>	<b>10,439,300</b>	

\* The letters 'DCD' denotes classes that are specific to *Rootzone depth potential - Horticultural crop type CD*

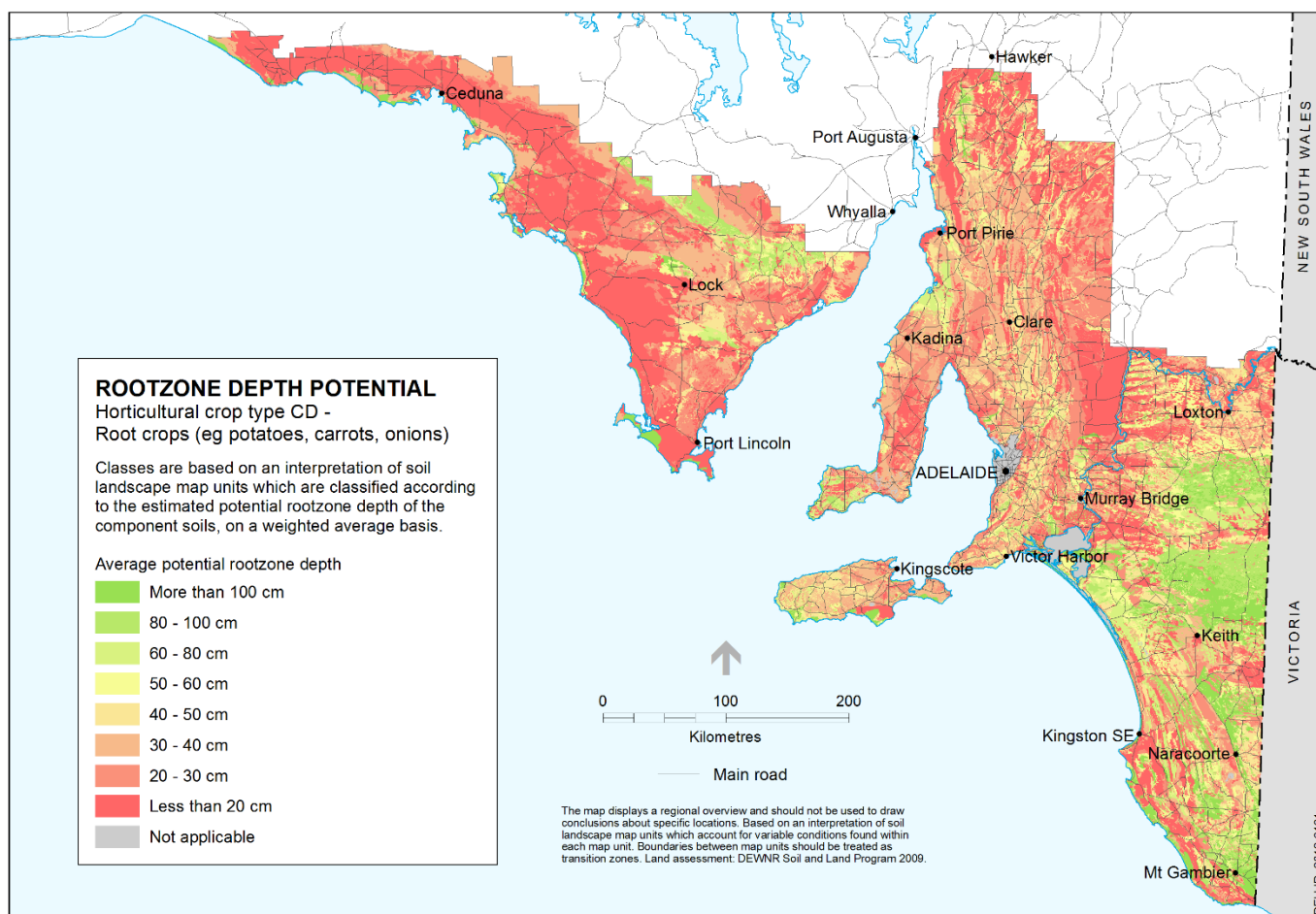


### Displaying data in soil maps

Soil and land attribute maps display a simplified version of the underlying data. Mapping classes are based on soil landscape map units, within which rootzone depth potential can vary. Map units are classified according to the estimated potential rootzone depth of the component soils, on a weighted average basis. Variations from the mean can be significant, so legend categories should be considered as indicative only.



Calcrete often overlies sodic and highly calcareous materials, or tight heavy clays, all of which limit potential rootzone depth



### 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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