Title

Hydrologic Soil Groups (HSG) of NSW

Abstract

This map provides an estimation of Hydrologic Groups of soils in NSW according to the four class system (A-D)

- A — soils having **high infiltration** rates, even when thoroughly wetted and consisting chiefly of deep, well to excessively-drained sands or gravels. These soils have a high rate of water transmission and have low water run-off potential.
- B — soils having **moderate infiltration** rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- C — soils having **slow infiltration** rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.
- D — soils having **very slow infiltration** rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

The map uses the best available soils mapping coverage and was derived from a lookup table system linking a Hydrologic Group class to a particular soil type using the Great Soil Group (GSG) classification. Each dominant GSG has been assigned a Hydrologic Soil Group.

The classification is based on the United State's Hydrologic Soil Group system published within the National Engineering Handbook (2007).

Online Maps: This dataset can be viewed using eSPADE (NSW's soil spatial viewer), which contains a suite of soil and landscape information including soil profile data. Many of these datasets have hot-linked soil reports. An alternative viewer is the SEED Map; an ideal way to see what other natural resources datasets (e.g. vegetation) are available for this map area.

Reference: Department of Planning, Industry and Environment, 2021, *Hydrologic Soil Groups of NSW*, Version 4.5, NSW Department of Planning, Industry and Environment, Parramatta.

Resource locator

Show on SEED Web Map

Name: Show on SEED Web Map

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Display dataset on SEED's map

Function: download

Data quality statement

Name: Data quality statement

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

DQS - Hydrologic Groups of Soils in NSW

Function: download

Show on eSPADE Web Map

Name: Show on eSPADE Web Map

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

View dataset on eSPADE spatial viewer.

Function: download

Hydrologic Soil Group data package

Name: Hydrologic Soil Group data package

Protocol: WWW:DOWNLOAD-1.0-http--download

	Description: Download package: shapefiles, ESRI layer files and metadata documents. Function: download
Land and soil information web page	Name: Land and soil information web page Protocol: WWW:DOWNLOAD-1.0-http--download Description: About land and soil information in NSW - DPIE's data systems and map products. Function: download
DPIE's Land and soil website	Name: DPIE's Land and soil website Protocol: WWW:DOWNLOAD-1.0-http--download Description: Soil information, mapping & management; land degradation & geodiversity. Function: download
ArcGIS REST Map Services	Name: ArcGIS REST Map Services Protocol: WWW:DOWNLOAD-1.0-http--download Description: Connect to REST map services using ArcGIS or ArcGIS online map viewer. Function: download
Web Map Service (WMS)	Name: Web Map Service (WMS) Protocol: WWW:DOWNLOAD-1.0-http--download Description: Connect to WMS using your GIS Function: download
KML Service	Name: KML Service Protocol: WWW:DOWNLOAD-1.0-http--download Description: Download KML for use in Google Earth. Function: download

Unique resource identifier

Code	b6af12aa-a167-4486-8092-96a047a1e13d

Presentation form	Map digital
Edition	4.5
Dataset language	English

Metadata standard

Name	ISO 19115
Edition	2016
	https://datasets.seed.nsw.gov.au/dataset/b6af12aa-a167-4486-8092-96a047a1e13d

Dataset URI	
Purpose	Support natural resource management and decision making. This Hydrologic Group product was first produced for NSW Office of Water to assist in mapping water recharge in various catchments within NSW.
Status	Completed
Spatial representation	
Type	vector
Geometric Object Type	surface
Geometric Object Count	42351
Spatial reference system	
Code identifying the spatial reference system	4283
Equivalent scale	1:None
Additional information source	**Version changes** Improvements incorporated into version 4.5 include: • Revision of some HSG classifications for far north coast region and Cobargo area. • Minor adjustments to linework and attributes for the Hunter Region (version 2) • Updated linework and attributes for Camden Haven 1:100,000 map sheet area • Seven changes to the look-up conversion table between Great Soil Group and Hydrologic Soil Group classes. Alluvial Soils - medium to heavy textured, Chocolate Soils, Prairie Soils, Rendzinas and Xanthozems are now classified as having slow infiltration (class C). Solonized Brown soils and Yellow Earths now belong to the moderate infiltration class (B). • Minor linework edge-matching in North Coast area along with small fixups to linework and associated attributes across NSW. **GIS field name descriptions** *HSG_code* - Dominant hydrologic soil group (HSG) classification code *HSG_name* - Dominant hydrologic soil group (HSG) classification code name *HSG_class* - Combined dominant hydrologic soil group (HSG) classification code and name *HSG_desc* - Dominant hydrologic soil group (HSG) classification description *Version* - Version number of dataset *VersDate* - Date of version completion
Topic category	

Keyword set

keyword value	GEOSCIENCES-Hydrogeology
	SOIL
	WATER-Groundwater
	SOIL-Physics
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16

Geographic location

West bounding longitude	141.001
East bounding longitude	153.639
North bounding latitude	-37.505
South bounding latitude	-28.158
NSW Place Name	NSW

Vertical extent information

Minimum value	-100
Maximum value	2228
Coordinate reference system	
Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711

Temporal extent

Begin position	2011-07-12
End position	N/A

Dataset reference date

Resource maintenance

Maintenance and update frequency	As needed
Contact info	
Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
Email address	data.broker@environment.nsw.gov.au
Web address	https://www.nsw.gov.au/departments-and-agencies/dcceew
Responsible party role	pointOfContact

Lineage

The best available soils datasets were sourced to provide a single (seamless where possible) layer across NSW. Datasets collated to derive this map included: * published and draft 1:100,000 soil landscape mapping [1:100,000 scale] * published and draft 1:250,000 soil landscape mapping [1:250,000 scale] * Soil and Land Resources of the Hawkesbury Nepean Catchment [1:100,000 scale]

- Soil and Land Resources of the Liverpool Plains Catchment [1:100,000 scale]
- Reconnaissance Soil and Land Resources of the Murray CMA Catchment [1:100,000 & 1:250,000 scale]
- Soil Landscapes of the SCA Hydrological Catchments [1:100,000 scale]
- Soils landscapes of the Comprehensive Coastal Assessment (Bare Point, Jervis Bay, Batemans Bay and Ulladulla) [1:100,000 scale]
- Southern Comprehensive Regional Assessment [1:100,000 scale]
- Northern Comprehensive Regional Assessment [1:100,000 scale]
- Reconnaissance soil landscapes of the Namoi CMA [1:100,000 scale]
- Reconnaissance soil landscapes of the Upper Riverina (HSHL) [1:100,000 scale]
- Reconnaissance soil landscapes of the Border Rivers/Gwydir CMA [1:100,000 scale]
- Brigalow Belt South Western Regional Assessment [1:100,000 scale]
- Reconnaissance Soil Landscapes of the Upper Macleay Catchment [1:100,000 scale]
- Upper Murrumbidgee Soil Benchmarking project [1:100,000 scale]
- Glen Innes Data Gap Reconnaissance Soils Mapping [1:100,000 scale]
- Soil Information for the Nyngan 1:250,000 sheet [1:250,000 scale]
- Soil Information for the Walgett 1:250,000 sheet [1:250,000 scale]
- Soil Information for the Gilgandra 1:250,000 sheet [1:250,000 scale]
- Reconnaissance soil landscapes of the Riverine Plains [1:500,000 scale]
- Land Systems of the Western Division [1:250,000-1:500,000 scale]
- Land Systems of the Cobar Peniplain Bioregion [1:250,000-1:500,000 scale]

Each polygon was assigned a dominant soil type (Great Soil Group - GSG), from which a Hydrologic Group value was then allocated to each soil type based on their inherent soil properties. Table 1 in the data package shows the lookup table created linking soil types and hydrologic groups.

It is known that other soil types will exist in most if not all polygons, thus the map gives only a guide to the most likely Hydrologic Group to be encountered rather than an assessment using actual on-ground data that describes the likely level of intra-unit variability.

Assumptions made in the allocation of hydrologic soil group mapping include: 1. That the soil type allocated to each polygon is representative of that area. 2. That the soil type of the area has the typical characteristics/properties of Great Soil Group classification.

Limitations on public access

Scope	dataset

DQ Completeness Commission

Effective date	2001-01-01

DQ Completeness Omission

Effective date	2017-05-05
Explanation	All polygons were labelled with a Hydrologic Group as per the classification. An internal desktop review of the Great Soil Group soil type field has been completed for each mapping unit. Hydrologic Group mapping uses this field.

DQ Conceptual Consistency

Effective date	1900-01-01

DQ Topological Consistency

Effective date	2021-10-20
Explanation	ArcGIS was used to ensure all polygons in the shapefile is topologically correct. (cluster tolerance 0.000003 DDeg).

DQ Absolute External Positional Accuracy

Effective date	2017-05-05
Explanation	The accuracy of this map coverage varies across NSW, as map polygon boundaries were derived from many different sources and scales (see Lineage).Soil boundaries using published and draft 1:100,000 scale mapping by OEH are generally accurate to within 100 m. Soil boundaries using published or draft 1:250,000 scale, SCA and reconnaissance 1:100,000 – 1:250,000 level soil landscape mapping are generally accurate to within 250 m. Other small scale datasets (e.g., Reconnaissance 1:500,000 – 1:2,000,000) are approximate and generally accurate to within 500 – 2,000 m.

DQ Non Quantitative Attribute Correctness

Effective date	2017-05-05
Explanation	The accuracy of attributes used to derive this map coverage varies across NSW, as map polygon boundaries were derived from many different sources and map scales. A data source diagram (Figure One in data package) shows these different datasets and their quality according to the Soil confidence classification outlined below: * Good (1) - All necessary soil and landscape data is available at a catchment scale (1:100,000) to undertake the assessment of LSC and other soil thematic maps. * Fair (2) - Most soil and landscape data is available at a catchment scale (1:100,000 - 250,000) to undertake the assessment of LSC and other soil thematic maps. * Low (3) - Limited soil and landscape data is available at a reconnaissance catchment scale (1:100,000 & 1:250,000) which limits the quality of the assessment of LSC and other soil thematic maps. * Very Low (4) - Very limited soil and landscape data is available at the state scale (1:250,000 - 1:500,000) and the LSC and other soil thematic maps should be used as a guide only.

Responsible party

Contact position	Data Broker
Organisation name	NSW Department of Climate Change, Energy, the Environment and Water
Telephone number	131555
Email address	data.broker@environment.nsw.gov.au
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Responsible party role	pointOfContact

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Metadata date

2024-09-17T00:17:27.451928

Metadata language