

Title	NSW eastern forest soil condition: digital soil maps
Alternative title(s)	Determining baselines, drivers and trends of soil health and stability in NSW forests - Regional Forest Agreement regions: Digital soil maps
Abstract	This dataset includes digital soil map products of key soil condition indicators covering the Regional Forest Agreement regions of eastern NSW. Raster maps at 100 m resolution reveal baseline (approximately 2008) levels of the soil indicators soil carbon, pH, bulk density, hillslope erosion and others. Maps are presented on trends of change resulting from different human and natural disturbances such as forest harvesting, uncontrolled stock grazing, climate change and bush fire. Full description of the digital soil maps and methods are presented in: Moyce MC, Gray JM, Wilson BR, Jenkins BR, Young MA, Ugbaje SU, Bishop TFA, Yang X, Henderson LE, Milford HB, Tulau MJ, 2021. <i>Determining baselines, drivers and trends of soil health and stability in New South Wales forests: NSW Forest Monitoring & Improvement Program</i> , Final report v1.1 for NSW Natural Resources Commission by NSW Department of Planning, Industry and Environment and University of Sydney.
Resource locator	
<u>Data Quality Statement</u>	<p>Name: Data Quality Statement</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p> <p>Data quality statement for NSW eastern forest soil condition: digital soil maps</p> <p>Function: download</p>
<u>NSW eastern forest soil condition report</u>	<p>Name: NSW eastern forest soil condition report</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p> <p>Download the technical report: Determining baselines, drivers and trends of soil health and stability in NSW forests - RFA regions.</p> <p>Function: download</p>
<u>Key variables and statistics</u>	<p>Name: Key variables and statistics</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p> <p>Key input variables (geotiff raster) and statistical codes and results (R and txt files)</p> <p>Function: download</p>
<u>Forest soil organic carbon</u>	<p>Name: Forest soil organic carbon</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p> <p>SOC baseline and trends (0-10, 10-30, 0-30 and 30-100 cm depths)</p> <p>Function: download</p>
<u>Forest soil bulk density</u>	<p>Name: Forest soil bulk density</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p> <p>Bulk density baseline and trends (0-10, 10-30, 0-30 cm depths)</p> <p>Function: download</p>
<u>Forest soil pH and other indicators</u>	<p>Name: Forest soil pH and other indicators</p> <p>Protocol: WWW:DOWNLOAD-1.0-http--download</p> <p>Description:</p>

Baseline and some trends for pH, P(total), P(Bray), EC, Dispersion Percent (0-10, 10-30 and 0-30 cm depths).

Function: download

Hillslope erosion

Name: Hillslope erosion

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

Description:

Baseline, current and change in hillslope erosion rates over eastern forests

Function: download

Unique resource identifier

Code 448aed3b-3120-4240-adb1-8db8e5d7c031

Presentation form Map digital

Edition version 1

Dataset language English

Metadata standard

Name ISO 19115

Edition 2016

Dataset URI <https://datasets.seed.nsw.gov.au/dataset/448aed3b-3120-4240-adb1-8db8e5d7c031>

Purpose For monitoring and managing soil condition in eastern NSW forests into the future

Status Completed

Spatial representation type grid

Spatial reference system

Code identifying the spatial reference system 4283

Spatial resolution 100 m

Additional information source Majority of baseline soil condition maps represent the years 2008-09. Soil erosion maps represent period 2001-2020. Climate change maps derived from NARClIM 1.0 project represent period centred around 2070.

Topic category

Keyword set

keyword value SOIL
SOIL-Erosion
FORESTS

HAZARDS-Fire

LAND-Use

Originating controlled vocabulary

Title	ANZLIC Search Words
Reference date	2008-05-16

Geographic location

West bounding longitude	148
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East bounding longitude	154
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North bounding latitude	-37.7
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South bounding latitude	-28
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NSW Place Name	Regional Forest Agreement Regions of eastern NSW
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Vertical extent information

Minimum value	-100
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Maximum value	2228
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Coordinate reference system

Authority code	urn:ogc:def:cs:EPSG::
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Code identifying the coordinate reference system	5711
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Temporal extent

Begin position	2001-01-01
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End position	N/A
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Dataset reference date**Resource maintenance**

Maintenance and update frequency	As needed
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Contact info

Contact position	Data Broker
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Organisation name	NSW Natural Resources Commission
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Telephone number	131555
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Web address	https://www.nrc.nsw.gov.au/
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Responsible party role	pointOfContact
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Lineage	Soil data comprised approximately 2100 profile points derived from SALIS, comprising data mainly from NSW soil survey program and 2008 -09 Monitoring Evaluation and Reporting (MER) program. Digital soil mapping used multiple linear regression (MLR) and random forest modelling techniques in R statistical program framework. Modelling established relationships of soil indicators with 15 environmental variables, available as 100 m spatial grids across the study area. Validation of maps was achieved using a 20% validation dataset initially separated from the 80% training dataset. Modelling of the influence of human and natural disturbances was achieved by applying "space-for-time substitution" modelling concepts. Hillslope erosion modelling involved application of the Revised Universal Soil Loss Equation (RUSLE). Methods are described fully in the accompanying Technical Report (Moyce et al. 2021)
Limitations on public access	
Scope	dataset
DQ Completeness Commission	
Effective date	2021-06-30
Explanation	Covers area within Regional Forest Agreement regions that has woody vegetation as mapped in NSW 2008 woody vegetation layer
DQ Completeness Omission	
Effective date	2021-06-30
Explanation	Did not include areas with non woody vegetation and those outside of NSW RFA regions.
DQ Conceptual Consistency	
Effective date	2021-06-30
Explanation	Imperfect coverage of all environmental regimes in study area, ie, insufficient soil data in some areas of covariate space, and different temporal coverage of soil data. Potential limitations in assumptions made for modelling of change in soil condition with disturbance, for example (i) using forest management zones to represent differing levels of human disturbance and (ii) using broad spatial data on bushfire history to spatially model extent of change in soil condition from bushfire.
DQ Topological Consistency	
Effective date	2021-06-30
DQ Absolute External Positional Accuracy	
Effective date	2021-06-30
Explanation	The validation of the digital soil maps revealed only moderate statistical reliability, eg, Lin's concordance correlation coefficients (CCC) generally 0.3 to 0.4. Even though the maps have a spatial resolution of 100 m, they cannot be relied upon at this fine scale. Nevertheless, there is confidence in the broad spatial and temporal trends revealed by the study.
DQ Non Quantitative Attribute Correctness	
Effective date	2021-06-30
Explanation	The authors have confidence in the broad spatial and temporal trends revealed by the study.

Responsible party

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Metadata date 2024-02-26T12:45:41.138270

Metadata language