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. *Determining baselines, drivers and trends of soil health and stability in New South Wales forests: NSW Forest Monitoring & Improvement Program*, Final report v1.1 for NSW Natural Resources Commission by NSW Department of Planning, Industry and Environment and University of Sydney.

Resource locator

Data Quality Statement	Name: Data Quality Statement Protocol: WWW:DOWNLOAD-1.0-http--download Description: Data quality statement for NSW eastern forest soil condition: digital soil maps Function: download
NSW eastern forest soil condition report	Name: NSW eastern forest soil condition report Protocol: WWW:DOWNLOAD-1.0-http--download Description: Download the technical report: Determining baselines, drivers and trends of soil health and stability in NSW forests – RFA regions. Function: download
Key variables and statistics	Name: Key variables and statistics Protocol: WWW:DOWNLOAD-1.0-http--download Description: Key input variables (geotiff raster) and statistical codes and results (R and txt files) Function: download
Forest soil organic carbon	Name: Forest soil organic carbon Protocol: WWW:DOWNLOAD-1.0-http--download Description: SOC baseline and trends (0-10, 10-30, 0-30 and 30-100 cm depths) Function: download
Forest soil bulk density	Name: Forest soil bulk density Protocol: WWW:DOWNLOAD-1.0-http--download Description: Bulk density baseline and trends (0-10, 10-30, 0-30 cm depths) Function: download
Forest soil pH and other indicators	Name: Forest soil pH and other indicators Protocol: WWW:DOWNLOAD-1.0-http--download Description:

	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

	CLIMATE-AND-WEATHER-Climate-change
	HAZARDS-Fire
	LAND-Use
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
West bounding longitude	148
East bounding longitude	154
North bounding latitude	-37.7
South bounding latitude	-28
NSW Place Name	Regional Forest Agreement Regions of eastern 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	2001-01-01
End position	N/A
Dataset reference date	
Resource maintenance	
Maintenance and update frequency	As needed
Contact info	
Contact position	Data Broker
Organisation name	NSW Natural Resources Commission
Telephone number	131555
Facsimile number	02 9995 5999
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Web address	https://www.nrc.nsw.gov.au/
Responsible party role	pointOfContact

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

Contact position	Data Broker
Organisation name	NSW Natural Resources Commission
Telephone number	131555
Facsimile number	02 9995 5999
Email address	data.broker@environment.nsw.gov.au
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Metadata date

2024-02-26T12:45:41.138270

Metadata language