Title	Modelled Hillslope Erosion over New South Wales
Abstract	This landing page is a collection of data packages and reports which supports the Modelled Hillslope Erosion over New South Wales.
	Hillslope Erosion
	Soil erosion by water includes sheet and rill erosion (also referred to as hillslope erosion) is a major form of land degradation in NSW landscapes. Hillslope erosion was calculated using the revised universal soil loss equation (RUSLE) which estimates soil loss (t ha-1 yr-1) by runoff. Rainfall-runoff erosivity (R) factor (MJ mm ha-1 hr-1 yr-1) in RUSLE was estimated using a daily rainfall erosivity modelling for NSW and long-term rainfall records (Yang and Yu 2015). The soil erodibility (K) factor (t ha h ha-1 MJ-1 mm-1) was estimated from digital soil mapping products and soil profile data (Yang et al 2017). Slope length and steepness (LS, unitless) factor was calculated, on catchment basis, from hydrologically corrected digital elevation model (SRTM DEM-H) based on comprehensive algorithms considering cumulative overland flow length (Yang 2015). The time series groundcover products (the latest version, V310) from Moderate Resolution Imaging Spectroradiometer (MODIS) were used to estimate groundcover and RUSLE cover and management (C, unitless) factor (Yang 2014). Time-series hillslope erosion datasets and maps were produced on monthly and annual bases from 2000 to present. The state and trends of hillslope erosion across New South Wales are summarised in Yang (2020). The relevant references are below:
	Cover Erosion
	This occurs when there is vegetation or ground cover, like grasses, shrubs or leaf litter, on the slope. The cover helps protect the soil from direct raindrop impact, reduces the velocity of surface runoff, and increase infiltration. As a result, erosion rates tend to be lower because the cover acts as a natural barrier that holds soil in place.
	Bare Soil Erosion
	This takes place on slopes with exposed soil, lacking any form of vegetation or cover. Bare soil is more vulnerable to erosion because there's nothing to cushion the impact of rainfall or slow down water flow. The lack of cover results in higher runoff velocity, which intensifies erosion processes, leading to greater soil displacement, sediment transport and potentially faster degradation of the slope.
	 Yang, X., Gray, J., Chapman, C., Zhu, Q., Tulau M., McInnes-Clarke, S. (2017). Digital mapping of soil erodibility for water erosion in New South Wales, Australia. Soil Research. 56(2), 158-170. <u>https://doi.org/10.1071/SR17058</u>.
	 Yang X (2015) Digital mapping of RUSLE slope length and steepness factor across New South Wales. Soil Research 53, 216-225. <u>https://doi.org/10.1071/SR14208</u>.
	 Yang X, Yu B (2015) Modelling and mapping rainfall erosivity in New South Wales, Australia. Soil Research. 53, 178-189. <u>https://doi.org/10.1071/SR14188</u>.
	 Yang X (2014) Deriving RUSLE cover factor from time-series fractional vegetation cover for soil erosion risk monitoring in New South Wales. Soil Research 52, 253-261. <u>https://doi.org/10.1071/SR13297</u>.
	 Yang X (2020) State and trends of hillslope erosion across New South Wales, Australia. Catena 186, 104361. <u>https://doi.org/10.1016/j.catena.2019.104361</u>.
	Interactive Map
	To view the Hillslope bare soil and cover erosion annual layers via SEED map <u>'Click</u> <u>Here'</u>
	The 'Show on SEED map link will load some of the data due to its complexity. To load

e to its complexity. To load more layers please go to the Layer Catalogue and add them. Get help on using the Layer Catalogue 'Click Here'

Resource locator

Show on SEED	Name: Show on SEED Web Map
<u>Web Map</u>	Protocol: WWW:DOWNLOAD-1.0-httpdownload
	Description:

	Display dataset on SEED's map
	Function: download
<u>Data Quality</u> <u>Statement</u>	Name: Data Quality Statement
	Protocol: WWW:DOWNLOAD-1.0-httpdownload
	Description:
	Data quality statement for Modelled Hillslope Erosion over New South Wales
	Function: download
NSW	Name: NSW Environment Land and Soil - Soil Degradation
Environment	Protocol: WWW:DOWNLOAD-1.0-httpdownload
Soil Degradation	Description:
	NSW Environment Website - Soil Degradation
	Function: download
Modelling and	Name: Modelling and mapping rainfall erosivity in NSW, Australia
mapping rainfall	Protocol: WWW:DOWNLOAD-1.0-httpdownload
<u>Australia</u>	Description:
	Publication
	Function: download
Digital mapping	Name: Digital mapping of soil erodibility for water erosion in NSW
of soil erodibility	Protocol: WWW:DOWNLOAD-1.0-httpdownload
in NSW	Description:
	Publication
	Function: download
RUSLE slope	Name: RUSLE slope length and steepness factor across NSW, Australia
length and steepness factor	Protocol: WWW:DOWNLOAD-1.0-httpdownload
across NSW,	Description:
Australia	Publication
	Function: download
RUSLE cover	Name: RUSLE cover factor from time-series fractional vegetation cover in NSW
factor from time- series fractional	Protocol: WWW:DOWNLOAD-1.0-httpdownload
vegetation cover	Description:
<u>in NSW</u>	Publication
	Function: download
Slope and	Name: Slope and Steepness (LS-factor)
<u>Steepness (LS-</u> factor)	Protocol: WWW:DOWNLOAD-1.0-httpdownload
	Description:
	Slope and Steepness (LS) factor for NSW (unitless)
	Function: download
<u>Soil Erodibility (K-</u>	Name: Soil Erodibility (K-factor)
factor)	Protocol: WWW:DOWNLOAD-1.0-httpdownload
	Description:
	The soil erodibility (K) factor for NSW in unit (t.ha.h.ha-1.MJ-1.mm-1)

	Function: download	
Web Map Service	Name: Web Map Service	
	Protocol: WWW:DOWNLOAD-1.0-httpdownload	
	Description:	
	Annual Hillslope Erosion (WMS)	
	Function: download	
Unique resource identifier		
Code	aea6e148-2c60-4de3-8233-2bc7ade4b4d2	
Presentation form	Map digital	
Edition	2	
Dataset language	English	
Metadata standard		
Name	ISO 19115	
Edition	2016	
Dataset URI	https://datasets.seed.nsw.gov.au/dataset/aea6e148-2c60-4de3-8233-2bc7ade4b4d2	
Purpose	Data for land management and environment monitoring	
Status	On going	
Spatial representation type	grid	
Spatial reference	e system	
Code identifying the spatial reference system	4283	
Spatial resolution	100 m	
Topic category		

Keyword set		
keyword value	SOIL-Erosion	
Originating controlled vocabulary		
Title	ANZLIC Search Words	
Reference date	2008-05-16	
Geographic location		
West bounding longitude	140.737	
East bounding longitude	153.673	
North bounding latitude	-37.576	
South bounding latitude	-28.139	
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	2018-03-20	
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	
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Responsible party role	pointOfContact	
Lineage Monthly hillslope erosion was estimated from monthly groundcover and rainfall erosivity since March 2000 to current, and the static K and LS factors. Annual hillslope erosion was estimated from annual mean groundcover and rainfall erosivity from 2000 to 2017, and the static K and LS factors. The mean annual hillslope erosion is the average annual erosion between 2000 and 2017. Similarly, monthly and annual hillslope erosion from 2000 to 2017 was also estimated for bare ground (where groundcover = 0 or C factor = 1).		

Limitations on public access		
Responsible party		
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Metadata date	2025-02-24T02:46:51.066540	
Metadata language		