Title

Coastal Floodplain Prioritisation Study

Abstract

The Coastal Floodplain Prioritisation Study is a product of the NSW Marine Estate Management Strategy (MEMS) developed by the University of NSW Water Research Laboratory (WRL). The separate catchment reports and data packages cover the floodplains of seven NSW estuaries - the Tweed, Richmond, Clarence, Hastings, Macleay, Manning and Shoalhaven River estuaries. The report and geodata package is a centralised information source for managing water quality from diffuse agricultural sources from coastal floodplains now and into the future.

The prioritisation of the floodplain subcatchments and associated management options presented in these reports are an application of the methods outlined in the Coastal Floodplain Prioritisation Study – Background and Methodology (Rayner et al., 2023) (i.e. the 'Methods report'). The Methods report outlines the theoretical processes behind the applied prioritisation approach and provides comprehensive detail and justification on the study approach and methods used.

The seven catchment reports provide an overview of floodplain processes, collate relevant datasets and maps, and describe and use the evidence-based multi-criteria analysis to identify and prioritise acid sulfate soil and blackwater (de-oxygenated water) production risk from sub-catchments. **Estuary specific tidal hydrodynamic models** were used to determine current and future floodgate infrastructure functionality and floodplain drainage vulnerability risk considering sea level rise. Information is detailed by sub-catchment and potential staged management responses to address sources of poor water quality are described.

The geodata package includes information on floodplain drainage infrastructure (floodgates and drainage networks, including photos), soil acidity, acid depth and hydraulic conductivity, floodgate condition and floodplain sea level rise vulnerability and drain cross sections. Collated catchment specific data relevant to the implementation of management options and maps of the acid and blackwater risk prioritisation for each of the seven floodplains are also provided.

The Coastal Floodplain Prioritisation Study datasets for the following regions can be accessed in the **Related Datasets** section below:

- Tweed River
- Richmond River
- Clarence River
- Hastings River
- Macleay River
- Manning River
- Shoalhaven River

Note that prioritisation results between individual floodplains are not directly comparable.

Resource locator

Background and Methodology - Coastal Floodplain Prioritisation Study

Name: Background and Methodology - Coastal Floodplain Prioritisation Study

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

Description:

Background and Methodology for the Coastal Floodplain Prioritisation Study

Function: download

Coastal Floodplain Prioritisation Study Data Quality Statement

Name: Coastal Floodplain Prioritisation Study Data Quality Statement

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

Description:

Data Quality Statement for the Coastal Floodplain Prioritisation Study

Function: download

Unique resource identifier

Code: 762848a5-60cb-4c3e-a17a-1835e455b87c

Presentation

form	
Dataset language	English

Metadata standard

Name	ISO 19115
Edition	2016

Dataset URI	https://datasets.seed.nsw.gov.au/dataset/762848a5-60cb-4c3e-a17a-1835e455b87c
Purpose	The objective of the Coastal Floodplain Prioritisation Study was to develop an evidence base for the strategic management of acidic and blackwater runoff from NSW coastal floodplains to improve the water quality and the overall health of the marine estate. Information regarding vulnerability of floodplain drainage infrastructure in the face of sea level rise, which influences water quality outcomes, will also contribute to current and future decision making. The study uses an evidenced based prioritisation methodology to rank drainage sub catchments within NSW coastal floodplains by their risk of contributing to acid and blackwater generation discharge. The purpose of this prioritisation is to establish an evidence-based list of high priority sub catchments to be considered for on-ground management actions or remediation to improve water quality outcomes. The sea level rise vulnerability information can be used in land use and infrastructure management decision making related to both water quality and drainage vulnerability risks. Collated catchment data provides a single source of relevant information for overall floodplain management decision making. Options for future coastal floodplain management have been developed to provide guidance on how to address these risks.
Status	Completed

Spatial representation

Type	vector

Spatial reference system

Code identifying the spatial reference system	4283

Topic category

Keyword set

keyword value	AGRICULTURE
	ECOLOGY-Landscape
	BIOPHYSICAL
	ADMINISTRATIVE
	CLIMATE & WEATHER
	CLIMATE-AND-WEATHER-Climate-change
	INDUSTRY-Primary
	POLLUTION-Water
	SOIL-Chemistry
	HAZARDS
	HAZARDS-Flood
	WATER

	WATER-Groundwater
	WATER-Hydrochemistry
	WATER-Hydrology
	WATER-Quality
	WATER-Surface
	MARINE-Estuaries
	MARINE-Human-Impacts
	LAND-Topography
	LAND-Use
	HERITAGE-Natural
	GEOSCIENCES
	GEOSCIENCES-Geochemistry
	GEOSCIENCES-Hydrogeology
	PHOTOGRAPHY-AND-IMAGERY
	HUMAN-ENVIRONMENT-Planning
	HUMAN-ENVIRONMENT-Structures-and-Facilities
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16
Geographic location	
West bounding longitude	150.61492
East bounding longitude	153.59633
North bounding latitude	-34.94724
South bounding latitude	-28.16887
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	
End position	N/A
Dataset reference date	
Resource maintenance	
Maintenance and update frequency	Not planned

Contact info

Contact position	Data Broker
Organisation name	Department of Primary Industries and Regional Development (DPIRD)
Responsible party role	pointOfContact

Lineage

Tucker, T. A., Rayner, D. S., Harrison, A. J., Lumiatti, G., Rahman, P. F., Gilbert, D. & Glamore, W. 2023. Tweed River Floodplain Prioritisation Study WRL TR2020/04. Water Research Laboratory, University of New South Wales. Harrison, A. J., Rayner, D. S., Tucker, T. A., Lumiatti, G., Rahman, P. F., Gilbert, D. & Glamore, W. 2023. Richmond River Floodplain Prioritisation Study WRL TR2020/05. Water Research Laboratory, University of New South Wales. Harrison, A. J., Rayner, D. S., Tucker, T. A., Lumiatti, G., Rahman, P. F., Gilbert, D. & Glamore, W. 2023. Clarence River Floodplain Prioritisation Study WRL TR2020/06. Water Research Laboratory, University of New South Wales. Tucker, T. A., Rayner, D. S., Harrison, A. J., Lumiatti, G., Rahman, P. F., Gilbert, D. & Glamore, W. 2023. Macleay River Floodplain Prioritisation Study WRL TR2020/07. Water Research Laboratory, University of New South Wales. Harrison, A. J., Rayner, D. S., Tucker, T. A., Lumiatti, G., Rahman, P. F., Gilbert, D. & Glamore, W. 2023. Hastings River Floodplain Prioritisation Study WRL TR2020/08. Water Research Laboratory, University of New South Wales. Rayner, D. S., Ruprecht, J. E., Harrison, A. J., Tucker, T. A., Lumiatti, G., Rahman, P. F., Gilbert, D. & Glamore, W. 2023. Manning River Floodplain Prioritisation Study WRL TR2020/09. Water Research Laboratory, University of New South Wales. Rayner, D. S., Harrison, A. J., Tucker, T. A., Lumiatti, G., Rahman, P. F. & Glamore, W. 2023. Shoalhaven River Floodplain Prioritisation Study WRL TR2020/10. Water Research Laboratory, University of New South Wales. Rayner, D. S., Harrison, A. J., Tucker, T. A., Lumiatti, G., Rahman, P. F., Waddington, K., Juma, D. & Glamore, W. 2023. Coastal Floodplain Prioritisation Study – Background and Methodology WRL TR2020/32. Water Research Laboratory, University of New South Wales.

Limitations on public access

Responsible party

Contact position	Data Broker
Organisation name	Department of Primary Industries and Regional Development (DPIRD)
Responsible party role	pointOfContact

Metadata point of contact

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Responsible party role	pointOfContact

Metadata date

2023-09-22T04:27:17.188610

Metadata language