

## 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
<b>Metadata standard</b>	
Name	ISO 19115
Edition	2016
Dataset URI	<a href="https://datasets.seed.nsw.gov.au/dataset/762848a5-60cb-4c3e-a17a-1835e455b87c">https://datasets.seed.nsw.gov.au/dataset/762848a5-60cb-4c3e-a17a-1835e455b87c</a>
Purpose	<p>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.</p>
Status	Completed
<b>Spatial representation</b>	
Type	vector
<b>Spatial reference system</b>	
Code identifying the spatial reference system	4283
<b>Topic category</b>	
<b>Keyword set</b>	
keyword value	<p>AGRICULTURE</p> <p>ECOLOGY-Landscape</p> <p>BIOPHYSICAL</p> <p>ADMINISTRATIVE</p> <p>CLIMATE &amp; WEATHER</p> <p>CLIMATE-AND-WEATHER-Climate-change</p> <p>INDUSTRY-Primary</p> <p>POLLUTION-Water</p> <p>SOIL-Chemistry</p> <p>HAZARDS</p> <p>HAZARDS-Flood</p> <p>WATER</p>

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
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**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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Organisation name	Department of Primary Industries and Regional Development (DPIRD)
Responsible party role	pointOfContact

**Metadata date** 2023-09-22T04:27:17.188610

**Metadata language**