



**Australian Government**

**Geoscience Australia**

# **Vegetation - Pre-European Settlement (1788)**

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## ***Product User Guide***

**National Mapping Division,  
Geoscience Australia**

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**Technical support:**

For up to date information on *Vegetation - Pre-European Settlement (1788)* refer to the Geoscience Australia website:

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Geoscience Australia gratefully acknowledges contributions to map content. Information is supplied by Commonwealth, State, Territory and local government, private sector agencies and individuals. A comprehensive list is available from our web site.

**About this product user guide**

This product user guide sets out the fundamental concepts and characteristics of *Vegetation - Pre-European Settlement (1788)*. The guide begins with general information and provides more details in later sections. The overview of data content and structure will allow you to make immediate use of the data.

The information in this product user guide was correct at the time of publication and is subject to change. Geoscience Australia assumes no liability resulting from any statements, errors or omissions in the publication or from the use of information contained in this product user guide.

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# 1 User information

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## 1.1 User support/contact information

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Geoscience Australia welcomes feedback on any aspect of its product or services. Please direct your comments or any queries regarding this document or data to:

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## 1.2 Geoscience Australia - National Mapping Division

Geoscience Australia is the national agency for geoscience research and spatial information. It serves government and supports the community through its output areas of geoscience for urban centres, oceans and coasts, and regional and rural areas.

The National Mapping Division within Geoscience Australia undertakes national mapping, remote sensing maritime boundary and land information coordination activities in support of Australia's economic and social development.

## **2 About Vegetation - Pre-European Settlement (1788)**

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### **2.1 *Vegetation - Pre-European Settlement (1788) components***

Your *Vegetation - Pre-European Settlement (1788)* data package has two components which combine to give you a complete data product. The components are:

- **Product user guide**  
This guide describes the structure and content of *Vegetation - Pre-European Settlement (1788)*.
- **Data files**  
The number of files will vary with the application format of the data.

### **2.2 *The Vegetation - Pre-European Settlement (1788) product***

The vegetation data was captured from Geoscience Australia's 'Natural Vegetation' at 1:5 million scale map. The map broadly shows the probable state of Australia's vegetation around 1788 when European settlement began.

*Vegetation - Pre-European Settlement (1788)* depicts areas over 30 000 hectares as well as small areas of significant vegetation such as rainforest. Attribute information includes: growth form of tallest and lower stratum, foliage cover of tallest stratum and dominant floristic types.

### **2.3 *Coordinate system***

*Vegetation - Pre-European Settlement (1788)* data is available in geographical coordinates (latitude and longitude) in decimal degrees using the Australian Geodetic Datum 1966 (AGD66).

## 3 Data loading

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### 3.1 Application formats

The *Vegetation - Pre-European Settlement (1788)* data is supplied in three application formats:

- ArcInfo Export;
- ArcView Shapefile; and
- MapInfo mid/mif.

### 3.2 Description of files

The downloaded *Vegetation - Pre-European Settlement (1788)* package contains the following files.

**Table 1:** *Vegetation - Pre-European Settlement (1788)* files

Documentation files			
File name	File content		
42356_user_guide.pdf	This user guide		
Data files			
	ArcInfo Export (* .e00)	ArcView Shapefile (*.dbf, *.shp, *.shx)	MapInfo mid/mif (* .mid, *.mif)
File name	File size (KB)	File size (KB)	File size (KB)
nveg_pt	31	(+_point) 23	22
nveg_py	4 061	(+_point) 223 (+_polygon) 3 185	4 239
<b>Total</b>	4 092 KB/ 4 MB	3 431 KB/ 3.35 MB	4 261 KB/ 4.2 MB

## 4 Data structure and content

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### 4.1 Data structure

The spatial object and attribute object are the primitive components of the product. When combined, these objects define a feature instance. Features are grouped to form a hierarchy which is used for the capture and transfer of the data.

#### Theme

The digital spatial data contained in *Vegetation - Pre-European Settlement (1788)* are primarily derived from existing map production material. The data on the source material are captured as features and these features may be grouped into themes - each containing logically related geographic information. The theme is the highest level of data grouping in the product. *Vegetation - Pre-European Settlement (1788)* is composed of one theme.

#### Layer

Each theme may consist of one or more layers. A layer is a grouping of features which have compatible spatial objects. Products may contain four types of layers:

- **Linear network layer**  
Linear layers contain linear features such as watercourses. These layers are composed of nodes and chains.
- **Polygon layer**  
Polygon layers contain area features represented by polygons, such as lakes and reefs.
- **Point layer**  
Point layers contain features that are represented by entity points, such as buildings or aircraft facilities.
- **Point/linear layer**  
Point/linear layers contain a combination of entity point and chain features such as road networks with bridges and river networks with waterfalls and locks.

*Vegetation - Pre-European Settlement (1788)* product is divided into two layers:

- A layer containing chain and polygon features with their attributes (nveg\_py); and
- A layer containing the point features and their attributes (nveg\_pt).

There is one point feature for natural vegetation:

- Veg\_locality: Rainforest patches covering more than 500 hectares (Classification: xM4).

## 4.2 Data dictionary

**Table 2:** Attribute table of *Vegetation - Pre-European Settlement (1788)*

Feature	Description	Object	Attribute	Attribute values	Selection criteria
VEGETATION		Polygon/point	TALLEST STRATUM - SPECIES DOMINANT (ts_sd)	Refer to table 3	
			TALLEST STRATUM - SPECIES CO-DOMINANT (ts_sc)	Refer to table 3	
			TALLEST STRATUM - GROWTH FORM (ts_gf)	F = <i>Other herbaceous plants</i> G = <i>Tussocky or tufted grasses</i> H = <i>Hummock Grasses</i> L = <i>Low trees &lt;10 metres</i> M = <i>Medium trees 10-30 metres</i> S = <i>Tall Shrubs &gt;2 metres</i> T = <i>Tall trees &gt;30 metres</i> Z = <i>Low shrubs &lt;2 metres</i>	The growth form in areas where there is only one stratum (eg. hummock grasses) is presumed to be the tallest stratum with no lower growth form.
			TALLEST STRATUM - DENSITY (OF FOLIAGE COVER) (ts_d)	1 = <10% 2 = 10-30% 3 = 30-70% 4 = >70%	Vegetation density is expressed in terms of the proportion of the ground that is shaded by the tallest stratum at midday. The density of the foliage cover of the lower stratum is not recorded in the code.
			TALLEST STRATUM - SEASONALITY (ts_s)	S = <i>Seasonal</i>	The seasonality of the vegetation is assumed to be perennial unless the items 'ts_s' and 'ls_s' are filled with the character S (Seasonal). On the map this is indicated by the code in italics.
			TALLEST STRATUM -	D = <i>Vegetation described is that</i>	The vegetation is assumed to be

Feature	Description	Object	Attribute	Attribute values	Selection criteria
			INTERDUNAL (ts_id)	<i>of stable areas between dunes</i>	evenly dispersed across the area unless the items ' <i>ts_is</i> ' and ' <i>ls_id</i> ' (where ID = interdunal) are filled. On the map this is indicated by the underlining of the code.
			TALLEST STRATUM - NO VEGETATION (ts_nts)	NT = <i>No tallest stratum</i>	If ' <i>ts_nts</i> ' and ' <i>ls_nts</i> ' are filled, then the 'Other' attribute must be filled.  Where there is a tallest stratum but no lower stratum, then the ' <i>ls_nts</i> ' item is filled with 'NL'.
			LOWER STRATUM - SPECIES DOMINANT (ls_sd)	Refer to table 3	The floristic code for the lower stratum is only shown where the foliage cover for the tallest stratum is less than 30%
			LOWER STRATUM - SPECIES CO-DOMINANT (ls_sc)	Refer to table 3	
			LOWER STRATUM - GROWTH FORM (ls_gf)	F = <i>Other herbaceous plants</i> G = <i>Tussocky or tufted grasses</i> H = <i>Hummock Grasses</i> L = <i>Low trees &lt;10 metres</i> M = <i>Medium trees 10-30 metres</i> S = <i>Tall Shrubs &gt;2 metres</i> T = <i>Tall trees &gt;30 metres</i> Z = <i>Low shrubs &lt;2 metres</i>	The growth form in areas where there is only one stratum (eg. hummock grasses) is presumed to be the tallest stratum with no lower growth form.
			LOWER STRATUM - DENSITY (OF FOLIAGE COVER) (ls_d)	1 = <10% 2 = 10-30% 3 = 30-70% 4 = >70%	Vegetation density is expressed in terms of the proportion of the ground that is shaded by the tallest stratum at midday. The density of the foliage cover of the lower stratum is not

Feature	Description	Object	Attribute	Attribute values	Selection criteria
			LOWER STRATUM - SEASONALITY (ls_s)	S = <i>Seasonal</i>	recorded in the code. The seasonality of the vegetation is assumed to be perennial unless the items 'ts_s' and 'ls_s' are filled with the character S (Seasonal). On the map this is indicated by the code in italics.
			LOWER STRATUM - INTERDUNAL (ls_id)	D = <i>Vegetation described is that of stable areas between dunes</i>	The vegetation is assumed to be evenly dispersed across the area unless the items 'ts_id' and 'ls_id' (where ID = interdunal) are filled. On the map this is indicated by the underlining of the code.
			LOWER STRATUM - NO VEGETATION (ls_nts)	NL = <i>No lower stratum</i>	Where there is a tallest stratum but not lower stratum, then the 'ls_nts' item is filled with 'NL'.
			OTHER (other)	L = <i>Littoral complex</i> SL = <i>Salt lake</i> PL = <i>Permanent lake</i>	If 'ts_nts' and 'ls_nts' are filled, then the 'Other' attribute must be filled.  This item distinguishes between the unvegetated areas and littoral complex. Salt and permanent lakes are areas of no vegetation whilst the littoral complex covers the intertidal mosaic of mangroves, low shrubs, herbaceous plants and bare salt flats.
			FEATURE CODE (feat_code)		

**Table 3:** Floristic code attribute

Attribute value	Description
a	Astrebla (mitchell grass)
b	Banksia
c	Casuarina including Allocasuarina
d	Dichanthium (bluegrass)
e	Eucalyptus
f	Fabaceae (includes clovers and medics)
g	Graminoids
h	Hakea
k	Chenopodiaceae (eg. saltbush and bluebush)
m	Melaleuca
n	Northofagus
o	Owenia (desert walnut)
p	Conifers
q	Myoporum (sugarwood)
r	Heterodendrum (rosewood)
s	Stipa (corckscrew grass)
t	Triodia and/or Plectrachne
u	Cereals
v	Saccharum (Sugar cane)
w	Acacia including Racosperma
x	Mixed or other
y	Other Grasses
z	Asteraceae (daisies)

## Appendix A: Metadata

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**Note:** This dataset description is metadata (data about data) which describes the actual dataset in accordance with the ANZLIC (Australia New Zealand Land Information Council) Core Metadata [Guidelines](#) Version 2.

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### Dataset citation

**ANZLIC unique identifier:** ANZCW0703005425

**Title:** Vegetation - Pre-European Settlement (1788)

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### Custodian

**Custodian:** Geoscience Australia

**Jurisdiction:** Australia

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### Description

**Abstract:**

Shows a reconstruction of natural vegetation of Australia as it probably would have been in the 1780s. Areas over 30000 hectares are shown plus small areas of significant vegetation such as rainforest. Attribute information includes growth form of the tallest and lower stratum, foliage cover of tallest stratum and dominant floristic type.

**ANZLIC search words:**

- FLORA Native Mapping
- VEGETATION Mapping

**Geographic extent name:**

AUSTRALIA EXCLUDING EXTERNAL TERRITORIES - AUS - Australia - Australia

Note: The format for each Geographic extent name is: Name - Identifier - Category - Jurisdiction (as appropriate) See [GEN Register](#)

**Geographic bounding box:**

**North bounding latitude:** -9°

**South bounding latitude:** -44°

**East bounding longitude:** 154°

**West bounding longitude:** 112°

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### Data currency

**Beginning date:** 1780-01-01

**Ending date:** Not Known

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### Dataset status

**Progress:** Complete

**Maintenance and update frequency:** Not Known

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## Access

**Stored data format:****Digital:** ArcInfo**Non-digital:** Maps**Available format type:****Digital:** ArcInfo Export**Digital:** ArcView Shapefile**Digital:** MapInfo mid/mif**Non-digital:** Maps**Access constraints:**

The data are subject to Copyright. Data files may be downloaded from Geoscience Australia's website at [www.ga.gov.au/download/](http://www.ga.gov.au/download/). A licence agreement is required.

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## Data quality

**Lineage:**

Data captured from Geoscience Australia's 'Natural Vegetation' at 1:5 million scale map.

**Positional accuracy:**

Not Documented

**Attribute accuracy:**

Not Documented

**Logical Consistency:**

Not Documented

**Completeness:**

Complete for all Australia

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## Contact information

**Contact organisation:** [Geoscience Australia](http://www.ga.gov.au)**Contact position:** Geoscience Australia Sales Centre**Mail address:** GPO Box 378**Locality:** CANBERRA**State:** ACT**Country:** Australia**Postcode:** 2601**Telephone:** Australia Freecall 1800 800 173**Facsimile:** +61 2 6249 9960**Electronic mail address:** [sales@ga.gov.au](mailto:sales@ga.gov.au)

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## Metadata information

**Metadata date:** 2003-04-01

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## Additional metadata

**Metadata reference XHTML:** <http://www.ga.gov.au/meta/ANZCW0703005425.html>**Metadata reference XML:** <http://www.ga.gov.au/meta/ANZCW0703005425.xml>

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**Size of dataset:** 3.4 - 4.2 depending on the format.

**Scale/resolution:** 1:5 million

**Projection/datum:** Geographical coordinates using the Australian Geodetic Datum 1966 (AGD66).

## Glossary

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**Attribute**

A descriptive characteristic of a feature. An attribute has a defined set of attribute values.

**Attribute object**

The attribute object holds the non-locational or semantic information about the feature instance.

**Australian Geodetic Datum 1966 (AGD66)**

This datum was adopted in 1966 and is defined by the parameters of the Australian National Spheroid and the coordinates of the Johnston Geodetic Station. This datum is used for the determination of coordinates for some Geoscience Australia products. Superseded by the Geocentric Datum of Australia 1994 (GDA94).

**Chain**

A line composed of a sequence of non-intersecting line segments bounded by nodes. Chains reference the polygons to the left and right of the chain.

**Datum**

A mathematical surface from which heights or positions are referenced.

**Entity**

A real world phenomenon which cannot be divided into phenomena of the same type.

**Entity point**

An entity point is used to locate point entities represented by a point because of the scale of the source material.

**Feature**

A feature is the cartographic or digital representation of a class of entity.

**Feature instance**

A single occurrence of a feature which has a unique set of spatial and attribute object values.

**Geocentric Datum of Australia 1994 (GDA94)**

The set of geographical coordinates based on the Geocentric Datum of Australia. It is compatible with Global Positioning Systems (GPS). Adopted in 1994 and implemented in the year 2000. Used in production of new editions of 1:100 000 and 1:250 000 NATMAPs.

**Geodetic datum**

A datum defines the basis of a coordinate system. A local or regional geodetic datum is normally referred to an origin whose coordinates are defined. The datum is associated with a specific reference ellipsoid which best fits the surface (geoid) of the area of interest. A global geodetic datum is now related to the centre of the earth's mass, and its associated spheroid is a best fit to the known size and shape of the whole earth. The position of a point common to two different surveys executed on different geodetic datums will be assigned two different sets of geographical coordinates.

**Geographical coordinates**

A position given in spherical coordinates commonly known as latitude and longitude.

**Geographic Information System (GIS)**

A spatial database which is manipulated via a set of spatial operators or commands.

**Latitude**

The latitude of a feature is its angular distance on a Meridian, measured northwards or southwards from the terrestrial Equator.

**Layer**

The features in a theme are subdivided into one or more layers on the basis of the spatial objects used to represent the features. Linear networks, polygons and point features are placed in separate layers.

**Linear network**

A layer consisting of linear features which are connected and which form a pathway along which movement is possible.

**Longitude**

An angular distance measured east or west from a reference meridian (usually Greenwich) on the earth's surface.

**Node**

A point that is a junction of two or more chains or which is the end point of a chain. Connectivity of chains is indicated by the sharing of nodes at their intersections.

**Point**

A geometric representation defined by a single (x,y) coordinate pair or an (x,y,z) triplet.

**Polygon**

A continuous area defined by a set of bounding chains. There is only one external polygon and there may be one or more internal, non-nested inner boundaries.

**Projection**

Any systematic way of representing the meridians and parallels of the earth upon a plane surface or map.

**Spatial object**

The spatial object holds the locational information of a feature instance. It is composed of either a point, chain or polygon.

**Theme**

The information contained in map production material can be divided into themes which contain logically related geographic information. Each theme is capable of being used as a dataset in its own right.