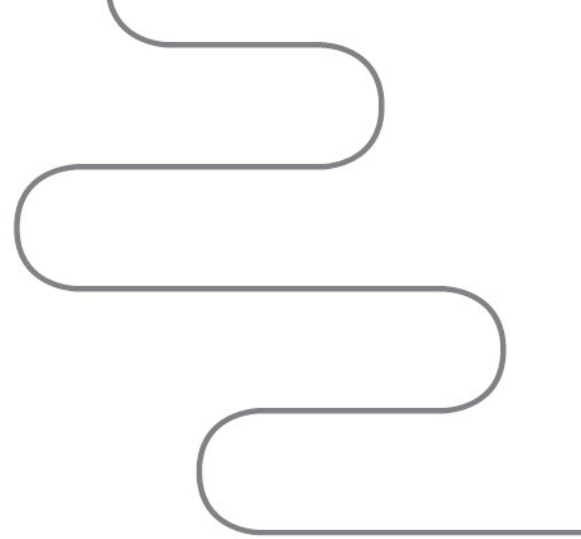


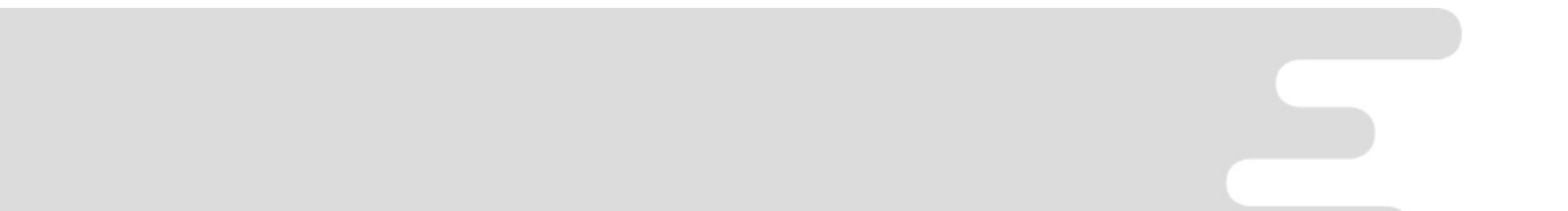


Australian Government



MDBA specifications for spatial data

November 2015



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This specification exists to help you prepare datasets and metadata that meet the MDBA's data standards. It describes our minimum requirement for dataset configuration, those presentation artifacts and elements required in all mapped products and our requirement for metadata that conforms to the current ANZLIC profile.

Overview of requirements

In order to maintain a high quality of spatial data and its associated metadata, we have a minimum set of data requirements for any data captured as part of a contractual arrangement.

Before project outputs are provided to the Authority, all spatial data produced by the project must be checked to ensure that it meets our requirements. The key requirements for spatial data are shown in this annexure.

Any queries in regard to our requirements for spatial data should be directed to:

E-mail: gis@mdba.gov.au

Tel: (02) 6279 0100

Fax: (02) 6279 0551

Web: www.mdba.gov.au

Information and Data Section
Murray-Darling Basin Authority
GPO Box 1801
Canberra ACT 2601

Minimum MDBA spatial data requirements

Component of spatial data format/standard

Metadata

- Metadata describing the dataset that is ANZLIC Metadata Profile version 1.1 compliant. The profile is available from the ANZLIC website at www.anzlic.org.au, however additional guidance on completing the elements are at Appendix A.

Data dictionary

- A table defining the attributes within the spatial data. At a minimum this should include the attributes, their definition, and associated fixed values (or look-up tables).

Vector data (i.e. points, lines and polygons)

- Provide as ESRI Shapefile(s) or Geodatabase
- Must not contain topological errors – slivers, dangles, edit masks etc.

Raster data

- Provide as a geo-referenced file in an ESRI-compatible format.

Maps

- Provide as per agreed requirements, or at a minimum the MDBA map production specifications at Attachment B.

Projection

- Spatial data covering the whole Murray-Darling Basin should be supplied in geographic coordinates using Geocentric Datum of Australia (GDA94).
- Map Grid of Australia (MGA) can be used for projects where a smaller area within the MDB (e.g. catchment or sub-catchment) is being mapped.

Attributes

- All attributes must be labelled clearly and logically. Unique identifiers must be unique.

Quality attributes

- If data quality, accuracy, reliability and/or resolution vary markedly across the data, then data must contain a field that records that variation either explicitly or by a documented code. e.g.

DOCUMENTED CODES:

Scale: maximum scale that data can be used for.

Accuracy: positional accuracy of data (m).

Reliability: Degree of confidence in data (%).

ID	Scale	Accuracy	Reliability
1	1:25,000	10	90
2	1:250,000	20	100
3	1:50,000	15	50

- Databases containing multiple-scale data must record a scale class against each value (e.g. '1:25,000'; '1:100,000').

Specifications

- If a specification has been agreed to for project data over and above these minimum data requirements, then the data supplied to the MDBA must conform with that specification also.

Quality assurance

- Data should be scanned for completeness, accuracy, and any errors before delivery.

Delivery

- All final datasets to be delivered on portable storage medium (e.g. CD, DVD, external hard drive) and labelled with title, data, project number and an index of contents. Contractor details should be on the media cover.
- All spatial data and relevant metadata funded by a MDBA project (including purchased data) must be forwarded to the MDBA upon completion of the project, according to the above requirements. All data obtained or developed through project funding are regarded as MDBA deliverables, including relevant license documents.

Map production specifications

Map Element Instruction

Title

- Descriptive and meaningful title.

Location map

- Where appropriate, insert a map showing the context of the mapped area.

Colours

- As a general rule:
 1. for large areas, use light colours
 2. for small areas, use dark colours.

Ensure colours contrast sufficiently that the user can discriminate between them easily.

Fonts

- The number of different fonts and sizes should be minimised. Fonts that are sans serifs (e.g. Helvetica) are preferred.

Data source statement

- Data source includes the original and nature of the information on the map, including derived or interpreted data. The statement should also show the currency and limitations of the data.

North arrow

- Include on map.

Logos

- Logos should not be overly prominent. Multiple logos should be grouped together.

Projection and data statement

- Include on map.

Scale bar

- Include scale bar, with optional statement of scale (Scale 1: xxx xxx)

Legend

- Legend should clearly depict accurate colouring and labelling relevant to the information shown on the map.

Copyright information

- Copyright information consists of a statement of who holds copyright for the map, and year of publication.

Publication information

- Include name of publisher, and place and date of publication.

Map number

- Map number should be included if the map is part of a numbered series. Group with Title.

Embedding into document

- When producing maps to be embedded in a document, ensure that they are presented in a consistent style (e.g. same colours for the same attributes; borders; backgrounds etc).

Externally acquired spatial data

Data either purchased or acquired through an MDBA funded project under a licence agreement from an external organisation;

- Must have the 'Murray–Darling Basin Authority' as the Licensee;
- Should allow the MDBA to use it internally for other program work where feasible; and
- Should not have a duration period where feasible.

Such data should conform, where possible, to the specifications in this document.

Process for accessing data from the MDBA

If the data that you require is known to exist either through the FIND or through other means, or you believe the dataset may exist within the following, then:

Send an email to gis@mdba.gov.au with the following details:

- Contact:
- Organisation:
- Dataset required:
- MDBA project required for:

Once received, we will:

- Determine if the dataset is available;
- If necessary, we will confirm your requirements with you; and
- Advise of the appropriate level of licensing.

Please note that if the data happens to contain some sensitivity, then we will negotiate with you any additional restrictions and/or conditions under an MDBA Restrictive Licence.

MDBA will then arrange for you to complete the necessary data licence agreement, then we will email or mail you the data depending on the file size.

Appendix A – MDBA Spatial Metadata Guidelines

The MDBA Spatial Metadata Guidelines are an adaptation of the ANZLIC Metadata Profile Version 1.1 available at http://www.anzlic.gov.au/resources/anzlic_metadata_profile.

The MDBA is in the process of testing the ANZMET metadata entry tool as a formal mechanism for transmission of ANZLIC Metadata Profile conforming metadata. In the meantime, contributors should use these guidelines in preparing metadata for submission to us.

ANZMet Lite Category	Metadata element	Definition and allowable values
	ANZLIC Identifier:	Unique identifier assigned by FIND. This is not assigned by the metadata author.
General Information		
Title	Including alternative title/citation details	The ordinary name of the dataset. This should clearly and concisely indicate the content of the dataset.
Key Dates and Language	Resource creation date	Date that the dataset was first created or the date of the first record.
	Resource last updated date	Latest date in which the dataset was revised or verified. This date represents the reliability date of the dataset.
	Metadata language/Resource Language	
Abstract and Purpose	Abstract	A brief narrative of the purpose and content of the dataset.
	Purpose	Purpose for which the dataset was created, including the project it was created for.
Metadata author	Metadata role: Author	
	Author's details	The name and contact details of the responsible party completing the metadata record for the dataset.
Contacts and recognition	Contacts role in relation to the resource: Custodian	
	Contact Organisation:	This should be 'Murray-Darling Basin Authority (MDBA)'
	Contact Role:	This should be 'Director, Information and Data'
	Mail address:	This should be 'GPO Box 1801 Canberra City ACT 2601'
	Telephone:	This should be '(02) 6279 0100'
	Facsimile:	This should be '(02) 6279 0551'

ANZMet Lite Category	Metadata element	Definition and allowable values
History and Quality		* Tick "Include Data Quality Information" to add data quality tests
History	Lineage:	Brief history of the source and processing steps used to produce the dataset.
Data quality test and result	Attribute Accuracy (Quantitative or non - quantitative)	Brief assessment of the reliability assigned to features in the dataset in relation to their real world values. This can include an assessment of how well the significant attributes have been populated, and any limitation on the data's use as a source for attribution.
	Conceptual Consistency	Brief assessment of the degree of adherence of logical rules of data structure, attribution and relationships.
	Completeness Omission	Brief assessment of the extent and range in regard to the completeness of coverage, classification and verification.
	Where possible, you should aim to organise and complete it with the following subheadings:	
	• SPATIAL COMPLETENESS:	Assessment of the spatial coverage of the dataset.
	• ATTRIBUTE COMPLETENESS:	Assessment of the completeness of significant attributes fields.
	Absolute External Positional Accuracy	Brief assessment of the closeness of the location of spatial objects in the dataset in relation to their true position of the Earth. Where possible, you should aim to organise and complete it with the following subheadings: PLANIMETRIC ACCURACY: Horizontal accuracy assessment against their real world features (e.g. +/- 100m). VERTICAL ACCURACY (only if applicable): Vertical accuracy assessment.
Identification		
Jurisdictions/ Search words	Jurisdictions:	State or country in which the custodian of the dataset is domiciled. For MDBA datasets this should be 'Australia'
	Search words:	Words likely to be used by a non-expert to find the dataset. This is to support dataset searching in the FIND (http://find.ga.gov.au/) The search terms are from a pre-defined list.
Topic category	Categories	Themes or categories best describing the content of the resource.

ANZMet Lite Category	Metadata element	Definition and allowable values
Status and maintenance	Resource Status	Status of the process of creation of the dataset. <i>The search terms are from a pre-defined list.</i>
	Maintenance and update frequency:	Frequency of changes or additions that are made to the dataset after its initial completion. <i>The search terms are from a pre-defined list.</i>
Reference system	Reference System	Projection and datum of the data. This can be in terms of Projection, Zone (if applicable), Datum, Units, Spheroid.
	Scale	Scale most appropriate to use this dataset.
	Resolution	Resolution of the dataset. This can also include the scale/resolution of the source data used to create the dataset.
Spatial representation type	DATASET FILE CONTENT (only if applicable):	If the dataset is made up of one or more files or components, then list them here. This should also include the geometry of the data (i.e. point, line, polygon, raster)
Security restrictions	Security Classification of resource/metadata	
Legal restrictions	Access constraint	Any restrictions or legal prerequisites that may apply to the access and use of the dataset including licensing, liability and copyright. All datasets should include at least Use – Copyright and Use – License constraints.
		This field should be completed by selecting one of the AusGOAL recommended suite of licenses (see the MDBA Intellectual Property Guide) including the URL (web address) for its license deed and MDBA's required attribution text.
Embargoes	Resource/Metadata (Only if applicable)	
Extent		
Extent information	Geographic Bounding Box	Box defining the minimum and maximum geographic coordinates (in decimal degrees) of the entire data. This data is implemented as four discrete elements as listed below:
	North Bounding Latitude:	Northern-most latitude co-ordinate.
	South Bounding Latitude:	Southern-most latitude co-ordinate.
	East Bounding Longitude:	Eastern-most longitude co-ordinate.
	West Bounding Longitude:	Western-most longitude co-ordinate.

ANZMet Lite Category	Metadata element	Definition and allowable values
Boundary Polygon	Geographic Extent Polygon (GEP)	Boundary enclosing the dataset expressed as a closed set of geographic coordinates (latitude, longitude in decimal degrees) of the polygon referenced to GDA94. This is an alternative way of describing geographic extent of the dataset if no-predefined area is satisfactory.
Additional extent information	Check all boxes	
Geographic description	Geographic Extent Name (GEN)	Ordinary name of one or more pre-defined, known geographic objects that reasonably show the extent of geographic coverage of the dataset. This element is implemented as GEN Category and GEN Name.
Geographic description	Most MDBA datasets will probably most likely be to the extent of the Murray-Darling Basin, therefore:	
	• GEN Type =	Drainage Divisions and Major River Basins: Select ' anzlic-drainage_division_river_basin '
	• GEN Name value =	'MURRAY-DARLING'
Temporal information	Date/Time	Time period represented by the data.
Vertical information	(Only if applicable)	
Distribution	MDBA to fill in this section	
Distributor		Murray Darling Basin Authority
Distribution format for distributor	Available data format	Format in which the dataset is being supplied to clients.
Digital transfer options for distributor		
Standard order process for distributor		
Additional metadata:		
Any additional metadata that supports documentation of the dataset including a reference to another directory report. Where possible, you should aim to organise and complete it with the following subheadings:		
ASSOCIATED REPORTS: Listing (including links) of report(s) associated with the dataset.		
DATA DICTIONARY (only if applicable): This is for datasets that have attribution. The data dictionary at a minimum should include the following for each field: <ul style="list-style-type: none"> • Definition: A general description of the field • Allowable values: Values that are allowed in the field, including the definitions values in a pick-list. 		