NR Maps Glossary of terms

NR Maps user guide

nrmaps.nt.gov.au

To seek assistance using NR Maps, please contact the department's Geospatial Services Branch.

Email   datarequests.DEPWS@nt.gov.au

Phone   (08) 899 94579

We recommend reading the NR Maps user guide *How to use the NR Maps tools*. To view user guides, please click on the Help link on the top right of the NR Maps screen.

This guide provides a brief description of terms used in the NR Maps web mapping application.

Use Control F to assist with searching in this list.

Term	Description
Active Layer	The list of data layers in NR Maps is noted in the Table of Contents under the concertina menu, Layers. The layers are grouped by themes. Open each folder until you see the layer. Tick the layer to display on the map screen. The identify, search and selection query tools only work with the 'Active Layer'. Cadastre (Land Parcels) is the 'Active Layer' when you open NR Maps. The user may change the 'Active Layer' to suit their selection requirements. To change the 'Active Layer', right mouse click on a layer and choose 'Set Active'. If a layer has search functions, they will be enabled when the layer is active.
Aerial Photograph	A photograph of the earth's surface taken from above the surface, usually by aircraft. Aerial photography is often used as a cartographic data source for base mapping, locating geographic features, and interpreting environmental conditions. NR Maps displays a mosaic of aerial photography managed by the Department of Infrastructure, Planning and Logistics. This can be viewed in the bottom layer folder, Basemaps.
AGD66	Australian Geodetic Datum 1966 is an older datum reference model that defines the shape of the earth with a best fit for the Australian Region. The origin point of this datum does not coincide with the centre of mass of the earth but lies about 200 metres from it. AGD66 has been replaced by the geocentric datum GDA94.
Cadastre	Boundary extent of land parcels and associated ownership details. NR Maps sources data from the Digital Cadastral Database (DCDB) of the Northern Territory, managed by the Department of Infrastructure, Planning and Logistics. Refer to the cadastre metadata record for more information.
Coordinates	Two values providing a reference to a point in east-west (X) and north-south (Y) directions.

NORTHERN TERRITORY GOVERNMENT

Term	Description
Coordinate Reference System (CRS)	The Coordinate Reference System (CRS) describes all the parameters used to describe and display coordinate details. This includes the Datum, projection and units of measurement. The parameters are defined using a published EPSG listing.
Creative Commons	Creative Commons public licenses provide a standard set of terms and conditions that creators and other rights holders may use to share original works of authorship and other material subject to copyright and any other terms specified.
	Geospatial information available from the Department of Environment, Parks and Water Security is free of charge and supplied under the Creative Commons License.
	Licence terms and conditions You are licensed to use the Department of Environment, Parks and Water Security geospatial products on the terms and conditions set out in: Creative Commons Attribution 4.0 International Public License (CC by 4.0) at https://creativecommons.org/licenses/by/4.0/legalcode . If you do not agree to the terms and conditions you must not use the geospatial products. You are free to copy, communicate and adapt the licensed material, provided that you abide by the license terms (including Attribution) and attribute the licensed material using the statement: 'Supplied by the Department of Environment, Parks and Water Security © Northern Territory Government'.
Custodian	The custodian is the author and manager of the spatial dataset. A range of government agencies are custodians for the spatial data layers displayed in NR Maps.
	To find out who is the custodian, right mouse click on a layer and select Metadata. This record describes details about the spatial dataset including the content, quality, currency, availability, custodian and contact details.
	If the Department of Environment, Parks and Water Security is the custodian, the spatial data may be exported from NR Maps. Data is provided under the Creative Commons Licence.
	Other data custodians may have different data sharing arrangements.
Datum	The parameters used to define the basis of coordinate systems. For the WGS84 and the GDA94 datum, the origin of the coordinate systems corresponds with the centre of the earth.
	The earth-centred systems were introduced to better suit the increasing use of GPS derived coordinate measurements.
	The origin of the AGD66 datum corresponds with a point around 200 metres away from the centre of the earth. This was to allow for the ellipsoid in the former systems to be a best-fit estimate of the earth's shape around the Australian continent.
DENR	Department of Environment and Natural Resources.
	The department name was changed to Department of Environment, Parks and Water Security (DEPWS) in September 2020.
DEPWS	Department of Environment, Parks and Water Security.
	This Northern Territory Government department hosts and manages the NR Maps web mapping application via the Geospatial Services Branch.

Term	Description
	Spatial datasets may be exported from NR Maps if the custodian is DEPWS. Right mouse click on a layer name and select Metadata to find out more.
	The department name was changed from Department of Environment and Natural Resources (DENR) in September 2020.
DIPL	Department of Infrastructure, Planning and Logistics.
	This Northern Territory Government department is the custodian for the spatial datasets stored in the Land Administration folder in NR Maps.
	These datasets may not be exported from NR Maps. To access these datasets, contact the DIPL land information group.
Easting	Easting and northing are used to describe the location of a point.
	– Eastings (the X coordinate) are vertical grid lines running from west to east in units of metres.
	– Northings (the Y coordinate) are horizontal grid lines running from north to south in units of metres.
	The coordinate reference to represent the location of the Town of Katherine is written as 205002, 8399012
	(X, Y) Easting first, followed by Northing. This location uses MGA Zone 53.
	If you supply coordinate locations to a third party, the Datum and Zone reference should also be noted.
EPSG	The European Petroleum Survey Group (EPSG) has published a list of definitions of Coordinate Reference Systems (CRS). For example:
	– EPSG 4283: (Datum GDA94, Geographics - units in degrees) This is the default coordinate display in NR Maps. View description.
	– EPSG 3857: (Datum WGS84, Metres, spherical mercator) This CRS is used for a range of web mapping tools. It is used to Measure Area in NR Maps. View description.
Geographic coordinates	Geographic coordinates are expressed in degrees as latitude and longitude derived from angular lines running east-west and north-south on the earth's surface. Australia is south of the equator, therefore latitude values are recorded using a negative.
	Geographic coordinate values are displayed on the map screen in NR Maps using Decimal Degrees (D.dddd°).
	For example: Latitude / Longitude: -13.72429, 128.92771 GDA94
GDA2020	Geocentric Datum of Australia 2020 is a datum reference model that defines the shape of the earth and uses the centre of the earth as the origin point as at 1 January 2020. This will accommodate the annual 7cm shift of the Australia land mass and retain the earth centre origin point.
	GDA2020 will replace the Geocentric Datum of Australia 1994.
	In the Northern Territory, it is intended that GDA2020 will be adopted in 2021. The lead agency for this datum change is Department of Infrastructure, Planning and Logistics.
	For more information about GDA2020 visit Geoscience Australia.
GDA94	Geocentric Datum of Australia 1994 is a datum reference model that defines the shape of the earth and uses the centre of the earth as the origin point.

Term	Description
	The Geocentric Datum of Australia (GDA) is an Australian coordinate system, replacing the Australian Geodetic Datum (AGD). GDA is part of a global coordinate reference frame and is directly compatible with the Global Positioning System (GPS).
	NR Maps displays coordinates on the map screen using this datum.
	In the Northern Territory, it is intended that GDA2020 will be adopted in 2021. The lead agency for this datum change is Department of Infrastructure, Planning and Logistics.
Geospatial	This term refers to describe features with a geographic location.
	The geospatial features displayed in NR Maps are defined as a named layer and include points, lines and polygons with attached descriptive attributes.
GIS	Geographic Information System is a computer software system within which geographic information can be captured, stored, manipulated, analysed and displayed.
GPS	Global Positioning System is a satellite based navigation system. The system used in Australia is managed by the United States Dept of Defence and references 24 satellites that orbit the earth twice a day. To determine a user's position, GPS receivers triangulate signals transmitted from at least 3 satellites comparing time differences between signals sent and received.
KML	Keyhole Markup Language file format was developed for use with the Google Earth mapping platform to store geographic data. (This was originally called Keyhole Earth Viewer.) Simple KML files can be uploaded in NR Maps using the Upload Tool, located above the layers list, or using the Redline tools.
	Redline mark-ups can be exported from NR Maps to a KML format.
LAIS key	Land Administration Information Systems Key. This is a 15 character unique code used to describe each land parcel of the Northern Territory within the cadastral database and managed by the Department of Infrastructure, Planning and Logistics.
	– *Characters 1-3*: Location Code (eg. 000 = NT Portion, 200 = Town of Darwin) is an identifier for the Town, Hundred or location of the parcel. An NT Portion is outside a named area.
	– *Characters 4-8*: LTO Plan Number (eg. 73056 = LTO Plan No. 73/056). This number is historical and rarely used – often leaving 5 spaces.
	– *Characters 9-13*: Parcel number (eg. 06428, 0000A) is the lot, section or portion number.
	– *Characters 14-15*: Part Parcel Indicator (eg. A) is rarely used – often 2 blank spaces.
Latitude	A measure of the angular distance that a point on the earth's surface is north or south of the equator (0˚ latitude).
	The North Pole is expressed as 90˚ north and the South Pole as 90˚ south.
	1 degree = 60 minutes and 1 minute = 60 seconds. (1 degree is approxrimately 100km in on-ground distance)
	In NR Maps, the coordinate location is displayed at the bottom of the map screen using Geographic coordinates in Decimal Degrees (D.dddd°).
	For example: Latitude / Longitude: -13.72429, 128.92771 GDA94
	As the cursor moves south, the latitude value will increase.

Term	Description
Layer	The list of data layers in NR Maps is noted in the Table of Contents under the concertina menu, Layers. The layers are grouped by themes. Open each folder until you see the layer. Tick the layer to display on the map screen.
	Some layer names are grey in the listing for the Northern Territory extent. Hover your mouse over the layer to view the pre-set visibility scale. Zoom in to view the layer on the map screen.
	To find a layer from the list, enter a name in the Filter text box. Eg Water. All layers containing the word water will be filtered in a new list. Close the filter to return to the complete listing.
	Each layer is described using a metadata record. This includes details for the content, quality, currency, availability and custodian details. Right mouse click on a data layer and select Metadata to view the record.
	The identify, search and selection query tools only work with the 'Active Layer'. Cadastre (Land Parcels) is the 'Active Layer' when you open NR Maps.
	The user may change the 'Active Layer' to suit their selection requirements.
	To change the 'Active Layer', right mouse click on a layer and choose 'Set Active'.
	If a layer has search functions, they will be enabled when the layer is active.
Legend	The Legend provides a key to symbols and colours used to describe features displayed on a map.
	NR Maps location: Table of Contents panel; concertina menu called Legend.
	The legend will include symbols for layers that are displayed on the map screen. The legend will also be included in a Printed map.
Longitude	The angular distance the meridian of a point on the earth's surface is east or west of the prime meridian (0˚ longitude). The prime meridian is aligned through Greenwich, England, and is used to determine east and west.
	1 degree = 60 minutes and 1 minute = 60 seconds. (1 degree is approxrimately 100km in on-ground distance)
	In NR Maps, the coordinate location is displayed at the bottom of the map screen using Geographic coordinates in Decimal Degrees (D.dddd°).
	For example: Latitude / Longitude: -13.72429, 128.92771 GDA94
	As the cursor moves east, the longitude value will increase.
Map	A map is a graphic representation of geographic features containing both location and attribute information. A map is usually made up of several components, including; the map area, legend, title, orientation (usually north) and scale.
	This department has a very large store of map products available to download via NR Maps. For more information, see user guide *How to search for a map product*.
Metadata	This describes information about geographic or spatial datasets, including; the content, quality, currency, availability and custodian details.
	The Northern Territory Government records metadata according to the ANZLIC (Australia New Zealand Land Information Commission) guidelines.
	Northern Territory Government metadata records can be found here.
MGA Zone	The Map Grid of Australia (MGA) is a Universal Transverse Mercator (UTM) projection based upon the Geocentric Datum of Australia (GDA94) measuring coordinate values

Term	Description
	in units of metres. For mapping purposes, the earth is divided into a series of zones to allow minimum distortion in projecting the earth onto a flat surface when using a Cartesian coordinate system.
	The earth is divided up into 60 zones, each with a width of six degrees of longitude. Australia is covered by seven zones, 49 to 56.
	In the Northern Territory, there are two zones, 52 and 53.
	– MGA Zone 52 is west of 132° longitude
	– MGA Zone 53 is east of 132° longitude
Northing	Easting and northing are used to describe the location of a point.
	– Eastings (the X coordinate) are vertical grid lines running from west to east in units of metres.
	– Northings (the Y coordinate) are horizontal grid lines running from north to south in units of metres.
	The coordinate reference to represent the location of the Town of Katherine is written as 205002, 8399012
	(X, Y) Easting first, followed by Northing. This location uses MGA Zone 53.
	If you supply coordinate locations to a third party, the Datum and Zone reference should also be noted.
PDF	Portable Data Format (PDF) refers to a compressed file format viewable by the software Adobe Reader. Maps and reports from this department are stored in this format.
Projection	A mathematical formula used to depict the earth's spherical surface on to a flat map surface. For example: A Universal Transverse Mercator (UTM) projection of the GDA94 geographic coordinates produces the Cartesian coordinates Map Grid of Australia 1994 (MGA94).
	This is also a general term often used to define coordinate reference systems. A list of projections available in NR Maps can be viewed using the tool, Coordinate Zoom.
	The default display used in NR Maps is Geographic GDA94 (DD).
	This is: Geographic coordinates using Decimal Degrees (D.dddd°).
	For example: Latitude / Longitude: -13.72429, 128.92771 GDA94
Quick Search	Location: Top right of NR Maps screen. The Quick Search tools are used to find a Land Parcel or Registered Bore.
	Enter details as follows for a Land parcel or Address.
	After selecting a record from the results; the system will zoom to the parcel location on the map screen and the parcel boundary will be highlighted in bright blue.
	– Street address: **32 Giles** (2 results for this entry)
	– Parcel number: **1554** (10 results for this entry; A parcel number is not unique)
	– Section number: **Sec 1554 (**3 results for this entry; A Section number is not unique)
	– NT Portion: **NT Por 1604** (2 results for this entry; 1604 is also in a street address)
	Enter details as follows for a Registered Bore.
	After entering the bore number, the system will zoom to the location on the map screen and it will be highlighted in bright blue.

Term	Description
	– **RN007595** Must use RN followed by 6 digits. Pad the number with 0 to make up a complete number.
Redline tools	The redline tools in NR Maps are also referred to as drawing mark-up tools and can be used to draw and annotate geometry items on the map screen. Open the toolset to reveal all the individual tools. Hover your mouse to read a short description.
	Redlines can be saved to the drawing canvas for use in another NR Maps session. They can also be exported to either a shapefile or KML file format.
Search	NR Maps location: Table of Contents panel; concertina menu Search.
	Search functions are only available for the Active Layer. Not all layers have a search function set up.
	The search queries will be based on the attributes for the layer. Enter details in the form provided and then click on New (bottom of the form) to display the selected features on the map screen.
Scale	A scale provides information about the comparative size of features and distances displayed on the map. It can be expressed as a ratio and/or displayed as a scale bar on a map.
	The scale of a map is the ratio of a distance on the map to the corresponding distance on the ground.
	The pre-set list of scales used in NR Maps are based on the Google Maps and Google Satellite cached scales.
	One click on the map screen represents a 50% zoom in or out.
Shapefile	The shapefile is a spatial data format to display geographic features as either point, line or polygons.
	The data format was created by ESRI. Shapefiles contains several files with different extensions, including; shp: the main file that stores geometry; dbf: dBASE table that stores attributes; prj: projection description. All the file formats must be kept together with identical names.
	You can upload a shapefile to NR Maps using the .shp file extension.
Tenure	Land tenure is the system of holding land or property to identify who has the right to use or occupy land in accordance with different types of ownership. There are three types of land tenure in the Northern Territory - NT freehold, Aboriginal freehold and pastoral leasehold. View more information here.
	Tenure attributes are included in land parcel polygons displayed in NR Maps.
Topographic map	A topographic map shows a set of features with elevation and landform as a minimum component of the display. Examples are contour or elevation maps. Topographic maps are used for reference or navigation.
Weave	Weave is the mapping platform used to display NR Maps. It is managed by an Australian company, Cohga. https://www.cohga.com/
	Documentation for NR Maps weave tools are here.
WGS84	World Geodetic System 1984 is a datum reference model that defines the shape of the earth and uses the centre of the earth as the origin point. This datum is the default used by USA Defence managed satellite navigation systems for GPS.

Term	Description
	The difference between GDA94 and WGS84 is < 2 metres, and for practical purposes, is deemed to be equivalent.