



Providing GPS Locations of Bores and Pumping Equipment

The Water Resources Branch of NRETAS collects location details of bores and pumping equipment throughout the Northern Territory to assist with regulatory requirements associated with the *Water Act*. Many property owners are now using GPS (Global Positioning System) to record the location of features on their property. If you supply location details to this Department, use the following navigation settings on your hand-held GPS receiver.

*Navigation settings to use for your GPS receiver
MAP DATUM GDA94 (if unavailable, choose
WGS84) POSITION FORMAT Co-ordinates are
displayed using UTM / UPS with units in metres*

About GPS

A hand-held GPS receiver can measure a position on earth using transmitted signals that define a distance from a network of satellites with +/- 20 metres accuracy. This level of stand-alone positioning is deemed suitable for this Department to record bore locations. Surveyors use differential GPS technology to improve accuracy to just centimetres.

Read more about how GPS work via Geoscience Australia www.ga.gov.au/geodesy/gps

1. Set the map datum

A map datum is a set of parameters and control points used to define the shape of the earth. The default setting when you purchase a GPS is the World Geodetic System 1984 (WGS84). This Department stores information using the Geocentric Datum of Australia (GDA94). These are both geocentric map datum's and will locate a position from an origin point that is also the centre of the earth. For most practical purposes, GDA94 coordinates and satellite derived (GPS) coordinates based on WGS84 are considered the same. (~1 metre difference)

2. Set the position format

In the setup menu, find the navigation settings for either: position format, coordinate system or units. Select UTM / UPS using units in metres.

This setting will display Easting and Northing coordinates in metres. It will project the coordinate format from latitude, longitude in degrees to units of metres over small areas called Zones. There are 60 Zones of 60 longitude. Over the Northern Territory, the Map Grid of Australia (MGA) Zones are either 52 or 53. MGA Zone 52 is west of 1320 longitude and MGA Zone 53 is east of 1320 longitude.

3. Note the co-ordinate location

The NRETAS office location in Katherine is displayed on a GPS like this graphic (on right).

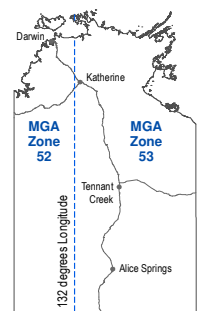
Location 53 L 0205020
UTM 8398923

This location can be described as MGA Zone 53, 205020 Easting and 8398923 Northing. Written MGA Zone 53, 205020, 8398923. i.e. 6 Easting's values (do not write the preceding 0) followed by 7 Northing values.

Where can I see NT bore locations and Bore Reports?

NRETAS Maps is a web mapping application that displays Northern Territory natural resource information, including bore locations and links to Bore Reports. A help guide is also located at the home page. www.nt.gov.au/nretasmaps

Caution: Some Bore Reports may note the coordinate location of a bore using an older Australian map datum, AGD66. These coordinates have been updated, using map datum GDA94, and are displayed in the NRETAS Maps Identify Results panel. Additionally, bores drilled before the use of GPS may be displayed using an approximate location.



Further Information:

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