



TASMAP DATUMS

Tasmaps are based on two different horizontal datums, depending on the date of publication. All new maps published after 31 March 2003 are based on the Geocentric Datum of Australia 1994 (GDA94). All maps published prior to that date, are based on the Australian Geodetic Datum 1966 (AGD66).

The primary reasons for making the change to GDA94 are:

- It is compatible with the datum used by global navigation systems, such as the WGS84 datum used by the Global Positioning System (GPS).
- It is compatible with national mapping activities, such as hydrographic charting, which are also based on WGS84.
- It provides a single standard for the storage, management, analysis and display of spatial information throughout Australia.

What is a map datum?

A map datum defines a mathematical surface and the origin point for the coordinate system that is used to depict the location objects on the surface of the Earth.

How does GDA94 differ from AGD66?

The GDA94 datum best fits the shape of the earth as a whole with its origin at the Earth's centre of mass, hence the term "geocentric". The AGD66 datum defines a shape that suits the Australian region, with an origin that does not coincide with the centre of the Earth, this is a non-geocentric datum.

Because the datums have different origin points, GDA94 and AGD66 coordinates differ by approximately 200 metres in Tasmania.

How does the change to GDA94 affect maps?

The change shows as a shift in the position of the grid lines and a corresponding change in the coordinates of map features. The amount of this shift will vary according to the scale of the map.

Map Scale	Shift (mm)
1:25,000	8
1:100,000	2
1:250,000	0.8

Because map borders are based on grid coordinates they will also shift, hence GDA94 borders do not abut adjacent AGD66 borders. In the case of Tasmap 1:25,000 and 1:100,000 series maps, the area covered by GDA94 maps has been extended so its borders will abut the adjacent AGD66 map and there will be no gap. Alignment marks have been provided to assist the task of joining AGD66 and GDA94 maps together.

How do I know which datum a map is based on?

All Tasmaps state the datum in the border information. GDA94 maps are readily identifiable because the GDA logo is printed on the cover and near the datum statement in the border information. In the case of 1:25,000 series maps, the map cover is predominantly blue while the cover of AGD66 maps is predominantly yellow.



How do I convert coordinates from one datum to another?

For map reading purposes, the following conversion values can be used throughout Tasmania

	AGD66 to GDA94	GDA94 to AGD66
Latitude	Decrease by 5.4 seconds	Increase by 5.4 seconds
Longitude	Increase by 4.8 seconds	Decrease by 4.8 seconds
Easting	Increase by 112 metres	Decrease by 112 metres
Northing	Increase by 183 metres	Decrease by 183 metres

How will the change to GDA94 affect navigation?

The change will not be noticeable if you are using basic navigation techniques. These include identifying your position by referring to map features, and using a magnetic compass to determine your position or follow a route.

If you are using a GPS receiver in conjunction with a map you must note which datum the map is based on and set it in the receiver. If the map is based on GDA94 and this datum is not available your receiver, set it to WGS84. For map reading and navigation purposes, WGS84 can be regarded as identical to GDA94.

If you are plotting or quoting grid coordinates or grid references for map features or waypoints, it is important to note which datum they relate to, so they can be accurately positioned on maps based on either datum.

Will the change affect contours and heights?

No. The datum used for heights has not changed. It remains the Australian Height Datum (Tasmania) which is based on mean sea level.

Further information about GDA94 is available from: <http://www.icsm.gov.au/icsm/gda/>

The DPIW contact for information about map datums is:

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