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## Know your data, know your datum

Do you work with location information? Are you aware of the Modernisation of Australia's Datum and the accuracy of location data you use? With significant changes occurring in the world of location technology, it's more important than ever to understand the source and quality of your data.

### What is a national datum?

A datum is a system that allows locations on the Earth's surface to be identified. It includes a reference surface, a coordinate system, and a set of defined reference points. Every country has its own datum and Australia's current national datum is called the Geocentric Datum of Australia 1994 (GDA94). All the latitude and longitude coordinates of features on our maps are based on GDA94.



*Latitude and longitude coordinates are at best ambiguous unless they are linked to the related datum.*

### Why should I care about the national datum?

Australia is about to change its national datum, and this will have implications for all people who use and rely upon accurate location information. It will be increasingly important to understand that latitude and longitude coordinates do not define a unique location unless the related datum is also identified. At best, a coordinate without datum is ambiguous and may even be meaningless.

### The datum change will keep Australia up to date with accurate positioning

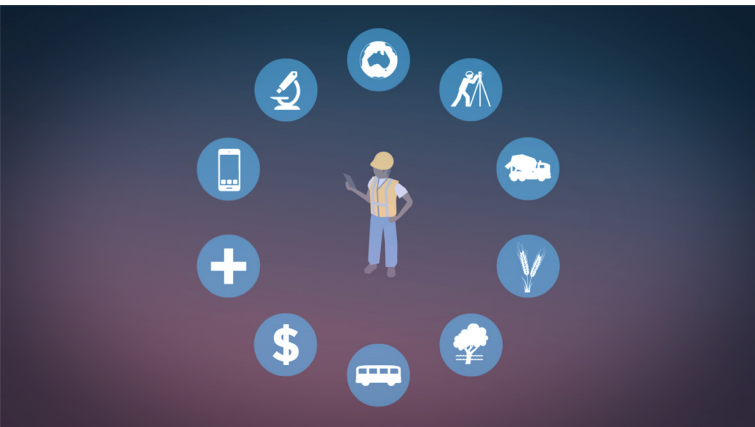
Changes to Australia's national datum are being made in response to advances in technology, and will ensure that all Australians enjoy the benefits of accurate positioning in the future. The changes are outlined in *Datum Matters Fact Sheet 1, Australia's datum modernisation: what you need to know*.

To allow for the complexity of the change, the datum is being modernised in two stages. Stage 1 begins in January 2017 and involves defining a new datum 1.8 metres to the north-east of GDA94, called GDA2020.

In 2020, Stage 2 of the modernisation will establish a different kind of location reference system that will continually model the movement of the Australian continent.

**What does this mean for users of location information?**

Anyone who relies on accurate location data will need to adopt appropriate usage practices. This is not limited to people in the spatial sector, such as surveyors or GIS users. It applies in areas such as construction, agriculture, environmental and asset management, transport, insurance, emergency services, telecommunications and scientific research.



*Datum information should accompany spatial transactions in areas such as construction, agriculture, environmental and asset management, transport, insurance, emergency services, telecommunications and scientific research.*

The most important action is to be 100% certain of the datum of any spatial data you use. This means knowing the underlying datum, and, where appropriate, delivering and storing spatial information with relevant metadata to ensure this knowledge is retained. It is ‘industry best practice’ for metadata to include information about the underlying datum of spatial data.

As well as incorporating knowledge of the datum in every spatial data transaction, preparation can now be made for two other inevitable consequences of widespread accurate positioning: the requirement to record the date (epoch) of measurements and an estimate of its reliability and quality or accuracy.

**Put simply:**

*know your data,  
know your datum.*

**Who is implementing the change?**

The Intergovernmental Committee on Surveying and Mapping (ICSM) has formed a group to oversee the modernisation of Australia’s datum. The GDA Modernisation Implementation Working Group is helping users and government agencies to build transitional tools and technical resources, and providing information for software developers, equipment providers and users of spatial information.

**See the ICSM website for details**

Information about the datum modernisation, including a simple explainer animation, frequently asked questions, fact sheets and progress updates, is available on the ICSM website, [www.icsm.gov.au](http://www.icsm.gov.au).