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| GDA2020 transition – guidance notes |
| Surveyor-General Victoria – Geodesy |

The Geocentric Datum of Australia 2020 (GDA2020) is now the official datum for spatial information. It replaces the Geocentric Datum of Australia 1994 (GDA94). Organisations in Victoria are encouraged to transition to GDA2020 now.

The upgrade to GDA2020 will shift spatial information approximately 1.5 m - 1.6 m to the north-east and ensure ongoing alignment with satellite positioning services (such as GPS). GDA2020 is the datum for modern spatial information. Wide-spread adoption of the new datum will support efficient and reliable interaction with spatial data moving forward. All Vicmap foundational spatial information products and services are now managed and available in GDA2020 and there will be a gradual reduction in GDA94 support.

Surveyor-General Victoria (SGV) Geodesy have prepared these guidance notes to support organisations in planning and implementing the transition to GDA2020 as the datum of spatial information and applications. The methodology of transitioning to GDA2020 will be different for each organisation. These general guidelines are based on reported experiences from organisations that have transitioned to GDA2020 and summarise the activities for managing the transition across three areas; spatial data, systems and stakeholders.

## Spatial data

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| Activities | Description |
| **Data audit** | Perform an audit of spatial datasets.  Ensure metadata defines datum for each dataset.  Identify critical datasets (e.g. frequently accessed, updated, heavily relied on, etc.).  Identify data from internal and external sources that are available in GDA94, GDA2020, WGS84, or a combination.  Identify datasets which, in order to be GDA2020 compliant, will need to be transformed either as a once off, or continually on-the-fly within software.  Identify datasets that have a low-spatial accuracy and are considered GDA2020 compatible. These datasets may not require transformation, or it may be performed as a lower priority. |
| **Prepare a data transition plan** | Plan strategy for transformation of existing spatial data and update of spatial data from internal and external sources.  *Suggested transformation strategy*:   * Setup a new and separate server/ spatial database and build up GDA2020 datasets * For data not frequently updated – transform in advance * For data frequently updated – transform shortly before migration (out-of-hours) |
| **Data transformation** | Transformation of existing spatial datasets to GDA2020.  See [GDA2020 transformation factsheet](https://www.land.vic.gov.au/__data/assets/word_doc/0022/512527/Factsheet-GDA2020-Transformation-in-Victoria.docx) and [GDA Transformation products and tools | Intergovernmental Committee on Surveying and Mapping (icsm.gov.au)](https://www.icsm.gov.au/datum/gda-transformation-products-and-tools).  *Recommend performing test transformations and quality assurance checks on transformed data sets.*  Beware null transformation issues if working with WGS84/web Mercator.  Take care when transforming 3D spatial data. Note that there is no change to Australian Height Datum (AHD) heights between GDA94 and GDA2020. Consider transforming horizontal (2D) and vertical (1D) components separately, then recombine. |
| **Update supplied data** | Update connections to GDA2020 aligned spatial data from internal and external sources.  Configure software to perform required transformations on-the-fly (to support non-GDA2020 data sources). |

## Software and applications

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| Activities | Description |
| **Systems audit** | Perform an audit of spatial software, applications and workflows.  Identify critical software and applications.  Confirm software support for GDA2020 and associated transformations.  Identify software that needs to be updated (or customised) to fully support GDA2020-aligned data and transformations.  Identify areas where external assistance may be required. |
| **Prepare a system configuration plan** | Plan strategy for updating software and applications.  Engage ICT team as required.  *Recommend operating natively in GDA2020.*  *Recommend all new projects be required to operate on GDA2020.*  *Recommend migrating long running existing project to GDA2020, although there may be a need for some existing projects to remain on GDA94.* |
| **Update software** | *Recommend setting up a new and separate server/spatial database in GDA2020*.   * Load spatial data in GDA2020. * Flag any data not aligned with GDA2020. * Populate the new server according to organisation timeline.   Update connections to GDA2020 aligned spatial data from internal and external sources.  Configure software to perform required transformations on-the-fly.  *Recommend performing quality assurance testing of system behaviour.*  *Recommend maintaining capability to transform data supplied in GDA94.*  Carefully manage and monitor migration of non-spatial data. |
| **Decommission GDA94 server/spatial database** | Decommission GDA94 server/spatial database which can remain as an archive. |
| **Review project learnings** | Review transition to GDA2020 and note key learnings or technical challenges |

## Stakeholders and communications

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| Activities | Description |
| **Stakeholder audit** | Perform an audit of spatial information stakeholders.  Identify internal and external suppliers of spatial data and systems.  Identify customers/users of spatial data and systems.  Identify groups that will be impacted.  Identify groups that may not be impacted but should be kept informed of datum update. |
| **Prepare stakeholder engagement plan** | Plan strategy for stakeholder engagement and communications.  Engage communications team as required. |
| **Update documentation** | Update specifications to require data to be supplied in GDA2020 - set as a condition where appropriate.  Update any forms, reports, work instructions and guidelines to specify the new datum.  Document processes for handling transformation of GDA94-aligned data.  Prepare targeted communication for stakeholders that will be impacted. |
| **Internal notifications** | Brief staff on changes – workshops, information sessions.  Highlight [drivers for the transition to GDA2020](https://www.land.vic.gov.au/__data/assets/word_doc/0032/539681/Drivers-for-the-transition-to-GDA2020-in-Victoria-fact-sheet.docx) and issues associated with mixing up datum (i.e. 1.5 m to 1.6 m offset). |
| **External notifications** | Notify suppliers and customers of GDA2020 transition.  Specify updated requirements and timelines for accepting or providing data in *both* GDA94 and GDA2020, *or* in GDA2020 only.  Advise timeline for ceasing GDA94 support. |

## Support contact

SGV Geodesy are encouraging a coordinated transition to GDA2020 in Victoria throughout 2022. SGV Geodesy are offering support to organisations as they transition to GDA2020. Please contact SGV Geodesy for support with the transition to GDA2020.

Phone: 03 9194 0770

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