

Two-frame approach for height in Australia

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SUMMARY

As part of the Australian Geospatial Reference System (AGRS) modernisation program, Australia has adopted a two-frame approach for height. The Australian Height Datum (AHD) remains the official national height datum, and the Australian Vertical Working Surface (AVWS) has been made available as an alternative vertical reference frame for applications that need it. □□ The AVWS is a modern vertical reference frame based on the Australian Gravimetric Quasi-Geoid (AGQG) model and is directly accessible with GNSS positioning. The AVWS supports absolute and relative height determination and is recommended for applications that require higher accuracy over extended distances, on or offshore. AVWS is also free of the known biases and distortions in AHD. Despite the many benefits of AVWS, the AHD, which has been in effect for more than 50 years, remains widely adopted by stakeholders and is the default option for heights in Australia. □□ This presentation will summarise the ongoing implementation of the dual approach for height in Australia. This includes technical upgrades to the AHD and enhancements to the AUSGeoid2020 model to improve the accuracy and accessibility of AHD heights derived from GNSS positioning. The presentation will review ongoing upgrades to the AGQG model with new airborne gravity survey data and further implementation of the AVWS. This includes assessment of differences between AHD and AVWS, trials of use cases to demonstrate benefits of AVWS, and establishment of tools and services for transitioning between the two height systems. □□ The two-frame approach to height is designed to support stakeholder requirements while minimising disruption. This approach will support the majority of stakeholders continuing to work with AHD, enabling them to benefit from the ongoing technical upgrades to AHD, while also having the option to work with AVWS when required. The presentation will also highlight a national stakeholder engagement program to assess vertical datum requirements, current use of AHD and the potential uptake of the AVWS. □

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