

Update on the Asia-Pacific Reference Frame (APREF) Processing Enhancements and Continuously Operating Reference Stations (CORS) Monitoring in Australia

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Key words: Capacity building; Deformation measurement; GNSS/GPS; Positioning; Reference frames; Reference systems; Keyword 1; Keyword 2; Keyword 3

SUMMARY

The Asia-Pacific Reference Frame (APREF) represents the ongoing processing, analysis and monitoring of Global Navigation Satellite System (GNSS) ground station data in the Asia-Pacific region. It provides an accurate regional realisation of the International Terrestrial Reference Frame (ITRF). In Australia, the APREF provides the foundation for the Australian Geospatial Reference System (ARGS) modernisation program, including the new Geodetic Datum of Australia 2020 (GDA2020), Australian Terrestrial Reference Frame 2014 (ATRF2014) and Australian Vertical Working Surface (AVWS). Geoscience Australia is the APREF Central Bureau responsible for the management of continuous GNSS data contributions, ongoing APREF GNSS processing and system improvements to ensure the reliability and accuracy of the APREF solutions. The Department of Environment, Land, Water and Planning (DELWP) in Victoria act as a Local Analysis Centre (LAC) contributing independent APREF processing solutions as well as maintaining state-wide GPSnet ground station network. This paper provides an update on APREF system enhancements including the transition of Bernese processing capabilities into the Cloud and the Central Bureau's contribution to International GNSS Service (IGS) precise clocks and orbits. This paper will also present independent APREF processing, coordinate analysis and alerting conducted by DELWP to monitor the integrity of ground stations within Victoria.

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FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022