

The Realisation of AUSPOS Based on ITRF2020/IGS20

Carl Wang

GNSS Analysis Section, Geoscience Australia
Carl.Wang@ga.gov.au

Anna Riddell

GNSS Analysis Section, Geoscience Australia
Anna.Riddell@ga.gov.au

Umma Zannat

GNSS Analysis Section, Geoscience Australia
Umma.Zannat@ga.gov.au

Salim Masoumi

GNSS Analysis Section, Geoscience Australia
Salim.Masoumi@ga.gov.au

ABSTRACT

A new global reference frame, the International Terrestrial Reference Frame 2020 (ITRF2020), was released in October 2022 by the International Earth Rotation and Reference Systems Service (IERS), which was followed by the International GNSS Service (IGS) realisation using modernised products and analysis, called IGS20. This presentation outlines the adoption of ITRF2020/IGS20 across Geoscience Australia's GNSS Analysis products and services, including the introduction of a 2-step transformation strategy deployed in AUSPOS to provide access to the national datum, the Geocentric Datum of Australia 2020 (GDA2020). AUSPOS is a free online GPS data processing service provided by Geoscience Australia and recommended by the Intergovernmental Committee on Surveying and Mapping (ICSM) for control surveys by GNSS in the Australian region. To align with the best available global reference frame available, AUSPOS is being updated from ITRF2014/IGb14 to ITRF2020/IGS20. We are committed to being the trusted provider of analytic products and services by enhancing the accuracy and reliability of positioning in Australia. In the Australian region, GDA2020 is the commonly used datum for a diverse range of positioning applications. AUSPOS provides access to the national datum by providing GDA2020 coordinates if the user's data is collected in the Australian region. By definition, GDA2020 is aligned to ITRF2014/IGb14. With the upgrade of AUSPOS to be ITRF2020/IGS20 compatible, a transformation from ITRF2020/IGS20 to ITRF2014/IGb14 is needed in order to provide GDA2020 coordinates.

KEYWORDS: AUSPOS, GDA2020, ITRF2020, datum modernisation, transformation.