

Recommendations

- The UN-GGIM Sub-committee on Geodesy agrees that the ITRS, through its numerical realization, the ITRF, be adopted for geospatial and scientific positioning applications. This adoption may be achieved by closely aligning to the ITRF.
- Recognizing the development of ISO19161-1 document on the ITRS, currently at the Draft International Standard (DIS) level, the Sub-Committee urges member states to record their national reference frame details, and its alignment to the ITRF, in the ISO Geodetic Register
- The Sub-Committee takes note of the developments that are currently undertaken by the IAG for the definition and realization of the International Height Reference System (IHRS).

Background

In order to ensure the interoperability of geospatial data for location-based, scientific and societal applications, it is critically important to adopt a unique, recognizable, traceable standard global geodetic reference system. The International Terrestrial Reference System (ITRS), that is numerically realized by the International Terrestrial Reference Frame (ITRF), was adopted for such applications by a number of international organizations, including the International Union of Geodesy and Geophysics (IUGG), the General Conference on Weights and Measures (CGPM), and the International Committee on Global Navigation Satellite Systems - GNSS (ICG). With reference to the ICG, in an effort to ensure the interoperability of the user positioning applications using different GNSS systems, the GNSS Providers have aligned their GNSS-specific reference frames to the ITRF, such as WGS84 for GPS, PZ-90 for GLONASS, CGCS2000 for Beidou, the Galileo Terrestrial Reference frame (GTRF) for Galileo, and the Japanese Geodetic System (JGS) for QZSS. Regional entities of UN-GGIM and of the International Association of Geodesy (IAG) rely on and adopt the ITRF for their operational geodesy and geospatial applications, as well as for the alignment of their regional geodetic reference frames.

This discussion paper is aimed at ensuring that geospatial data is mathematically aligned to the ITRS/ITRF to ensure compatibility with GNSS positioning, and to allow consistency and interoperability across national borders.