

This was the first 4-dimensional reference frame in that **not only published positions (X,Y and ellipsoid heights) but velocities for control points.**

It is a global (geocentric) system based on not just GPS data but additional datasets including Very Large Baseline Interferometry (VLBI), Satellite Laser Ranging (SLR), and Doppler Orbitography and Radiopositioning Integrated by Satellite (DORIS). These technologies allow for the incorporation of plate tectonics and the movement of the earth surface by very specific locations. It was created in 1988 by the International Earth Rotation Service (IERS) to support high accuracy positioning and has undergone many updates.

The latest realization is ITRF2008 (International Terrestrial Reference Frame 2008)

External link to more about [ITRS](#)