

ISO Geodetic Registry

<i>Item class</i>	Transformation	
<i>Name</i>	WGS 84 (G1150) to WGS 84 (G1674) [KD v1]	
<i>Item status</i>	VALID	
<i>Identifier</i>	978	
<i>Information source</i>	<i>Title</i>	Personal communication
	<i>Author</i>	N.W. Henschel
	<i>Publisher</i>	National Geospatial-Intelligence Agency
	<i>Publication date</i>	2022-12-02
<i>Information source</i>	<i>Title</i>	Transforming between WGS84 Realizations
	<i>Author</i>	K.M. Kelly, M.L. Dennis
	<i>Publisher</i>	American Society of Civil Engineers
	<i>Publication date</i>	2022
	<i>Series/Journal name</i>	Journal of Surveying Engineering
	<i>Issue identification</i>	148(2)
	<i>Other citation details</i> https://doi.org/10.1061/(ASCE)SU.1943-5428.0000389 (accessed 2023-01-29)	
<i>Data source</i>	ISO Geodetic Registry	
<i>Remarks</i>	Transformation derived via ITRF2005 from Kelly & Dennis (2022), Tables 5 & 6.	
<i>Operation version</i>	KD v1	
<i>Scope</i>	Spatial referencing and GPS satellite navigation	
<i>Operation accuracy</i>	0.02 m	
<i>Source CRS</i>	WGS 84 (G1150) - XYZ	
<i>Target CRS</i>	WGS 84 (G1674) - XYZ	
<i>Operation method</i>	Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)	

Extent

<i>Description</i>	World	
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	-180.0
	<i>North-bound latitude</i>	90.0
	<i>East-bound longitude</i>	180.0
	<i>South-bound latitude</i>	-90.0

Operation parameter values

<i>X-axis translation</i>	-2.4 millimetre
<i>Y-axis translation</i>	1.6 millimetre
<i>Z-axis translation</i>	23.2 millimetre
<i>X-axis rotation</i>	-0.27 milliarc-second
<i>Y-axis rotation</i>	0.27 milliarc-second
<i>Z-axis rotation</i>	-0.38 milliarc-second
<i>Scale difference</i>	2.08 parts per billion
<i>Rate of change of X-axis translation</i>	-0.1 millimetre per year
<i>Rate of change of Y-axis translation</i>	-0.1 millimetre per year
<i>Rate of change of Z-axis translation</i>	1.8 millimetre per year
<i>Rate of change of X-axis rotation</i>	0.0 milliarc-second per year
<i>Rate of change of Y-axis rotation</i>	0.0 milliarc-second per year

<i>Rate of change of Z-axis rotation</i>	0.0 milliarc-second per year
<i>Rate of change of scale difference</i>	-0.08 parts per billion per year
<i>Time reference</i>	2005.0 year

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<i>Item class</i>	OperationMethod
<i>Name</i>	Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)
<i>Item status</i>	VALID
<i>Identifier</i>	94
<i>Alias</i>	Time-Dependent 7-Parameter Transformation
<i>Alias</i>	14-Parameter Transformation
<i>Alias</i>	Time-Dependent Coordinate Frame Transformation
<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	Note the analogy with the Time-dependent Position Vector Transformation but beware of the differences! The Position Vector Transformation convention is used by IAG.
<i>Formula</i>	Geomatics Guidance Note No 7, part 2: Coordinate Conversions and Transformations including Formulas

Operation parameters

<i>X-axis translation</i>
<i>Y-axis translation</i>
<i>Z-axis translation</i>
<i>X-axis rotation</i>
<i>Y-axis rotation</i>
<i>Z-axis rotation</i>
<i>Scale difference</i>
<i>Rate of change of X-axis translation</i>
<i>Rate of change of Y-axis translation</i>
<i>Rate of change of Z-axis translation</i>
<i>Rate of change of X-axis rotation</i>
<i>Rate of change of Y-axis rotation</i>
<i>Rate of change of Z-axis rotation</i>
<i>Rate of change of scale difference</i>
<i>Time reference</i>