

# ISO Geodetic Registry

<i>Item class</i>	Transformation	
<i>Name</i>	<b>ITRF2008 to NAD 83 (PA11) Epoch 2010 [v1]</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	565	
<i>Information source</i>	<i>Title</i>	Introducing HTDP 3.1 to transform coordinates across time and spatial reference frames
	<i>Author</i>	C. Pearson, R.A. Snay
	<i>Publisher</i>	Springer-Verlag
	<i>Publication date</i>	2013-01-01
	<i>Edition date</i>	2013-01-01
	<i>Series/Journal name</i>	GPS Solutions
	<i>Issue identification</i>	Volume 17, No. 1
	<i>Page</i>	1-15
	<i>Other citation details</i>	NAD83 (2011), NAD83 (MA11), NAD83 (PA11) transformation from IGB08
<i>Information source</i>	<i>Title</i>	Publication of North American Datum of 1983 (2011) Epoch 2010.00, North American Datum of 1983 (PA2011) Epoch 2010.00 and North American Datum of 1983 (MA2011) Epoch 2010.00
	<i>Author</i>	US Government
	<i>Publisher</i>	Office of Federal Register, NARA
	<i>Publication date</i>	2013-08-08
	<i>Edition date</i>	2013-08-08
	<i>Series/Journal name</i>	Federal Register Notice
	<i>Issue identification</i>	Volume 78, No. 153, Document: 2013–19167, Citation: 78 FR 48421
	<i>Page</i>	48421-48422
	<i>Other citation details</i>	
<i>Information source</i>	<i>Title</i>	CORS Coordinates
	<i>Author</i>	National Geodetic Survey
	<i>Publisher</i>	National Oceanic and Atmospheric Administration (NOAA) National Geodetic Survey (NGS)
	<i>Revision date</i>	2017-05-16
	<i>Series/Journal name</i>	NGS Online listing of transformation parameters
	<i>Other citation details</i>	webpage
	<i>Data source</i>	ISO Geodetic Registry
	<i>Remarks</i>	Transformation defines NAD83(PA11) and is treated as errorless.
	<i>Operation version</i>	v1
<i>Scope</i>	Spatial referencing	
<i>Operation accuracy</i>	0.0 m	
<i>Source CRS</i>	ITRF2008 - XYZ	
<i>Target CRS</i>	NAD 83 (PA11) Epoch 2010 - XYZ	
<i>Operation method</i>	Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)	

## Extent

<i>Description</i>	<b>American Samoa - onshore and offshore. Marshall Islands - onshore and offshore. United States (USA) - onshore and offshore - Hawaii. United States Minor Outlying Islands - onshore and offshore.</b>
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<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	157.47
	<i>North-bound latitude</i>	31.8
	<i>East-bound longitude</i>	-151.27
	<i>South-bound latitude</i>	-17.56

## Operation parameter values

<i>Time reference</i>	1997.0 year
<i>Rate of change of scale difference</i>	0.08 parts per billion per year
<i>Rate of change of Z-axis rotation</i>	-2.186 milliarc-second per year
<i>Rate of change of Y-axis rotation</i>	1.007 milliarc-second per year
<i>Rate of change of X-axis rotation</i>	-0.384 milliarc-second per year
<i>Rate of change of Z-axis translation</i>	-0.0018 metre per year
<i>Rate of change of Y-axis translation</i>	1.0E-4 metre per year
<i>Rate of change of X-axis translation</i>	1.0E-4 metre per year
<i>Scale difference</i>	1.1 parts per billion
<i>Z-axis rotation</i>	2.712 milliarc-second
<i>Y-axis rotation</i>	13.469 milliarc-second
<i>X-axis rotation</i>	27.741 milliarc-second
<i>Z-axis translation</i>	-0.5653 metre
<i>Y-axis translation</i>	-2.0161 metre
<i>X-axis translation</i>	0.908 metre

# ISO Geodetic Registry

<i>Item class</i>	OperationMethod
<i>Name</i>	<b>Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)</b>
<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>