ISO Geodetic Registry

Item class Transformation Name ITRF2014 to NAD 83 (PA11) Epoch 2010 [NGS v1] **VALID** Item status 990 Identifier Information source Title Multi-Year CORS Solution 2 (MYCS2) Coordinates **Author** U.S. National Geodetc Survey (NGS) Publisher National Geodetc Survey (NGS), National Oceanic and Atmospheric Administration (NOAA) 2021-11-17 Publication date Other citation details Website: https://geodesy.noaa.gov/CORS/news/ mycs2/mycs2.shtml#htdp_params (accessed 2023-01-28) Data source ISO Geodetic Registry Transformation defines NAD 83 (PA11) with respect to ITRF2014 and Remarks is treated as errorless. NGS v1 Operation version Scope Spatial referencing

0.0 m

ITRF2014 - XYZ

Cartesian domain)

Extent

Operation accuracy

Operation method

Source CRS

Target CRS

Description	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.	
Geographic Bounding Box	West-bound longitude	157.47
	North-bound latitude	31.8
	East-bound longitude	-151.27
	South-bound latitude	-17.56

NAD 83 (PA11) Epoch 2010 - XYZ

Time-Dependent Coordinate Frame Transformation (geocentric

Operation parameter values

X-axis translation	0.9109 metre
Y-axis translation	-2.0129 metre
Z-axis translation	-0.5863 metre
X-axis rotation	22.749 milliarc-second
Y-axis rotation	26.56 milliarc-second
Z-axis rotation	-25.706 milliarc-second
Scale difference	2.12 parts per billion
Rate of change of X-axis translation	1.0E-4 metre per year
Rate of change of Y-axis translation	1.0E-4 metre per year
Rate of change of Z-axis translation	-0.0019 metre per year

Rate of change of X-axis rotation	-0.384 milliarc-second per year
Rate of change of Y-axis rotation	1.007 milliarc-second per year
Rate of change of Z-axis rotation	-2.186 milliarc-second per year
Rate of change of scale difference	0.11 parts per billion per year
Time reference	2010.0 year

ISO Geodetic Registry

Item class OperationMethod

Name Time-Dependent Coordinate Frame

Transformation (geocentric Cartesian domain)

Item status VALID
Identifier 94

Alias Time-Dependent 7-Parameter Transformation

Alias 14-Parameter Transformation

Alias Time-Dependent Coordinate Frame Transformation

Data source ISO Geodetic Registry

Remarks Note the analogy with the Time-dependent Position Vector

Transformation but beware of the differences! The Position Vector

Transformation convention is used by IAG.

Formula Geomatics Guidance Note No 7, part 2: Coordinate Conversions and

Transformations including Formulas

Operation parameters

X-axis translation

Y-axis translation

Z-axis translation

X-axis rotation

Y-axis rotation

Z-axis rotation

Scale difference

Rate of change of X-axis translation

Rate of change of Y-axis translation

Rate of change of Z-axis translation

Rate of change of X-axis rotation

Rate of change of Y-axis rotation

Rate of change of Z-axis rotation

Rate of change of scale difference

Time reference