

# Coordinate systems and Reference systems supported by TRANSDATpro

## Language / Sprache:

This list of coordinate and reference systems supported by TRANSDATpro is in English language. An actual list in **English** you find on KilletSoft's website

[https://www.killetsoft.de/p\\_trdl\\_e.htm](https://www.killetsoft.de/p_trdl_e.htm).

Diese Liste der von TRANSDATpro unterstützten Koordinaten- und Bezugssysteme ist in Englischer Sprache. Eine aktuelle Liste in **Deutsch** finden Sie auf der KilletSoft-Internetseite

[https://www.killetsoft.de/p\\_trdl\\_d.htm](https://www.killetsoft.de/p_trdl_d.htm).

## Coordinate and Reference systems (datum shifts)

The list contains the coordinate systems and geodetic reference systems sorted on countries of the following continents and groups:

- European continent
- North American continent
- Central America and Caribbean
- South American continent
- Asian continent
- Near East and Middle East
- African continent
- Australian continent
- Polynesia, Indonesia, Micronesia
- Worldwide systems
- User definitions

[Begin of List]

--- European continent -----

### Albania (AL)

#### Coordinate Systems

- Albania TM 2010 Transverse Mercator coordinates
- Albania LCC 2010 Lambert Conic Conformal coordinates
- UTM coordinates (northern hemisphere)
- Gauss-Krueger (6 degrees wide strips)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- S42/58 (AL), Pulkovo, Krassowsky
- Pulkovo1942(58) (EU-E  $\pm 1$ m), Pulkovo, Krassowsky
- ALB86/2008 (AL), Pulkovo, Krassowsky
- ALB86/1998 (AL 7Param.), Pulkovo, Krassowsky
- ALB86/1998 (AL 3Param.), Pulkovo, Krassowsky
- ETRF2000/2008 (AL), geocentric, GRS80
- ETRF2000/1998 (AL), geocentric, GRS80
- ETRS89 (EU), geocentric, GRS80
- WGS84 (Worldwide GPS), geocentric, WGS84
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### Austria (AT)

## Coordinate Systems

UTM coordinates (northern hemisphere)

Austria Bundesmeldenetz M28 ( $X > 5$  Mio.)

Austria Bundesmeldenetz M31 ( $X > 5$  Mio.)

Austria Bundesmeldenetz M34 ( $X > 5$  Mio.)

Austria Bundesmeldenetz M28 ( $X < 5$  Mio.)

Austria Bundesmeldenetz M31 ( $X < 5$  Mio.)

Austria Bundesmeldenetz M34 ( $X < 5$  Mio.)

Austria Gauss-Krueger M28 (West,  $X < 5$  Mio.)

Austria Gauss-Krueger M31 (Central,  $X < 5$  Mio.)

Austria Gauss-Krueger M34 (East,  $X < 5$  Mio.)

Austria Gauss-Krueger M28 (West,  $X > 5$  Mio.)

Austria Gauss-Krueger M31 (Central,  $X > 5$  Mio.)

Austria Gauss-Krueger M34 (East,  $X > 5$  Mio.)

Austria Lambert (new system,  $47.5^\circ$ )

Austria Lambert (old system,  $48.0^\circ$ )

Geographic coordinates (Ferro) [deg]

Geographic coordinates (Ferro) [deg,min,sec]

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

## Reference Systems

MGI (AT NTv2 AT-GIS-GRID-2021  $<\pm 0.15$ m), Rauenberg, Bessel

ETRS89 (AT NTv2 AT-GIS-GRID-2021  $<\pm 0.15$ m), geocentric, GRS80

MGI (AT NTv2 AT-GIS-GRID-2014  $<\pm 0.35$ m), Rauenberg, Bessel

ETRS89 (AT NTv2 AT-GIS-GRID-2014  $<\pm 0.35$ m), geocentric, GRS80

ETRS89 (EU), geocentric, GRS80

MGI (AT/CZ), Hermannskogel, Bessel

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

ED50 (EU), Potsdam, Hayford/Int.

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## Belgium (BE)

### Coordinate Systems

UTM coordinates (northern hemisphere)

Belgian Lambert2008 coordinates

Belgian Lambert2005 coordinates

Belgian Lambert72 (2000) coordinates

Belgian Lambert72 (1972) coordinates

Belgian Lambert50 coordinates

Belgian Bonne coordinates

Geographic coordinates (Brussels) [deg]

Geographic coordinates (Greenwich) [gon]

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

BD72 (BE 2014 NTv2 bd72lb72...08), Uckel, Hayford/Int.

ETRS89 (BE 2014 NTv2 bd72lb72...08), geocentric, GRS80

ETRS89 (EU), geocentric, GRS80

BD72 (BE 2000  $\leq \pm 0.2\text{m}$ ), Ukkel, Hayford/Int.  
BD72 (BE 1972  $\leq \pm 1\text{m}$ ), Ukkel, Hayford/Int.  
BD50 (BE), Royal de Belgique, Hayford/Int.  
Bonne (BE), Royal de Belgique, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (EU), Potsdam, Hayford/Int.  
NTF (FR), Paris Pantheon, Clarke IGN  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Bosnia / Herzegovina (BA)

##### Coordinate Systems

Balkans MGI Zones 5-8 Gauss-Krueger coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

MGI 1901 (BA), Hermannskogel, Bessel  
MGI (SI/HR/BA), Hermannskogel, Bessel  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Bulgaria (BG)

##### Coordinate Systems

Bulgarian CCS2005 Lambert coordinates  
Bulgarian BGS2000 Lambert coordinates  
Gauss-Krueger (6 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

BGS2005 (BG), geocentric, GRS80  
BGS2000 (BG), geocentric, GRS80  
S42/83 (BG), Pulkovo, Krassowsky  
Pulkovo1942(58) (EU-E  $\leq \pm 1\text{m}$ ), Pulkovo, Krassowsky  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Croatia (HR)

##### Coordinate Systems

Croatian HTRS96 Transverse Mercator coord.  
Croatian HDKS / HR1901 Gauss-Krueger coordinates  
UTM coordinates (northern hemisphere)  
Balkans MGI Zones 5-8 Gauss-Krueger coordinates

Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

HTRS96 (HR  $<\pm 1\text{m}$ ), geocentric, GRS80  
HDKS / HR1901G (HR  $<\pm 1\text{m}$ ), Hermannskogel, Bessel  
ETRS89 (EU), geocentric, GRS80  
MGI (SI/HR/BA), Hermannskogel, Bessel  
WGS84 (Worldwide GPS), geocentric, WGS84  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

### Cyprus (CY)

#### Coordinate Systems

Cyprus Local Transverse Mercator coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

CGRS93 (CY), geocentric, WGS84  
ETRS89 (EU), geocentric, GRS80  
ED50 (CY), Potsdam, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

### Czechia (CZ)

#### Coordinate Systems

Krovak S-JTSK (Greenwich South/West positiv) coordinates  
Krovak S-JTSK (Greenwich East/Nord negativ) coordinates  
Krovak S-JTSK (Ferro South/West positiv) coordinates  
Krovak S-JTSK (Ferro East/Nord negativ) coordinates  
Gauss-Krueger coord. (3 degrees wide strips)  
Austria Bundesmeldenetz M31 (X < 5 Mio.)  
Austria Bundesmeldenetz M34 (X < 5 Mio.)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Ferro) [deg]  
Geographic coordinates (Ferro) [deg,min,sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

ETRS89 (EU), geocentric, GRS80  
S-JTSK (CZ), Hermannskogel, Bessel  
S42/83 (EU-E/AS[FSU] 1990  $<\pm 3\text{m}$ ), Pulkovo, Krassowsky  
Pulkovo1942(58) (EU-E  $<\pm 1\text{m}$ ), Pulkovo, Krassowsky  
MGI (AT/CZ), Hermannskogel, Bessel  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72

ED50 (EU), Potsdam, Hayford/Int.  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Denmark (DK)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Danish Transv. Merc. Kp2000 Jylland / Fyn (9.5°)  
Danish Transverse Merc. Kp2000 Sjaelland (12°)  
Danish Transverse Merc. Kp2000 Bornholm (15°)  
Danish Transv. Merc. DKTM1 Western Jylland (9°)  
Danish Transv. Merc. DKTM2 Eastern Jylland (10°)  
Danish Transv. Merc. DKTM3 Sjaelland (11.75°)  
Danish Transv. Merc. DKTM4 Bornholm (15°)  
Geographic coordinates (Copenhagen) [deg]  
Geographic coordinates (Copenhagen) [deg,min,sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU), geocentric, GRS80  
ED50 (DK), Potsdam, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Estonia (EE)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Estonian Lambert Coordinates L-ESTxx  
Baltic Transverse Mercator coord. TM Baltic93  
Baltic CS63 zone C0 Transverse Mercator  
Baltic CS63 zone C1 Transverse Mercator  
Baltic CS63 zone C2 Transverse Mercator  
Gauss-Krueger (6 degrees wide strips)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU), geocentric, GRS80  
EST97 (EE), geocentric, GRS80  
EST92 (EE), geocentric, GRS80  
S42 (EE), Pulkovo, Krassowsky  
S42/83 (EU-E/AS[FSU] 1990 <±3m), Pulkovo, Krassowsky  
WGS84 (Worldwide GPS), geocentric, WGS84  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Faroe Islands (FO)

## Coordinate Systems

- UTM coordinates (northern hemisphere)
- Faroe TM coordinates
- Faroe Lambert coordinates
- Faroe Lambert FK89 coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

## Reference Systems

- ETRS89 (EU), geocentric, GRS80
- WGS84 (Worldwide GPS), geocentric, WGS84
- FD54 (FO), Faroe Islands, Hayford/Int.
- FK89 (FO, ident. with FD54), Faroe Islands, Hayford/Int.
- ED50 (EU), Potsdam, Hayford/Int.
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## Finland (FI)

### Coordinate Systems

- Finish Transv. Mercator Coord. TM35FIN
- Finish Gauss-Krueger ETRS (1 degrees strips)
- Finish Gauss-Krueger KKJ (3 degrees strips)
- Finish Transv. Mercator Coord. KKJ Uniform
- Finish Transv. Mercator Coord. VVJ Uniform
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- ETRS89 (EU), geocentric, GRS80
- KKJ (FI 2002  $<\pm 1\text{m}$ ), Helsinki, Hayford/Int.
- KKJ (FI 1992  $<\pm 5\text{m}$ ), Helsinki, Hayford/Int.
- ED50 (FI), Potsdam, Hayford/Int.
- WGS84 (Worldwide GPS), geocentric, WGS84
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## France (FR)

### Coordinate Systems

- French Lambert CC42 (zone 1) coordinates
- French Lambert CC43 (zone 2) coordinates
- French Lambert CC44 (zone 3) coordinates
- French Lambert CC45 (zone 4) coordinates
- French Lambert CC46 (zone 5) coordinates
- French Lambert CC47 (zone 6) coordinates
- French Lambert CC48 (zone 7) coordinates
- French Lambert CC49 (zone 8) coordinates
- French Lambert CC50 (zone 9) coordinates
- French Lambert93 coordinates
- French Lambert Zone I coordinates
- French Lambert Zone II coordinates
- French Lambert Zone III Coordinates

French Lambert Zone IV Coordinates  
French Lambert North coordinates  
French Lambert Centre coordinates  
French Lambert South coordinates  
French Lambert Corse coordinates  
French Lambert Centre Etendu coordinates  
French Lambert (1SP) Nord de Guerre coordinates  
French Lambert (2SP) Nord de Guerre coordinates  
TM 6 NETransverse Mercator coordinates  
Geographic coordinates (Paris) [gon]  
Geographic coordinates (Paris) [deg,min,sec]  
Geographic coordinates (Paris) [deg]  
Geographic coordinates (Greenwich) [gon]  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NTF (FR NTv2 NTF\_R93  $<\pm 0.2\text{m}$ ), Paris, Clarke IGN  
RGF93 (FR NTv2 NTF\_R93  $<\pm 0.2\text{m}$ ), geocentric, GRS80  
NTF (FR NTv2 FRANCE  $<\pm 0.5\text{m}$ ), Paris, Clarke RGS  
RGF93 (FR NTv2 FRANCE  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
RGF93 (FR), geocentric, GRS80  
ETRS89 (EU), geocentric, GRS80  
NTF (FR), Paris Pantheon, Clarke IGN  
ATF (FR no\_defs), Paris, Plessis 1817  
ED50 (FR), Potsdam, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (EU), Potsdam, Hayford/Int.  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Germany (DE) - General

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Gauss-Krueger coord. (3 degrees wide strips)  
Gauss-Krueger (6 degrees wide strips)  
German Lambert LAMGe coordinates  
German Lambert mean coordinates  
German Lambert zone west coordinates  
German Lambert zone east coordinates  
German Lambert Esri-ArcData coordinates  
German Lambert LCC12 coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU), geocentric, GRS80  
DHDN/PD (DE 1995  $<\pm 5\text{m}$ ), Rauenberg, Bessel  
DHDN/PD (DE 2001  $<\pm 3\text{m}$ ), Rauenberg, Bessel  
DHDN/PD (DE Old States South  $<\pm 1\text{m}$ ), Rauenberg, Bessel

DHDN/PD (DE Old States Middle  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
 DHDN/PD (DE Old States North  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
 DHDN90 (DE 2007  $<\pm 3.0\text{m}$ ), Rauenberg, Bessel  
 DHDN90 (DE NTv2 BeTA2007  $<\pm 0.5\text{m}$ ), Rauenberg, Bessel  
 ETRS89 (DE NTv2 BeTA2007  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
 RD83 (DE New States  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
 PD83 (DE New States [TH]  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
 S40/83 (DE New States 1990  $<\pm 3\text{m}$ ), Rauenberg, Bessel  
 S40/83 (DE New States 2004  $<\pm 0.5\text{m}$ ), Rauenberg, Bessel  
 S42/83 (DE New States 1990  $<\pm 3\text{m}$ ), Puklowo, Krassowsky  
 S42/83 (DE New States 2001  $<\pm 1\text{m}$ ), Pulkovo, Krassowsky  
 Pulkovo1942(58) (EU-E  $<\pm 1\text{m}$ ), Pulkovo, Krassowsky  
 ED50 (EU), Potsdam, Hayford/Int.  
 WGS84 (Worldwide GPS), geocentric, WGS84  
 WGS72 (Worldwide), geocentric, WGS72  
 DB\_REF(1) (DE Deutsche Bahn  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
 DB\_REF(2) (DE Deutsche Bahn  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
 Source Reference System in an arbitrary NTv2 file  
 Target Reference System in an arbitrary NTv2 file

## Germany (DE) - Federal States

### Coordinate Systems

UTM coordinates (northern hemisphere)  
 Gauss-Krueger coord. (3 degrees wide strips)  
 Gauss-Krueger (6 degrees wide strips)  
 German Soldner coord. Berlin (Mueggelberg new)  
 German Soldner coord. Berlin (Mueggelberg old)  
 German Soldner coordinates Berlin (Goetzer Berg)  
 German Soldner Bavaria (Munich, Y --> West)  
 German Soldner Bavaria (Munich, Y --> East)  
 German Soldner Baden (Mannheim[1], Y --> W, X --> S)  
 German Soldner Baden (Mannheim[2], Y --> W, X --> S)  
 Geographic coordinates (Greenwich) [deg]  
 Geographic coordinates (Greenwich) [deg,min]  
 Geographic coordinates (Greenwich) [deg,min,sec]  
 Cartesian coordinates

### Reference Systems

DHDN/Netz88 (DE-BE  $<\pm 0.2\text{m}$ ), Rauenberg, Bessel  
 DHDN90 (DE-BE 2007  $<\pm 0.2\text{m}$ ), Rauenberg, Bessel  
 DHDN90 (DE-BE NTv2 Ntv2berlin  $<\pm 2\text{cm}$ ), Rauenberg, Bessel  
 ETRS89 (DE-BE NTv2 Ntv2berlin  $<\pm 2\text{cm}$ ), geocentric, GRS80  
 S40/83 (DE-BB  $<\pm 0.2\text{m}$ ), Rauenberg, Bessel  
 S42/83 (DE-BB  $<\pm 0.2\text{m}$ ), Puklowo, Krassowsky  
 DHDN90 (DE-BB 2007  $<\pm 0.4\text{m}$ ), Rauenberg, Bessel  
 S42/83 (DE-BB NTv2 NTv2-BB  $<\pm 4\text{cm}$ ), Pulkovo, Krassowsky  
 ETRS89 (DE-BB NTv2 NTv2-BB  $<\pm 4\text{cm}$ ), geocentric, GRS80  
 DHDN90 (DE-BW NTv2 BWTA2017  $<\pm 5\text{cm}$ ), Rauenberg, Bessel  
 ETRS89 (DE-BW NTv2 BWTA2017  $<\pm 5\text{cm}$ ), geocentric, GRS80  
 DHDN/PD (DE-BW  $<\pm 0.5\text{m}$ ), Rauenberg, Bessel  
 DHDN90 (DE-BW 2007  $<\pm 0.4\text{m}$ ), Rauenberg, Bessel  
 DHDN90 (DE-BY 2014 NTv2 NTv2-Ba  $<\pm 5\text{cm}$ ), Rauenberg, Bessel  
 ETRS89 (DE-BY 2014 NTv2 NTv2-Ba  $<\pm 5\text{cm}$ ), geocentric, GRS80  
 DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_Bwhl  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
 ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_Bwhl  $<\pm 2\text{cm}$ ), geoc., GRS80



DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_MFr  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_MFr  $<\pm 2\text{cm}$ ), geoc., GRS80  
DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_NBy  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_NBy  $<\pm 2\text{cm}$ ), geoc., GRS80  
DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_OBy  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_OBy  $<\pm 2\text{cm}$ ), geoc., GRS80  
DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_OFr  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_OFr  $<\pm 2\text{cm}$ ), geoc., GRS80  
DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_OPf  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_OPf  $<\pm 2\text{cm}$ ), geoc., GRS80  
DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_Schw  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_Schw  $<\pm 2\text{cm}$ ), geoc., GRS80  
DHDN90 (DE-BY 2019 NTv2 BY\_KanU\_UFr  $<\pm 2\text{cm}$ ), Rauenb., Bessel  
ETRS89 (DE-BY 2019 NTv2 BY\_KanU\_UFr  $<\pm 2\text{cm}$ ), geoc., GRS80  
DHDN90 (DE-BY 2000  $<\pm 1.0\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-BY 2007  $<\pm 0.7\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-BY 2011  $<\pm 0.3\text{m}$ ), Rauenberg, Bessel  
SOLDNER (DE-BY  $<\pm 1\text{m}$ ), Munich, Laplace  
DHDN90 (DE-HB 2007  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-HB NTv2 HBTa2010  $<\pm 5\text{cm}$ ), Rauenberg, Bessel  
ETRS89 (DE-HB NTv2 HBTa2010  $<\pm 5\text{cm}$ ), geocentric, GRS80  
DHDN/PD (DE-HE to 6/03  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
DHDN/PD (DE-HE 7/03-12/07  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
DHDN/PD (DE-HE from 12/07  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-HE 2007  $<\pm 0.4\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-HE NTv2 HeTA2010  $<\pm 4\text{cm}$ ), Rauenberg, Bessel  
ETRS89 (DE-HE NTv2 HeTA2010  $<\pm 4\text{cm}$ ), geocentric, GRS80  
DHDN90 (DE-HH NTv2 Beta\_FHH\_NW  $<\pm 5\text{cm}$ ), Rauenberg, Bessel  
ETRS89 (DE-HH NTv2 Beta\_FHH\_NW  $<\pm 5\text{cm}$ ), geocentric, GRS80  
DHDN90 (DE-HH NTv2 NTv2-HH  $<\pm 5\text{cm}$ ), Rauenberg, Bessel  
ETRS89 (DE-HH NTv2 NTv2-HH  $<\pm 5\text{cm}$ ), geocentric, GRS80  
DHDN90 (DE-HH NTv2 NTv2-Neuwerk  $<\pm 5\text{cm}$ ), Rauenberg, Bessel  
ETRS89 (DE-HH NTv2 NTv2-Neuwerk  $<\pm 5\text{cm}$ ), geocentric, GRS80  
DHDN90 (DE-HH 2007  $<\pm 0.2\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-MV 2007  $<\pm 0.9\text{m}$ ), Rauenberg, Bessel  
RD83 (DE-MV NTv2 MVTR2010  $<\pm 2\text{cm}$ ), Rauenberg, Bessel  
ETRS89 (DE-MV NTv2 MVTR2010  $<\pm 2\text{cm}$ ), geocentric, GRS80  
S42/83 (DE-MV NTv2 MVTRS4283  $<\pm 2\text{cm}$ ), Pulkovo, Krassowsky  
ETRS89 (DE-MV NTv2 MVTRS4283  $<\pm 2\text{cm}$ ), geocentric, GRS80  
DHDN/PD (DE-NI  $<\pm 0.5\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-NI 2007  $<\pm 0.7\text{m}$ ), Rauenberg, Bessel  
DHDN/Netz77 (DE-NW  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-NW 2007  $<\pm 0.6\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-NW 2009  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
DHDN (DE-NW NTv2 NW\_GC1501), Rauenberg, Bessel  
ETRS89 (DE-NW NTv2 NW\_GC1501), geocentric, GRS80  
DHDN90 (DE-RP 2007  $<\pm 0.2\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-SH 2007  $<\pm 0.4\text{m}$ ), Rauenberg, Bessel  
DHDN (DE-SH NTv2 SH2016A), Rauenberg, Bessel  
ETRS89 (DE-SH NTv2 SH2016A), geocentric, GRS80  
DHDN90 (DE-SL 2007  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
DHDN/Netz97 (DE-SL 2007  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
DHDN/Netz97 (DE-SL 2016  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
DHDN90 (DE-SL NTv2 SeTa2009  $<\pm 2\text{cm}$ ), Rauenberg, Bessel

ETRS89 (DE-SL NTv2 SeTa2009  $<\pm 2\text{cm}$ ), geocentric, GRS80  
 DHDN90 (DE-SL NTv2 SeTa2016  $<\pm 2\text{cm}$ ), Rauenberg, Bessel  
 ETRS89 (DE-SL NTv2 SeTa2016  $<\pm 2\text{cm}$ ), geocentric, GRS80  
 DHDN90 (DE-SN 2007  $<\pm 0.9\text{m}$ ), Rauenberg, Bessel  
 RD83 (DE-SN West  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
 RD83 (DE-SN East  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
 RD83 (DE-SN NTv2 SaeTA2010  $<\pm 5\text{cm}$ ), Rauenberg, Bessel  
 ETRS89 (DE-SN NTv2 SaeTA2010  $<\pm 5\text{cm}$ ), geocentric, GRS80  
 RD83 (DE-SN NTv2 NTv2\_SN  $<\pm 3\text{cm}$ ), Rauenberg, Bessel  
 ETRS89 (DE-SN NTv2 NTv2\_SN  $<\pm 3\text{cm}$ ), geocentric, GRS80  
 DHDN90 (DE-ST 2007  $<\pm 0.5\text{m}$ ), Rauenberg, Bessel  
 S42/83 (DE-ST NTv2 NTv2LSBB\_LSA  $<\pm 5\text{cm}$ ), Pulkovo, Krassowsky  
 ETRS89 (DE-ST NTv2 NTv2LSBB\_LSA  $<\pm 5\text{cm}$ ), geocentric, GRS80  
 PD83 (DE-TH  $<\pm 0.2\text{m}$ ), Rauenberg, Bessel  
 DHDN90 (DE-TH 2007  $<\pm 0.3\text{m}$ ), Rauenberg, Bessel  
 PD83 (DE-TH NTv2 NTv2GridTh  $<\pm 3\text{cm}$ ), Rauenberg, Bessel  
 ETRS89 (DE-TH NTv2 NTv2GridTh  $<\pm 3\text{cm}$ ), geocentric, GRS80  
 DHDN90 (DE NTv2 BeTA2007  $<\pm 0.5\text{m}$ ), Rauenberg, Bessel  
 ETRS89 (DE NTv2 BeTA2007  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
 DHDN/PD (DE 1995  $<\pm 5\text{m}$ ), Rauenberg, Bessel  
 DHDN/PD (DE 2001  $<\pm 3\text{m}$ ), Rauenberg, Bessel  
 S42/83 (DE New States 2001  $<\pm 1\text{m}$ ), Pulkovo, Krassowsky  
 ETRS89 (EU), geocentric, GRS80  
 WGS84 (Worldwide GPS), geocentric, WGS84  
 Source Reference System in an arbitrary NTv2 file  
 Target Reference System in an arbitrary NTv2 file

## Germany (DE) - Lagestatus

### Coordinate Systems

Lagestatus 100, Gauss-Krueger 3 deg. str., DHDN  
 Lagestatus 100, Country HE, GK 3 deg. str., DHDN  
 Lagestatus 101, Gauss-Krueger 3 deg. str., DHDN  
 Lagestatus 110, Gauss-Krueger 3 deg. str., RD83  
 Lagestatus 111, Gauss-Krueger Strip 4, RD83  
 Lagestatus 112, Gauss-Krueger Strip 5, RD83  
 Lagestatus 120, Gauss-Krueger 3 deg. str., PD83  
 Lagestatus 121, Geogr. Coord. [deg], PD83  
 Lagestatus 121, Geogr. Coord. [deg,min,sec], PD83  
 Lagestatus 130, Gauss-Krueger 3 deg. str., S40/83  
 Lagestatus 140, Gauss-Krueger 6 deg. str., S42/83  
 Lagestatus 150, Gauss-Krueger 3 deg. str., S42/83  
 Lagestatus 151, Geogr. Coord. [deg], S42/83  
 Lagestatus 151, Geogr. Coord. [deg,min,sec], S42/83  
 Lagestatus 177, Gauss-Krueger 3 deg. str., DHDN/Netz77  
 Lagestatus 310 (HH), UTM Coordinates, ETRS89  
 Lagestatus 320 (HH), Gauss-Krueger 3 deg. str., ETRS89  
 Lagestatus 450, UTM Coordinates, ED50  
 Lagestatus 489, UTM Coordinates, ETRS89  
 Lagestatus 500, Soldner Berlin Muegg. (new), DHDN/Netz88  
 Lagestatus 600, Soldner Berlin Muegg. (old), DHDN/Netz88  
 Lagestatus 650, Soldner Berlin Goetzer Berg, DHDN/Netz88  
 Lagestatus 801, Geogr. Coord. [deg], DHDN  
 Lagestatus 801, Geogr. Coord. [deg,min,sec], DHDN  
 Lagestatus 850, Geogr. Coord. [deg], ED50

Lagestatus 850, Geogr. Coord. [deg,min,sec], ED50  
Lagestatus 877, Geogr. Koord. [deg], DHDN/Netz77  
Lagestatus 877, Geogr. [deg,min,sec], DHDN/Netz77  
Lagestatus 889, Geogr. Coord. [deg], ETRS89  
Lagestatus 889, Geogr. Coord. [deg,min,sec], ETRS89  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

ETRS89 (EU), geocentric, GRS80  
DHDN/PD (DE 1995  $<\pm 5\text{m}$ ), Rauenberg, Bessel  
DHDN/PD (DE 2001  $<\pm 3\text{m}$ ), Rauenberg, Bessel  
DHDN/Netz77 (DE-NW  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
DHDN/Netz88 (DE-BE  $<\pm 0.2\text{m}$ ), Rauenberg, Bessel  
DHDN/PD (DE-HE from 12/07  $<\pm 0.1\text{m}$ ), Rauenberg, Bessel  
RD83 (DE New States  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
PD83 (DE New States [TH]  $<\pm 1\text{m}$ ), Rauenberg, Bessel  
S42/83 (DE New States 1990  $<\pm 3\text{m}$ ), Puklowo, Krassowsky  
S42/83 (DE New States 2001  $<\pm 1\text{m}$ ), Pulkovo, Krassowsky  
S40/83 (DE New States 2004  $<\pm 0.5\text{m}$ ), Rauenberg, Bessel  
ED50 (EU), Potsdam, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Germany (DE) - Prussian Land Register

##### Coordinate Systems

Prussian Land Register Kucklinsberg (1,RU)  
Prussian Land Register Paulinen (2,PL)  
Prussian Land Register Markushof (3,PL)  
Prussian Land Register Turmberg (4,PL)  
Prussian Land Register Kauernik (5,PL)  
Prussian Land Register Thorn (6,PL)  
Prussian Land Register Heinrichsthal (7,PL)  
Prussian Land Register Gollenberg (8,PL)  
Prussian Land Register Gnesen (9,PL)  
Prussian Land Register Josephsberg (10,PL)  
Prussian Land Register Schroda (11,PL)  
Prussian Land Register Pschow (12,PL)  
Prussian Land Register Rummelsberg (13,PL)  
Prussian Land Register Groeditzberg (14,PL)  
Prussian Land Register Kaltenborn (15,DE)  
Prussian Land Register Bahn (16,PL)  
Prussian Land Register Greifswald (17,DE)  
Prussian Land Register Greifswald (17+,DE)  
Prussian Land Register Mueggelberg Berlin (18,DE)  
Prussian Land Register Mueggelberg Berlin (18+,DE)  
Prussian Land Register Goetzer Berg (19,DE)  
Prussian Land Register Torgau (20,DE)  
Prussian Land Register Burkersroda (21,DE)  
Prussian Land Register Inselsberg (22,DE)  
Prussian Land Register Magdeburg (23,DE)  
Prussian Land Register Ostenfeld (24,DE)

Prussian Land Register Rathkruegen (25,DE)  
Prussian Land Register Bungsberg (26,DE)  
Prussian Land Register Celle (27,DE)  
Prussian Land Register Kaltenborn (28,DE)  
Prussian Land Register Silberberg (29,DE)  
Prussian Land Register Windberg (30,DE)  
Prussian Land Register Hermannsdenkmal (31,DE)  
Prussian Land Register Muenster (32,DE)  
Prussian Land Register Bochum (33,DE)  
Prussian Land Register Bochum (33+,DE)  
Prussian Land Register Homert (34,DE)  
Prussian Land Register Kassel (35,DE)  
Prussian Land Register Schaumburg (36,DE)  
Prussian Land Register Fleckert (37,DE)  
Prussian Land Register Koeln (38,DE)  
Prussian Land Register Langschoss (39,DE)  
Prussian Land Register Rissenthal (40,DE)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

DHDN/PD (DE 1995  $<\pm 5\text{m}$ ), Rauenberg, Bessel  
DHDN/PD (DE 2001  $<\pm 3\text{m}$ ), Rauenberg, Bessel  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### GPS Measurements - ITRS epochs

##### Coordinate Systems

Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
UTM coordinates (northern hemisphere)  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU ITRS epoch 1989), GRS80  
ITRS24 (EU GPS measurements in license year 2024), WGS84  
ITRS89 (EU GPS measurements epoch 1989), WGS84  
ITRS90 (EU GPS measurements epoch 1990), WGS84  
ITRS91 (EU GPS measurements epoch 1991), WGS84  
ITRS92 (EU GPS measurements epoch 1992), WGS84  
ITRS93 (EU GPS measurements epoch 1993), WGS84  
ITRS94 (EU GPS measurements epoch 1994), WGS84  
ITRS95 (EU GPS measurements epoch 1995), WGS84  
ITRS96 (EU GPS measurements epoch 1996), WGS84  
ITRS97 (EU GPS measurements epoch 1997), WGS84  
ITRS98 (EU GPS measurements epoch 1998), WGS84  
ITRS99 (EU GPS measurements epoch 1999), WGS84  
ITRS00 (EU GPS measurements epoch 2000), WGS84  
ITRS01 (EU GPS measurements epoch 2001), WGS84  
ITRS02 (EU GPS measurements epoch 2002), WGS84  
ITRS03 (EU GPS measurements epoch 2003), WGS84  
ITRS04 (EU GPS measurements epoch 2004), WGS84

ITRS05 (EU GPS measurements epoch 2005), WGS84  
ITRS06 (EU GPS measurements epoch 2006), WGS84  
ITRS07 (EU GPS measurements epoch 2007), WGS84  
ITRS08 (EU GPS measurements epoch 2008), WGS84  
ITRS09 (EU GPS measurements epoch 2009), WGS84  
ITRS10 (EU GPS measurements epoch 2010), WGS84  
ITRS11 (EU GPS measurements epoch 2011), WGS84  
ITRS12 (EU GPS measurements epoch 2012), WGS84  
ITRS13 (EU GPS measurements epoch 2013), WGS84  
ITRS14 (EU GPS measurements epoch 2014), WGS84  
ITRS15 (EU GPS measurements epoch 2015), WGS84  
ITRS16 (EU GPS measurements epoch 2016), WGS84  
ITRS17 (EU GPS measurements epoch 2017), WGS84  
ITRS18 (EU GPS measurements epoch 2018), WGS84  
ITRS19 (EU GPS measurements epoch 2019), WGS84  
ITRS20 (EU GPS measurements epoch 2020), WGS84  
ITRS21 (EU GPS measurements epoch 2021), WGS84  
ITRS22 (EU GPS measurements epoch 2022), WGS84  
ITRS23 (EU GPS measurements epoch 2023), WGS84  
ITRS24 (EU GPS measurements epoch 2024), WGS84  
ITRS25 (EU GPS measurements epoch 2025), WGS84  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Great Britain (GB)

### Coordinate Systems

British Transverse Mercator coordinates  
BNG British National Grid (Centimeter grid mesh)  
BNG British National Grid (Meter grid mesh)  
BNG British National Grid (100 meter grid mesh)  
ING Irish National Grid (Centimeter grid mesh)  
ING Irish National Grid (Meter grid mesh)  
ING Irish National Grid (100 meter grid mesh)  
Jersey (GB) Transverse Mercator coordinates  
Guernsey (GB) Grid coordinates  
TM 0 N Transverse Mercator coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

OSGB36 (GB-UK NTv2 OSTN15\_OSGBtoETRS  $<\pm 0.1\text{m}$ ), Herstmonceux, Airy  
ETRS89 (GB-UK NTv2 OSTN15\_OSGBtoETRS  $<\pm 0.1\text{m}$ ), geocentric, GRS80  
OSGB36 (GB-UK NTv2 OSTN15\_ETRS to OSGB  $<\pm 0.1\text{m}$ ), Herstmonceux, Airy  
ETRS89 (GB-UK NTv2 OSTN15\_ETRS to OSGB  $<\pm 0.1\text{m}$ ), geocentric, GRS80  
OSGB36 (GB-UK NTv2 OSTN02\_N  $<\pm 0.1\text{m}$ ), Herstmonceux, Airy  
ETRS89 (GB-UK NTv2 OSTN02\_N  $<\pm 0.1\text{m}$ ), geocentric, GRS80  
OSGB36 (GB-Engl+Wales NTv2 ENGLAND  $<\pm 0.5\text{m}$ ), Herstmonceux, Airy  
ETRS89 (GB-Engl+Wales NTv2 ENGLAND  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
OSGB36 (GB-Scotl. NTv2 SCOTLAND  $<\pm 0.5\text{m}$ ), Herstmonceux, Airy  
ETRS89 (GB-Scotland NTv2 SCOTLAND  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
ETRS89 (EU), geocentric, GRS80

OSGB36 (GB/IE), Herstmonceux, Airy  
ED50 (North Sea  $<\pm 2\text{m}$ ), Potsdam, Hayford/Int.  
OSGB70 SN (GB/IE), Herstmonceux, Airy  
IRENET95 (IE), geocentric, GRS80  
TM65/OSNI52 (IE  $<\pm 1\text{m}$ ), Slieve Donard, Airy modified  
TM75 (IE  $<\pm 1\text{m}$ ), Slieve Donard, Airy modified  
TM75 (IE NTv2 TM75\_ETRS89  $<\pm 0.3\text{m}$ ), Slieve Donard, Airy mod.  
ETRS89 (IE NTv2 TM75\_ETRS89  $<\pm 0.3\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (GB/IE  $<\pm 3\text{m}$ ), Potsdam, Hayford/Int.  
ED50 (EU), Potsdam, Hayford/Int.  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Greece (GR)

### Coordinate Systems

Greek Transverse Mercator coordinates HGRS87/EGSA87  
Greek UTM Coordinates (reduced Zone No.)  
Greek Transverse Mercator coord. TM3 west zone  
Greek Transverse Mercator coord. TM3 middle zone  
Greek Transverse Mercator coord. TM3 east zone  
Geographic coordinates (Athens) [deg,min,sec]  
Geographic coordinates (Athens) [deg]  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

HGRS87/EGSA87 (GR), Dionysos, GRS80  
ED50 (GR), Potsdam, Hayford/Int.  
HELLENIC (GR  $<\pm 3\text{m}$ ), Athens, Bessel  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Greenland (GL)

### Coordinate Systems

UTM coordinates (northern hemisphere)  
Greenland Lambert zone 5 east coordinates  
Greenland Lambert zone 6 east coordinates  
Greenland Lambert zone 7 east coordinates  
Greenland Lambert zone 8 east coordinates  
Greenland Lambert zone 2 west coordinates  
Greenland Lambert zone 3 west coordinates  
Greenland Lambert zone 4 west coordinates  
Greenland Lambert zone 5 west coordinates  
Greenland Lambert zone 6 west coordinates  
Greenland Lambert zone 7 west coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

GR96 (GL  $<\pm 1\text{m}$ ), geocentric, GRS80

Ammassalik 1958 (GL  $<\pm 1\text{m}$ ), Ammassalik, Hayford/Int.

Scoresbysund 1952 (GL  $<\pm 1\text{m}$ ), Scoresbysund, Hayford/Int.

Qornoq 1927 (GL  $<\pm 1\text{m}$ ), Qornoq, Hayford/Int.

WGS84 (Worldwide GPS), geocentric, WGS84

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

### Hungary (HU)

#### Coordinate Systems

Hungarian EOVS coordinates

Gauss-Krueger (6 degrees wide strips)

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

HD72 (HU 1995), Szölöhegy, GRS67

HD72 (HU 2002), Szölöhegy, GRS67

HD72 (HU 2014 NTv2 Etrs2Eov\_kor), Szölöhegy, GRS67

ETRS89 (HU 2014 NTv2 Etrs2Eov\_kor), geocentric, GRS80

S42/83 (EU-E/AS[FSU] 1990  $<\pm 3\text{m}$ ), Pulkovo, Krassowsky

ETRS89 (EU), geocentric, GRS80

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

### Iceland (IS)

#### Coordinate Systems

Iceland Lambert 2016 coordinates

Iceland Lambert 2004 coordinates

Iceland Lambert 1993 coordinates

Iceland Lambert 1955 coordinates

Iceland Lambert 1900 coordinates

UTM coordinates (northern hemisphere)

LAEA-Iceland Lambert Azimuthal Equal Area

LAEA-Europe Pan-European Lambert Azim. Equal Area

LCC-Europe Pan-European Lambert Conformal Conic

Geographic coordinates (Copenhagen) [deg]

Geographic coordinates (Copenhagen) [deg,min,sec]

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

ISN2004 (IS), geocentric, GRS80

ISN2004 (IS NTv2 ISN2004\_ISN2016), geocentric, GRS80

ISN2016 (IS NTv2 ISN2004\_ISN2016), geocentric, GRS80

ISN93 (IS), geocentric, GRS80  
ISN93 (IS NTv2 ISN93\_ISN2016), geocentric, GRS80  
ISN2016 (IS NTv2 ISN93\_ISN2016), geocentric, GRS80  
ISN2016 (IS =WGS84=), geocentric, WGS84  
ISN2004 (IS =WGS84=), geocentric, WGS84  
ISN93 (IS =WGS84=), geocentric, WGS84  
Hjorsey 1955 (IS), Hjorsey, Hayford/International  
Reykjavik 1900 (IS), Reykjavik, Danish Andrae  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### INSPIRE© (Europe)

##### Coordinate Systems

TMzn-Europe Pan-European Transverse Mercator (UTM)  
LCC-Europe Pan-European Lambert Conformal Conic  
LAEA-Europe Pan-European Lambert Azim. Equal Area  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Ireland / Northern Ireland (IE)

##### Coordinate Systems

Irish ITM Transverse Mercator coordinates  
IG Irish Grid Transverse Mercator coordinates  
ING Irish National Grid (Centimeter grid mesh)  
ING Irish National Grid (Meter grid mesh)  
ING Irish National Grid (100 meter grid mesh)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

IRENET95 (IE), geocentric, GRS80  
ETRS89 (EU), geocentric, GRS80  
TM65/OSNI52 (IE <±1m), Slieve Donard, Airy modified  
TM75 (IE <±1m), Slieve Donard, Airy modified  
TM75 (IE NTv2 TM75\_ETRS89 <±0.3m), Slieve Donard, Airy mod.  
ETRS89 (IE NTv2 TM75\_ETRS89 <±0.3m), geocentric, GRS80  
OSGB36 (GB/IE), Herstmonceux, Airy  
OSGB70 SN (GB/IE), Herstmonceux, Airy  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (GB/IE <±3m), Potsdam, Hayford/Int.  
ED50 (EU), Potsdam, Hayford/Int.  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file



## Italy (IT)

### Coordinate Systems

Italian Transv. Mercator RDN zone EN/NE  
Italian Transv. Mercator RDN zone 12 EN/NE  
Italian Transverse Mercator Emilia-Romagna  
Italian Gauss-Boaga west zone  
Italian Gauss-Boaga east zone  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Roma) [deg,min,sec]  
Geographic coordinates (Roma) [deg]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

RDN2008 (IT), geocentric, GRS80  
IGM95 (IT), geocentric, WGS84  
ETRS89 (EU), geocentric, GRS80  
ED50 (IT NTv2 NadED50), Potsdam, Hayford/Int.  
WGS84 (IT NTv2 NadED50), geocentric, WGS84  
ROMA40 (IT NTv2 NadRoma40), Monte Mario, Hayford/Int.  
WGS84 (IT NTv2 NadRoma40), geocentric, WGS84  
ROMA40 (IT NTv2 NadRoma40ED50), Monte Mario, Hayford/Int.  
ED50 (IT NTv2 NadRoma40ED50), Potsdam, Hayford/Int.  
ROMA40 (IT), Monte Mario, Hayford/Int.  
ROMA40 (IT-peninsular  $\leq \pm 4\text{m}$ ), Monte Mario, Hayford/Int.  
ROMA40 (IT-Sardinia  $\leq \pm 4\text{m}$ ), Monte Mario, Hayford/Int.  
ROMA40 (IT-Sicily  $\leq \pm 4\text{m}$ ), Monte Mario, Hayford/Int.  
ED50 (EU), Potsdam, Hayford/Int.  
ED50 (IT Sardinia), Potsdam, Hayford/Int.  
ED50 (IT Sicily), Potsdam, Hayford/Int.  
Genova1902 (IT contry wide 7par.  $\pm 2.5\text{m}$ ), Genova, Bessel  
Genova1902 (IT contry wide 3par.  $\pm 10\text{m}$ ), Genova, Bessel  
Genova1902 (IT north 3Par.), Genova, Bessel  
Old Monte Mario (IT central), Monte Mario, Bessel  
Castanea1910 (IT south), Castanea, Bessel  
Guardia Vecchia (IT Sardinia), Maddalena, Bessel  
ROMA40 (IT Em-Rom NTv2 RerAd400MMED50), MM, Hayford/Int.  
ED50 (IT Em-Rom NTv2 RerAd400MMED50), Potsdam, Hayford/Int.  
ROMA40 (IT Em-Rom NTv2 RerAd400MMETRS89), MM, Hayford/Int.  
ETRS89 (IT Em-Rom NTv2 RerAd400MMETRS89), geoc., GRS80  
ROMA40 (IT Em-Rom NTv2 RerMmED50K2), MM, Hayford/Int.  
ED50 (IT Em-Rom NTv2 RerMmED50K2), Potsdam, Hayford/Int.  
ROMA40 (IT Em-Rom NTv2 RerMmETRS89K2), MM, Hayford/Int.  
ETRS89 (IT Em-Rom NTv2 RerMmETRS89K2), geoc., GRS80  
ED50 (IT Em-Rom NTv2 RerED50ETRS89K2), Potsd., Hayford/Int.  
ETRS89 (IT Em-Rom NTv2 RerED50ETRS89K2), geoc., GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Kosovo (XK)

## Coordinate Systems

- KOSOVAREF01 Gauss-Krueger coordinates
- Balkans MGI Zones 5-8 Gauss-Krueger coordinates
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

## Reference Systems

- KOSOVAREF01 (XK  $\leq \pm 1$ m), geocentric, GRS80
- MGI (XK  $\leq \pm 1$ m), Hermannskogel, Bessel
- WGS84 (Worldwide GPS), geocentric, WGS84
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

## Latvia (LV)

### Coordinate Systems

- UTM coordinates (northern hemisphere)
- Latvian Transverse Mercator coord. LKS92
- Baltic Transverse Mercator coord. TM Baltic93
- Baltic CS63 zone C0 Transverse Mercator
- Baltic CS63 zone C1 Transverse Mercator
- Baltic CS63 zone C2 Transverse Mercator
- Gauss-Krueger (6 degrees wide strips)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- Latvia LKS92 (LV), geocentric, GRS80
- ETRS89 (EU), geocentric, GRS80
- S42 (LV), Pulkovo, Krassowsky
- S42/83 (EU-E/AS[FSU] 1990  $\leq \pm 3$ m), Pulkovo, Krassowsky
- WGS84 (Worldwide GPS), geocentric, WGS84
- PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

## Liechtenstein (LI)

### Coordinate Systems

- Swiss grid coordinates 1995 (LV95)
- Swiss grid coordinates New Grid (1903M, LV03)
- Swiss grid coordinates Old Grid (1903C, LV03C-G, Greenw.)
- Swiss grid coordinates Old Grid (1903C, LV03C, Bern)
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- ETRS89 (EU), geocentric, GRS80
- CH1903 (CH/LI), Bern, Bessel
- CH1903+ (CH/LI 1993), Zimmerwald, Bessel
- CHTRS95 (CH/LI), geocentric, GRS80

CH1903 (CH/LI NTv2 chenyx06etrs  $<\pm 0.5\text{m}$ ), Bern, Bessel  
ETRS89 (CH/LI NTv2 chenyx06etrs  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
CH1903 (CH/LI NTv2 chenyx06a  $<\pm 0.5\text{m}$ ), Bern, Bessel  
CH1903+ (CH/LI NTv2 chenyx06a  $<\pm 0.5\text{m}$ ), Zimmerwald, Bessel  
CH1903 (CH/LI NTv2 chenyx06etrs  $<\pm 2\text{m}$ ), Bern, Bessel  
CHTRF95 (CH/LI NTv2 chenyx06etrs  $<\pm 2\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Lithuania (LT)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Lithuanian Transverse Mercator coord. LKS94  
Baltic Transverse Mercator coord. TM Baltic93  
Baltic CS63 zone C0 Transverse Mercator  
Baltic CS63 zone C1 Transverse Mercator  
Baltic CS63 zone C2 Transverse Mercator  
Gauss-Krueger (6 degrees wide strips)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU), geocentric, GRS80  
Lithuania LKS94 (LT), geocentric, GRS80  
S42 (LT), Pulkovo, Krassowsky  
S42/83 (EU-E/AS[FSU] 1990  $<\pm 3\text{m}$ ), Pulkovo, Krassowsky  
WGS84 (Worldwide GPS), geocentric, WGS84  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Luxembourg (LU)

##### Coordinate Systems

Luxemburgian Transverse Mercator  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [gon]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU), geocentric, GRS80  
LUREF (LU), Habay, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (EU), Potsdam, Hayford/Int.  
NTF (FR), Paris Pantheon, Clarke IGN  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Malta (MT)

##### Coordinate Systems

- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- ED50 (MT), Potsdam, Hayford/Int.
- WGS84 (Worldwide GPS), geocentric, WGS84
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

### Montenegro (ME)

#### Coordinate Systems

- Balkans MGI Zones 5-8 Gauss-Krueger coordinates
- KOSOVAREF01 Gauss-Krueger coordinates
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- MGI (RS/ME/MK), Hermannskogel, Bessel
- ETRS89 (EU), geocentric, GRS80
- WGS84 (Worldwide GPS), geocentric, WGS84
- PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

### Netherlands (NL)

#### Coordinate Systems

- UTM coordinates (northern hemisphere)
- Netherlands RD New Stereographic coordinates
- Netherlands RD Old Stereographic coordinates
- TM 5 NE Transverse Mercator Coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- ETRS89 (EU), geocentric, GRS80
- Amersfoort (NL 2020  $<\pm 0.25\text{m}$ ), Amersfoort, Bessel
- Amersfoort (NL NTV2 RDTRANS2018  $<\pm 5\text{mm}$ ), Amersfoort, Bessel
- ETRS89 (NL NTV2 RDTRANS2018  $<\pm 5\text{mm}$ ), geocentric, GRS80
- Amersfoort (NL 2018  $<\pm 0.1\text{m}$ ), Amersfoort, Bessel
- Amersfoort (NL NTV2 RDTRANS2008  $<\pm 5\text{mm}$ ), Amersfoort, Bessel
- ETRS89 (NL NTV2 RDTRANS2008  $<\pm 5\text{mm}$ ), geocentric, GRS80
- Amersfoort (NL 2008  $<\pm 0.1\text{m}$ ), Amersfoort, Bessel
- Amersfoort (NL 2004  $<\pm 0.3\text{m}$ ), Amersfoort, Bessel
- Amersfoort (NL 2000  $<\pm 0.5$ ), Amersfoort, Bessel
- ED50 (North Sea  $<\pm 2\text{m}$ ), Potsdam, Hayford/Int.
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- ED50 (EU), Potsdam, Hayford/Int.
- Source Reference System in an arbitrary NTV2 file

## Target Reference System in an arbitrary NTv2 file

### North Macedonia (MK)

#### Coordinate Systems

Macdonien Gauss-Krueger coordinates

Macdonien truncated Gauss-Krueger coordinates

Balkans MGI Zones 5-8 Gauss-Krueger coordinates

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

MGI 1901 (MK  $\pm 0.7$ m), Hermannskogel, Bessel

MGI (RS/ME/MK), Hermannskogel, Bessel

WGS84 (Worldwide GPS), geocentric, WGS84

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

### Norway (NO)

#### Coordinate Systems

UTM coordinates (northern hemisphere)

Norwegian Transv. Mercator NGO1948 Zone I

Norwegian Transv. Mercator NGO1948 Zone II

Norwegian Transv. Mercator NGO1948 Zone III

Norwegian Transv. Mercator NGO1948 Zone IV

Norwegian Transv. Mercator NGO1948 Zone V

Norwegian Transv. Mercator NGO1948 Zone VI

Norwegian Transv. Mercator NGO1948 Zone VII

Norwegian Transv. Mercator NGO1948 Zone VIII

Norwegian Transv. Mercator NTM Zone 5

Norwegian Transv. Mercator NTM Zone 6

Norwegian Transv. Mercator NTM Zone 7

Norwegian Transv. Mercator NTM Zone 8

Norwegian Transv. Mercator NTM Zone 9

Norwegian Transv. Mercator NTM Zone 10

Norwegian Transv. Mercator NTM Zone 11

Norwegian Transv. Mercator NTM Zone 12

Norwegian Transv. Mercator NTM Zone 13

Norwegian Transv. Mercator NTM Zone 14

Norwegian Transv. Mercator NTM Zone 15

Norwegian Transv. Mercator NTM Zone 16

Norwegian Transv. Mercator NTM Zone 17

Norwegian Transv. Mercator NTM Zone 18

Norwegian Transv. Mercator NTM Zone 19

Norwegian Transv. Mercator NTM Zone 20

Norwegian Transv. Mercator NTM Zone 21

Norwegian Transv. Mercator NTM Zone 22

Norwegian Transv. Mercator NTM Zone 23

Norwegian Transv. Mercator NTM Zone 24

Norwegian Transv. Mercator NTM Zone 25

Norwegian Transv. Mercator NTM Zone 26

Norwegian Transv. Mercator NTM Zone 27

Norwegian Transv. Mercator NTM Zone 28

Norwegian Transv. Mercator NTM Zone 29  
Norwegian Transv. Mercator NTM Zone 30  
Norway EPSG Arctic 3-11 Lambert Conformal Conic  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NGO1948 (NO), Oslo, Bessel modified  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
ED50 (NO >62° 1991), Potsdam, Hayford/Int.  
ED50 (NO >62° 2001), Potsdam, Hayford/Int.  
ED50 (NO <62° 2001), Potsdam, Hayford/Int.  
ED50 (NO FI 1990), Potsdam, Hayford/Int.  
ED50 (EU), Potsdam, Hayford/Int.  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

### Poland (PL)

#### Coordinate Systems

Polish Gauss-Krueger 2000/15-24 (3 degrees strips)  
Polish Gauss-Krueger coordinates 1992/19  
Polish Stereographic 1965 zone 1  
Polish Stereographic 1965 zone 2  
Polish Stereographic 1965 zone 3  
Polish Stereographic 1965 zone 4  
Polish Transverse Mercator 1965 zone 5  
Polish Stereographic GUGiK coordinates  
Polish Gauss-Krueger 1942/15-24 (3 degrees strips)  
Polish Gauss-Krueger 1942/15-21 (6 degrees strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

ETRS89 (EU), geocentric, GRS80  
S42/58 (PL Uklad 1965), Pulkovo, Krassowsky  
Pulkovo1942(58) (EU-E <±1m), Pulkovo, Krassowsky  
S42/83 (PL), Pulkovo, Krassowsky  
S42/83 (EU-E/AS[FSU] 1990 <±3m), Pulkovo, Krassowsky  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (EU), Potsdam, Hayford/Int.  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

### Portugal (PT)

#### Coordinate Systems

Portugese Transverse Mercator TM06  
Portugese Transversal Mercator DLX/SHGA coord.  
Portugese Transversal Mercator DLX/SHGM coord.

Portugese Transversal Mercator D73/SHG73 coord.  
Portugese Bonne B-DLX coordinates  
LCC-Europe Pan-European Lambert Conformal Conic  
LAEA-Europe Pan-European Lambert Azim. Equal Area  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Lisbon) [deg]  
Geographic coordinates (Lisbon) [deg,min,sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

D73 (PT 2011 NTv2 D73\_ETRS89\_geo), Melrica, Hayford/Int.  
ETRS89 (PT 2011 NTv2 D73\_ETRS89\_geo), geocentric, GRS80  
DLX (PT 2011 NTv2 DLX\_ETRS89\_geo), Lisbon, Hayford/Int.  
ETRS89 (PT 2011 NTv2 DLX\_ETRS89\_geo), geocentric, GRS80  
D73 (PT 2008 NTv2 PT73\_E89 <±0.5m), Melrica, Hayford/Int.  
ETRS89 (PT 2008 NTv2 PT73\_E89 <±0.5m), geocentric, GRS80  
DLX (PT 2008 NTv2 PTLX\_E89 <±0.5m), Lisbon, Hayford/Int.  
ETRS89 (PT 2008 NTv2 PTLX\_E89 <±0.5m), geocentric, GRS80  
B-DLX (PT 2008 NTv2 PTBL\_E89 <±0.5m), Lissabon, Bessel  
ETRS89 (PT 2008 NTv2 PTBL\_E89 <±0.5m), geocentric, GRS80  
ED50 (PT 2008 NTv2 PTED\_E89 <±0.5m), Potsdam, Hayford/Int.  
ETRS89 (PT 2008 NTv2 PTED\_E89 <±0.5m), geocentric, GRS80  
ETRS89 (EU), geocentric, GRS80  
D73 (PT), Melrica, Hayford/Int.  
DLX (PT), Lisbon, Hayford/Int.  
B-DLX (PT), Lisbon, Bessel  
PTRAO8 (PT islands <±1m), geocentric, GRS80  
ED50 (PT), Potsdam, Hayford/Int.  
Porto Santo 1995 (PT Madeira), Base SE, Hayford/Int.  
Porto Santo 1936 (PT Madeira), Base SE, Hayford/Int.  
Selvagem Grande (PT Madeira), Marco Astro, Hayford/Int.  
Azores Oriental 1995 (PT Azores), Sao Braz, Hayford/Int.  
Azores Central 1995 (PT Azores), Gracioso, Hayford/Int.  
Azores Oriental 1940 (PT Azores), Sao Braz, Hayford/Int.  
Azores Central 1948 (PT Azores), Gracioso, Hayford/Int.  
Azores Occidental 1939 (PT Azores), Flores, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Romania (RO)

##### Coordinate Systems

Romanian Stereo70 Stereographic coordinates  
Romanian Stereo33 Stereographic coordinates  
Gauss-Krueger (6 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

Stereo70 (RO  $\leq \pm 3\text{m}$ ), Dealul Piscului, Krassowsky  
Stereo70 (RO NTv2 Stereo70\_ETRS89), Dea. Pisc., Krassowsky  
ETRS89 (RO NTv2 Stereo70\_ETRS89), geocentric, GRS80  
Stereo33 (RO  $\leq \pm 3\text{m}$ ), Dealul Piscului, Hayford/Int.  
S42/83 (RO  $\leq \pm 3\text{m}$ ), Pulkovo, Krassowsky  
S42/83 (EU-E/AS[FSU] 1990  $\leq \pm 3\text{m}$ ), Pulkovo, Krassowsky  
Pulkovo1942(58) (RO  $\leq \pm 0.5\text{m}$ ), Pulkovo, Krassowsky  
Pulkovo1942(58) (EU-E  $\leq \pm 1\text{m}$ ), Pulkovo, Krassowsky  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Russian Federation (RU)

### Coordinate Systems

Russian Gauss-Krueger coordinates GSK 3GK  
Gauss-Krueger (6 degrees wide strips)  
Gauss-Krueger coord. (3 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

GSK-2011 (RU), geocentric, GSK-2011  
Pulkovo1995 (EU-E/AS[FSU] 2008  $\leq \pm 1\text{m}$ ), Pulkovo, Krassowsky  
Pulkovo1942 (EU-E/AS[FSU] 2008  $\leq \pm 3\text{m}$ ), Pulkovo, Krassowsky  
S42/2001 (EU-E/AS[FSU]  $\leq \pm 4\text{m}$ ), Pulkovo, Krassowsky  
S42/1993 (EU-E/AS[FSU]  $\leq \pm 4.5\text{m}$ ), Pulkovo, Krassowsky  
S42/83 (EU-E/AS[FSU] 1990  $\leq \pm 3\text{m}$ ), Pulkovo, Krassowsky  
S42/3Par. (EU-E/AS[FSU]), Pulkovo, Krassowsky  
PZ-90 Gost 2010 (RU), geocentric, PZ-90  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
PZ-90 Roßbach 1996 (Worldwide GLONASS), geoc., PZ-90  
PZ-90 Misra 1996 (Worldwide GLONASS), geoc., PZ-90  
PZ-90 Boykov 1993 (Worldwide GLONASS), geoc., PZ-90  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Serbia (RS)

### Coordinate Systems

Balkans MGI Zones 5-8 Gauss-Krueger coordinates  
KOSOVAREF01 Gauss-Krueger coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

MGI 1901 (RS  $\pm 0.5\text{m}$ ), Hermannskogel, Bessel  
MGI (RS/ME/MK), Hermannskogel, Bessel  
SREF98 (RS), geocentric, GRS80



SRB\_ETRS89 (RS), geocentric, GRS80  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Slovakia (SK)

### Coordinate Systems

Krovak S-JTSK (Greenwich South/West positiv) coordinates  
Krovak S-JTSK (Greenwich East/Nord negativ) coordinates  
Krovak S-JTSK (Ferro South/West positiv) coordinates  
Krovak S-JTSK (Ferro East/Nord negativ) coordinates  
Gauss-Krueger (6 degrees wide strips)  
Austria Bundesmeldenetz M31 (X < 5 Mio.)  
Austria Bundesmeldenetz M34 (X < 5 Mio.)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Ferro) [deg]  
Geographic coordinates (Ferro) [deg,min,sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

ETRS89 (EU), geocentric, GRS80  
S-JTSK (SK 2006 <±1m), Hermannskogel, Bessel  
S-JTSK (SK 2000), Hermannskogel, Bessel  
S42/83 (EU-E/AS[FSU] 1990 <±3m), Pulkovo, Krassowsky  
MGI (AT/CZ), Hermannskogel, Bessel  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (EU), Potsdam, Hayford/Int.  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Slovenia (SI)

### Coordinate Systems

Slovenian Transverse Mercator coord. D48  
Slovenian Transverse Mercator coord. D48+  
Balkans MGI Zones 5-8 Gauss-Krueger coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

D48 (SI), Hermannskogel, Bessel  
MGI (SI/HR/BA), Hermannskogel, Bessel  
S42/83 (EU-E/AS[FSU] 1990 <±3m), Pulkovo, Krassowsky  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (EU), Potsdam, Hayford/Int.

PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Spain (ES)

### Coordinate Systems

UTM coordinates (northern hemisphere)  
UTMref (MGRS) (Meter grid mesh)  
Spanish Lambert MADRID coordinates  
Geographic coordinates (Madrid) [deg,min,sec]  
Geographic coordinates (Madrid) [deg]  
LCC-Europe Pan-European Lambert Conformal Conic  
LAEA-Europe Pan-European Lambert Azim. Equal Area  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

ED50 (ES Pen NTv2 PENR2009  $<\pm 0.1\text{m}$ ), Potsdam, Hayford/Int.  
ETRS89 (ES Pen NTv2 PENR2009  $<\pm 0.1\text{m}$ ), geocentric, GRS80  
ED50 (ES Bal NTv2 BALR2009  $<\pm 0.1\text{m}$ ), Potsdam, Hayford/Int.  
ETRS89 (ES Bal NTv2 BALR2009  $<\pm 0.1\text{m}$ ), geocentric, GRS80  
ED50 (ES Pen+Bal NTv2 SPED2ET(03)  $<\pm 0.15\text{m}$ ), Pd, Hayford/Int.  
ETRS89 (ES Pen+Bal NTv2 SPED2ET(03)  $<\pm 0.15\text{m}$ ), geoc., GRS80  
MADRID1870 (ES  $<\pm 7\text{m}$ ), Madrid, Struve  
Pico Nieves 1984 (ES-Canares  $<\pm 20\text{m}$ ), P. Nieves, Hayford/Int.  
REGCAN95 (ES-Canares), geocentric, GRS80  
ED50 (ES EST99 peninsular), Potsdam, Hayford/Int.  
ED50 (ES ZNW99 northwest), Potsdam, Hayford/Int.  
ED50 (ES BAL99 Balearic isl.), Potsdam, Hayford/Int.  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Sweden (SE)

### Coordinate Systems

Swedish Transv. Mercator SWEREF99 TM (15°)  
Swedish Transverse Mercator SWEREF99 (12°)  
Swedish Transverse Mercator SWEREF99 (13° 30')  
Swedish Transverse Mercator SWEREF99 (15°)  
Swedish Transverse Mercator SWEREF99 (16° 30')  
Swedish Transverse Mercator SWEREF99 (18°)  
Swedish Transverse Mercator SWEREF99 (14° 15')  
Swedish Transverse Mercator SWEREF99 (15° 45')  
Swedish Transverse Mercator SWEREF99 (17° 15')  
Swedish Transverse Mercator SWEREF99 (18° 45')  
Swedish Transverse Mercator SWEREF99 (20° 15')  
Swedish Transverse Mercator SWEREF99 (21° 45')  
Swedish Transverse Mercator SWEREF99 (23° 15')  
Swedish Transv. Mercator RT90 7.5gonV  
Swedish Transv. Mercator RT90 5gonV  
Swedish Transv. Mercator RT90 2.5gonV

Swedish Transv. Mercator RT90 0gon  
Swedish Transv. Mercator RT90 2.5gonO  
Swedish Transv. Mercator RT90 5gonO  
Swedish Transv. Mercator RT90 7.5gonO  
Swedish Transv. Mercator RT R01 Skåne 2.5gonV  
Swedish Transv. Mercator RT R02 Halland 2.5gonV  
Swedish Transv. Mercator RT R03 Karlshamn 2.5gonV  
Swedish Transv. Mercator RT R04 Göteborg 2.5gonV  
Swedish Transv. Mercator RT R05 Vänern 2.5gonV  
Swedish Transv. Mercator RT R06 Småland 2.5gonV  
Swedish Transv. Mercator RT R07 Örebro 2.5gonV  
Swedish Transv. Mercator RT R08 Gotland 2.5gonV  
Swedish Transv. Mercator RT R09 Stockholm 2.5gonV  
Swedish Transv. Mercator RT R10 Gävle-Dala 2.5gonV  
Swedish Transv. Mercator RT R1 2.5gonV1 Ume  
Swedish Transv. Mercator RT R12 Luleå 2.5gonV  
Swedish Transv. Mercator coord. FME (13° 35')  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

SWEREF99 (SE), geocentric, GRS80  
SWEREF93 (SE), geocentric, GRS80  
RT90 (SE), Stockholm, Bessel  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
ED50 (EU), Potsdam, Hayford/Int.  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Switzerland (CH)

##### Coordinate Systems

Swiss grid coordinates 1995 (LV95)  
Swiss grid coordinates New Grid (1903M, LV03)  
Swiss grid coordinates Old Grid (1903C, LV03C, Bern)  
Swiss grid coordinates Old Grid (1903C, LV03C-G, Greenw.)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

ETRS89 (EU), geocentric, GRS80  
CH1903 (CH/LI), Bern, Bessel  
CH1903+ (CH/LI 1993), Zimmerwald, Bessel  
CHTRS95 (CH/LI), geocentric, GRS80  
CH1903 (CH/LI NTv2 chenyx06etrs <±0.5m), Bern, Bessel  
ETRS89 (CH/LI NTv2 chenyx06etrs <±0.5m), geocentric, GRS80  
CH1903 (CH/LI NTv2 chenyx06a <±0.5m), Bern, Bessel  
CH1903+ (CH/LI NTv2 chenyx06a <±0.5m), Zimmerwald, Bessel  
CH1903 (CH/LI NTv2 chenyx06etrs <±2m), Bern, Bessel  
CHTRF95 (CH/LI NTv2 chenyx06etrs <±2m), geocentric, GRS80

GRANIT87 (CH), Zimmerwald, Bessel  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
ED50 (EU), Potsdam, Hayford/Int.  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## Turkey (TR)

### Coordinate Systems

Turkey TUREF/TM27 Transverse Mercator  
Turkey TUREF/TM30 Transverse Mercator  
Turkey TUREF/TM33 Transverse Mercator  
Turkey TUREF/TM36 Transverse Mercator  
Turkey TUREF/TM39 Transverse Mercator  
Turkey TUREF/TM42 Transverse Mercator  
Turkey TUREF/TM45 Transverse Mercator  
LCC-Europe Pan-European Lambert Conformal Conic  
LAEA-Europe Pan-European Lambert Azim. Equal Area  
UTM coordinates (northern hemisphere)  
Gauss-Krueger coord. (3 degrees wide strips)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

TUREF (TR), geocentric, GRS80  
ED50 (TR  $<\pm 2\text{m}$ ), Potsdam, Hayford/Int.  
ETRS89 (EU), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## Ukraine (UA)

### Coordinate Systems

Ukrainian Gauss-Krueger TM (3 degrees wide strips)  
Gauss-Krueger coord. (3 degrees wide strips)  
Gauss-Krueger (6 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

UCS2000 (UA 2012  $<\pm 1\text{m}$ ), Pulkovo, Krassowsky  
UCS2000 (UA 2008  $<\pm 5\text{m}$ ), Pulkovo, Krassowsky  
S42/83 (UA 2012  $<\pm 3.5\text{m}$ ), Pulkovo, Krassowsky  
S42/83 (EU-E/AS[FSU] 1990  $<\pm 3\text{m}$ ), Pulkovo, Krassowsky  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## Multinational Coordinate Systems

### Coordinate Systems

TMzn-Europe Pan-European Transverse Mercator (UTM)

LCC-Europe Pan-European Lambert Conformal Conic  
LAEA-Europe Pan-European Lambert Azim. Equal Area  
Europe Albers Equal Area Conic coordinates  
Caspian Sea Mercator coordinates  
TM 0 N Transverse Mercator coordinates  
TM 5 NE Transverse Mercator Coordinates  
TM 6 NETransverse Mercator coordinates  
UTMref (MGRS) (Meter grid mesh)  
Baltic Transverse Mercator coord. TM Baltic93  
Baltic CS63 zone C0 Transverse Mercator  
Baltic CS63 zone C1 Transverse Mercator  
Baltic CS63 zone C2 Transverse Mercator  
Balkans MGI Zones 5-8 Gauss-Krueger coordinates  
KOSOVAREF01 Gauss-Krueger coordinates  
UTM coordinates (northern hemisphere)  
Gauss-Krueger coord. (3 degrees wide strips)  
Gauss-Krueger (6 degrees wide strips)  
Geographic coordinates (Greenwich) [sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

ETRS89 (EU), geocentric, GRS80  
ED50 (EU), Potsdam, Hayford/Int.  
ED50 (North Sea  $\leq \pm 2$ m), Potsdam, Hayford/Int.  
ED50 (FR), Potsdam, Hayford/Int.  
S42/83 (EU-E/AS[FSU] 1990  $\leq \pm 3$ m), Pulkovo, Krassowsky  
Pulkovo1942(58) (EU-E  $\leq \pm 1$ m), Pulkovo, Krassowsky  
Pulkovo1942 (EU-E/AS[FSU] 2008  $\leq \pm 3$ m), Pulkovo, Krassowsky  
Pulkovo1942 (EU-E/AS[FSU] no\_defs), Pulkovo, Krassowsky  
ED50 (North Sea  $\leq \pm 2$ m), Potsdam, Hayford/Int.  
Pulkovo1995 (EU-E/AS[FSU] 2008  $\leq \pm 1$ m), Pulkovo, Krassowsky  
Pulkovo1995 (EU-E/AS[FSU] no\_defs), Pulkovo, Krassowsky  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
PZ-90 Roßbach 1996 (Worldwide GLONASS), geoc., PZ-90  
PZ-90 Misra 1996 (Worldwide GLONASS), geoc., PZ-90  
PZ-90 Boykov 1993 (Worldwide GLONASS), geoc., PZ-90  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
WGS72BE (Worldwide), geocentric, WGS72  
MGI (SI/HR/BA), Hermannskogel, Bessel  
MGI (RS/ME/MK), Hermannskogel, Bessel  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

--- North American continent -----

#### Canada Alberta (CA-AB)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA Alberta 3TM (111.0W) Transverse Mercator  
CA Alberta 3TM (114.0W) Transverse Mercator  
CA Alberta 3TM (117.0W) Transverse Mercator

CA Alberta 3TM (120.0W) Transverse Mercator  
CA Alberta 10TM (Forest) Transverse Mercator  
CA Alberta 10TM (Resource) Transverse Mercator  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD27 (CA-BC+AB <±8m), Kansas, Clarke  
NAD83 (CA-AB NTv2 ABCSRSv7), geocentric, GRS80  
NAD83(CSRS) (CA-AB NTv2 ABCSRSv7), geocentric, GRS80  
NAD83 (CA-AB NTv2 ABCSRSv4), geocentric, GRS80  
NAD83(CSRS) (CA-AB NTv2 ABCSRSv4), geocentric, GRS80  
NAD27 (CA NTv2 NTV2\_0 <±0.5m), Kansas, Clarke  
NAD83 (CA NTv2 NTV2\_0 <±0.5m), geocentric, GRS80  
NAD27 (US+CA <±15m), Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Canada British Columbia (CA-BC)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA British Columbia (BC) Albers coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD27 (CA-BC+AB <±8m), Kansas, Clarke  
NAD27 (CA-BC NTv2 BC\_27\_98), Kansas, Clarke  
NAD83(CSRS98) (CA-BC NTv2 BC\_27\_98), geocentric, GRS80  
NAD27 (CA-BC NTv2 BC\_27\_05), Kansas, Clarke  
NAD83(CSRS05) (CA-BC NTv2 BC\_27\_05), geocentric, GRS80  
NAD83(NMIP93) (CA-BC NTv2 BC\_93\_98/BC\_CSRS), geoc., GRS80  
NAD83(CSRS98) (CA-BC NTv2 BC\_93\_98/BC\_CSRS), geoc., GRS80  
NAD83(NMIP93) (CA-BC NTv2 BC\_93\_05), geocentric, GRS80  
NAD83(CSRS05) (CA-BC NTv2 BC\_93\_05), geocentric, GRS80  
NAD27 (CA NTv2 NTV2\_0 <±0.5m), Kansas, Clarke  
NAD83 (CA NTv2 NTV2\_0 <±0.5m), geocentric, GRS80  
NAD27 (US+CA <±15m), Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Canada Manitoba (CA-MB)

### Coordinate Systems

- UTM coordinates (northern hemisphere)
- CA MTM zone 15 Transverse Mercator coordinates
- CA MTM zone 16 Transverse Mercator coordinates
- CA MTM zone 17 Transverse Mercator coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(CSRS)v7 (US+CA), geocentric, GRS80
- NAD83(CSRS)v6 (US+CA), geocentric, GRS80
- NAD27 (CA-ON+MB  $<\pm 9\text{m}$ ), Kansas, Clarke
- NAD27 (US+CA  $<\pm 15\text{m}$ ), Kansas, Clarke
- NAD27 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), Kansas, Clarke
- NAD83 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), geocentric, GRS80
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

## Canada New Brunswick (CA-NB)

### Coordinate Systems

- UTM coordinates (northern hemisphere)
- CA New Brunswick NAD83 Stereographic coordinates
- CA New Brunswick ATS77 Stereographic coordinates
- CA New Brunswick NAD27 Stereographic coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(CSRS)v7 (US+CA), geocentric, GRS80
- NAD83(CSRS)v6 (US+CA), geocentric, GRS80
- ATS77 (CA-NB  $<\pm 2\text{m}$  KilletSoft), geocentric, ATS77
- NAD27 (CA-NL+PE+NS+NB+QC  $<\pm 6\text{m}$ ), Kansas, Clarke
- NAD27 (US+CA  $<\pm 15\text{m}$ ), Kansas, Clarke
- NAD27 (CA-NB NTV2 NB2783v2), Kansas, Clarke
- NAD83(CSRS) (CA-NB NTV2 NB2783v2), geocentric, GRS80
- ATS77 (CA-NB NTV2 NB7783v2), geocentric, ATS77
- NAD83(CSRS) (CA-NB NTV2 NB7783v2), geocentric, GRS80
- NAD27 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), Kansas, Clarke
- NAD83 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), geocentric, GRS80
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

## Canada Newfoundland and Labrador (CA-NL)

### Coordinate Systems

- UTM coordinates (northern hemisphere)
- CA MTM zone 1 Transverse Mercator coordinates
- CA MTM zone 2 Transverse Mercator coordinates
- CA MTM zone 3 Transverse Mercator coordinates
- CA MTM zone 4 Transverse Mercator coordinates
- CA MTM zone 5 Transverse Mercator coordinates
- CA MTM zone 6 Transverse Mercator coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(CSRS)v7 (US+CA), geocentric, GRS80
- NAD83(CSRS)v6 (US+CA), geocentric, GRS80
- NAD27 (CA-NL+PE+NS+NB+QC  $<\pm 6\text{m}$ ), Kansas, Clarke
- NAD27 (US+CA  $<\pm 15\text{m}$ ), Kansas, Clarke
- NAD27 (CA-QC+NL NTv2 NA27NA83/QUE27-83), Kansas, Clarke
- NAD83 (CA-QC+NL NTv2 NA27NA83/QUE27-83), geocentric, GRS80
- NAD27 (CA-QC+NL NTv2 NA27SCRS/QUE27-98), Kansas, Clarke
- NAD83(SCRS) (CA-QC+NL NTv2 NA27SCRS/QUE27-98), geoc., GRS80
- NAD27(CGQ77) (CA-QC+NL NTv2 CQ77NA83/CGQ77-83), Kan., Clarke
- NAD83 (CA-QC+NL NTv2 CQ77NA83/CGQ77-83), geocentric, GRS80
- NAD27(CGQ77) (CA-QC+NL NTv2 CQ77SCRS/CGQ77-98), Kan., Clarke
- NAD83(SCRS) (CA-QC+NL NTv2 CQ77SCRS/CGQ77-98), geoc., GRS80
- NAD83 (CA-QC+NL NTv2 NA83SCRS/NAD83-98), geoc., GRS80
- NAD83(SCRS) (CA-QC+NL NTv2 NA83SCRS/NAD83-98), geoc., GRS80
- NAD83 (CA-NL NTv2 NLCSRSV4A), geocentric, GRS80
- NAD83(CSRS) (CA-NL NTv2 NLCSRSV4A), geocentric, GRS80
- NAD27 (CA NTv2 NTV2\_0  $<\pm 0.5\text{m}$ ), Kansas, Clarke
- NAD83 (CA NTv2 NTV2\_0  $<\pm 0.5\text{m}$ ), geocentric, GRS80
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## Canada Northwest Territories (CA-NT)

### Coordinate Systems

- UTM coordinates (northern hemisphere)
- CA Northwest Territories Lambert coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(CSRS)v7 (US+CA), geocentric, GRS80
- NAD83(CSRS)v6 (US+CA), geocentric, GRS80
- NAD27 (CA-NT+NU+SK  $<\pm 5\text{m}$ ), Kansas, Clarke
- NAD27 (US+CA  $<\pm 15\text{m}$ ), Kansas, Clarke



NAD27 (CA NTv2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), Kansas, Clarke  
NAD83 (CA NTv2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Canada Nova Scotia (CA-NS)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA MTM zone 3 Transverse Mercator coordinates  
CA MTM Nova Scotia zone 4 Transv. Mercator  
CA MTM Nova Scotia zone 5 Transv. Mercator  
CA MTM Nova Scotia 1997 zone 4 Transv. Mercator  
CA MTM Nova Scotia 1997 zone 5 Transv. Mercator  
CA MTM Nova Scotia 2010 zone 4 Transv. Mercator  
CA MTM Nova Scotia 2010 zone 5 Transv. Mercator  
CA Quebec) Albers Equal Area coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
ATS77 (CA-NS+PE  $\leq \pm 1\text{m}$  KilletSoft), geocentric, ATS77  
NAD27 (CA-NL+PE+NS+NB+QC  $\leq \pm 6\text{m}$ ), Kansas, Clarke  
NAD27 (US+CA  $\leq \pm 15\text{m}$ ), Kansas, Clarke  
ATS77 (CA-NS NTv2 NS7783v2), geocentric, ATS77  
NAD83(CSRS98) (CA-NS NTv2 NS7783v2), geocentric, GRS80  
ATS77 (CA-NS NTv2 GS7783  $\pm 2\text{m}$   $\pm 2\text{m}$ ), geocentric, ATS77  
NAD83 (CA-NS NTv2 GS7783  $\pm 2\text{m}$   $\pm 2\text{m}$ ), geocentric, GRS80  
NAD27 (CA NTv2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), Kansas, Clarke  
NAD83 (CA NTv2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Canada Nunavut (CA-NU)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA Northwest Territories Lambert coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80

NAD27 (CA-NT+NU+SK  $<\pm 5\text{m}$ ), Kansas, Clarke  
NAD27 (US+CA  $<\pm 15\text{m}$ ), Kansas, Clarke  
NAD27 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), Kansas, Clarke  
NAD83 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Canada Ontario (CA-ON)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA MTM zone 8 Transverse Mercator coordinates  
CA MTM zone 9 Transverse Mercator coordinates  
CA MTM zone 10 Transverse Mercator coordinates  
CA MTM zone 11 Transverse Mercator coordinates  
CA MTM zone 12 Transverse Mercator coordinates  
CA MTM zone 13 Transverse Mercator coordinates  
CA MTM zone 14 Transverse Mercator coordinates  
CA MTM zone 15 Transverse Mercator coordinates  
CA MTM zone 16 Transverse Mercator coordinates  
CA MTM zone 17 Transverse Mercator coordinates  
CA MNR Ontario Lambert (85.0W) coordinates  
CA Teranet Ontario Lambert (84.0W) coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD27 (CA-ON+MB  $<\pm 9\text{m}$ ), Kansas, Clarke  
NAD27 (US+CA  $<\pm 15\text{m}$ ), Kansas, Clarke  
NAD27(1974) (CA-ON NTV2 ON27CSv1), Kansas, Clarke  
NAD83(CSRS) (CA-ON NTV2 ON27CSv1), geocentric, GRS80  
NAD27(1976) (CA-ON NTV2 ON76CSv1), Kansas, Clarke  
NAD83(CSRS) (CA-ON NTV2 ON76CSv1), geocentric, GRS80  
NAD83(ORIG) (CA-ON NTV2 ON83CSv1), geocentric, GRS80  
NAD83(CSRS) (CA-ON NTV2 ON83CSv1), geocentric, GRS80  
NAD27(1976) (CA-ON NTV2 MAY76v20), Kansas, Clarke  
NAD83(ORIG) (CA-ON NTV2 MAY76v20), geocentric, GRS80  
NAD27 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), Kansas, Clarke  
NAD83 (CA NTV2 NTV2\_0  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Canada Prince Edward Island (CA-PE)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA MTM zone 3 Transverse Mercator coordinates

CA Prince Edward Isl. NAD83 Stereographic coord.  
CA Prince Edward Isl. ATS77 Stereographic coord.  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
ATS77 (CA-NS+PE  $<\pm 1$ m KilletSoft), geocentric, ATS77  
NAD27 (CA-NL+PE+NS+NB+QC  $<\pm 6$ m), Kansas, Clarke  
NAD27 (US+CA  $<\pm 15$ m), Kansas, Clarke  
ATS77 (CA-PE NTv2 PE7783v2), geocentric, ATS77  
NAD83(CSRS98) (CA-PE NTv2 PE7783v2), geoc., GRS80  
NAD27 (CA NTv2 NTV2\_0  $<\pm 0.5$ m), Kansas, Clarke  
NAD83 (CA NTv2 NTV2\_0  $<\pm 0.5$ m), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Canada Quebec (CA-QC)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA MTM Quebec zone 2 Transverse Mercator coord.  
CA MTM zone 3 Transverse Mercator coordinates  
CA MTM zone 4 Transverse Mercator coordinates  
CA MTM zone 5 Transverse Mercator coordinates  
CA MTM zone 6 Transverse Mercator coordinates  
CA MTM zone 7 Transverse Mercator coordinates  
CA MTM zone 8 Transverse Mercator coordinates  
CA MTM zone 9 Transverse Mercator coordinates  
CA MTM zone 10 Transverse Mercator coordinates  
CA MTQ Quebec Lambert (70.0W) coordinates  
CA Quebec Lambert (68.5W) coordinates  
CA Quebec) Albers Equal Area coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD27 (CA-NL+PE+NS+NB+QC  $<\pm 6$ m), Kansas, Clarke  
NAD27 (US+CA  $<\pm 15$ m), Kansas, Clarke  
NAD27 (CA-QC+NL NTv2 NA27NA83/QUE27-83), Kansas, Clarke  
NAD83 (CA-QC+NL NTv2 NA27NA83/QUE27-83), geocentric, GRS80  
NAD27 (CA-QC+NL NTv2 NA27SCRS/QUE27-98), Kansas, Clarke  
NAD83(SCRS) (CA-QC+NL NTv2 NA27SCRS/QUE27-98), geoc., GRS80  
NAD27(CGQ77) (CA-QC+NL NTv2 CQ77NA83/CGQ77-83), Kan., Clarke

NAD83 (CA-QC+NL NTv2 CQ77NA83/CGQ77-83), geocentric, GRS80  
NAD27(CGQ77) (CA-QC+NL NTv2 CQ77SCRS/CGQ77-98), Kan., Clarke  
NAD83(SCRS) (CA-QC+NL NTv2 CQ77SCRS/CGQ77-98), geoc., GRS80  
NAD83 (CA-QC+NL NTv2 NA83SCRS/NAD83-98), geoc., GRS80  
NAD83(SCRS) (CA-QC+NL NTv2 NA83SCRS/NAD83-98), geoc., GRS80  
NAD27 (CA NTv2 NTV2\_0 <±0.5m), Kansas, Clarke  
NAD83 (CA NTv2 NTV2\_0 <±0.5m), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Canada Saskatchewan (CA-SK)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD27 (CA-NT+NU+SK <±5m), Kansas, Clarke  
NAD27 (US+CA <±15m), Kansas, Clarke  
NAD27 (CA-SK NTv2 SK27-83), Kansas, Clarke  
NAD83 (CA-SK NTv2 SK27-83), geocentric, GRS80  
NAD27 (CA-SK NTv2 SK27-98), Kansas, Clarke  
NAD83(CSRS98) (CA-SK NTv2 SK27-98), geocentric, GRS80  
NAD83 (CA-SK NTv2 SK83-98), geocentric, GRS80  
NAD83(CSRS98) (CA-SK NTv2 SK83-98), geocentric, GRS80  
NAD27 (CA NTv2 NTV2\_0 <±0.5m), Kansas, Clarke  
NAD83 (CA NTv2 NTV2\_0 <±0.5m), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Canada Yukon (CA-YT)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
CA Yukon (YT) Albers coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD27 (CA-YT <±8m), Kansas, Clarke  
NAD27 (US+CA <±15m), Kansas, Clarke

NAD27 (CA NTV2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), Kansas, Clarke  
NAD83 (CA NTV2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## Canada Multinational Coordinate Systems

### Coordinate Systems

UTM coordinates (northern hemisphere)  
Canada Statistics Lambert coordinates  
Canada Atlas Lambert coordinates  
Canada Albers Equal Area Conic coordinates  
North America Albers Equal Area coordinates  
CA MTM zone 1 Transverse Mercator coordinates  
CA MTM zone 2 Transverse Mercator coordinates  
CA MTM zone 3 Transverse Mercator coordinates  
CA MTM zone 4 Transverse Mercator coordinates  
CA MTM zone 5 Transverse Mercator coordinates  
CA MTM zone 6 Transverse Mercator coordinates  
CA MTM zone 7 Transverse Mercator coordinates  
CA MTM zone 8 Transverse Mercator coordinates  
CA MTM zone 9 Transverse Mercator coordinates  
CA MTM zone 10 Transverse Mercator coordinates  
CA MTM zone 11 Transverse Mercator coordinates  
CA MTM zone 12 Transverse Mercator coordinates  
CA MTM zone 13 Transverse Mercator coordinates  
CA MTM zone 14 Transverse Mercator coordinates  
CA MTM zone 15 Transverse Mercator coordinates  
CA MTM zone 16 Transverse Mercator coordinates  
CA MTM zone 17 Transverse Mercator coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

NAD27 (CA NTV2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), Kansas, Clarke  
NAD83 (CA NTV2 NTV2\_0  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83 (US+CA =ITRS86=), geocentric, GRS80  
NAD27 (US+CA  $\leq \pm 15\text{m}$ ), Kansas, Clarke  
NAD27 (CA-NL+PE+NS+NB+QC  $\leq \pm 6\text{m}$ ), Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## French Saint-Pierre and Miquelon (FX)

### Coordinate Systems

UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [gon]

Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

RGSPM06 (FX), geocentric, GRS80  
SPM1950 (FX), astron., Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### GPS Measurements - ITRS epochs

##### Coordinate Systems

Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
UTM coordinates (northern hemisphere)  
Cartesian coordinates

##### Reference Systems

NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83 (US+CA =ITRS86=), geocentric, GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83(CSRS)v7 (US+CA), geocentric, GRS80  
NAD83(CSRS)v6 (US+CA), geocentric, GRS80  
NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS/CSRS) (US+CA ITRS epoch 1988), GRS80  
ITRS24 (US+CA GPS measurements in license year 2024), WGS84  
ITRS88 (US+CA GPS measurements epoch 1988), WGS84  
ITRS89 (US+CA GPS measurements epoch 1989), WGS84  
ITRS90 (US+CA GPS measurements epoch 1990), WGS84  
ITRS91 (US+CA GPS measurements epoch 1991), WGS84  
ITRS92 (US+CA GPS measurements epoch 1992), WGS84  
ITRS93 (US+CA GPS measurements epoch 1993), WGS84  
ITRS94 (US+CA GPS measurements epoch 1994), WGS84  
ITRS95 (US+CA GPS measurements epoch 1995), WGS84  
ITRS96 (US+CA GPS measurements epoch 1996), WGS84  
ITRS97 (US+CA GPS measurements epoch 1997), WGS84  
ITRS98 (US+CA GPS measurements epoch 1998), WGS84  
ITRS99 (US+CA GPS measurements epoch 1999), WGS84  
ITRS00 (US+CA GPS measurements epoch 2000), WGS84  
ITRS01 (US+CA GPS measurements epoch 2001), WGS84  
ITRS02 (US+CA GPS measurements epoch 2002), WGS84  
ITRS03 (US+CA GPS measurements epoch 2003), WGS84  
ITRS04 (US+CA GPS measurements epoch 2004), WGS84  
ITRS05 (US+CA GPS measurements epoch 2005), WGS84  
ITRS06 (US+CA GPS measurements epoch 2006), WGS84  
ITRS07 (US+CA GPS measurements epoch 2007), WGS84  
ITRS08 (US+CA GPS measurements epoch 2008), WGS84  
ITRS09 (US+CA GPS measurements epoch 2009), WGS84  
ITRS10 (US+CA GPS measurements epoch 2010), WGS84  
ITRS11 (US+CA GPS measurements epoch 2011), WGS84

ITRS12 (US+CA GPS measurements epoch 2012), WGS84  
ITRS13 (US+CA GPS measurements epoch 2013), WGS84  
ITRS14 (US+CA GPS measurements epoch 2014), WGS84  
ITRS15 (US+CA GPS measurements epoch 2015), WGS84  
ITRS16 (US+CA GPS measurements epoch 2016), WGS84  
ITRS17 (US+CA GPS measurements epoch 2017), WGS84  
ITRS18 (US+CA GPS measurements epoch 2018), WGS84  
ITRS19 (US+CA GPS measurements epoch 2019), WGS84  
ITRS20 (US+CA GPS measurements epoch 2020), WGS84  
ITRS21 (US+CA GPS measurements epoch 2021), WGS84  
ITRS22 (US+CA GPS measurements epoch 2022), WGS84  
ITRS23 (US+CA GPS measurements epoch 2023), WGS84  
ITRS24 (US+CA GPS measurements epoch 2024), WGS84  
ITRS25 (US+CA GPS measurements epoch 2025), WGS84  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Alabama (US-AL)

##### Coordinate Systems

US-SPCS 1983 (101) Alabama east Mercator coord.  
US-SPCS 1983 (102) Alabama west Mercator coord.  
US-SPCS 1927 (101) Alabama east Mercator coord.  
US-SPCS 1927 (102) Alabama west Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-AL NTv2 ALHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-AL NTv2 ALHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Alaska (US-AK)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
US-SPCS 1983 (5001) Alaska 1 Hotine Oblique Merc.  
US-SPCS 1983 (5002) Alaska 2 Transv. Mercator coord.  
US-SPCS 1983 (5003) Alaska 3 Transv. Mercator coord.  
US-SPCS 1983 (5004) Alaska 4 Transv. Mercator coord.  
US-SPCS 1983 (5005) Alaska 5 Transv. Mercator coord.  
US-SPCS 1983 (5006) Alaska 6 Transv. Mercator coord.  
US-SPCS 1983 (5007) Alaska 7 Transv. Mercator coord.  
US-SPCS 1983 (5008) Alaska 8 Transv. Mercator coord.

US-SPCS 1983 (5009) Alaska 9 Transv. Mercator coord.  
US-SPCS 1983 (5010) Alaska 10 Lambert coordinates  
US-SPCS 1927 (5001) Alaska 1 Hotine Oblique Merc.  
US-SPCS 1927 (5002) Alaska 2 Transv. Mercator coord.  
US-SPCS 1927 (5003) Alaska 3 Transv. Mercator coord.  
US-SPCS 1927 (5004) Alaska 4 Transv. Mercator coord.  
US-SPCS 1927 (5005) Alaska 5 Transv. Mercator coord.  
US-SPCS 1927 (5006) Alaska 6 Transv. Mercator coord.  
US-SPCS 1927 (5007) Alaska 7 Transv. Mercator coord.  
US-SPCS 1927 (5008) Alaska 8 Transv. Mercator coord.  
US-SPCS 1927 (5009) Alaska 9 Transv. Mercator coord.  
US-SPCS 1927 (5010) Alaska 10 Lambert coordinates  
Alaska Albers Equal Area Conic coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD27 (US-AK), Meade's Ranch Kansas, Clarke  
NAD27 (US-AK Aleutian east), Kansas, Clarke  
NAD27 (US-AK Aleutian west), Kansas, Clarke  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA American Samoa (US-AS)

##### Coordinate Systems

US-SPCS 1927 (5300) American Samoa Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

American Samoa 1962 (US-AS), Samoa, Clarke  
NAD83(NSRS PA11) (US), geocentric, GRS80  
NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-AS[east] NTv2 ESHPGN  $\pm 0.1$ m), geocent., GRS80  
NAD83 (US-AS[east] NTv2 ESHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83(HARN) (US-AS[west] NTv2 WSHPGN  $\pm 0.1$ m), geocent., GRS80  
NAD83 (US-AS[west] NTv2 WSHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file



## Target Reference System in an arbitrary NTv2 file

### USA Arizona (US-AZ)

#### Coordinate Systems

US-SPCS 1983 (202) Arizona central Mercator coord.

US-SPCS 1983 (201) Arizona east Mercator coord.

US-SPCS 1983 (203) Arizona west Mercator coord.

US-SPCS 1927 (202) Arizona central Mercator coord.

US-SPCS 1927 (201) Arizona east Mercator coord.

US-SPCS 1927 (203) Arizona west Mercator coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-AZ NTv2 AZHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83 (US-AZ NTv2 AZHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US west), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

### USA Arkansas (US-AR)

#### Coordinate Systems

US-SPCS 1983 (301) Arkansas north Lambert coord.

US-SPCS 1983 (302) Arkansas south Lambert coord.

US-SPCS 1927 (301) Arkansas north Lambert coord.

US-SPCS 1927 (302) Arkansas south Lambert coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-AR NTv2 ARHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83 (US-AR NTv2 ARHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US east), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA California (US-CA)

### Coordinate Systems

- US-SPCS 1983 (401) California zone 1 Lambert coord.
- US-SPCS 1983 (402) California zone 2 Lambert coord.
- US-SPCS 1983 (403) California zone 3 Lambert coord.
- US-SPCS 1983 (404) California zone 4 Lambert coord.
- US-SPCS 1983 (405) California zone 5 Lambert coord.
- US-SPCS 1983 (406) California zone 6 Lambert coord.
- US-SPCS 1927 (401) California Zone I Lambert coord.
- US-SPCS 1927 (402) California zone II Lambert coord.
- US-SPCS 1927 (403) California zone III Lambert coord.
- US-SPCS 1927 (404) California zone IV Lambert coord.
- US-SPCS 1927 (405) California zone V Lambert coord.
- US-SPCS 1927 (406) California zone VI Lambert coord.
- US-SPCS 1927 (407) California zone VII Lambert coord.
- US California Albers Equal Area coordinates
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-CA[north] NTv2 CNHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80
- NAD83 (US-CA[north] NTv2 CNHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83(HARN) (US-CA[south] NTv2 CSHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80
- NAD83 (US-CA[south] NTv2 CSHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US west), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## USA Colorado (US-CO)

### Coordinate Systems

- US-SPCS 1983 (502) Colorado central Lambert coord.
- US-SPCS 1983 (501) Colorado north Lambert coord.
- US-SPCS 1983 (503) Colorado south Lambert coord.
- US-SPCS 1927 (502) Colorado central Lambert coord.
- US-SPCS 1927 (501) Colorado north Lambert coord.
- US-SPCS 1927 (503) Colorado south Lambert coord.
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-CO NTv2 COHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-CO NTv2 COHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Connecticut (US-CT)

##### Coordinate Systems

US-SPCS 1983 (600) Connecticut Lambert coordinates  
US-SPCS 1927 (600) Connecticut Lambert coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), gc, GRS80  
NAD83 (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Delaware (US-DE)

##### Coordinate Systems

US-SPCS 1983 (700) Delaware Transv. Mercator coord.  
US-SPCS 1927 (700) Delaware Transv. Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-MD,DE NTv2 MDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-MD,DE NTv2 MDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file

## Target Reference System in an arbitrary NTv2 file

### USA Florida (US-FL)

#### Coordinate Systems

- US-SPCS 1983 (901) Florida east Mercator coord.
- US-SPCS 1983 (903) Florida north Lambert coord.
- US-SPCS 1983 (902) Florida west Mercator coord.
- US-SPCS 1927 (901) Florida east Mercator coord.
- US-SPCS 1927 (903) Florida north Lambert coord.
- US-SPCS 1927 (902) Florida west Mercator coord.
- US Florida GDL Albers Equal Area coordinates
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-FL NTv2 FLHPGN  $\pm 0.1$ m), geocentric, GRS80
- NAD83 (US-FL NTv2 FLHPGN  $\pm 0.1$ m), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US east), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### USA Georgia (US-GA)

#### Coordinate Systems

- US-SPCS 1983 (1001) Georgia east Mercator coord.
- US-SPCS 1983 (1002) Georgia west Mercator coord.
- US-SPCS 1927 (1001) Georgia east Mercator coord.
- US-SPCS 1927 (1002) Georgia west Mercator coord.
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-GA NTv2 GAHPGN  $\pm 0.1$ m), geocentric, GRS80
- NAD83 (US-GA NTv2 GAHPGN  $\pm 0.1$ m), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US east), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## USA Hawaii (US-HI)

### Coordinate Systems

UTM coordinates (northern hemisphere)

US-SPCS 1983 (5101) Hawaii 1 Transv. Mercator coord.

US-SPCS 1983 (5102) Hawaii 2 Transv. Mercator coord.

US-SPCS 1983 (5103) Hawaii 3 Transv. Mercator coord.

US-SPCS 1983 (5104) Hawaii 4 Transv. Mercator coord.

US-SPCS 1983 (5105) Hawaii 5 Transv. Mercator coord.

US-SPCS 1927 (5101) Hawaii 1 Transv. Mercator coord.

US-SPCS 1927 (5102) Hawaii 2 Transv. Mercator coord.

US-SPCS 1927 (5103) Hawaii 3 Transv. Mercator coord.

US-SPCS 1927 (5104) Hawaii 4 Transv. Mercator coord.

US-SPCS 1927 (5105) Hawaii 5 Transv. Mercator coord.

Hawaii Albers Equal Area Conic coordinates

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS PA11) (US), geocentric, GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-HI NTv2 HIHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83 (US-HI NTv2 HIHPGN  $\pm 0.1$ m), geocentric, GRS80

Old Hawaiian mean (US-HI), Oahu, Clarke

Tern Isl. 1961 (US-HI  $\leq \pm 25$ m), Sorol Atoll, Hayford/Int.

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US west), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA Idaho (US-ID)

### Coordinate Systems

US-SPCS 1983 (1102) Idaho central Mercator coord.

US-SPCS 1983 (1101) Idaho east Transv. Mercator

US-SPCS 1927 (1102) Idaho central Mercator coord.

US-SPCS 1927 (1101) Idaho east Transv. Mercator

US-SPCS 1983 (1103) Idaho west Transv. Mercator

US-SPCS 1927 (1103) Idaho west Transv. Mercator

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-ID,MT[east] NTv2 EMHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80  
NAD83 (US-ID,MT[east] NTv2 EMHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83(HARN) (US-ID,MT[west] NTv2 WMHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80  
NAD83 (US-ID,MT[west] NTv2 WMHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Illinois (US-IL)

##### Coordinate Systems

US-SPCS 1983 (1201) Illinois east Mercator coord.  
US-SPCS 1983 (1202) Illinois west Mercator coord.  
US-SPCS 1927 (1201) Illinois east Mercator coord.  
US-SPCS 1927 (1202) Illinois west Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-IL NTv2 ILHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-IL NTv2 ILHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Indiana (US-IN)

##### Coordinate Systems

US-SPCS 1983 (1301) Indiana east Mercator coord.  
US-SPCS 1983 (1302) Indiana west Mercator coord.  
US-SPCS 1927 (1301) Indiana east Mercator coord.  
US-SPCS 1927 (1302) Indiana west Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-IN NTv2 INHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-IN NTv2 INHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Iowa (US-IA)

##### Coordinate Systems

US-SPCS 1983 (1401) Iowa north Lambert coordinates  
US-SPCS 1983 (1402) Iowa south Lambert coordinates  
US-SPCS 1927 (1401) Iowa north Lambert coordinates  
US-SPCS 1927 (1402) Iowa south Lambert coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-IA NTv2 IAHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83 (US-IA NTv2 IAHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Kansas (US-KS)

##### Coordinate Systems

US-SPCS 1983 (1501) Kansas north Lambert coord.  
US-SPCS 1983 (1502) Kansas south Lambert coord.  
US-SPCS 1927 (1501) Kansas north Lambert coord.  
US-SPCS 1927 (1502) Kansas south Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-KS NTv2 KSHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83 (US-KS NTv2 KSHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA Kentucky (US-KY)

### Coordinate Systems

US-SPCS 1983 Kentucky Single Zone Lambert coord.

US-SPCS 1983 (1601) Kentucky north Lambert coord.

US-SPCS 1983 (1602) Kentucky south Lambert coord.

US-SPCS 1927 (1601) Kentucky north Lambert coord.

US-SPCS 1927 (1602) Kentucky south Lambert coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-KY NTv2 KYHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80

NAD83 (US-KY NTv2 KYHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US east), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA Louisiana (US-LA)

### Coordinate Systems

US-SPCS 1983 (1701) Louisiana north Lambert coord.

US-SPCS 1983 (1703) Louisiana offshore Lambert coord.

US-SPCS 1983 (1702) Louisiana south Lambert coord.

US-SPCS 1927 (1701) Louisiana north Lambert coord.

US-SPCS 1927 (1703) Louisiana offshore Lambert coord.

US-SPCS 1927 (1702) Louisiana south Lambert coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-LA NTv2 LAHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80

NAD83 (US-LA NTv2 LAHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US east), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file



## Target Reference System in an arbitrary NTv2 file

### USA Maine (US-ME)

#### Coordinate Systems

- US-SPCS 1983 (1801) Maine east Transv. Mercator
- US-SPCS 1983 (1802) Maine west Transv. Mercator
- US-SPCS 1927 (1801) Maine east Transv. Mercator
- US-SPCS 1927 (1802) Maine west Transv. Mercator
- US-SPCS 1983 Maine CS2000 East Transv. Mercator
- US-SPCS 1983 Maine CS2000 Central Transv. Mercator
- US-SPCS 1983 Maine CS2000 West Transv. Mercator
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-ME NTv2 MEHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83 (US-ME NTv2 MEHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US east), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### USA Maryland (US-MD)

#### Coordinate Systems

- US-SPCS 1983 (1900) Maryland Lambert coordinates
- US-SPCS 1927 (1900) Maryland Lambert coordinates
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-MD,DE NTv2 MDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83 (US-MD,DE NTv2 MDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US east), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### USA Massachusetts (US-MA)

## Coordinate Systems

US-SPCS 1983 (2002) Massachusetts island Lambert  
US-SPCS 1983 (2001) Massachusetts mainland Lambert  
US-SPCS 1927 (2002) Massachusetts island Lambert  
US-SPCS 1927 (2001) Massachusetts mainland Lambert  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

## Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), gc, GRS80  
NAD83 (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## USA Michigan (US-MI)

### Coordinate Systems

US-SPCS 1983 Michigan Oblique Mercator coordinates  
US-SPCS 1983 (2111) Michigan north Lambert coord.  
US-SPCS 1983 (2112) Michigan central Lambert coord.  
US-SPCS 1983 (2113) Michigan south Lambert coord.  
US-SPCS 1927 (2111) Michigan north Lambert coord.  
US-SPCS 1927 (2112) Michigan central Lambert coord.  
US-SPCS 1927 (2113) Michigan south Lambert coord.  
US-SPCS 1927 (2101) Michigan east Mercator coord.  
US-SPCS 1927 (2102) Michigan central Mercator coord.  
US-SPCS 1927 (2103) Michigan west Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-MI NTv2 MIHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-MI NTv2 MIHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## USA Minnesota (US-MN) - General

### Coordinate Systems

- US-SPCS 1983 (2202) Minnesota central Lambert coord.
- US-SPCS 1983 (2201) Minnesota north Lambert coord.
- US-SPCS 1983 (2203) Minnesota south Lambert coord.
- US-SPCS 1927 (2202) Minnesota central Lambert coord.
- US-SPCS 1927 (2201) Minnesota north Lambert coord.
- US-SPCS 1927 (2203) Minnesota south Lambert coord.
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-MN NTv2 MNHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83 (US-MN NTv2 MNHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US east), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## USA Minnesota (US-MN) - Counties

### Coordinate Systems

- Minnesota County Aitkin Transverse Mercator coordinates
- Minnesota County Anoka Lambert coordinates
- Minnesota County Becker Lambert coordinates
- Minnesota County Beltrami/North Lambert coordinates
- Minnesota County Beltrami/South Lambert coordinates
- Minnesota County Benton Lambert coordinates
- Minnesota County Big Stone Lambert coordinates
- Minnesota County Blue Earth Lambert coordinates
- Minnesota County Brown Lambert coordinates
- Minnesota County Carlton Lambert coordinates
- Minnesota County Carver Lambert coordinates
- Minnesota County Cass/North Lambert coordinates
- Minnesota County Cass/South Lambert coordinates
- Minnesota County Chippewa Lambert coordinates
- Minnesota County Chisago Lambert coordinates
- Minnesota County Clay Transverse Mercator coordinates
- Minnesota County Clearwater Transverse Mercator coordinates
- Minnesota County Cook/North Lambert coordinates
- Minnesota County Cook/South Lambert coordinates
- Minnesota County Cottonwood Lambert coordinates
- Minnesota County Crow Wing Lambert coordinates
- Minnesota County Dakota Lambert coordinates
- Minnesota County Dodge Lambert coordinates
- Minnesota County Douglas Lambert coordinates

Minnesota County Faribault Lambert coordinates  
Minnesota County Fillmore Lambert coordinates  
Minnesota County Freeborn Lambert coordinates  
Minnesota County Goodhue Lambert coordinates  
Minnesota County Grant Lambert coordinates  
Minnesota County Hennepin Lambert coordinates  
Minnesota County Houston Lambert coordinates  
Minnesota County Hubbard Transverse Mercator coordinates  
Minnesota County Isanti Lambert coordinates  
Minnesota County Itasca/North Lambert coordinates  
Minnesota County Itasca/South Lambert coordinates  
Minnesota County Jackson Lambert coordinates  
Minnesota County Kanabec Lambert coordinates  
Minnesota County Kandiyohi Lambert coordinates  
Minnesota County Kittson Lambert coordinates  
Minnesota County Koochiching Lambert coordinates  
Minnesota County Lac Qui Parle Lambert coordinates  
Minnesota County Lake Transverse Mercator coordinates  
Minnesota County Lake of the Woods/North Lambert coordinates  
Minnesota County Lake of the Woods/South Lambert coordinates  
Minnesota County Le Sueur Lambert coordinates  
Minnesota County Lincoln Lambert coordinates  
Minnesota County Lyon Lambert coordinates  
Minnesota County Mahnomen Lambert coordinates  
Minnesota County Marshall Lambert coordinates  
Minnesota County Martin Lambert coordinates  
Minnesota County McLeod Lambert coordinates  
Minnesota County Meeker Lambert coordinates  
Minnesota County Mille Lacs Transverse Mercator coordinates  
Minnesota County Morrison Lambert coordinates  
Minnesota County Mower Lambert coordinates  
Minnesota County Murray Lambert coordinates  
Minnesota County Nicollet Lambert coordinates  
Minnesota County Nobles Lambert coordinates  
Minnesota County Norman Lambert coordinates  
Minnesota County Olmsted Lambert coordinates  
Minnesota County Otter Tail Lambert coordinates  
Minnesota County Pennington Lambert coordinates  
Minnesota County Pine Lambert coordinates  
Minnesota County Pipestone Lambert coordinates  
Minnesota County Polk Lambert coordinates  
Minnesota County Pope Lambert coordinates  
Minnesota County Ramsey Lambert coordinates  
Minnesota County Red Lake Lambert coordinates  
Minnesota County Redwood Lambert coordinates  
Minnesota County Renville Lambert coordinates  
Minnesota County Rice Lambert coordinates  
Minnesota County Rock Lambert coordinates  
Minnesota County Roseau Lambert coordinates  
Minnesota County Scott Lambert coordinates  
Minnesota County Sherburne Lambert coordinates  
Minnesota County Sibley Lambert coordinates  
Minnesota County St. Louis/Central Lambert coordinates  
Minnesota County St. Louis/North Lambert coordinates

Minnesota County St. Louis/South Lambert coordinates  
Minnesota County Stearns Lambert coordinates  
Minnesota County Steele Lambert coordinates  
Minnesota County Stevens Lambert coordinates  
Minnesota County Swift Lambert coordinates  
Minnesota County Todd Lambert coordinates  
Minnesota County Traverse Lambert coordinates  
Minnesota County Wabasha Lambert coordinates  
Minnesota County Wadena Lambert coordinates  
Minnesota County Waseca Lambert coordinates  
Minnesota County Washington Transverse Mercator coordinates  
Minnesota County Watonwan Lambert coordinates  
Minnesota County Wilkin Transverse Mercator coordinates  
Minnesota County Winona Lambert coordinates  
Minnesota County Wright Lambert coordinates  
Minnesota County Yellow Medicine Lambert coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-MN NTv2 MNHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-MN NTv2 MNHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Mississippi (US-MS)

##### Coordinate Systems

US-SPCS 1983 Mississippi Transverse Mercator  
US-SPCS 1983 (2301) Mississippi east Mercator coord.  
US-SPCS 1983 (2302) Mississippi west Mercator coord.  
US-SPCS 1927 (2301) Mississippi east Mercator coord.  
US-SPCS 1927 (2302) Mississippi west Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-MS NTv2 MSHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-MS NTv2 MSHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

#### USA Missouri (US-MO)

##### Coordinate Systems

US-SPCS 1983 (2401) Missouri east Mercator coord.

US-SPCS 1983 (2402) Missouri central Mercator coord.

US-SPCS 1983 (2403) Missouri west Mercator coord.

US-SPCS 1927 (2401) Missouri east Mercator coord.

US-SPCS 1927 (2402) Missouri central Mercator coord.

US-SPCS 1927 (2403) Missouri west Mercator coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-MO NTv2 MOHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83 (US-MO NTv2 MOHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US east), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

#### USA Montana (US-MT)

##### Coordinate Systems

US-SPCS 1983 (2500) Montana Lambert coordinates

US-SPCS 1927 (2501) Montana north Lambert coord.

US-SPCS 1927 (2502) Montana central Lambert coord.

US-SPCS 1927 (2503) Montana south Lambert coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-ID,MT[east] NTv2 EMHPGN  $\pm 0.1$ m), geoc., GRS80

NAD83 (US-ID,MT[east] NTv2 EMHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83(HARN) (US-ID,MT[west] NTv2 WMHPGN  $\pm 0.1$ m), geoc., GRS80

NAD83 (US-ID,MT[west] NTv2 WMHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US west), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA Nebraska (US-NE)

### Coordinate Systems

US-SPCS 1983 (2600) Nebraska Lambert coordinates

US-SPCS 1927 (2601) Nebraska north Lambert coord.

US-SPCS 1927 (2602) Nebraska south Lambert coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-NE NTv2 NBHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83 (US-NE NTv2 NBHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US west), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA Nevada (US-NV)

### Coordinate Systems

US-SPCS 1983 (2701) Nevada east Mercator coord.

US-SPCS 1983 (2702) Nevada central Mercator coord.

US-SPCS 1983 (2703) Nevada west Mercator coord.

US-SPCS 1927 (2701) Nevada east Mercator coord.

US-SPCS 1927 (2702) Nevada central Mercator coord.

US-SPCS 1927 (2703) Nevada west Mercator coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-NV NTv2 NVHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83 (US-NV NTv2 NVHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US west), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA New Hampshire (US-NH)

### Coordinate Systems

US-SPCS 1983 (2800) New Hampshire Mercator coord.

US-SPCS 1927 (2800) New Hampshire Mercator coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), gc, GRS80

NAD83 (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US east), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA New Jersey (US-NJ)

### Coordinate Systems

US-SPCS 1983 (2900) New Jersey Transv. Mercator

US-SPCS 1927 (2900) New Jersey Transv. Mercator

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80

NAD83(NSRS 2007) (US), geocentric, GRS80

NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-NJ NTv2 NJHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80

NAD83 (US-NJ NTv2 NJHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80

NAD27 (US Conus), Meade's Ranch Kansas, Clarke

NAD27 (US east), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

## USA New Mexico (US-NM)

### Coordinate Systems

US-SPCS 1983 (3001) New Mexico east Mercator coord.

US-SPCS 1983 (3002) New Mexico central Mercator

US-SPCS 1983 (3003) New Mexico west Mercator coord.

US-SPCS 1927 (3001) New Mexico east Mercator coord.

US-SPCS 1927 (3002) New Mexico central Mercator

US-SPCS 1927 (3003) New Mexico west Mercator coord.



UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-NM NTv2 NMHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83 (US-NM NTv2 NMHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA New York (US-NY)

##### Coordinate Systems

US-SPCS 1983 (3101) New York east Mercator coord.  
US-SPCS 1983 (3102) New York central Mercator coord.  
US-SPCS 1983 (3103) New York west Mercator coord.  
US-SPCS 1983 (3104) New York Long Island Lambert  
US-SPCS 1927 (3101) New York east Mercator coord.  
US-SPCS 1927 (3102) New York central Mercator coord.  
US-SPCS 1927 (3103) New York west Mercator coord.  
US-SPCS 1927 (3104) New York Long Island Lambert  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-NY NTv2 NYHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83 (US-NY NTv2 NYHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA North Carolina (US-NC)

##### Coordinate Systems

US-SPCS 1983 (3200) North Carolina Lambert coord.  
US-SPCS 1927 (3200) North Carolina Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-NC NTv2 NCHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-NC NTv2 NCHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

### USA North Dakota (US-ND)

#### Coordinate Systems

US-SPCS 1983 (3301) North Dakota north Lambert coord.  
US-SPCS 1983 (3302) North Dakota south Lambert coord.  
US-SPCS 1927 (3301) North Dakota north Lambert coord.  
US-SPCS 1927 (3302) North Dakota south Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-ND NTv2 NDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-ND NTv2 NDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

### USA Ohio (US-OH)

#### Coordinate Systems

US-SPCS 1983 (3401) Ohio north Lambert coordinates  
US-SPCS 1983 (3402) Ohio south Lambert coordinates  
US-SPCS 1927 (3401) Ohio north Lambert coordinates  
US-SPCS 1927 (3402) Ohio south Lambert coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-OH NTv2 OHHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-OH NTv2 OHHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Oklahoma (US-OK)

##### Coordinate Systems

US-SPCS 1983 (3501) Oklahoma north Lambert coord.  
US-SPCS 1983 (3502) Oklahoma south Lambert coord.  
US-SPCS 1927 (3501) Oklahoma north Lambert coord.  
US-SPCS 1927 (3502) Oklahoma south Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-OK NTv2 OKHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-OK NTv2 OKHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Oregon (US-OR)

##### Coordinate Systems

US Oregon state-wide Lambert coordinates  
US-SPCS 1983 (3601) Oregon north Lambert coord.  
US-SPCS 1983 (3602) Oregon south Lambert coord.  
US-SPCS 1927 (3601) Oregon north Lambert coord.  
US-SPCS 1927 (3602) Oregon south Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80

NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-WA,OR NTv2 WOHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-WA,OR NTv2 WOHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Pennsylvania (US-PA)

##### Coordinate Systems

US-SPCS 1983 (3701) Pennsylvania north Lambert coord.  
US-SPCS 1983 (3702) Pennsylvania south Lambert coord.  
US-SPCS 1927 (3701) Pennsylvania north Lambert coord.  
US-SPCS 1927 (3702) Pennsylvania south Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-PA NTv2 PAHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-PA NTv2 PAHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Rhode Island (US-RI)

##### Coordinate Systems

US-SPCS 1983 (3800) Rhode Island Mercator coord.  
US-SPCS 1927 (3800) Rhode Island Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), gc, GRS80  
NAD83 (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA South Carolina (US-SC)

##### Coordinate Systems

US-SPCS 1983 (3900) South Carolina Lambert coord.  
US-SPCS 1927 (3901) South Carolina north Lambert  
US-SPCS 1927 (3902) South Carolina south Lambert  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-SC NTv2 SCHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-SC NTv2 SCHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA South Dakota (US-SD)

##### Coordinate Systems

US-SPCS 1983 (4001) South Dakota north Lambert coord.  
US-SPCS 1983 (4002) South Dakota south Lambert coord.  
US-SPCS 1927 (4001) South Dakota north Lambert coord.  
US-SPCS 1927 (4002) South Dakota south Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-SD NTv2 SDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-SD NTv2 SDHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Tennessee (US-TN)

## Coordinate Systems

- US-SPCS 1983 (4100) Tennessee Lambert coordinates
- US-SPCS 1927 (4100) Tennessee Lambert coordinates
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

## Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-TN NTv2 TNHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83 (US-TN NTv2 TNHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US east), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## USA Texas (US-TX)

### Coordinate Systems

- US Texas state-wide Lambert coordinates
- US Texas state-wide Albers Equal Area coordinates
- US-SPCS 1983 (4201) Texas north Lambert coordinates
- US-SPCS 1983 (4202) Texas north central Lambert
- US-SPCS 1983 (4203) Texas central Lambert coord.
- US-SPCS 1983 (4205) Texas south Lambert coordinates
- US-SPCS 1983 (4204) Texas south central Lambert
- US-SPCS 1927 (4201) Texas north Lambert coordinates
- US-SPCS 1927 (4202) Texas north central Lambert
- US-SPCS 1927 (4203) Texas central Lambert coord.
- US-SPCS 1927 (4205) Texas south Lambert coordinates
- US-SPCS 1927 (4204) Texas south central Lambert
- US Texas Lambert State Mapping System
- US Texas Lambert Shackleford System
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-TX[east] NTv2 ETHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80
- NAD83 (US-TX[east] NTv2 ETHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83(HARN) (US-TX[west] NTv2 WTHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80
- NAD83 (US-TX[west] NTv2 WTHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US west), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Utah (US-UT)

##### Coordinate Systems

US-SPCS 1983 (4301) Utah north Lambert coordinates  
US-SPCS 1983 (4302) Utah central Lambert coord.  
US-SPCS 1983 (4303) Utah south Lambert coordinates  
US-SPCS 1927 (4301) Utah north Lambert coordinates  
US-SPCS 1927 (4302) Utah central Lambert coord.  
US-SPCS 1927 (4303) Utah south Lambert coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-UT NTv2 UTHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-UT NTv2 UTHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Vermont (US-VT)

##### Coordinate Systems

US-SPCS 1983 (4400) Vermont Transv. Mercator coord.  
US-SPCS 1927 (4400) Vermont Transv. Mercator coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), gc, GRS80  
NAD83 (US-CT,MA,RI,NH,VT NTv2 NEHPGN  $\pm 0.1\text{m}$ ), geoc., GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## USA Virginia (US-VA)

### Coordinate Systems

- US Virginia state-wide Lambert coordinates
- US-SPCS 1983 (4501) Virginia north Lambert coord.
- US-SPCS 1983 (4502) Virginia south Lambert coord.
- US-SPCS 1927 (4501) Virginia north Lambert coord.
- US-SPCS 1927 (4502) Virginia south Lambert coord.
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-VA NTv2 VAHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83 (US-VA NTv2 VAHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US east), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## USA Washington (US-WA)

### Coordinate Systems

- US-SPCS 1983 (4601) Washington north Lambert coord.
- US-SPCS 1983 (4602) Washington south Lambert coord.
- US-SPCS 1927 (4601) Washington north Lambert coord.
- US-SPCS 1927 (4602) Washington south Lambert coord.
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80
- NAD83(NSRS 2007) (US), geocentric, GRS80
- NAD83(NSRS 2011) (US), geocentric, GRS80
- NAD83 (US+CA =WGS84=), geocentric, GRS80
- NAD83(HARN) (US-WA,OR NTv2 WOHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD83 (US-WA,OR NTv2 WOHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80
- NAD27 (US Conus), Meade's Ranch Kansas, Clarke
- NAD27 (US west), Meade's Ranch Kansas, Clarke
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## USA West Virginia (US-WV)

### Coordinate Systems



US-SPCS 1983 (4701) West Virginia north Lambert  
US-SPCS 1983 (4702) West Virginia south Lambert  
US-SPCS 1927 (4701) West Virginia north Lambert  
US-SPCS 1927 (4702) West Virginia south Lambert  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-WV NTv2 WVHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83 (US-WV NTv2 WVHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Wisconsin (US-WI)

##### Coordinate Systems

US Wisconsin WMT83 Transverse Mercator coordinates  
US Wisconsin WMT27 Transverse Mercator coordinates  
US-SPCS 1983 (4801) Wisconsin north Lambert coord.  
US-SPCS 1983 (4802) Wisconsin central Lambert coord.  
US-SPCS 1983 (4803) Wisconsin south Lambert coord.  
US-SPCS 1927 (4801) Wisconsin north Lambert coord.  
US-SPCS 1927 (4802) Wisconsin central Lambert coord.  
US-SPCS 1927 (4803) Wisconsin south Lambert coord.  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-WI NTv2 WIHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83 (US-WI NTv2 WIHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Wyoming (US-WY)

##### Coordinate Systems

US-SPCS 1983 (4901) Wyoming east Mercator coord.  
US-SPCS 1983 (4902) Wyoming east central Mercator  
US-SPCS 1983 (4903) Wyoming west central Mercator  
US-SPCS 1983 (4904) Wyoming west Mercator coord.  
US-SPCS 1927 (4901) Wyoming east Mercator coord.  
US-SPCS 1927 (4902) Wyoming east central Mercator  
US-SPCS 1927 (4903) Wyoming west central Mercator  
US-SPCS 1927 (4904) Wyoming west Mercator coord.  
US Wyoming Lambert coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-WY NTv2 WYHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-WY NTv2 WYHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Multinational Coordinate Systems

##### Coordinate Systems

US National Grid (USNG) Mercator coordinates  
US National Atlas Lambert Azimuthal Equal Area  
USA Conus Albers Equal Area coordinates  
USA Contiguos Albers Equal Area coordinates  
North America Albers Equal Area coordinates  
UTM coordinates (northern hemisphere)  
UTM coordinates [ftUS] (northern hemisphere)  
UTMref (MGRS) (Meter grid mesh)  
Geographic coordinates (Greenwich) [sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83(NSRS PA11) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83 (US+CA =ITRS86=), geocentric, GRS80  
NAD27 (US+CA  $\leq \pm 15\text{m}$ ), Kansas, Clarke  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US west), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke

WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
WGS72BE (Worldwide), geocentric, WGS72  
GRS80a Authalic Sphere (Worldwide), geocentric, Sphere  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

--- Central America and Caribbean -----

French Guadeloupe (GP)

Coordinate Systems

UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [gon]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

Reference Systems

RRAF (GP,MQ), geocentric, GRS80  
IGN1949 (GP), Fort-Marigot, Hayford/Int.  
IGN1948 (GP), Ste-Anne, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

French Martinique (MQ)

Coordinate Systems

UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [gon]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

Reference Systems

RRAF (GP,MQ), geocentric, GRS80  
Fort-Desaix1952 (MQ), Fort-Desaix, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

Mexico (MX)

Coordinate Systems

Mexico Lambert Conformal Conic coordinates  
Mexico Albers Equal Area Conic coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

Reference Systems

Mexico ITRF2008 (MX), geocentric, GRS80  
Mexico ITRF92 (MX), geocentric, GRS80  
NAD27 (MX whole country  $<\pm 12\text{m}$ ), MR Kansas, Clarke  
NAD27 (MX Eastern Gulf  $<\pm 5$ ), MR Kansas, Clarke

NAD27 (MX Central Gulf  $\leq \pm 5$ ), MR Kansas, Clarke  
NAD27 (MX Western Gulf  $\leq \pm 5$ ), MR Kansas, Clarke  
NAD27 (MX Tampico Area  $\leq \pm 5$ ), MR Kansas, Clarke  
NAD27 (MX Campeche North Area  $\leq \pm 5$ ), MR Kansas, Clarke  
NAD27 (MX Campeche South Area  $\leq \pm 5$ ), MR Kansas, Clarke  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Puerto Rico (PR)

##### Coordinate Systems

US-SPCS 1983 (5200) Puerto Rico/Virgin Islands Lambert  
US-SPCS 1927 (5202) Puerto Rico/VI/St. Croix Lambert  
US-SPCS 1927 (5201) Puerto Rico/Virgin Islands Lambert  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

Puerto Rico (US-PR,VI), Cardona Island, Clarke  
NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80  
NAD83(HARN) (US-PR,VI NTv2 PVHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD83 (US-PR,VI NTv2 PVHPGN  $\pm 0.1$ m), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### USA Virgin Islands (VI)

##### Coordinate Systems

US-SPCS 1983 (5200) Puerto Rico/Virgin Islands Lambert  
US-SPCS 1927 (5202) Puerto Rico/VI/St. Croix Lambert  
US-SPCS 1927 (5201) Puerto Rico/Virgin Islands Lambert  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

Puerto Rico (US-PR,VI), Cardona Island, Clarke  
NAD83(NSRS/CSRS) (US+CA ITRS-Epoche 1997), GRS80  
NAD83(NSRS 2007) (US), geocentric, GRS80  
NAD83(NSRS 2011) (US), geocentric, GRS80  
NAD83 (US+CA =WGS84=), geocentric, GRS80

NAD83(HARN) (US-PR,VI NTv2 PVHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD83 (US-PR,VI NTv2 PVHPGN  $\pm 0.1\text{m}$ ), geocentric, GRS80  
NAD27 (US Conus), Meade's Ranch Kansas, Clarke  
NAD27 (US east), Meade's Ranch Kansas, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Multinational Coordinate Systems

### Coordinate Systems

UTM coordinates (northern hemisphere)  
UTM coordinates (southern hemisphere)  
UTMref (MGRS) (Meter grid mesh)  
Geographic coordinates (Greenwich) [sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
WGS72BE (Worldwide), geocentric, WGS72  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

--- South American continent -----

## Argentina (AR)

### Coordinate Systems

UTM coordinates (southern hemisphere)  
Argentinean Gauss-Krueger coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

SIRGAS (South America =WGS84=), geocentric, GRS80  
POSGAR (AR), geocentric, GRS80  
SAD69 (AR  $<\pm 7\text{m}$ ), Chua, GRS67(2)  
CAI1969 (AR), Campo Inchauspe, Hayford/Int.  
CAI1969 (AR Neuquen), Campo Inchauspe, Hayford/Int.  
HITO1963 (AR Tierra Fuego), Hito XVIII, Hayford/Int.  
CHOMA1914 (AR Neuquen), Chos Malal, Hayford/Int.  
Pampa Castillo (AR Comodoro Riv.), Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Brazil (BR)

### Coordinate Systems

UTM coordinates (southern hemisphere)

UTM coordinates (northern hemisphere)  
Brazil Petrobras Mercator coordinates  
Brazil Polyconic coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

SIRGAS2000 (South America  $<\pm 1\text{m}$ ), geocentric, GRS80  
Chua (BR  $<\pm 5\text{m}$   $<2000$ ), Chua, Hayford/Int.  
Chua (BR  $<\pm 5\text{m}$   $>2000$ ), Chua, Hayford/Int.  
CorAI70/72 (BR  $<\pm 8\text{m}$ ), Corrego Alegre, Hayford/Int.  
SAD69 (BR  $<\pm 5\text{m}$ ), Chua, GRS67 modified  
SAD69(96) (BR  $<\pm 5\text{m}$ ), Chua, GRS67 modified  
PSAD56 (BR  $<\pm 10\text{m}$ ), La Canoa, Hayford/Int.  
Aratu (BR-Campos  $<\pm 5\text{m}$ ), Aratu, Hayford/Int.  
Aratu (BR-Santos  $<\pm 5\text{m}$ ), Aratu, Hayford/Int.  
Aratu (BR-Esprito/Mucuri  $<\pm 5\text{m}$ ), Aratu, Hayford/Int.  
CorAI1961 (BR NTv2 CA61\_003  $<\pm 2\text{m}$ ), Cor. Alegre, Hayford/Int.  
SIRGAS2000 (BR NTv2 CA61\_003  $<\pm 2\text{m}$ ), geocentric, GRS80  
CorAI70/72 (BR NTv2 CA7072\_003  $<\pm 2\text{m}$ ), Cor. Al., Hayford/Int.  
SIRGAS2000 (BR NTv2 CA7072\_003  $<\pm 2\text{m}$ ), geocentric, GRS80  
SAD69 (BR NTv2 SAD69\_003  $<\pm 1\text{m}$ ), Chua, GRS67 modified  
SIRGAS2000 (BR NTv2 SAD69\_003  $<\pm 1\text{m}$ ), geocentric, GRS80  
SAD69(96) (BR NTv2 SAD96\_003  $<\pm 0.5\text{m}$ ), Chua, GRS67 modified  
SIRGAS2000 (BR NTv2 SAD96\_003  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Chile (CL)

##### Coordinate Systems

UTM coordinates (southern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

SIRGAS (CL =WGS84=), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
SAD69 (CL  $<32^\circ\text{S}$   $<\pm 2\text{m}$ ), Chua, GRS67 modified  
SAD69 (CL  $>32^\circ\text{S}$   $<36^\circ\text{S}$   $<\pm 2\text{m}$ ), Chua, GRS67 modified  
SAD69 (CL  $>36^\circ\text{S}$   $<43.5^\circ\text{S}$   $<\pm 4\text{m}$ ), Chua, GRS67 modified  
Easter Island 1967 (CL  $<\pm 25\text{m}$ ), Easter Island, Hayford/Int.  
Hito XVIII 1963 (CL  $<\pm 25\text{m}$ ), Tierra del Fuego, Hayford/Int.  
PSAD56 (CL  $<26^\circ\text{S}$   $<\pm 10\text{m}$ ), La Canoa, Hayford/Int.  
PSAD56 (CL  $>26^\circ\text{S}$   $<36^\circ\text{S}$   $<\pm 10\text{m}$ ), La Canoa, Hayford/Int.  
PSAD56 (CL  $>36^\circ\text{S}$   $<43.5^\circ\text{S}$   $<\pm 10\text{m}$ ), La Canoa, Hayford/Int.  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Colombia (CO)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
UTM coordinates (southern hemisphere)  
Colombia MAGNA-SIRGAS Far West Zone  
Colombia MAGNA-SIRGAS West Zone  
Colombia MAGNA-SIRGAS Bogota Zone  
Colombia MAGNA-SIRGAS East Central Zone  
Colombia MAGNA-SIRGAS East Zone  
Colombia Bogota 1975 West Zone  
Colombia Bogota 1975 Bogota Zone  
Colombia Bogota 1975 East Central Zone  
Colombia Bogota 1975 East Zone  
Geographic Coordinates (Bogota) [deg]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

MAGNA-SIRGAS (CO  $\leq \pm 1\text{m}$ ), geocentric, GRS80  
Bogota 1975 (CO  $\leq \pm 6\text{m}$ ), Bogota Observatory, Hayford/Int.  
SAD69 (CO  $\leq \pm 6\text{m}$ ), Chua, GRS67(2)  
PSAD56 (CO  $\leq \pm 15\text{m}$ ), La Canoa, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### French Guiana (GF)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [gon]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

RGFG95 (GF), geocentric, GRS80  
CSG1967 (GF), Diane à Kourou, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### South Georgia / Sandwich Islands (GS)

##### Coordinate Systems

South Georgia / Sandwich Islands Lambert coord.  
UTM coordinates (southern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

South Georgia 1968 (GS  $\leq \pm 25\text{m}$ ), ISTS061, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file

## Target Reference System in an arbitrary NTv2 file

### Uruguay (UR)

#### Coordinate Systems

- UTM coordinates (southern hemisphere)
- Geographic coordinates (Greenwich) [gon]
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- SIRGAS (South America =WGS84=), geocentric, GRS80
- YACARE (UR), Yacare, Hayford/Int.
- SAD69 (UR  $<\pm 10\text{m}$ ), Chua, GRS67(2)
- WGS84 (Worldwide GPS), geocentric, WGS84
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### Venezuela (VE)

#### Coordinate Systems

- UTM coordinates (northern hemisphere)
- UTM coordinates (southern hemisphere)
- Venezuela ICN Regional coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- WGS84 (Worldwide GPS), geocentric, WGS84
- REGVEN (VE  $<\pm 1\text{m}$ ), geozentic, GRS80
- SAD69 (VE  $<\pm 6\text{m}$ ), Chua, GRS67 modifiet
- PSAD56 (VE  $<\pm 10\text{m}$ ), La Canoa, Hayford/Int.
- La Canoa (VE  $<\pm 3\text{m}$ ), La Canoa, Hayford/Int.
- La Canoa (VE NTv2 canoa\_wgs84  $<\pm 2\text{m}$ ), La Canoa, Hayford/Int.
- WGS84 (VE NTv2 canoa\_wgs84  $<\pm 2\text{m}$ ), geozentrisch, WGS84
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### Multinational Coordinate Systems

#### Coordinate Systems

- South America Lambert Conformal Conic coord.
- South America Albers Equal Area coordinates
- UTM coordinates (northern hemisphere)
- UTM coordinates (southern hemisphere)
- UTMref (MGRS) (Meter grid mesh)
- Geographic coordinates (Greenwich) [sec]
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- SIRGAS (South America =WGS84=), geocentric, GRS80
- SIRGAS2000 (South America  $<\pm 1\text{m}$ ), geocentric, GRS80
- SIRGAS1995 (South America  $<\pm 1\text{m}$ ), geocentric, GRS80



SAD69 (South America), Chua, GRS67(2)  
PSAD56 (South America  $\leq \pm 30\text{m}$ ), La Canoa, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
WGS72BE (Worldwide), geocentric, WGS72  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

--- Asian continent -----

#### Afghanistan (AF)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84  
Herat North (AF), Herat North, Hayford/Int.  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Armenia (AM)

##### Coordinate Systems

Armenia ARM\_PCS/GCS/GKz8 Transverse Mercator  
CS63 Zone A1 Transverse Mercator coordinates  
CS63 Zone A2 Transverse Mercator coordinates  
CS63 Zone A3 Transverse Mercator coordinates  
CS63 Zone A4 Transverse Mercator coordinates  
Gauss-Krueger (6 degrees wide strips)  
Gauss-Krueger coord. (3 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

Pulkovo1942 (EU-E/AS[FSU] 2008  $\leq \pm 3\text{m}$ ), Pulkovo, Krassowsky  
S42/2001 (EU-E/AS[FSU]  $\leq \pm 4\text{m}$ ), Pulkovo, Krassowsky  
S42/1993 (EU-E/AS[FSU]  $\leq \pm 4.5\text{m}$ ), Pulkovo, Krassowsky  
S42/3Par. (EU-E/AS[FSU]), Pulkovo, Krassowsky  
S42/83 (EU-E/AS[FSU] 1990  $\leq \pm 3\text{m}$ ), Pulkovo, Krassowsky  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Azerbaijan (AZ)

##### Coordinate Systems

CS63 Zone A3 Transverse Mercator coordinates

CS63 Zone A4 Transverse Mercator coordinates  
Gauss-Krueger (6 degrees wide strips)  
Gauss-Krueger coord. (3 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

Pulkovo1942 (EU-E/AS[FSU] 2008  $<\pm 3\text{m}$ ), Pulkovo, Krassowsky  
S42/2001 (EU-E/AS[FSU]  $<\pm 4\text{m}$ ), Pulkovo, Krassowsky  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

### Bangladesh (BD)

#### Coordinate Systems

UTM coordinates (northern hemisphere)  
BTM Bangladesh Transverse Mercator coordinates  
India zone IIb (Bangladesh) Lambert coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

Gulshan 303 (BD), Dhaka, Everest 1830/1937  
Kalianpur 1880 (IN,BD), Kalianpur, Everest 1830/1880  
Kalianpur 1937 (IN,BD), Kalianpur, Everest 1830/1937  
Kalianpur 1975 (IN,BD), Kalianpur, Everest 1830/1975  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

### China (CN)

#### Coordinate Systems

Chinese Gauss-Krueger CM75E-135E (3 degrees strips)  
Chinese Gauss-Krueger CM75E-135E (6 degrees strips)  
UTM coordinates (northern hemisphere)  
Hong Kong Transverse Mercator Grid coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

#### Reference Systems

CGCS2000 (CN), geocentric, CGCS2000  
Beijing1954 (CN), Pulkovo, Krassowsky  
Beijing1954 (CN, Yellow Sea), Pulkovo, Krassowsky  
Beijing1954 (CN, South China Sea), Pulkovo, Krassowsky  
Beijing1954 (CN, Tarim Basin), Pulkovo, Krassowsky  
Beijing1954 (CN, Bei Bu Basin), Pulkovo, Krassowsky  
Beijing1954 (CN, Ordos Basin), Pulkovo, Krassowsky

Beijing1954 (CN no\_defs), Pulkovo, Krassowsky  
New Beijing (CN no\_defs), Pulkovo, Krassowsky  
Xian1980 (CN no\_defs), Xian Observatory, IAG 1975  
Hong Kong 1980 (CN), Kowloon, Hayford/Int.  
Hong Kong 1963 (CN), Kowloon, Clarke 1858  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Georgia (GE)

### Coordinate Systems

CS63 Zone A1 Transverse Mercator coordinates  
CS63 Zone A2 Transverse Mercator coordinates  
CS63 Zone A3 Transverse Mercator coordinates  
CS63 Zone A4 Transverse Mercator coordinates  
Gauss-Krueger (6 degrees wide strips)  
Gauss-Krueger coord. (3 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

Pulkovo1942 (EU-E/AS[FSU] 2008 <±3m), Pulkovo, Krassowsky  
S42/2001 (EU-E/AS[FSU] <±4m), Pulkovo, Krassowsky  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## India (IN)

### Coordinate Systems

UTM coordinates (northern hemisphere)  
Indian Lambert Zone 0 coordinates  
Indian Lambert Zone I coordinates  
Indian Lambert Zone IIa coordinates  
Indian Lambert Zone IIb coordinates  
Indian Lambert Zone III coordinates  
Indian Lambert Zone IV coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

Kalianpur 1880 (IN,BD), Kalianpur, Everest 1830/1880  
Kalianpur 1937 (IN,BD), Kalianpur, Everest 1830/1937  
Kalianpur 1962 (IN), Kalianpur, Everest 1830/1962  
Kalianpur 1975 (IN,BD), Kalianpur, Everest 1830/1975  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Japan (JP)

### Coordinate Systems

- UTM coordinates (northern hemisphere)
- Japan Plane Rectangular CS I Mercator coordinates
- Japan Plane Rectangular CS II Mercator coordinates
- Japan Plane Rectangular CS III Mercator coordinates
- Japan Plane Rectangular CS IV Mercator coordinates
- Japan Plane Rectangular CS X Mercator coordinates
- Japan Plane Rectangular CS V Mercator coordinates
- Japan Plane Rectangular CS VI Mercator coordinates
- Japan Plane Rectangular CS VII Mercator coordinates
- Japan Plane Rectangular CS VIII Mercator coordinates
- Japan Plane Rectangular CS IX Mercator coordinates
- Japan Plane Rectangular CS XI Mercator coordinates
- Japan Plane Rectangular CS XII Mercator coordinates
- Japan Plane Rectangular CS XIII Mercator coordinates
- Japan Plane Rectangular CS XIV Mercator coordinates
- Japan Plane Rectangular CS XV Mercator coordinates
- Japan Plane Rectangular CS XVI Mercator coordinates
- Japan Plane Rectangular CS XVII Mercator coordinates
- Japan Plane Rectangular CS XVIII Mercator coordinates
- Japan Plane Rectangular CS XIX Mercator coordinates
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

### Reference Systems

- JGD2000 (JP 2000  $<\pm 1\text{m}$ ), geocentric, GRS80
- JGD2000 (JP 1994  $<\pm 1\text{m}$ ), geocentric, GRS80
- JGD2000 (JP 2011 NTv2 touhoku...2011), geocentric, GRS80
- JGD2011 (JP 2011 NTv2 touhoku...2011), geocentric, GRS80
- Tokyo (JP 2003 NTv2 tky2jgd), Nikon, Bessel
- JGD2000 (JP 2003 NTv2 tky2jgd), geocentric, GRS80
- JGD2011 (JP 1994  $<\pm 1\text{m}$ ), geocentric, GRS80
- Tokyo (JP 1993  $<\pm 5\text{m}$ ), Nikon, Bessel
- Tokyo (JP 1996  $<\pm 3\text{m}$ ), Nikon, Bessel
- Tokyo (JP 1997  $<\pm 3\text{m}$ ), Nikon, Bessel
- Tokyo (JP Okinawa  $<\pm 15\text{m}$ ), Nikon, Bessel
- Tokyo (JP Okinawa KR  $<\pm 15\text{m}$ ), Nikon, Bessel
- Markus Isl. 1952 (JP  $<\pm 25\text{m}$ ), Astron. Stat., Hayford/Int.
- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

## North-Korea (KP)

### Coordinate Systems

- Korea West Belt Transverse Mercator coordinates
- Korea Central Belt Transverse Mercator coordinates
- Korea East Belt Transverse Mercator coordinates
- Korea East Sea Belt Transverse Mercator coordinates
- UTM coordinates (northern hemisphere)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

Tokyo 1892 (KR,KP  $<\pm 10$ m), Nikon-Keido-Genten, Bessel

WGS84 (Worldwide GPS), geocentric, WGS84

Source Reference System in an arbitrary NTV2 file

Target Reference System in an arbitrary NTV2 file

### Pakistan (PK)

#### Coordinate Systems

UTM coordinates (northern hemisphere)

Indian Lambert Zone 0 coordinates

Indian Lambert Zone I coordinates

Indian Lambert Zone IIa coordinates

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

Kalianpur 1880 (IN,BD), Kalianpur, Everest 1830/1880

Kalianpur 1962 (IN), Kalianpur, Everest 1830/1962

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTV2 file

Target Reference System in an arbitrary NTV2 file

### South-Korea (KR)

#### Coordinate Systems

Korea West Belt 2010 Transverse Mercator coordinates

Korea Central Belt 2010 Transverse Mercator coordinates

Korea East Belt 2010 Transverse Mercator coordinates

Korea East Sea Belt 2010 Transverse Mercator coordinates

Korea Unified Belt Transverse Mercator coordinates

Korea West Belt Transverse Mercator coordinates

Korea Central Belt Transverse Mercator coordinates

Korea East Belt Transverse Mercator coordinates

Korea East Sea Belt Transverse Mercator coordinates

Korea Central Belt Jeju Transverse Mercator coordinates

Korea Modified West Belt Transverse Mercator coordinates

Korea Modified Central Belt Transverse Mercator coordinates

Korea Modified Central Belt Jeju Transverse Mercator coord.

Korea Modified East Belt Transverse Mercator coordinates

Korea Modified East Sea Belt Transverse Mercator coord.

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

Korea 2000 (KR  $<\pm 1$ m), geocentric, GRS80

Korean 1995 (KR  $<\pm 2$ m), geocentric, WGS84

Korean 1985 (KR  $<\pm 1$ m), Suwon, Bessel

Tokyo 1892 (KR,KP  $<\pm 10$ m), Nikon-Keido-Genten, Bessel

Tokyo 1918 (KR  $<\pm 2$ m), Nikon-Keido-Genten, Bessel

WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Sri Lanka (LK)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Sri Lanka Kandawala Transverse Mercator  
Sri Lanka SL\_GRID\_99 Transverse Mercator  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84  
Kandawala (LK 3Param.), Kandawala, Everest 1830/1937  
Kandawala (LK 7Param.), Kandawala, Everest 1830/1937  
SLD99 (LK), Diyatalawa, Everest 1830/1937  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Uzbekistan (UZ)

##### Coordinate Systems

Gauss-Krueger (6 degrees wide strips)  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

SC42 / S42 (UZ), Kitab Observatory, Krassowsky  
SC42 / S42 (KZ+UZ?  $<\pm 2\text{m}$ ), Pulkovo, Krassowsky  
SC42 / S42 (KZ+UZ?  $<\pm 25\text{m}$ ), Pulkovo, Krassowsky  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Vietnam (VN)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Vietnamese VN2000 coordinates (6 degrees strips)  
Vietnamese VN2000 coordinates (3 degrees strips)  
Vietnamese GK106NE Gauss-Krueger coordinates  
Vietnamese TM106NE Transverse Mercator coord.  
Gauss-Krueger (6 degrees wide strips)  
Gauss-Krueger coord. (3 degrees wide strips)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

VN2000 (VN), Hanoi, WGS84

Hanoi1972 (VN  $\leq \pm 5\text{m}$ ), Pulkovo, Krassowsky  
Indian1960 (VN, onshore), Kalianpur, Everest 1830/1937  
Indian1960 (VN, Con Son Isl.), Kalianpur, Everest 1830/1937  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72BE (Worldwide), geocentric, WGS72  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Multinational Coordinate Systems

### Coordinate Systems

UTM coordinates (northern hemisphere)  
UTM coordinates (southern hemisphere)  
UTMref (MGRS) (Meter grid mesh)  
Gauss-Krueger coord. (3 degrees wide strips)  
Gauss-Krueger (6 degrees wide strips)  
Geographic coordinates (Greenwich) [sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
WGS72BE (Worldwide), geocentric, WGS72  
PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90  
Pulkovo1995 (EU-E/AS[FSU] 2008  $\leq \pm 1\text{m}$ ), Pulkovo, Krassowsky  
Pulkovo1942 (EU-E/AS[FSU] 2008  $\leq \pm 3\text{m}$ ), Pulkovo, Krassowsky  
Pulkovo1995 (EU-E/AS[FSU] no\_defs), Pulkovo, Krassowsky  
Pulkovo1942 (EU-E/AS[FSU] no\_defs), Pulkovo, Krassowsky  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

--- Near East and Middle East -----

## Arabian Peninsula ((AE,BH,KW,OM,SA)

### Coordinate Systems

UTM coordinates (northern hemisphere)  
Saudi Arabian Aramco Lambert coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

Nahrwan 1967 (AE,AZ  $\leq \pm 5\text{m}$ ), South base, Clarke RGS  
Nahrwan 1967 (AE  $\leq \pm 25\text{m}$ ), South base, Clarke RGS  
Nahrwan 1967 (OM  $\leq \pm 25\text{m}$ ), South base, Clarke RGS  
Nahrwan 1967 (SA  $\leq \pm 20\text{m}$ ), South base, Clarke RGS  
Ain el Abd 1970 (SA  $\leq \pm 10\text{m}$ ), Ain el Abd, Hayford/Int.  
Ain el Abd 1970 (BA  $\leq \pm 25\text{m}$ ), Ain el Abd, Hayford/Int.  
Ain el Abd 1970 (KW  $\leq \pm 1\text{m}$ ), Ain el Abd, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file

## Target Reference System in an arbitrary NTv2 file

### Israel (IL)

#### Coordinate Systems

- UTM coordinates (northern hemisphere)
- Israelian ITM (new) Transverse Mercator coordinates
- Israelian ICS (old) Grid Cassini-Soldner coordinates
- Israelian Palestine Grid Cassini-Soldner coord.
- Israelian Palestine Belt Transv. Mercator coord.
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- WGS84 (Worldwide GPS), geocentric, WGS84
- Israel New Datum 1989 (IL  $<\pm 2\text{m}$ ), Urim 3Par, GRS80
- Israel Old Datum 1923 (IL  $<\pm 10\text{m}$ ), Jerus. 3Par, Clarke Ben.
- Israel New Datum 1989 (IL), Urim 7Par., GRS80
- Israel Old Datum 1923 (IL), Jerusalem 7Par, Clarke Ben.
- ED50 (IL onshore), U.S. DMA 1993, Hayford/Int.
- ED50 (IL offshore), TPAO 1987, Hayford/Int.
- WGS72 (Worldwide), geocentric, WGS72
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### Lebanon (LB)

#### Coordinate Systems

- UTM coordinates (northern hemisphere)
- Syrian Levant Stereographic Coordinates (SY/LB)
- Syrian Lambert Coordinates (SY/LB)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- Deir ez Zor (LB  $<\pm 1\text{m}$ ), Deir, Clarke IGN
- Deir ez Zor (SY/LB  $<\pm 5\text{m}$ ), Deir, Clarke IGN
- Deir Ez Zor (LB NTv2 LB\_DeirEzZor  $<\pm 0.5\text{m}$ ), Deir, Clarke IGN
- WGS84 (LB NTv2 LB\_DeirEzZor  $<\pm 0.5\text{m}$ ), geocentric, WGS84
- Bekaa Valley 1920 (LB), Bekaa Valley, Clarke RGS
- WGS84 (Worldwide GPS), geocentric, WGS84
- Source Reference System in an arbitrary NTv2 file
- Target Reference System in an arbitrary NTv2 file

### Syria (SY)

#### Coordinate Systems

- UTM coordinates (northern hemisphere)
- Syrian Levant Stereographic Coordinates (SY/LB)
- Syrian Lambert Coordinates (SY/LB)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems



Deir ez Zor (SY/LB  $\leq \pm 5\text{m}$ ), Deir, Clarke IGN  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## Multinational Coordinate Systems

### Coordinate Systems

UTM coordinates (northern hemisphere)  
UTM coordinates (southern hemisphere)  
UTMref (MGRS) (Meter grid mesh)  
Geographic coordinates (Greenwich) [sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
WGS72BE (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

--- African continent -----

## French Mayotte (YT)

### Coordinate Systems

UTM coordinates (southern hemisphere)  
Geographic coordinates (Greenwich) [gon]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

RGM04 (YT), geocentric, GRS80  
Combani1950 (YT), Base Combani I, Hayford/Int.  
Cadastre1997 (YT), Base Combani I, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## French Réunion (RE)

### Coordinate Systems

UTM coordinates (southern hemisphere)  
French Réunion Gauss-Laborde coordinates  
Geographic coordinates (Greenwich) [gon]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

RGR92 (RE), geocentric, GRS80  
PdN (RE), Piton des Neiges, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file

## Target Reference System in an arbitrary NTV2 file

### Mauritius (MU)

#### Coordinate Systems

Mauritius Grid 2012 LGM2012 Lambert (2SP) coordinates

Mauritius Grid 1994 Le Pouce Lambert (1SP) coordinates

Rodrigues Transversal Mercator coordinates

UTM coordinates (southern hemisphere)

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

GDM 2008 (MU  $<\pm 1\text{m}$ ), geocentric, WGS84

Le Pouce 1934 (MU 7Par 2008  $<\pm 1\text{m}$ ), Le Pouce, Clarke RGS

Le Pouce 1934 (MU 3Par 2008  $<\pm 1\text{m}$ ), Le Pouce, Clarke RGS

Le Pouce 1934 (MU 3Par 1994  $<\pm 2\text{m}$ ), Le Pouce, Clarke RGS

Rodrigues (MU no\_defs), Le Pouce, Clarke RGS

WGS84 (Worldwide GPS), geocentric, WGS84

Source Reference System in an arbitrary NTV2 file

Target Reference System in an arbitrary NTV2 file

### Morocco (MA)

#### Coordinate Systems

UTM coordinates (northern hemisphere)

Moroccan Lambert 1SP Zone 1 (Nord Maroc)

Moroccan Lambert 1SP Zone 2 (Sud Maroc)

Moroccan Lambert 1SP Zone 3 (Sahara Nord)

Moroccan Lambert 1SP Zone 4 (Sahara Sud)

Moroccan Lambert 2SP Zone I (Nord Maroc)

Moroccan Lambert 2SP Zone II (Sud Maroc, Agadir)

Moroccan Lambert 2SP Zone III (Sahara Nord, La'youn)

Moroccan Lambert 2SP Zone IV ((Sahara Sud, Ad-Dakhla)

Moroccan Lambert Impetus coordinates

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

Merchich (MA), Merchich, Clarke IGN

WGS84 (Worldwide GPS), geocentric, WGS84

Source Reference System in an arbitrary NTV2 file

Target Reference System in an arbitrary NTV2 file

### South Afrika (ZA)

#### Coordinate Systems

UTM coordinates (southern hemisphere)

South African Lo17 Transverse Mercator

South African Lo19 Transverse Mercator

South African Lo21 Transverse Mercator

South African Lo23 Transverse Mercator

South African Lo25 Transverse Mercator

South African Lo27 Transverse Mercator

- South African Lo29 Transverse Mercator
- South African Lo31 Transverse Mercator
- South African Lo33 Transverse Mercator
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

#### Reference Systems

- Hartebeesthoek94 (ZA), geocentric, WGS84
- Cape (ZA), Buffelsfontein, Clarke Arc 1880
- WGS84 (Worldwide GPS), geocentric, WGS84
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

#### Multinational Coordinate Systems

##### Coordinate Systems

- Africa Albers Equal Area Conic coordinates
- UTM coordinates (northern hemisphere)
- UTM coordinates (southern hemisphere)
- UTMref (MGRS) (Meter grid mesh)
- Geographic coordinates (Greenwich) [sec]
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

##### Reference Systems

- WGS84 (Worldwide GPS), geocentric, WGS84
- WGS72 (Worldwide), geocentric, WGS72
- WGS72BE (Worldwide), geocentric, WGS72
- PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90
- Source Reference System in an arbitrary NTV2 file
- Target Reference System in an arbitrary NTV2 file

--- Australian continent -----

#### Australia (AU) General

##### Coordinate Systems

- MGA2020 (UTM) - Map Grid of Australia (AU) Transv. Merc.
- MGA94 (UTM) - Map Grid of Australia (AU) Transv. Merc.
- AMG (UTM) - Australian Map Grid (AU) Transv. Mercator
- ANG - Australian National Grid (yards) coord.
- PSMA (AU) Lambert Conformal Conic coordinates
- GALCC (AU) Lambert Conformal Conic coordinates
- AUS (AU) Albers Equal Area coordinates
- ACRESLC (AU) Lambert Conformal Conic coordinates
- UTM coordinates (southern hemisphere)
- UTMref (MGRS) (Meter grid mesh)
- Geographic coordinates (Greenwich) [sec]
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates

##### Reference Systems

- GDA2020 (AU  $\leq \pm 1\text{m}$ ), geocentric, GRS80

GDA94 (AU  $\leq \pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU NTv2 GDA94\_GDA2020\_C  $\leq \pm 10\text{cm}$ ), geoc., GRS80  
GDA2020 (AU NTv2 GDA94\_GDA2020\_C  $\leq \pm 10\text{cm}$ ), geoc., GRS80  
GDA94 (AU NTv2 GDA94\_GDA2020\_CD  $\leq \pm 10\text{cm}$ ), geoc., GRS80  
GDA2020 (AU NTv2 GDA94\_GDA2020\_CD  $\leq \pm 10\text{cm}$ ), geoc., GRS80  
GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTv2 A66\_NAT  $\leq \pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A66\_NAT  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTv2 A84\_NAT  $\leq \pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A84\_NAT  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $\leq \pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $\leq \pm 1\text{m}$ ), Johnston, ANS  
AGD84 Higgins (AU  $\leq \pm 4\text{m}$ ), Johnston, ANS  
AGD66 (AU  $\leq \pm 1\text{m}$ ), Johnston, ANS  
ANG Australian National Grid (AU  $\leq \pm 80\text{m}$ ), 3P, Clarke 1858  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Australia Capital Territory (AU-ACT)

##### Coordinate Systems

ACT SGC (AU) Transverse Mercator coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTv2 A66\_NAT  $\leq \pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A66\_NAT  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTv2 A84\_NAT  $\leq \pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A84\_NAT  $\leq \pm 0.5\text{m}$ ), geocentric, GRS80  
GDA94 (AU  $\leq \pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $\leq \pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $\leq \pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU  $\leq \pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Australia Northern Territory (AU-NT)

##### Coordinate Systems

Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

## Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD66 (AU-NT), Johnston, ANS  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $<\pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
AGD66 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Australia New South Wales (AU-NSW)

### Coordinate Systems

GDA (AU-NSW) Lambert Conformal Conic coordinates  
ISG - Integrated Survey Grid (AU-NSW) coordinates  
NSW (AU-NSW) Lambert Conformal Conic coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD66 (AU-VIC/NSW), Johnston, ANS  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $<\pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## Australia South Australia (AU-SA)

### Coordinate Systems

SA (AU) Lambert Conformal Conic coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTV2 A66\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTV2 A66\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTV2 A84\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTV2 A84\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $<\pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Australia Queensland (AU-QLD)

##### Coordinate Systems

BCSG02 (AU) Transverse Mercator coordinates  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTV2 A66\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTV2 A66\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTV2 A84\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTV2 A84\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $<\pm 5\text{m}$ ), geocentric, GRS80  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Australia Tasmania (AU-TAS)

##### Coordinate Systems

ANG - Australian Nat. Grid (AU-TAS, yards) coord.  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80

GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
ANG Australian National Grid (AU  $<\pm 80\text{m}$ ), 3P, Clarke 1858  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $<\pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-TAS), Johnston, ANS  
AGD66 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Australia Victoria (AU-VIC)

##### Coordinate Systems

VICGRID94 (AU-VIC) Lambert Conformal Conic coord.  
VICGRID66 (AU-VIC) Lambert Conformal Conic coord.  
VICGRID-TM / Pseudo-AMG (AU-VIC) Transv. Merc.  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $<\pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

#### Australia Western Australia (AU-WA)

##### Coordinate Systems

PCG2020 - Perth Coastal Grid (AU-WA) Transv. Mercator  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80

GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
AGD66 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A66\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
AGD84 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), Johnston, ANS  
GDA94 (AU NTv2 A84\_NAT  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
GDA94 (AU  $<\pm 1\text{m}$ ), geocentric, GRS80  
GDA94 (AU =WGS84=  $<\pm 5\text{m}$ ), geocentric, GRS80  
AGD84 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU  $<\pm 1\text{m}$ ), Johnston, ANS  
AGD66 (AU-ACT), Johnston, ANS  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## GPS Measurements - ITRS epochs

### Coordinate Systems

Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
MGA94 (UTM) - Map Grid of Australia (AU) Transv. Merc.  
UTM coordinates (southern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Cartesian coordinates

### Reference Systems

GDA2020 (AU ITRS epoch 2020), GRS80  
ITRS (AU GPS measurements epoch 2018), WGS84  
ITRS14 (AU GPS measurements epoch 2014), WGS84  
ITRS15 (AU GPS measurements epoch 2015), WGS84  
ITRS16 (AU GPS measurements epoch 2016), WGS84  
ITRS17 (AU GPS measurements epoch 2017), WGS84  
ITRS18 (AU GPS measurements epoch 2018), WGS84  
ITRS19 (AU GPS measurements epoch 2019), WGS84  
ITRS20 (AU GPS measurements epoch 2020), WGS84  
ITRS21 (AU GPS measurements epoch 2021), WGS84  
ITRS22 (AU GPS measurements epoch 2022), WGS84  
ITRS23 (AU GPS measurements epoch 2023), WGS84  
ITRS24 (AU GPS measurements epoch 2024), WGS84  
ITRS25 (AU GPS measurements epoch 2025), WGS84  
GDA2020 (AU fixed for GPS epoch 2017), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2018), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2019), geocentric, GRS80  
GDA2020 (AU fixed for GPS epoch 2020), geocentric, GRS80  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTv2 file  
Target Reference System in an arbitrary NTv2 file

## New Zealand (NZ)

### Coordinate Systems

UTM coordinates (southern hemisphere)  
New Zealand NZTM2000 Transverse Mercator coord.  
New Zealand oi-CITM2000 Chatham Isl. TM coord.  
New Zealand Circuit 2000 Chatham Isl. TM coord.  
New Zealand oi-AKTM2000 Auckland Isl. TM coord.



New Zealand oi-CATM2000 Campbell Isl. TM coord.  
 New Zealand oi-AITM2000 Antipodes Isl. TM coord.  
 New Zealand oi-RITM2000 Raoul Isl. Transv. Merc. coord.  
 New Zealand mc-EDENTM2000 Transverse Mercator  
 New Zealand mc-PLENTM2000 Transverse Mercator  
 New Zealand mc-POVETM2000 Transverse Mercator  
 New Zealand mc-HAWKTM2000 Transverse Mercator  
 New Zealand mc-TARATM2000 Transverse Mercator  
 New Zealand mc-TUHITM2000 Transverse Mercator  
 New Zealand mc-WANGTM2000 Transverse Mercator  
 New Zealand mc-WAIRTM2000 Transverse Mercator  
 New Zealand mc-WELLTM2000 Transverse Mercator  
 New Zealand mc-COLLTM2000 Transverse Mercator  
 New Zealand mc-NELSTM2000 Transverse Mercator  
 New Zealand mc-KARATM2000 Transverse Mercator  
 New Zealand mc-BULLTM2000 Transverse Mercator  
 New Zealand mc-GREYTM2000 Transverse Mercator  
 New Zealand mc-AMURTM2000 Transverse Mercator  
 New Zealand mc-MARLTM2000 Transverse Mercator  
 New Zealand mc-HOKITM2000 Transverse Mercator  
 New Zealand mc-OKARTM2000 Transverse Mercator  
 New Zealand mc-JACKTM2000 Transverse Mercator  
 New Zealand mc-PLEATM2000 Transverse Mercator  
 New Zealand mc-GAWLTM2000 Transverse Mercator  
 New Zealand mc-TIMATM2000 Transverse Mercator  
 New Zealand mc-LINDTM2000 Transverse Mercator  
 New Zealand mc-NICHTM2000 Transverse Mercator  
 New Zealand mc-YORKTM2000 Transverse Mercator  
 New Zealand mc-OBSETM2000 Transverse Mercator  
 New Zealand mc-TAIETM2000 Transverse Mercator  
 New Zealand mc-BLUFTM2000 Transverse Mercator  
 New Zealand NZCS2000 Contin. Shelf Lambert coord.  
 New Zealand DGLC2000 Darwin Glacier Lambert coord.  
 New Zealand CITM1979 Chatham Isl. Transv. Merc. coord.  
 New Zealand NIYG1949 North Island Transv. Merc. coord.  
 New Zealand SIYG1949 South Island Transv. Merc. coord.  
 New Zealand Mercator 41 coordinates  
 New Zealand NIWA Albers Equal Area coordinates  
 Geographic coordinates (Greenwich) [deg]  
 Geographic coordinates (Greenwich) [deg,min]  
 Geographic coordinates (Greenwich) [deg,min,sec]  
 Cartesian coordinates

#### Reference Systems

NZGD2000 (NZ), geocentric, GRS80  
 NZGD2000 (NZ NTv2 NZGD2KGR  $<\pm 0.5\text{m}$ ), geocentric, GRS80  
 NZGD1949 (NZ NTv2 NZGD2KGR  $<\pm 0.5\text{m}$ ), Papatahi, Hayford/Int.  
 RSRGD2000 (NZ, Ross Sea Reg.), geocentric, GRS80  
 CIGD1979 (NZ Chatham Isl.  $<\pm 2\text{m}$ ), Astro, Hayford/Int.  
 CIGD1971 (NZ Chatham Isl.  $<\pm 15\text{m}$ ), Astro, Hayford/Int.  
 NZGD1949 (NZ  $<\pm 4\text{m}$  7Par), Papatahi, Hayford/Int.  
 NZGD1949 (NZ  $<\pm 5\text{m}$ , 3Par), Papatahi, Hayford/Int.  
 WGS84 (Worldwide GPS), geocentric, WGS84  
 WGS72 (Worldwide), geocentric, WGS72  
 Source Reference System in an arbitrary NTv2 file

## Target Reference System in an arbitrary NTv2 file

### Multinational Coordinate Systems

#### Coordinate Systems

PDC (Pazific) Mercator coordinates

Geographic coordinates (Greenwich) [sec]

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

WGS72BE (Worldwide), geocentric, WGS72

NAD83(NSRS MA11) (US), geocentric, GRS80

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

--- Polynesia, Indonesia, Micronesia -----

### French Polynesia (PF)

#### Coordinate Systems

UTM coordinates (southern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

RGPF (PF  $\pm 0.5$ m), geocentric, GRS80

Tahiti52 (PF Tahiti  $\pm 10$ m), Tahiti, Hayford/Int.

Tahiti79 (PF Tahiti  $\pm 1$ m), Tahiti, Hayford/Int.

Tahaa54 (PF Tahaa  $\pm 1$ m), Tahaa, Hayford/Int.

Fatulva72 (PF Fatu [H]iva  $\pm 2$ m), Fatu Huku, Hayford/Int.

Moorea87 (PF Moorea  $\pm 1$ m), Tahiti, Hayford/Int.

Maupiti83 (PF Maupiti  $\pm 1$ m), Pitiahe, Hayford/Int.

IGN63 (PF Hiva Oa  $\pm 1$ m), Atuona, Hayford/Int.

IGN72 (PF Nuku Hiva  $\pm 1$ m), Taiohae, Hayford/Int.

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

Source Reference System in an arbitrary NTv2 file

Target Reference System in an arbitrary NTv2 file

### Guam (US-GU)

#### Coordinate Systems

Guam Map Grid Transverse Mercator coordinates

UTM coordinates (northern hemisphere)

Geographic coordinates (Greenwich) [deg]

Geographic coordinates (Greenwich) [deg,min]

Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

#### Reference Systems

NAD83(NSRS MA11) (US), geocentric, GRS80

NAD83(HARN) (US-GU NTv2 GUHPGN  $\pm 0.1$ m), geocentric, GRS80

NAD83 (US-GU NTv2 GUHPGN  $\pm 0.1$ m), geocentric, GRS80

Guam1963 (US-GU  $\pm 3\text{m}$ ), Tagcha, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Philippines (PH)

##### Coordinate Systems

UTM coordinates (northern hemisphere)  
Philippines PTM zone I Transverse Mercator coord.  
Philippines PTM zone II Transverse Mercator coord.  
Philippines PTM zone III Transverse Mercator coord.  
Philippines PTM zone IV Transverse Mercator coord.  
Philippines PTM zone V Transverse Mercator coord.  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

PRS92 (PH), Balanacan, Clarke  
Luzon1911 (PH, excl. Mindanao  $<\pm 10\text{m}$ ), Balanacan, Clarke  
Luzon1911 (PH, Mindanao  $<\pm 25\text{m}$ ), Balanacan, Clarke  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Singapore (SG)

##### Coordinate Systems

Singapore SVY21 Transverse Mercator  
Singapore Grid Cassini-Soldner coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

Kertau 1968 (MY,SG), Kertau, Everest 1830/Mod.  
SVY21 (SG), Base7, WGS84  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

#### Taiwan (TW)

##### Coordinate Systems

Taiwan TM2 zone 119 Transverse Mercator coordinates  
Taiwan TM2 zone 121 Transverse Mercator coordinates  
UTM coordinates (northern hemisphere)  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

##### Reference Systems

TWD97 (TW  $<\pm 1\text{m}$ ), geocentric, GRS80  
TWD67 (TW), Hu Tzu Shan, GRS67 modified

Hu Tzu Shan 1950 (TW  $\pm 15\text{m}$ ), Hu Tzu Shan, Hayford/Int.  
WGS84 (Worldwide GPS), geocentric, WGS84  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

## Multinational Coordinate Systems

### Coordinate Systems

UTM coordinates (northern hemisphere)  
UTM coordinates (southern hemisphere)  
UTMref (MGRS) (Meter grid mesh)  
Geographic coordinates (Greenwich) [sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]  
Cartesian coordinates

### Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84  
WGS72 (Worldwide), geocentric, WGS72  
WGS72BE (Worldwide), geocentric, WGS72  
Source Reference System in an arbitrary NTV2 file  
Target Reference System in an arbitrary NTV2 file

--- Worldwide systems -----

## International Coordinate Systems

### Coordinate Systems

UTM coordinates (northern hemisphere)  
UTM coordinates (southern hemisphere)  
UTMref (MGRS) (Centimeter grid mesh)  
UTMref (MGRS) (Meter grid mesh)  
UTMref (MGRS) (10 meter grid mesh)  
UTMref (MGRS) (100 meter grid mesh)  
UTMref (MGRS) (Kilometer grid mesh)  
UTM Grid Coordinates (Meter grid mesh)  
World Mercator coordinates  
Gauss-Krueger coord. (3 degrees wide strips)  
Gauss-Krueger (6 degrees wide strips)  
Plate Carrée EquiRectangular coordinates  
Gall Isographic coordinates  
PDC (Pazific) Mercator coordinates  
(Google) Plus Code / Open Location Code (8+7 Center)  
(Google) Plus Code / Open Location Code (8+7 SW-Corner)  
(Google) Plus Code / Open Location Code (8+2 Center)  
(Google) Plus Code / Open Location Code (8+2 SW-Corner)  
(Google) Plus Code / Open Location Code (2/4 Center)  
(Google) Plus Code / Open Location Code (2/4 SW-Corner)  
NAC-Code [(c) NAC Geographic Products Inc.]  
GEOREF Code (Aircraft Navigation)  
QTH Code (Maidenhead)  
Geographic coordinates (Greenwich) [gon]  
Geographic coordinates (Greenwich) [sec]  
Geographic coordinates (Greenwich) [deg]  
Geographic coordinates (Greenwich) [deg,min]  
Geographic coordinates (Greenwich) [deg,min,sec]

Cartesian coordinates

## Reference Systems

WGS84 (Worldwide GPS), geocentric, WGS84

WGS72 (Worldwide), geocentric, WGS72

WGS72BE (Worldwide), geocentric, WGS72

PZ-90 Roßbach 2000 (Worldwide GLONASS), geoc., PZ-90

PZ-90 Roßbach 1996 (Worldwide GLONASS), geoc., PZ-90

PZ-90 Misra 1996 (Worldwide GLONASS), geoc., PZ-90

GRS80a Authalic Sphere (Worldwide), geocentric, Sphere

Source Reference System in an arbitrary NTV2 file

Target Reference System in an arbitrary NTV2 file

## Google/OSM World/Pixel/Tile Coordinates

### Coordinate Systems

Google Spherical Mercator coordinates

Google World Coordinates, Range 0-256

Google Pixel Coordinates Zoom Factor 0

Google Pixel Coordinates Zoom Factor 1

Google Pixel Coordinates Zoom Factor 2

Google Pixel Coordinates Zoom Factor 3

Google Pixel Coordinates Zoom Factor 4

Google Pixel Coordinates Zoom Factor 5

Google Pixel Coordinates Zoom Factor 6

Google Pixel Coordinates Zoom Factor 7

Google Pixel Coordinates Zoom Factor 8

Google Pixel Coordinates Zoom Factor 9

Google Pixel Coordinates Zoom Factor 10

Google Pixel Coordinates Zoom Factor 11

Google Pixel Coordinates Zoom Factor 12

Google Pixel Coordinates Zoom Factor 13

Google Pixel Coordinates Zoom Factor 14

Google Pixel Coordinates Zoom Factor 15

Google Pixel Coordinates Zoom Factor 16

Google Pixel Coordinates Zoom Factor 17

Google Pixel Coordinates Zoom Factor 18

Google Pixel Coordinates Zoom Factor 19

Google Pixel Coordinates Zoom Factor 20

Google Pixel Coordinates Zoom Factor 21

Google Pixel Coordinates Zoom Factor 22

Google Pixel Coordinates Zoom Factor 23

Google Tiles Coordinates Zoom Factor 0

Google Tiles Coordinates Zoom Factor 1

Google Tiles Coordinates Zoom Factor 2

Google Tiles Coordinates Zoom Factor 3

Google Tiles Coordinates Zoom Factor 4

Google Tiles Coordinates Zoom Factor 5

Google Tiles Coordinates Zoom Factor 6

Google Tiles Coordinates Zoom Factor 7

Google Tiles Coordinates Zoom Factor 8

Google Tiles Coordinates Zoom Factor 9

Google Tiles Coordinates Zoom Factor 10

Google Tiles Coordinates Zoom Factor 11

Google Tiles Coordinates Zoom Factor 12

Google Tiles Coordinates Zoom Factor 13

- Google Tiles Coordinates Zoom Factor 14
- Google Tiles Coordinates Zoom Factor 15
- Google Tiles Coordinates Zoom Factor 16
- Google Tiles Coordinates Zoom Factor 17
- Google Tiles Coordinates Zoom Factor 18
- Google Tiles Coordinates Zoom Factor 19
- Google Tiles Coordinates Zoom Factor 20
- Google Tiles Coordinates Zoom Factor 21
- Google Tiles Coordinates Zoom Factor 22
- Google Tiles Coordinates Zoom Factor 23
- (Google) Plus Code / Open Location Code (8+7 Center)
- (Google) Plus Code / Open Location Code (8+7 SW-Corner)
- (Google) Plus Code / Open Location Code (8+2 Center)
- (Google) Plus Code / Open Location Code (8+2 SW-Corner)
- (Google) Plus Code / Open Location Code (2/4 Center)
- (Google) Plus Code / Open Location Code (2/4 SW-Corner)
- Geographic coordinates (Greenwich) [deg]
- Geographic coordinates (Greenwich) [deg,min]
- Geographic coordinates (Greenwich) [deg,min,sec]
- Cartesian coordinates
- Reference Systems
  - Google Spherical Mercator (weltweit), geocentric, WGS84
  - WGS84 (Worldwide GPS), geocentric, WGS84
  - Source Reference System in an arbitrary NTV2 file
  - Target Reference System in an arbitrary NTV2 file

#### GPS Measurements - ITRS epochs

- Coordinate Systems
  - Geographic coordinates (Greenwich) [deg]
  - Geographic coordinates (Greenwich) [deg,min]
  - Geographic coordinates (Greenwich) [deg,min,sec]
  - UTM coordinates (northern hemisphere)
  - UTM coordinates (southern hemisphere)
  - Cartesian coordinates
- Reference Systems
  - ITRF2014 [WGS84 G1934] (worldwide), geocentric, WGS84
  - ITRF2008 [WGS84 G1762] (worldwide), geocentric, WGS84
  - ITRF2005 [WGS84 G1674] (worldwide), geocentric, WGS84
  - ITRF2000 [WGS84 G1150] (worldwide), geocentric, WGS84
  - ITRF90 [WGS84 G730] (worldwide), geocentric, WGS84
  - WGS84 (Worldwide GPS), geocentric, WGS84
  - Source Reference System in an arbitrary NTV2 file
  - Target Reference System in an arbitrary NTV2 file

#### --- User definitions -----

- User-defined systems
  - Coordinate Systems
    - First user-defined Coordinate System
      - (must be defined by function setUserCoordSys1())
    - Second user-defined Coordinate System
      - (must be defined by function setUserCoordSys2())
  - Reference Systems
    - Standard Reference System
      - (see: Coordinate Systems / Standard RefSys)

User-defined geodetic Reference System

(must be defined by function setuserrefsys())

Without Reference System Transition on standard ellipsoids

Without Reference System Transition on user defined ellipsoids

Without Reference System Transition and Ellipsoid Transition

[End of List]

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