GeoNB Coordinate Transformation Service (CTS) 2.0

Quick Start Guide

The **GeoNB Coordinate Transformation Service (CTS)** is an online tool for transforming coordinates in the Province of New Brunswick. The GeoNB CTS can transform coordinates between the several datums and map projections that are common in New Brunswick:

Datums	Map Projections
• NAD27 – North American Datum of 1927 • ATS77 – Average Terrestrial System of 1977 • NAD83 (CSRS) – North American Datum of 1983 (Canadian Spatial Reference System) version 2.0 (epoch 1997.0)	• Geographic (Latitude and Longitude) • UTM (zone 19 and zone 20) • NB Stereographic Double

Coordinates can be entered from the keyboard or coordinates can be read from a data file in CSV format.

Entering data from the Keyboard

Here are some quick tips to get you started with the GeoNB CTS. Figure 1 shows a sample CTS screen with input from the keyboard:

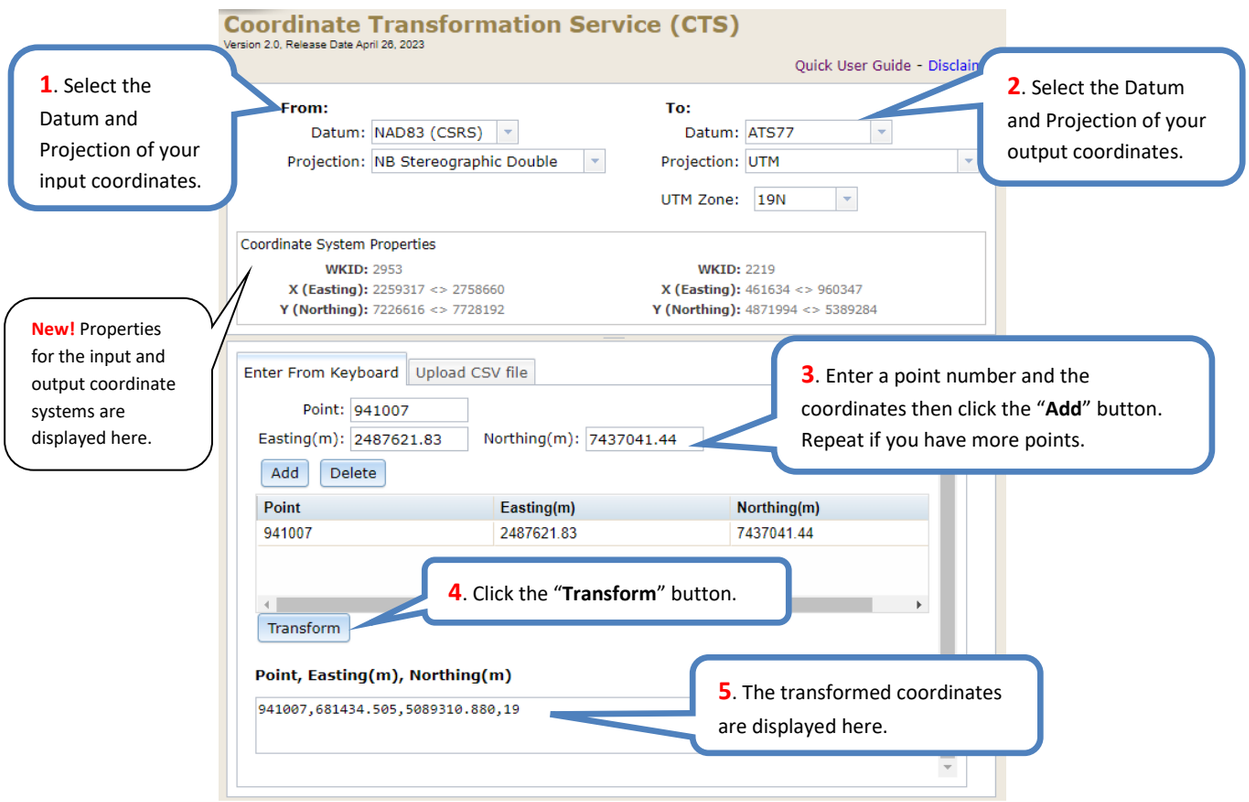

Figure 1 Enter from Keyboard

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Entering data from a CSV file

A CSV file is a "comma separated value" file. Your CSV file **must not include** a header row. The format of the CSV file varies based upon the map projection of the input data. The basic format of the CSV file is listed in the table below:

Input Map Projection	Format	Example
NB Stereographic Double	*Point number, Easting, Northing*	941007, 2487621.827, 7437041.438
Geographic (latitude, longitude) in Decimal Degrees	*Point number, Latitude, Latitude*	941007, 45.93344224, **-66.65961299**
Geographic (latitude, longitude) in Degrees, Minutes, Seconds	*Point number, Lat(deg), Lat(min), Lat(sec), Long(deg), Long(min), Long(sec)*	941007, 45, 56, 0.3921, **-66**, 39, 34.6067
Universal Transverse Mercator (UTM)	*Point number, Easting, Northing, Zone number*	941007, 681437.172, 5089315.856, 19

Note – all longitude values in New Brunswick are negative (west of the prime meridian).

Figure 2 shows a sample CTS screen with a CSV file upload:

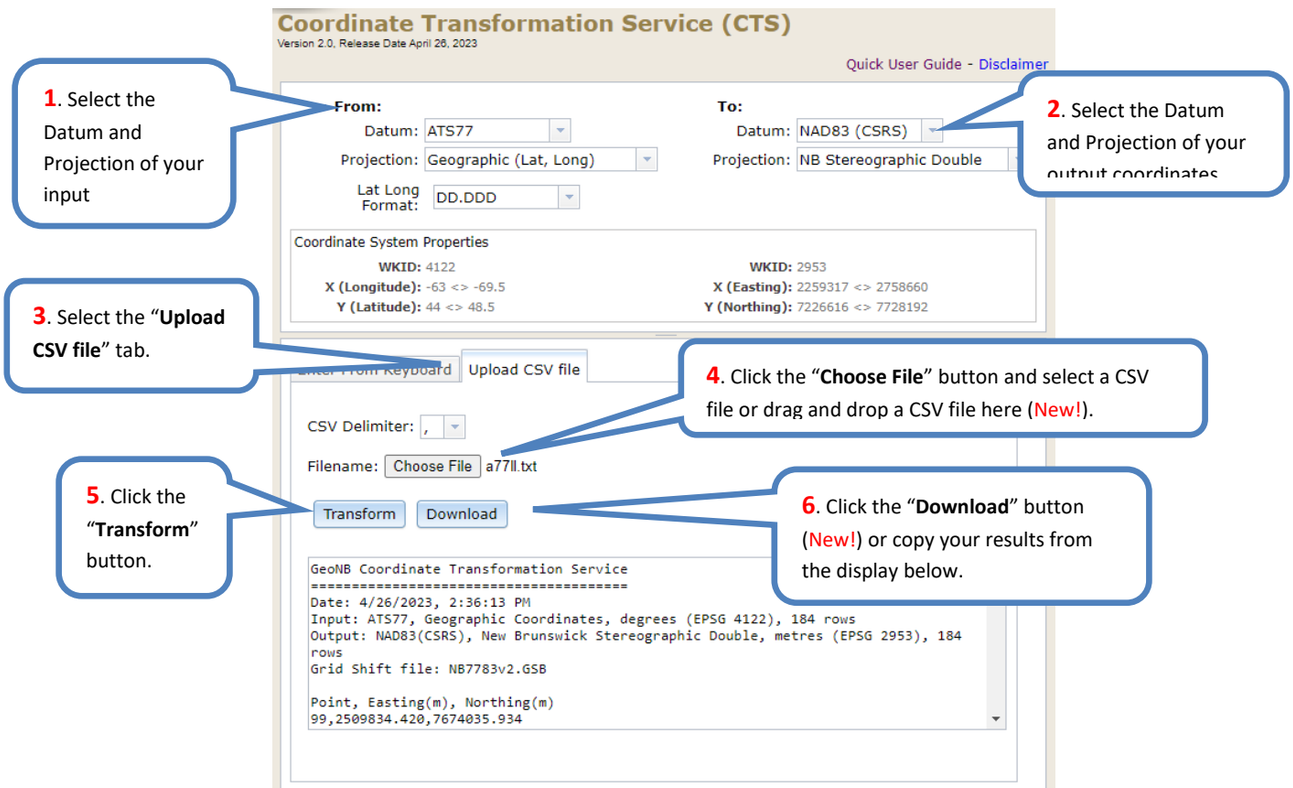

Figure 2 Upload CSV file

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Below is a sample output file:

```
GeoNB Coordinate Transformation Service
=======================================
Date: 4/26/2023, 2:36:13 PM
Input: ATS77, Geographic Coordinates, degrees (EPSG 4122), 184 rows
Output: NAD83(CSRS), New Brunswick Stereographic Double, metres (EPSG 2953), 184 rows
Grid Shift file: NB7783v2.GSB

Point, Easting(m), Northing(m)
99,2509834.420,7674035.934
536,2448519.614,7461824.961
644,2422297.767,7432333.946
688,2401339.407,7421407.768
785,2435532.163,7501265.500
983,2419588.091,7478359.185
…
```

The following coordinate systems (datum and map projection) are supported by the GeoNB CTS:

WKID (EPSG code)	Datum	Map Projection
5588	NAD 1927	New Brunswick Stereographic Double
26719	NAD 1927	UTM Zone 19T
26720	NAD 1927	UTM Zone 20T
4267	NAD 1927	Geographic (latitude and longitude)
2200	ATS 1977	New Brunswick Stereographic Double
2219	ATS 1977	UTM Zone 19T
2220	ATS 1977	UTM Zone 20T
4122	ATS 1977	Geographic (latitude and longitude)
2953	NAD 1983 (CSRS)	New Brunswick Stereographic Double
2960	NAD 1983 (CSRS)	UTM Zone 19T
2961	NAD 1983 (CSRS)	UTM Zone 20T
4617	NAD 1983 (CSRS)	Geographic (latitude and longitude)

The following datum transformations are supported by the GeoNB CTS:

WKID (EPSG code)	Datums	Method
1841	ATS 1977 < > NAD 1983 (CSRS)	NTv2
6209	NAD 1927 < > NAD 1983 (CSRS)	NTv2