

## Introducing the new GeoNB CTS application

As GeoNB expands from its initial implementation of a web-based map viewer to become “the portal to all things geographic in New Brunswick”, additional data and applications are continually being added.

The most recent addition is a new application for transforming coordinates in New Brunswick – the GeoNB Coordinate Transformation Service or GeoNB CTS. GeoNB CTS is capable of quickly transforming coordinates between the several datums and map projections commonly used in New Brunswick:

**Datums:** North American Datum of 1927 (NAD27), Average Terrestrial System of 1977 (ATS77), and North American Datum of 1983 - Canadian Spatial Reference System (NAD83 CSRS)

**Map Projections:** Geographic (latitude and longitude), Universal Transverse Mercator, and New Brunswick Stereographic Double

Service New Brunswick developed the GeoNB CTS as a replacement for its NB GeoCalc software. NB GeoCalc was first released in 1999 but it is not compatible with newer computers that use 64-bit operating systems like Microsoft Windows 7. In comparison, the GeoNB CTS is a web application that can be run on almost any computer or operating system that has a web browser and an Internet connection. Below is an image of the GeoNB CTS:

http://geonb.snb.ca/cts/index.html - Windows Internet Explorer provided by Service New Brunswick

http://geonb.snb.ca/cts/index.html

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### Coordinate Transformation Service (CTS)

Version 1.0, Release Date October 21, 2011

From: Datum: NAD27 Projection: NB Stereographic East, North

To: Datum: NAD83 (CSRS) Projection: Lat, Long

Lat Long Format: DD.DDD

Enter From Keyboard Upload CSV file

Point: 1

Easting(ft): 955715.24 Northing(ft): 1011266.78

Add Delete

| Point | Easting(ft) | Northing(ft) |
|-------|-------------|--------------|
| 1     | 955715.24   | 1011266.78   |

Transform

Point, Latitude, Longitude

1, 46.53080310, -66.67536441

The GeoNB CTS can accept input from the keyboard or from a file. More details are available in the Quick User Guide. Here are the links for the GeoNB CTS:

**Application:** <http://geonb.snb.ca/cts/index.html>

**Quick User Guide:** <http://geonb.snb.ca/cts/CTSuserQuickStartGuide.pdf>

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## GeoNB CTS as a web service

For users that require coordinate transformation capabilities within other applications GeoNB CTS can also be utilized as a web service. With minimal programming the web service can be easily called from other applications. To call the web service use the following URL format:

<http://geonb.snb.ca/CTS/WebServices/TransformWS/Transform.svc/Transform?inWKID=4122&outWKID=2200&coordinates=-66,45>

The parameters for the GeoNB CTS web service as seen in the URL above are as follows:

- **inWKID** – The well-known ID of the input coordinate system, e.g. **4122**
- **outWKID** - The well-known ID of the output coordinate system, e.g. **2200**
- **coordinates** – The comma separated list of coordinates to be transformed, e.g. **-66,45**

Tips:

1. Longitudes in New Brunswick must be entered as negative values;
2. Longitude must precede the latitude in a coordinate pair;
3. Easting must precede northing in a coordinate pair;
4. Multiple coordinate pairs can be included in the same URL;
5. URL length must not exceed 16384 characters.

The web service will provide an XML response in the following format:

```
<TransformResponse xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
  <Value>
    <Coordinate>
      <X>339426.535</X>
      <Y>633408.821</Y>
    </Coordinate>
  </Value>
</TransformResponse>
```

The WKID (also known as the EPSG codes) for New Brunswick are:

| WKID (EPSG code) | Datum | Map Projection                         |
|------------------|-------|--|
| 5588             | NAD27 | NB Stereographic Double                |
| 26719            | NAD27 | Universal Transverse Mercator zone 19T |
| 26720            | NAD27 | Universal Transverse Mercator zone 20T |
| 4267             | NAD27 | Geographic (Latitude and Longitude)    |
| 2200             | ATS77 | NB Stereographic Double                |
| 2219             | ATS77 | Universal Transverse Mercator zone 19T |
| 2220             | ATS77 | Universal Transverse Mercator zone 20T |
| 4122             | ATS77 | Geographic (Latitude and Longitude)    |
| 2953             | NAD83 | NB Stereographic Double                |
| 2960             | NAD83 | Universal Transverse Mercator zone 19T |
| 2961             | NAD83 | Universal Transverse Mercator zone 20T |
| 4617             | NAD83 | Geographic (Latitude and Longitude)    |

## Contact

For more information on GeoNB CTS or general questions about GeoNB, please contact Bernie Connors at [bernie.connors@snb.ca](mailto:bernie.connors@snb.ca) or (506) 444-2077.