

**FUGRO**

**Transformation Parameters Report**  
Regional Disaster Vulnerability Reduction Project  
Geodetic Control Survey

Fugro Document No.: 17028\_GeodeticTransformationReport  
Issue Date: 23 April 2018



Final Report



## FUGRO

### Transformation Parameters Report Regional Disaster Vulnerability Reduction Project Geodetic Control Survey

Fugro Document No.: 17028\_GeodeticTransformationReport  
Issue Date: 23 April 2018  
Final Report

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## **1. EXECUTIVE SUMMARY**

### **1.1 Main facts**

The GNSS observation campaign of 83 geodetic markers, which was carried out between the 20<sup>th</sup> of January 2018 and the 7<sup>th</sup> of February 2018, has led to an accurate determination of the positions and heights of these markers in datum Grenada2018 / ITRF2014 at epoch 2018.0 (see related report named GPS\_Data\_Processing\_Report).

These 83 geodetic markers include 33 pre-existing markers with known coordinates expressed in both historical Grenada 1953 and Grenada 1950 datums and 9 markers from the WGS84/NGPP datum (National Grid Pilot Project).

The computation of datum transformation parameters from historical to new geodetic datum follows four different possible approaches:

- A unique 3-parameter Helmert transformation to be applied in the entire Grenada territory,
- A unique 7-parameter Helmert transformation to be applied in the entire Grenada territory,
- A regular grid at 1 km spacing of 3-parameter Helmert transformation sets.
- A regular stretch-type planimetric transformation grid at 1 km spacing

The relevance of each approach is carefully assessed (distribution, orientation and magnitude of residuals) to retain the best transformation model.

The selected transformation parameters are presented in the following section.

### **1.2 Selected transformation models**

#### **1.2.1 Selected transformation parameters for existing Grenada 53 datum**

To convert existing Grenada 53 coordinates to the new Grenada 2018 datum (ITRF14 at epoch 2018.0), Fugro suggest using a single Helmert 3-parameter transformation, which is acceptable in first approximation. This simple transformation allows keeping a fair accuracy (mean planimetric residuals of 0.16 m, standard deviation of 0.07 m) all over the Grenada territory and avoids confusion on the different existing sign conventions.

Note that this transformation must be used in Grenada Island only. It cannot be applied on Carriacou and Green Islands area, where only two non-consistent existing points could be measured, as explained later in the report.

The transformation parameters computation was performed using 27 existing common points, whose coordinates are known in both Grenada 2018 and Grenada 1950 datums.

Final transformation parameters are presented in the next tables:

**Table 1: 3-Parameters transformation for Grenada Island area (From Grenada 53 to Grenada 2018)**

Parameter	Value	Stdev (m)
dX	71.494 m	0.13
dY	215.817 m	0.25
dZ	93.094 m	0.12

The inverse transformation can be obtained inverting the parameter signs.

**Table 2: 3-Parameters transformation for Grenada Island area (From Grenada 2018 to Grenada 53)**

Parameter	Value	Stdev (m)
dX	- 71.494 m	0.13
dY	- 215.817 m	0.25
dZ	- 93.094 m	0.12

**Table 3: Points horizontal and vertical post transformation residuals**

Point	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta Z$ (m)
G11	-0.081	0.049	0.095	0.315
G13	-0.130	-0.058	0.143	-0.187
G14	-0.090	-0.165	0.188	-0.493
G16	0.025	-0.196	0.198	-0.363
G25	0.120	0.039	0.126	-0.036
G26	0.002	0.115	0.115	-0.214
G3	-0.163	0.016	0.164	0.248
G5	-0.161	0.028	0.164	0.251
GS15	-0.096	-0.031	0.101	0.242
GS4	0.058	-0.115	0.129	-0.104
GS5	0.034	0.082	0.089	-0.131
GS7	0.375	-0.042	0.377	-0.136
GS8	-0.179	0.012	0.179	0.299
GT112	0.154	-0.062	0.166	-0.363
GT120	0.159	0.023	0.160	-0.269
GT126	0.173	0.003	0.173	0.079
GT137	0.198	0.005	0.198	-3.183
GT15	-0.113	-0.161	0.196	0.172
GT150	0.002	0.046	0.046	0.127
GT155	0.053	0.124	0.135	0.148
GT157	0.312	-0.080	0.322	-0.052
GT176	0.075	0.115	0.137	-0.305
GT199	0.161	0.022	0.162	-0.178
GT2	-0.135	0.078	0.156	0.257
GT21	-0.229	-0.035	0.231	-0.123
GT27	-0.144	0.046	0.151	0.190
GT30	-0.157	0.063	0.170	0.300
GT7	-0.019	0.090	0.092	0.327
GT75	-0.057	0.015	0.059	146.693
GT90	-0.132	0.089	0.160	259.093

The following table allows users to control the transformation computation results:

**Table 4: 3-parameters transformation control points (From Grenada 53 to Grenada 2018)**

G16 Grenada 53 official coordinates			
Point	Latitude	Longitude	Elevation(m)
G16	12° 4'52.2388"N	61°37'26.7560"W	81.930
G16 transformed points coordinates (Grenada 2018/ ITRF14@2018.0)			
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)
G16	12°4'51.6208"N	61°37'21.2844"W	45.841
G3 Grenada 53 official coordinates			
Point	Latitude	Longitude	Elevation(m)
G3	12°00'47.3969"N	61°45'25.1176"W	80.833
G3 transformed points coordinates (Grenada 2018/ ITRF14@2018.0)			
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)
G3	12°00'46.8009"N	61°45'19.6593"W	44.392

### 1.3 Selected transformation parameters for existing WGS84/NGPP datum

The most convenient datum transformation model between WGS84/NGPP datum and Grenada 2018 datum (ITRF2014 at epoch 2018.0) is a 3-parameter Helmert transformation. The accuracy of this transformation is adequate for all survey applications (mean planimetric residuals of 0.024 m, standard deviation of 0.016 m) and similar to its 7-parameter counterpart. The following tables show the final transformation parameters computed with the 9 available points.

**Table 5: 3-Parameters transformation model (From WGS84/NGPP to Grenada 2018)**

Parameter	Value	Stdev (m)
d X	-17.530 m	0.02
d Y	30.051 m	0.01
d Z	-9.433 m	0.02

The inverse transformation can be obtained inverting the parameter signs.

**Table 6: 3-Parameters transformation model (From Grenada 2018 to WGS84/NGPP)**

Parameter	Value	Stdev (m)
d X	17.530 m	0.02
d Y	-30.051 m	0.01
d Z	9.433 m	0.02

Table 7: Points horizontal and vertical post transformation residuals

Point	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta Z$ (m)
LAS006	0.009	0.004	0.010	0.025
LAS024	-0.025	0.016	0.030	-0.003
LAS031	-0.003	0.020	0.020	0.007
LAS046	0.001	0.037	0.037	0.007
LAS055	0.035	-0.047	0.058	0.007
LAS067	-0.008	0.000	0.008	-0.027
LAS077	0.005	-0.022	0.023	-0.002
LAS083	0.002	-0.011	0.011	-0.015
LAS092	-0.017	0.004	0.018	0.004

The following table allows users to control the transformation computation results:

Table 8: 3 parameters transformation test points (From Grenada 53 to Grenada 2018)

LAS006 WGS84/NGPP official coordinates			
Point	Latitude	Longitude	Elevation(m)
LAS006	12° 01'28.678997"N	61°45'21.828317"W	2.31
LAS006 transformed coordinates (Grenada 2018/ ITRF14@2018.0)			
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)
LAS006	12°01'28.6145"N	61°45'21.8687"W	-33.661
LAS055 WGS84/NGPP official coordinates			
Point	Latitude	Longitude	Elevation(m)
LAS055	12° 00'48.9855"N	61°43'33.0767"W	10.24
LAS055 transformed coordinates (Grenada 2018/ ITRF14@2018.0)			
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)
LAS055	12°00'48.9208"N	61°43'33.1165"W	-25.731

## **2. OBJECTIVE OF THIS DOCUMENT**

The purpose of this document is to provide geodetic transformation parameters between historical Grenada 1953 Datum and Grenada 2018 datum (ITRF2014 at epoch 2018.0), as well as between NGPP network local datum (WGS84/NGPP) and Grenada 2018 datum.

The report includes an accuracy assessment for selection of the best transformation models.

According to the SBD, 14 points from the existing network were to be used to compute the transformation parameters between Grenada 1953 and ITRF2014 datums; 9 NGPP points were to be used for computing transformation parameters between WGS84/NGPP datum and ITRF2014 one.

Finally, Fugro observed a total of 33 existing trig points, among them 28 were used for computation of transformation parameters (5 were considered as outliers). 9 NGPP points were observed; all of them were found consistent and used for the transformation calculations.

### 3. REFERENCES

#### 3.1 Client references

**Table 9: Client references**

Document Title	Revision
SBD Geodetic Survey	1
Contract Geodetic Control Survey Nov 2017	1
Analysis of Existing Network_171016	1
Preliminary CORS Recon_120817	1
Preliminary Network Design_201016	1
Proposal for Vertical Reference_211016	1
Specifications for connecting to ITRF_211016(1)	1

#### 3.2 Fugro internal references

**Table 10: Internal references**

Doc Reference	Revision	Document Title
PR17090	1	Fugro Proposal PR17090 – July 2017
PR17090_QAQC_Grenada_1.0	1	Project Quality Plan Regional Disaster Vulnerability Reduction Project (RDVRP)
AF17028_PQP_01	1	Transformation Parameters Report
AF17028_PEP_02	2	Project execution plan
AF17028_	1	Geodetic network computation report

#### 3.3 Definitions

##### Technical Related

- EGM 2008 : Earth Gravitational Model 2008
- GIS : Geographic Information System
- GNSS : Global Navigation Satellite System
- GPS : Global Positioning System
- NGPP : National Grid Pilot Project
- ITRF : International Terrestrial Reference Frame
- MSL : Mean Sea Level

## 4. METHODOLOGY

### 4.1 Clarification concerning geodetic datums Grenada 1950 and Grenada 1953

Prior to computing the different datum transformation models, it was necessary to review and clarify the geodetic datum history in Grenada Island. In the Standard Bidding Document, two versions of the historical datum are mentioned: Grenada 1950 and Grenada 1953. Grenada 1953 is the most documented, but some listings of coordinates are given in Grenada 1950 and some others are given in Grenada 1953.

The coordinates of 23 points are expressed in the two systems. They have their planimetric coordinates expressed in Grenada 1950 and their geographic coordinates expressed in Grenada 1953.

A comparison of the available coordinates expressed in the two systems did not show any difference at processing time, so all the provided markers coordinates were used considering they were referenced in a same and unique datum, with no loss of accuracy and a good coverage of the area of interest thanks to the combination of both networks. Actually, it was assumed that Grenada 53 was somehow a re-adjustment of Grenada 50 network, as with what has been done in many countries, and in most cases this doesn't lead to major changes except for a few locations.

### 4.2 Dataset

During the GNSS observation campaign 33 geodetic markers were observed from the existing trig network (30 points distributed on the Grenada Island, 1 on Carriacou Island and 2 on Green Island) and 9 geodetic markers from the NGPP (see **Erreur ! Source du renvoi introuvable.**).

Trig points located in Grenada Island area:

- G14, G25, GS15, GS5, G11, G13, G16, G26, G3, G5, GS4, GS7, GS8, GT112, GT120, GT126, GT137, GT150, GT155, GT157, GT176, GT199, GT2, GT7, GT15, GT21, GT27, GT30, GT75, GT90,

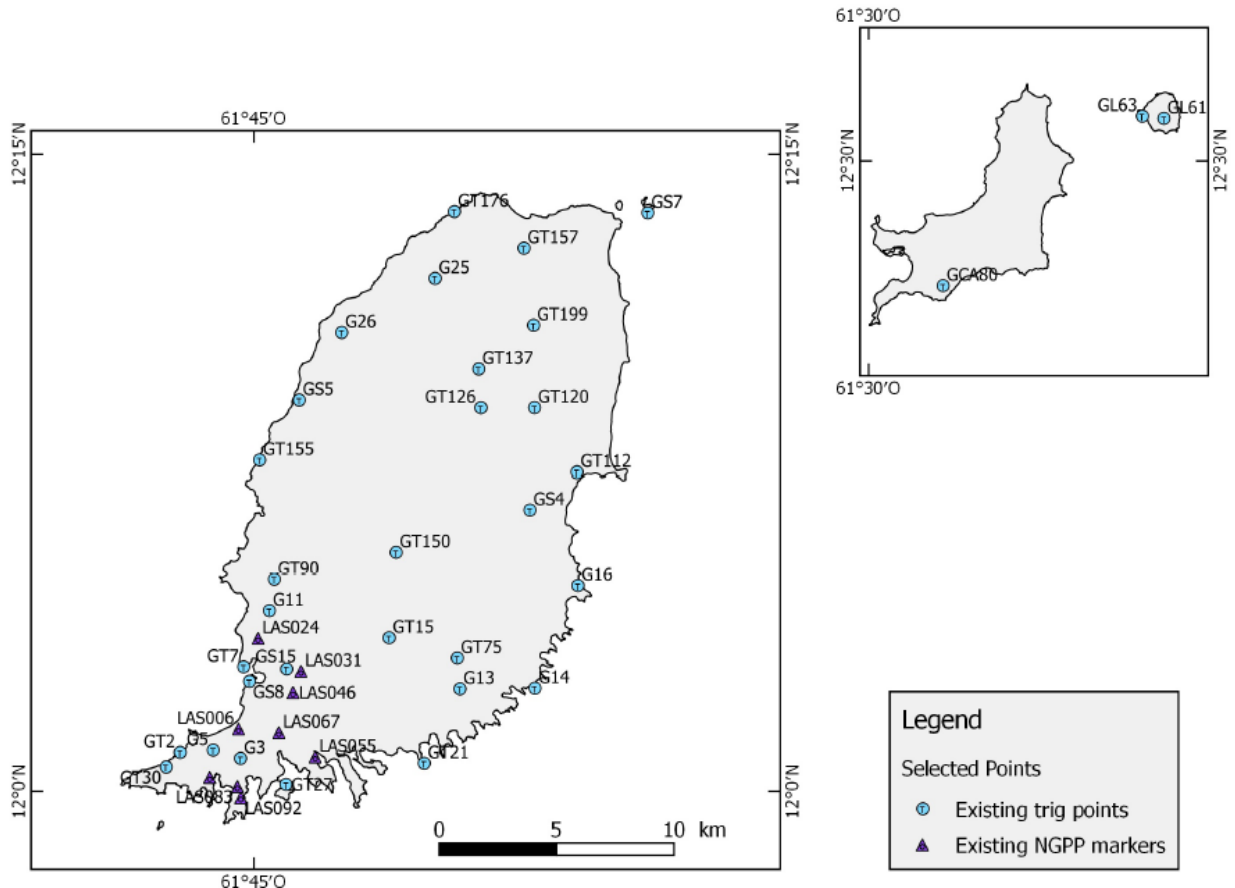
Trig points located in Carriacou Island area:

- GCA80 (Carriacou Island)
- GL61, GL63 (Green Island)

NGPP points located in Grenada Island area:

- LAS006, LAS024, LAS031, LAS046, LAS055, LAS067, LAS077, LAS083, LAS092.

All these points were used for the computation of the datum transformation parameters. The observation of more than 14 geodetic markers from the existing trig network allowed detecting and removing outliers.



**Figure 1 Existing geodetic markers observed during the GNSS observation campaign**

#### **4.3 Description of the transformation parameters computation approach**

Based on our experience of geodetic transformations worldwide, we have envisaged evaluating the following transformation models:

- A unique 3-parameter Helmert transformation to be applied in the entire Grenada territory.
- A unique 7-parameter Helmert transformation to be applied in the entire Grenada territory.
- A regular grid at 1 km spacing of 3-parameter Helmert transformation sets.
- A regular stretch-type planimetric transformation grid at 1 km spacing.

Each of these models is characterised by an area of interest, a range of investigation, a distribution of errors, hence an acceptance threshold and a number of outliers.

For selecting the most appropriate transformation model, the first step consisted of a rigorous geostatistical analysis of the existing trig point error distribution, which was carried out based on the network accurately determined with precise GNSS.

Such a geostatistical analysis highlighted the following parameters:

- Trig point positions standard error.
- Actual propagation of the triangulation spatial distortion parameters throughout the territory.

The best solutions were selected after an accuracy assessment based on the analysis of the residuals of the transformation in both magnitude and orientation.

**5. COMPUTATION OF THE TRANSFORMATION PARAMETERS – TRIG NETWORK**

**5.1 3-parameter transformation model in Grenada Island**

The simplest transformation model is a 3D translation to be applied on the geocentric coordinates.

Using all available points, transformation parameters showed very large and inconsistent residuals. GCA80 (Carriacou Island) and GL63 (Green Island) were found not consistent at all with the others network markers and were to be definitely removed from the transformation computation.

It must be highlighted that the following transformations can be used only in the Grenada Island area, excluding any other island.

At the same time, GT90, GT75 and GT137 markers showed a huge height difference and were removed from the calculations. Although their planimetric residuals after transformation were found acceptable, it was decided to remove them. GT90 and GT75 are located close (less to 1.5km) to G11 and G13 markers, respectively, which are historical main trig network markers and were used in the computations. GT137 is located in a cluster of three consistent markers (GT126, GT120 and GT199) used in the computations.

The transformations computed without using these six points allowed calculating a three parameter transformation usable in the three dimensions considering the transformation residuals magnitude (see Table 4), while keeping a good spatial distribution all over the Grenada territory. At the end the following transformation parameters computation was performed using 27 (twenty seven) common trig points, as shown on the following tables:

**Table 11: Trig points coordinates used for transformation parameters computation (Grenada 53 datum)**

<b>Grenada 1953 Datum</b>						
<b>Point</b>	<b>Geographical coordinates</b>		<b>Orthometric Height (m)</b>	<b>Cartesian Coordinates</b>		
	<b>Latitude</b>	<b>Longitude</b>		<b>X (m)</b>	<b>Y (m)</b>	<b>Z (m)</b>
G11	12°04'16.7596"N	61°44'44.2466"W	332.75	2953208.853	-5495182.318	1325069.393
G13	12°02'25.9198"N	61°40'13.9933"W	142.158	2960655.358	-5491770.326	1321698.919
G14	12°02'26.8984"N	61°38'27.7232"W	18.44	2963423.939	-5490132.237	1321702.518
G16	12°04'52.2388"N	61°37'26.7560"W	81.93	2964632.601	-5488489.690	1326082.961
G25	12°12'05.2217"N	61°40'49.3793"W	379.201	2958050.000	-5489191.857	1339152.252
G26	12°10'48.6304"N	61°43'01.7177"W	197.388	2954678.830	-5491369.747	1336813.462
G3	12°00'47.3969"N	61°45'25.1176"W	80.833	2952638.469	-5496732.704	1318725.335
G5	12°00'59.2119"N	61°46'03.9969"W	105.491	2951577.986	-5497243.824	1319085.547
GS15	12°02'54.0373"N	61°44'19.7409"W	229.453	2954065.326	-5495210.209	1322562.077
GS4	12°06'39.0275"N	61°38'34.8560"W	179.1	2962538.918	-5488946.718	1329311.730
GS5	12°09'12.9228"N	61°44'02.0266"W	134.782	2953337.642	-5492725.413	1333925.519
GS7	12°13'38.0744"N	61°35'47.6723"W	9.083	2965616.761	-5484010.039	1341862.466
GS8	12°02'36.5607"N	61°45'12.4938"W	48.841	2952629.254	-5495908.664	1321999.212
GT112	12°07'31.4461"N	61°37'28.0797"W	52.426	2964096.207	-5487580.870	1330859.895
GT120	12°09'02.2662"N	61°38'28.3779"W	148.438	2962257.748	-5488013.390	1333608.289

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GT126	12°09'02.1356"N	61°39'44.3924"W	425.501	2960364.025	-5489343.836	1333662.682
GT15	12°03'38.3365"N	61°41'54.5033"W	399.796	2957878.147	-5493025.175	1323928.837
GT150	12°05'39.1994"N	61°41'44.6025"W	548.64	2957842.372	-5492327.169	1327591.682
GT155	12°07'48.1102"N	61°44'58.1583"W	65.227	2952070.031	-5493951.851	1331363.183
GT157	12°12'48.0644"N	61°38'43.3265"W	89.611	2961137.383	-5486889.054	1340377.695
GT176	12°13'39.8402"N	61°40'21.8895"W	36.576	2958330.764	-5487961.345	1341921.315
GT199	12°10'58.8616"N	61°38'29.6916"W	237.134	2961905.330	-5487444.096	1337129.147
GT2	12°00'55.9684"N	61°46'50.8464"W	32.985	2950305.583	-5497869.876	1318972.975
GT21	12°00'40.5329"N	61°41'04.6971"W	7.654	2959562.906	-5492976.087	1318503.820
GT27	12°00'10.6031"N	61°44'20.6739"W	50.106	2954452.816	-5495990.635	1317613.149
GT30	12°00'35.2775"N	61°47'10.6232"W	46.33	2949847.155	-5498280.827	1318353.926
GT7	12°02'57.1547"N	61°45'20.7639"W	53.693	2952348.645	-5495914.886	1322619.065

**Table 12: Trig points coordinates used for transformation parameters computation (Grenada 2018 datum)**

<b>Grenada 2018 Datum (ITRF 2014 at epoch 2018.0)</b>						
<b>Point</b>	<b>Geographical coordinates</b>		<b>Ellipsoidal Height (m)</b>	<b>Cartesian Coordinates</b>		
	<b>Latitude</b>	<b>Longitude</b>		<b>X (m)</b>	<b>Y (m)</b>	<b>Z (m)</b>
G11	12°04'16.1484" N	61°44'38.7890" W	296.637	2953280.416	-5494966.801	1325162.601
G13	12°02'25.3124" N	61°40'08.5311" W	105.764	2960726.656	-5491554.420	1321791.917
G14	12°02'26.2869" N	61°38'22.2569" W	-18.176	2963495.140	-5489916.069	1321795.347
G16	12°04'51.6144" N	61°37'21.2836" W	45.478	2964703.966	-5488273.586	1326175.787
G25	12°12'04.5717" N	61°40'43.9066" W	342.876	2958121.578	-5488975.945	1339245.375
G26	12°10'47.9897" N	61°42'56.2525" W	160.789	2954750.215	-5491153.723	1336906.623
G3	12°00'46.8015" N	61°45'19.6647" W	44.639	2952709.932	-5496517.174	1318818.497
G5	12°00'58.6161" N	61°45'58.5449" W	69.269	2951649.451	-5497028.295	1319178.720
GS15	12°02'53.4299" N	61°44'14.2836" W	193.293	2954136.850	-5494994.651	1322655.190
GS4	12°06'38.3976" N	61°38'29.3837" W	142.844	2962610.426	-5488730.805	1329404.689
GS5	12°09'12.2889" N	61°43'56.5623" W	98.228	2953409.096	-5492509.451	1334018.665
GS7	12°13'37.4127" N	61°35'42.1828" W	-27.114	2965688.526	-5483793.935	1341955.487
GS8	12°02'35.9564" N	61°45'07.0405" W	12.698	2952700.727	-5495693.186	1322092.380
GT112	12°07'30.8134" N	61°37'22.6021" W	15.958	2964167.673	-5487364.679	1330952.851
GT120	12°09'01.6294" N	61°38'22.9013" W	112.009	2962329.255	-5487797.263	1333701.348
GT126	12°09'01.4986" N	61°39'38.9174" W	389.36	2960435.707	-5489128.004	1333755.794
GT15	12°03'37.7206" N	61°41'49.0428" W	363.676	2957949.636	-5492809.589	1324021.810
GT150	12°05'38.5805" N	61°41'39.1374" W	512.472	2957913.922	-5492111.452	1327684.847
GT155	12°07'47.4847" N	61°44'52.6952" W	28.916	2952141.628	-5493736.113	1331456.428
GT157	12°12'47.4064" N	61°38'37.8438" W	53.365	2961209.134	-5486673.059	1340470.698
GT176	12°13'39.1850" N	61°40'16.4167" W	-0.005	2958402.171	-5487745.208	1342014.455
GT199	12°10'58.2155" N	61°38'24.2143" W	200.783	2961976.881	-5487228.045	1337222.224
GT2	12°00'55.3748" N	61°46'45.3947" W	-3.267	2950377.069	-5497654.330	1319066.199
GT21	12°00'39.9349" N	61°40'59.2399" W	-28.706	2959634.144	-5492760.279	1318596.855
GT27	12°00'10.0112" N	61°44'15.2190" W	13.908	2954524.266	-5495775.041	1317706.327
GT30	12°00'34.6851" N	61°47'05.1728" W	10.107	2949918.643	-5498065.331	1318447.145
GT7	12°02'56.5513" N	61°45'15.3054" W	17.57	2952420.265	-5495699.342	1322712.315

After removing these outliers (GCA80, GL63, GL61, GT90, GT75 and GT137), the transformation parameters were computed with Geolab software and presented in the following tables:

**Table 13: 3-Parameters transformation for Grenada Island area (From Grenada 53 to Grenada 2018)**

Parameter	Value	Stdev (m)
dX	71.494 m	0.13
dY	215.817 m	0.25
dZ	93.094 m	0.12

**Table 14: 3-Parameters transformation for Grenada Island area (From Grenada 2018 to Grenada 53)**

Parameter	Value	Stdev (m)
dX	-71.494 m	0.13
dY	-215.817 m	0.25
dZ	-93.094 m	0.12

To get an estimation of the reliability of the transformation, the difference between the coordinates of the trig points determined in Grenada 2018 as part of the network observation and their counterparts transformed from their coordinates in historical datum into Grenada 2018 using the above parameters was computed (see Table 15).

As shown in this table, the magnitude of the residuals is comprised between 0.046 m and 0.375 m (mean value 0.162 m). These values showed the accuracy of the transformation.

**Table 15: Points residuals after application of the 3-parameters transformation (From Grenada 53 to Grenada 2018)**

Point	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta Z$ (m)
G11	-0.081	0.049	0.095	0.315
G13	-0.130	-0.058	0.143	-0.187
G14	-0.090	-0.165	0.188	-0.493
G16	0.025	-0.196	0.198	-0.363
G25	0.120	0.039	0.126	-0.036
G26	0.002	0.115	0.115	-0.214
G3	-0.163	0.016	0.164	0.248
G5	-0.161	0.028	0.164	0.251
GS15	-0.096	-0.031	0.101	0.242
GS4	0.058	-0.115	0.129	-0.104
GS5	0.034	0.082	0.089	-0.131
GS7	0.375	-0.042	0.377	-0.136
GS8	-0.179	0.012	0.179	0.299
GT112	0.154	-0.062	0.166	-0.363
GT120	0.159	0.023	0.160	-0.269
GT126	0.173	0.003	0.173	0.079
GT137	0.198	0.005	0.198	-3.183
GT15	-0.113	-0.161	0.196	0.172
GT150	0.002	0.046	0.046	0.127
GT155	0.053	0.124	0.135	0.148
GT157	0.312	-0.080	0.322	-0.052
GT176	0.075	0.115	0.137	-0.305

GT199	0.161	0.022	0.162	-0.178
GT2	-0.135	0.078	0.156	0.257
GT21	-0.229	-0.035	0.231	-0.123
GT27	-0.144	0.046	0.151	0.190
GT30	-0.157	0.063	0.170	0.300
GT7	-0.019	0.090	0.092	0.327
GT75	-0.057	0.015	0.059	146.693
GT90	-0.132	0.089	0.160	259.093

**Table 16: Residuals summary after application of the 3-parameters transformation**

	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta Z$ (m)
MEAN	0.000	0.000	0.162	0.000
STDV	0.155	0.088	0.068	0.248
MAX	0.375	0.124	0.377	0.327
MIN	-0.229	-0.196	0.046	-0.493

The following map shows the spatial distribution and orientation of the planimetric residuals after applying the three parameter transformation. A global clockwise rotating pattern is observed from the centre of Grenada Island that put to evidence the distortions of the historical national network compared with the observed 2018 GNSS network.

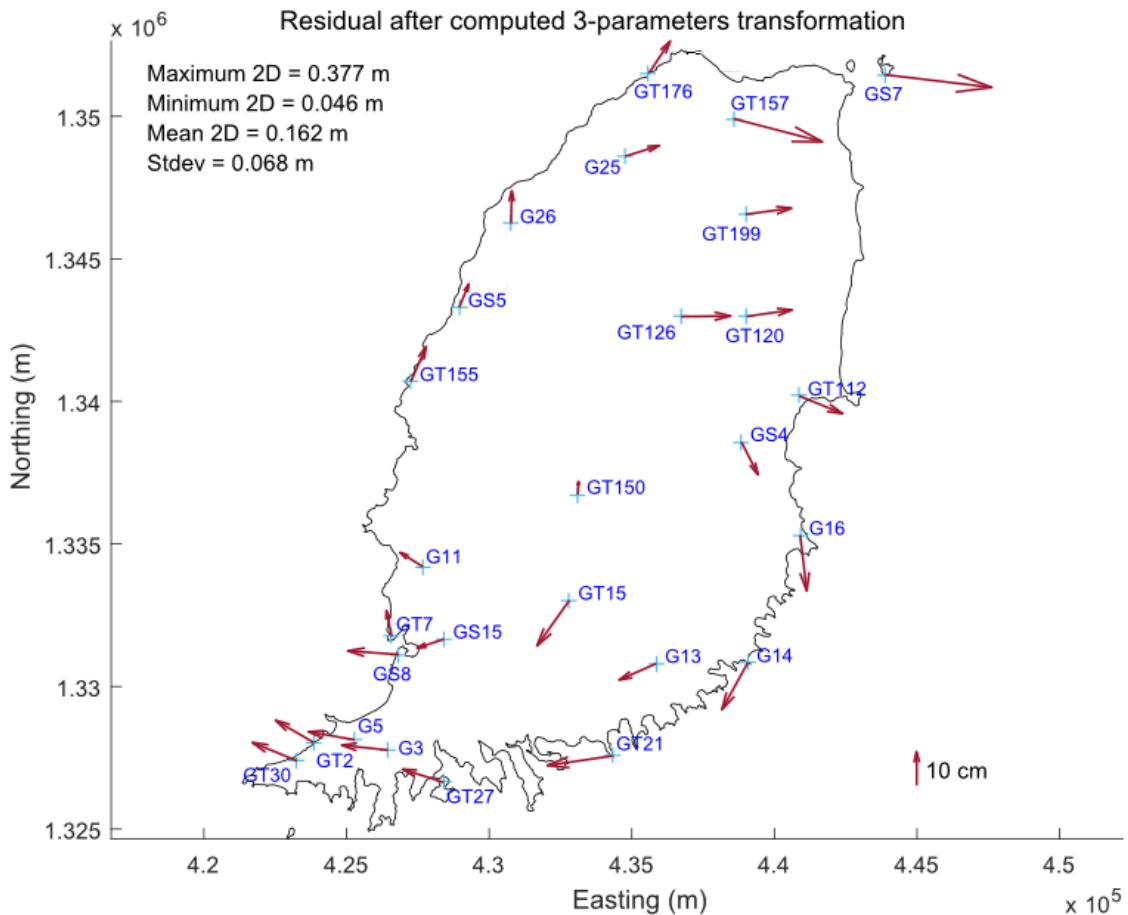


Figure 2 2D Residuals after the application of the computed 3-parameters transformation

In first approximation, the 3-parameter transformation model was deemed acceptable. After detection and suppression of outliers, the magnitudes of the transformation residuals were found smaller than 40 cm in planimetry.

## 5.2 Transformation model in Carriacou and Green Islands (North of Grenada)

Only three existing trig points were measured in Carriacou and Green islands area (GCA80, GL63, and GL61). Among them, coordinates were not provided for GL61, located in Green Island.

The two existing points GCA80 and GL63 were not found consistent with each other, so acceptable transformation parameters could not be computed in this area of interest.

Fugro provide, for information only, the differences observed on the geocentric coordinates for these two points. **These values must not be used for any computation, a minimum of two consistent points being the minimal condition to validate any 3-parameter transformation.**

Table 17: Geocentric coordinates differences observed on GCA80 (Carriacou Island)

Geocentric coordinates differences observed on Carriacou Island GCA80 (From Grenada 53 to ITRF14@2018.0)			
Point	$\Delta X$ (m)	$\Delta Y$ (m)	$\Delta Z$ (m)
GCA80	125.93	139.28	108.82

Table 18: Geocentric coordinates differences observed on GL63 (Green Island)

Geocentric coordinates differences observed on Green Island GL63 (From Grenada 53 to ITRF14@2018.0)			
Point	$\Delta X$ (m)	$\Delta Y$ (m)	$\Delta Z$ (m)
GL63	93.81	175.01	105.16

### 5.3 7-Parameter transformation model in Grenada Island

Those outliers identified during the computation of the 3-parameters transformation model were also rejected for the computation of the 7-parameters transformation model (GCA80, GL61, GL63, GT75, GT90 and GT137).

**It must be highlighted that the below 7-parameter transformation (more precisely the rotation signs) is expressed using the Coordinate Frame Rotation transformation convention (also called Helmert convention).**

This convention is widely used in the US and Canada (NOAA/NGS, NRCAN) ; it is also used in many software edited in north America (ArcGIS, Geolab etc.) ; it is also used by reputable institutions like UNAVCO, operating regional CORS networks (COCONet), That's the reason why we've preferred it to the alternative Position Vector transformation convention (also called Bursa-Wolf or Bomford convention) although this latter is widely used in Europe and in many European software (Leica Geo Office, Bernese etc.), used by the International Association of Geodesy (IAG), and recommended by ISO 19111.

The transformation parameters were computed with Geolab software and presented in the Table 19.

Table 19: 7-parameters transformation (From Grenada 53 to Grenada 2018)

Parameter	Value
d X	-133.675 m
d Y	154.808 m
d Z	79.394 m
Rotation X	2.123 sec
Rotation Y	-3.647 sec
Rotation Z	-6.032 sec
Scale factor	7.129 ppm

To get a estimation of the accuracy of the transformation, the 7-parameters transformation model was applied to the historical coordinates of the geodetic markers (expressed in Grenada 1953 datum) and compared to the coordinates of the same points measured in 2018 and determined in Grenada 2018 (Table 20). As shown in the Table 21, the magnitude of the residuals is comprised between 0.012 m and 0.151 m (mean value is 0.07m).

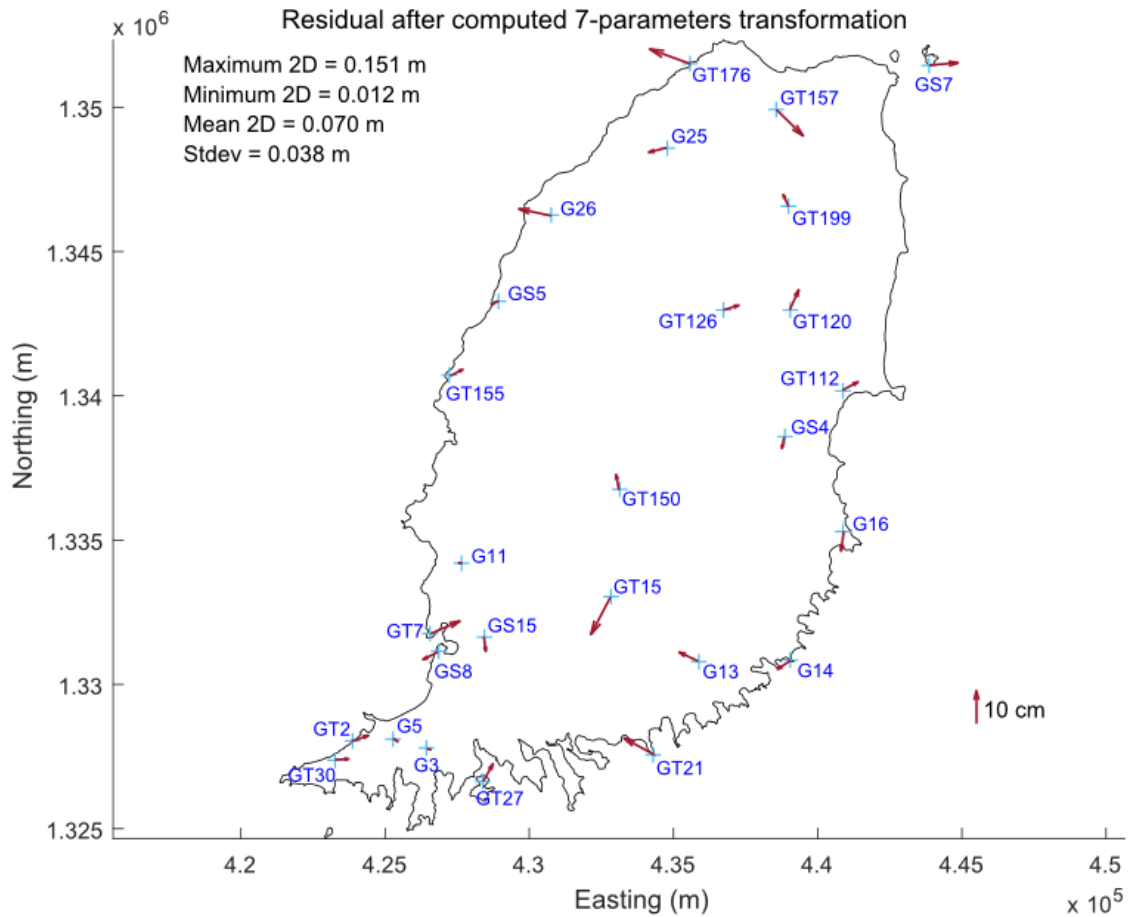
**Table 20: Point residuals after 7-parameters transformation (From Grenada 53 to Grenada 2018)**

Point	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta H$ (m)
G11	-0.012	0.001	0.012	-0.139
G13	-0.067	0.031	0.073	0.096
G14	-0.046	-0.032	0.056	0.295
G16	-0.008	-0.069	0.070	0.102
G25	-0.063	-0.015	0.064	-0.030
G26	-0.113	0.023	0.116	0.280
G3	0.012	-0.003	0.013	-0.028
G5	0.017	-0.011	0.020	0.007
GS15	0.006	-0.051	0.052	-0.088
GS4	-0.008	-0.040	0.041	-0.091
GS5	-0.026	-0.014	0.029	0.258
GS7	0.099	0.009	0.100	-0.235
GS8	-0.052	-0.026	0.058	-0.094
GT112	0.055	0.029	0.062	0.100
GT120	0.031	0.069	0.075	0.064
GT126	0.053	0.017	0.055	-0.206
GT137	0.046	0.005	0.046	3.060
GT15	-0.066	-0.130	0.146	-0.163
GT150	-0.011	0.054	0.055	-0.129
GT155	0.044	0.023	0.049	0.036
GT157	0.094	-0.090	0.130	-0.142
GT176	-0.142	0.052	0.151	0.207
GT199	-0.019	0.041	0.045	-0.026
GT2	0.057	0.021	0.060	0.047
GT21	-0.105	0.057	0.119	0.084
GT27	0.034	0.061	0.070	-0.033
GT30	0.047	0.002	0.047	0.025
GT7	0.101	0.044	0.110	-0.114
GT75	-0.009	0.093	0.094	-146.781
GT90	-0.077	0.034	0.084	-258.926

**Table 21: Residuals summary after 7-parameters transformation (From Grenada 53 to Grenada 2018)**

	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta H$ (m)
MEAN	-0.003	0.002	0.070	0.003
STDV	0.064	0.048	0.038	0.144
MIN	-0.142	-0.130	0.012	-0.235
MAX	0.101	0.069	0.151	0.295

To get an idea of the spatial distribution and orientation of the residuals, they were plotted on the map below (**Erreur ! Source du renvoi introuvable.**). It can be seen that the residuals are significantly smaller than their counterparts derived from the application of the 3-parameters transformation model.



**Figure 3 2D residuals after the application of the computed 7-parameters transformation**

The 7-parameter transformation model gave better results than the 3-parameters transformation model. Residuals were divided by a factor 2. Mean horizontal error was 0.070 m (standard deviation of 0.038 m) when using 7 parameters transformation while mean horizontal error was 0.162 m (standard deviation of 0.155 m) using 3 parameters transformation.

The min and max values of the planimetric residuals were also divided by 2 when using 7 parameters transformation compared to their 3-parameter transformation counterparts (0.012 to 0.151 m and 0.046 to 0.377m respectively).

Yet, an even better transformation model could be computed: A regular grid at regular spacing of 3-parameter Helmert transformation sets, as described below.

#### 5.4 3-Parameters Helmert regular grid transformation model

Considering the planimetric residuals observed after computing a simple 3 parameters transformation, which showed a rotating distortion pattern, a 3-parameter sets grid at regular 1-km spacing transformation was deemed relevant and computed.

A geostatistical analysis enabled capturing the full picture of the error distribution in both easting and northing. So, the error distribution for each component was gridded using a kriging method. Suitable covariance models were estimated separately for variations in Easting, Northing, and Ellipsoidal Height. Correlation length was determined by trial and error starting from the average nearest neighbour distance.

For each component, a suitable covariance function was determined by trial and error over an area encompassing the whole network dataset. The main step was the derivation of an isotropic covariance function, dependent only on distance, whose behaviour was controlled using two main variables:

- first, the correlation length affected the 'stiffness' of surface;
- then, the noise level effectively controlled the level of fidelity to the original source data.

An appropriate compromise was sought. This geostatistical study allowed detecting all outliers and put to evidence the areas of similar distortions.

Finally, kriging cross correlation allowed assessing the overall consistency throughout the island.

Kriging interpolation residuals were found below 7.0 cm at 95% confidence interval for both Easting and Northing components.

The two following maps show the error distribution in Northing and Easting, respectively.

The third map shows the overall horizontal error distribution and also corresponds to the final 3-parameter transformation set grid map.

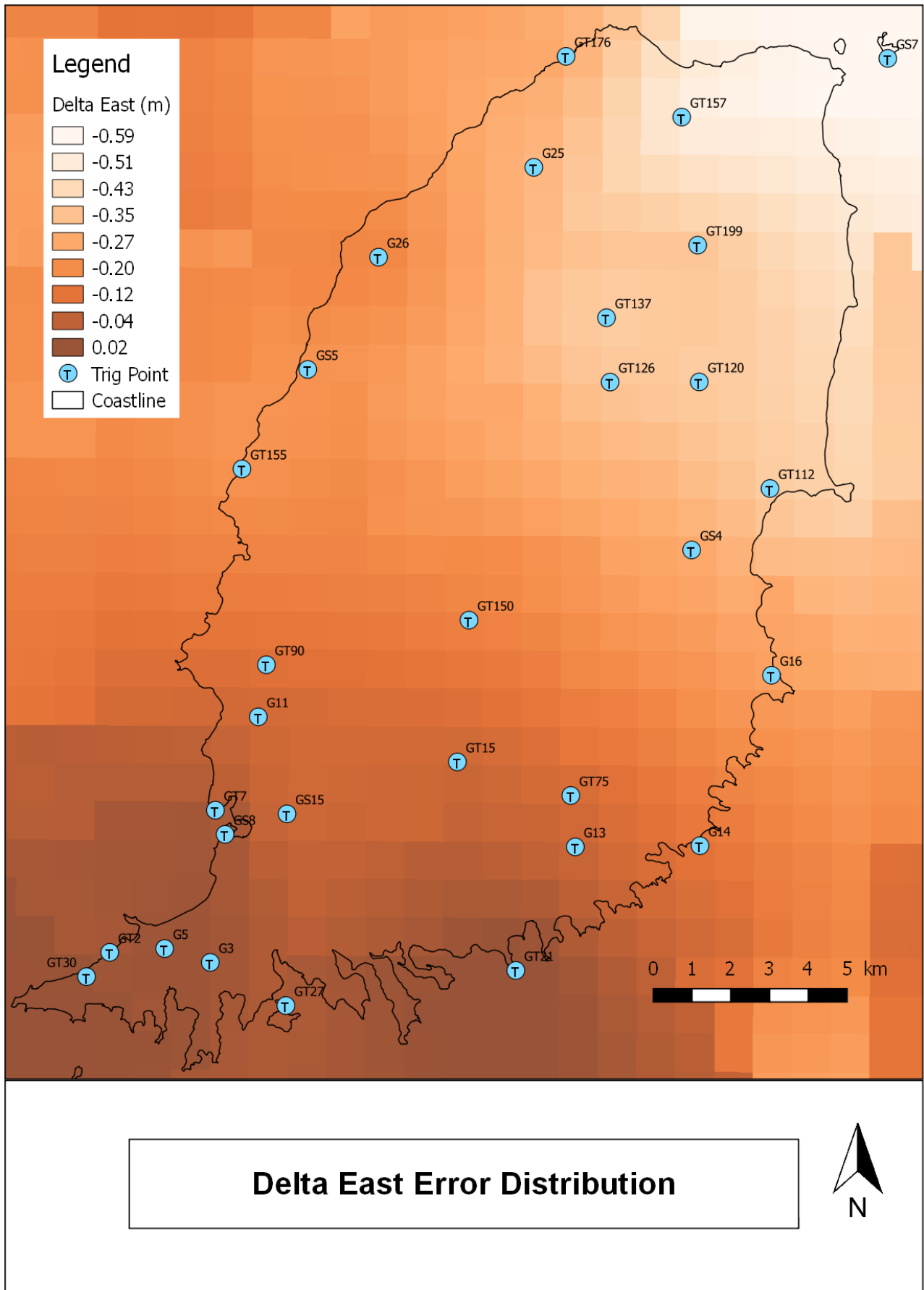


Figure 4 Grenada 53 Delta East Error Distribution

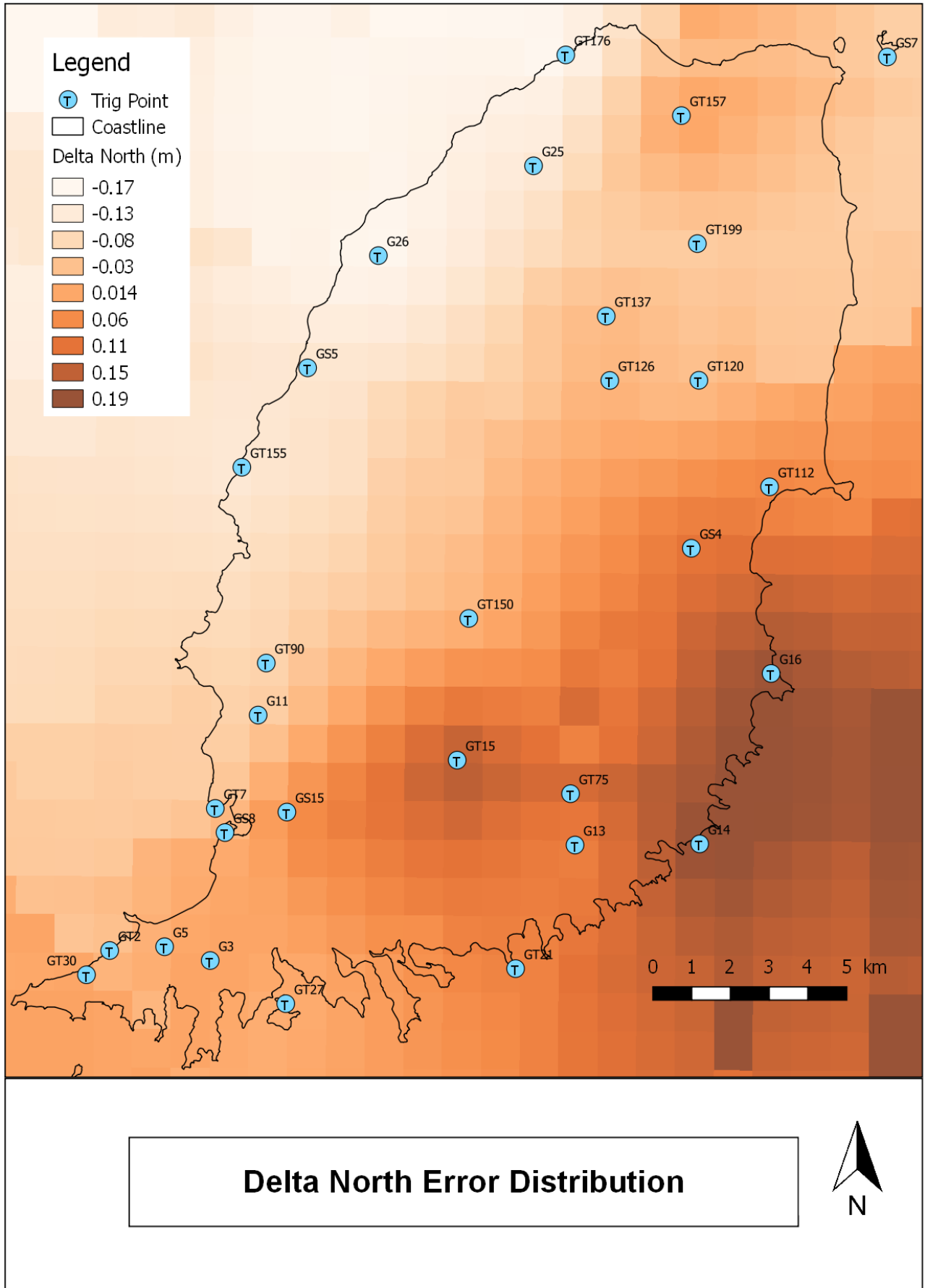


Figure 5 Grenada 53 Delta North Error Distribution

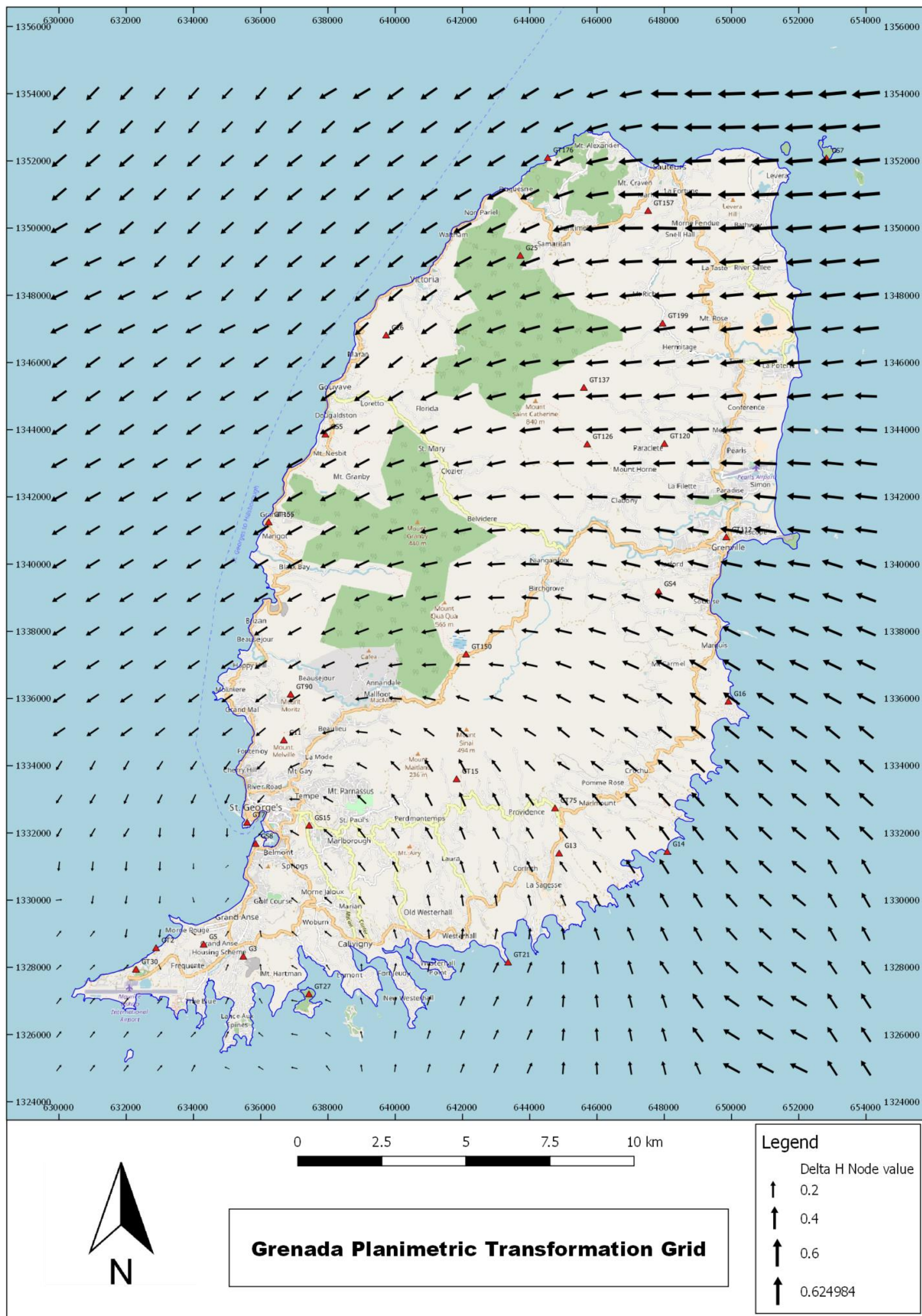


Figure 6 Grenada horizontal error distribution

The 1 km grid spacing will allow surveyors to apply accurate 3-parameter datum shifts (i.e. perfectly matching the Grenada 53 datum realization distortions) without the need for bilinear interpolation between grid nodes, all over Grenada Island.

The 3-Parameters Helmert regular grid is provided in Ascii format in Appendix A.

For any point known in Grenada 2018 / ITRF2014 at epoch 2018.0, any user can directly spot the nearest of the four (4) neighbouring grid nodes to be used for transforming its Grenada 2018 coordinates into its Grenada 53 counterparts. So, for example, for Point G3 known in geographical coordinates in Grenada 2018 as shown in following table:

G3	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
<b>Grenada 2018</b>	12.01300041	-61.75546243

**Table 22: G3 coordinates in Grenada 2018**

G3 is surrounded by four (4) grid nodes, namely 631, 632, 656 and 657. Selection of the closest node (656) and its related 3-parameter Helmert transformation set provides co-ordinates of G3 in Grenada 53, as shown in following table:

**Table 23: Transformation results on point G3**

Grid Node 656	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	d X (m)	d Y (m)	d Z (m)
<b>Grenada 2018</b>	12.01033046	-61.75990650	-88.219	-184.338	-100.721
			<b>G3</b>	<b>N (m)</b>	<b>E (m)</b>
			<b>Grenada 53 BWI Grid</b>	<b>1327768.897</b>	<b>426451.922</b>

For this transformation, any proven geodetic transformation software could be suitable (Microsearch's Geolab, Blue Marble's Geographic Calculator, Trimble's Coordinate Calculator, Trimble Business Center, ESRI's ArcGIS etc.) as long as the sign convention is respected (**from Grenada 2018 to Grenada 53**)..

**The inverted transformation can be derived inverting the 3 parameters signs, hence allowing to convert any point from Grenada 53 into Grenada 2018.**

It can be noted that, given the small variation of the 3-parameter transformation sets between adjacent grid nodes, the use of any of the other three grid nodes would have given very similar results. These results very similar to each other come from the grid spacing fixed to only one kilometre.

So, for any point located in Grenada Island, the four transformations related to the four surrounding grid nodes would yield co-ordinates very close to each other, and in any case not exceeding the Grenada 53 datum realization accuracy. Consequently, even though it could be possible to compute a dedicated datum shift using bilinear interpolation, such an additional computation will not be relevant, and the transformation chosen on any of the four surrounding grid node will be suitable.

### **5.5 Geographic transformation grid**

For ease of implementation of the grid transformation model, a Geographic transformation grid was also developed, to be applied in the same way as the aforementioned Geocentric transformation grid, or the following stretch-type Planimetric transformation grid.

This grid can be used in any software running with geographical coordinates, so can be the basis of any such format (NTv2 or equivalent).

### **5.6 Planimetric transformation grid**

For ease of transformation, it was developed a stretch-style planimetric transformation grid working with Northing and Easting co-ordinates without the need for going through Cartesian geocentric coordinates.

This grid will allow surveyors to convert any planimetric coordinates from Grenada 2018 datum (ITRF 2014 at epoch 2018.0 / projection UTM 20N) into planimetric coordinates in Grenada 53 / Projection BWI, without the need for a geodetic computation software.

As with its 3-parameter Helmert transformation set counterpart, the grid of Northing and Easting shifts between Grenada 2018 / ITRF14 at epoch 2018.0 (UTM 20 N projection) and Grenada 53 (BWI projection) covers Grenada island at a resolution of one kilometre.

This planimetric transformation grid is provided in Appendix B.

In general, the formula of the bilinear interpolation can be written as :

$$f(x, y) = [f(x_1, y_1) * (x_2 - x) * (y_2 - y) + f(x_2, y_1) * (x - x_1) * (y_2 - y) + f(x_1, y_2) * (x_2 - x) * (y - y_1) + f(x_2, y_2) * (x - x_1) * (y - y_1)] * \frac{1}{(x_2 - x_1)(y_2 - y_1)}$$

where

*(x, y) is the interpolation location*

$f(x, y)$  is the value we are looking for

$(x_i, y_i)$  are the grid nodes with  $i = 1$  or  $i = 2$

$f(x_i, y_i)$  are the values at the grid nodes

The use of this grid must follow the following sequence. For a given point P (coordinates Grenada 2018 / ITRF14 at epoch 2018.0 / UTM 20 N:  $E_P$   $N_P$ ):

- Locate the four surrounding grid nodes  $\mathbf{n}$  in the Planimetric Transformation Set Grid ( $\mathbf{n}_{NW}$ ;  $\mathbf{n}_{SW}$ ,  $\mathbf{n}_{SE}$ ,  $\mathbf{n}_{NE}$ ) along with their respective Grenada 2018 / UTM 20 N coordinates. Identify the nearest grid node along with its  $\Delta TE_n$  and  $\Delta TN_n$  values
- Compute the  $TE_P$ ,  $TN_P$ ,  $\Delta TE_{East}$  and  $\Delta TN_{North}$  values of the chosen point P using the following bilinear interpolation formulas:

$$TE_{P=} [En_{SW\_BWI} * (En_{NE\_UTM} - E_P) * (Nn_{NE\_UTM} - N_P) + En_{SE\_BWI} * (E_P - En_{NW\_UTM}) * (Nn_{NW\_UTM} - N_P) + En_{NW\_BWI} * (En_{SE\_UTM} - E_P) * (N_P - Nn_{SE\_UTM}) + En_{NE\_BWI} * (E_P - En_{SW\_UTM}) * (N_P - Nn_{SW\_UTM}) ] / [(Nn_{NE\_UTM} - Nn_{SW\_UTM}) * (En_{NE\_UTM} - En_{SW\_UTM})]$$

$$TN_{P=} [Nn_{SW\_BWI} * (En_{NE\_UTM} - E_P) * (Nn_{NE\_UTM} - N_P) + Nn_{SE\_BWI} * (E_P - En_{NW\_UTM}) * (Nn_{NW\_UTM} - N_P) + Nn_{NW\_BWI} * (En_{SE\_UTM} - E_P) * (N_P - Nn_{SE\_UTM}) + Nn_{NE\_BWI} * (E_P - En_{SW\_UTM}) * (N_P - Nn_{SW\_UTM}) ] / [(Nn_{NE\_UTM} - Nn_{SW\_UTM}) * (En_{NE\_UTM} - En_{SW\_UTM})]$$

$$\Delta TE_{East} = [\Delta TE_{n_{SW}} * (En_{NE\_UTM} - E_P) * (Nn_{NE\_UTM} - N_P) + \Delta TE_{n_{SE}} * (E_P - En_{NW\_UTM}) * (Nn_{NW\_UTM} - N_P) + \Delta TE_{n_{NW}} * (En_{SE\_UTM} - E_P) * (N_P - Nn_{SE\_UTM}) + \Delta TE_{n_{NE}} * (E_P - En_{SW\_UTM}) * (N_P - Nn_{SW\_UTM}) ] / [(Nn_{NE\_UTM} - Nn_{SW\_UTM}) * (En_{NE\_UTM} - En_{SW\_UTM})]$$

$$\Delta TN_{North} = [\Delta TN_{n_{SW}} * (En_{NE\_UTM} - E_P) * (Nn_{NE\_UTM} - N_P) + \Delta TN_{n_{SE}} * (E_P - En_{NW\_UTM}) * (Nn_{NW\_UTM} - N_P) + \Delta TN_{n_{NW}} * (En_{SE\_UTM} - E_P) * (N_P - Nn_{SE\_UTM}) + \Delta TN_{n_{NE}} * (E_P - En_{SW\_UTM}) * (N_P - Nn_{SW\_UTM}) ] / [(Nn_{NE\_UTM} - Nn_{SW\_UTM}) * (En_{NE\_UTM} - En_{SW\_UTM})]$$

Where:

- $En_{NW\_BWI}$  and  $Nn_{NW\_BWI}$  are  $\mathbf{n}_{NW}$  coordinates (Grenada 2018 / BWI), in Easting and Northing
- $En_{SW\_BWI}$  and  $Nn_{SW\_BWI}$  are  $\mathbf{n}_{SW}$  coordinates (Grenada 2018 / BWI), in Easting and Northing
- $En_{NE\_BWI}$  and  $Nn_{NE\_BWI}$  are  $\mathbf{n}_{NE}$  coordinates (Grenada 2018 / BWI), in Easting and Northing
- $En_{SE\_BWI}$  and  $Nn_{SE\_BWI}$  are  $\mathbf{n}_{SE}$  coordinates (Grenada 2018 / BWI), in Easting and Northing
- $En_{NW\_UTM}$  and  $Nn_{NW\_UTM}$  are  $\mathbf{n}_{NW}$  coordinates (Grenada 2018 / UTM 20 N), in Easting and Northing
- $En_{SW\_UTM}$  and  $Nn_{SW\_UTM}$  are  $\mathbf{n}_{SW}$  coordinates (Grenada 2018 / UTM 20 N), in Easting and Northing

- $E_{n_{NE\_UTM}}$  and  $N_{n_{NE\_UTM}}$  are  $n_{NE}$  coordinates (Grenada 2018 / UTM 20 N), in Easting and Northing
- $E_{n_{SE\_UTM}}$  and  $N_{n_{SE\_UTM}}$  are  $n_{SE}$  coordinates (Grenada 2018 / UTM 20 N), in Easting and Northing
- $\Delta TE_{n_{NW}}$  and  $\Delta TN_{n_{NW}}$  are  $n_{NW}$  shifts, in Easting and Northing
- $\Delta TE_{n_{SW}}$  and  $\Delta TN_{n_{SW}}$  are  $n_{SW}$  shifts, in Easting and Northing
- $\Delta TE_{n_{NE}}$  and  $\Delta TN_{n_{NE}}$  are  $n_{NE}$  shifts, in Easting and Northing
- $\Delta TE_{n_{SE}}$  and  $\Delta TN_{n_{SE}}$  are  $n_{SE}$  shifts, in Easting and Northing

Final coordinates are then computed:

$$E_{P \text{ (Grenada 53 / BWI)}} = TE_P + \Delta TE_{East}$$

$$N_{P \text{ (Grenada 53 / BWI)}} = TN_P + \Delta TN_{North}$$

The following example shows a computation example with existing marker G3:

- Coordinates of point G3 in Grenada 2018 / UTM 20 N :

Easting: 635 482.529; Northing: 1 328 297.485

- Location of the four surrounding nodes:

630	634000	1329000	425136.775	1328577.84	-164.355	-101.272
631	635000	1329000	426136.453	1328574.206	-164.353	-101.255
632	636000	1329000	427136.128	1328570.572	-164.364	-101.25
633	637000	1329000	428135.8	1328566.938	-164.36	-101.252
655	634000	1328000	425133.142	1327578.161	-164.355	-101.267
656	635000	1328000	426132.82	1327574.529	-164.354	-101.251
657	636000	1328000	427132.495	1327570.898	-164.363	-101.251
658	637000	1328000	428132.167	1327567.267	-164.379	-101.257

- Computation of  $TE_{G3}$  ,  $TN_{G3}$ ,  $\Delta TE_{East}$  and  $\Delta TN_{North}$

$$TE_{G3} = [426132.82 * (636000 - 635482.529) * (1329000 - 1328297.485) + 427132.495 * (635482.529 - 635000) * (1329000 - 1328297.485) + 426136.453 * (636000 - 635482.529) * (1328297.485 - 1328000) + 427136.128 * (635482.529 - 635000) * (1328297.485 - 1328000)] / [(1329000 - 1328000) * (636000 - 635000)] = 426616.273$$

Using the same calculus, we get  $TN_{G3}$ ,  $\Delta TE_{East}$  and  $\Delta TN_{North}$

$$TN_{G3} = 1327870.165$$

$$\Delta TE_{East} = -164.358$$

$$\Delta TN_{North} = -101.251$$

- Addition of  $\Delta TE_{East}$  and  $\Delta TN_{North}$  values to  $TE_{G3}$  and  $TN_{G3}$ .

- $E_{G3 \text{ (Grenada 53 / BWI)}} = 426616.273 - 164.358 = 426451.915 \text{ m}$
- $N_{G3 \text{ (Grenada 53 / BWI)}} = 1327870.165 - 101.251 = 1327768.914 \text{ m}$

The Planimetric grid nodes map is provided in following page.

For better convenience, both 3-parameter and planimetric transformation grids are also provided in digital format (3-parameter Helmert Transformation Grid and Planimetric Transformation Grid ASCII files attached to this report).

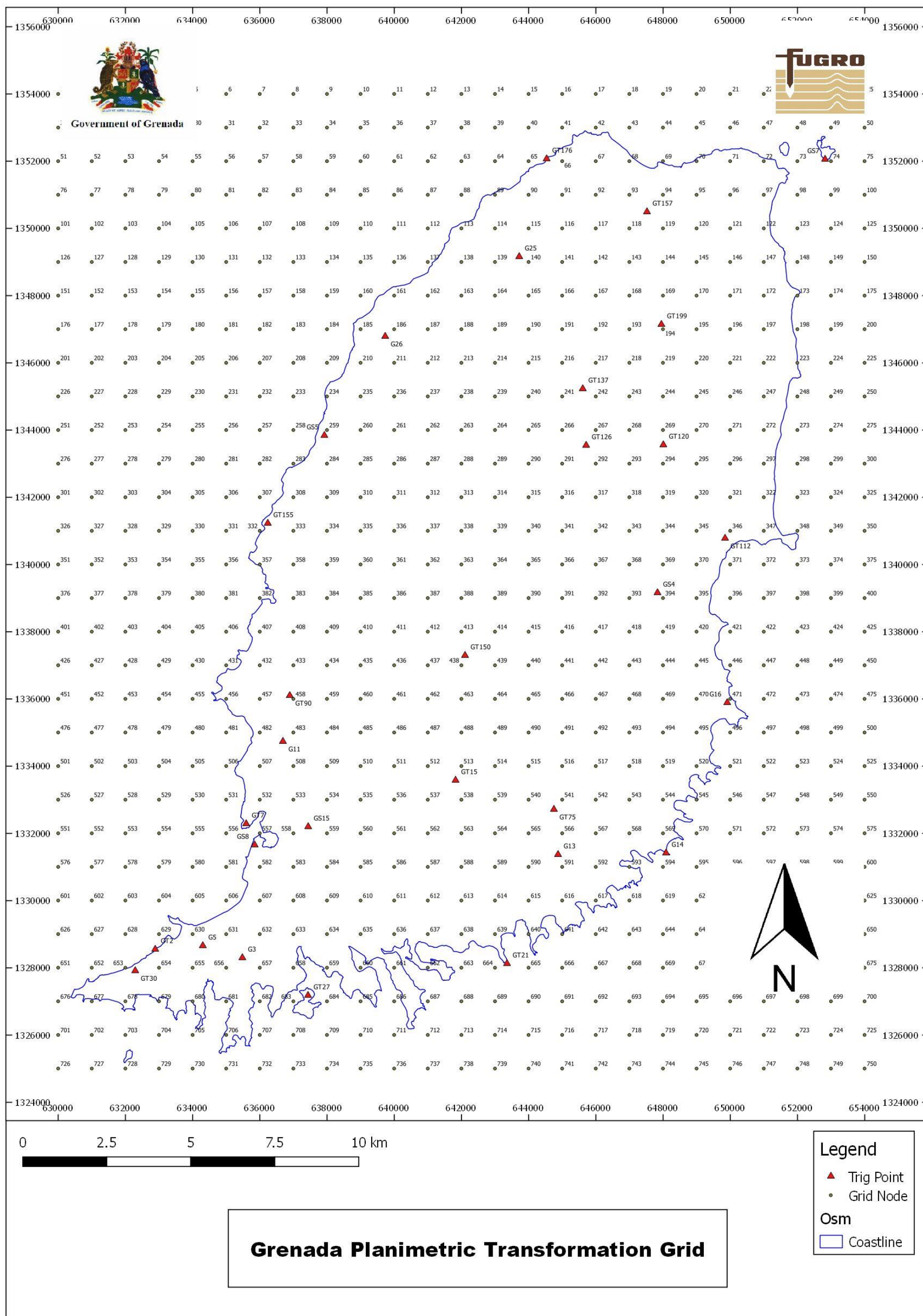


Figure 7 Grenada Planimetric Transformation grid map

### **5.7 Recommendations for application of provided transformation models**

Three transformation models were computed to convert existing trig point's coordinates, from the less accurate to the most accurate, as shown below:

- A unique 3-parameter Helmert transformation
- A unique 7-parameter Helmert transformation
- A regular transformation grid at 1 km spacing

These models can be used for general survey purposes (marine works, map referencing, civil works...). Note that, for more accurate survey purposes, Fugro recommend using the regular transformation grids provided.

For use of the 3-parameter / 7-parameter Helmert transformations, as well as the 3-parameter Helmert transformation regular grid, Fugro provides below a list of suitable and reliable geodetic transformation softwares:

- Geolab (Bitwise)
- StarNet (MicroSurvey)
- Move3
- Geographic Calculator (Blue Marble)

For use of the stretch style regular planimetric transformation grid, the provided formulae could be used in Microsoft Excel to compute transformations, but considering the risk of manipulation errors in such software, Fugro highly recommend making embedded software from these formulae, in which only input and resulting output coordinates are used.

6. COMPUTATION OF THE TRANSFORMATION PARAMETERS – NGPP NETWORK

6.1 3-Parameter transformation model (WGS84 / NGPP to ITRF2014 at epoch 2018.0)

The simplest transformation model is a 3D translation to be applied to the geocentric coordinates. No outlier was found and all the points were used to compute the transformation parameters (9 NGPP points). The provided WGS84 / NGPP coordinates were used to compute the transformation parameters as described in the tables below:

Table 24: NGPP / WGS84 original coordinates used for transformation parameters computation

NGPP / WGS84 Datum						
Point	Geographical coordinates		Orthometric Height (m)	Cartesian Coordinates		
	Latitude	Longitude		X (m)	Y (m)	Z (m)
LAS006	12°01'28.678997"N	61°45'21.828317"W	2.31	2952505.878	-5496275.616	1320068.311
LAS024	12°03'36.965523"N	61°44'54.004229"W	64.24	2952886.633	-5495206.154	1323936.554
LAS031	12°02'50.296061"N	61°43'53.235846"W	169.32	2954695.973	-5494690.230	1322556.006
LAS046	12°02'20.216348"N	61°44'04.476648"W	170.62	2954488.456	-5495022.227	1321652.292
LAS055	12°00'48.985491"N	61°43'33.076702"W	10.24	2955527.327	-5494948.684	1318876.979
LAS067	12°01'23.459761"N	61°44'24.555552"W	9.88	2954051.218	-5495491.542	1319913.027
LAS077	12°00'19.922227"N	61°46'02.682075"W	13.28	2951630.335	-5497257.243	1318004.088
LAS083	12°00'07.101501"N	61°45'23.409396"W	27.12	2952722.135	-5496779.260	1317621.619
LAS092	11°59'51.252862"N	61°45'18.578388"W	32.19	2952901.139	-5496803.667	1317146.309

Table 25 Table 26: Grenada 2018 coordinates used for transformation parameters computation

Grenada 2018 Datum (ITRF 2014 at epoch 2018.0)						
Point	Geographical coordinates		Ellipsoidal Height (m)	Cartesian Coordinates		
	Latitude	Longitude		X (m)	Y (m)	Z (m)
LAS006	12°01'28.6146" N	61°45'21.8684" W	-33.636	2952488.367	-5496245.581	1320058.887
LAS024	12°03'36.9023" N	61°44'54.0453" W	28.264	2952869.078	-5495176.108	1323927.135
LAS031	12°02'50.2327" N	61°43'53.2759" W	133.354	2954678.441	-5494660.182	1322546.594
LAS046	12°02'20.1533" N	61°44'04.5166" W	134.655	2954470.927	-5494992.175	1321642.896
LAS055	12°00'48.9192" N	61°43'33.1153" W	-25.725	2955509.835	-5494918.631	1318867.502
LAS067	12°01'23.3952" N	61°44'24.5959" W	-26.119	2954033.668	-5495461.471	1319903.587
LAS077	12°00'19.8566" N	61°46'02.7225" W	-22.693	2951612.810	-5497227.191	1317994.632
LAS083	12°00'07.0361" N	61°45'23.4497" W	-8.866	2952704.600	-5496749.197	1317612.171
LAS092	11°59'51.1879" N	61°45'18.6193" W	-3.777	2952883.595	-5496773.627	1317136.881

This absence of any outliers could be expected considering the NGPP network observation quite recent date and the use of geodetic GPS for measurements

These transformation parameters were computed with Geolab software and presented in the Table 27.

**Table 27: 3-Parameters transformation model (From WGS84/NGPP to Grenada 2018)**

Parameter	Value	Stdev (m)
d X	-17.530 m	0.02
d Y	30.051 m	0.01
d Z	-9.433 m	0.02

**Table 28: 3-Parameters transformation model (From Grenada 2018 to WGS84/NGPP )**

Parameter	Value	Stdev (m)
d X	17.530 m	0.02
d Y	-30.051 m	0.01
d Z	9.433 m	0.02

A test point is provided below in order for users to control the 3 parameters transformation results:

**Table 29: 3 parameters transformation test points (From WGS84/NGPP to Grenada 2018)**

<b>LAS006 WGS84/NGPP official coordinates</b>			
Point	Latitude	Longitude	Elevation(m)
LAS006	12° 01'28.678997"N	61°45'21.828317"W	2.31
<b>LAS006 transformed coordinates (Grenada 2018/ ITRF14@2018.0)</b>			
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)
LAS006	12°01'28.61448"N	61°45'21.86872"W	-33.661
<b>LAS055 WGS84/NGPP official coordinates</b>			
Point	Latitude	Longitude	Elevation(m)
LAS055	12° 00'48.985491"N	61°43'33.076702"W	10.24
<b>LAS055 transformed coordinates (Grenada 2018/ ITRF14@2018.0)</b>			
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)
LAS055	12°00'48.9208"N	61°43'33.1165"W	-25.731

As shown in the Table 31, the magnitude of the planimetric residuals after transformation was comprised between 0.8 cm and 5.8 cm (mean value 2.4 cm). These values show the good accuracy of the transformation and the consistency between these two recently observed networks.

Table 30: Points residuals after the 3-parameters transformation (From WGS84/NGPP to Grenada 2018)

Point	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta Z$ (m)
LAS006	0.009	0.004	0.010	0.025
LAS024	-0.025	0.016	0.030	-0.003
LAS031	-0.003	0.020	0.020	0.007
LAS046	0.001	0.037	0.037	0.007
LAS055	0.035	-0.047	0.058	0.007
LAS067	-0.008	0.000	0.008	-0.027
LAS077	0.005	-0.022	0.023	-0.002
LAS083	0.002	-0.011	0.011	-0.015
LAS092	-0.017	0.004	0.018	0.004

Table 31: Residuals summary after 3-parameters transformation (From WGS84/NGPP to Grenada 2018)

	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta Z$ (m)
MEAN	0.000	0.000	0.024	0.000
STDEV	0.017	0.025	0.016	0.015
MAX	0.035	0.037	0.058	0.025
MIN	-0.025	-0.047	0.008	-0.027

The 3-parameter transformation model provided highly acceptable residuals.

## 6.2 7-Parameters transformation model (WGS84 / NGPP to ITRF2014 at epoch 2018.0)

In order to confirm that the 3-parameter transformation model was sufficient, a 7-parameter transformation model was determined and evaluated.

All the points were used to determine the transformation parameters (9 NGPP points). These transformation parameters were computed with Geolab software and presented in the

Table 32.

Table 32: 7-Parameters transformation model (From WGS84/NGPP to Grenada 2018)

Parameter	Value
d X	-34.511 m
d Y	62.353 m
d Z	-12.373 m
Rotation X	-0.335 sec
Rotation Y	0.304 sec
Rotation Z	-0.0791 sec
Scale factor	5.6936 ppm



Table 33 showed the accuracy of the transformation. These values were very similar to the residuals after application of the 3 parameters transformation.

**Table 33: Residuals after application of the 7-parameters transformation (From WGS84/NGPP to Grenada 2018)**

	$\Delta E$ (m)	$\Delta N$ (m)	$\Delta 2D$ (m)	$\Delta Z$ (m)
MEAN	0.001	0.000	0.019	0.000
STDEV	0.014	0.020	0.014	0.015
MAX	0.021	0.025	0.050	0.025
MIN	-0.017	-0.045	0.006	-0.027

The 7 parameter transformation didn't provide a better accuracy, and its application was deemed trickier considering the rotations parameters sign convention issue.

Therefore, Fugro rather recommend using the 3-parameter transformation model, easier to implement while keeping a similar accuracy.



7. APPENDICES

7.1 Appendix A: Grenada 2018 markers transformed into Grenada 1953 datum

Table 34 Grenada 2018 markers transformed into Grenada 1953 datum

Grenada New markers transformed into Grenada 1953 Datum							
Point	Latitude	Longitude	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GN01	12°31'32.8605"N	61°26'27.2807"W	460737.41	1384497.62	2977133.433	-5469738.142	1374125.269
GN02	12°30'18.9281"N	61°25'54.1353"W	461742.54	1382229.07	2978236.826	-5469671.927	1371902.445
GN03	12°29'52.1163"N	61°27'01.7137"W	459704.73	1381401.30	2976533.718	-5470811.117	1371099.917
GN04	12°29'13.3141"N	61°25'42.4900"W	462098.35	1380214.63	2978754.121	-5469886.630	1369934.021
GN05	12°28'57.2654"N	61°27'25.8887"W	458978.56	1379715.17	2976058.106	-5471464.408	1369450.437
GN06	12°28'29.2147"N	61°28'36.7962"W	456840.09	1378849.35	2974266.185	-5472651.244	1368609.000
GN07	12°28'41.4481"N	61°26'09.6057"W	461282.02	1379234.18	2978133.918	-5470459.836	1368976.961
GN08	12°28'14.1536"N	61°29'21.2964"W	455497.81	1378384.17	2973151.961	-5473415.279	1368165.866
GN09	12°27'54.3898"N	61°27'39.5110"W	458571.33	1377783.25	2975907.952	-5472049.298	1367569.546
GN10	12°27'30.2975"N	61°28'59.5124"W	456157.96	1377038.51	2973849.386	-5473320.975	1366841.047
GN11	12°27'02.5793"N	61°28'15.7417"W	457480.89	1376189.81	2975116.993	-5472885.144	1366017.936
GN12	12°12'38.1125"N	61°37'23.4250"W	440985.85	1349612.31	2963291.879	-5485795.719	1340078.145
GN13	12°13'20.8511"N	61°38'30.6359"W	438953.46	1350922.12	2961350.963	-5486477.130	1341351.940
GN14	12°12'30.0900"N	61°39'56.8528"W	436350.63	1349359.85	2959274.175	-5488116.476	1339854.958
GN15	12°12'50.6896"N	61°41'27.8623"W	433600.22	1349989.22	2956718.290	-5489172.710	1340441.374
GN16	12°11'26.8953"N	61°38'40.7351"W	438652.94	1347421.98	2961470.782	-5487341.883	1337946.401
GN17	12°11'34.4675"N	61°42'21.5904"W	431979.50	1347646.54	2955521.035	-5490374.915	1338151.366
GN18	12°10'23.5526"N	61°37'14.9030"W	441249.10	1345480.14	2963916.780	-5486410.475	1336029.212
GN19	12°09'32.5058"N	61°43'57.9045"W	429073.06	1343897.95	2953326.958	-5492442.379	1334486.250
GN20	12°09'21.7323"N	61°37'28.7123"W	440834.44	1343580.97	2963744.833	-5486970.598	1334174.681

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Grenada New markers transformed into Grenada 1953 Datum							
Point	Latitude	Longitude	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GN21	12°08'28.7629"N	61°42'08.8903"W	432369.47	1341943.75	2956601.224	-5491571.381	1332651.614
GN22	12°07'50.2335"N	61°44'56.5159"W	427304.80	1340755.37	2952106.201	-5493914.244	1331426.473
GN23	12°08'01.2914"N	61°37'16.4127"W	441209.57	1341111.04	2964293.498	-5487203.845	1331746.726
GN24	12°07'12.7226"N	61°41'14.0626"W	434029.08	1339610.32	2958250.003	-5491136.401	1330347.427
GN25	12°06'48.1271"N	61°39'09.7074"W	437788.46	1338859.51	2961598.332	-5489422.907	1329591.776
GN26	12°05'35.9518"N	61°45'01.7357"W	427150.81	1336631.31	2952349.344	-5494700.229	1327379.848
GN27	12°05'21.4171"N	61°38'48.3906"W	438436.18	1336197.37	2962428.776	-5489604.438	1326985.685
GN28	12°05'21.0902"N	61°43'19.1295"W	430252.66	1336177.89	2955216.950	-5493481.183	1326973.723
GN29	12°04'36.6997"N	61°43'41.5873"W	429575.19	1334813.93	2954720.757	-5493992.470	1325624.921
GN30	12°03'40.1037"N	61°38'43.5644"W	438586.09	1333086.11	2962813.212	-5490009.460	1323917.531
GN31	12°02'59.0833"N	61°45'06.4619"W	427012.32	1331813.62	2952699.556	-5495654.033	1322666.058
GN32	12°02'49.6557"N	61°44'45.4655"W	427647.33	1331524.67	2953291.921	-5495414.766	1322384.720
GN33	12°02'56.3200"N	61°43'14.0276"W	430411.40	1331732.02	2955807.744	-5494253.686	1322630.133
GN34	12°01'54.9528"N	61°40'23.6391"W	435564.69	1329853.06	2960430.146	-5491967.408	1320740.234
GN35	12°01'08.2523"N	61°41'51.8222"W	432900.22	1328415.80	2958236.283	-5493519.200	1319342.472
GN36	12°00'30.9092"N	61°47'13.2300"W	423183.54	1327259.87	2949781.822	-5498325.852	1318218.571
GN37	12°00'20.3000"N	61°46'00.9775"W	425368.40	1326935.82	2951728.381	-5497330.845	1317894.625
GN38	11°59'16.8531"N	61°45'46.4288"W	425809.97	1324987.70	2952318.330	-5497499.161	1315992.454
GN39	12°12'59.4982"N	61°37'21.4606"W	441044.29	1350269.18	2963354.974	-5485787.578	1340755.424
GN40	12°11'47.7631"N	61°36'54.4330"W	441863.99	1348067.24	2964190.669	-5485615.572	1338553.433
GN41	12°07'57.6070"N	61°39'11.7150"W	437725.07	1340993.24	2961320.093	-5489035.034	1331673.678
OM01	12°31'28.8566"N	61°26'26.6516"W	460756.65	1384374.69	2977173.876	-5469772.713	1374010.281
OM02	12°30'18.1469"N	61°25'57.9101"W	461628.67	1382204.84	2978141.201	-5469734.650	1371879.934
OM03	12°29'55.1011"N	61°27'00.3658"W	459745.22	1381493.05	2976563.719	-5470781.100	1371191.192
OM04	12°29'15.3131"N	61°25'42.6991"W	462091.90	1380276.01	2978745.973	-5469884.873	1369995.728
OM05	12°28'58.0309"N	61°27'30.6182"W	458835.77	1379738.39	2975930.189	-5471528.123	1369473.387

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Grenada New markers transformed into Grenada 1953 Datum							
Point	Latitude	Longitude	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
OM06	12°28'28.6878"N	61°28'35.0517"W	456892.78	1378833.27	2974315.062	-5472630.859	1368593.619
OM07	12°28'42.3895"N	61°26'07.7424"W	461338.20	1379263.21	2978182.834	-5470432.013	1369006.356
OM08	12°28'11.1015"N	61°29'22.1377"W	455472.60	1378290.38	2973144.625	-5473455.000	1368076.759
OM09	12°27'56.7168"N	61°27'38.7878"W	458593.01	1377854.76	2975919.953	-5472025.657	1367639.453
OM10	12°27'32.2222"N	61°28'56.0086"W	456263.61	1377097.83	2973937.211	-5473260.977	1366899.229
OM12	12°12'36.4485"N	61°37'21.2743"W	441050.90	1349561.30	2963356.308	-5485778.203	1340029.124
OM13	12°13'19.0509"N	61°38'31.0590"W	438940.76	1350866.82	2961350.653	-5486503.477	1341300.332
OM14	12°12'27.7674"N	61°39'58.2390"W	436308.84	1349288.47	2959244.556	-5488149.838	1339785.252
OM15	12°12'49.9574"N	61°41'26.4685"W	433642.35	1349966.78	2956759.796	-5489160.919	1340420.369
OM16	12°11'26.0998"N	61°38'39.2256"W	438698.58	1347397.60	2961514.318	-5487326.473	1337922.929
OM17	12°11'32.8546"N	61°42'19.6555"W	432038.01	1347597.07	2955578.472	-5490358.212	1338103.368
OM18	12°10'23.0688"N	61°37'11.5294"W	441351.07	1345465.42	2964008.494	-5486365.664	1336014.904
OM19	12°09'37.3295"N	61°43'59.8755"W	429013.35	1344046.03	2953258.781	-5492441.418	1334630.727
OM20	12°09'23.2384"N	61°37'29.8496"W	440800.01	1343627.18	2963711.900	-5486981.978	1334220.805
OM21	12°08'29.4927"N	61°42'09.4351"W	432352.98	1341966.15	2956586.746	-5491579.238	1332674.564
OM22	12°07'48.9375"N	61°44'55.4652"W	427336.59	1340715.60	2952140.127	-5493910.263	1331388.440
OM23	12°07'56.9516"N	61°37'16.9929"W	441192.22	1340977.73	2964291.153	-5487236.411	1331616.254
OM24	12°07'10.5175"N	61°41'13.6930"W	434040.33	1339542.62	2958267.877	-5491146.012	1330281.763
OM25	12°06'47.0002"N	61°39'11.4569"W	437735.62	1338824.83	2961556.070	-5489455.995	1329558.303
OM26	12°05'37.2317"N	61°45'06.2553"W	427014.17	1336670.49	2952224.991	-5494757.552	1327418.276
OM27	12°05'19.0186"N	61°38'48.5342"W	438431.94	1336123.70	2962432.260	-5489620.034	1326913.609
OM28	12°05'18.7544"N	61°43'20.2265"W	430219.57	1336106.12	2955194.360	-5493509.219	1326903.320
OM29	12°04'38.8945"N	61°43'40.6316"W	429604.01	1334881.37	2954740.864	-5493968.836	1325691.470
OM30	12°03'41.9766"N	61°38'45.9059"W	438515.23	1333143.53	2962748.738	-5490039.106	1323975.409
OM31	12°02'58.5729"N	61°45'07.2905"W	426987.29	1331797.92	2952679.702	-5495670.030	1322651.023
OM32-1	12°02'48.0511"N	61°44'44.2658"W	427683.65	1331475.42	2953331.152	-5495411.114	1322337.585



Grenada New markers transformed into Grenada 1953 Datum							
Point	Latitude	Longitude	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
OM32-2	12°02'49.7923"N	61°44'45.6625"W	427641.37	1331528.85	2953286.497	-5495417.263	1322388.932
OM33	12°02'58.0273"N	61°43'16.9819"W	430322.04	1331784.36	2955724.428	-5494287.423	1322681.692
OM34	12°01'51.3073"N	61°40'22.9980"W	435584.20	1329741.13	2960457.435	-5491977.170	1320630.299
OM35	12°01'06.7138"N	61°41'50.4590"W	432941.48	1328368.59	2958274.197	-5493502.639	1319294.865
OM37	12°00'21.9381"N	61°46'02.1387"W	425333.25	1326986.10	2951692.660	-5497338.574	1317943.936
OM40	12°11'51.3978"N	61°36'55.6874"W	441825.93	1348178.81	2964146.761	-5485614.076	1338662.899
OM41	12°07'58.4837"N	61°39'14.0602"W	437654.16	1341020.08	2961256.119	-5489065.800	1331700.526



7.2 Appendix B: Grenada 1953 markers transformed into Grenada 2018 datum

Table 35 Grenada 1953 markers transformed into Grenada 2018 datum

Trig points Transformed into Grenada 2018 datum (ITRF2014 at epoch 2018.0)								
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GS1	12°03'20.5812"N	61°45'03.9106"W	86.18	427088.31	1332593.69	2952682.643	-5495459.516	1323448.774
GS2	12°03'47.1970"N	61°43'00.1879"W	485.32	430827.57	1333414.78	2956082.405	-5493880.685	1324332.014
GS3	12°04'54.7016"N	61°45'24.6493"W	113.95	426458.82	1335483.89	2951856.780	-5495247.559	1326282.883
GS4	12°06'38.4014"N	61°38'29.3856"W	142.95	439006.76	1338682.70	2962610.412	-5488730.901	1329404.824
GS5	12°09'12.2863"N	61°43'56.5635"W	98.36	429113.61	1343397.73	2953409.136	-5492509.596	1334018.613
GS6	12°09'45.1326"N	61°38'28.4482"W	240.53	439027.54	1344417.98	2962107.634	-5487739.754	1335035.269
GS7	12°13'37.4141"N	61°35'42.1952"W	-26.98	444040.72	1351559.37	2965688.255	-5483794.222	1341955.560
GS8	12°02'35.9560"N	61°45'07.0346"W	12.40	426995.11	1331223.01	2952700.748	-5495692.847	1322092.306
GS9	12°01'51.8199"N	61°43'54.4630"W	142.14	429190.35	1329869.50	2954828.200	-5495014.503	1320792.932
GS10	12°05'38.3756"N	61°41'41.7685"W	511.95	433194.29	1336832.02	2957844.246	-5492149.892	1327678.579
GS14	12°01'47.9671"N	61°43'54.4069"W	136.39	429192.16	1329751.17	2954838.716	-5495030.477	1320675.940
GS15	12°02'53.4309"N	61°44'14.2804"W	193.05	428589.41	1331761.21	2954136.820	-5494994.392	1322655.171
HOGISLAND	12°00'09.9901"N	61°44'15.2044"W	13.60	428566.27	1326741.36	2954524.575	-5495774.686	1317705.630
GT1	12°00'30.2928"N	61°47'26.9111"W	-1.04	422769.44	1327359.96	2949347.308	-5498391.334	1318312.811
GT2	12°00'55.3722"N	61°46'45.3902"W	-3.52	424024.20	1328131.21	2950377.077	-5497654.059	1319066.069
GT3	12°01'26.2897"N	61°46'30.7000"W	-25.69	424467.57	1329081.15	2950664.794	-5497250.500	1319990.669
GT4	12°01'50.6517"N	61°45'16.5479"W	-35.54	426708.76	1329831.31	2952562.478	-5496043.474	1320720.788
GT5	12°02'04.4221"N	61°45'19.0334"W	-35.83	426633.24	1330254.17	2952454.373	-5496001.097	1321134.570
GT6	12°02'24.1760"N	61°45'15.4971"W	-29.10	426739.61	1330860.98	2952491.802	-5495844.755	1321729.631
GT7	12°02'56.5484"N	61°45'15.3048"W	17.24	426744.53	1331855.25	2952420.139	-5495699.069	1322712.159
GT8	12°04'03.1688"N	61°44'59.1700"W	55.14	427230.42	1333901.83	2952665.139	-5495124.021	1324722.066
GT9	12°04'56.3415"N	61°44'40.4804"W	218.29	427793.86	1335535.47	2953076.756	-5494695.913	1326354.001
GT10	12°04'47.5590"N	61°43'19.1620"W	167.54	430252.12	1335268.13	2955246.017	-5493537.291	1326079.472

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT11	12°03'19.3499"N	61°42'46.0621"W	336.20	431255.47	1332559.94	2956474.262	-5493707.257	1323463.990
GT12	12°03'23.3661"N	61°42'39.8166"W	352.51	431444.14	1332683.49	2956635.945	-5493609.078	1323588.091
GT12A	12°03'36.8767"N	61°42'26.9111"W	374.69	431833.82	1333098.87	2956948.831	-5493366.803	1323998.750
GT13	12°03'47.4714"N	61°42'25.0737"W	397.91	431889.02	1333424.32	2956976.285	-5493300.552	1324321.993
GT14	12°03'47.7945"N	61°42'19.5654"W	420.11	432055.52	1333434.43	2957132.288	-5493238.876	1324336.345
GT15	12°03'37.7258"N	61°41'49.0391"W	363.50	432978.64	1333126.19	2957949.641	-5492809.358	1324021.931
GT16	12°03'23.6441"N	61°41'50.8182"W	294.57	432925.33	1332693.63	2957913.161	-5492855.112	1323584.343
GT17	12°03'17.0846"N	61°41'24.3648"W	262.30	433725.24	1332493.06	2958622.594	-5492484.993	1323380.478
GT18	12°03'42.2787"N	61°41'07.0235"W	316.25	434248.58	1333267.46	2959032.668	-5492140.301	1324148.881
GT19	12°03'13.7245"N	61°40'46.7933"W	198.12	434861.14	1332391.16	2959603.466	-5491909.718	1323266.096
GT20	12°01'33.6573"N	61°40'31.7107"W	37.51	435320.72	1329318.27	2960234.847	-5492119.645	1320225.266
GT21	12°00'39.9361"N	61°40'59.2323"W	-28.58	434490.56	1327667.33	2959634.400	-5492760.270	1318596.914
GT22	12°01'41.1413"N	61°41'36.3087"W	46.76	433367.47	1329545.89	2958496.240	-5493012.231	1320452.116
GT23	12°01'01.1089"N	61°41'49.8433"W	4.51	432959.63	1328315.91	2958237.694	-5493395.567	1319240.160
GT24	12°00'38.6582"N	61°42'05.5402"W	9.75	432485.80	1327625.85	2957890.139	-5493751.628	1318566.485
GT25	12°01'02.0695"N	61°43'06.5405"W	-6.55	430640.73	1328342.94	2956186.799	-5494480.241	1319266.727
GT26	12°00'22.5546"N	61°43'36.0710"W	20.03	429749.11	1327128.41	2955532.147	-5495148.862	1318084.612
GT27	12°00'10.0097"N	61°44'15.2142"W	13.72	428565.98	1326741.96	2954524.310	-5495774.818	1317706.243
GT28	12°04'47.5191"N	61°42'33.0712"W	401.51	431645.31	1335268.35	2956582.056	-5493078.483	1326127.240
GT29	12°01'06.3244"N	61°44'23.1246"W	20.43	428325.17	1328471.35	2954146.151	-5495576.727	1319400.225
G1	12°00'19.9885"N	61°46'19.6087"W	-6.89	424804.58	1327045.10	2951169.673	-5497481.688	1318001.884
G2	12°00'57.8173"N	61°45'26.1555"W	-19.50	426419.73	1328208.32	2952473.936	-5496492.748	1319136.230
G3	12°00'46.8009"N	61°45'19.6593"W	44.39	426616.44	1327870.15	2952709.963	-5496516.887	1318818.429
G4	12°00'19.5213"N	61°46'00.0419"W	-2.76	425396.20	1327031.24	2951694.491	-5497207.897	1317988.702
G5	12°00'58.6152"N	61°45'58.5396"W	69.02	425440.61	1328231.98	2951649.480	-5497028.007	1319178.641
G6	11°59'16.4906"N	61°45'40.5406"W	-12.28	425987.51	1325095.87	2952400.283	-5497275.268	1316092.194

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
G7	11°59'15.1582"N	61°47'11.1351"W	-28.05	423248.22	1325052.70	2949982.244	-5498565.376	1316048.869
G8	12°00'10.7509"N	61°48'06.4713"W	1.10	421573.78	1326758.88	2948352.710	-5499068.827	1317725.898
G9	11°59'41.6766"N	61°42'37.6878"W	-15.98	431515.66	1325874.71	2957194.512	-5494511.042	1316848.461
G10	12°02'43.7541"N	61°44'14.6012"W	184.06	428580.00	1331463.99	2954153.499	-5495045.905	1322362.479
G11	12°04'16.1468"N	61°44'38.7864"W	296.32	427846.22	1334301.00	2953280.347	-5494966.501	1325162.487
G12	12°04'26.5439"N	61°41'39.7933"W	666.64	433256.46	1334625.88	2958187.695	-5492661.619	1325552.386
G13	12°02'25.3143"N	61°40'08.5267"W	105.95	436019.74	1330905.68	2960726.852	-5491554.509	1321792.013
G14	12°02'26.2922"N	61°38'22.2539"W	-17.68	439232.50	1330939.76	2963495.433	-5489916.420	1321795.612
G15	12°04'59.0905"N	61°40'21.3888"W	679.56	435625.26	1335628.24	2960182.011	-5491363.655	1326533.163
G16	12°04'51.6208"N	61°37'21.2844"W	45.84	441069.56	1335405.83	2964704.095	-5488273.873	1326176.055
G17	12°07'30.3206"N	61°36'23.4650"W	0.70	442810.26	1340282.58	2965735.225	-5486504.289	1330934.839
G18	12°07'55.3595"N	61°39'09.4558"W	156.08	437792.68	1341044.81	2961314.393	-5488880.592	1331719.733
G19	12°07'06.2972"N	61°41'53.3777"W	728.55	432840.42	1339532.03	2957366.870	-5492003.897	1330365.892
G20	12°07'42.8071"N	61°44'38.7282"W	99.46	427842.03	1340648.27	2952560.574	-5493623.555	1331330.722
G21	12°08'02.4563"N	61°42'31.6108"W	646.46	431683.07	1341255.63	2956138.958	-5492162.066	1332036.021
G22	12°09'45.0394"N	61°40'29.6105"W	804.19	435366.28	1344410.52	2959145.288	-5489964.352	1335151.225
G23	12°10'23.6231"N	61°36'18.8499"W	-4.01	442942.02	1345605.61	2965322.823	-5485447.956	1336139.943
G24	12°12'58.6517"N	61°37'22.3929"W	222.24	441015.33	1350364.44	2963259.638	-5485670.388	1340844.169
G25	12°12'04.5705"N	61°40'43.9106"W	342.91	434929.09	1348695.55	2958121.494	-5488976.040	1339245.346
G26	12°10'47.9860"N	61°42'56.2526"W	161.00	430933.06	1346338.88	2954750.324	-5491153.930	1336906.556
GT30	12°00'34.6844"N	61°47'05.1676"W	9.81	423426.75	1327495.35	2949918.645	-5498065.002	1318447.059
GT31	12°00'12.1978"N	61°47'09.4057"W	-8.18	423299.15	1326804.61	2949865.315	-5498236.772	1317767.458
GT32	12°00'42.3101"N	61°46'06.0358"W	38.20	425214.39	1327731.01	2951484.775	-5497200.601	1318682.164
GT33	11°59'42.4961"N	61°46'00.8613"W	-24.28	425372.39	1325894.06	2951774.599	-5497409.490	1316871.369
GT34	12°00'26.5822"N	61°45'23.0578"W	23.60	426514.24	1327249.07	2952670.959	-5496661.514	1318206.411
GT35	11°59'44.9254"N	61°45'19.2921"W	4.41	426629.23	1325969.76	2952888.385	-5496825.547	1316950.348

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT36	12°00'11.0589"N	61°44'42.4630"W	35.22	427742.06	1326773.41	2953805.042	-5496177.699	1317742.250
GT37	12°00'59.0203"N	61°44'56.0126"W	95.55	427331.04	1328246.09	2953326.768	-5496153.574	1319196.340
GT38	12°00'59.6530"N	61°46'31.0555"W	63.78	424457.49	1328263.04	2950777.319	-5497482.879	1319208.743
GT39	12°01'06.6467"N	61°46'09.4089"W	73.25	425111.78	1328478.38	2951337.453	-5497141.910	1319420.912
GT40	12°01'14.2091"N	61°45'28.3300"W	73.28	426353.54	1328711.71	2952409.301	-5496511.419	1319648.205
GT41	12°01'30.4883"N	61°45'05.9150"W	111.70	427030.78	1329212.31	2952975.061	-5496131.857	1320145.477
GT42	12°02'08.8548"N	61°45'07.3454"W	70.24	426986.47	1330390.63	2952801.453	-5495900.149	1321289.904
GT43	12°02'15.8292"N	61°44'55.5295"W	107.13	427343.49	1330605.16	2953112.204	-5495723.400	1321507.201
GT44	12°02'58.2625"N	61°45'01.5693"W	-34.00	427159.71	1331908.27	2952757.174	-5495448.618	1322752.974
GT45	12°02'52.3407"N	61°44'28.3997"W	145.55	428162.61	1331727.32	2953741.986	-5495161.840	1322612.493
GT46	12°02'33.1432"N	61°44'30.2327"W	101.36	428107.75	1331137.65	2953730.973	-5495258.453	1322026.336
GT47	12°01'51.4640"N	61°44'40.3197"W	83.68	427804.00	1329857.25	2953580.487	-5495622.924	1320770.048
GT48	12°01'13.5441"N	61°44'55.3816"W	106.22	427349.71	1328692.18	2953304.531	-5496071.868	1319635.080
GT49	11°59'50.9692"N	61°43'36.2403"W	-8.62	429744.96	1326158.31	2955609.962	-5495304.352	1317129.299
GT50	11°59'59.0141"N	61°43'08.4290"W	-18.35	430585.61	1326406.24	2956322.022	-5494852.149	1317369.082
GT51	12°00'51.2519"N	61°43'41.7514"W	63.00	429576.49	1328009.63	2955313.804	-5495105.660	1318956.079
GT52	12°00'45.1679"N	61°42'52.4424"W	34.39	431067.51	1327824.28	2956632.540	-5494408.637	1318767.265
GT53	12°00'40.4639"N	61°43'15.8593"W	37.42	430359.66	1327679.08	2956024.405	-5494773.366	1318626.514
GT54	12°01'20.9599"N	61°43'17.5886"W	66.67	430306.12	1328922.79	2955869.153	-5494595.185	1319849.725
GT55	12°01'02.5886"N	61°42'49.8273"W	18.84	431146.02	1328359.41	2956642.189	-5494259.634	1319287.617
GT56	12°00'44.0357"N	61°42'29.5875"W	2.71	431758.56	1327790.23	2957230.067	-5494060.087	1318726.642
GT57	12°01'12.1951"N	61°41'45.2370"W	54.86	433098.52	1328656.55	2958350.089	-5493310.409	1319583.839
GT58	12°01'06.5700"N	61°41'08.8406"W	10.69	434199.12	1328485.02	2959315.946	-5492781.967	1319405.578
GT59	12°00'53.4911"N	61°41'41.0544"W	-17.37	433225.62	1328082.23	2958484.723	-5493293.577	1319006.650
GT60	12°02'09.2409"N	61°43'37.2494"W	137.37	429710.23	1330405.07	2955231.695	-5494665.487	1321315.505
GT61	12°02'23.2224"N	61°43'05.4388"W	170.01	430671.49	1330835.47	2956051.727	-5494158.860	1321742.506

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT62	12°02'34.1136"N	61°42'35.7352"W	305.05	431569.12	1331170.91	2956872.400	-5493787.931	1322097.999
GT63	12°01'55.6890"N	61°42'55.7106"W	166.05	430966.46	1329990.12	2956392.616	-5494171.398	1320914.198
GT64	12°01'36.2125"N	61°42'31.2315"W	104.81	431707.15	1329392.71	2957075.362	-5493877.591	1320316.082
GT65	12°01'51.0649"N	61°42'07.0067"W	107.87	432439.05	1329849.66	2957676.903	-5493449.151	1320763.098
GT66	12°01'50.3392"N	61°41'46.5298"W	88.38	433058.14	1329828.05	2958215.415	-5493142.809	1320737.226
GT67	12°01'50.1253"N	61°41'01.9137"W	58.55	434407.01	1329823.00	2959390.349	-5492478.322	1320724.577
GT68	12°02'01.0713"N	61°40'37.1726"W	64.66	435154.61	1330160.06	2960018.712	-5492066.849	1321054.822
GT69	12°01'45.1990"N	61°40'10.6103"W	42.13	435958.23	1329673.52	2960763.732	-5491755.712	1320573.100
GT71	12°03'00.2223"N	61°39'35.4829"W	9.26	437017.38	1331979.05	2961455.417	-5490799.879	1322820.898
GT72	12°02'27.6518"N	61°39'31.4255"W	-11.49	437141.28	1330978.85	2961652.944	-5490907.591	1321837.762
GT73	12°01'35.9836"N	61°39'36.5348"W	-23.83	436988.78	1329391.74	2961668.331	-5491261.667	1320282.396
GT74	12°01'56.4492"N	61°39'30.3766"W	-17.61	437174.18	1330020.54	2961772.943	-5491063.240	1320898.758
GT75	12°03'09.0803"N	61°40'12.3787"W	28.19	435901.67	1332249.75	2960455.012	-5491295.794	1323091.047
GT76	12°03'08.3031"N	61°40'29.7697"W	31.65	435375.97	1332225.25	2959995.983	-5491552.751	1323068.412
GT77	12°02'58.3169"N	61°40'43.5261"W	24.17	434960.47	1331918.05	2959656.651	-5491800.112	1322766.751
GT78	12°02'40.2430"N	61°40'57.4771"W	9.75	434539.36	1331362.45	2959333.494	-5492089.903	1322220.587
GT79	12°02'49.2618"N	61°41'29.3316"W	30.24	433576.06	1331638.35	2958467.363	-5492513.583	1322495.895
GT80	12°02'50.2852"N	61°42'03.1770"W	41.30	432552.85	1331668.65	2957568.092	-5493002.707	1322528.961
GT81	12°02'13.0047"N	61°41'21.1597"W	6.47	433824.36	1330525.04	2958784.178	-5492580.544	1321401.323
GT82	12°03'10.6403"N	61°43'14.4912"W	58.41	430396.34	1332291.55	2955614.818	-5493924.665	1323144.235
GT83	12°03'17.0653"N	61°43'48.6368"W	473.24	429363.92	1332487.86	2954877.915	-5494734.858	1323423.953
GT84	12°03'43.0829"N	61°43'41.4881"W	43.69	429579.23	1333287.16	2954790.267	-5494115.381	1324116.089
GT85	12°03'31.0836"N	61°44'17.6374"W	-12.76	428486.83	1332917.56	2953837.683	-5494652.380	1323743.713
GT86	12°03'52.5310"N	61°44'46.4602"W	32.03	427614.92	1333575.46	2953025.385	-5494982.354	1324397.569
GT87	12°04'08.1440"N	61°44'08.9042"W	8.22	428749.73	1334056.06	2953967.327	-5494335.742	1324861.758
GT88	12°03'47.4153"N	61°45'18.5273"W	2.86	426645.72	1333417.46	2952173.120	-5495445.201	1324237.748

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT89	12°04'31.1842"N	61°45'10.6238"W	-35.45	426883.42	1334761.97	2952232.863	-5495051.343	1325544.959
GT90	12°05'00.5369"N	61°44'31.8427"W	77.02	428054.82	1335664.57	2953228.673	-5494426.792	1326450.495
GT91	12°05'40.2890"N	61°45'19.3941"W	-22.42	426616.42	1336884.18	2951794.853	-5494796.449	1327624.112
GT92	12°05'49.8071"N	61°43'42.3826"W	41.70	429548.33	1337179.28	2954379.533	-5493408.773	1327923.532
GT93	12°06'04.2526"N	61°45'01.1420"W	1.61	427167.42	1337620.68	2952219.144	-5494419.979	1328349.161
GT94	12°06'53.1373"N	61°44'43.7455"W	5.86	427691.82	1339122.59	2952535.344	-5493897.079	1329818.797
GT95	12°06'22.1081"N	61°43'54.8996"W	70.34	429169.03	1338170.99	2953960.873	-5493429.437	1328900.052
GT96	12°06'05.3983"N	61°42'58.6902"W	108.60	430868.44	1337659.49	2955526.529	-5492752.010	1328406.014
GT97	12°05'25.0227"N	61°42'18.8826"W	142.87	432072.95	1336420.68	2956725.653	-5492439.938	1327200.030
GT98	12°04'26.6530"N	61°42'52.1943"W	72.71	431067.94	1334626.87	2955983.987	-5493187.574	1325431.428
GT99	12°04'47.0002"N	61°43'48.6291"W	43.77	429361.43	1335250.07	2954405.557	-5493855.999	1326036.780
GT100	12°03'18.2609"N	61°38'54.2954"W	-5.31	438261.79	1332534.65	2962490.043	-5490094.020	1323359.939
GT110	12°06'12.4800"N	61°37'43.2700"W	26.07	440401.63	1337888.42	2963862.559	-5488114.843	1328601.486
GT111	12°03'08.8681"N	61°38'19.0012"W	1.06	439329.11	1332247.55	2963461.008	-5489645.543	1323079.005
GT112	12°07'30.8168"N	61°37'22.6072"W	16.32	441022.83	1340295.30	2964167.697	-5487365.046	1330953.028
GT113	12°06'53.0898"N	61°38'04.9913"W	105.29	439743.44	1339134.81	2963197.036	-5488264.748	1329838.236
GT114	12°06'37.6593"N	61°39'15.7817"W	264.95	437604.52	1338658.10	2961434.641	-5489506.353	1329408.125
GT115	12°05'59.3039"N	61°39'16.6846"W	354.57	437578.72	1337480.03	2961569.565	-5489813.973	1328274.457
GT116	12°05'21.6132"N	61°37'19.9002"W	5.67	441110.13	1336327.07	2964630.547	-5488049.644	1327068.846
GT117	12°07'29.4599"N	61°36'22.3330"W	3.26	442844.51	1340256.20	2965769.169	-5486495.101	1330909.520
GT118	12°08'44.7401"N	61°37'11.5052"W	60.52	441355.19	1342566.24	2964256.599	-5486823.363	1333183.138
GT119	12°09'37.0560"N	61°38'53.5752"W	397.85	438268.57	1344168.92	2961536.962	-5488281.912	1334825.784
GT120	12°09'01.6300"N	61°38'22.9065"W	112.28	439196.77	1343082.07	2962329.238	-5487797.566	1333701.422
GT122	12°09'13.0655"N	61°37'44.4137"W	74.21	440359.52	1343434.86	2963300.476	-5487146.810	1334036.937
GT121	12°08'09.6726"N	61°38'44.9550"W	195.78	438532.55	1341485.38	2961940.883	-5488481.598	1332158.088
GT123	12°08'21.3129"N	61°38'03.5595"W	60.48	439783.08	1341844.55	2962943.738	-5487704.479	1332479.342

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT124	12°03'40.0606"N	61°40'22.6379"W	420.67	435590.40	1333200.90	2960269.648	-5491605.850	1324104.042
GT125	12°07'35.7967"N	61°38'05.9814"W	38.54	439711.76	1340446.47	2963008.772	-5487979.068	1331107.308
GT126	12°09'01.4999"N	61°39'38.9231"W	389.28	436899.61	1343075.12	2960435.515	-5489128.012	1333755.815
GT127	12°07'27.0816"N	61°38'48.3309"W	89.10	438432.22	1340177.11	2961932.132	-5488680.318	1330856.096
GT128	12°09'29.2278"N	61°36'59.4588"W	3.83	441717.31	1343933.15	2964413.895	-5486348.301	1334507.633
GT129	12°10'26.8469"N	61°36'58.6518"W	47.41	441739.19	1345702.90	2964278.230	-5486045.898	1336247.624
GT130	12°08'09.9732"N	61°40'29.6331"W	274.03	435369.08	1341490.67	2959190.510	-5490049.689	1332183.570
GT131	12°07'33.7416"N	61°40'34.5525"W	209.41	435221.73	1340377.68	2959140.609	-5490270.620	1331081.461
GT132	12°08'17.6735"N	61°39'31.7860"W	255.18	437116.97	1341729.31	2960697.714	-5489159.556	1332410.946
GT133	12°09'59.7428"N	61°38'15.2714"W	246.39	439425.12	1344867.25	2962415.978	-5487472.308	1335475.395
GT134	12°04'51.5283"N	61°37'21.1913"W	45.90	441072.38	1335402.99	2964706.884	-5488273.111	1326173.289
GT135	12°06'56.1562"N	61°37'29.7028"W	-20.26	440809.85	1339230.44	2964068.210	-5487632.306	1329904.018
GT136	12°09'00.1405"N	61°40'25.6975"W	613.88	435486.17	1343031.64	2959299.033	-5490000.222	1333762.248
GT137	12°09'56.3501"N	61°39'41.9474"W	643.78	436806.12	1344759.67	2960304.614	-5489077.932	1335457.225
GT138	12°10'42.2097"N	61°37'26.3290"W	118.71	440902.23	1346173.59	2963527.871	-5486417.318	1336724.127
GT139	12°11'21.5367"N	61°38'01.0806"W	193.05	439850.54	1347380.04	2962516.822	-5486756.048	1337921.099
GT140	12°11'44.8964"N	61°37'05.5778"W	45.57	441526.54	1348099.83	2963852.531	-5485698.471	1338591.589
GT141	12°11'56.1846"N	61°36'48.1685"W	11.75	442052.06	1348447.28	2964264.970	-5485354.737	1338923.488
GT142	12°11'04.4468"N	61°36'59.9965"W	60.82	441696.93	1346857.69	2964132.820	-5485862.295	1337379.854
GT143	12°11'06.2464"N	61°36'28.5551"W	30.36	442646.87	1346914.32	2964949.301	-5485373.947	1337427.480
GT144	12°12'25.0512"N	61°37'03.4652"W	54.10	441588.63	1349333.23	2963788.715	-5485446.013	1339799.438
GT145	12°07'11.3245"N	61°39'24.1800"W	221.66	437349.39	1339691.77	2961087.951	-5489398.581	1330410.525
GT146	12°04'29.1110"N	61°43'51.1088"W	81.57	429287.02	1334700.56	2954411.490	-5494025.365	1325507.141
GT147	12°04'48.8575"N	61°43'00.8976"W	236.44	430804.16	1335308.57	2955760.418	-5493327.570	1326132.911
GT148	12°05'00.4351"N	61°42'05.1335"W	437.96	432489.35	1335665.95	2957303.556	-5492636.206	1326522.993
GT149	12°05'19.5492"N	61°41'54.1992"W	548.30	432819.21	1336253.38	2957587.565	-5492466.142	1327120.470

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Point	Latitude	Longitude	H <sup>Spheroid</sup> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT150	12°05'38.5804"N	61°41'39.1375"W	512.35	433273.81	1336838.40	2957913.862	-5492111.344	1327684.815
GT151	12°05'44.4810"N	61°41'22.4062"W	473.95	433779.32	1337020.20	2958323.524	-5491804.894	1327854.079
GT152	12°06'07.8204"N	61°41'01.4574"W	405.39	434411.67	1337737.77	2958778.162	-5491313.045	1328541.012
GT153	12°06'41.9024"N	61°40'38.5614"W	248.12	435102.46	1338785.36	2959210.528	-5490655.849	1329532.083
GT154	12°07'23.6278"N	61°44'41.4938"W	68.40	427759.00	1340059.13	2952531.148	-5493745.445	1330747.984
GT155	12°07'47.4820"N	61°44'52.6970"W	28.77	427419.74	1340791.46	2952141.521	-5493736.026	1331456.316
GT156	12°07'23.8650"N	61°39'46.5327"W	174.71	436673.36	1340076.09	2960432.853	-5489607.805	1330777.435
GT157	12°12'47.4103"N	61°38'37.8541"W	53.42	438735.97	1350016.09	2961208.873	-5486673.230	1340470.828
GT158	12°12'17.6004"N	61°38'58.2082"W	223.48	438122.21	1349099.70	2960838.360	-5487282.186	1339611.467
GT159	12°11'44.9323"N	61°39'31.1152"W	278.63	437129.25	1348095.07	2960089.197	-5487988.643	1338641.902
GT160	12°13'05.4749"N	61°38'53.4038"W	82.66	438265.45	1350570.31	2960753.034	-5486818.240	1341019.559
GT161	12°13'33.3028"N	61°38'26.2824"W	-4.18	439083.70	1351426.10	2961348.153	-5486194.889	1341836.917
GT162	12°12'29.4122"N	61°38'28.5042"W	87.87	439019.18	1349463.66	2961529.134	-5486671.566	1339937.558
GT163	12°12'15.4894"N	61°36'29.2090"W	-2.26	442624.04	1349041.03	2964703.035	-5484959.903	1339500.342
GT164	12°13'18.6048"N	61°36'23.8734"W	9.63	442782.43	1350979.80	2964655.339	-5484532.496	1341398.428
GT165	12°12'09.0978"N	61°37'55.6109"W	107.71	440013.82	1348841.06	2962475.982	-5486332.407	1339331.617
GT167	12°13'32.5300"N	61°37'30.5342"W	61.09	440767.93	1351404.65	2962863.531	-5485454.862	1341827.531
GT168	12°13'43.1668"N	61°37'03.0293"W	28.80	441598.41	1351732.51	2963547.071	-5484971.056	1342140.136
GT169	12°08'21.3086"N	61°44'36.0670"W	44.93	427921.34	1341830.87	2952488.480	-5493319.450	1332475.942
GT170	12°08'58.7970"N	61°44'09.0857"W	-19.36	428735.61	1342983.06	2953062.504	-5492664.373	1333588.610
GT171	12°09'55.0751"N	61°43'55.4683"W	-33.99	429145.41	1344711.97	2953245.863	-5492136.045	1335276.092
GT172	12°11'00.6506"N	61°43'26.3076"W	-0.44	430024.53	1346726.92	2953836.511	-5491373.108	1337252.900
GT173	12°11'26.7199"N	61°43'02.6378"W	-34.56	430738.88	1347528.34	2954370.718	-5490855.813	1338028.721
GT174	12°12'31.4961"N	61°41'50.3950"W	-35.12	432919.45	1349520.22	2956093.978	-5489449.901	1339974.137
GT175	12°13'02.8413"N	61°41'18.5284"W	-33.27	433881.11	1350484.05	2956846.249	-5488815.340	1340915.927
GT176	12°13'39.1826"N	61°40'16.4192"W	0.30	435756.17	1351602.46	2958402.254	-5487745.520	1342014.448

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT177	12°07'21.6260"N	61°43'43.1597"W	455.55	429522.04	1339999.35	2954270.124	-5493254.950	1330769.147
GT178	12°08'15.6269"N	61°44'06.4818"W	179.68	428815.59	1341657.22	2953356.139	-5493044.270	1332333.584
GT179	12°08'09.3289"N	61°43'23.7153"W	355.89	430108.21	1341465.07	2954595.879	-5492619.357	1332181.420
GT180	12°08'34.1731"N	61°43'28.1114"W	176.66	429974.58	1342227.99	2954319.755	-5492386.622	1332890.122
GT181	12°09'53.7061"N	61°43'38.9189"W	66.91	429645.53	1344670.42	2953737.427	-5491993.754	1335256.233
GT182	12°10'19.7590"N	61°42'58.7077"W	176.98	430859.78	1345471.84	2954779.049	-5491363.958	1336062.033
GT183	12°09'50.7624"N	61°42'54.3300"W	76.70	430992.99	1344581.39	2954938.146	-5491380.319	1335169.869
GT184	12°09'02.5505"N	61°42'28.4180"W	337.33	431777.58	1343101.45	2955896.619	-5491508.147	1333776.444
GT185	12°09'54.8720"N	61°42'04.9484"W	270.59	432485.04	1344709.21	2956329.985	-5490816.178	1335334.176
GT186	12°10'10.8101"N	61°42'07.9041"W	303.20	432395.19	1345198.63	2956217.476	-5490795.714	1335819.829
GT187	12°10'40.6702"N	61°40'58.4001"W	352.63	434494.32	1346118.13	2957998.645	-5489671.448	1336727.230
GT188	12°11'42.5284"N	61°42'28.1538"W	-34.54	431780.28	1348014.99	2955240.040	-5490271.495	1338503.542
GT189	12°08'28.4531"N	61°41'37.1124"W	492.82	433329.16	1342055.89	2957439.089	-5491100.678	1332784.777
GT190	12°07'52.3754"N	61°41'20.0420"W	354.16	433846.30	1340948.40	2957939.772	-5490941.758	1331671.708
GT191	12°13'08.7089"N	61°40'09.7949"W	156.06	435957.44	1350666.73	2958744.825	-5487959.020	1341132.221
GT192	12°12'28.7446"N	61°39'52.3849"W	134.74	436484.94	1349439.91	2959321.457	-5487919.604	1339927.421
GT193	12°12'40.3875"N	61°40'41.4031"W	138.06	435003.54	1349795.72	2957982.823	-5488558.965	1340277.808
GT194	12°11'20.8846"N	61°39'15.9976"W	260.97	437586.95	1347357.04	2960557.318	-5487893.842	1337915.849
GT195	12°11'45.9450"N	61°38'40.1627"W	139.07	438668.69	1348128.15	2961376.866	-5487131.434	1338642.835
GT196	12°10'35.7746"N	61°39'18.3701"W	371.61	437517.03	1345971.44	2960684.437	-5488280.548	1336584.172
GT197	12°10'19.8923"N	61°38'52.4656"W	215.27	438300.40	1345484.64	2961349.982	-5487864.766	1336074.113
GT198	12°07'33.7429"N	61°40'34.5509"W	209.41	435221.78	1340377.72	2959140.649	-5490270.589	1331081.500
GT199	12°10'58.2162"N	61°38'24.2196"W	200.96	439152.35	1346662.84	2961976.820	-5487228.272	1337222.280
GT200	12°08'46.5567"N	61°36'31.6771"W	-33.94	442558.71	1342623.74	2965266.512	-5486159.319	1333217.836
GT201	12°08'29.2429"N	61°37'25.8500"W	-15.39	440922.35	1342089.66	2963887.351	-5487052.350	1332701.615
GT202	12°12'07.0566"N	61°40'13.6945"W	124.06	435841.93	1348773.00	2958816.378	-5488340.140	1339273.765

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Point	Latitude	Longitude	H <sup>Spheroid</sup> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
GT203	12°09'35.6497"N	61°43'39.4387"W	76.36	429630.38	1344115.82	2953783.334	-5492112.287	1334715.822



7.3 Appendix C: NGPP markers transformed into Grenada 2018 datum

Table 36 NGPP markers transformed in to Grenada 2018 datum

Existing NGPP points transformed into Grenada 2018 datum (ITRF2014 at epoch 2018.0)								
Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
LAS01	12°02'18.2932"N	61°45'12.0059"W	-21.32	426845.31	1330680.39	2952606.268	-5495834.698	1321554.461
LAS02	12°02'11.9038"N	61°45'16.9188"W	-20.97	426696.96	1330484.02	2952494.905	-5495941.395	1321362.516
LAS03	12°02'04.7461"N	61°45'15.5828"W	-21.89	426737.55	1330264.22	2952551.783	-5495961.880	1321147.216
LAS04	12°01'56.8505"N	61°45'07.8584"W	-19.80	426971.29	1330021.93	2952782.506	-5495897.665	1320910.362
LAS05	12°01'36.7924"N	61°45'18.0345"W	-29.94	426664.19	1329405.60	2952567.459	-5496147.763	1320305.433
LAS06	12°01'28.6145"N	61°45'21.8687"W	-33.66	426548.50	1329154.32	2952488.348	-5496245.565	1320058.878
LAS07	12°01'22.7207"N	61°45'31.9067"W	-33.89	426245.18	1328973.04	2952238.611	-5496422.282	1319881.697
LAS08	12°01'12.8134"N	61°45'34.0723"W	-26.64	426179.97	1328668.70	2952214.263	-5496515.384	1319585.450
LAS09	12°00'57.0475"N	61°45'27.6560"W	-20.90	426374.38	1328184.64	2952435.632	-5496517.358	1319112.802
LAS010	12°00'59.9993"N	61°45'25.4460"W	-12.77	426441.12	1328275.36	2952489.353	-5496476.093	1319203.211
LAS011	12°00'58.0820"N	61°45'23.4100"W	-20.50	426502.73	1328216.53	2952545.833	-5496451.094	1319143.978
LAS012	12°00'58.8835"N	61°45'20.7317"W	-16.25	426583.69	1328241.22	2952616.744	-5496411.901	1319168.953
LAS013	12°00'35.6243"N	61°45'55.0605"W	-28.34	425546.40	1327525.95	2951766.712	-5497023.871	1318467.373
LAS014	12°02'32.5468"N	61°44'52.5571"W	-34.51	427432.88	1331118.70	2953075.105	-5495464.426	1321980.066
LAS015	12°02'41.4345"N	61°44'43.1471"W	-34.69	427717.10	1331391.93	2953298.753	-5495279.347	1322247.119
LAS016	12°02'48.9498"N	61°44'50.8475"W	-31.46	427484.10	1331622.54	2953072.278	-5495349.928	1322473.640
LAS017	12°03'00.4093"N	61°44'58.8857"W	-35.40	427240.78	1331974.28	2952821.506	-5495396.862	1322817.195
LAS018	12°03'10.6431"N	61°44'57.6269"W	-29.42	427278.55	1332288.63	2952826.734	-5495326.156	1323125.981
LAS019	12°03'18.3490"N	61°45'07.1687"W	44.77	426989.88	1332525.04	2952583.451	-5495483.100	1323373.045
LAS020	12°03'30.2479"N	61°45'15.8307"W	-31.55	426727.71	1332890.26	2952281.203	-5495474.058	1323714.673
LAS021	12°03'42.5219"N	61°45'20.6804"W	-26.39	426580.77	1333267.11	2952117.087	-5495478.496	1324084.588
LAS022	12°03'54.2350"N	61°45'04.9222"W	36.53	427056.79	1333627.29	2952530.440	-5495240.883	1324449.715
LAS024	12°03'36.9017"N	61°44'54.0445"W	28.27	427386.10	1333095.22	2952869.103	-5495176.103	1323927.121

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
LAS025	12°03'26.1332"N	61°44'49.5035"W	-30.92	427523.68	1332764.61	2952995.405	-5495120.999	1323591.154
LAS026	12°03'17.3463"N	61°44'18.3661"W	-2.69	428465.20	1332495.62	2953864.680	-5494749.147	1323333.000
LAS027	12°03'30.1080"N	61°44'42.6920"W	-28.18	427729.47	1332886.88	2953166.058	-5495003.365	1323711.173
LAS028	12°03'31.2369"N	61°44'02.0106"W	25.11	428959.21	1332922.72	2954271.022	-5494460.325	1323756.228
LAS029	12°03'16.7245"N	61°43'39.1576"W	98.14	429650.48	1332477.67	2954957.708	-5494277.912	1323335.371
LAS030	12°03'14.9705"N	61°43'44.7912"W	116.21	429480.24	1332423.63	2954821.347	-5494384.093	1323286.436
LAS031	12°02'50.2320"N	61°43'53.2758"W	133.35	429224.49	1331663.57	2954678.443	-5494660.179	1322546.573
LAS032	12°01'04.9210"N	61°45'05.9624"W	13.65	427030.05	1328427.05	2953005.858	-5496192.204	1319356.635
LAS033	12°01'08.9403"N	61°45'02.6111"W	8.45	427131.26	1328550.59	2953080.577	-5496117.090	1319476.351
LAS034	12°01'11.7667"N	61°44'39.4163"W	-15.76	427832.45	1328638.04	2953678.833	-5495748.187	1319556.256
LAS035	12°01'08.6684"N	61°44'33.3515"W	-28.61	428015.90	1328543.05	2953843.860	-5495667.730	1319460.464
LAS036	12°01'17.6156"N	61°44'30.8119"W	-31.42	428092.42	1328817.92	2953883.114	-5495578.507	1319728.782
LAS037	12°01'17.2741"N	61°44'25.5696"W	-30.70	428250.93	1328807.58	2954024.155	-5495505.976	1319718.669
LAS038	12°02'57.5261"N	61°44'36.6696"W	3.60	427912.46	1331886.35	2953440.193	-5495128.679	1322738.691
LAS039	12°03'05.7766"N	61°44'45.2975"W	8.66	427651.40	1332139.51	2953187.620	-5495209.950	1322987.687
LAS040	12°03'08.1050"N	61°44'31.6355"W	57.78	428064.34	1332211.40	2953567.261	-5495043.486	1323067.915
LAS041	12°03'06.4062"N	61°44'26.7677"W	68.14	428211.54	1332159.37	2953706.899	-5494992.306	1323019.026
LAS042	12°03'07.0212"N	61°44'16.3521"W	92.73	428526.39	1332178.55	2953993.888	-5494860.855	1323042.642
LAS043	12°03'05.0380"N	61°44'22.2843"W	110.96	428347.12	1332117.47	2953850.322	-5494972.719	1322986.851
LAS044	12°03'00.0280"N	61°44'18.5052"W	158.94	428461.50	1331963.71	2953988.434	-5494988.240	1322846.306
LAS045	12°02'32.6451"N	61°44'10.5236"W	151.24	428703.60	1331122.91	2954280.656	-5495021.971	1322021.773
LAS046	12°02'20.1521"N	61°44'04.5166"W	134.65	428885.57	1330739.39	2954470.926	-5494992.176	1321642.859
LAS047	12°01'51.3986"N	61°43'48.8615"W	117.88	429359.71	1329856.73	2954967.465	-5494915.735	1320775.211
LAS048	12°01'46.0826"N	61°43'46.6199"W	97.79	429427.64	1329693.52	2955034.004	-5494896.302	1320611.256
LAS049	12°01'39.6083"N	61°43'35.3547"W	68.13	429768.42	1329495.01	2955340.002	-5494745.870	1320410.498
LAS050	12°01'32.7277"N	61°43'36.2018"W	55.20	429743.01	1329283.66	2955332.311	-5494785.670	1320201.011

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
LAS051	12°01'17.1631"N	61°43'33.8893"W	36.54	429813.41	1328805.69	2955432.466	-5494824.209	1319729.335
LAS052	12°01'13.5755"N	61°43'30.6926"W	25.81	429910.16	1328695.60	2955523.529	-5494789.383	1319619.277
LAS053	12°01'03.1688"N	61°43'31.4785"W	5.88	429886.72	1328375.95	2955524.902	-5494842.123	1319302.353
LAS054	12°00'57.9055"N	61°43'31.4021"W	-20.21	429889.19	1328214.30	2955530.801	-5494848.209	1319138.734
LAS055	12°00'48.9208"N	61°43'33.1165"W	-25.73	429837.64	1327938.29	2955509.797	-5494918.633	1318867.546
LAS056	12°00'41.9109"N	61°43'31.0009"W	-30.81	429901.82	1327723.06	2955585.040	-5494923.425	1318655.806
LAS057	12°00'30.7821"N	61°43'29.1121"W	-15.67	429959.26	1327381.31	2955676.080	-5494972.070	1318324.471
LAS058	12°01'05.9205"N	61°43'38.4811"W	3.47	429674.92	1328460.25	2955328.900	-5494924.875	1319384.554
LAS059	12°01'29.1227"N	61°43'55.8025"W	17.10	429150.54	1329172.35	2954803.431	-5495053.988	1320084.726
LAS060	12°01'33.8883"N	61°44'00.4954"W	20.45	429008.51	1329318.58	2954665.510	-5495097.227	1320228.652
LAS061	12°01'28.4604"N	61°44'07.2584"W	38.22	428804.21	1329151.68	2954510.020	-5495240.018	1320069.221
LAS062	12°01'37.8735"N	61°44'07.5105"W	44.66	428796.31	1329440.78	2954477.747	-5495196.095	1320353.466
LAS063	12°01'44.4815"N	61°43'59.8487"W	105.60	429027.75	1329643.96	2954690.054	-5495101.571	1320564.764
LAS064	12°01'51.6690"N	61°43'59.4736"W	125.03	429038.88	1329864.72	2954687.247	-5495072.390	1320784.829
LAS065	12°00'47.8447"N	61°44'12.3320"W	-23.17	428652.01	1327904.08	2954469.482	-5495488.709	1318835.739
LAS066	12°00'53.6615"N	61°44'20.9373"W	-32.95	428391.66	1328082.49	2954218.063	-5495570.768	1319008.529
LAS067	12°01'23.3952"N	61°44'24.5956"W	-26.09	428280.19	1328995.61	2954033.688	-5495461.491	1319903.594
LAS068	12°01'32.5809"N	61°44'21.2037"W	-24.23	428382.48	1329277.83	2954097.078	-5495362.721	1320180.049
LAS069	12°01'40.2058"N	61°44'14.9560"W	8.90	428571.14	1329512.19	2954255.755	-5495258.779	1320416.110
LAS070	12°01'46.0689"N	61°44'12.9450"W	-3.33	428631.77	1329692.33	2954285.888	-5495186.370	1320589.770
LAS071	12°01'55.7250"N	61°44'13.1758"W	-15.79	428624.50	1329988.89	2954244.682	-5495124.469	1320877.373
LAS072	12°02'01.6045"N	61°44'15.5230"W	-14.16	428553.37	1330169.41	2954165.071	-5495126.316	1321054.410
LAS073	12°02'26.5922"N	61°44'45.5450"W	-10.39	427645.03	1330936.01	2953291.163	-5495418.434	1321806.148
LAS074	12°02'28.1486"N	61°44'56.0641"W	-17.67	427326.98	1330983.52	2953002.810	-5495553.980	1321851.401
LAS075	12°00'43.3750"N	61°45'25.7441"W	-13.30	426432.56	1327764.76	2952531.480	-5496573.580	1318703.452
LAS076	12°00'29.5150"N	61°45'29.1035"W	-27.50	426331.36	1327338.99	2952477.321	-5496687.503	1318283.927

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Point	Latitude	Longitude	H <sub>Spheroid</sub> (m)	Easting (m) BWI Grid	Northing (m) BWI grid	X (m)	Y (m)	Z (m)
LAS077	12°00'19.8573"N	61°46'02.7227"W	-22.69	425315.14	1327041.49	2951612.805	-5497227.192	1317994.655
LAS078	12°00'14.7952"N	61°46'06.7548"W	-30.35	425193.36	1326885.92	2951517.102	-5497306.794	1317840.914
LAS079	12°00'31.8283"N	61°46'19.7775"W	-24.38	424799.18	1327408.73	2951121.286	-5497402.344	1318354.103
LAS080	12°00'44.2309"N	61°46'24.1928"W	-8.44	424665.37	1327789.54	2950973.473	-5497409.376	1318730.188
LAS081	12°00'13.8067"N	61°45'29.9098"W	-31.81	426307.41	1326856.51	2952501.351	-5496783.785	1317810.898
LAS082	12°00'04.7988"N	61°45'28.4915"W	-33.42	426350.53	1326579.89	2952565.640	-5496812.805	1317539.818
LAS083	12°00'07.0365"N	61°45'23.4498"W	-8.85	426502.91	1326648.75	2952704.605	-5496749.209	1317612.186
LAS084	12°00'04.0948"N	61°45'19.4943"W	-15.01	426622.59	1326558.51	2952816.057	-5496703.836	1317522.486
LAS085	12°01'17.5537"N	61°45'56.8458"W	-34.65	425491.32	1328813.69	2951589.322	-5496807.672	1319726.247
LAS086	12°01'40.8978"N	61°44'57.2155"W	39.03	427293.50	1329532.26	2953141.675	-5495885.986	1320443.188
LAS087	12°01'46.0857"N	61°44'56.4683"W	24.71	427315.94	1329691.62	2953139.231	-5495833.685	1320596.120
LAS088	12°01'50.7615"N	61°44'51.4114"W	31.80	427468.70	1329835.36	2953263.076	-5495741.011	1320738.122
LAS089	12°00'18.0259"N	61°45'16.4754"W	-7.72	426713.49	1326986.46	2952857.749	-5496588.474	1317942.725
LAS090	12°00'12.6245"N	61°45'15.8679"W	-8.33	426732.00	1326820.58	2952889.994	-5496609.662	1317780.249
LAS091	11°59'47.7577"N	61°45'16.6568"W	-0.06	426708.83	1326056.82	2952947.985	-5496768.033	1317034.552
LAS092	11°59'51.1878"N	61°45'18.6188"W	-3.78	426649.42	1326162.11	2952883.609	-5496773.616	1317136.876
LAS093	11°59'32.0393"N	61°45'32.2832"W	-23.39	426236.77	1325573.64	2952568.245	-5497060.053	1316557.248
LAS094	11°59'39.2102"N	61°45'31.9597"W	-24.64	426246.36	1325793.89	2952554.622	-5497014.008	1316772.528
LAS095	12°00'29.9314"N	61°45'47.7344"W	-32.66	425768.05	1327351.29	2951977.172	-5496947.372	1318295.367
LAS096	12°00'43.3399"N	61°45'35.5317"W	-25.72	426136.64	1327763.43	2952265.014	-5496703.172	1318699.814
LAS097	12°01'07.2445"N	61°45'20.3154"W	-11.66	426596.04	1328498.02	2952604.646	-5496362.772	1319421.197
LAS098	12°01'15.6327"N	61°45'16.3830"W	-1.55	426714.70	1328755.76	2952688.709	-5496267.905	1319675.408





**7.4 Appendix D: 3-Parameter Helmert transformation set grid**

Node ID	Latitude (N) Grenada 2018	Longitude (W) Grenada 2018	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	dX (m) To Grenada 53	dY (m) To Grenada 53	dZ (m) To Grenada 53
1	12.24560480	-61.80478203	630000	1354000	-88.471	-184.244	-100.7612
2	12.24556463	-61.79558947	631000	1354000	-88.459	-184.266	-100.7558
3	12.24552416	-61.78639693	632000	1354000	-88.447	-184.289	-100.7503
4	12.24548338	-61.77720443	633000	1354000	-88.387	-184.285	-100.7449
5	12.24544230	-61.76801196	634000	1354000	-88.378	-184.309	-100.7394
6	12.24540090	-61.75881953	635000	1354000	-88.363	-184.330	-100.7339
7	12.24535920	-61.74962713	636000	1354000	-88.359	-184.356	-100.7284
8	12.24531719	-61.74043476	637000	1354000	-88.394	-184.404	-100.7229
9	12.24527488	-61.73124243	638000	1354000	-88.451	-184.463	-100.7174
10	12.24523226	-61.72205013	639000	1354000	-88.441	-184.487	-100.7119
11	12.24518932	-61.71285787	640000	1354000	-88.413	-184.501	-100.7063
12	12.24514609	-61.70366564	641000	1354000	-88.408	-184.527	-100.7009
13	12.24510254	-61.69447344	642000	1354000	-88.403	-184.553	-100.6954
14	12.24505869	-61.68528128	643000	1354000	-88.398	-184.579	-100.6899
15	12.24501453	-61.67608916	644000	1354000	-88.400	-184.608	-100.6844
16	12.24497006	-61.66689707	645000	1354000	-88.422	-184.649	-100.6789
17	12.24492528	-61.65770502	646000	1354000	-88.441	-184.688	-100.6733
18	12.24488020	-61.64851301	647000	1354000	-88.461	-184.728	-100.6678
19	12.24483481	-61.63932103	648000	1354000	-88.602	-184.833	-100.6622
20	12.24478911	-61.63012909	649000	1354000	-88.597	-184.859	-100.6565
21	12.24474310	-61.62093718	650000	1354000	-88.594	-184.886	-100.6511
22	12.24469679	-61.61174531	651000	1354000	-88.591	-184.914	-100.6456
23	12.24465017	-61.60255349	652000	1354000	-88.588	-184.941	-100.6401
24	12.24460324	-61.59336169	653000	1354000	-88.589	-184.970	-100.6346
25	12.24455601	-61.58416994	654000	1354000	-88.577	-184.993	-100.6291
26	12.23656355	-61.80482270	630000	1353000	-88.470	-184.247	-100.7607
27	12.23652341	-61.79563044	631000	1353000	-88.458	-184.269	-100.7553
28	12.23648297	-61.78643822	632000	1353000	-88.446	-184.291	-100.7497
29	12.23644223	-61.77724603	633000	1353000	-88.389	-184.290	-100.7442
30	12.23640117	-61.76805388	634000	1353000	-88.380	-184.313	-100.7389
31	12.23635981	-61.75886176	635000	1353000	-88.366	-184.335	-100.7333
32	12.23631814	-61.74966967	636000	1353000	-88.362	-184.362	-100.7279
33	12.23627616	-61.74047761	637000	1353000	-88.393	-184.407	-100.7223
34	12.23623388	-61.73128559	638000	1353000	-88.380	-184.428	-100.7168
35	12.23619129	-61.72209361	639000	1353000	-88.438	-184.489	-100.7113
36	12.23614839	-61.71290165	640000	1353000	-88.408	-184.501	-100.7059
37	12.23610518	-61.70370974	641000	1353000	-88.403	-184.527	-100.7004
38	12.23606167	-61.69451786	642000	1353000	-88.399	-184.554	-100.6949
39	12.23601785	-61.68532601	643000	1353000	-88.396	-184.581	-100.6893
40	12.23597372	-61.67613420	644000	1353000	-88.399	-184.611	-100.6839
41	12.23592929	-61.66694242	645000	1353000	-88.414	-184.648	-100.6784
42	12.23588455	-61.65775069	646000	1353000	-88.446	-184.694	-100.6728
43	12.23583950	-61.64855898	647000	1353000	-88.476	-184.739	-100.6672

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Node ID	Latitude (N) Grenada 2018	Longitude (W) Grenada 2018	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	dX (m) To Grenada 53	dY (m) To Grenada 53	dZ (m) To Grenada 53
44	12.23579414	-61.63936732	648000	1353000	-88.595	-184.833	-100.6616
45	12.23574848	-61.63017569	649000	1353000	-88.592	-184.860	-100.6561
46	12.23570251	-61.62098410	650000	1353000	-88.591	-184.888	-100.6505
47	12.23565623	-61.61179254	651000	1353000	-88.590	-184.916	-100.6451
48	12.23560965	-61.60260102	652000	1353000	-88.589	-184.945	-100.6395
49	12.23556275	-61.59340954	653000	1353000	-88.588	-184.973	-100.6340
50	12.23551555	-61.58421810	654000	1353000	-88.575	-184.995	-100.6285
51	12.22752229	-61.80486333	630000	1352000	-88.502	-184.267	-100.7601
52	12.22748219	-61.79567138	631000	1352000	-88.489	-184.289	-100.7546
53	12.22744178	-61.78647948	632000	1352000	-88.476	-184.311	-100.7492
54	12.22740106	-61.77728760	633000	1352000	-88.418	-184.309	-100.7437
55	12.22736004	-61.76809576	634000	1352000	-88.412	-184.334	-100.7382
56	12.22731871	-61.75890395	635000	1352000	-88.404	-184.359	-100.7328
57	12.22727707	-61.74971217	636000	1352000	-88.406	-184.388	-100.7273
58	12.22723513	-61.74052043	637000	1352000	-88.426	-184.428	-100.7218
59	12.22719287	-61.73132872	638000	1352000	-88.417	-184.452	-100.7162
60	12.22715032	-61.72213705	639000	1352000	-88.409	-184.476	-100.7107
61	12.22710745	-61.71294541	640000	1352000	-88.409	-184.505	-100.7053
62	12.22706428	-61.70375380	641000	1352000	-88.408	-184.533	-100.6998
63	12.22702080	-61.69456223	642000	1352000	-88.407	-184.561	-100.6943
64	12.22697701	-61.68537070	643000	1352000	-88.403	-184.589	-100.6888
65	12.22693292	-61.67617920	644000	1352000	-88.393	-184.612	-100.6833
66	12.22688852	-61.66698774	645000	1352000	-88.414	-184.652	-100.6779
67	12.22684381	-61.65779631	646000	1352000	-88.466	-184.709	-100.6723
68	12.22679879	-61.64860492	647000	1352000	-88.513	-184.763	-100.6667
69	12.22675347	-61.63941357	648000	1352000	-88.548	-184.810	-100.6612
70	12.22670784	-61.63022225	649000	1352000	-88.563	-184.847	-100.6555
71	12.22666191	-61.62103097	650000	1352000	-88.571	-184.881	-100.6501
72	12.22661566	-61.61183973	651000	1352000	-88.579	-184.914	-100.6445
73	12.22656912	-61.60264852	652000	1352000	-88.585	-184.946	-100.6391
74	12.22652226	-61.59345736	653000	1352000	-88.586	-184.976	-100.6335
75	12.22647509	-61.58426623	654000	1352000	-88.573	-184.997	-100.6281
76	12.21848103	-61.80490392	630000	1351000	-88.498	-184.269	-100.7596
77	12.21844096	-61.79571230	631000	1351000	-88.485	-184.291	-100.7541
78	12.21840058	-61.78652070	632000	1351000	-88.472	-184.312	-100.7487
79	12.21835989	-61.77732913	633000	1351000	-88.415	-184.311	-100.7432
80	12.21831890	-61.76813760	634000	1351000	-88.409	-184.336	-100.7376
81	12.21827760	-61.75894611	635000	1351000	-88.400	-184.360	-100.7322
82	12.21823599	-61.74975464	636000	1351000	-88.402	-184.390	-100.7267
83	12.21819408	-61.74056321	637000	1351000	-88.418	-184.427	-100.7212
84	12.21815186	-61.73137182	638000	1351000	-88.409	-184.451	-100.7158
85	12.21810934	-61.72218045	639000	1351000	-88.400	-184.475	-100.7102
86	12.21806650	-61.71298913	640000	1351000	-88.404	-184.506	-100.7048
87	12.21802336	-61.70379783	641000	1351000	-88.406	-184.536	-100.6993
88	12.21797992	-61.69460658	642000	1351000	-88.408	-184.566	-100.6938
89	12.21793616	-61.68541535	643000	1351000	-88.410	-184.595	-100.6883
90	12.21789210	-61.67622417	644000	1351000	-88.411	-184.625	-100.6828
91	12.21784774	-61.66703302	645000	1351000	-88.435	-184.667	-100.6773

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Node ID	Latitude (N) Grenada 2018	Longitude (W) Grenada 2018	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	dX (m) To Grenada 53	dY (m) To Grenada 53	dZ (m) To Grenada 53
92	12.21780306	-61.65784190	646000	1351000	-88.483	-184.721	-100.6717
93	12.21775808	-61.64865082	647000	1351000	-88.537	-184.779	-100.6661
94	12.21771279	-61.63945978	648000	1351000	-88.569	-184.825	-100.6606
95	12.21766720	-61.63026878	649000	1351000	-88.574	-184.857	-100.6551
96	12.21762130	-61.62107781	650000	1351000	-88.580	-184.889	-100.6497
97	12.21757509	-61.61188688	651000	1351000	-88.584	-184.920	-100.6441
98	12.21752858	-61.60269599	652000	1351000	-88.586	-184.950	-100.6385
99	12.21748176	-61.59350513	653000	1351000	-88.577	-184.974	-100.6331
100	12.21743463	-61.58431431	654000	1351000	-88.568	-184.998	-100.6276
101	12.20943976	-61.80494449	630000	1350000	-88.525	-184.287	-100.7590
102	12.20939972	-61.79575317	631000	1350000	-88.512	-184.309	-100.7535
103	12.20935937	-61.78656189	632000	1350000	-88.467	-184.313	-100.7480
104	12.20931872	-61.77737064	633000	1350000	-88.412	-184.312	-100.7426
105	12.20927775	-61.76817942	634000	1350000	-88.405	-184.337	-100.7371
106	12.20923649	-61.75898823	635000	1350000	-88.396	-184.361	-100.7317
107	12.20919491	-61.74979708	636000	1350000	-88.396	-184.390	-100.7261
108	12.20915303	-61.74060596	637000	1350000	-88.410	-184.427	-100.7207
109	12.20911084	-61.73141488	638000	1350000	-88.401	-184.450	-100.7152
110	12.20906835	-61.72222383	639000	1350000	-88.390	-184.473	-100.7097
111	12.20902555	-61.71303281	640000	1350000	-88.396	-184.505	-100.7043
112	12.20898244	-61.70384183	641000	1350000	-88.401	-184.536	-100.6988
113	12.20893903	-61.69465088	642000	1350000	-88.409	-184.569	-100.6933
114	12.20889531	-61.68545997	643000	1350000	-88.417	-184.603	-100.6878
115	12.20885128	-61.67626910	644000	1350000	-88.419	-184.632	-100.6824
116	12.20880695	-61.66707826	645000	1350000	-88.451	-184.679	-100.6768
117	12.20876231	-61.65788746	646000	1350000	-88.489	-184.728	-100.6712
118	12.20871736	-61.64869669	647000	1350000	-88.534	-184.781	-100.6657
119	12.20867211	-61.63950596	648000	1350000	-88.550	-184.819	-100.6602
120	12.20862655	-61.63031527	649000	1350000	-88.541	-184.842	-100.6547
121	12.20858069	-61.62112461	650000	1350000	-88.537	-184.869	-100.6492
122	12.20853451	-61.61193399	651000	1350000	-88.536	-184.898	-100.6437
123	12.20848804	-61.60274341	652000	1350000	-88.536	-184.927	-100.6382
124	12.20844125	-61.59355287	653000	1350000	-88.532	-184.953	-100.6328
125	12.20839416	-61.58436236	654000	1350000	-88.528	-184.980	-100.6272
126	12.20039848	-61.80498502	630000	1349000	-88.532	-184.294	-100.7583
127	12.20035847	-61.79579402	631000	1349000	-88.519	-184.316	-100.7528
128	12.20031816	-61.78660305	632000	1349000	-88.507	-184.338	-100.7474
129	12.20027753	-61.77741210	633000	1349000	-88.402	-184.310	-100.7420
130	12.20023660	-61.76822120	634000	1349000	-88.395	-184.335	-100.7365
131	12.20019537	-61.75903032	635000	1349000	-88.387	-184.360	-100.7311
132	12.20015382	-61.74983948	636000	1349000	-88.387	-184.389	-100.7256
133	12.20011198	-61.74064867	637000	1349000	-88.406	-184.428	-100.7201
134	12.20006982	-61.73145790	638000	1349000	-88.398	-184.452	-100.7148
135	12.20002736	-61.72226716	639000	1349000	-88.390	-184.476	-100.7092
136	12.19998459	-61.71307646	640000	1349000	-88.381	-184.500	-100.7038
137	12.19994152	-61.70388579	641000	1349000	-88.390	-184.534	-100.6982
138	12.19989814	-61.69469516	642000	1349000	-88.404	-184.570	-100.6928
139	12.19985445	-61.68550456	643000	1349000	-88.419	-184.607	-100.6872

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Node ID	Latitude (N) Grenada 2018	Longitude (W) Grenada 2018	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	dX (m) To Grenada 53	dY (m) To Grenada 53	dZ (m) To Grenada 53
140	12.19981046	-61.67631399	644000	1349000	-88.430	-184.642	-100.6818
141	12.19976616	-61.66712347	645000	1349000	-88.458	-184.686	-100.6762
142	12.19972155	-61.65793298	646000	1349000	-88.483	-184.728	-100.6708
143	12.19967664	-61.64874252	647000	1349000	-88.497	-184.765	-100.6652
144	12.19963142	-61.63955210	648000	1349000	-88.506	-184.798	-100.6598
145	12.19958590	-61.63036172	649000	1349000	-88.502	-184.825	-100.6543
146	12.19954007	-61.62117137	650000	1349000	-88.504	-184.855	-100.6487
147	12.19949393	-61.61198107	651000	1349000	-88.506	-184.885	-100.6432
148	12.19944749	-61.60279080	652000	1349000	-88.508	-184.915	-100.6377
149	12.19940074	-61.59360057	653000	1349000	-88.507	-184.943	-100.6323
150	12.19935368	-61.58441037	654000	1349000	-88.506	-184.972	-100.6267
151	12.19135720	-61.80502553	630000	1348000	-88.527	-184.295	-100.7578
152	12.19131722	-61.79583483	631000	1348000	-88.515	-184.317	-100.7524
153	12.19127694	-61.78664417	632000	1348000	-88.502	-184.339	-100.7469
154	12.19123634	-61.77745354	633000	1348000	-88.454	-184.342	-100.7414
155	12.19119545	-61.76826294	634000	1348000	-88.449	-184.368	-100.7360
156	12.19115424	-61.75907238	635000	1348000	-88.380	-184.360	-100.7306
157	12.19111273	-61.74988185	636000	1348000	-88.378	-184.387	-100.7251
158	12.19107091	-61.74069136	637000	1348000	-88.397	-184.426	-100.7197
159	12.19102879	-61.73150089	638000	1348000	-88.387	-184.449	-100.7143
160	12.19098636	-61.72231047	639000	1348000	-88.374	-184.471	-100.7087
161	12.19094363	-61.71312007	640000	1348000	-88.367	-184.496	-100.7032
162	12.19090059	-61.70392972	641000	1348000	-88.380	-184.532	-100.6977
163	12.19085724	-61.69473939	642000	1348000	-88.399	-184.571	-100.6923
164	12.19081358	-61.68554911	643000	1348000	-88.417	-184.610	-100.6867
165	12.19076963	-61.67635885	644000	1348000	-88.432	-184.646	-100.6813
166	12.19072536	-61.66716864	645000	1348000	-88.465	-184.693	-100.6757
167	12.19068079	-61.65797846	646000	1348000	-88.460	-184.719	-100.6702
168	12.19063591	-61.64878831	647000	1348000	-88.459	-184.748	-100.6647
169	12.19059073	-61.63959821	648000	1348000	-88.459	-184.776	-100.6593
170	12.19054524	-61.63040814	649000	1348000	-88.462	-184.807	-100.6538
171	12.19049944	-61.62121810	650000	1348000	-88.471	-184.840	-100.6483
172	12.19045334	-61.61202811	651000	1348000	-88.478	-184.873	-100.6427
173	12.19040693	-61.60283815	652000	1348000	-88.482	-184.905	-100.6373
174	12.19036022	-61.59364823	653000	1348000	-88.486	-184.935	-100.6319
175	12.19031320	-61.58445834	654000	1348000	-88.486	-184.964	-100.6263
176	12.18231592	-61.80506599	630000	1347000	-88.529	-184.299	-100.7573
177	12.18227597	-61.79587561	631000	1347000	-88.510	-184.318	-100.7518
178	12.18223571	-61.78668526	632000	1347000	-88.497	-184.339	-100.7463
179	12.18219515	-61.77749494	633000	1347000	-88.449	-184.343	-100.7410
180	12.18215428	-61.76830466	634000	1347000	-88.444	-184.369	-100.7355
181	12.18211311	-61.75911440	635000	1347000	-88.440	-184.395	-100.7300
182	12.18207163	-61.74992419	636000	1347000	-88.440	-184.424	-100.7245
183	12.18202985	-61.74073400	637000	1347000	-88.390	-184.426	-100.7192
184	12.18198776	-61.73154385	638000	1347000	-88.379	-184.449	-100.7137
185	12.18194536	-61.72235374	639000	1347000	-88.360	-184.467	-100.7081
186	12.18190266	-61.71316365	640000	1347000	-88.351	-184.491	-100.7028
187	12.18185965	-61.70397361	641000	1347000	-88.373	-184.532	-100.6973

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188	12.18181633	-61.69478359	642000	1347000	-88.396	-184.573	-100.6917
189	12.18177271	-61.68559362	643000	1347000	-88.417	-184.613	-100.6863
190	12.18172879	-61.67640368	644000	1347000	-88.434	-184.651	-100.6807
191	12.18168456	-61.66721377	645000	1347000	-88.443	-184.685	-100.6753
192	12.18164002	-61.65802390	646000	1347000	-88.442	-184.713	-100.6698
193	12.18159517	-61.64883407	647000	1347000	-88.431	-184.736	-100.6643
194	12.18155003	-61.63964427	648000	1347000	-88.418	-184.758	-100.6589
195	12.18150457	-61.63045451	649000	1347000	-88.429	-184.792	-100.6534
196	12.18145881	-61.62126479	650000	1347000	-88.442	-184.828	-100.6478
197	12.18141274	-61.61207511	651000	1347000	-88.452	-184.863	-100.6423
198	12.18136637	-61.60288546	652000	1347000	-88.460	-184.896	-100.6368
199	12.18131969	-61.59369585	653000	1347000	-88.359	-184.870	-100.6316
200	12.18127271	-61.58450628	654000	1347000	-88.479	-184.964	-100.6259
201	12.17327462	-61.80510643	630000	1346000	-88.484	-184.279	-100.7568
202	12.17323470	-61.79591636	631000	1346000	-88.472	-184.301	-100.7514
203	12.17319448	-61.78672632	632000	1346000	-88.463	-184.324	-100.7458
204	12.17315395	-61.77753631	633000	1346000	-88.423	-184.332	-100.7404
205	12.17311311	-61.76834634	634000	1346000	-88.417	-184.357	-100.7350
206	12.17307197	-61.75915640	635000	1346000	-88.409	-184.382	-100.7296
207	12.17303052	-61.74996649	636000	1346000	-88.403	-184.407	-100.7241
208	12.17298877	-61.74077661	637000	1346000	-88.398	-184.433	-100.7186
209	12.17294671	-61.73158677	638000	1346000	-88.375	-184.450	-100.7132
210	12.17290435	-61.72239697	639000	1346000	-88.363	-184.472	-100.7077
211	12.17286168	-61.71320720	640000	1346000	-88.361	-184.500	-100.7022
212	12.17281870	-61.70401746	641000	1346000	-88.377	-184.537	-100.6967
213	12.17277542	-61.69482776	642000	1346000	-88.398	-184.577	-100.6913
214	12.17273184	-61.68563810	643000	1346000	-88.419	-184.617	-100.6858
215	12.17268794	-61.67644846	644000	1346000	-88.451	-184.664	-100.6803
216	12.17264375	-61.66725887	645000	1346000	-88.458	-184.696	-100.6748
217	12.17259924	-61.65806931	646000	1346000	-88.454	-184.723	-100.6693
218	12.17255443	-61.64887979	647000	1346000	-88.438	-184.743	-100.6638
219	12.17250932	-61.63969030	648000	1346000	-88.422	-184.763	-100.6584
220	12.17246390	-61.63050086	649000	1346000	-88.421	-184.792	-100.6529
221	12.17241817	-61.62131144	650000	1346000	-88.430	-184.825	-100.6475
222	12.17237214	-61.61212207	651000	1346000	-88.438	-184.859	-100.6420
223	12.17232580	-61.60293273	652000	1346000	-88.445	-184.891	-100.6365
224	12.17227916	-61.59374343	653000	1346000	-88.359	-184.873	-100.6312
225	12.17223221	-61.58455417	654000	1346000	-88.347	-184.896	-100.6257
226	12.16423333	-61.80514684	630000	1345000	-88.485	-184.282	-100.7563
227	12.16419344	-61.79595707	631000	1345000	-88.473	-184.304	-100.7507
228	12.16415324	-61.78676734	632000	1345000	-88.460	-184.326	-100.7454
229	12.16411274	-61.77757765	633000	1345000	-88.433	-184.340	-100.7399
230	12.16407194	-61.76838798	634000	1345000	-88.418	-184.361	-100.7344
231	12.16403083	-61.75919835	635000	1345000	-88.411	-184.386	-100.7290
232	12.16398941	-61.75000876	636000	1345000	-88.406	-184.412	-100.7235
233	12.16394769	-61.74081919	637000	1345000	-88.404	-184.440	-100.7181
234	12.16390567	-61.73162966	638000	1345000	-88.386	-184.459	-100.7126
235	12.16386333	-61.72244017	639000	1345000	-88.377	-184.483	-100.7072

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236	12.16382070	-61.71325071	640000	1345000	-88.375	-184.511	-100.7018
237	12.16377775	-61.70406128	641000	1345000	-88.386	-184.545	-100.6962
238	12.16373451	-61.69487189	642000	1345000	-88.401	-184.582	-100.6907
239	12.16369095	-61.68568254	643000	1345000	-88.418	-184.620	-100.6853
240	12.16364709	-61.67649322	644000	1345000	-88.450	-184.666	-100.6797
241	12.16360293	-61.66730393	645000	1345000	-88.460	-184.701	-100.6743
242	12.16355846	-61.65811468	646000	1345000	-88.458	-184.728	-100.6687
243	12.16351368	-61.64892547	647000	1345000	-88.439	-184.747	-100.6634
244	12.16346860	-61.63973630	648000	1345000	-88.420	-184.765	-100.6579
245	12.16342322	-61.63054716	649000	1345000	-88.418	-184.793	-100.6524
246	12.16337753	-61.62135806	650000	1345000	-88.424	-184.825	-100.6470
247	12.16333153	-61.61216899	651000	1345000	-88.428	-184.857	-100.6415
248	12.16328523	-61.60297997	652000	1345000	-88.433	-184.888	-100.6360
249	12.16323862	-61.59379098	653000	1345000	-88.358	-184.876	-100.6306
250	12.16319171	-61.58460203	654000	1345000	-88.350	-184.901	-100.6252
251	12.15519202	-61.80518721	630000	1344000	-88.485	-184.286	-100.7556
252	12.15515216	-61.79599776	631000	1344000	-88.473	-184.308	-100.7502
253	12.15511200	-61.78680834	632000	1344000	-88.461	-184.330	-100.7447
254	12.15507153	-61.77761895	633000	1344000	-88.434	-184.345	-100.7393
255	12.15503076	-61.76842960	634000	1344000	-88.428	-184.370	-100.7338
256	12.15498968	-61.75924028	635000	1344000	-88.410	-184.389	-100.7285
257	12.15494829	-61.75005099	636000	1344000	-88.405	-184.415	-100.7230
258	12.15490661	-61.74086174	637000	1344000	-88.409	-184.446	-100.7175
259	12.15486461	-61.73167252	638000	1344000	-88.398	-184.469	-100.7121
260	12.15482231	-61.72248333	639000	1344000	-88.391	-184.494	-100.7066
261	12.15477971	-61.71329418	640000	1344000	-88.391	-184.523	-100.7012
262	12.15473680	-61.70410507	641000	1344000	-88.397	-184.555	-100.6958
263	12.15469358	-61.69491599	642000	1344000	-88.407	-184.589	-100.6902
264	12.15465006	-61.68572694	643000	1344000	-88.421	-184.625	-100.6847
265	12.15460624	-61.67653793	644000	1344000	-88.434	-184.661	-100.6793
266	12.15456211	-61.66734896	645000	1344000	-88.448	-184.697	-100.6738
267	12.15451767	-61.65816002	646000	1344000	-88.444	-184.724	-100.6683
268	12.15447293	-61.64897112	647000	1344000	-88.434	-184.747	-100.6630
269	12.15442789	-61.63978226	648000	1344000	-88.429	-184.774	-100.6574
270	12.15438253	-61.63059343	649000	1344000	-88.416	-184.796	-100.6520
271	12.15433688	-61.62140464	650000	1344000	-88.420	-184.827	-100.6465
272	12.15429092	-61.61221588	651000	1344000	-88.422	-184.857	-100.6410
273	12.15424465	-61.60302717	652000	1344000	-88.416	-184.882	-100.6355
274	12.15419808	-61.59383849	653000	1344000	-88.362	-184.882	-100.6301
275	12.15415120	-61.58464985	654000	1344000	-88.350	-184.904	-100.6248
276	12.14615071	-61.80522755	630000	1343000	-88.495	-184.294	-100.7550
277	12.14611088	-61.79603841	631000	1343000	-88.483	-184.316	-100.7497
278	12.14607075	-61.78684930	632000	1343000	-88.471	-184.339	-100.7442
279	12.14603031	-61.77766022	633000	1343000	-88.439	-184.350	-100.7388
280	12.14598957	-61.76847118	634000	1343000	-88.434	-184.376	-100.7333
281	12.14594852	-61.75928217	635000	1343000	-88.429	-184.402	-100.7279
282	12.14590717	-61.75009319	636000	1343000	-88.423	-184.428	-100.7225
283	12.14586551	-61.74090425	637000	1343000	-88.411	-184.450	-100.7170

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Node ID	Latitude (N) Grenada 2018	Longitude (W) Grenada 2018	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	dX (m) To Grenada 53	dY (m) To Grenada 53	dZ (m) To Grenada 53
284	12.14582355	-61.73171534	638000	1343000	-88.396	-184.471	-100.7115
285	12.14578128	-61.72252646	639000	1343000	-88.376	-184.489	-100.7061
286	12.14573871	-61.71333762	640000	1343000	-88.395	-184.528	-100.7007
287	12.14569584	-61.70414882	641000	1343000	-88.397	-184.558	-100.6952
288	12.14565265	-61.69496005	642000	1343000	-88.401	-184.589	-100.6897
289	12.14560917	-61.68577131	643000	1343000	-88.389	-184.611	-100.6843
290	12.14556537	-61.67658261	644000	1343000	-88.404	-184.648	-100.6789
291	12.14552128	-61.66739395	645000	1343000	-88.426	-184.689	-100.6733
292	12.14547688	-61.65820532	646000	1343000	-88.427	-184.718	-100.6679
293	12.14543217	-61.64901673	647000	1343000	-88.425	-184.746	-100.6625
294	12.14538716	-61.63982818	648000	1343000	-88.417	-184.770	-100.6569
295	12.14534184	-61.63063966	649000	1343000	-88.419	-184.800	-100.6515
296	12.14529622	-61.62145118	650000	1343000	-88.417	-184.828	-100.6460
297	12.14525030	-61.61226273	651000	1343000	-88.417	-184.857	-100.6407
298	12.14520407	-61.60307433	652000	1343000	-88.417	-184.886	-100.6351
299	12.14515753	-61.59388596	653000	1343000	-88.365	-184.887	-100.6297
300	12.14511069	-61.58469763	654000	1343000	-88.353	-184.909	-100.6243
301	12.13710939	-61.80526786	630000	1342000	-88.494	-184.297	-100.7546
302	12.13706960	-61.79607902	631000	1342000	-88.482	-184.319	-100.7491
303	12.13702949	-61.78689022	632000	1342000	-88.469	-184.341	-100.7436
304	12.13698909	-61.77770146	633000	1342000	-88.434	-184.351	-100.7383
305	12.13694838	-61.76851272	634000	1342000	-88.430	-184.378	-100.7328
306	12.13690736	-61.75932402	635000	1342000	-88.426	-184.404	-100.7274
307	12.13686604	-61.75013536	636000	1342000	-88.421	-184.430	-100.7220
308	12.13682441	-61.74094672	637000	1342000	-88.408	-184.452	-100.7166
309	12.13678248	-61.73175812	638000	1342000	-88.392	-184.472	-100.7111
310	12.13674025	-61.72256956	639000	1342000	-88.374	-184.491	-100.7057
311	12.13669771	-61.71338103	640000	1342000	-88.386	-184.526	-100.7002
312	12.13665487	-61.70419253	641000	1342000	-88.385	-184.555	-100.6947
313	12.13661172	-61.69500407	642000	1342000	-88.388	-184.585	-100.6893
314	12.13656826	-61.68581565	643000	1342000	-88.391	-184.616	-100.6838
315	12.13652451	-61.67662726	644000	1342000	-88.397	-184.648	-100.6784
316	12.13648044	-61.66743890	645000	1342000	-88.399	-184.678	-100.6730
317	12.13643608	-61.65825059	646000	1342000	-88.403	-184.709	-100.6674
318	12.13639140	-61.64906230	647000	1342000	-88.398	-184.735	-100.6620
319	12.13634643	-61.63987406	648000	1342000	-88.404	-184.767	-100.6566
320	12.13630115	-61.63068585	649000	1342000	-88.405	-184.796	-100.6511
321	12.13625556	-61.62149768	650000	1342000	-88.409	-184.827	-100.6456
322	12.13620967	-61.61230954	651000	1342000	-88.408	-184.855	-100.6401
323	12.13616347	-61.60312145	652000	1342000	-88.407	-184.884	-100.6346
324	12.13611697	-61.59393339	653000	1342000	-88.364	-184.890	-100.6293
325	12.13607017	-61.58474537	654000	1342000	-88.352	-184.912	-100.6239
326	12.12806807	-61.80530813	630000	1341000	-88.455	-184.279	-100.7541
327	12.12802830	-61.79611961	631000	1341000	-88.447	-184.304	-100.7485
328	12.12798823	-61.78693112	632000	1341000	-88.438	-184.328	-100.7432
329	12.12794786	-61.77774266	633000	1341000	-88.423	-184.348	-100.7377
330	12.12790718	-61.76855424	634000	1341000	-88.419	-184.375	-100.7322
331	12.12786619	-61.75936585	635000	1341000	-88.417	-184.402	-100.7269

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332	12.12782490	-61.75017749	636000	1341000	-88.415	-184.430	-100.7215
333	12.12778331	-61.74098917	637000	1341000	-88.401	-184.452	-100.7160
334	12.12774141	-61.73180088	638000	1341000	-88.380	-184.469	-100.7106
335	12.12769921	-61.72261262	639000	1341000	-88.362	-184.488	-100.7051
336	12.12765670	-61.71342440	640000	1341000	-88.364	-184.518	-100.6997
337	12.12761389	-61.70423621	641000	1341000	-88.367	-184.548	-100.6943
338	12.12757078	-61.69504806	642000	1341000	-88.374	-184.581	-100.6889
339	12.12752736	-61.68585995	643000	1341000	-88.373	-184.609	-100.6834
340	12.12748363	-61.67667187	644000	1341000	-88.376	-184.640	-100.6780
341	12.12743960	-61.66748382	645000	1341000	-88.378	-184.669	-100.6725
342	12.12739527	-61.65829581	646000	1341000	-88.378	-184.698	-100.6670
343	12.12735063	-61.64910784	647000	1341000	-88.374	-184.725	-100.6615
344	12.12730569	-61.63991991	648000	1341000	-88.385	-184.760	-100.6561
345	12.12726044	-61.63073201	649000	1341000	-88.391	-184.792	-100.6506
346	12.12721489	-61.62154415	650000	1341000	-88.404	-184.827	-100.6451
347	12.12716904	-61.61235632	651000	1341000	-88.402	-184.855	-100.6396
348	12.12712288	-61.60316853	652000	1341000	-88.400	-184.884	-100.6342
349	12.12707641	-61.59398078	653000	1341000	-88.364	-184.893	-100.6288
350	12.12702964	-61.58479307	654000	1341000	-88.351	-184.915	-100.6234
351	12.11902674	-61.80534837	630000	1340000	-88.448	-184.279	-100.7534
352	12.11898701	-61.79616016	631000	1340000	-88.438	-184.302	-100.7481
353	12.11894696	-61.78697198	632000	1340000	-88.429	-184.326	-100.7426
354	12.11890662	-61.77778383	633000	1340000	-88.411	-184.345	-100.7373
355	12.11886597	-61.76859572	634000	1340000	-88.407	-184.372	-100.7319
356	12.11882502	-61.75940764	635000	1340000	-88.402	-184.398	-100.7264
357	12.11878376	-61.75021959	636000	1340000	-88.395	-184.423	-100.7210
358	12.11874220	-61.74103157	637000	1340000	-88.385	-184.446	-100.7155
359	12.11870033	-61.73184359	638000	1340000	-88.369	-184.466	-100.7101
360	12.11865816	-61.72265565	639000	1340000	-88.353	-184.487	-100.7047
361	12.11861569	-61.71346774	640000	1340000	-88.365	-184.522	-100.6992
362	12.11857291	-61.70427986	641000	1340000	-88.362	-184.549	-100.6938
363	12.11852983	-61.69509202	642000	1340000	-88.355	-184.574	-100.6884
364	12.11848644	-61.68590421	643000	1340000	-88.352	-184.601	-100.6829
365	12.11844275	-61.67671644	644000	1340000	-88.354	-184.631	-100.6775
366	12.11839876	-61.66752871	645000	1340000	-88.355	-184.661	-100.6720
367	12.11835446	-61.65834101	646000	1340000	-88.353	-184.688	-100.6666
368	12.11830985	-61.64915334	647000	1340000	-88.352	-184.717	-100.6611
369	12.11826495	-61.63996572	648000	1340000	-88.358	-184.748	-100.6556
370	12.11821973	-61.63077813	649000	1340000	-88.367	-184.782	-100.6503
371	12.11817422	-61.62159057	650000	1340000	-88.381	-184.819	-100.6447
372	12.11812840	-61.61240306	651000	1340000	-88.384	-184.849	-100.6393
373	12.11808227	-61.60321558	652000	1340000	-88.384	-184.878	-100.6338
374	12.11803584	-61.59402814	653000	1340000	-88.326	-184.876	-100.6284
375	12.11798911	-61.58484074	654000	1340000	-88.310	-184.896	-100.6230
376	12.10998541	-61.80538858	630000	1339000	-88.439	-184.277	-100.7530
377	12.10994570	-61.79620068	631000	1339000	-88.428	-184.300	-100.7476
378	12.10990569	-61.78701281	632000	1339000	-88.418	-184.323	-100.7421
379	12.10986538	-61.77782497	633000	1339000	-88.398	-184.341	-100.7367

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380	12.10982476	-61.76863716	634000	1339000	-88.391	-184.366	-100.7313
381	12.10978384	-61.75944939	635000	1339000	-88.384	-184.392	-100.7260
382	12.10974261	-61.75026165	636000	1339000	-88.375	-184.416	-100.7204
383	12.10970108	-61.74107395	637000	1339000	-88.366	-184.439	-100.7150
384	12.10965925	-61.73188628	638000	1339000	-88.354	-184.461	-100.7096
385	12.10961711	-61.72269864	639000	1339000	-88.341	-184.484	-100.7042
386	12.10957467	-61.71351104	640000	1339000	-88.343	-184.514	-100.6988
387	12.10953193	-61.70432347	641000	1339000	-88.339	-184.540	-100.6932
388	12.10948888	-61.69513594	642000	1339000	-88.326	-184.562	-100.6879
389	12.10944552	-61.68594844	643000	1339000	-88.316	-184.585	-100.6825
390	12.10940187	-61.67676098	644000	1339000	-88.316	-184.614	-100.6771
391	12.10935790	-61.66757355	645000	1339000	-88.318	-184.644	-100.6717
392	12.10931364	-61.65838616	646000	1339000	-88.334	-184.681	-100.6661
393	12.10926907	-61.64919881	647000	1339000	-88.329	-184.708	-100.6607
394	12.10922420	-61.64001149	648000	1339000	-88.326	-184.735	-100.6552
395	12.10917902	-61.63082421	649000	1339000	-88.340	-184.771	-100.6497
396	12.10913354	-61.62163697	650000	1339000	-88.354	-184.808	-100.6443
397	12.10908775	-61.61244976	651000	1339000	-88.345	-184.831	-100.6388
398	12.10904166	-61.60326259	652000	1339000	-88.337	-184.856	-100.6334
399	12.10899527	-61.59407546	653000	1339000	-88.312	-184.871	-100.6281
400	12.10894857	-61.58488836	654000	1339000	-88.298	-184.892	-100.6226
401	12.10094407	-61.80542876	630000	1338000	-88.430	-184.276	-100.7526
402	12.10090439	-61.79624117	631000	1338000	-88.418	-184.298	-100.7471
403	12.10086441	-61.78705361	632000	1338000	-88.406	-184.320	-100.7416
404	12.10082413	-61.77786608	633000	1338000	-88.382	-184.336	-100.7363
405	12.10078354	-61.76867858	634000	1338000	-88.373	-184.360	-100.7308
406	12.10074265	-61.75949112	635000	1338000	-88.365	-184.384	-100.7254
407	12.10070146	-61.75030369	636000	1338000	-88.355	-184.408	-100.7200
408	12.10065996	-61.74111629	637000	1338000	-88.346	-184.432	-100.7146
409	12.10061816	-61.73192893	638000	1338000	-88.336	-184.455	-100.7091
410	12.10057605	-61.72274160	639000	1338000	-88.327	-184.479	-100.7037
411	12.10053365	-61.71355430	640000	1338000	-88.318	-184.503	-100.6983
412	12.10049093	-61.70436705	641000	1338000	-88.312	-184.529	-100.6928
413	12.10044792	-61.69517982	642000	1338000	-88.310	-184.556	-100.6875
414	12.10040460	-61.68599263	643000	1338000	-88.305	-184.582	-100.6820
415	12.10036097	-61.67680548	644000	1338000	-88.307	-184.613	-100.6766
416	12.10031705	-61.66761836	645000	1338000	-88.310	-184.643	-100.6712
417	12.10027281	-61.65843128	646000	1338000	-88.316	-184.675	-100.6657
418	12.10022828	-61.64924424	647000	1338000	-88.314	-184.702	-100.6602
419	12.10018344	-61.64005723	648000	1338000	-88.311	-184.730	-100.6548
420	12.10013830	-61.63087025	649000	1338000	-88.317	-184.762	-100.6494
421	12.10009285	-61.62168332	650000	1338000	-88.298	-184.780	-100.6440
422	12.10004710	-61.61249642	651000	1338000	-88.320	-184.821	-100.6385
423	12.10000105	-61.60330956	652000	1338000	-88.315	-184.848	-100.6331
424	12.09995469	-61.59412274	653000	1338000	-88.296	-184.866	-100.6275
425	12.09990803	-61.58493595	654000	1338000	-88.284	-184.889	-100.6222
426	12.09190272	-61.80546891	630000	1337000	-88.421	-184.274	-100.7520
427	12.09186307	-61.79628162	631000	1337000	-88.408	-184.296	-100.7466

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428	12.09182313	-61.78709437	632000	1337000	-88.394	-184.317	-100.7412
429	12.09178287	-61.77790715	633000	1337000	-88.366	-184.331	-100.7357
430	12.09174232	-61.76871996	634000	1337000	-88.355	-184.354	-100.7303
431	12.09170146	-61.75953280	635000	1337000	-88.345	-184.377	-100.7249
432	12.09166030	-61.75034568	636000	1337000	-88.334	-184.400	-100.7195
433	12.09161883	-61.74115859	637000	1337000	-88.325	-184.424	-100.7141
434	12.09157706	-61.73197154	638000	1337000	-88.316	-184.447	-100.7087
435	12.09153499	-61.72278452	639000	1337000	-88.307	-184.472	-100.7032
436	12.09149261	-61.71359754	640000	1337000	-88.300	-184.497	-100.6979
437	12.09144993	-61.70441059	641000	1337000	-88.295	-184.523	-100.6924
438	12.09140695	-61.69522367	642000	1337000	-88.291	-184.550	-100.6870
439	12.09136366	-61.68603679	643000	1337000	-88.286	-184.575	-100.6815
440	12.09132007	-61.67684995	644000	1337000	-88.283	-184.603	-100.6761
441	12.09127618	-61.66766314	645000	1337000	-88.291	-184.635	-100.6707
442	12.09123198	-61.65847636	646000	1337000	-88.294	-184.666	-100.6652
443	12.09118748	-61.64928963	647000	1337000	-88.293	-184.694	-100.6598
444	12.09114268	-61.64010293	648000	1337000	-88.291	-184.722	-100.6544
445	12.09109757	-61.63091626	649000	1337000	-88.298	-184.754	-100.6489
446	12.09105216	-61.62172964	650000	1337000	-88.286	-184.777	-100.6435
447	12.09100644	-61.61254305	651000	1337000	-88.283	-184.804	-100.6381
448	12.09096043	-61.60335649	652000	1337000	-88.296	-184.840	-100.6327
449	12.09091410	-61.59416998	653000	1337000	-88.280	-184.861	-100.6272
450	12.09086748	-61.58498350	654000	1337000	-88.272	-184.885	-100.6218
451	12.08286137	-61.80550902	630000	1336000	-88.412	-184.273	-100.7515
452	12.08282175	-61.79632205	631000	1336000	-88.398	-184.294	-100.7460
453	12.08278183	-61.78713510	632000	1336000	-88.383	-184.314	-100.7407
454	12.08274161	-61.77794819	633000	1336000	-88.349	-184.325	-100.7352
455	12.08270109	-61.76876131	634000	1336000	-88.337	-184.348	-100.7299
456	12.08266026	-61.75957446	635000	1336000	-88.325	-184.370	-100.7244
457	12.08261913	-61.75038765	636000	1336000	-88.313	-184.392	-100.7190
458	12.08257770	-61.74120087	637000	1336000	-88.304	-184.416	-100.7136
459	12.08253596	-61.73201412	638000	1336000	-88.294	-184.439	-100.7082
460	12.08249392	-61.72282741	639000	1336000	-88.287	-184.464	-100.7028
461	12.08245158	-61.71364073	640000	1336000	-88.279	-184.489	-100.6974
462	12.08240893	-61.70445409	641000	1336000	-88.272	-184.514	-100.6920
463	12.08236598	-61.69526748	642000	1336000	-88.266	-184.539	-100.6865
464	12.08232273	-61.68608091	643000	1336000	-88.263	-184.566	-100.6811
465	12.08227917	-61.67689438	644000	1336000	-88.261	-184.594	-100.6757
466	12.08223531	-61.66770788	645000	1336000	-88.274	-184.630	-100.6703
467	12.08219115	-61.65852141	646000	1336000	-88.272	-184.657	-100.6649
468	12.08214668	-61.64933498	647000	1336000	-88.274	-184.688	-100.6594
469	12.08210191	-61.64014859	648000	1336000	-88.271	-184.715	-100.6540
470	12.08205684	-61.63096223	649000	1336000	-88.278	-184.747	-100.6486
471	12.08201146	-61.62177592	650000	1336000	-88.277	-184.776	-100.6431
472	12.08196578	-61.61258963	651000	1336000	-88.276	-184.804	-100.6377
473	12.08191980	-61.60340339	652000	1336000	-88.277	-184.833	-100.6322
474	12.08187351	-61.59421719	653000	1336000	-88.267	-184.857	-100.6268
475	12.08182692	-61.58503102	654000	1336000	-88.260	-184.882	-100.6214

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Node ID	Latitude (N) Grenada 2018	Longitude (W) Grenada 2018	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	dX (m) To Grenada 53	dY (m) To Grenada 53	dZ (m) To Grenada 53
476	12.07382001	-61.80554911	630000	1335000	-88.405	-184.272	-100.7509
477	12.07378042	-61.79636244	631000	1335000	-88.389	-184.292	-100.7455
478	12.07374054	-61.78717580	632000	1335000	-88.373	-184.312	-100.7402
479	12.07370035	-61.77798919	633000	1335000	-88.333	-184.320	-100.7347
480	12.07365985	-61.76880262	634000	1335000	-88.321	-184.342	-100.7294
481	12.07361906	-61.75961608	635000	1335000	-88.306	-184.363	-100.7240
482	12.07357796	-61.75042958	636000	1335000	-88.292	-184.384	-100.7186
483	12.07353656	-61.74124311	637000	1335000	-88.283	-184.408	-100.7132
484	12.07349485	-61.73205667	638000	1335000	-88.275	-184.432	-100.7077
485	12.07345284	-61.72287026	639000	1335000	-88.267	-184.457	-100.7023
486	12.07341053	-61.71368390	640000	1335000	-88.258	-184.481	-100.6969
487	12.07336792	-61.70449756	641000	1335000	-88.249	-184.504	-100.6915
488	12.07332500	-61.69531126	642000	1335000	-88.241	-184.529	-100.6861
489	12.07328178	-61.68612500	643000	1335000	-88.238	-184.556	-100.6806
490	12.07323826	-61.67693877	644000	1335000	-88.237	-184.584	-100.6753
491	12.07319443	-61.66775258	645000	1335000	-88.242	-184.616	-100.6699
492	12.07315030	-61.65856642	646000	1335000	-88.243	-184.645	-100.6644
493	12.07310587	-61.64938030	647000	1335000	-88.245	-184.675	-100.6589
494	12.07306114	-61.64019422	648000	1335000	-88.255	-184.709	-100.6535
495	12.07301610	-61.63100817	649000	1335000	-88.261	-184.741	-100.6481
496	12.07297076	-61.62182216	650000	1335000	-88.254	-184.766	-100.6426
497	12.07292511	-61.61263619	651000	1335000	-88.250	-184.793	-100.6372
498	12.07287916	-61.60345025	652000	1335000	-88.248	-184.821	-100.6318
499	12.07283291	-61.59426435	653000	1335000	-88.214	-184.831	-100.6265
500	12.07278636	-61.58507849	654000	1335000	-88.199	-184.852	-100.6210
501	12.06477864	-61.80558915	630000	1334000	-88.327	-184.233	-100.7505
502	12.06473909	-61.79640279	631000	1334000	-88.311	-184.253	-100.7451
503	12.06469923	-61.78721646	632000	1334000	-88.300	-184.276	-100.7397
504	12.06465907	-61.77803017	633000	1334000	-88.290	-184.299	-100.7342
505	12.06461861	-61.76884390	634000	1334000	-88.280	-184.323	-100.7289
506	12.06457785	-61.75965767	635000	1334000	-88.272	-184.347	-100.7236
507	12.06453678	-61.75047147	636000	1334000	-88.270	-184.375	-100.7182
508	12.06449541	-61.74128531	637000	1334000	-88.274	-184.406	-100.7127
509	12.06445374	-61.73209918	638000	1334000	-88.266	-184.430	-100.7072
510	12.06441176	-61.72291308	639000	1334000	-88.256	-184.454	-100.7018
511	12.06436948	-61.71372702	640000	1334000	-88.244	-184.476	-100.6965
512	12.06432690	-61.70454100	641000	1334000	-88.229	-184.497	-100.6910
513	12.06428402	-61.69535501	642000	1334000	-88.217	-184.519	-100.6856
514	12.06424083	-61.68616905	643000	1334000	-88.215	-184.547	-100.6803
515	12.06419734	-61.67698313	644000	1334000	-88.216	-184.576	-100.6748
516	12.06415355	-61.66779724	645000	1334000	-88.225	-184.610	-100.6694
517	12.06410945	-61.65861140	646000	1334000	-88.224	-184.638	-100.6640
518	12.06406506	-61.64942558	647000	1334000	-88.226	-184.668	-100.6586
519	12.06402036	-61.64023981	648000	1334000	-88.232	-184.700	-100.6531
520	12.06397535	-61.63105407	649000	1334000	-88.237	-184.732	-100.6477
521	12.06393005	-61.62186836	650000	1334000	-88.231	-184.757	-100.6423
522	12.06388444	-61.61268270	651000	1334000	-88.230	-184.786	-100.6368
523	12.06383852	-61.60349707	652000	1334000	-88.230	-184.814	-100.6314

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524	12.06379231	-61.59431148	653000	1334000	-88.202	-184.828	-100.6261
525	12.06374579	-61.58512593	654000	1334000	-88.189	-184.850	-100.6207
526	12.05573727	-61.80562917	630000	1333000	-88.322	-184.234	-100.7500
527	12.05569775	-61.79644312	631000	1333000	-88.311	-184.257	-100.7445
528	12.05565792	-61.78725710	632000	1333000	-88.291	-184.275	-100.7392
529	12.05561780	-61.77807111	633000	1333000	-88.280	-184.297	-100.7338
530	12.05557737	-61.76888515	634000	1333000	-88.268	-184.319	-100.7284
531	12.05553663	-61.75969923	635000	1333000	-88.255	-184.341	-100.7230
532	12.05549560	-61.75051334	636000	1333000	-88.255	-184.370	-100.7176
533	12.05545426	-61.74132748	637000	1333000	-88.265	-184.404	-100.7121
534	12.05541262	-61.73214166	638000	1333000	-88.261	-184.431	-100.7067
535	12.05537067	-61.72295587	639000	1333000	-88.248	-184.452	-100.7014
536	12.05532843	-61.71377012	640000	1333000	-88.233	-184.474	-100.6960
537	12.05528588	-61.70458440	641000	1333000	-88.219	-184.495	-100.6906
538	12.05524303	-61.69539871	642000	1333000	-88.204	-184.515	-100.6852
539	12.05519988	-61.68621307	643000	1333000	-88.197	-184.541	-100.6798
540	12.05515642	-61.67702745	644000	1333000	-88.197	-184.569	-100.6744
541	12.05511266	-61.66784187	645000	1333000	-88.193	-184.596	-100.6690
542	12.05506860	-61.65865633	646000	1333000	-88.196	-184.626	-100.6636
543	12.05502424	-61.64947083	647000	1333000	-88.201	-184.658	-100.6582
544	12.05497957	-61.64028536	648000	1333000	-88.210	-184.691	-100.6527
545	12.05493460	-61.63109993	649000	1333000	-88.214	-184.722	-100.6473
546	12.05488933	-61.62191453	650000	1333000	-88.211	-184.750	-100.6419
547	12.05484375	-61.61272917	651000	1333000	-88.213	-184.780	-100.6365
548	12.05479788	-61.60354385	652000	1333000	-88.216	-184.810	-100.6310
549	12.05475170	-61.59435857	653000	1333000	-88.189	-184.824	-100.6257
550	12.05470522	-61.58517333	654000	1333000	-88.179	-184.848	-100.6203
551	12.04669589	-61.80566916	630000	1332000	-88.316	-184.234	-100.7495
552	12.04665640	-61.79648341	631000	1332000	-88.305	-184.257	-100.7441
553	12.04661661	-61.78729769	632000	1332000	-88.295	-184.280	-100.7386
554	12.04657651	-61.77811201	633000	1332000	-88.258	-184.289	-100.7333
555	12.04653611	-61.76892636	634000	1332000	-88.246	-184.311	-100.7279
556	12.04649541	-61.75974075	635000	1332000	-88.231	-184.332	-100.7225
557	12.04645441	-61.75055517	636000	1332000	-88.230	-184.360	-100.7171
558	12.04641310	-61.74136962	637000	1332000	-88.254	-184.402	-100.7117
559	12.04637149	-61.73218410	638000	1332000	-88.255	-184.431	-100.7063
560	12.04632958	-61.72299862	639000	1332000	-88.238	-184.450	-100.7009
561	12.04628737	-61.71381317	640000	1332000	-88.232	-184.476	-100.6955
562	12.04624485	-61.70462776	641000	1332000	-88.218	-184.497	-100.6902
563	12.04620203	-61.69544239	642000	1332000	-88.192	-184.512	-100.6848
564	12.04615891	-61.68625705	643000	1332000	-88.186	-184.537	-100.6793
565	12.04611549	-61.67707174	644000	1332000	-88.178	-184.562	-100.6739
566	12.04607177	-61.66788647	645000	1332000	-88.177	-184.590	-100.6686
567	12.04602774	-61.65870124	646000	1332000	-88.181	-184.621	-100.6632
568	12.04598341	-61.64951604	647000	1332000	-88.185	-184.652	-100.6577
569	12.04593878	-61.64033088	648000	1332000	-88.189	-184.683	-100.6523
570	12.04589384	-61.63114575	649000	1332000	-88.192	-184.713	-100.6470
571	12.04584861	-61.62196066	650000	1332000	-88.197	-184.745	-100.6415

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572	12.04580307	-61.61277561	651000	1332000	-88.202	-184.777	-100.6360
573	12.04575723	-61.60359060	652000	1332000	-88.206	-184.808	-100.6306
574	12.04571108	-61.59440562	653000	1332000	-88.177	-184.821	-100.6252
575	12.04566464	-61.58522069	654000	1332000	-88.168	-184.845	-100.6198
576	12.03765451	-61.80570911	630000	1331000	-88.294	-184.225	-100.7489
577	12.03761505	-61.79652367	631000	1331000	-88.281	-184.247	-100.7436
578	12.03757529	-61.78733826	632000	1331000	-88.269	-184.269	-100.7382
579	12.03753522	-61.77815289	633000	1331000	-88.255	-184.291	-100.7329
580	12.03749485	-61.76896754	634000	1331000	-88.241	-184.312	-100.7275
581	12.03745418	-61.75978224	635000	1331000	-88.226	-184.332	-100.7221
582	12.03741321	-61.75059696	636000	1331000	-88.223	-184.359	-100.7166
583	12.03737194	-61.74141172	637000	1331000	-88.236	-184.395	-100.7113
584	12.03733036	-61.73222651	638000	1331000	-88.237	-184.424	-100.7059
585	12.03728848	-61.72304134	639000	1331000	-88.226	-184.447	-100.7005
586	12.03724630	-61.71385620	640000	1331000	-88.206	-184.465	-100.6951
587	12.03720382	-61.70467109	641000	1331000	-88.186	-184.483	-100.6897
588	12.03716103	-61.69548602	642000	1331000	-88.172	-184.505	-100.6844
589	12.03711795	-61.68630099	643000	1331000	-88.164	-184.529	-100.6790
590	12.03707456	-61.67711599	644000	1331000	-88.160	-184.556	-100.6735
591	12.03703087	-61.66793103	645000	1331000	-88.161	-184.585	-100.6681
592	12.03698687	-61.65874610	646000	1331000	-88.165	-184.616	-100.6628
593	12.03694258	-61.64956121	647000	1331000	-88.169	-184.647	-100.6573
594	12.03689798	-61.64037636	648000	1331000	-88.172	-184.677	-100.6519
595	12.03685308	-61.63119154	649000	1331000	-88.173	-184.707	-100.6465
596	12.03680788	-61.62200676	650000	1331000	-88.182	-184.740	-100.6411
597	12.03676237	-61.61282201	651000	1331000	-88.186	-184.771	-100.6357
598	12.03671657	-61.60363731	652000	1331000	-88.189	-184.802	-100.6302
599	12.03667046	-61.59445264	653000	1331000	-88.104	-184.785	-100.6249
600	12.03662405	-61.58526801	654000	1331000	-88.089	-184.806	-100.6197
601	12.02861312	-61.80574903	630000	1330000	-88.277	-184.219	-100.7485
602	12.02857369	-61.79656390	631000	1330000	-88.281	-184.250	-100.7431
603	12.02853396	-61.78737880	632000	1330000	-88.269	-184.272	-100.7377
604	12.02849392	-61.77819373	633000	1330000	-88.254	-184.293	-100.7324
605	12.02845359	-61.76900869	634000	1330000	-88.237	-184.313	-100.7269
606	12.02841295	-61.75982369	635000	1330000	-88.222	-184.333	-100.7216
607	12.02837201	-61.75063872	636000	1330000	-88.221	-184.361	-100.7162
608	12.02833077	-61.74145379	637000	1330000	-88.226	-184.393	-100.7108
609	12.02828922	-61.73226889	638000	1330000	-88.232	-184.425	-100.7054
610	12.02824738	-61.72308402	639000	1330000	-88.213	-184.443	-100.7000
611	12.02820523	-61.71389919	640000	1330000	-88.192	-184.461	-100.6946
612	12.02816278	-61.70471439	641000	1330000	-88.170	-184.478	-100.6893
613	12.02812003	-61.69552963	642000	1330000	-88.154	-184.498	-100.6839
614	12.02807697	-61.68634490	643000	1330000	-88.142	-184.520	-100.6785
615	12.02803362	-61.67716021	644000	1330000	-88.136	-184.546	-100.6732
616	12.02798996	-61.66797555	645000	1330000	-88.141	-184.577	-100.6678
617	12.02794600	-61.65879093	646000	1330000	-88.147	-184.609	-100.6623
618	12.02790174	-61.64960635	647000	1330000	-88.152	-184.641	-100.6569
619	12.02785717	-61.64042180	648000	1330000	-88.153	-184.670	-100.6514

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620	12.02781231	-61.63123729	649000	1330000	-88.154	-184.700	-100.6461
621	12.02776714	-61.62205281	650000	1330000	-88.173	-184.739	-100.6407
622	12.02772167	-61.61286838	651000	1330000	-88.178	-184.770	-100.6352
623	12.02767590	-61.60368398	652000	1330000	-88.183	-184.801	-100.6299
624	12.02762983	-61.59449961	653000	1330000	-88.098	-184.785	-100.6246
625	12.02758346	-61.58531529	654000	1330000	-88.084	-184.806	-100.6192
626	12.01957173	-61.80578892	630000	1329000	-88.274	-184.221	-100.7480
627	12.01953233	-61.79660409	631000	1329000	-88.262	-184.243	-100.7426
628	12.01949262	-61.78741930	632000	1329000	-88.268	-184.275	-100.7372
629	12.01945262	-61.77823454	633000	1329000	-88.254	-184.296	-100.7318
630	12.01941232	-61.76904981	634000	1329000	-88.232	-184.313	-100.7265
631	12.01937171	-61.75986511	635000	1329000	-88.219	-184.335	-100.7211
632	12.01933080	-61.75068045	636000	1329000	-88.217	-184.362	-100.7158
633	12.01928959	-61.74149582	637000	1329000	-88.218	-184.392	-100.7103
634	12.01924808	-61.73231123	638000	1329000	-88.220	-184.421	-100.7049
635	12.01920626	-61.72312667	639000	1329000	-88.200	-184.440	-100.6996
636	12.01916415	-61.71394214	640000	1329000	-88.179	-184.457	-100.6942
637	12.01912173	-61.70475765	641000	1329000	-88.158	-184.474	-100.6889
638	12.01907901	-61.69557319	642000	1329000	-88.135	-184.491	-100.6835
639	12.01903599	-61.68638877	643000	1329000	-88.117	-184.510	-100.6781
640	12.01899267	-61.67720439	644000	1329000	-88.109	-184.535	-100.6728
641	12.01894905	-61.66802004	645000	1329000	-88.120	-184.569	-100.6674
642	12.01890512	-61.65883572	646000	1329000	-88.128	-184.602	-100.6619
643	12.01886089	-61.64965145	647000	1329000	-88.134	-184.634	-100.6565
644	12.01881636	-61.64046721	648000	1329000	-88.135	-184.664	-100.6511
645	12.01877153	-61.63128300	649000	1329000	-88.137	-184.694	-100.6458
646	12.01872640	-61.62209883	650000	1329000	-88.166	-184.738	-100.6402
647	12.01868097	-61.61291470	651000	1329000	-88.172	-184.770	-100.6348
648	12.01863523	-61.60373061	652000	1329000	-88.177	-184.802	-100.6294
649	12.01858920	-61.59454655	653000	1329000	-88.091	-184.784	-100.6242
650	12.01854286	-61.58536254	654000	1329000	-88.078	-184.806	-100.6188
651	12.01053033	-61.80582877	630000	1328000	-88.274	-184.224	-100.7475
652	12.01049096	-61.79664425	631000	1328000	-88.261	-184.246	-100.7421
653	12.01045129	-61.78745977	632000	1328000	-88.248	-184.267	-100.7368
654	12.01041131	-61.77827531	633000	1328000	-88.245	-184.294	-100.7315
655	12.01037104	-61.76909089	634000	1328000	-88.231	-184.316	-100.7260
656	12.01033046	-61.75990650	635000	1328000	-88.219	-184.338	-100.7207
657	12.01028959	-61.75072214	636000	1328000	-88.214	-184.364	-100.7153
658	12.01024841	-61.74153782	637000	1328000	-88.216	-184.394	-100.7098
659	12.01020693	-61.73235353	638000	1328000	-88.196	-184.412	-100.7045
660	12.01016515	-61.72316928	639000	1328000	-88.178	-184.430	-100.6992
661	12.01012306	-61.71398506	640000	1328000	-88.157	-184.448	-100.6938
662	12.01008068	-61.70480088	641000	1328000	-88.144	-184.470	-100.6884
663	12.01003799	-61.69561673	642000	1328000	-88.121	-184.486	-100.6831
664	12.00999501	-61.68643261	643000	1328000	-88.096	-184.502	-100.6778
665	12.00995172	-61.67724853	644000	1328000	-88.090	-184.527	-100.6724
666	12.00990813	-61.66806449	645000	1328000	-88.103	-184.563	-100.6669
667	12.00986424	-61.65888048	646000	1328000	-88.111	-184.596	-100.6615

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668	12.00982004	-61.64969651	647000	1328000	-88.117	-184.628	-100.6561
669	12.00977555	-61.64051257	648000	1328000	-88.153	-184.677	-100.6506
670	12.00973075	-61.63132868	649000	1328000	-88.153	-184.705	-100.6453
671	12.00968566	-61.62214482	650000	1328000	-88.188	-184.753	-100.6398
672	12.00964026	-61.61296099	651000	1328000	-88.189	-184.782	-100.6344
673	12.00959456	-61.60377720	652000	1328000	-88.189	-184.811	-100.6290
674	12.00954856	-61.59459345	653000	1328000	-88.100	-184.792	-100.6237
675	12.00950226	-61.58540974	654000	1328000	-88.086	-184.813	-100.6184
676	12.00148892	-61.80586860	630000	1327000	-88.270	-184.224	-100.7470
677	12.00144958	-61.79668438	631000	1327000	-88.257	-184.247	-100.7416
678	12.00140994	-61.78750020	632000	1327000	-88.246	-184.269	-100.7363
679	12.00137000	-61.77831605	633000	1327000	-88.235	-184.292	-100.7310
680	12.00132975	-61.76913194	634000	1327000	-88.232	-184.319	-100.7255
681	12.00128921	-61.75994785	635000	1327000	-88.217	-184.339	-100.7202
682	12.00124836	-61.75076380	636000	1327000	-88.218	-184.369	-100.7148
683	12.00120722	-61.74157979	637000	1327000	-88.214	-184.395	-100.7095
684	12.00116577	-61.73239581	638000	1327000	-88.200	-184.417	-100.7040
685	12.00112402	-61.72321186	639000	1327000	-88.180	-184.435	-100.6987
686	12.00108197	-61.71402795	640000	1327000	-88.159	-184.452	-100.6933
687	12.00103962	-61.70484407	641000	1327000	-88.138	-184.470	-100.6880
688	12.00099697	-61.69566022	642000	1327000	-88.117	-184.487	-100.6825
689	12.00095401	-61.68647641	643000	1327000	-88.098	-184.506	-100.6772
690	12.00091076	-61.67729264	644000	1327000	-88.085	-184.527	-100.6718
691	12.00086720	-61.66810890	645000	1327000	-88.097	-184.563	-100.6665
692	12.00082334	-61.65892520	646000	1327000	-88.102	-184.594	-100.6611
693	12.00077919	-61.64974154	647000	1327000	-88.106	-184.625	-100.6558
694	12.00073473	-61.64055791	648000	1327000	-88.107	-184.655	-100.6503
695	12.00068997	-61.63137432	649000	1327000	-88.173	-184.719	-100.6448
696	12.00064490	-61.62219076	650000	1327000	-88.227	-184.777	-100.6394
697	12.00059954	-61.61300724	651000	1327000	-88.221	-184.803	-100.6340
698	12.00055388	-61.60382376	652000	1327000	-88.218	-184.830	-100.6285
699	12.00050791	-61.59464032	653000	1327000	-88.115	-184.803	-100.6233
700	12.00046164	-61.58545691	654000	1327000	-88.102	-184.825	-100.6180
701	11.99244751	-61.80590839	630000	1326000	-88.268	-184.227	-100.7465
702	11.99240820	-61.79672448	631000	1326000	-88.256	-184.249	-100.7411
703	11.99236859	-61.78754061	632000	1326000	-88.244	-184.271	-100.7358
704	11.99232868	-61.77835676	633000	1326000	-88.233	-184.294	-100.7304
705	11.99228847	-61.76917295	634000	1326000	-88.222	-184.317	-100.7251
706	11.99224795	-61.75998918	635000	1326000	-88.215	-184.342	-100.7198
707	11.99220714	-61.75080543	636000	1326000	-88.219	-184.373	-100.7144
708	11.99216602	-61.74162172	637000	1326000	-88.212	-184.398	-100.7089
709	11.99212461	-61.73243805	638000	1326000	-88.197	-184.418	-100.7036
710	11.99208289	-61.72325440	639000	1326000	-88.178	-184.437	-100.6983
711	11.99204087	-61.71407080	640000	1326000	-88.158	-184.455	-100.6929
712	11.99199855	-61.70488722	641000	1326000	-88.138	-184.473	-100.6875
713	11.99195594	-61.69570368	642000	1326000	-88.119	-184.491	-100.6821
714	11.99191301	-61.68652018	643000	1326000	-88.101	-184.510	-100.6768
715	11.99186979	-61.67733671	644000	1326000	-88.083	-184.530	-100.6715

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716	11.99182627	-61.66815328	645000	1326000	-88.094	-184.564	-100.6661
717	11.99178245	-61.65896989	646000	1326000	-88.096	-184.594	-100.6607
718	11.99173832	-61.64978653	647000	1326000	-88.098	-184.624	-100.6553
719	11.99169390	-61.64060320	648000	1326000	-88.098	-184.653	-100.6500
720	11.99164917	-61.63141992	649000	1326000	-88.173	-184.722	-100.6443
721	11.99160414	-61.62223667	650000	1326000	-88.239	-184.787	-100.6390
722	11.99155882	-61.61305346	651000	1326000	-88.233	-184.812	-100.6335
723	11.99151319	-61.60387028	652000	1326000	-88.228	-184.839	-100.6282
724	11.99146726	-61.59468714	653000	1326000	-88.113	-184.805	-100.6229
725	11.99142103	-61.58550404	654000	1326000	-88.101	-184.827	-100.6176
726	11.98340609	-61.80594815	630000	1325000	-88.267	-184.229	-100.7460
727	11.98336681	-61.79676455	631000	1325000	-88.255	-184.252	-100.7407
728	11.98332723	-61.78758098	632000	1325000	-88.243	-184.274	-100.7353
729	11.98328735	-61.77839744	633000	1325000	-88.232	-184.297	-100.7300
730	11.98324717	-61.76921393	634000	1325000	-88.223	-184.320	-100.7246
731	11.98320669	-61.76003046	635000	1325000	-88.227	-184.351	-100.7192
732	11.98316591	-61.75084702	636000	1325000	-88.219	-184.376	-100.7139
733	11.98312482	-61.74166362	637000	1325000	-88.210	-184.400	-100.7085
734	11.98308344	-61.73248025	638000	1325000	-88.193	-184.419	-100.7031
735	11.98304176	-61.72329691	639000	1325000	-88.176	-184.439	-100.6978
736	11.98299977	-61.71411361	640000	1325000	-88.157	-184.457	-100.6924
737	11.98295748	-61.70493034	641000	1325000	-88.138	-184.476	-100.6871
738	11.98291490	-61.69574711	642000	1325000	-88.120	-184.495	-100.6817
739	11.98287201	-61.68656391	643000	1325000	-88.103	-184.515	-100.6763
740	11.98282882	-61.67738075	644000	1325000	-88.083	-184.532	-100.6710
741	11.98278533	-61.66819763	645000	1325000	-88.093	-184.567	-100.6656
742	11.98274154	-61.65901454	646000	1325000	-88.092	-184.595	-100.6603
743	11.98269745	-61.64983148	647000	1325000	-88.092	-184.624	-100.6549
744	11.98265306	-61.64064846	648000	1325000	-88.090	-184.652	-100.6495
745	11.98260837	-61.63146548	649000	1325000	-88.094	-184.682	-100.6441
746	11.98256338	-61.62228254	650000	1325000	-88.252	-184.796	-100.6385
747	11.98251809	-61.61309963	651000	1325000	-88.244	-184.821	-100.6331
748	11.98247249	-61.60391676	652000	1325000	-88.239	-184.847	-100.6277
749	11.98242660	61.59473393	653000	1325000	88.112	184.808	100.6226
750	11.98238041	61.58555114	654000	1325000	88.100	184.830	100.6172

**7.5 Appendix E: Geographic transformation set grid**

Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
1	12.241666667	-61.808333333	12.240544138	-61.809848714	-4.04233	-5.45979
2	12.241666667	-61.800000000	12.240544103	-61.801516444	-4.04214	-5.46037
3	12.241666667	-61.791666667	12.240543912	-61.793183947	-4.04197	-5.46095
4	12.241666667	-61.783333333	12.240543838	-61.784850610	-4.04133	-5.46094
5	12.241666667	-61.775000000	12.240544331	-61.776516313	-4.04024	-5.46039
6	12.241666667	-61.766666667	12.240544443	-61.768182556	-4.04009	-5.46103
7	12.241666667	-61.758333333	12.240544755	-61.759851458	-4.03961	-5.46155
8	12.241666667	-61.750000000	12.240544508	-61.751517086	-4.04015	-5.46240
9	12.241666667	-61.741666667	12.240544514	-61.743184027	-4.04056	-5.46448
10	12.241666667	-61.733333333	12.240544477	-61.734851563	-4.04026	-5.46645
11	12.241666667	-61.725000000	12.240544515	-61.726518659	-4.03996	-5.46814
12	12.241666667	-61.716666667	12.240544535	-61.718186013	-4.04014	-5.46870
13	12.241666667	-61.708333333	12.240544399	-61.709853199	-4.04025	-5.46914
14	12.241666667	-61.700000000	12.240544359	-61.701519402	-4.04008	-5.46997
15	12.241666667	-61.691666667	12.240544506	-61.693186004	-4.03989	-5.47082
16	12.241666667	-61.683333333	12.240544553	-61.684854050	-4.03970	-5.47172
17	12.241666667	-61.675000000	12.240544780	-61.676519885	-4.03936	-5.47286
18	12.241666667	-61.666666667	12.240544791	-61.668188590	-4.03834	-5.47453
19	12.241666667	-61.658333333	12.240545281	-61.659853912	-4.03721	-5.47630
20	12.241666667	-61.650000000	12.240545515	-61.651522411	-4.03609	-5.47810
21	12.241666667	-61.641666667	12.240545962	-61.643191137	-4.03383	-5.48296
22	12.241666667	-61.633333333	12.240546255	-61.634857343	-4.03322	-5.48512
23	12.241666667	-61.625000000	12.240546271	-61.626523286	-4.03337	-5.48601
24	12.241666667	-61.616666667	12.240546174	-61.618190206	-4.03356	-5.48693
25	12.241666667	-61.608333333	12.240546071	-61.609857184	-4.03377	-5.48783
26	12.241666667	-61.600000000	12.240545961	-61.601523807	-4.03400	-5.48878
27	12.241666667	-61.591666667	12.240545971	-61.593190981	-4.03421	-5.48971
28	12.233333333	-61.808333333	12.232210860	-61.809850853	-4.04185	-5.46005
29	12.233333333	-61.800000000	12.232210804	-61.801516369	-4.04168	-5.46063
30	12.233333333	-61.791666667	12.232210733	-61.793183510	-4.04151	-5.46120
31	12.233333333	-61.783333333	12.232210828	-61.784851140	-4.04092	-5.46119
32	12.233333333	-61.775000000	12.232211292	-61.776516582	-4.03995	-5.46068
33	12.233333333	-61.766666667	12.232211330	-61.768182580	-4.03981	-5.46136
34	12.233333333	-61.758333333	12.232211362	-61.759851205	-4.03943	-5.46196
35	12.233333333	-61.750000000	12.232211379	-61.751516571	-4.03990	-5.46289
36	12.233333333	-61.741666667	12.232211371	-61.743185239	-4.04016	-5.46475
37	12.233333333	-61.733333333	12.232210861	-61.734851042	-4.04004	-5.46553
38	12.233333333	-61.725000000	12.232211136	-61.726518945	-4.03969	-5.46737
39	12.233333333	-61.716666667	12.232211310	-61.718186117	-4.03972	-5.46834
40	12.233333333	-61.708333333	12.232211437	-61.709853140	-4.03974	-5.46894
41	12.233333333	-61.700000000	12.232211430	-61.701520144	-4.03954	-5.46981
42	12.233333333	-61.691666667	12.232211198	-61.693186835	-4.03934	-5.47069
43	12.233333333	-61.683333333	12.232211218	-61.684854077	-4.03917	-5.47159
44	12.233333333	-61.675000000	12.232211491	-61.676520412	-4.03891	-5.47264

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
45	12.233333333	-61.666666667	12.232211987	-61.668187917	-4.03799	-5.47423
46	12.233333333	-61.658333333	12.232211901	-61.659853971	-4.03655	-5.47648
47	12.233333333	-61.650000000	12.232212291	-61.651522293	-4.03518	-5.47867
48	12.233333333	-61.641666667	12.232212552	-61.643190758	-4.03334	-5.48257
49	12.233333333	-61.633333333	12.232213159	-61.634856685	-4.03285	-5.48451
50	12.233333333	-61.625000000	12.232213150	-61.626523789	-4.03296	-5.48555
51	12.233333333	-61.616666667	12.232213036	-61.618190839	-4.03315	-5.48659
52	12.233333333	-61.608333333	12.232213111	-61.609857313	-4.03339	-5.48763
53	12.233333333	-61.600000000	12.232212862	-61.601524220	-4.03363	-5.48864
54	12.233333333	-61.591666667	12.232212552	-61.593190451	-4.03374	-5.48953
55	12.225000000	-61.808333333	12.223877317	-61.809850720	-4.04136	-5.46067
56	12.225000000	-61.800000000	12.223877233	-61.801516951	-4.04121	-5.46122
57	12.225000000	-61.791666667	12.223877402	-61.793183889	-4.04105	-5.46177
58	12.225000000	-61.783333333	12.223877736	-61.784851024	-4.04053	-5.46176
59	12.225000000	-61.775000000	12.223878007	-61.776516877	-4.03971	-5.46128
60	12.225000000	-61.766666667	12.223877962	-61.768182630	-4.03960	-5.46204
61	12.225000000	-61.758333333	12.223877666	-61.759851039	-4.03934	-5.46277
62	12.225000000	-61.750000000	12.223878015	-61.751517014	-4.03970	-5.46384
63	12.225000000	-61.741666667	12.223878203	-61.743184622	-4.03978	-5.46544
64	12.225000000	-61.733333333	12.223877693	-61.734850758	-4.03962	-5.46626
65	12.225000000	-61.725000000	12.223877946	-61.726517973	-4.03952	-5.46695
66	12.225000000	-61.716666667	12.223878090	-61.718186151	-4.03935	-5.46786
67	12.225000000	-61.708333333	12.223878190	-61.709853110	-4.03910	-5.46887
68	12.225000000	-61.700000000	12.223878153	-61.701519689	-4.03885	-5.46986
69	12.225000000	-61.691666667	12.223877961	-61.693186623	-4.03863	-5.47081
70	12.225000000	-61.683333333	12.223878049	-61.684852932	-4.03849	-5.47167
71	12.225000000	-61.675000000	12.223878134	-61.676520751	-4.03836	-5.47254
72	12.225000000	-61.666666667	12.223878606	-61.668185715	-4.03734	-5.47429
73	12.225000000	-61.658333333	12.223878669	-61.659853973	-4.03561	-5.47703
74	12.225000000	-61.650000000	12.223879463	-61.651522204	-4.03404	-5.47967
75	12.225000000	-61.641666667	12.223879390	-61.643190407	-4.03309	-5.48189
76	12.225000000	-61.633333333	12.223879722	-61.634856537	-4.03276	-5.48352
77	12.225000000	-61.625000000	12.223880015	-61.626523221	-4.03271	-5.48485
78	12.225000000	-61.616666667	12.223879929	-61.618191036	-4.03280	-5.48609
79	12.225000000	-61.608333333	12.223879688	-61.609857927	-4.03297	-5.48729
80	12.225000000	-61.600000000	12.223879609	-61.601523843	-4.03316	-5.48841
81	12.225000000	-61.591666667	12.223879752	-61.593191412	-4.03326	-5.48929
82	12.216666667	-61.808333333	12.215544391	-61.809848323	-4.04063	-5.46065
83	12.216666667	-61.800000000	12.215544283	-61.801516774	-4.04049	-5.46120
84	12.216666667	-61.791666667	12.215544345	-61.793183519	-4.04045	-5.46164
85	12.216666667	-61.783333333	12.215544374	-61.784849789	-4.04008	-5.46149
86	12.216666667	-61.775000000	12.215544277	-61.776517197	-4.03930	-5.46103
87	12.216666667	-61.766666667	12.215544314	-61.768182705	-4.03920	-5.46180
88	12.216666667	-61.758333333	12.215544539	-61.759851033	-4.03894	-5.46252
89	12.216666667	-61.750000000	12.215544216	-61.751519336	-4.03930	-5.46356

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
90	12.216666667	-61.741666667	12.215544842	-61.743184253	-4.03932	-5.46508
91	12.216666667	-61.733333333	12.215544496	-61.734852050	-4.03918	-5.46585
92	12.216666667	-61.725000000	12.215544761	-61.726518054	-4.03908	-5.46653
93	12.216666667	-61.716666667	12.215544875	-61.718184899	-4.03885	-5.46751
94	12.216666667	-61.708333333	12.215544949	-61.709852835	-4.03854	-5.46861
95	12.216666667	-61.700000000	12.215544881	-61.701519637	-4.03823	-5.46970
96	12.216666667	-61.691666667	12.215544901	-61.693185837	-4.03794	-5.47078
97	12.216666667	-61.683333333	12.215545330	-61.684853794	-4.03766	-5.47184
98	12.216666667	-61.675000000	12.215544911	-61.676521010	-4.03724	-5.47301
99	12.216666667	-61.666666667	12.215545373	-61.668186176	-4.03607	-5.47488
100	12.216666667	-61.658333333	12.215545984	-61.659854173	-4.03440	-5.47747
101	12.216666667	-61.650000000	12.215546239	-61.651522143	-4.03263	-5.48025
102	12.216666667	-61.641666667	12.215546531	-61.643190085	-4.03167	-5.48238
103	12.216666667	-61.633333333	12.215546557	-61.634858000	-4.03153	-5.48372
104	12.216666667	-61.625000000	12.215546534	-61.626523698	-4.03174	-5.48487
105	12.216666667	-61.616666667	12.215546747	-61.618189931	-4.03196	-5.48601
106	12.216666667	-61.608333333	12.215546887	-61.609857762	-4.03219	-5.48710
107	12.216666667	-61.600000000	12.215546784	-61.601524549	-4.03243	-5.48805
108	12.216666667	-61.591666667	12.215546760	-61.593189864	-4.03260	-5.48878
109	12.208333333	-61.808333333	12.207211470	-61.809849902	-4.03906	-5.46136
110	12.208333333	-61.800000000	12.207211337	-61.801517672	-4.03889	-5.46194
111	12.208333333	-61.791666667	12.207211082	-61.793184142	-4.03925	-5.46202
112	12.208333333	-61.783333333	12.207210945	-61.784850412	-4.03948	-5.46133
113	12.208333333	-61.775000000	12.207211253	-61.776517544	-4.03886	-5.46076
114	12.208333333	-61.766666667	12.207211265	-61.768182807	-4.03876	-5.46151
115	12.208333333	-61.758333333	12.207211461	-61.759850874	-4.03853	-5.46224
116	12.208333333	-61.750000000	12.207211112	-61.751518916	-4.03886	-5.46322
117	12.208333333	-61.741666667	12.207211016	-61.743183864	-4.03886	-5.46470
118	12.208333333	-61.733333333	12.207211172	-61.734851177	-4.03871	-5.46546
119	12.208333333	-61.725000000	12.207211581	-61.726519073	-4.03861	-5.46609
120	12.208333333	-61.716666667	12.207211664	-61.718184886	-4.03837	-5.46709
121	12.208333333	-61.708333333	12.207211713	-61.709851394	-4.03801	-5.46825
122	12.208333333	-61.700000000	12.207211642	-61.701519153	-4.03763	-5.46947
123	12.208333333	-61.691666667	12.207211654	-61.693186858	-4.03723	-5.47076
124	12.208333333	-61.683333333	12.207212196	-61.684853863	-4.03683	-5.47199
125	12.208333333	-61.675000000	12.207212388	-61.676518901	-4.03633	-5.47319
126	12.208333333	-61.666666667	12.207212793	-61.668186664	-4.03504	-5.47528
127	12.208333333	-61.658333333	12.207212666	-61.659854401	-4.03357	-5.47753
128	12.208333333	-61.650000000	12.207213532	-61.651522110	-4.03194	-5.48002
129	12.208333333	-61.641666667	12.207213296	-61.643189791	-4.03114	-5.48170
130	12.208333333	-61.633333333	12.207213644	-61.634857445	-4.03127	-5.48260
131	12.208333333	-61.625000000	12.207213387	-61.626522930	-4.03163	-5.48340
132	12.208333333	-61.616666667	12.207213210	-61.618188904	-4.03191	-5.48434
133	12.208333333	-61.608333333	12.207213306	-61.609856425	-4.03214	-5.48533
134	12.208333333	-61.600000000	12.207213174	-61.601523967	-4.03233	-5.48627

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	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
135	12.208333333	-61.591666667	12.207213296	-61.593191480	-4.03237	-5.48713
136	12.200000000	-61.808333333	12.198878553	-61.809852309	-4.03808	-5.46145
137	12.200000000	-61.800000000	12.198878396	-61.801516946	-4.03792	-5.46202
138	12.200000000	-61.791666667	12.198878476	-61.793183180	-4.03777	-5.46259
139	12.200000000	-61.783333333	12.198878479	-61.784851061	-4.03788	-5.46195
140	12.200000000	-61.775000000	12.198878235	-61.776517916	-4.03822	-5.46038
141	12.200000000	-61.766666667	12.198878221	-61.768182934	-4.03814	-5.46110
142	12.200000000	-61.758333333	12.198878388	-61.759850741	-4.03793	-5.46180
143	12.200000000	-61.750000000	12.198878014	-61.751518522	-4.03821	-5.46280
144	12.200000000	-61.741666667	12.198877893	-61.743186278	-4.03817	-5.46441
145	12.200000000	-61.733333333	12.198878023	-61.734850998	-4.03793	-5.46526
146	12.200000000	-61.725000000	12.198878406	-61.726517903	-4.03782	-5.46597
147	12.200000000	-61.716666667	12.198878459	-61.718185577	-4.03782	-5.46666
148	12.200000000	-61.708333333	12.198878481	-61.709853213	-4.03759	-5.46769
149	12.200000000	-61.700000000	12.198878752	-61.701519224	-4.03710	-5.46906
150	12.200000000	-61.691666667	12.198878959	-61.693184641	-4.03655	-5.47053
151	12.200000000	-61.683333333	12.198878881	-61.684852199	-4.03601	-5.47201
152	12.200000000	-61.675000000	12.198879046	-61.676519678	-4.03537	-5.47348
153	12.200000000	-61.666666667	12.198879463	-61.668187181	-4.03414	-5.47537
154	12.200000000	-61.658333333	12.198880106	-61.659854657	-4.03290	-5.47724
155	12.200000000	-61.650000000	12.198880228	-61.651522105	-4.03199	-5.47877
156	12.200000000	-61.641666667	12.198880513	-61.643189526	-4.03138	-5.48011
157	12.200000000	-61.633333333	12.198880445	-61.634856920	-4.03136	-5.48108
158	12.200000000	-61.625000000	12.198880380	-61.626524177	-4.03155	-5.48205
159	12.200000000	-61.616666667	12.198880115	-61.618189650	-4.03171	-5.48311
160	12.200000000	-61.608333333	12.198879729	-61.609855118	-4.03184	-5.48420
161	12.200000000	-61.600000000	12.198879570	-61.601522399	-4.03194	-5.48522
162	12.200000000	-61.591666667	12.198879662	-61.593189652	-4.03194	-5.48617
163	12.191666667	-61.808333333	12.190545642	-61.809848968	-4.03765	-5.46119
164	12.191666667	-61.800000000	12.190545461	-61.801516532	-4.03748	-5.46176
165	12.191666667	-61.791666667	12.190545117	-61.793184114	-4.03732	-5.46232
166	12.191666667	-61.783333333	12.190544928	-61.784851735	-4.03704	-5.46236
167	12.191666667	-61.775000000	12.190545221	-61.776518314	-4.03668	-5.46208
168	12.191666667	-61.766666667	12.190545183	-61.768183088	-4.03675	-5.46250
169	12.191666667	-61.758333333	12.190545320	-61.759850634	-4.03755	-5.46145
170	12.191666667	-61.750000000	12.190544921	-61.751518155	-4.03782	-5.46235
171	12.191666667	-61.741666667	12.190544774	-61.743185650	-4.03776	-5.46398
172	12.191666667	-61.733333333	12.190544879	-61.734852907	-4.03753	-5.46476
173	12.191666667	-61.725000000	12.190545235	-61.726517785	-4.03750	-5.46533
174	12.191666667	-61.716666667	12.190545259	-61.718184168	-4.03749	-5.46602
175	12.191666667	-61.708333333	12.190545254	-61.709851560	-4.03715	-5.46715
176	12.191666667	-61.700000000	12.190545502	-61.701518784	-4.03655	-5.46867
177	12.191666667	-61.691666667	12.190545683	-61.693185918	-4.03589	-5.47028
178	12.191666667	-61.683333333	12.190545570	-61.684853214	-4.03521	-5.47185
179	12.191666667	-61.675000000	12.190545709	-61.676520483	-4.03441	-5.47345

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	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
180	12.191666667	-61.666666667	12.190546100	-61.668187726	-4.03320	-5.47546
181	12.191666667	-61.658333333	12.190546742	-61.659854941	-4.03264	-5.47640
182	12.191666667	-61.650000000	12.190546809	-61.651522129	-4.03207	-5.47743
183	12.191666667	-61.641666667	12.190547091	-61.643189290	-4.03165	-5.47843
184	12.191666667	-61.633333333	12.190546975	-61.634856423	-4.03147	-5.47948
185	12.191666667	-61.625000000	12.190546896	-61.626523528	-4.03150	-5.48069
186	12.191666667	-61.616666667	12.190547007	-61.618190357	-4.03156	-5.48194
187	12.191666667	-61.608333333	12.190546981	-61.609857135	-4.03157	-5.48312
188	12.191666667	-61.600000000	12.190546789	-61.601524138	-4.03155	-5.48424
189	12.191666667	-61.591666667	12.190546848	-61.593191112	-4.03147	-5.48531
190	12.183333333	-61.808333333	12.182211887	-61.809850279	-4.03748	-5.46118
191	12.183333333	-61.800000000	12.182211686	-61.801517688	-4.03711	-5.46157
192	12.183333333	-61.791666667	12.182211684	-61.793185074	-4.03685	-5.46204
193	12.183333333	-61.783333333	12.182211921	-61.784851216	-4.03654	-5.46211
194	12.183333333	-61.775000000	12.182212212	-61.776516309	-4.03614	-5.46191
195	12.183333333	-61.766666667	12.182212149	-61.768183267	-4.03605	-5.46266
196	12.183333333	-61.758333333	12.182212257	-61.759850553	-4.03601	-5.46323
197	12.183333333	-61.750000000	12.182211833	-61.751517813	-4.03613	-5.46421
198	12.183333333	-61.741666667	12.182211660	-61.743185049	-4.03719	-5.46387
199	12.183333333	-61.733333333	12.182211739	-61.734852258	-4.03706	-5.46438
200	12.183333333	-61.725000000	12.182212070	-61.726519029	-4.03711	-5.46478
201	12.183333333	-61.716666667	12.182212063	-61.718186004	-4.03712	-5.46538
202	12.183333333	-61.708333333	12.182212033	-61.709853119	-4.03667	-5.46665
203	12.183333333	-61.700000000	12.182212254	-61.701520208	-4.03591	-5.46836
204	12.183333333	-61.691666667	12.182212404	-61.693187271	-4.03513	-5.47008
205	12.183333333	-61.683333333	12.182212458	-61.684854307	-4.03434	-5.47173
206	12.183333333	-61.675000000	12.182213041	-61.676521317	-4.03357	-5.47327
207	12.183333333	-61.666666667	12.182212740	-61.668188299	-4.03278	-5.47471
208	12.183333333	-61.658333333	12.182213356	-61.659855254	-4.03228	-5.47564
209	12.183333333	-61.650000000	12.182213391	-61.651522182	-4.03198	-5.47632
210	12.183333333	-61.641666667	12.182213645	-61.643189082	-4.03176	-5.47698
211	12.183333333	-61.633333333	12.182213497	-61.634855955	-4.03149	-5.47813
212	12.183333333	-61.625000000	12.182213390	-61.626522800	-4.03136	-5.47951
213	12.183333333	-61.616666667	12.182213535	-61.618189617	-4.03125	-5.48086
214	12.183333333	-61.608333333	12.182213544	-61.609856406	-4.03112	-5.48213
215	12.183333333	-61.600000000	12.182213328	-61.601523166	-4.03096	-5.48238
216	12.183333333	-61.591666667	12.182213363	-61.593189898	-4.03075	-5.48215
217	12.175000000	-61.808333333	12.173878880	-61.809848691	-4.03749	-5.45967
218	12.175000000	-61.800000000	12.173878650	-61.801515856	-4.03731	-5.46020
219	12.175000000	-61.791666667	12.173878672	-61.793182997	-4.03700	-5.46079
220	12.175000000	-61.783333333	12.173878665	-61.784849830	-4.03649	-5.46102
221	12.175000000	-61.775000000	12.173878659	-61.776516421	-4.03604	-5.46097
222	12.175000000	-61.766666667	12.173879120	-61.768183472	-4.03596	-5.46174
223	12.175000000	-61.758333333	12.173879199	-61.759850498	-4.03583	-5.46249
224	12.175000000	-61.750000000	12.173878749	-61.751517499	-4.03599	-5.46333

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
225	12.175000000	-61.741666667	12.173878551	-61.743184474	-4.03631	-5.46384
226	12.175000000	-61.733333333	12.173878604	-61.734851424	-4.03640	-5.46414
227	12.175000000	-61.725000000	12.173878909	-61.726518347	-4.03644	-5.46461
228	12.175000000	-61.716666667	12.173878872	-61.718185245	-4.03632	-5.46537
229	12.175000000	-61.708333333	12.173878816	-61.709852117	-4.03582	-5.46667
230	12.175000000	-61.700000000	12.173879011	-61.701518963	-4.03507	-5.46832
231	12.175000000	-61.691666667	12.173879376	-61.693185782	-4.03428	-5.47002
232	12.175000000	-61.683333333	12.173879737	-61.684852575	-4.03339	-5.47179
233	12.175000000	-61.675000000	12.173879964	-61.676519785	-4.03238	-5.47362
234	12.175000000	-61.666666667	12.173880046	-61.668188900	-4.03177	-5.47484
235	12.175000000	-61.658333333	12.173879995	-61.659855595	-4.03133	-5.47572
236	12.175000000	-61.650000000	12.173879977	-61.651522263	-4.03121	-5.47623
237	12.175000000	-61.641666667	12.173880204	-61.643188903	-4.03118	-5.47671
238	12.175000000	-61.633333333	12.173880024	-61.634855515	-4.03098	-5.47763
239	12.175000000	-61.625000000	12.173880297	-61.626522100	-4.03087	-5.47888
240	12.175000000	-61.616666667	12.173880343	-61.618188657	-4.03076	-5.48018
241	12.175000000	-61.608333333	12.173880260	-61.609855186	-4.03059	-5.48144
242	12.175000000	-61.600000000	12.173880408	-61.601521687	-4.03040	-5.48152
243	12.175000000	-61.591666667	12.173880410	-61.593188159	-4.03017	-5.48043
244	12.166666667	-61.808333333	12.165545042	-61.809849499	-4.03712	-5.45921
245	12.166666667	-61.800000000	12.165545423	-61.801516389	-4.03695	-5.45980
246	12.166666667	-61.791666667	12.165545405	-61.793183255	-4.03675	-5.46039
247	12.166666667	-61.783333333	12.165545189	-61.784850096	-4.03640	-5.46072
248	12.166666667	-61.775000000	12.165545522	-61.776516912	-4.03592	-5.46084
249	12.166666667	-61.766666667	12.165545970	-61.768183703	-4.03548	-5.46144
250	12.166666667	-61.758333333	12.165545533	-61.759850469	-4.03533	-5.46219
251	12.166666667	-61.750000000	12.165545670	-61.751517210	-4.03547	-5.46297
252	12.166666667	-61.741666667	12.165545447	-61.743183925	-4.03549	-5.46389
253	12.166666667	-61.733333333	12.165545475	-61.734850615	-4.03554	-5.46428
254	12.166666667	-61.725000000	12.165545754	-61.726517279	-4.03548	-5.46485
255	12.166666667	-61.716666667	12.165545686	-61.718183917	-4.03528	-5.46568
256	12.166666667	-61.708333333	12.165545604	-61.709851919	-4.03478	-5.46690
257	12.166666667	-61.700000000	12.165545772	-61.701519703	-4.03407	-5.46839
258	12.166666667	-61.691666667	12.165546192	-61.693186246	-4.03329	-5.46996
259	12.166666667	-61.683333333	12.165546622	-61.684852762	-4.03239	-5.47170
260	12.166666667	-61.675000000	12.165546680	-61.676519457	-4.03137	-5.47365
261	12.166666667	-61.666666667	12.165546968	-61.668187178	-4.03076	-5.47493
262	12.166666667	-61.658333333	12.165547231	-61.659855900	-4.03039	-5.47580
263	12.166666667	-61.650000000	12.165547190	-61.651522372	-4.03043	-5.47621
264	12.166666667	-61.641666667	12.165546899	-61.643188752	-4.03053	-5.47659
265	12.166666667	-61.633333333	12.165546982	-61.634855105	-4.03031	-5.47740
266	12.166666667	-61.625000000	12.165547209	-61.626521430	-4.03026	-5.47852
267	12.166666667	-61.616666667	12.165547258	-61.618187727	-4.03021	-5.47974
268	12.166666667	-61.608333333	12.165547172	-61.609854993	-4.03005	-5.48092
269	12.166666667	-61.600000000	12.165547106	-61.601522618	-4.02988	-5.48107
270	12.166666667	-61.591666667	12.165547220	-61.593188812	-4.02939	-5.47997

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
271	12.158333333	-61.808333333	12.157212024	-61.809851055	-4.03659	-5.45910
272	12.158333333	-61.800000000	12.157212047	-61.801517685	-4.03641	-5.45969
273	12.158333333	-61.791666667	12.157212011	-61.793184291	-4.03624	-5.46027
274	12.158333333	-61.783333333	12.157212056	-61.784850872	-4.03599	-5.46064
275	12.158333333	-61.775000000	12.157212359	-61.776517429	-4.03562	-5.46088
276	12.158333333	-61.766666667	12.157212406	-61.768183960	-4.03525	-5.46151
277	12.158333333	-61.758333333	12.157212236	-61.759850467	-4.03464	-5.46206
278	12.158333333	-61.750000000	12.157212597	-61.751516948	-4.03475	-5.46287
279	12.158333333	-61.741666667	12.157212348	-61.743183404	-4.03474	-5.46393
280	12.158333333	-61.733333333	12.157212350	-61.734849834	-4.03460	-5.46451
281	12.158333333	-61.725000000	12.157212603	-61.726517932	-4.03445	-5.46520
282	12.158333333	-61.716666667	12.157212506	-61.718184938	-4.03421	-5.46608
283	12.158333333	-61.708333333	12.157212707	-61.709852086	-4.03376	-5.46721
284	12.158333333	-61.700000000	12.157212857	-61.701519110	-4.03313	-5.46854
285	12.158333333	-61.691666667	12.157212932	-61.693186209	-4.03241	-5.46998
286	12.158333333	-61.683333333	12.157213331	-61.684853938	-4.03160	-5.47153
287	12.158333333	-61.675000000	12.157213362	-61.676520168	-4.03075	-5.47320
288	12.158333333	-61.666666667	12.157213645	-61.668186486	-4.03003	-5.47457
289	12.158333333	-61.658333333	12.157214178	-61.659854122	-4.02969	-5.47543
290	12.158333333	-61.650000000	12.157214119	-61.651522260	-4.02980	-5.47597
291	12.158333333	-61.641666667	12.157213964	-61.643188630	-4.02989	-5.47657
292	12.158333333	-61.633333333	12.157213921	-61.634854723	-4.02957	-5.47727
293	12.158333333	-61.625000000	12.157213855	-61.626520788	-4.02961	-5.47827
294	12.158333333	-61.616666667	12.157213916	-61.618187913	-4.02965	-5.47940
295	12.158333333	-61.608333333	12.157214048	-61.609855656	-4.02908	-5.48043
296	12.158333333	-61.600000000	12.157214217	-61.601522630	-4.02828	-5.48060
297	12.158333333	-61.591666667	12.157214489	-61.593189066	-4.02781	-5.47990
298	12.150000000	-61.808333333	12.148879251	-61.809850439	-4.03577	-5.45921
299	12.150000000	-61.800000000	12.148878948	-61.801516825	-4.03559	-5.45978
300	12.150000000	-61.791666667	12.148878896	-61.793183187	-4.03543	-5.46036
301	12.150000000	-61.783333333	12.148879096	-61.784850342	-4.03517	-5.46068
302	12.150000000	-61.775000000	12.148879272	-61.776517971	-4.03487	-5.46092
303	12.150000000	-61.766666667	12.148879109	-61.768184243	-4.03470	-5.46167
304	12.150000000	-61.758333333	12.148879197	-61.759850490	-4.03425	-5.46231
305	12.150000000	-61.750000000	12.148879528	-61.751516712	-4.03426	-5.46311
306	12.150000000	-61.741666667	12.148879253	-61.743182908	-4.03414	-5.46393
307	12.150000000	-61.733333333	12.148879230	-61.734850768	-4.03384	-5.46450
308	12.150000000	-61.725000000	12.148879457	-61.726518556	-4.03362	-5.46505
309	12.150000000	-61.716666667	12.148879651	-61.718185157	-4.03310	-5.46614
310	12.150000000	-61.708333333	12.148879941	-61.709852338	-4.03252	-5.46733
311	12.150000000	-61.700000000	12.148880059	-61.701519307	-4.03194	-5.46850
312	12.150000000	-61.691666667	12.148879995	-61.693185986	-4.03142	-5.46964
313	12.150000000	-61.683333333	12.148880173	-61.684853185	-4.03094	-5.47079
314	12.150000000	-61.675000000	12.148880534	-61.676519502	-4.03016	-5.47229
315	12.150000000	-61.666666667	12.148880749	-61.668187056	-4.02934	-5.47383

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
316	12.150000000	-61.658333333	12.148880819	-61.659852972	-4.02902	-5.47478
317	12.150000000	-61.650000000	12.148880720	-61.651522257	-4.02913	-5.47557
318	12.150000000	-61.641666667	12.148880864	-61.643188536	-4.02908	-5.47633
319	12.150000000	-61.633333333	12.148880914	-61.634854370	-4.02867	-5.47713
320	12.150000000	-61.625000000	12.148880828	-61.626521299	-4.02843	-5.47808
321	12.150000000	-61.616666667	12.148880856	-61.618188807	-4.02825	-5.47912
322	12.150000000	-61.608333333	12.148881136	-61.609855518	-4.02761	-5.48008
323	12.150000000	-61.600000000	12.148881518	-61.601521831	-4.02674	-5.48032
324	12.150000000	-61.591666667	12.148881656	-61.593189188	-4.02634	-5.47988
325	12.141666667	-61.808333333	12.140545735	-61.809850426	-4.03506	-5.45921
326	12.141666667	-61.800000000	12.140545840	-61.801516537	-4.03491	-5.45979
327	12.141666667	-61.791666667	12.140545965	-61.793182625	-4.03474	-5.46038
328	12.141666667	-61.783333333	12.140546140	-61.784849442	-4.03446	-5.46064
329	12.141666667	-61.775000000	12.140546288	-61.776517239	-4.03416	-5.46081
330	12.141666667	-61.766666667	12.140546100	-61.768184552	-4.03406	-5.46164
331	12.141666667	-61.758333333	12.140546162	-61.759850540	-4.03395	-5.46246
332	12.141666667	-61.750000000	12.140546464	-61.751516524	-4.03390	-5.46326
333	12.141666667	-61.741666667	12.140546164	-61.743184069	-4.03367	-5.46383
334	12.141666667	-61.733333333	12.140546115	-61.734851807	-4.03326	-5.46429
335	12.141666667	-61.725000000	12.140546316	-61.726518050	-4.03294	-5.46467
336	12.141666667	-61.716666667	12.140546769	-61.718185014	-4.03220	-5.46585
337	12.141666667	-61.708333333	12.140546951	-61.709852604	-4.03149	-5.46707
338	12.141666667	-61.700000000	12.140547040	-61.701519366	-4.03091	-5.46813
339	12.141666667	-61.691666667	12.140547188	-61.693185750	-4.03044	-5.46912
340	12.141666667	-61.683333333	12.140547322	-61.684852559	-4.03002	-5.47009
341	12.141666667	-61.675000000	12.140547695	-61.676518935	-4.02930	-5.47147
342	12.141666667	-61.666666667	12.140547846	-61.668187769	-4.02855	-5.47289
343	12.141666667	-61.658333333	12.140547460	-61.659853425	-4.02819	-5.47395
344	12.141666667	-61.650000000	12.140547682	-61.651521045	-4.02814	-5.47485
345	12.141666667	-61.641666667	12.140547836	-61.643188160	-4.02790	-5.47574
346	12.141666667	-61.633333333	12.140547923	-61.634854045	-4.02746	-5.47677
347	12.141666667	-61.625000000	12.140548078	-61.626521941	-4.02693	-5.47778
348	12.141666667	-61.616666667	12.140548226	-61.618188925	-4.02650	-5.47877
349	12.141666667	-61.608333333	12.140548315	-61.609855061	-4.02623	-5.47975
350	12.141666667	-61.600000000	12.140548411	-61.601522147	-4.02592	-5.48013
351	12.141666667	-61.591666667	12.140548546	-61.593189483	-4.02550	-5.47981
352	12.133333333	-61.808333333	12.132212222	-61.809850458	-4.03438	-5.45844
353	12.133333333	-61.800000000	12.132212735	-61.801516325	-4.03424	-5.45908
354	12.133333333	-61.791666667	12.132213039	-61.793182924	-4.03410	-5.45972
355	12.133333333	-61.783333333	12.132213039	-61.784849540	-4.03389	-5.46011
356	12.133333333	-61.775000000	12.132213038	-61.776516447	-4.03366	-5.46043
357	12.133333333	-61.766666667	12.132213095	-61.768184887	-4.03358	-5.46130
358	12.133333333	-61.758333333	12.132213091	-61.759850615	-4.03348	-5.46216
359	12.133333333	-61.750000000	12.132213039	-61.751516382	-4.03348	-5.46301
360	12.133333333	-61.741666667	12.132213051	-61.743185519	-4.03316	-5.46355

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
361	12.133333333	-61.733333333	12.132213004	-61.734851463	-4.03275	-5.46393
362	12.133333333	-61.725000000	12.132213180	-61.726517090	-4.03235	-5.46431
363	12.133333333	-61.716666667	12.132213607	-61.718185147	-4.03153	-5.46533
364	12.133333333	-61.708333333	12.132213758	-61.709852079	-4.03080	-5.46646
365	12.133333333	-61.700000000	12.132213821	-61.701518265	-4.03031	-5.46754
366	12.133333333	-61.691666667	12.132214135	-61.693185415	-4.02973	-5.46863
367	12.133333333	-61.683333333	12.132214441	-61.684852829	-4.02898	-5.46970
368	12.133333333	-61.675000000	12.132214392	-61.676519712	-4.02833	-5.47084
369	12.133333333	-61.666666667	12.132214540	-61.668187297	-4.02769	-5.47192
370	12.133333333	-61.658333333	12.132214423	-61.659853898	-4.02718	-5.47299
371	12.133333333	-61.650000000	12.132214827	-61.651519277	-4.02687	-5.47382
372	12.133333333	-61.641666667	12.132214979	-61.643187697	-4.02647	-5.47503
373	12.133333333	-61.633333333	12.132214863	-61.634853750	-4.02604	-5.47616
374	12.133333333	-61.625000000	12.132215074	-61.626521404	-4.02562	-5.47733
375	12.133333333	-61.616666667	12.132215294	-61.618188111	-4.02535	-5.47838
376	12.133333333	-61.608333333	12.132215238	-61.609854999	-4.02523	-5.47934
377	12.133333333	-61.600000000	12.132215241	-61.601522359	-4.02505	-5.47980
378	12.133333333	-61.591666667	12.132215538	-61.593188481	-4.02475	-5.47967
379	12.125000000	-61.808333333	12.123879460	-61.809849897	-4.03358	-5.45738
380	12.125000000	-61.800000000	12.123879656	-61.801515491	-4.03346	-5.45805
381	12.125000000	-61.791666667	12.123879801	-61.793182297	-4.03335	-5.45874
382	12.125000000	-61.783333333	12.123879679	-61.784849658	-4.03322	-5.45933
383	12.125000000	-61.775000000	12.123879573	-61.776516711	-4.03308	-5.45991
384	12.125000000	-61.766666667	12.123879853	-61.768184278	-4.03301	-5.46077
385	12.125000000	-61.758333333	12.123879999	-61.759850717	-4.03292	-5.46165
386	12.125000000	-61.750000000	12.123879417	-61.751516241	-4.03291	-5.46251
387	12.125000000	-61.741666667	12.123879931	-61.743185119	-4.03250	-5.46306
388	12.125000000	-61.733333333	12.123879899	-61.734850788	-4.03215	-5.46341
389	12.125000000	-61.725000000	12.123880049	-61.726517003	-4.03175	-5.46381
390	12.125000000	-61.716666667	12.123880449	-61.718184367	-4.03082	-5.46476
391	12.125000000	-61.708333333	12.123880571	-61.709851244	-4.03005	-5.46584
392	12.125000000	-61.700000000	12.123880607	-61.701518269	-4.02967	-5.46691
393	12.125000000	-61.691666667	12.123880895	-61.693185392	-4.02912	-5.46793
394	12.125000000	-61.683333333	12.123881169	-61.684852052	-4.02821	-5.46889
395	12.125000000	-61.675000000	12.123881093	-61.676519445	-4.02751	-5.46998
396	12.125000000	-61.666666667	12.123881268	-61.668185808	-4.02680	-5.47103
397	12.125000000	-61.658333333	12.123881693	-61.659854407	-4.02614	-5.47202
398	12.125000000	-61.650000000	12.123881731	-61.651519528	-4.02560	-5.47290
399	12.125000000	-61.641666667	12.123881811	-61.643187706	-4.02508	-5.47415
400	12.125000000	-61.633333333	12.123881947	-61.634853483	-4.02465	-5.47539
401	12.125000000	-61.625000000	12.123881993	-61.626520896	-4.02437	-5.47677
402	12.125000000	-61.616666667	12.123882025	-61.618187818	-4.02430	-5.47794
403	12.125000000	-61.608333333	12.123882120	-61.609854481	-4.02434	-5.47892
404	12.125000000	-61.600000000	12.123882190	-61.601521364	-4.02415	-5.47935
405	12.125000000	-61.591666667	12.123882166	-61.593187588	-4.02371	-5.47921

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
406	12.116666667	-61.808333333	12.115546467	-61.809850253	-4.03304	-5.45699
407	12.116666667	-61.800000000	12.115546296	-61.801516502	-4.03292	-5.45764
408	12.116666667	-61.791666667	12.115546249	-61.793182223	-4.03280	-5.45830
409	12.116666667	-61.783333333	12.115546349	-61.784849023	-4.03263	-5.45884
410	12.116666667	-61.775000000	12.115546410	-61.776516584	-4.03245	-5.45936
411	12.116666667	-61.766666667	12.115546300	-61.768182625	-4.03236	-5.46017
412	12.116666667	-61.758333333	12.115546775	-61.759850845	-4.03227	-5.46098
413	12.116666667	-61.750000000	12.115546372	-61.751516126	-4.03218	-5.46172
414	12.116666667	-61.741666667	12.115546860	-61.743184746	-4.03172	-5.46236
415	12.116666667	-61.733333333	12.115546798	-61.734850140	-4.03131	-5.46286
416	12.116666667	-61.725000000	12.115546922	-61.726518093	-4.03089	-5.46333
417	12.116666667	-61.716666667	12.115547297	-61.718184686	-4.03011	-5.46441
418	12.116666667	-61.708333333	12.115547388	-61.709851695	-4.02942	-5.46546
419	12.116666667	-61.700000000	12.115547398	-61.701518419	-4.02899	-5.46626
420	12.116666667	-61.691666667	12.115547659	-61.693184965	-4.02838	-5.46703
421	12.116666667	-61.683333333	12.115547903	-61.684852057	-4.02748	-5.46794
422	12.116666667	-61.675000000	12.115547835	-61.676518256	-4.02674	-5.46898
423	12.116666667	-61.666666667	12.115548112	-61.668186553	-4.02597	-5.47001
424	12.116666667	-61.658333333	12.115548345	-61.659854245	-4.02518	-5.47105
425	12.116666667	-61.650000000	12.115548993	-61.651519744	-4.02435	-5.47201
426	12.116666667	-61.641666667	12.115549114	-61.643187744	-4.02379	-5.47311
427	12.116666667	-61.633333333	12.115548828	-61.634853244	-4.02342	-5.47440
428	12.116666667	-61.625000000	12.115549039	-61.626520416	-4.02334	-5.47584
429	12.116666667	-61.616666667	12.115549253	-61.618188618	-4.02336	-5.47705
430	12.116666667	-61.608333333	12.115549068	-61.609855098	-4.02338	-5.47804
431	12.116666667	-61.600000000	12.115549039	-61.601521121	-4.02289	-5.47832
432	12.116666667	-61.591666667	12.115549460	-61.593188402	-4.02190	-5.47788
433	12.108333333	-61.808333333	12.107212677	-61.809848474	-4.03250	-5.45656
434	12.108333333	-61.800000000	12.107213118	-61.801516382	-4.03235	-5.45719
435	12.108333333	-61.791666667	12.107213337	-61.793183071	-4.03220	-5.45781
436	12.108333333	-61.783333333	12.107213413	-61.784849705	-4.03202	-5.45828
437	12.108333333	-61.775000000	12.107213446	-61.776516812	-4.03181	-5.45872
438	12.108333333	-61.766666667	12.107213157	-61.768183053	-4.03169	-5.45947
439	12.108333333	-61.758333333	12.107213119	-61.759850999	-4.03156	-5.46023
440	12.108333333	-61.750000000	12.107213332	-61.751516037	-4.03143	-5.46091
441	12.108333333	-61.741666667	12.107213794	-61.743184399	-4.03094	-5.46156
442	12.108333333	-61.733333333	12.107213703	-61.734849518	-4.03049	-5.46216
443	12.108333333	-61.725000000	12.107213801	-61.726517229	-4.03003	-5.46276
444	12.108333333	-61.716666667	12.107214149	-61.718185513	-4.02940	-5.46365
445	12.108333333	-61.708333333	12.107214210	-61.709851619	-4.02879	-5.46456
446	12.108333333	-61.700000000	12.107214194	-61.701518188	-4.02824	-5.46528
447	12.108333333	-61.691666667	12.107214429	-61.693185132	-4.02759	-5.46589
448	12.108333333	-61.683333333	12.107214674	-61.684851221	-4.02675	-5.46665
449	12.108333333	-61.675000000	12.107214785	-61.676519271	-4.02593	-5.46767
450	12.108333333	-61.666666667	12.107215501	-61.668186698	-4.02509	-5.46879

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
451	12.108333333	-61.658333333	12.107215105	-61.659851731	-4.02437	-5.47028
452	12.108333333	-61.650000000	12.107215632	-61.651519785	-4.02350	-5.47112
453	12.108333333	-61.641666667	12.107215790	-61.643187811	-4.02272	-5.47201
454	12.108333333	-61.633333333	12.107215993	-61.634853035	-4.02228	-5.47333
455	12.108333333	-61.625000000	12.107215925	-61.626519966	-4.02197	-5.47472
456	12.108333333	-61.616666667	12.107215844	-61.618187909	-4.02177	-5.47574
457	12.108333333	-61.608333333	12.107215982	-61.609854251	-4.02168	-5.47650
458	12.108333333	-61.600000000	12.107216345	-61.601520083	-4.02147	-5.47702
459	12.108333333	-61.591666667	12.107216691	-61.593187753	-4.02110	-5.47726
460	12.100000000	-61.808333333	12.098879856	-61.809850669	-4.03195	-5.45618
461	12.100000000	-61.800000000	12.098880182	-61.801515858	-4.03176	-5.45673
462	12.100000000	-61.791666667	12.098880338	-61.793182525	-4.03160	-5.45730
463	12.100000000	-61.783333333	12.098880393	-61.784849181	-4.03138	-5.45768
464	12.100000000	-61.775000000	12.098880427	-61.776515329	-4.03114	-5.45803
465	12.100000000	-61.766666667	12.098880172	-61.768183436	-4.03098	-5.45873
466	12.100000000	-61.758333333	12.098880109	-61.759850907	-4.03082	-5.45941
467	12.100000000	-61.750000000	12.098880296	-61.751515975	-4.03071	-5.46005
468	12.100000000	-61.741666667	12.098880733	-61.743184078	-4.03021	-5.46074
469	12.100000000	-61.733333333	12.098880612	-61.734849146	-4.02971	-5.46141
470	12.100000000	-61.725000000	12.098880684	-61.726516453	-4.02921	-5.46211
471	12.100000000	-61.716666667	12.098881007	-61.718184418	-4.02871	-5.46280
472	12.100000000	-61.708333333	12.098881037	-61.709850371	-4.02811	-5.46354
473	12.100000000	-61.700000000	12.098880995	-61.701516774	-4.02754	-5.46440
474	12.100000000	-61.691666667	12.098881203	-61.693184635	-4.02690	-5.46529
475	12.100000000	-61.683333333	12.098881661	-61.684852443	-4.02604	-5.46618
476	12.100000000	-61.675000000	12.098882181	-61.676519615	-4.02517	-5.46725
477	12.100000000	-61.666666667	12.098882274	-61.668184520	-4.02436	-5.46837
478	12.100000000	-61.658333333	12.098882608	-61.659852343	-4.02354	-5.46956
479	12.100000000	-61.650000000	12.098882358	-61.651520138	-4.02270	-5.47044
480	12.100000000	-61.641666667	12.098883105	-61.643187906	-4.02189	-5.47136
481	12.100000000	-61.633333333	12.098882811	-61.634852854	-4.02132	-5.47251
482	12.100000000	-61.625000000	12.098883027	-61.626519544	-4.02082	-5.47310
483	12.100000000	-61.616666667	12.098883231	-61.618187229	-4.02062	-5.47428
484	12.100000000	-61.608333333	12.098883345	-61.609854885	-4.02064	-5.47558
485	12.100000000	-61.600000000	12.098883365	-61.601521134	-4.02052	-5.47621
486	12.100000000	-61.591666667	12.098883116	-61.593186298	-4.02026	-5.47661
487	12.091666667	-61.808333333	12.090547238	-61.809847984	-4.03138	-5.45573
488	12.091666667	-61.800000000	12.090546790	-61.801515918	-4.03118	-5.45628
489	12.091666667	-61.791666667	12.090546576	-61.793182013	-4.03101	-5.45680
490	12.091666667	-61.783333333	12.090546602	-61.784848122	-4.03075	-5.45709
491	12.091666667	-61.775000000	12.090546879	-61.776516067	-4.03045	-5.45733
492	12.091666667	-61.766666667	12.090547192	-61.768183135	-4.03029	-5.45798
493	12.091666667	-61.758333333	12.090547104	-61.759848069	-4.03007	-5.45862
494	12.091666667	-61.750000000	12.090547266	-61.751515939	-4.02997	-5.45923
495	12.091666667	-61.741666667	12.090547677	-61.743183784	-4.02960	-5.45991

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
496	12.091666667	-61.733333333	12.090547526	-61.734851573	-4.02891	-5.46059
497	12.091666667	-61.725000000	12.090547573	-61.726516489	-4.02819	-5.46129
498	12.091666667	-61.716666667	12.090547869	-61.718183349	-4.02751	-5.46202
499	12.091666667	-61.708333333	12.090547869	-61.709851043	-4.02692	-5.46280
500	12.091666667	-61.700000000	12.090547800	-61.701518705	-4.02642	-5.46365
501	12.091666667	-61.691666667	12.090547982	-61.693184946	-4.02590	-5.46450
502	12.091666667	-61.683333333	12.090548413	-61.684850342	-4.02521	-5.46533
503	12.091666667	-61.675000000	12.090548902	-61.676517947	-4.02432	-5.46630
504	12.091666667	-61.666666667	12.090548968	-61.668185419	-4.02319	-5.46753
505	12.091666667	-61.658333333	12.090549284	-61.659852983	-4.02239	-5.46865
506	12.091666667	-61.650000000	12.090549804	-61.651520520	-4.02198	-5.46959
507	12.091666667	-61.641666667	12.090549867	-61.643188030	-4.02093	-5.47051
508	12.091666667	-61.633333333	12.090550034	-61.634852702	-4.02019	-5.47170
509	12.091666667	-61.625000000	12.090549892	-61.626519152	-4.01971	-5.47247
510	12.091666667	-61.616666667	12.090549750	-61.618186578	-4.01949	-5.47327
511	12.091666667	-61.608333333	12.090549836	-61.609853976	-4.01957	-5.47445
512	12.091666667	-61.600000000	12.090550144	-61.601521234	-4.01962	-5.47546
513	12.091666667	-61.591666667	12.090550418	-61.593188364	-4.01943	-5.47599
514	12.083333333	-61.808333333	12.082213241	-61.809850862	-4.03087	-5.45535
515	12.083333333	-61.800000000	12.082213566	-61.801515348	-4.03063	-5.45582
516	12.083333333	-61.791666667	12.082213679	-61.793181542	-4.03040	-5.45630
517	12.083333333	-61.783333333	12.082213681	-61.784849144	-4.03010	-5.45650
518	12.083333333	-61.775000000	12.082213933	-61.776516832	-4.02979	-5.45661
519	12.083333333	-61.766666667	12.082214217	-61.768183626	-4.02958	-5.45721
520	12.083333333	-61.758333333	12.082214104	-61.759848317	-4.02933	-5.45780
521	12.083333333	-61.750000000	12.082214240	-61.751515929	-4.02925	-5.45836
522	12.083333333	-61.741666667	12.082214626	-61.743183516	-4.02890	-5.45906
523	12.083333333	-61.733333333	12.082214445	-61.734851077	-4.02801	-5.45973
524	12.083333333	-61.725000000	12.082214466	-61.726515702	-4.02708	-5.46045
525	12.083333333	-61.716666667	12.082214736	-61.718182307	-4.02620	-5.46119
526	12.083333333	-61.708333333	12.082215201	-61.709849791	-4.02540	-5.46194
527	12.083333333	-61.700000000	12.082215465	-61.701517248	-4.02471	-5.46273
528	12.083333333	-61.691666667	12.082215615	-61.693184516	-4.02423	-5.46356
529	12.083333333	-61.683333333	12.082215763	-61.684851651	-4.02389	-5.46443
530	12.083333333	-61.675000000	12.082215628	-61.676519011	-4.02327	-5.46544
531	12.083333333	-61.666666667	12.082215667	-61.668186345	-4.02217	-5.46680
532	12.083333333	-61.658333333	12.082215956	-61.659853585	-4.02221	-5.46777
533	12.083333333	-61.650000000	12.082216495	-61.651517858	-4.02137	-5.46883
534	12.083333333	-61.641666667	12.082216488	-61.643184884	-4.02019	-5.46972
535	12.083333333	-61.633333333	12.082216662	-61.634851730	-4.01923	-5.47091
536	12.083333333	-61.625000000	12.082216995	-61.626518788	-4.01864	-5.47189
537	12.083333333	-61.616666667	12.082217086	-61.618185956	-4.01853	-5.47282
538	12.083333333	-61.608333333	12.082217139	-61.609853096	-4.01867	-5.47384
539	12.083333333	-61.600000000	12.082217146	-61.601520208	-4.01873	-5.47474
540	12.083333333	-61.591666667	12.082216933	-61.593187291	-4.01866	-5.47541
541	12.075000000	-61.808333333	12.073880338	-61.809848397	-4.03030	-5.45493

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
542	12.075000000	-61.800000000	12.073880681	-61.801515459	-4.03007	-5.45540
543	12.075000000	-61.791666667	12.073880787	-61.793182737	-4.02989	-5.45585
544	12.075000000	-61.783333333	12.073880764	-61.784848824	-4.02956	-5.45595
545	12.075000000	-61.775000000	12.073880727	-61.776514361	-4.02914	-5.45595
546	12.075000000	-61.766666667	12.073880624	-61.768181649	-4.02888	-5.45650
547	12.075000000	-61.758333333	12.073881108	-61.759848591	-4.02857	-5.45702
548	12.075000000	-61.750000000	12.073881182	-61.751515946	-4.02855	-5.45751
549	12.075000000	-61.741666667	12.073880817	-61.743183275	-4.02818	-5.45821
550	12.075000000	-61.733333333	12.073881258	-61.734850578	-4.02703	-5.45892
551	12.075000000	-61.725000000	12.073881364	-61.726517358	-4.02592	-5.45964
552	12.075000000	-61.716666667	12.073881608	-61.718184443	-4.02480	-5.46034
553	12.075000000	-61.708333333	12.073882102	-61.709849829	-4.02375	-5.46104
554	12.075000000	-61.700000000	12.073882380	-61.701515718	-4.02288	-5.46177
555	12.075000000	-61.691666667	12.073882508	-61.693182890	-4.02245	-5.46257
556	12.075000000	-61.683333333	12.073882597	-61.684850037	-4.02243	-5.46348
557	12.075000000	-61.675000000	12.073882520	-61.676517156	-4.02210	-5.46448
558	12.075000000	-61.666666667	12.073883044	-61.668184249	-4.02099	-5.46567
559	12.075000000	-61.658333333	12.073882633	-61.659851295	-4.02140	-5.46669
560	12.075000000	-61.650000000	12.073883144	-61.651517609	-4.02045	-5.46775
561	12.075000000	-61.641666667	12.073883734	-61.643184549	-4.01937	-5.46897
562	12.075000000	-61.633333333	12.073883997	-61.634851515	-4.01845	-5.47018
563	12.075000000	-61.625000000	12.073883904	-61.626518453	-4.01795	-5.47109
564	12.075000000	-61.616666667	12.073883757	-61.618185363	-4.01782	-5.47194
565	12.075000000	-61.608333333	12.073883787	-61.609852246	-4.01788	-5.47286
566	12.075000000	-61.600000000	12.073883982	-61.601519099	-4.01775	-5.47343
567	12.075000000	-61.591666667	12.073884096	-61.593185925	-4.01742	-5.47363
568	12.066666667	-61.808333333	12.065547730	-61.809846577	-4.02920	-5.45247
569	12.066666667	-61.800000000	12.065547366	-61.801513839	-4.02905	-5.45293
570	12.066666667	-61.791666667	12.065547537	-61.793181075	-4.02888	-5.45347
571	12.066666667	-61.783333333	12.065547853	-61.784847935	-4.02862	-5.45398
572	12.066666667	-61.775000000	12.065547741	-61.776514623	-4.02835	-5.45449
573	12.066666667	-61.766666667	12.065547553	-61.768181770	-4.02821	-5.45515
574	12.066666667	-61.758333333	12.065548117	-61.759848892	-4.02801	-5.45584
575	12.066666667	-61.750000000	12.065548155	-61.751515989	-4.02783	-5.45668
576	12.066666667	-61.741666667	12.065547625	-61.743183060	-4.02705	-5.45768
577	12.066666667	-61.733333333	12.065548169	-61.734850106	-4.02571	-5.45843
578	12.066666667	-61.725000000	12.065548820	-61.726517126	-4.02449	-5.45908
579	12.066666667	-61.716666667	12.065549198	-61.718184120	-4.02327	-5.45971
580	12.066666667	-61.708333333	12.065549246	-61.709850514	-4.02206	-5.46028
581	12.066666667	-61.700000000	12.065549547	-61.701517033	-4.02105	-5.46085
582	12.066666667	-61.691666667	12.065549721	-61.693183932	-4.02076	-5.46160
583	12.066666667	-61.683333333	12.065549573	-61.684850804	-4.02108	-5.46256
584	12.066666667	-61.675000000	12.065549843	-61.676517649	-4.02123	-5.46362
585	12.066666667	-61.666666667	12.065550001	-61.668184467	-4.02124	-5.46486
586	12.066666667	-61.658333333	12.065549978	-61.659851258	-4.02068	-5.46581

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	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
587	12.066666667	-61.650000000	12.065549842	-61.651518022	-4.01969	-5.46689
588	12.066666667	-61.641666667	12.065550532	-61.643184758	-4.01865	-5.46812
589	12.066666667	-61.633333333	12.065550799	-61.634851466	-4.01781	-5.46930
590	12.066666667	-61.625000000	12.065550539	-61.626518147	-4.01739	-5.47019
591	12.066666667	-61.616666667	12.065550665	-61.618184800	-4.01728	-5.47106
592	12.066666667	-61.608333333	12.065550640	-61.609852666	-4.01730	-5.47201
593	12.066666667	-61.600000000	12.065550543	-61.601520634	-4.01712	-5.47257
594	12.066666667	-61.591666667	12.065550771	-61.593187184	-4.01672	-5.47271
595	12.058333333	-61.808333333	12.057214956	-61.809847657	-4.02827	-5.45157
596	12.058333333	-61.800000000	12.057214386	-61.801514646	-4.02835	-5.45215
597	12.058333333	-61.791666667	12.057214210	-61.793181610	-4.02829	-5.45262
598	12.058333333	-61.783333333	12.057214276	-61.784848549	-4.02805	-5.45311
599	12.058333333	-61.775000000	12.057214362	-61.776515464	-4.02782	-5.45372
600	12.058333333	-61.766666667	12.057214437	-61.768182354	-4.02770	-5.45433
601	12.058333333	-61.758333333	12.057214474	-61.759849219	-4.02748	-5.45499
602	12.058333333	-61.750000000	12.057214557	-61.751516058	-4.02699	-5.45598
603	12.058333333	-61.741666667	12.057215184	-61.743182872	-4.02567	-5.45724
604	12.058333333	-61.733333333	12.057215191	-61.734849660	-4.02425	-5.45808
605	12.058333333	-61.725000000	12.057215914	-61.726516422	-4.02312	-5.45868
606	12.058333333	-61.716666667	12.057216320	-61.718183159	-4.02199	-5.45921
607	12.058333333	-61.708333333	12.057216573	-61.709849869	-4.02086	-5.45973
608	12.058333333	-61.700000000	12.057216816	-61.701516554	-4.01993	-5.46023
609	12.058333333	-61.691666667	12.057216921	-61.693183211	-4.01967	-5.46088
610	12.058333333	-61.683333333	12.057216852	-61.684849842	-4.01998	-5.46176
611	12.058333333	-61.675000000	12.057216789	-61.676516988	-4.02018	-5.46277
612	12.058333333	-61.666666667	12.057216747	-61.668185478	-4.02020	-5.46378
613	12.058333333	-61.658333333	12.057216943	-61.659852011	-4.01950	-5.46484
614	12.058333333	-61.650000000	12.057217083	-61.651518517	-4.01865	-5.46597
615	12.058333333	-61.641666667	12.057217254	-61.643184996	-4.01790	-5.46722
616	12.058333333	-61.633333333	12.057217398	-61.634851447	-4.01719	-5.46837
617	12.058333333	-61.625000000	12.057217498	-61.626517870	-4.01687	-5.46931
618	12.058333333	-61.616666667	12.057217626	-61.618185604	-4.01681	-5.47028
619	12.058333333	-61.608333333	12.057217580	-61.609853671	-4.01683	-5.47132
620	12.058333333	-61.600000000	12.057217604	-61.601520786	-4.01665	-5.47195
621	12.058333333	-61.591666667	12.057217794	-61.593187096	-4.01625	-5.47218
622	12.050000000	-61.808333333	12.048881345	-61.809847128	-4.02775	-5.45123
623	12.050000000	-61.800000000	12.048881301	-61.801513874	-4.02772	-5.45186
624	12.050000000	-61.791666667	12.048881187	-61.793180596	-4.02763	-5.45242
625	12.050000000	-61.783333333	12.048881091	-61.784847294	-4.02747	-5.45272
626	12.050000000	-61.775000000	12.048881243	-61.776514764	-4.02726	-5.45298
627	12.050000000	-61.766666667	12.048881412	-61.768182964	-4.02701	-5.45353
628	12.050000000	-61.758333333	12.048881285	-61.759849571	-4.02661	-5.45412
629	12.050000000	-61.750000000	12.048881833	-61.751516153	-4.02580	-5.45513
630	12.050000000	-61.741666667	12.048882456	-61.743182710	-4.02424	-5.45676
631	12.050000000	-61.733333333	12.048882170	-61.734849241	-4.02304	-5.45775

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
632	12.050000000	-61.725000000	12.048882831	-61.726515746	-4.02210	-5.45827
633	12.050000000	-61.716666667	12.048883207	-61.718182225	-4.02123	-5.45887
634	12.050000000	-61.708333333	12.048883289	-61.709848678	-4.02040	-5.45945
635	12.050000000	-61.700000000	12.048883531	-61.701516220	-4.01969	-5.45982
636	12.050000000	-61.691666667	12.048883631	-61.693183710	-4.01948	-5.46030
637	12.050000000	-61.683333333	12.048883479	-61.684850068	-4.01973	-5.46110
638	12.050000000	-61.675000000	12.048883534	-61.676516765	-4.01985	-5.46196
639	12.050000000	-61.666666667	12.048883465	-61.668184361	-4.01966	-5.46290
640	12.050000000	-61.658333333	12.048883645	-61.659850735	-4.01891	-5.46401
641	12.050000000	-61.650000000	12.048884074	-61.651518925	-4.01796	-5.46517
642	12.050000000	-61.641666667	12.048883940	-61.643185263	-4.01715	-5.46637
643	12.050000000	-61.633333333	12.048884002	-61.634851456	-4.01658	-5.46748
644	12.050000000	-61.625000000	12.048884314	-61.626517622	-4.01641	-5.46855
645	12.050000000	-61.616666667	12.048884327	-61.618185950	-4.01640	-5.46964
646	12.050000000	-61.608333333	12.048884272	-61.609853684	-4.01643	-5.47076
647	12.050000000	-61.600000000	12.048884466	-61.601519766	-4.01621	-5.47141
648	12.050000000	-61.591666667	12.048884627	-61.593186410	-4.01578	-5.47165
649	12.041666667	-61.808333333	12.040548230	-61.809847660	-4.02731	-5.45058
650	12.041666667	-61.800000000	12.040547995	-61.801514134	-4.02716	-5.45118
651	12.041666667	-61.791666667	12.040548067	-61.793180584	-4.02703	-5.45177
652	12.041666667	-61.783333333	12.040548193	-61.784847009	-4.02686	-5.45217
653	12.041666667	-61.775000000	12.040548321	-61.776514006	-4.02642	-5.45247
654	12.041666667	-61.766666667	12.040548461	-61.768181550	-4.02571	-5.45298
655	12.041666667	-61.758333333	12.040548369	-61.759848232	-4.02520	-5.45353
656	12.041666667	-61.750000000	12.040549152	-61.751516275	-4.02457	-5.45452
657	12.041666667	-61.741666667	12.040548957	-61.743182574	-4.02348	-5.45613
658	12.041666667	-61.733333333	12.040549052	-61.734848848	-4.02241	-5.45718
659	12.041666667	-61.725000000	12.040549366	-61.726515096	-4.02173	-5.45774
660	12.041666667	-61.716666667	12.040549609	-61.718182671	-4.02104	-5.45827
661	12.041666667	-61.708333333	12.040549722	-61.709849453	-4.02039	-5.45874
662	12.041666667	-61.700000000	12.040549928	-61.701516565	-4.01985	-5.45911
663	12.041666667	-61.691666667	12.040549991	-61.693183642	-4.01967	-5.45962
664	12.041666667	-61.683333333	12.040549982	-61.684850365	-4.01983	-5.46038
665	12.041666667	-61.675000000	12.040550284	-61.676517722	-4.01992	-5.46122
666	12.041666667	-61.666666667	12.040550188	-61.668183768	-4.01975	-5.46224
667	12.041666667	-61.658333333	12.040550341	-61.659849871	-4.01874	-5.46335
668	12.041666667	-61.650000000	12.040550743	-61.651517671	-4.01762	-5.46449
669	12.041666667	-61.641666667	12.040550963	-61.643185299	-4.01658	-5.46560
670	12.041666667	-61.633333333	12.040551058	-61.634851494	-4.01611	-5.46667
671	12.041666667	-61.625000000	12.040551040	-61.626518592	-4.01613	-5.46786
672	12.041666667	-61.616666667	12.040550876	-61.618186230	-4.01620	-5.46904
673	12.041666667	-61.608333333	12.040550792	-61.609852951	-4.01627	-5.47017
674	12.041666667	-61.600000000	12.040550958	-61.601518775	-4.01598	-5.47043
675	12.041666667	-61.591666667	12.040551213	-61.593185717	-4.01543	-5.47007
676	12.033333333	-61.808333333	12.032215532	-61.809847779	-4.02588	-5.44971

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
677	12.033333333	-61.800000000	12.032214889	-61.801514011	-4.02626	-5.45055
678	12.033333333	-61.791666667	12.032214761	-61.793181173	-4.02631	-5.45122
679	12.033333333	-61.783333333	12.032215051	-61.784848185	-4.02606	-5.45176
680	12.033333333	-61.775000000	12.032215404	-61.776514328	-4.02548	-5.45224
681	12.033333333	-61.766666667	12.032215515	-61.768180447	-4.02461	-5.45271
682	12.033333333	-61.758333333	12.032215333	-61.759847150	-4.02405	-5.45327
683	12.033333333	-61.750000000	12.032215722	-61.751516423	-4.02369	-5.45422
684	12.033333333	-61.741666667	12.032215480	-61.743182465	-4.02320	-5.45552
685	12.033333333	-61.733333333	12.032215948	-61.734848482	-4.02227	-5.45662
686	12.033333333	-61.725000000	12.032215926	-61.726515793	-4.02172	-5.45719
687	12.033333333	-61.716666667	12.032216041	-61.718183597	-4.02109	-5.45753
688	12.033333333	-61.708333333	12.032216403	-61.709850192	-4.02047	-5.45783
689	12.033333333	-61.700000000	12.032216528	-61.701516105	-4.02000	-5.45823
690	12.033333333	-61.691666667	12.032216524	-61.693182663	-4.01976	-5.45880
691	12.033333333	-61.683333333	12.032216768	-61.684850165	-4.01975	-5.45952
692	12.033333333	-61.675000000	12.032217039	-61.676517499	-4.01976	-5.46041
693	12.033333333	-61.666666667	12.032216916	-61.668183522	-4.01943	-5.46150
694	12.033333333	-61.658333333	12.032217042	-61.659850625	-4.01840	-5.46266
695	12.033333333	-61.650000000	12.032217416	-61.651516359	-4.01733	-5.46380
696	12.033333333	-61.641666667	12.032218039	-61.643185353	-4.01633	-5.46487
697	12.033333333	-61.633333333	12.032218178	-61.634851561	-4.01588	-5.46591
698	12.033333333	-61.625000000	12.032217789	-61.626519791	-4.01596	-5.46724
699	12.033333333	-61.616666667	12.032217641	-61.618186651	-4.01609	-5.46848
700	12.033333333	-61.608333333	12.032217676	-61.609852246	-4.01618	-5.46961
701	12.033333333	-61.600000000	12.032217809	-61.601518379	-4.01583	-5.46940
702	12.033333333	-61.591666667	12.032218084	-61.593185491	-4.01517	-5.46831
703	12.025000000	-61.808333333	12.023882230	-61.809847763	-4.02431	-5.44919
704	12.025000000	-61.800000000	12.023881910	-61.801513724	-4.02481	-5.45010
705	12.025000000	-61.791666667	12.023881631	-61.793180899	-4.02532	-5.45096
706	12.025000000	-61.783333333	12.023881718	-61.784848559	-4.02537	-5.45161
707	12.025000000	-61.775000000	12.023882125	-61.776515273	-4.02481	-5.45205
708	12.025000000	-61.766666667	12.023882304	-61.768181135	-4.02406	-5.45246
709	12.025000000	-61.758333333	12.023882283	-61.759847597	-4.02345	-5.45304
710	12.025000000	-61.750000000	12.023882242	-61.751516597	-4.02311	-5.45398
711	12.025000000	-61.741666667	12.023882449	-61.743182383	-4.02287	-5.45508
712	12.025000000	-61.733333333	12.023882905	-61.734848143	-4.02224	-5.45621
713	12.025000000	-61.725000000	12.023882854	-61.726516903	-4.02168	-5.45666
714	12.025000000	-61.716666667	12.023882942	-61.718183401	-4.02108	-5.45695
715	12.025000000	-61.708333333	12.023883074	-61.709849083	-4.02059	-5.45723
716	12.025000000	-61.700000000	12.023883212	-61.701515421	-4.02009	-5.45753
717	12.025000000	-61.691666667	12.023883341	-61.693182735	-4.01970	-5.45796
718	12.025000000	-61.683333333	12.023883559	-61.684850212	-4.01956	-5.45857
719	12.025000000	-61.675000000	12.023883799	-61.676516638	-4.01940	-5.45945
720	12.025000000	-61.666666667	12.023883649	-61.668182720	-4.01882	-5.46069
721	12.025000000	-61.658333333	12.023883747	-61.659851490	-4.01796	-5.46192

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
722	12.025000000	-61.650000000	12.023884094	-61.651516968	-4.01707	-5.46306
723	12.025000000	-61.641666667	12.023884690	-61.643184676	-4.01629	-5.46410
724	12.025000000	-61.633333333	12.023884797	-61.634851386	-4.01577	-5.46515
725	12.025000000	-61.625000000	12.023884376	-61.626519648	-4.01579	-5.46672
726	12.025000000	-61.616666667	12.023884548	-61.618186233	-4.01588	-5.46809
727	12.025000000	-61.608333333	12.023884801	-61.609852136	-4.01591	-5.46925
728	12.025000000	-61.600000000	12.023884909	-61.601519088	-4.01550	-5.46905
729	12.025000000	-61.591666667	12.023884971	-61.593185978	-4.01484	-5.46798
730	12.016666667	-61.808333333	12.015548693	-61.809848529	-4.02381	-5.44910
731	12.016666667	-61.800000000	12.015548866	-61.801514249	-4.02364	-5.44969
732	12.016666667	-61.791666667	12.015548773	-61.793180590	-4.02416	-5.45051
733	12.016666667	-61.783333333	12.015548578	-61.784847972	-4.02464	-5.45131
734	12.016666667	-61.775000000	12.015548631	-61.776515487	-4.02426	-5.45182
735	12.016666667	-61.766666667	12.015548932	-61.768181848	-4.02345	-5.45222
736	12.016666667	-61.758333333	12.015549322	-61.759847878	-4.02286	-5.45284
737	12.016666667	-61.750000000	12.015549255	-61.751515760	-4.02261	-5.45373
738	12.016666667	-61.741666667	12.015549437	-61.743182308	-4.02254	-5.45478
739	12.016666667	-61.733333333	12.015549624	-61.734847830	-4.02215	-5.45561
740	12.016666667	-61.725000000	12.015549731	-61.726516350	-4.02164	-5.45600
741	12.016666667	-61.716666667	12.015549847	-61.718182575	-4.02108	-5.45630
742	12.016666667	-61.708333333	12.015549574	-61.709848639	-4.02070	-5.45662
743	12.016666667	-61.700000000	12.015549763	-61.701515874	-4.02012	-5.45688
744	12.016666667	-61.691666667	12.015550164	-61.693183018	-4.01955	-5.45714
745	12.016666667	-61.683333333	12.015550355	-61.684849869	-4.01931	-5.45762
746	12.016666667	-61.675000000	12.015550564	-61.676517304	-4.01900	-5.45853
747	12.016666667	-61.666666667	12.015550387	-61.668183745	-4.01824	-5.45989
748	12.016666667	-61.658333333	12.015550458	-61.659851494	-4.01750	-5.46117
749	12.016666667	-61.650000000	12.015550777	-61.651517572	-4.01676	-5.46232
750	12.016666667	-61.641666667	12.015551345	-61.643182800	-4.01617	-5.46363
751	12.016666667	-61.633333333	12.015551420	-61.634850933	-4.01562	-5.46473
752	12.016666667	-61.625000000	12.015551117	-61.626519533	-4.01565	-5.46651
753	12.016666667	-61.616666667	12.015551202	-61.618185844	-4.01569	-5.46797
754	12.016666667	-61.608333333	12.015551335	-61.609852833	-4.01568	-5.46911
755	12.016666667	-61.600000000	12.015551415	-61.601519794	-4.01525	-5.46885
756	12.016666667	-61.591666667	12.015551508	-61.593185073	-4.01458	-5.46775
757	12.008333333	-61.808333333	12.007215956	-61.809846782	-4.02342	-5.44892
758	12.008333333	-61.800000000	12.007215896	-61.801513080	-4.02323	-5.44952
759	12.008333333	-61.791666667	12.007215817	-61.793180420	-4.02302	-5.45007
760	12.008333333	-61.783333333	12.007215700	-61.784847564	-4.02312	-5.45076
761	12.008333333	-61.775000000	12.007215728	-61.776514477	-4.02332	-5.45149
762	12.008333333	-61.766666667	12.007215948	-61.768181959	-4.02296	-5.45207
763	12.008333333	-61.758333333	12.007216191	-61.759847911	-4.02233	-5.45268
764	12.008333333	-61.750000000	12.007216257	-61.751513513	-4.02225	-5.45357
765	12.008333333	-61.741666667	12.007216230	-61.743182247	-4.02227	-5.45458
766	12.008333333	-61.733333333	12.007215960	-61.734847544	-4.02205	-5.45495

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
767	12.008333333	-61.725000000	12.007216377	-61.726515824	-4.02160	-5.45528
768	12.008333333	-61.716666667	12.007216568	-61.718181776	-4.02107	-5.45558
769	12.008333333	-61.708333333	12.007216383	-61.709849296	-4.02051	-5.45600
770	12.008333333	-61.700000000	12.007216621	-61.701515903	-4.01990	-5.45632
771	12.008333333	-61.691666667	12.007216991	-61.693182663	-4.01937	-5.45653
772	12.008333333	-61.683333333	12.007217155	-61.684850159	-4.01901	-5.45693
773	12.008333333	-61.675000000	12.007217334	-61.676516436	-4.01851	-5.45785
774	12.008333333	-61.666666667	12.007217129	-61.668183939	-4.01759	-5.45924
775	12.008333333	-61.658333333	12.007217173	-61.659849722	-4.01697	-5.46049
776	12.008333333	-61.650000000	12.007217465	-61.651518148	-4.01640	-5.46166
777	12.008333333	-61.641666667	12.007218006	-61.643183209	-4.01603	-5.46367
778	12.008333333	-61.633333333	12.007218048	-61.634851104	-4.01523	-5.46510
779	12.008333333	-61.625000000	12.007218220	-61.626519447	-4.01532	-5.46716
780	12.008333333	-61.616666667	12.007218071	-61.618185484	-4.01542	-5.46859
781	12.008333333	-61.608333333	12.007217875	-61.609852234	-4.01540	-5.46958
782	12.008333333	-61.600000000	12.007217980	-61.601519137	-4.01497	-5.46914
783	12.008333333	-61.591666667	12.007218313	-61.593185253	-4.01434	-5.46795
784	12.000000000	-61.808333333	11.998883153	-61.809845347	-4.02271	-5.44869
785	12.000000000	-61.800000000	11.998882556	-61.801513435	-4.02255	-5.44928
786	12.000000000	-61.791666667	11.998882558	-61.793180099	-4.02240	-5.44986
787	12.000000000	-61.783333333	11.998882747	-61.784846981	-4.02230	-5.45045
788	12.000000000	-61.775000000	11.998882779	-61.776514081	-4.02252	-5.45117
789	12.000000000	-61.766666667	11.998882724	-61.768180565	-4.02268	-5.45191
790	12.000000000	-61.758333333	11.998882604	-61.759848421	-4.02189	-5.45252
791	12.000000000	-61.750000000	11.998883096	-61.751513782	-4.02195	-5.45352
792	12.000000000	-61.741666667	11.998882480	-61.743182260	-4.02201	-5.45437
793	12.000000000	-61.733333333	11.998882852	-61.734847285	-4.02173	-5.45490
794	12.000000000	-61.725000000	11.998882710	-61.726515324	-4.02123	-5.45521
795	12.000000000	-61.716666667	11.998882720	-61.718181333	-4.02070	-5.45549
796	12.000000000	-61.708333333	11.998882978	-61.709848453	-4.02017	-5.45577
797	12.000000000	-61.700000000	11.998883484	-61.701514845	-4.01965	-5.45607
798	12.000000000	-61.691666667	11.998883824	-61.693181372	-4.01915	-5.45638
799	12.000000000	-61.683333333	11.998883961	-61.684849434	-4.01866	-5.45678
800	12.000000000	-61.675000000	11.998884108	-61.676516844	-4.01808	-5.45755
801	12.000000000	-61.666666667	11.998883876	-61.668182492	-4.01726	-5.45892
802	12.000000000	-61.658333333	11.998883893	-61.659850667	-4.01670	-5.46006
803	12.000000000	-61.650000000	11.998884158	-61.651518540	-4.01619	-5.46116
804	12.000000000	-61.641666667	11.998884671	-61.643183609	-4.01572	-5.46221
805	12.000000000	-61.633333333	11.998884739	-61.634851303	-4.01413	-5.46516
806	12.000000000	-61.625000000	11.998884847	-61.626519390	-4.01457	-5.46812
807	12.000000000	-61.616666667	11.998884644	-61.618185310	-4.01493	-5.46962
808	12.000000000	-61.608333333	11.998884450	-61.609851784	-4.01492	-5.47047
809	12.000000000	-61.600000000	11.998884873	-61.601519667	-4.01410	-5.46976
810	12.000000000	-61.591666667	11.998885375	-61.593186472	-4.01290	-5.46831
811	11.991666667	-61.808333333	11.990549376	-61.809847848	-4.02227	-5.44853
812	11.991666667	-61.800000000	11.990549402	-61.801513092	-4.02211	-5.44911

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	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
813	11.991666667	-61.791666667	11.990549241	-61.793180051	-4.02194	-5.44967
814	11.991666667	-61.783333333	11.990549410	-61.784846661	-4.02184	-5.45027
815	11.991666667	-61.775000000	11.990549546	-61.776513075	-4.02177	-5.45090
816	11.991666667	-61.766666667	11.990549211	-61.768181302	-4.02163	-5.45155
817	11.991666667	-61.758333333	11.990549513	-61.759848758	-4.02147	-5.45238
818	11.991666667	-61.750000000	11.990549370	-61.751514078	-4.02158	-5.45346
819	11.991666667	-61.741666667	11.990549475	-61.743182300	-4.02154	-5.45421
820	11.991666667	-61.733333333	11.990549828	-61.734847052	-4.02122	-5.45466
821	11.991666667	-61.725000000	11.990549656	-61.726514852	-4.02075	-5.45503
822	11.991666667	-61.716666667	11.990549640	-61.718182996	-4.02026	-5.45534
823	11.991666667	-61.708333333	11.990549872	-61.709848822	-4.01977	-5.45565
824	11.991666667	-61.700000000	11.990550335	-61.701515453	-4.01931	-5.45597
825	11.991666667	-61.691666667	11.990550645	-61.693181830	-4.01887	-5.45632
826	11.991666667	-61.683333333	11.990550771	-61.684847780	-4.01834	-5.45671
827	11.991666667	-61.675000000	11.990550887	-61.676515755	-4.01761	-5.45736
828	11.991666667	-61.666666667	11.990550628	-61.668183680	-4.01684	-5.45869
829	11.991666667	-61.658333333	11.990550618	-61.659851377	-4.01637	-5.45972
830	11.991666667	-61.650000000	11.990550855	-61.651515873	-4.01587	-5.46077
831	11.991666667	-61.641666667	11.990551340	-61.643183671	-4.01545	-5.46178
832	11.991666667	-61.633333333	11.990552073	-61.634851530	-4.01370	-5.46500
833	11.991666667	-61.625000000	11.990551721	-61.626519361	-4.01433	-5.46831
834	11.991666667	-61.616666667	11.990551221	-61.618187141	-4.01474	-5.46990
835	11.991666667	-61.608333333	11.990551451	-61.609852952	-4.01468	-5.47071
836	11.991666667	-61.600000000	11.990551906	-61.601518871	-4.01375	-5.46981
837	11.991666667	-61.591666667	11.990552152	-61.593186559	-4.01245	-5.46816
838	11.983333333	-61.808333333	11.982216818	-61.809845518	-4.02182	-5.44836
839	11.983333333	-61.800000000	11.982216022	-61.801513696	-4.02165	-5.44893
840	11.983333333	-61.791666667	11.982216012	-61.793179699	-4.02149	-5.44950
841	11.983333333	-61.783333333	11.982216144	-61.784846102	-4.02139	-5.45010
842	11.983333333	-61.775000000	11.982216100	-61.776514163	-4.02123	-5.45076
843	11.983333333	-61.766666667	11.982216297	-61.768181159	-4.02115	-5.45157
844	11.983333333	-61.758333333	11.982216571	-61.759846454	-4.02142	-5.45260
845	11.983333333	-61.750000000	11.982216402	-61.751514399	-4.02116	-5.45330
846	11.983333333	-61.741666667	11.982216482	-61.743182365	-4.02106	-5.45402
847	11.983333333	-61.733333333	11.982216809	-61.734846846	-4.02064	-5.45442
848	11.983333333	-61.725000000	11.982216608	-61.726514406	-4.02025	-5.45482
849	11.983333333	-61.716666667	11.982216565	-61.718182295	-4.01981	-5.45518
850	11.983333333	-61.708333333	11.982216771	-61.709850062	-4.01936	-5.45553
851	11.983333333	-61.700000000	11.982216735	-61.701515868	-4.01893	-5.45589
852	11.983333333	-61.691666667	11.982216998	-61.693181907	-4.01853	-5.45627
853	11.983333333	-61.683333333	11.982217586	-61.684849571	-4.01797	-5.45663
854	11.983333333	-61.675000000	11.982217671	-61.676516379	-4.01715	-5.45723
855	11.983333333	-61.666666667	11.982217385	-61.668181443	-4.01638	-5.45850
856	11.983333333	-61.658333333	11.982217347	-61.659849127	-4.01596	-5.45947
857	11.983333333	-61.650000000	11.982217557	-61.651516558	-4.01552	-5.46046
858	11.983333333	-61.641666667	11.982218015	-61.643184184	-4.01512	-5.46142

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Node ID	Geographic Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Latitude (°) Grenada 2018	Longitude (°) Grenada 2018	TLat (°)	TLon (°)	ΔT Lat (")	ΔT Lon (")
859	11.983333333	-61.633333333	11.982218022	-61.634851787	-4.01521	-5.46267
860	11.983333333	-61.625000000	11.982218073	-61.626519362	-4.01476	-5.46770
861	11.983333333	-61.616666667	11.982218334	-61.618186909	-4.01452	-5.47020
862	11.983333333	-61.608333333	11.982218433	-61.609854245	-4.01445	-5.47098
863	11.983333333	-61.600000000	11.982218442	-61.601520081	-4.01341	-5.46986
864	11.983333333	-61.591666667	11.982218656	-61.593185567	-4.01200	-5.46798



**7.6 Appendix F: Planimetric transformation set grid**

Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
1	630000	1354000	421229.731	1353584.618	-164.532	-101.445
2	631000	1354000	422229.419	1353580.917	-164.532	-101.445
3	632000	1354000	423229.105	1353577.215	-164.532	-101.445
4	633000	1354000	424228.787	1353573.514	-164.478	-101.400
5	634000	1354000	425228.468	1353569.813	-164.481	-101.403
6	635000	1354000	426228.145	1353566.111	-164.479	-101.389
7	636000	1354000	427227.820	1353562.410	-164.488	-101.414
8	637000	1354000	428227.492	1353558.709	-164.541	-101.434
9	638000	1354000	429227.161	1353555.007	-164.619	-101.420
10	639000	1354000	430226.828	1353551.306	-164.622	-101.423
11	640000	1354000	431226.492	1353547.605	-164.604	-101.442
12	641000	1354000	432226.153	1353543.903	-164.611	-101.442
13	642000	1354000	433225.812	1353540.202	-164.620	-101.442
14	643000	1354000	434225.468	1353536.501	-164.628	-101.442
15	644000	1354000	435225.121	1353532.800	-164.644	-101.439
16	645000	1354000	436224.772	1353529.098	-164.683	-101.408
17	646000	1354000	437224.420	1353525.397	-164.718	-101.380
18	647000	1354000	438224.065	1353521.696	-164.755	-101.351
19	648000	1354000	439223.707	1353517.994	-164.928	-101.268
20	649000	1354000	440223.347	1353514.293	-164.937	-101.278
21	650000	1354000	441222.984	1353510.592	-164.947	-101.289
22	651000	1354000	442222.619	1353506.891	-164.958	-101.301
23	652000	1354000	443222.250	1353503.190	-164.968	-101.312
24	653000	1354000	444221.880	1353499.488	-164.983	-101.329
25	654000	1354000	445221.506	1353495.787	-164.983	-101.329
26	630000	1353000	421226.031	1352584.929	-164.532	-101.445
27	631000	1353000	422225.719	1352581.230	-164.532	-101.445
28	632000	1353000	423225.405	1352577.531	-164.532	-101.445
29	633000	1353000	424225.087	1352573.833	-164.481	-101.403
30	634000	1353000	425224.768	1352570.134	-164.485	-101.406
31	635000	1353000	426224.445	1352566.435	-164.483	-101.394
32	636000	1353000	427224.120	1352562.737	-164.493	-101.418
33	637000	1353000	428223.792	1352559.038	-164.541	-101.435
34	638000	1353000	429223.461	1352555.339	-164.540	-101.435
35	639000	1353000	430223.128	1352551.641	-164.620	-101.421
36	640000	1353000	431222.792	1352547.942	-164.599	-101.443
37	641000	1353000	432222.454	1352544.243	-164.607	-101.442
38	642000	1353000	433222.112	1352540.545	-164.617	-101.442
39	643000	1353000	434221.768	1352536.846	-164.627	-101.442
40	644000	1353000	435221.421	1352533.148	-164.644	-101.439
41	645000	1353000	436221.072	1352529.449	-164.675	-101.415
42	646000	1353000	437220.720	1352525.750	-164.725	-101.375
43	647000	1353000	438220.365	1352522.052	-164.773	-101.336
44	648000	1353000	439220.008	1352518.353	-164.923	-101.262
45	649000	1353000	440219.647	1352514.655	-164.933	-101.273
46	650000	1353000	441219.284	1352510.956	-164.945	-101.287
47	651000	1353000	442218.919	1352507.258	-164.958	-101.301
48	652000	1353000	443218.551	1352503.559	-164.971	-101.315
49	653000	1353000	444218.180	1352499.861	-164.983	-101.329
50	654000	1353000	445217.806	1352496.162	-164.983	-101.329

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
51	630000	1352000	421222.333	1351585.239	-164.570	-101.444
52	631000	1352000	422222.022	1351581.543	-164.569	-101.444
53	632000	1352000	423221.707	1351577.847	-164.569	-101.444
54	633000	1352000	424221.390	1351574.151	-164.517	-101.412
55	634000	1352000	425221.070	1351570.455	-164.523	-101.416
56	635000	1352000	426220.748	1351566.759	-164.528	-101.410
57	636000	1352000	427220.423	1351563.063	-164.544	-101.428
58	637000	1352000	428220.095	1351559.367	-164.580	-101.437
59	638000	1352000	429219.764	1351555.671	-164.584	-101.436
60	639000	1352000	430219.431	1351551.975	-164.588	-101.439
61	640000	1352000	431219.095	1351548.279	-164.602	-101.437
62	641000	1352000	432218.756	1351544.583	-164.614	-101.434
63	642000	1352000	433218.415	1351540.888	-164.627	-101.433
64	643000	1352000	434218.071	1351537.192	-164.637	-101.433
65	644000	1352000	435217.724	1351533.496	-164.639	-101.441
66	645000	1352000	436217.375	1351529.800	-164.677	-101.414
67	646000	1352000	437217.023	1351526.104	-164.750	-101.361
68	647000	1352000	438216.668	1351522.408	-164.817	-101.316
69	648000	1352000	439216.310	1351518.712	-164.870	-101.293
70	649000	1352000	440215.950	1351515.016	-164.901	-101.292
71	650000	1352000	441215.587	1351511.320	-164.924	-101.296
72	651000	1352000	442215.222	1351507.625	-164.947	-101.306
73	652000	1352000	443214.853	1351503.929	-164.968	-101.318
74	653000	1352000	444214.482	1351500.233	-164.983	-101.329
75	654000	1352000	445214.109	1351496.537	-164.982	-101.328
76	630000	1351000	421218.639	1350585.549	-164.567	-101.444
77	631000	1351000	422218.327	1350581.856	-164.566	-101.444
78	632000	1351000	423218.013	1350578.163	-164.565	-101.444
79	633000	1351000	424217.696	1350574.469	-164.515	-101.413
80	634000	1351000	425217.376	1350570.776	-164.521	-101.417
81	635000	1351000	426217.053	1350567.083	-164.525	-101.412
82	636000	1351000	427216.728	1350563.390	-164.541	-101.430
83	637000	1351000	428216.400	1350559.696	-164.573	-101.437
84	638000	1351000	429216.070	1350556.003	-164.576	-101.436
85	639000	1351000	430215.736	1350552.310	-164.579	-101.439
86	640000	1351000	431215.400	1350548.617	-164.598	-101.435
87	641000	1351000	432215.062	1350544.923	-164.614	-101.430
88	642000	1351000	433214.720	1350541.230	-164.631	-101.426
89	643000	1351000	434214.376	1350537.537	-164.646	-101.423
90	644000	1351000	435214.030	1350533.844	-164.661	-101.419
91	645000	1351000	436213.680	1350530.151	-164.702	-101.386
92	646000	1351000	437213.328	1350526.457	-164.771	-101.334
93	647000	1351000	438212.973	1350522.764	-164.845	-101.280
94	648000	1351000	439212.616	1350519.071	-164.896	-101.256
95	649000	1351000	440212.256	1350515.378	-164.915	-101.264
96	650000	1351000	441211.893	1350511.685	-164.936	-101.278
97	651000	1351000	442211.527	1350507.992	-164.954	-101.292
98	652000	1351000	443211.159	1350504.298	-164.970	-101.305
99	653000	1351000	444210.788	1350500.605	-164.975	-101.319
100	654000	1351000	445210.414	1350496.912	-164.978	-101.323
101	630000	1350000	421214.947	1349585.860	-164.599	-101.403
102	631000	1350000	422214.635	1349582.169	-164.599	-101.402

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	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
103	632000	1350000	423214.321	1349578.479	-164.562	-101.444
104	633000	1350000	424214.004	1349574.788	-164.512	-101.414
105	634000	1350000	425213.684	1349571.097	-164.518	-101.418
106	635000	1350000	426213.361	1349567.407	-164.522	-101.414
107	636000	1350000	427213.036	1349563.716	-164.536	-101.431
108	637000	1350000	428212.708	1349560.026	-164.566	-101.436
109	638000	1350000	429212.378	1349556.335	-164.568	-101.436
110	639000	1350000	430212.044	1349552.645	-164.570	-101.440
111	640000	1350000	431211.708	1349548.954	-164.591	-101.433
112	641000	1350000	432211.370	1349545.263	-164.610	-101.427
113	642000	1350000	433211.028	1349541.573	-164.632	-101.419
114	643000	1350000	434210.684	1349537.882	-164.656	-101.410
115	644000	1350000	435210.338	1349534.192	-164.671	-101.405
116	645000	1350000	436209.988	1349530.501	-164.722	-101.367
117	646000	1350000	437209.636	1349526.811	-164.779	-101.322
118	647000	1350000	438209.281	1349523.120	-164.844	-101.272
119	648000	1350000	439208.924	1349519.430	-164.876	-101.255
120	649000	1350000	440208.564	1349515.739	-164.879	-101.274
121	650000	1350000	441208.201	1349512.049	-164.888	-101.291
122	651000	1350000	442207.835	1349508.358	-164.902	-101.306
123	652000	1350000	443207.467	1349504.668	-164.916	-101.318
124	653000	1350000	444207.096	1349500.977	-164.925	-101.328
125	654000	1350000	445206.723	1349497.287	-164.934	-101.328
126	630000	1349000	421211.258	1348586.170	-164.609	-101.385
127	631000	1349000	422210.946	1348582.482	-164.608	-101.385
128	632000	1349000	423210.631	1348578.794	-164.608	-101.385
129	633000	1349000	424210.314	1348575.106	-164.503	-101.410
130	634000	1349000	425209.995	1348571.419	-164.509	-101.414
131	635000	1349000	426209.672	1348567.731	-164.513	-101.409
132	636000	1349000	427209.347	1348564.043	-164.527	-101.424
133	637000	1349000	428209.019	1348560.355	-164.563	-101.428
134	638000	1349000	429208.688	1348556.667	-164.567	-101.425
135	639000	1349000	430208.355	1348552.979	-164.571	-101.428
136	640000	1349000	431208.019	1348549.291	-164.575	-101.435
137	641000	1349000	432207.681	1348545.603	-164.599	-101.425
138	642000	1349000	433207.339	1348541.916	-164.628	-101.413
139	643000	1349000	434206.995	1348538.228	-164.660	-101.400
140	644000	1349000	435206.649	1348534.540	-164.686	-101.387
141	645000	1349000	436206.299	1348530.852	-164.731	-101.352
142	646000	1349000	437205.947	1348527.164	-164.774	-101.315
143	647000	1349000	438205.592	1348523.476	-164.803	-101.291
144	648000	1349000	439205.235	1348519.789	-164.827	-101.279
145	649000	1349000	440204.875	1348516.101	-164.837	-101.289
146	650000	1349000	441204.512	1348512.413	-164.852	-101.301
147	651000	1349000	442204.146	1348508.725	-164.870	-101.312
148	652000	1349000	443203.778	1348505.038	-164.886	-101.321
149	653000	1349000	444203.407	1348501.350	-164.899	-101.327
150	654000	1349000	445203.033	1348497.662	-164.911	-101.328
151	630000	1348000	421207.571	1347586.481	-164.606	-101.385
152	631000	1348000	422207.259	1347582.795	-164.605	-101.385
153	632000	1348000	423206.945	1347579.110	-164.604	-101.385
154	633000	1348000	424206.628	1347575.425	-164.563	-101.372

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
155	634000	1348000	425206.308	1347571.740	-164.572	-101.375
156	635000	1348000	426205.986	1347568.054	-164.507	-101.411
157	636000	1348000	427205.660	1347564.369	-164.518	-101.426
158	637000	1348000	428205.332	1347560.684	-164.554	-101.430
159	638000	1348000	429205.002	1347556.999	-164.556	-101.427
160	639000	1348000	430204.669	1347553.314	-164.555	-101.433
161	640000	1348000	431204.333	1347549.629	-164.560	-101.438
162	641000	1348000	432203.994	1347545.943	-164.589	-101.424
163	642000	1348000	433203.653	1347542.258	-164.624	-101.407
164	643000	1348000	434203.309	1347538.573	-164.659	-101.390
165	644000	1348000	435202.962	1347534.888	-164.690	-101.370
166	645000	1348000	436202.613	1347531.203	-164.741	-101.334
167	646000	1348000	437202.261	1347527.518	-164.750	-101.323
168	647000	1348000	438201.906	1347523.833	-164.762	-101.311
169	648000	1348000	439201.548	1347520.148	-164.775	-101.304
170	649000	1348000	440201.188	1347516.462	-164.792	-101.305
171	650000	1348000	441200.825	1347512.777	-164.817	-101.313
172	651000	1348000	442200.460	1347509.092	-164.839	-101.319
173	652000	1348000	443200.092	1347505.407	-164.858	-101.325
174	653000	1348000	444199.721	1347501.722	-164.876	-101.327
175	654000	1348000	445199.347	1347498.037	-164.890	-101.327
176	630000	1347000	421203.887	1346586.791	-164.609	-101.392
177	631000	1347000	422203.575	1346583.108	-164.602	-101.385
178	632000	1347000	423203.261	1346579.426	-164.600	-101.385
179	633000	1347000	424202.944	1346575.743	-164.560	-101.372
180	634000	1347000	425202.624	1346572.061	-164.568	-101.375
181	635000	1347000	426202.302	1346568.378	-164.576	-101.373
182	636000	1347000	427201.977	1346564.696	-164.590	-101.382
183	637000	1347000	428201.649	1346561.013	-164.548	-101.430
184	638000	1347000	429201.318	1346557.331	-164.549	-101.425
185	639000	1347000	430200.985	1346553.648	-164.541	-101.436
186	640000	1347000	431200.649	1346549.966	-164.544	-101.440
187	641000	1347000	432200.310	1346546.283	-164.583	-101.420
188	642000	1347000	433199.969	1346542.601	-164.623	-101.399
189	643000	1347000	434199.625	1346538.918	-164.660	-101.377
190	644000	1347000	435199.278	1346535.236	-164.693	-101.355
191	645000	1347000	436198.929	1346531.554	-164.718	-101.336
192	646000	1347000	437198.577	1346527.871	-164.730	-101.325
193	647000	1347000	438198.222	1346524.189	-164.731	-101.322
194	648000	1347000	439197.865	1346520.506	-164.731	-101.323
195	649000	1347000	440197.504	1346516.824	-164.757	-101.318
196	650000	1347000	441197.142	1346513.142	-164.786	-101.321
197	651000	1347000	442196.776	1346509.459	-164.811	-101.321
198	652000	1347000	443196.408	1346505.777	-164.834	-101.320
199	653000	1347000	444196.037	1346502.094	-164.734	-101.316
200	654000	1347000	445195.663	1346498.412	-164.883	-101.318
201	630000	1346000	421200.206	1345587.101	-164.560	-101.412
202	631000	1346000	422199.894	1345583.421	-164.560	-101.413
203	632000	1346000	423199.580	1345579.742	-164.563	-101.402
204	633000	1346000	424199.263	1345576.062	-164.532	-101.386
205	634000	1346000	425198.943	1345572.382	-164.538	-101.390
206	635000	1346000	426198.621	1345568.702	-164.543	-101.390

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	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
207	636000	1346000	427198.295	1345565.022	-164.550	-101.402
208	637000	1346000	428197.968	1345561.342	-164.558	-101.410
209	638000	1346000	429197.637	1345557.663	-164.546	-101.420
210	639000	1346000	430197.304	1345553.983	-164.545	-101.426
211	640000	1346000	431196.968	1345550.303	-164.557	-101.423
212	641000	1346000	432196.629	1345546.623	-164.590	-101.406
213	642000	1346000	433196.288	1345542.944	-164.627	-101.385
214	643000	1346000	434195.944	1345539.264	-164.665	-101.362
215	644000	1346000	435195.597	1345535.584	-164.715	-101.328
216	645000	1346000	436195.248	1345531.904	-164.736	-101.312
217	646000	1346000	437194.896	1345528.225	-164.745	-101.304
218	647000	1346000	438194.541	1345524.545	-164.742	-101.308
219	648000	1346000	439194.184	1345520.865	-164.737	-101.314
220	649000	1346000	440193.823	1345517.185	-164.750	-101.311
221	650000	1346000	441193.461	1345513.506	-164.774	-101.317
222	651000	1346000	442193.095	1345509.826	-164.797	-101.317
223	652000	1346000	443192.727	1345506.146	-164.818	-101.318
224	653000	1346000	444192.356	1345502.467	-164.734	-101.315
225	654000	1346000	445191.982	1345498.787	-164.735	-101.314
226	630000	1345000	421196.527	1344587.412	-164.562	-101.410
227	631000	1345000	422196.216	1344583.734	-164.562	-101.410
228	632000	1345000	423195.901	1344580.057	-164.562	-101.410
229	633000	1345000	424195.584	1344576.380	-164.544	-101.402
230	634000	1345000	425195.265	1344572.703	-164.541	-101.384
231	635000	1345000	426194.942	1344569.026	-164.547	-101.383
232	636000	1345000	427194.617	1344565.349	-164.555	-101.392
233	637000	1345000	428194.289	1344561.672	-164.566	-101.398
234	638000	1345000	429193.959	1344557.995	-164.560	-101.404
235	639000	1345000	430193.625	1344554.317	-164.564	-101.405
236	640000	1345000	431193.289	1344550.640	-164.574	-101.401
237	641000	1345000	432192.951	1344546.963	-164.601	-101.385
238	642000	1345000	433192.609	1344543.286	-164.631	-101.366
239	643000	1345000	434192.265	1344539.609	-164.665	-101.343
240	644000	1345000	435191.919	1344535.932	-164.715	-101.314
241	645000	1345000	436191.569	1344532.255	-164.741	-101.296
242	646000	1345000	437191.217	1344528.578	-164.751	-101.290
243	647000	1345000	438190.863	1344524.901	-164.744	-101.299
244	648000	1345000	439190.505	1344521.224	-164.736	-101.309
245	649000	1345000	440190.145	1344517.547	-164.748	-101.303
246	650000	1345000	441189.782	1344513.870	-164.768	-101.313
247	651000	1345000	442189.417	1344510.193	-164.788	-101.314
248	652000	1345000	443189.048	1344506.516	-164.807	-101.315
249	653000	1345000	444188.678	1344502.839	-164.735	-101.313
250	654000	1345000	445188.304	1344499.162	-164.740	-101.255
251	630000	1344000	421192.852	1343587.722	-164.564	-101.407
252	631000	1344000	422192.540	1343584.047	-164.564	-101.407
253	632000	1344000	423192.226	1343580.373	-164.564	-101.407
254	633000	1344000	424191.908	1343576.699	-164.547	-101.398
255	634000	1344000	425191.589	1343573.024	-164.554	-101.402
256	635000	1344000	426191.266	1343569.350	-164.547	-101.375
257	636000	1344000	427190.941	1343565.675	-164.555	-101.383
258	637000	1344000	428190.613	1343562.001	-164.574	-101.388

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	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
259	638000	1344000	429190.283	1343558.326	-164.575	-101.385
260	639000	1344000	430189.950	1343554.652	-164.581	-101.386
261	640000	1344000	431189.614	1343550.978	-164.594	-101.381
262	641000	1344000	432189.275	1343547.303	-164.615	-101.369
263	642000	1344000	433188.934	1343543.629	-164.641	-101.353
264	643000	1344000	434188.590	1343539.955	-164.669	-101.334
265	644000	1344000	435188.243	1343536.280	-164.698	-101.313
266	645000	1344000	436187.894	1343532.606	-164.728	-101.291
267	646000	1344000	437187.542	1343528.931	-164.737	-101.286
268	647000	1344000	438187.187	1343525.257	-164.739	-101.295
269	648000	1344000	439186.829	1343521.583	-164.748	-101.302
270	649000	1344000	440186.469	1343517.908	-164.748	-101.292
271	650000	1344000	441186.106	1343514.234	-164.766	-101.310
272	651000	1344000	442185.741	1343510.560	-164.782	-101.311
273	652000	1344000	443185.373	1343506.885	-164.789	-101.254
274	653000	1344000	444185.002	1343503.211	-164.741	-101.246
275	654000	1344000	445184.628	1343499.537	-164.742	-101.245
276	630000	1343000	421189.178	1342588.032	-164.577	-101.389
277	631000	1343000	422188.867	1342584.360	-164.577	-101.389
278	632000	1343000	423188.552	1342580.689	-164.577	-101.389
279	633000	1343000	424188.235	1342577.017	-164.554	-101.381
280	634000	1343000	425187.916	1342573.345	-164.562	-101.383
281	635000	1343000	426187.593	1342569.673	-164.570	-101.384
282	636000	1343000	427187.268	1342566.002	-164.577	-101.388
283	637000	1343000	428186.940	1342562.330	-164.577	-101.387
284	638000	1343000	429186.610	1342558.658	-164.574	-101.380
285	639000	1343000	430186.277	1342554.987	-164.566	-101.377
286	640000	1343000	431185.941	1342551.315	-164.601	-101.350
287	641000	1343000	432185.602	1342547.643	-164.617	-101.335
288	642000	1343000	433185.261	1342543.972	-164.635	-101.322
289	643000	1343000	434184.917	1342540.300	-164.635	-101.325
290	644000	1343000	435184.570	1342536.628	-164.666	-101.306
291	645000	1343000	436184.221	1342532.956	-164.705	-101.280
292	646000	1343000	437183.869	1342529.285	-164.719	-101.276
293	647000	1343000	438183.514	1342525.613	-164.732	-101.285
294	648000	1343000	439183.156	1342521.942	-164.735	-101.283
295	649000	1343000	440182.796	1342518.270	-164.752	-101.272
296	650000	1343000	441182.434	1342514.598	-164.763	-101.256
297	651000	1343000	442182.068	1342510.927	-164.777	-101.248
298	652000	1343000	443181.700	1342507.255	-164.791	-101.245
299	653000	1343000	444181.329	1342503.583	-164.746	-101.231
300	654000	1343000	445180.955	1342499.912	-164.747	-101.229
301	630000	1342000	421185.508	1341588.343	-164.577	-101.390
302	631000	1342000	422185.196	1341584.673	-164.577	-101.390
303	632000	1342000	423184.882	1341581.004	-164.577	-101.390
304	633000	1342000	424184.565	1341577.335	-164.551	-101.380
305	634000	1342000	425184.245	1341573.666	-164.560	-101.384
306	635000	1342000	426183.923	1341569.997	-164.569	-101.386
307	636000	1342000	427183.598	1341566.328	-164.577	-101.390
308	637000	1342000	428183.270	1341562.659	-164.575	-101.386
309	638000	1342000	429182.939	1341558.990	-164.571	-101.375
310	639000	1342000	430182.606	1341555.321	-164.564	-101.368

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
311	640000	1342000	431182.270	1341551.652	-164.592	-101.345
312	641000	1342000	432181.932	1341547.983	-164.605	-101.331
313	642000	1342000	433181.590	1341544.314	-164.621	-101.317
314	643000	1342000	434181.246	1341540.645	-164.639	-101.300
315	644000	1342000	435180.900	1341536.976	-164.660	-101.284
316	645000	1342000	436180.550	1341533.307	-164.675	-101.270
317	646000	1342000	437180.198	1341529.638	-164.694	-101.259
318	647000	1342000	438179.844	1341525.969	-164.702	-101.257
319	648000	1342000	439179.486	1341522.300	-164.723	-101.249
320	649000	1342000	440179.126	1341518.631	-164.738	-101.240
321	650000	1342000	441178.763	1341514.962	-164.756	-101.230
322	651000	1342000	442178.398	1341511.293	-164.768	-101.227
323	652000	1342000	443178.030	1341507.625	-164.782	-101.229
324	653000	1342000	444177.659	1341503.956	-164.747	-101.220
325	654000	1342000	445177.285	1341500.287	-164.747	-101.221
326	630000	1341000	421181.840	1340588.653	-164.535	-101.373
327	631000	1341000	422181.529	1340584.987	-164.539	-101.375
328	632000	1341000	423181.214	1340581.320	-164.543	-101.377
329	633000	1341000	424180.897	1340577.654	-164.539	-101.376
330	634000	1341000	425180.578	1340573.987	-164.549	-101.380
331	635000	1341000	426180.255	1340570.321	-164.560	-101.384
332	636000	1341000	427179.930	1340566.655	-164.571	-101.390
333	637000	1341000	428179.602	1340562.988	-164.569	-101.381
334	638000	1341000	429179.272	1340559.322	-164.559	-101.376
335	639000	1341000	430178.938	1340555.656	-164.553	-101.368
336	640000	1341000	431178.603	1340551.989	-164.569	-101.332
337	641000	1341000	432178.264	1340548.323	-164.585	-101.320
338	642000	1341000	433177.923	1340544.657	-164.608	-101.318
339	643000	1341000	434177.579	1340540.990	-164.619	-101.290
340	644000	1341000	435177.232	1340537.324	-164.637	-101.272
341	645000	1341000	436176.883	1340533.658	-164.653	-101.254
342	646000	1341000	437176.531	1340529.992	-164.667	-101.239
343	647000	1341000	438176.176	1340526.325	-164.676	-101.230
344	648000	1341000	439175.819	1340522.659	-164.702	-101.216
345	649000	1341000	440175.458	1340518.993	-164.723	-101.208
346	650000	1341000	441175.096	1340515.327	-164.751	-101.201
347	651000	1341000	442174.730	1340511.660	-164.763	-101.208
348	652000	1341000	443174.362	1340507.994	-164.776	-101.215
349	653000	1341000	444173.991	1340504.328	-164.748	-101.211
350	654000	1341000	445173.617	1340500.662	-164.748	-101.213
351	630000	1340000	421178.175	1339588.963	-164.528	-101.370
352	631000	1340000	422177.864	1339585.300	-164.530	-101.371
353	632000	1340000	423177.549	1339581.636	-164.534	-101.373
354	633000	1340000	424177.232	1339577.972	-164.528	-101.372
355	634000	1340000	425176.913	1339574.308	-164.536	-101.375
356	635000	1340000	426176.590	1339570.645	-164.545	-101.377
357	636000	1340000	427176.265	1339566.981	-164.551	-101.380
358	637000	1340000	428175.937	1339563.318	-164.552	-101.371
359	638000	1340000	429175.607	1339559.654	-164.548	-101.362
360	639000	1340000	430175.274	1339555.990	-164.544	-101.353
361	640000	1340000	431174.938	1339552.327	-164.571	-101.327
362	641000	1340000	432174.599	1339548.663	-164.581	-101.314

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
363	642000	1340000	433174.258	1339544.999	-164.588	-101.309
364	643000	1340000	434173.914	1339541.336	-164.598	-101.281
365	644000	1340000	435173.567	1339537.672	-164.614	-101.262
366	645000	1340000	436173.218	1339534.009	-164.629	-101.241
367	646000	1340000	437172.866	1339530.345	-164.640	-101.220
368	647000	1340000	438172.511	1339526.681	-164.653	-101.199
369	648000	1340000	439172.154	1339523.018	-164.673	-101.187
370	649000	1340000	440171.794	1339519.354	-164.698	-101.182
371	650000	1340000	441171.431	1339515.691	-164.727	-101.190
372	651000	1340000	442171.065	1339512.027	-164.745	-101.197
373	652000	1340000	443170.697	1339508.364	-164.758	-101.204
374	653000	1340000	444170.326	1339504.700	-164.707	-101.161
375	654000	1340000	445169.953	1339501.037	-164.702	-101.157
376	630000	1339000	421174.513	1338589.274	-164.519	-101.367
377	631000	1339000	422174.201	1338585.613	-164.521	-101.367
378	632000	1339000	423173.887	1338581.952	-164.523	-101.368
379	633000	1339000	424173.570	1338578.291	-164.514	-101.366
380	634000	1339000	425173.250	1338574.630	-164.520	-101.368
381	635000	1339000	426172.928	1338570.969	-164.526	-101.369
382	636000	1339000	427172.603	1338567.308	-164.529	-101.371
383	637000	1339000	428172.275	1338563.647	-164.532	-101.360
384	638000	1339000	429171.944	1338559.986	-164.532	-101.350
385	639000	1339000	430171.611	1338556.325	-164.532	-101.339
386	640000	1339000	431171.275	1338552.664	-164.548	-101.320
387	641000	1339000	432170.937	1338549.003	-164.557	-101.307
388	642000	1339000	433170.596	1338545.342	-164.556	-101.295
389	643000	1339000	434170.252	1338541.681	-164.558	-101.272
390	644000	1339000	435169.905	1338538.020	-164.572	-101.250
391	645000	1339000	436169.556	1338534.359	-164.588	-101.227
392	646000	1339000	437169.204	1338530.698	-164.620	-101.209
393	647000	1339000	438168.849	1338527.037	-164.629	-101.185
394	648000	1339000	439168.491	1338523.377	-164.639	-101.164
395	649000	1339000	440168.131	1338519.716	-164.668	-101.157
396	650000	1339000	441167.769	1338516.055	-164.699	-101.154
397	651000	1339000	442167.403	1338512.394	-164.702	-101.155
398	652000	1339000	443167.035	1338508.733	-164.707	-101.158
399	653000	1339000	444166.664	1338505.072	-164.692	-101.148
400	654000	1339000	445166.290	1338501.411	-164.690	-101.146
401	630000	1338000	421170.853	1337589.584	-164.511	-101.363
402	631000	1338000	422170.542	1337585.925	-164.511	-101.363
403	632000	1338000	423170.227	1337582.267	-164.511	-101.363
404	633000	1338000	424169.910	1337578.609	-164.497	-101.359
405	634000	1338000	425169.591	1337574.951	-164.501	-101.360
406	635000	1338000	426169.268	1337571.292	-164.505	-101.359
407	636000	1338000	427168.943	1337567.634	-164.507	-101.361
408	637000	1338000	428168.615	1337563.976	-164.511	-101.350
409	638000	1338000	429168.285	1337560.318	-164.514	-101.338
410	639000	1338000	430167.952	1337556.659	-164.518	-101.327
411	640000	1338000	431167.616	1337553.001	-164.521	-101.316
412	641000	1338000	432167.277	1337549.343	-164.528	-101.300
413	642000	1338000	433166.936	1337545.685	-164.540	-101.288
414	643000	1338000	434166.592	1337542.026	-164.547	-101.264

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
415	644000	1338000	435166.245	1337538.368	-164.564	-101.240
416	645000	1338000	436165.896	1337534.710	-164.581	-101.218
417	646000	1338000	437165.544	1337531.052	-164.602	-101.197
418	647000	1338000	438165.189	1337527.394	-164.613	-101.172
419	648000	1338000	439164.832	1337523.735	-164.624	-101.151
420	649000	1338000	440164.472	1337520.077	-164.644	-101.139
421	650000	1338000	441164.109	1337516.419	-164.636	-101.128
422	651000	1338000	442163.743	1337512.761	-164.675	-101.134
423	652000	1338000	443163.375	1337509.103	-164.684	-101.139
424	653000	1338000	444163.004	1337505.445	-164.675	-101.134
425	654000	1338000	445162.631	1337501.786	-164.676	-101.135
426	630000	1337000	421167.196	1336589.894	-164.502	-101.359
427	631000	1337000	422166.885	1336586.238	-164.501	-101.358
428	632000	1337000	423166.570	1336582.583	-164.499	-101.358
429	633000	1337000	424166.253	1336578.927	-164.480	-101.351
430	634000	1337000	425165.934	1336575.272	-164.482	-101.352
431	635000	1337000	426165.611	1336571.616	-164.484	-101.350
432	636000	1337000	427165.286	1336567.961	-164.485	-101.352
433	637000	1337000	428164.958	1336564.305	-164.489	-101.345
434	638000	1337000	429164.628	1336560.649	-164.492	-101.326
435	639000	1337000	430164.295	1336556.994	-164.496	-101.307
436	640000	1337000	431163.959	1336553.338	-164.502	-101.289
437	641000	1337000	432163.620	1336549.683	-164.510	-101.276
438	642000	1337000	433163.279	1336546.027	-164.519	-101.268
439	643000	1337000	434162.935	1336542.372	-164.527	-101.250
440	644000	1337000	435162.588	1336538.716	-164.537	-101.230
441	645000	1337000	436162.239	1336535.061	-164.560	-101.195
442	646000	1337000	437161.887	1336531.405	-164.577	-101.173
443	647000	1337000	438161.532	1336527.750	-164.590	-101.165
444	648000	1337000	439161.175	1336524.094	-164.602	-101.132
445	649000	1337000	440160.815	1336520.439	-164.623	-101.116
446	650000	1337000	441160.452	1336516.783	-164.624	-101.107
447	651000	1337000	442160.087	1336513.128	-164.635	-101.110
448	652000	1337000	443159.719	1336509.472	-164.664	-101.123
449	653000	1337000	444159.348	1336505.817	-164.659	-101.121
450	654000	1337000	445158.974	1336502.161	-164.663	-101.125
451	630000	1336000	421163.542	1335590.204	-164.494	-101.357
452	631000	1336000	422163.230	1335586.551	-164.491	-101.354
453	632000	1336000	423162.916	1335582.899	-164.487	-101.353
454	633000	1336000	424162.599	1335579.246	-164.463	-101.344
455	634000	1336000	425162.279	1335575.593	-164.464	-101.344
456	635000	1336000	426161.957	1335571.940	-164.463	-101.339
457	636000	1336000	427161.632	1335568.287	-164.463	-101.343
458	637000	1336000	428161.304	1335564.634	-164.467	-101.336
459	638000	1336000	429160.974	1335560.981	-164.469	-101.310
460	639000	1336000	430160.641	1335557.328	-164.474	-101.283
461	640000	1336000	431160.305	1335553.675	-164.480	-101.258
462	641000	1336000	432159.966	1335550.023	-164.486	-101.238
463	642000	1336000	433159.625	1335546.370	-164.493	-101.221
464	643000	1336000	434159.281	1335542.717	-164.503	-101.217
465	644000	1336000	435158.934	1335539.064	-164.514	-101.210
466	645000	1336000	436158.585	1335535.411	-164.542	-101.173

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
467	646000	1336000	437158.233	1335531.758	-164.554	-101.184
468	647000	1336000	438157.878	1335528.106	-164.570	-101.159
469	648000	1336000	439157.521	1335524.453	-164.580	-101.123
470	649000	1336000	440157.161	1335520.800	-164.603	-101.096
471	650000	1336000	441156.798	1335517.147	-164.615	-101.087
472	651000	1336000	442156.433	1335513.494	-164.629	-101.097
473	652000	1336000	443156.064	1335509.842	-164.643	-101.107
474	653000	1336000	444155.694	1335506.189	-164.646	-101.111
475	654000	1336000	445155.320	1335502.536	-164.652	-101.115
476	630000	1335000	421159.890	1334590.515	-164.486	-101.353
477	631000	1335000	422159.579	1334586.864	-164.483	-101.352
478	632000	1335000	423159.265	1334583.214	-164.478	-101.351
479	633000	1335000	424158.948	1334579.564	-164.447	-101.338
480	634000	1335000	425158.628	1334575.914	-164.446	-101.337
481	635000	1335000	426158.305	1334572.264	-164.444	-101.329
482	636000	1335000	427157.980	1334568.613	-164.440	-101.335
483	637000	1335000	428157.653	1334564.963	-164.445	-101.327
484	638000	1335000	429157.322	1334561.313	-164.449	-101.291
485	639000	1335000	430156.989	1334557.663	-164.454	-101.258
486	640000	1335000	431156.653	1334554.013	-164.458	-101.224
487	641000	1335000	432156.315	1334550.363	-164.461	-101.194
488	642000	1335000	433155.973	1334546.712	-164.466	-101.173
489	643000	1335000	434155.629	1334543.062	-164.476	-101.179
490	644000	1335000	435155.283	1334539.412	-164.489	-101.186
491	645000	1335000	436154.934	1334535.762	-164.508	-101.146
492	646000	1335000	437154.582	1334532.112	-164.523	-101.169
493	647000	1335000	438154.227	1334528.462	-164.539	-101.142
494	648000	1335000	439153.869	1334524.812	-164.565	-101.110
495	649000	1335000	440153.509	1334521.162	-164.585	-101.088
496	650000	1335000	441153.147	1334517.511	-164.591	-101.082
497	651000	1335000	442152.781	1334513.861	-164.601	-101.088
498	652000	1335000	443152.413	1334510.211	-164.612	-101.096
499	653000	1335000	444152.042	1334506.561	-164.586	-101.082
500	654000	1335000	445151.669	1334502.911	-164.584	-101.082
501	630000	1334000	421156.242	1333590.825	-164.400	-101.330
502	631000	1334000	422155.930	1333587.177	-164.395	-101.330
503	632000	1334000	423155.616	1333583.530	-164.396	-101.330
504	633000	1334000	424155.299	1333579.882	-164.399	-101.326
505	634000	1334000	425154.979	1333576.235	-164.402	-101.327
506	635000	1334000	426154.657	1333572.587	-164.406	-101.328
507	636000	1334000	427154.332	1333568.940	-164.418	-101.326
508	637000	1334000	428154.004	1333565.292	-164.435	-101.301
509	638000	1334000	429153.673	1333561.645	-164.440	-101.259
510	639000	1334000	430153.340	1333557.997	-164.443	-101.224
511	640000	1334000	431153.004	1333554.350	-164.443	-101.187
512	641000	1334000	432152.666	1333550.702	-164.440	-101.150
513	642000	1334000	433152.325	1333547.055	-164.439	-101.125
514	643000	1334000	434151.981	1333543.407	-164.452	-101.148
515	644000	1334000	435151.634	1333539.760	-164.466	-101.161
516	645000	1334000	436151.285	1333536.113	-164.490	-101.188
517	646000	1334000	437150.933	1333532.465	-164.503	-101.161
518	647000	1334000	438150.578	1333528.818	-164.519	-101.133

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
519	648000	1334000	439150.221	1333525.170	-164.540	-101.103
520	649000	1334000	440149.861	1333521.523	-164.560	-101.083
521	650000	1334000	441149.498	1333517.876	-164.566	-101.080
522	651000	1334000	442149.132	1333514.228	-164.579	-101.085
523	652000	1334000	443148.764	1333510.581	-164.593	-101.093
524	653000	1334000	444148.393	1333506.933	-164.575	-101.081
525	654000	1334000	445148.020	1333503.286	-164.574	-101.081
526	630000	1333000	421152.595	1332591.135	-164.395	-101.319
527	631000	1333000	422152.284	1332587.490	-164.397	-101.330
528	632000	1333000	423151.970	1332583.845	-164.389	-101.330
529	633000	1333000	424151.653	1332580.201	-164.389	-101.325
530	634000	1333000	425151.333	1332576.556	-164.389	-101.327
531	635000	1333000	426151.010	1332572.911	-164.388	-101.327
532	636000	1333000	427150.685	1332569.266	-164.402	-101.313
533	637000	1333000	428150.358	1332565.621	-164.427	-101.267
534	638000	1333000	429150.027	1332561.977	-164.437	-101.225
535	639000	1333000	430149.694	1332558.332	-164.435	-101.195
536	640000	1333000	431149.358	1332554.687	-164.432	-101.164
537	641000	1333000	432149.020	1332551.042	-164.430	-101.133
538	642000	1333000	433148.678	1332547.398	-164.426	-101.115
539	643000	1333000	434148.335	1332543.753	-164.433	-101.129
540	644000	1333000	435147.988	1332540.108	-164.446	-101.143
541	645000	1333000	436147.639	1332536.463	-164.455	-101.143
542	646000	1333000	437147.287	1332532.819	-164.473	-101.130
543	647000	1333000	438146.932	1332529.174	-164.493	-101.109
544	648000	1333000	439146.575	1332525.529	-164.516	-101.095
545	649000	1333000	440146.215	1332521.884	-164.534	-101.079
546	650000	1333000	441145.852	1332518.240	-164.545	-101.080
547	651000	1333000	442145.486	1332514.595	-164.561	-101.085
548	652000	1333000	443145.118	1332510.950	-164.578	-101.092
549	653000	1333000	444144.747	1332507.306	-164.562	-101.080
550	654000	1333000	445144.374	1332503.661	-164.564	-101.081
551	630000	1332000	421148.952	1331591.445	-164.390	-101.319
552	631000	1332000	422148.640	1331587.803	-164.392	-101.320
553	632000	1332000	423148.326	1331584.161	-164.394	-101.321
554	633000	1332000	424148.009	1331580.519	-164.366	-101.322
555	634000	1332000	425147.689	1331576.877	-164.365	-101.318
556	635000	1332000	426147.367	1331573.235	-164.362	-101.309
557	636000	1332000	427147.042	1331569.593	-164.375	-101.284
558	637000	1332000	428146.714	1331565.951	-164.416	-101.236
559	638000	1332000	429146.384	1331562.308	-164.431	-101.206
560	639000	1332000	430146.051	1331558.666	-164.425	-101.184
561	640000	1332000	431145.715	1331555.024	-164.432	-101.165
562	641000	1332000	432145.376	1331551.382	-164.430	-101.150
563	642000	1332000	433145.035	1331547.740	-164.414	-101.136
564	643000	1332000	434144.691	1331544.098	-164.421	-101.153
565	644000	1332000	435144.345	1331540.456	-164.426	-101.163
566	645000	1332000	436143.995	1331536.814	-164.439	-101.167
567	646000	1332000	437143.643	1331533.172	-164.457	-101.143
568	647000	1332000	438143.289	1331529.530	-164.476	-101.111
569	648000	1332000	439142.931	1331525.888	-164.494	-101.084
570	649000	1332000	440142.571	1331522.246	-164.510	-101.075

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
571	650000	1332000	441142.208	1331518.604	-164.530	-101.081
572	651000	1332000	442141.843	1331514.962	-164.550	-101.087
573	652000	1332000	443141.475	1331511.320	-164.568	-101.094
574	653000	1332000	444141.104	1331507.678	-164.550	-101.080
575	654000	1332000	445140.730	1331504.036	-164.553	-101.080
576	630000	1331000	421145.311	1330591.756	-164.367	-101.317
577	631000	1331000	422145.000	1330588.116	-164.366	-101.318
578	632000	1331000	423144.685	1330584.477	-164.366	-101.319
579	633000	1331000	424144.368	1330580.837	-164.364	-101.315
580	634000	1331000	425144.049	1330577.198	-164.361	-101.279
581	635000	1331000	426143.726	1330573.558	-164.358	-101.265
582	636000	1331000	427143.401	1330569.919	-164.368	-101.259
583	637000	1331000	428143.073	1330566.280	-164.397	-101.243
584	638000	1331000	429142.743	1330562.640	-164.412	-101.212
585	639000	1331000	430142.410	1330559.001	-164.413	-101.202
586	640000	1331000	431142.074	1330555.361	-164.404	-101.184
587	641000	1331000	432141.736	1330551.722	-164.395	-101.168
588	642000	1331000	433141.394	1330548.083	-164.394	-101.162
589	643000	1331000	434141.050	1330544.443	-164.398	-101.167
590	644000	1331000	435140.704	1330540.804	-164.407	-101.177
591	645000	1331000	436140.355	1330537.165	-164.422	-101.181
592	646000	1331000	437140.003	1330533.525	-164.440	-101.150
593	647000	1331000	438139.648	1330529.886	-164.459	-101.115
594	648000	1331000	439139.291	1330526.247	-164.476	-101.085
595	649000	1331000	440138.930	1330522.607	-164.491	-101.080
596	650000	1331000	441138.568	1330518.968	-164.515	-101.095
597	651000	1331000	442138.202	1330515.329	-164.533	-101.104
598	652000	1331000	443137.834	1330511.689	-164.551	-101.113
599	653000	1331000	444137.463	1330508.050	-164.468	-101.087
600	654000	1331000	445137.090	1330504.411	-164.465	-101.090
601	630000	1330000	421141.673	1329592.066	-164.349	-101.267
602	631000	1330000	422141.361	1329588.429	-164.367	-101.304
603	632000	1330000	423141.047	1329584.792	-164.367	-101.303
604	633000	1330000	424140.730	1329581.156	-164.364	-101.293
605	634000	1330000	425140.411	1329577.519	-164.359	-101.277
606	635000	1330000	426140.088	1329573.882	-164.356	-101.261
607	636000	1330000	427139.763	1329570.245	-164.368	-101.254
608	637000	1330000	428139.435	1329566.609	-164.387	-101.248
609	638000	1330000	429139.105	1329562.972	-164.407	-101.229
610	639000	1330000	430138.772	1329559.335	-164.399	-101.215
611	640000	1330000	431138.436	1329555.699	-164.390	-101.200
612	641000	1330000	432138.098	1329552.062	-164.379	-101.185
613	642000	1330000	433137.756	1329548.425	-164.374	-101.178
614	643000	1330000	434137.412	1329544.789	-164.374	-101.179
615	644000	1330000	435137.066	1329541.152	-164.381	-101.184
616	645000	1330000	436136.717	1329537.515	-164.400	-101.174
617	646000	1330000	437136.365	1329533.879	-164.421	-101.150
618	647000	1330000	438136.010	1329530.242	-164.441	-101.123
619	648000	1330000	439135.653	1329526.605	-164.456	-101.100
620	649000	1330000	440135.293	1329522.969	-164.471	-101.090
621	650000	1330000	441134.930	1329519.332	-164.506	-101.103
622	651000	1330000	442134.564	1329515.695	-164.526	-101.110

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
623	652000	1330000	443134.196	1329512.059	-164.545	-101.117
624	653000	1330000	444133.825	1329508.422	-164.463	-101.091
625	654000	1330000	445133.452	1329504.785	-164.461	-101.093
626	630000	1329000	421138.038	1328592.376	-164.347	-101.250
627	631000	1329000	422137.726	1328588.742	-164.347	-101.250
628	632000	1329000	423137.412	1328585.108	-164.368	-101.309
629	633000	1329000	424137.095	1328581.474	-164.366	-101.302
630	634000	1329000	425136.775	1328577.840	-164.355	-101.272
631	635000	1329000	426136.453	1328574.206	-164.353	-101.255
632	636000	1329000	427136.128	1328570.572	-164.364	-101.250
633	637000	1329000	428135.800	1328566.938	-164.380	-101.252
634	638000	1329000	429135.470	1328563.304	-164.395	-101.241
635	639000	1329000	430135.136	1328559.670	-164.387	-101.228
636	640000	1329000	431134.801	1328556.036	-164.377	-101.214
637	641000	1329000	432134.462	1328552.402	-164.367	-101.214
638	642000	1329000	433134.121	1328548.768	-164.353	-101.190
639	643000	1329000	434133.777	1328545.134	-164.347	-101.187
640	644000	1329000	435133.431	1328541.500	-164.352	-101.189
641	645000	1329000	436133.081	1328537.866	-164.379	-101.170
642	646000	1329000	437132.729	1328534.232	-164.402	-101.151
643	647000	1329000	438132.375	1328530.598	-164.421	-101.130
644	648000	1329000	439132.017	1328526.964	-164.437	-101.112
645	649000	1329000	440131.657	1328523.330	-164.453	-101.102
646	650000	1329000	441131.294	1328519.696	-164.499	-101.114
647	651000	1329000	442130.929	1328516.062	-164.520	-101.118
648	652000	1329000	443130.561	1328512.428	-164.540	-101.124
649	653000	1329000	444130.190	1328508.794	-164.457	-101.096
650	654000	1329000	445129.817	1328505.160	-164.455	-101.097
651	630000	1328000	421134.405	1327592.686	-164.348	-101.256
652	631000	1328000	422134.093	1327589.055	-164.348	-101.255
653	632000	1328000	423133.779	1327585.424	-164.347	-101.252
654	633000	1328000	424133.462	1327581.792	-164.357	-101.278
655	634000	1328000	425133.142	1327578.161	-164.355	-101.267
656	635000	1328000	426132.820	1327574.529	-164.354	-101.251
657	636000	1328000	427132.495	1327570.898	-164.363	-101.251
658	637000	1328000	428132.167	1327567.267	-164.379	-101.257
659	638000	1328000	429131.837	1327563.636	-164.370	-101.255
660	639000	1328000	430131.504	1327560.004	-164.363	-101.245
661	640000	1328000	431131.168	1327556.373	-164.353	-101.233
662	641000	1328000	432130.830	1327552.742	-164.352	-101.218
663	642000	1328000	433130.488	1327549.110	-164.339	-101.201
664	643000	1328000	434130.144	1327545.479	-164.325	-101.194
665	644000	1328000	435129.798	1327541.848	-164.332	-101.190
666	645000	1328000	436129.449	1327538.216	-164.360	-101.162
667	646000	1328000	437129.097	1327534.585	-164.383	-101.145
668	647000	1328000	438128.742	1327530.954	-164.404	-101.132
669	648000	1328000	439128.385	1327527.323	-164.459	-101.125
670	649000	1328000	440128.025	1327523.691	-164.473	-101.107
671	650000	1328000	441127.662	1327520.060	-164.527	-101.121
672	651000	1328000	442127.296	1327516.429	-164.541	-101.125
673	652000	1328000	443126.928	1327512.798	-164.555	-101.131
674	653000	1328000	444126.558	1327509.166	-164.468	-101.109

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Node ID	Planimetric Grid Nodes		Transformation Grid Nodes		Values to be added to computed TE and TN	
	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
675	654000	1328000	445126.184	1327505.535	-164.466	-101.113
676	630000	1327000	421130.775	1326592.997	-164.345	-101.247
677	631000	1327000	422130.463	1326589.368	-164.345	-101.247
678	632000	1327000	423130.149	1326585.739	-164.345	-101.247
679	633000	1327000	424129.832	1326582.110	-164.346	-101.251
680	634000	1327000	425129.512	1326578.482	-164.358	-101.282
681	635000	1327000	426129.190	1326574.853	-164.353	-101.250
682	636000	1327000	427128.865	1326571.225	-164.368	-101.257
683	637000	1327000	428128.537	1326567.596	-164.377	-101.265
684	638000	1327000	429128.207	1326563.967	-164.376	-101.262
685	639000	1327000	430127.874	1326560.339	-164.366	-101.249
686	640000	1327000	431127.538	1326556.710	-164.356	-101.236
687	641000	1327000	432127.200	1326553.081	-164.346	-101.223
688	642000	1327000	433126.858	1326549.453	-164.337	-101.211
689	643000	1327000	434126.515	1326545.824	-164.329	-101.201
690	644000	1327000	435126.168	1326542.196	-164.327	-101.190
691	645000	1327000	436125.819	1326538.567	-164.355	-101.166
692	646000	1327000	437125.467	1326534.938	-164.374	-101.152
693	647000	1327000	438125.112	1326531.310	-164.393	-101.140
694	648000	1327000	439124.755	1326527.681	-164.408	-101.129
695	649000	1327000	440124.395	1326524.053	-164.497	-101.076
696	650000	1327000	441124.032	1326520.424	-164.571	-101.120
697	651000	1327000	442123.667	1326516.796	-164.580	-101.124
698	652000	1327000	443123.298	1326513.167	-164.590	-101.129
699	653000	1327000	444122.928	1326509.539	-164.486	-101.075
700	654000	1327000	445122.554	1326505.910	-164.486	-101.075
701	630000	1326000	421127.147	1325593.307	-164.345	-101.247
702	631000	1326000	422126.836	1325589.681	-164.345	-101.247
703	632000	1326000	423126.522	1325586.055	-164.345	-101.247
704	633000	1326000	424126.205	1325582.429	-164.346	-101.251
705	634000	1326000	425125.885	1325578.803	-164.347	-101.253
706	635000	1326000	426125.563	1325575.177	-164.353	-101.250
707	636000	1326000	427125.238	1325571.551	-164.371	-101.260
708	637000	1326000	428124.910	1325567.925	-164.377	-101.265
709	638000	1326000	429124.580	1325564.299	-164.374	-101.259
710	639000	1326000	430124.247	1325560.673	-164.366	-101.249
711	640000	1326000	431123.911	1325557.047	-164.357	-101.237
712	641000	1326000	432123.572	1325553.421	-164.348	-101.226
713	642000	1326000	433123.231	1325549.795	-164.340	-101.215
714	643000	1326000	434122.887	1325546.169	-164.333	-101.207
715	644000	1326000	435122.541	1325542.544	-164.327	-101.190
716	645000	1326000	436122.191	1325538.918	-164.353	-101.167
717	646000	1326000	437121.840	1325535.292	-164.369	-101.156
718	647000	1326000	438121.485	1325531.666	-164.385	-101.145
719	648000	1326000	439121.128	1325528.040	-164.399	-101.136
720	649000	1326000	440120.768	1325524.414	-164.499	-101.076
721	650000	1326000	441120.405	1325520.788	-164.587	-101.128
722	651000	1326000	442120.039	1325517.162	-164.594	-101.131
723	652000	1326000	443119.671	1325513.537	-164.603	-101.136
724	653000	1326000	444119.300	1325509.911	-164.486	-101.075
725	654000	1326000	445118.927	1325506.285	-164.486	-101.075
726	630000	1325000	421123.523	1324593.617	-164.345	-101.247

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	Easting (m) Grenada 2018/UTM20N	Northing (m) Grenada 2018/UTM20N	TEast (m)	TNorth (m)	ΔT East (m)	ΔT North (m)
727	631000	1325000	422123.211	1324589.994	-164.345	-101.247
728	632000	1325000	423122.897	1324586.370	-164.345	-101.247
729	633000	1325000	424122.580	1324582.747	-164.347	-101.251
730	634000	1325000	425122.261	1324579.124	-164.350	-101.246
731	635000	1325000	426121.938	1324575.501	-164.368	-101.265
732	636000	1325000	427121.613	1324571.877	-164.373	-101.261
733	637000	1325000	428121.285	1324568.254	-164.377	-101.264
734	638000	1325000	429120.955	1324564.631	-164.371	-101.255
735	639000	1325000	430120.622	1324561.008	-164.365	-101.247
736	640000	1325000	431120.286	1324557.384	-164.357	-101.238
737	641000	1325000	432119.948	1324553.761	-164.350	-101.228
738	642000	1325000	433119.607	1324550.138	-164.343	-101.219
739	643000	1325000	434119.263	1324546.515	-164.337	-101.211
740	644000	1325000	435118.916	1324542.891	-164.328	-101.190
741	645000	1325000	436118.567	1324539.268	-164.354	-101.167
742	646000	1325000	437118.215	1324535.645	-164.367	-101.158
743	647000	1325000	438117.860	1324532.022	-164.380	-101.149
744	648000	1325000	439117.503	1324528.399	-164.392	-101.140
745	649000	1325000	440117.143	1324524.776	-164.409	-101.158
746	650000	1325000	441116.780	1324521.152	-164.603	-101.136
747	651000	1325000	442116.415	1324517.529	-164.608	-101.139
748	652000	1325000	443116.047	1324513.906	-164.616	-101.143
749	653000	1325000	444115.676	1324510.283	-164.486	-101.075
750	654000	1325000	445115.302	1324506.660	-164.486	-101.075

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