

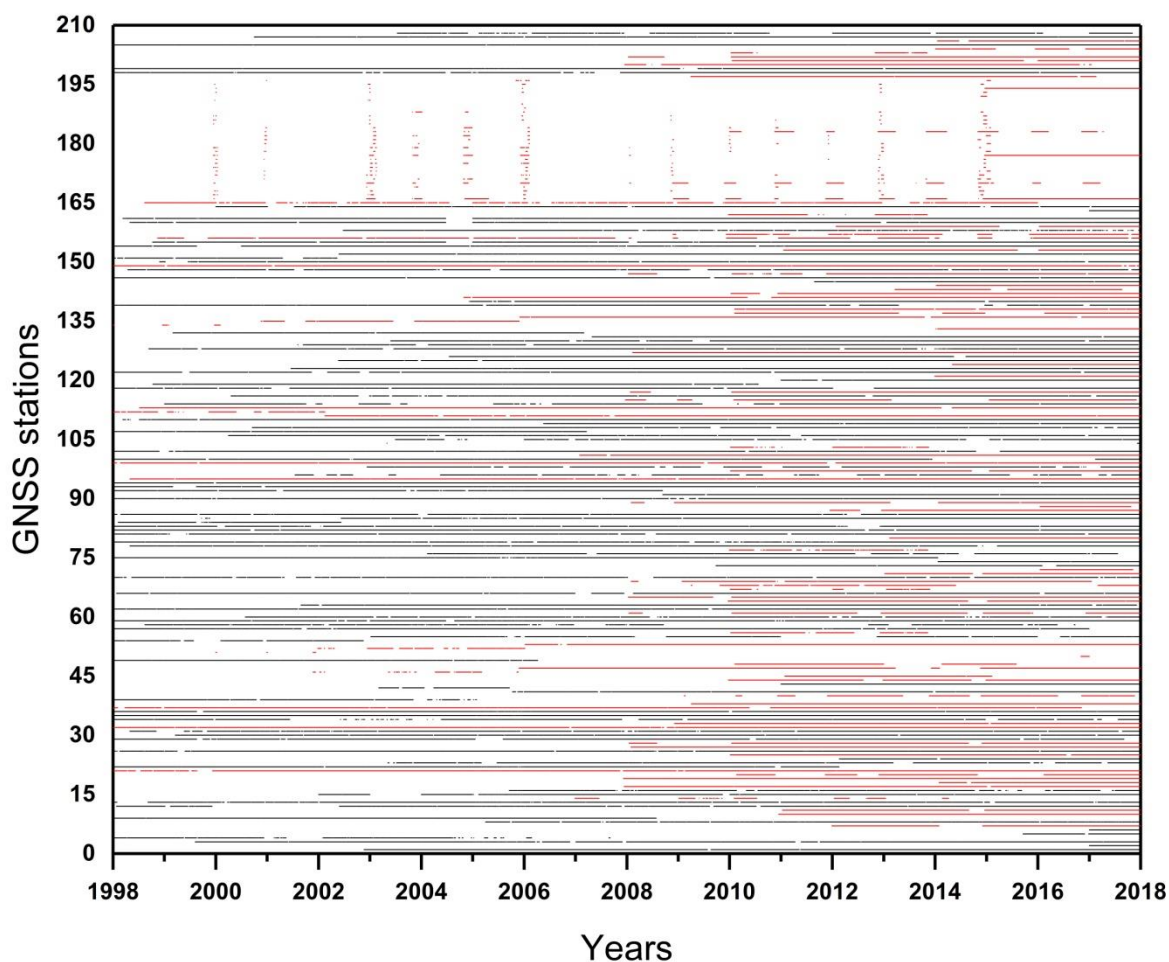
Supplementary material for:

Zanutta, A.\*; Negusini, M.; Vittuari, L.; Martelli, L., Cianfarra, P.; Salvini, F.; Mancini, F.; Sterzai, P.; Dubbini, M.; Capra, A. New geodetic and gravimetric maps to infer geodynamics of Antarctica with insights on Victoria Land. July 2018.

\* Corresponding author. Email: antonio.zanutta@unibo.it

This file includes: Tables S1 to S5

**Table S1.** Time span of the processed GNSS stations. The GNSS dataset consists of VLNDEF (<ftp://ftp.ira.inaf.it/pub/ogia/>), POLENET (<ftp://data-out.unavco.org/pub/rinex/obs/>) and IGS (<ftp://igs.ensg.ign.fr/pub/igs/data/>) stations. In red the stations located in Antarctica.



**Table S2.** List of the processed GNSS stations (4-character codes) and their time span considered. A star (\*) before the file name indicate span less than one year while a percentage (%) shows span less than two years but more than one year. The station marked with a star (\*) or with a percentage (%) were not considered reliable due the short time series which reflected in large uncertainties.

GNSS stations	Span (Year)	GNSS stations	Span (Year)	GNSS stations	Span (Year)	GNSS stations	Span (Year)
1 ALRT	15.1151	53 FTP4	11.9808	105 NAUR	14.5014	157 TNB2	9.1011
2 *AREQ	0.9973	54 GALA	4.8685	106 NKLG	17.7541	158 TNML	15.4959
3 ARTU	18.4000	55 GLPS	14.9808	107 NOUM	9.2137	159 TOMO	5.9290
4 ASC1	9.6712	56 GMEZ	3.8384	108 NRIL	17.2869	160 TOW2	19.6712
5 ASCG	2.2849	57 GODE	18.9973	109 NRMD	11.6192	161 TRO1	19.8055
6 *ASPA	0.9973	58 GOUG	18.1049	110 NYA1	19.8055	162 TRVE	3.8740
7 BACK	6.0110	59 GUAM	19.9973	111 OHI2	15.8740	163 *TSKB	0.9973
8 BADG	12.7479	60 GUAT	17.4262	112 OHIG	4.1151	164 UNSA	17.9973
9 BAHR	10.5683	61 HAAG	9.9590	113 PALM	19.4822	165 VESL	17.3808
10 BENN	7.0438	62 HOB2	19.9973	114 PARC	18.9973	166 VL01	18.0329
11 BERP	6.9699	63 HOLM	16.2658	115 PATN	9.9507	167 VL02	14.9781
12 BOGT	19.9315	64 HOWE	8.0274	116 PDEL	17.7022	168 VL03	14.9699
13 BRAZ	19.9781	65 HOWN	9.9672	117 PECE	9.9317	169 VL04	11.9534
14 BREN	7.2712	66 HRAO	19.9288	118 PERT	19.9973	170 VL05	17.2438
15 BREW	15.9973	67 HTON	3.8849	119 PETP	11.7863	171 VL06	14.1341
16 BRFT	12.2904	68 HUGO	8.7479	120 PETS	6.9973	172 VL07	14.9589
17 BRIP	10.0493	69 IGGY	8.9591	121 PIRT	4.0027	173 VL08	15.0712
18 BUMS	3.9233	70 IISC	19.9973	122 POL2	19.9973	174 VL09	15.0301
19 BURI	10.0658	71 INMN	4.9781	123 POLV	16.5342	175 VL10	14.9945
20 CAPF	7.8658	72 %INXP	1.8083	124 PRPT	3.6603	176 VL11	14.9808
21 CAS1	19.9973	73 IQAL	8.2630	125 QAQ1	15.6082	177 VL12	18.0438
22 CHAT	14.1311	74 IRKM	3.9425	126 QIKI	13.4563	178 VL13	15.0849
23 CHPI	14.6493	75 IRKT	16.0521	127 RAMG	9.8496	179 VL14	14.9342
24 CHTI	5.8634	76 ISPA	13.4332	128 RAMO	19.3014	180 VL15	14.1259
25 CLRK	7.9890	77 JNSN	3.8630	129 RESO	16.3589	181 VL16	13.9314
26 COCO	19.9973	78 KARR	19.6712	130 REUN	14.5945	182 VL17	14.1259
27 COTE	9.9208	79 KELY	19.9973	131 RIO2	10.6767	183 VL18	16.3177
28 CRDI	9.9563	80 KEPA	4.8822	132 RIOG	7.9973	184 VL19	14.1068
29 CRO1	19.6767	81 KERG	19.9973	133 RMBO	3.9836	185 VL20	15.0521
30 DAEJ	18.7863	82 KIRU	19.9973	134 ROB0	2.0847	186 VL21	15.0521
31 DARW	19.6712	83 KOUR	19.9973	135 ROB1	5.0271	187 VL22	15.0521
32 DAV1	19.9973	84 LHAS	4.3370	136 ROB4	12.0849	188 VL23	11.1068
33 DEVI	9.0710	85 LHAZ	18.2740	137 ROBN	7.8986	189 *VL24	0.0137
34 DGAR	19.9973	86 LPGS	19.9863	138 ROTH	7.8986	190 *VL25	0.0219
35 DRAO	19.9973	87 LPLY	6.0466	139 SANT	19.9973	191 VL26	3.0219

36	DUBO	19.9973	88	%LRSN	1.7727	140	SCOR	13.0546	192	*VL27	0.1123
37	DUM1	18.8415	89	LWN0	9.9153	141	SCTB	13.1721	193	VL29	15.0082
38	DUPT	8.7452	90	MAC1	19.9973	142	SDLY	7.9753	194	VL30	17.9918
39	EISL	7.0767	91	MAL2	9.3005	143	SPGT	4.4164	195	VL32	14.9616
40	ELIS	8.7616	92	MALI	10.6830	144	STEW	3.9781	196	VLHG	14.0958
41	EUR2	12.2247	93	MAS1	19.9973	145	STHL	6.3479	197	VNAD	7.8849
42	EURK	2.5425	94	MATE	19.9973	146	STJO	19.9973	198	VNDP	19.9973
43	FAIR	6.9973	95	MAW1	19.6712	147	SUGG	9.9699	199	WHIT	19.9973
44	FALL	8.0247	96	MBAR	16.4575	148	SUTH	19.7123	200	WHN0	9.0822
45	FIE0	4.0329	97	MCAR	7.9836	149	SYOG	19.9973	201	WHTM	7.9479
46	FLM2	3.9973	98	MCIL	15.0438	150	THTI	19.0904	202	WILN	9.9672
47	FLM5	12.0986	99	MCM4	19.9973	151	THU1	4.3616	203	WLCH	3.8192
48	FONP	5.4767	100	MDO1	19.9973	152	THU3	15.6027	204	WLCT	3.9918
49	FORT	8.2658	101	MIN0	10.9151	153	THUR	6.9479	205	WSRT	19.9973
50	*FRY3	0.1612	102	MKEA	19.9973	154	TIDB	19.9973	206	WWAY	3.9534
51	%FTP0	1.9479	103	MKIB	3.8603	155	TIXI	19.2274	207	YEBE	17.2514
52	FTP1	4.0274	104	MOBS	14.6685	156	TNB1	19.1315	208	YIBL	14.3096



MKIB	-	-	-	-	-	-	-	-	-	-	-	-	-	183	3	351	230	-	-	-	-	767
OHI2	-	-	-	-	304	339	312	305	347	312	364	360	365	365	364	357	349	364	361	352	5520	
PALM	162	354	363	337	363	363	364	336	363	361	366	364	365	365	366	363	289	365	366	365	6940	
PATN	-	-	-	-	-	-	-	-	-	12	140	99	337	365	365	54	-	347	366	336	2421	
PECE	-	-	-	-	-	-	-	-	-	-	145	-	352	364	366	364	365	365	366	365	3052	
PIRT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	364	365	366	365	1462	
PRPT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	242	365	366	365	1338	
RAMG	-	-	-	-	-	-	-	-	-	-	326	365	365	365	366	365	364	362	366	351	3595	
RMBO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349	365	366	365	1445	
ROB4	-	-	-	-	-	-	-	32	355	365	365	365	365	365	365	317	364	363	329	365	4315	
ROBN	-	-	-	-	-	-	-	-	-	-	-	-	329	365	366	105	301	-	318	365	2149	
ROTH	-	-	-	-	-	-	-	-	-	-	-	-	313	351	364	345	326	365	358	349	2771	
SCTB	-	-	-	-	-	-	49	365	365	365	366	365	184	362	365	365	365	365	339	365	4585	
SDLY	-	-	-	-	-	-	-	-	-	-	-	-	230	365	366	365	365	365	366	365	2787	
SPGT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	285	365	245	366	233	1494	
STEW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	352	365	365	365	1447	
SUGG	-	-	-	-	-	-	-	-	-	-	205	-	154	190	366	365	364	365	351	365	2725	
SYOG	349	318	355	337	359	365	366	365	363	362	365	356	360	335	366	359	360	361	358	293	7052	
THUR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	347	366	365	365	221	361	365	2390
TOMO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	341	365	365	91	356	365	1883
TRVE	-	-	-	-	-	-	-	-	-	-	-	10	365	195	64	294	-	-	-	-	928	
VESL	139	348	287	168	238	329	144	246	160	285	310	268	281	205	327	108	351	347	-	-	4541	
VNAD	-	-	-	-	-	-	-	-	-	-	-	275	365	365	366	359	365	365	343	49	2852	
WHN0	-	-	-	-	-	-	-	-	-	16	254	365	365	365	366	365	365	365	300	10	3136	
WHTM	-	-	-	-	-	-	-	-	-	-	-	-	346	365	366	365	365	265	365	365	2802	
WILN	-	-	-	-	-	-	-	-	-	-	256	-	353	365	366	365	365	365	365	365	3165	
WLCH	-	-	-	-	-	-	-	-	-	-	-	-	157	-	62	258	-	-	-	-	477	
WLCT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	348	83	248	365	1044	
WWAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	277	365	362	358	1362	

**Table S4.** The columns display the approximate geographic coordinates and the velocities of the Antarctic stations.

ID	Lon. (°)	Lat. (°)	H (m)	Absolute velocities (mm/yr)						Relative velocities (mm/yr)			
				Ve	$\pm\sigma_e$	Vn	$\pm\sigma_n$	Vu	$\pm\sigma_u$	Ve	Vn	Ven	$\pm\sigma_{en}$
BACK	-74.43044	257.52181	33.2	17.6	0.69	9.8	0.61	15.5	1.53	1.20	4.18	4.35	0.92
BENN	-84.78646	243.54019	1416.3	16.7	0.75	0.0	0.70	10.8	1.46	2.35	-2.71	3.59	1.03
BERP	-74.54594	248.11542	313.1	17.4	0.97	12.3	0.92	28.9	2.31	0.24	8.64	8.65	1.34
BREN	-72.67289	296.97427	1644.6	11.1	0.58	10.6	0.64	4.4	1.15	0.14	-1.08	1.09	0.86
BRIP	-75.79567	158.46914	2110.9	8.3	0.42	-12.6	0.44	1.0	1.00	-0.21	-0.27	0.34	0.61
BUMS	-85.96149	174.49914	2642.2	8.5	0.71	-12.5	0.99	-3.6	2.32	0.08	-1.76	1.76	1.22
BURI	-79.14744	155.89416	2006.3	6.1	0.38	-12.8	0.40	0.7	0.96	-0.76	-0.33	0.83	0.55
CAPF	-66.01207	299.44164	100.2	14.8	0.80	9.3	0.77	4.3	1.21	2.38	-2.61	3.54	1.11
CAS1	-66.28336	110.51971	22.4	1.2	0.22	-10.0	0.23	1.4	0.49	-0.67	1.04	1.24	0.32
CLRK	-77.34008	218.12619	999.8	17.8	0.56	-2.0	0.51	1.3	1.24	1.29	0.96	1.61	0.76
COTE	-77.80590	161.99781	1878.4	8.7	0.42	-12.0	0.44	0.2	1.02	0.13	0.03	0.13	0.60
CRDI	-82.86152	306.80086	945.3	6.8	0.53	12.5	0.73	2.5	1.25	1.17	0.06	1.17	0.90
DAV1	-68.57732	77.97261	44.4	-3.3	0.24	-5.4	0.21	-0.7	0.51	0.25	0.39	0.46	0.31
DEVI	-81.47672	161.97708	67.0	6.6	0.41	-12.2	0.42	1.7	0.98	-0.76	-0.19	0.78	0.59
DUM1	-66.66508	140.00193	-1.3	8.1	0.31	-11.6	0.34	-1.4	0.55	0.60	1.22	1.36	0.46
DUPT	-64.80495	297.18310	43.5	12.5	0.42	11.1	0.46	12.0	0.74	-0.63	-0.61	0.87	0.62
ELIS	-71.94670	23.34632	1388.9	-5.1	0.48	6.8	0.51	0.0	1.19	-0.38	0.73	0.82	0.70
FALL	-85.30642	216.36830	260.2	13.0	0.71	-5.2	0.54	5.5	1.47	-0.95	-1.85	2.08	0.89
FIE0	-76.14459	168.42353	153.8	10.7	0.73	-11.1	0.84	-0.3	1.61	0.28	0.33	0.43	1.11
FLM5	-77.53273	160.27141	1869.7	7.7	0.36	-12.2	0.36	0.2	0.87	-0.66	-0.02	0.66	0.51
FONP	-65.24535	298.35315	95.4	14.8	0.56	7.1	0.49	13.9	0.77	1.97	-4.73	5.12	0.74
FTP4	-78.92767	162.56470	243.2	7.8	0.27	-12.0	0.30	0.5	0.66	-0.57	0.02	0.57	0.40
GMEZ	-73.88547	291.46354	1420.2	12.7	0.97	8.5	1.03	5.4	1.88	1.06	-2.60	2.81	1.41
HAAG	-77.03805	281.71288	1171.7	10.9	0.80	8.3	0.73	5.5	1.48	-1.54	-1.59	2.22	1.09
HOWE	-87.41566	210.56673	2582.6	13.9	0.82	-5.7	0.77	1.3	1.63	1.01	-1.14	1.52	1.12
HOWN	-77.52804	273.23266	1478.2	12.7	0.54	8.8	0.60	3.9	1.20	-0.92	0.21	0.94	0.81
HTON	-74.08001	298.26941	950.4	10.6	0.68	10.2	0.62	4.5	1.28	0.36	-1.60	1.64	0.92
HUGO	-64.96256	294.33246	20.6	15.7	0.34	11.0	0.44	0.8	0.71	2.03	-0.44	2.08	0.56
IGGY	-83.30721	156.24974	1898.2	4.8	0.80	-12.2	0.73	-1.7	1.57	-0.76	0.24	0.79	1.09
INMN	-74.82087	261.11953	678.1	13.6	1.42	10.3	1.35	29.0	2.76	-2.32	3.88	4.52	1.96
JNSN	-73.07650	293.89780	1373.9	12.0	0.89	9.4	1.05	5.6	2.21	0.61	-2.01	2.10	1.38
KEPA	-54.29524	323.48571	346.2	-1.9	0.30	14.8	0.44	3.4	0.63	-12.98	1.95	13.13	0.53
LPLY	-73.11112	269.70053	127.5	17.0	1.33	7.6	1.31	5.8	2.17	1.58	-0.37	1.62	1.87
LWN0	-81.34594	152.73161	1528.5	4.8	0.56	-12.6	0.55	2.3	1.27	-0.64	0.00	0.64	0.79
MAW1	-67.60477	62.87072	59.1	-3.9	0.19	-1.9	0.18	0.1	0.40	0.23	0.66	0.70	0.26
MCAR	-76.32220	215.69648	964.8	18.6	0.92	-3.1	0.90	2.2	1.58	1.93	0.41	1.97	1.29
MCM4	-77.83835	166.66933	98.0	9.4	0.22	-11.9	0.24	-0.4	0.57	-0.08	-0.25	0.27	0.32
MIN0	-78.65031	167.16379	676.9	8.8	0.55	-11.3	0.52	0.1	1.01	-0.56	0.31	0.64	0.76

MKIB	-75.27620	294.39685	1156.2	11.9	1.25	11.4	1.10	6.3	1.52	1.24	-0.01	1.24	1.67
OHI2	-63.32108	302.09867	32.4	15.6	0.37	10.4	0.41	2.1	0.69	2.97	-1.78	3.46	0.55
PALM	-64.77509	295.94888	31.0	13.1	0.19	10.6	0.28	5.2	0.42	-0.32	-1.03	1.08	0.34
PATN	-78.03005	204.97711	514.9	14.2	0.92	-6.1	0.87	1.8	1.38	-1.15	-0.37	1.20	1.26
PECE	-85.61192	291.44367	1490.4	10.9	0.75	9.8	0.63	-0.4	1.27	2.99	-1.32	3.27	0.98
PIRT	-81.10321	274.85743	1257.0	12.4	0.95	10.6	0.79	3.4	2.48	0.17	1.80	1.80	1.23
PRPT	-66.00672	294.66065	17.6	16.1	0.76	10.9	0.84	3.9	1.89	2.77	-0.57	2.83	1.13
RAMG	-84.33843	178.04711	1062.3	9.0	0.38	-10.7	0.38	1.6	0.96	-0.63	-0.41	0.75	0.54
RMBO	-83.87324	293.60612	777.2	8.6	0.92	13.5	0.80	4.0	2.46	0.52	2.07	2.14	1.22
ROB4	-77.03444	163.19011	-41.6	9.3	0.26	-12.3	0.29	1.6	0.61	0.25	-0.31	0.40	0.39
ROBN	-65.24650	300.55537	57.9	16.9	0.53	7.8	0.56	7.4	0.93	4.53	-4.23	6.20	0.77
ROTH	-67.57139	291.87422	39.7	15.0	0.52	10.2	0.48	5.8	1.32	1.58	-0.96	1.85	0.71
SCTB	-77.84899	166.75802	-19.0	9.3	0.30	-11.7	0.32	0.1	0.67	-0.27	-0.12	0.29	0.44
SDLY	-77.13531	234.02542	2097.3	19.8	0.48	0.9	0.38	-1.5	0.93	2.90	0.32	2.92	0.62
SPGT	-64.29473	298.94801	34.2	17.2	0.66	13.9	0.63	10.2	1.29	4.23	1.98	4.67	0.91
STEW	-84.18702	273.75270	1587.0	13.1	0.95	10.2	0.58	2.6	2.61	1.65	1.50	2.23	1.11
SUGG	-75.28061	287.81987	1092.5	13.0	0.84	9.6	0.82	3.5	1.27	1.13	-1.10	1.58	1.17
SYOG	-69.00696	39.58374	50.0	-4.0	0.19	2.8	0.19	0.1	0.45	0.69	0.18	0.72	0.27
THUR	-72.53007	262.44040	212.8	17.3	0.94	1.9	0.94	-2.8	1.90	0.86	-4.72	4.80	1.33
TOMO	-75.80187	245.33810	1170.7	13.0	1.66	3.7	2.00	55.4	3.58	-3.96	0.64	4.01	2.60
TRVE	-69.98882	292.44529	1064.4	11.0	1.10	7.5	0.92	3.9	1.57	-1.58	-3.80	4.11	1.44
VESL	-71.67380	357.15822	862.4	0.0	0.21	10.7	0.24	1.1	0.59	0.89	0.27	0.93	0.32
WHN0	-79.84570	154.22012	2192.6	5.5	0.36	-12.3	0.37	1.2	0.91	-0.76	0.23	0.80	0.51
WHTM	-82.68323	255.60680	2347.2	13.5	1.01	2.9	1.27	7.5	2.34	-0.64	-2.36	2.44	1.62
WILN	-80.03984	279.44206	667.2	10.8	0.63	8.2	0.62	6.2	1.22	-1.09	-1.40	1.77	0.88
WLCH	-70.72935	296.17959	1534.1	11.7	1.07	9.8	0.84	1.2	1.37	0.02	-1.85	1.85	1.36
WLCT	-85.36926	272.60731	1850.6	12.3	1.11	9.0	0.87	-1.5	2.97	1.02	0.52	1.15	1.41
WWAY	-81.57700	331.59732	1196.1	11.8	1.38	12.4	1.62	4.8	3.13	11.16	-0.23	11.16	2.13

**Table S5.** The columns display the approximate geographic coordinates of the terrestrial points located in VL, the gravity values observed and the gravity anomalies computed.  $H$  = orthometric height (Earth Gravitational Model 2008 - EGM2008 [43]); BGA = Bouguer Gravity anomaly; FAGA = Free-Air Gravity anomaly;  $\Delta_{BGA}$   $\Delta_{FAGA}$  the deviation of the merged gravimetric surface on the fiducial points.

Lon.	Lat.	$H$	BGA	FAGA	$g$	$\Delta_{BGA}$	$\Delta_{FAGA}$
(°)	(°)	(m)	(mGal)	(mGal)	(mGal)	(mGal)	(mGal)
162.2819	-75.2644	705.372	-113.44	-47.71	982616.5	0.44	0.23
162.5453	-75.2325	367.408	-77.41	-43.70	982723.3	3.81	3.21
162.5456	-75.2325	367.387	-77.57	-43.91	982723.1	3.67	3.33
162.0361	-75.1278	1325.945	-124.18	13.49	982480.3	2.18	1.08
162.6553	-75.0756	386.459	-90.08	-52.32	982701.8	0.88	0.18
163.7156	-74.9342	28.067	12.53	14.70	982872.9	0.63	0.85
163.6342	-74.7850	146.858	-32.95	-20.24	982794.5	0.75	0.75
162.5136	-74.7242	561.979	-121.36	-62.51	982621.4	2.16	1.00
163.9528	-74.6750	739.015	-0.19	70.05	982697.1	1.89	1.66
163.0406	-74.6414	844.631	-91.36	-13.82	982579.1	-0.66	-0.16
162.2731	-74.6275	1654.214	-132.88	32.38	982375.2	-1.68	-1.48
163.7619	-74.6214	227.998	-34.36	-14.98	982767.1	-3.46	-1.26
164.0500	-74.6167	710.492	-11.55	46.38	982679.5	3.05	3.00
162.7344	-74.6103	935.520	-115.79	-23.65	982539.8	1.49	1.30
162.0019	-74.5619	1531.200	-142.93	16.93	982394.6	0.43	0.74
163.7619	-74.5608	1038.819	-40.37	56.53	982585.9	-0.47	-0.57
164.5033	-74.5586	330.002	1.94	27.50	982775.2	0.34	0.00
164.8492	-74.5547	410.074	8.35	45.31	982768.2	-1.75	-1.05
162.8300	-74.4919	838.620	-112.62	-24.68	982563.1	1.02	1.01
163.0442	-74.4881	563.635	-99.75	-40.89	982631.5	3.75	2.15
165.2894	-74.4867	400.064	-4.08	34.93	982757.7	0.48	0.98
164.0047	-74.4864	1280.743	-40.40	83.62	982534.9	-1.20	-1.50
163.7417	-74.4844	1049.041	-49.18	53.07	982575.7	4.78	3.78
163.5978	-74.4389	962.155	-62.37	25.21	982572.5	-0.87	-0.27
164.7611	-74.4358	1125.971	-20.48	92.89	982589.5	0.18	0.68
164.0222	-74.4356	1400.024	-48.34	94.84	982507.0	-2.24	-2.14
164.2525	-74.4247	855.672	-43.11	43.78	982623.2	0.01	0.01
162.7375	-74.3994	1866.586	-112.76	55.29	982322.0	-0.06	-0.06
163.9706	-74.3947	2025.294	-61.84	127.89	982345.5	3.64	2.70
163.6208	-74.3872	882.840	-76.85	13.15	982582.4	0.35	0.25
163.7725	-74.3694	1323.494	-67.38	68.44	982501.1	0.08	0.02
161.8686	-74.3653	1961.957	-151.50	61.53	982297.2	-1.10	1.30
164.6917	-74.3500	2725.196	-113.45	191.49	982189.3	1.25	0.31
165.0861	-74.3494	266.473	-1.07	19.14	982776.7	0.17	0.07
163.2156	-74.3461	1491.061	-105.75	41.55	982421.4	0.02	0.03



163.7225	-74.3256	1874.021	-75.81	111.06	982372.0	1.01	1.05
163.8342	-74.3211	1882.361	-68.05	117.28	982375.4	2.75	1.35
163.0558	-74.3156	1318.823	-112.81	20.53	982452.1	2.31	2.11
162.2333	-74.3147	2523.072	-143.96	125.80	982186.3	-1.36	-1.83
162.5619	-74.2775	2677.413	-127.14	116.78	982128.0	0.44	0.03
163.5283	-74.2542	1830.778	-103.24	88.75	982359.6	2.34	2.34
165.0322	-74.2525	77.399	-9.42	-5.96	982805.3	0.22	0.32
163.7753	-74.2486	1691.555	-84.15	90.69	982404.2	1.85	1.15
162.7833	-74.2406	2528.584	-126.02	93.82	982149.1	-0.32	0.42
163.2597	-74.2350	1327.113	-108.52	12.10	982437.3	0.22	0.42
164.7336	-74.2319	655.858	-38.69	25.11	982657.0	-1.19	-1.02
163.7483	-74.2036	2017.035	-88.39	114.20	982325.3	0.39	0.22
163.2608	-74.1811	1909.184	-114.96	71.97	982315.2	2.36	2.16
164.3394	-74.1764	1430.173	-59.03	82.45	982473.1	2.43	1.13
162.5058	-74.1750	2869.814	-150.83	118.05	982065.1	0.33	0.31
164.1450	-74.1683	1046.427	-83.86	28.10	982536.6	-2.06	-1.94
164.5097	-74.1650	1176.098	-44.49	81.84	982550.2	-0.29	-0.20
163.7269	-74.1497	1636.712	-97.39	72.99	982398.7	0.49	0.39
162.9569	-74.1361	1307.283	-131.99	-6.98	982419.6	0.49	0.19
162.2300	-74.1239	2602.170	-155.97	117.83	982144.9	6.07	3.01
162.7275	-74.0844	999.125	-164.13	-72.98	982446.1	-1.03	-1.05
163.2539	-74.0725	1473.236	-127.17	29.78	982402.1	2.97	2.17
164.0511	-74.0711	1594.439	-80.81	83.15	982418.1	0.11	0.21
163.7375	-74.0036	1673.453	-119.56	54.34	982361.7	1.06	1.01
164.2544	-74.0028	962.884	-77.82	21.84	982548.1	1.42	1.32
165.2572	-74.0008	595.625	-51.11	6.25	982645.7	-1.21	-1.01
163.2542	-74.0003	1436.825	-137.80	14.70	982394.8	0.70	0.64
162.2450	-73.9947	1619.975	-182.15	-15.83	982307.6	0.05	0.01
162.8742	-73.9936	2945.735	-158.61	155.49	982070.5	1.71	1.94
164.4153	-73.9072	586.404	-100.14	-49.01	982588.7	1.84	1.24
161.9619	-73.8744	2443.817	-181.84	60.34	982124.1	1.44	1.14
163.1031	-73.8736	1864.294	-164.01	32.97	982275.3	1.61	1.29
162.5517	-73.8047	3159.270	-182.75	156.64	981996.7	-1.75	-1.15
163.7395	-73.7643	2702.513	-175.41	126.99	982103.4	0.37	0.11
163.7394	-73.7642	2702.618	-142.59	124.95	982103.7	2.49	2.19
162.4558	-73.7611	2931.922	-191.80	124.62	982032.6	0.30	0.28
165.3793	-73.7599	2092.664	-109.24	124.92	982289.6	0.91	-0.54
163.6669	-73.7531	2773.773	-146.50	136.71	982093.0	0.40	0.10
162.7919	-73.7461	2516.085	-190.36	54.26	982089.6	0.46	-0.40
162.9450	-73.6425	2322.470	-198.08	53.84	982143.7	2.08	2.01
162.5308	-73.6253	3034.032	-198.40	130.13	982000.0	1.30	-1.10
162.0336	-73.5567	2943.118	-201.04	117.17	982011.6	1.14	1.10
166.9527	-73.5046	1049.263	-15.36	102.05	982576.2	0.06	0.02

165.8484	-73.3788	2313.090	-113.82	145.00	982222.9	0.00	0.00
162.1694	-73.3308	2320.034	-205.95	53.65	982126.7	2.94	2.14
165.9057	-73.2283	2138.833	-165.97	73.35	982197.5	1.92	1.32
169.6121	-73.0631	535.406	-34.00	25.91	982636.5	1.26	0.22
167.8044	-73.0382	1884.694	-106.40	104.49	982297.4	2.49	2.19
162.9264	-72.9505	2521.626	-215.93	66.23	982058.2	-1.05	-0.91
165.0791	-72.9015	2530.051	-165.89	117.21	982104.1	0.53	0.68
162.1120	-72.8484	2326.415	-215.07	45.24	982092.2	1.04	-0.11
166.7620	-72.8398	1920.923	-140.96	73.98	982245.6	1.21	1.58
169.7735	-72.6886	236.162	-53.86	-27.43	982656.4	-0.68	-0.38
168.3543	-72.6773	2527.166	-137.27	145.50	982121.8	-0.33	-0.44
163.7504	-72.6325	2162.429	-193.71	48.26	982134.7	0.06	-0.01
167.3781	-72.5649	2105.348	-179.87	55.71	982156.2	2.41	1.93
164.3286	-72.5365	2134.954	-187.55	51.34	982141.3	5.07	4.05
166.2715	-72.5026	2458.913	-149.32	125.82	982114.0	2.64	1.85
169.1693	-72.4658	1333.730	-147.46	1.77	982335.3	2.63	1.45
169.7251	-72.4501	652.287	-80.94	-7.95	982535.0	1.63	1.23
169.9423	-72.4416	169.509	-61.47	-42.50	982649.1	0.49	0.25
163.7270	-72.2744	1764.946	-220.52	-23.02	982167.2	1.97	2.24
166.8166	-72.2723	1969.616	-159.82	60.57	982187.8	-1.80	-0.30
163.7420	-72.2548	2002.959	-175.89	48.23	982164.2	-0.06	-0.01
160.2349	-72.2382	2470.171	-183.35	93.04	982063.9	0.35	0.15
163.4758	-72.2068	1907.967	-164.76	48.73	982191.4	0.09	-0.11
165.8325	-72.2025	2284.114	-160.65	94.94	982121.3	-1.75	-0.35
164.6597	-72.1460	2121.775	-170.27	67.15	982140.7	0.05	0.01
168.5014	-72.1320	2280.487	-155.98	99.19	982123.0	4.63	3.23
169.2192	-72.1306	2254.875	-122.08	130.22	982161.9	0.84	0.24
161.6823	-72.1281	1405.694	-147.43	9.85	982303.5	-0.03	1.61
167.4573	-72.0402	1825.140	-152.99	51.23	982210.7	-0.39	0.19
166.5156	-71.9741	2024.721	-156.42	70.14	982164.4	0.38	0.18
170.1762	-71.9625	400.723	-83.68	-38.83	982556.0	0.46	0.46
162.3735	-71.8929	991.489	-178.16	-67.21	982341.6	2.08	-1.26
161.1681	-71.8883	1515.529	-142.14	27.44	982274.3	2.00	-0.13
163.6462	-71.8423	1766.379	-148.55	49.10	982216.1	0.07	1.22
165.1485	-71.7837	1549.407	-148.41	24.95	982255.8	0.31	0.50
169.1587	-71.7430	2331.569	-132.81	128.08	982115.3	-0.90	-0.30
161.3745	-71.7328	1005.957	-123.18	-10.62	982385.1	0.68	-0.18
168.0189	-71.7286	2194.842	-147.08	98.51	982127.1	0.20	0.03
167.2713	-71.7149	2340.361	-138.64	123.23	982106.2	2.83	2.28
163.7329	-71.6687	1956.563	-152.83	66.10	982165.0	-3.35	2.15
170.3548	-71.6569	1231.805	-81.89	55.94	982377.9	1.07	1.04
162.8476	-71.5739	1753.639	-182.93	13.29	982169.7	3.08	-1.56
162.8476	-71.5739	1753.539	-182.76	13.45	982169.9	-2.00	2.98

167.7944	-71.5595	1993.913	-134.67	88.44	982169.9	1.26	0.12
168.8181	-71.5523	1791.098	-122.06	78.35	982222.0	0.80	0.30
160.4548	-71.5432	1497.369	-108.84	58.71	982292.3	1.87	-0.48
162.8987	-71.4566	952.351	-152.48	-45.91	982351.3	0.82	0.59
164.5981	-71.4284	1299.447	-161.76	-16.36	982272.3	0.66	0.28
166.8643	-71.4279	1949.723	-128.67	89.49	982177.4	-1.10	-1.80
162.0404	-71.4219	333.344	-155.99	-118.69	982467.5	1.32	1.30
163.8942	-71.4122	1905.714	-128.14	85.10	982185.7	0.90	0.43
159.7699	-71.3744	2333.758	-103.57	157.57	982124.0	2.07	1.64
167.8020	-71.3573	1807.755	-126.28	75.99	982203.8	-0.18	-0.08
165.5230	-71.3555	1721.571	-163.36	29.27	982183.6	0.86	0.56
170.3053	-71.3458	1175.093	-46.42	85.07	982407.5	-2.38	-1.18
163.7437	-71.3400	1684.796	-119.10	69.42	982234.2	1.05	-3.89
162.8044	-71.2334	1514.949	-148.88	20.63	982232.0	0.99	0.33
164.8399	-71.2027	1859.496	-97.73	110.34	982213.6	0.73	0.38
166.2204	-71.1876	625.903	-317.50	-247.47	982235.7	-0.80	0.10
163.8963	-71.1541	1683.423	-151.24	37.12	982192.0	-0.80	0.39
159.9762	-71.1364	2192.818	-124.54	120.82	982117.6	0.74	0.42
167.0276	-71.1303	1432.506	-124.28	36.00	982267.1	0.28	-0.18
165.6619	-71.0356	1300.089	-209.76	-64.29	982202.4	0.96	0.46
163.3894	-71.0297	713.116	-277.66	-197.86	982249.5	0.06	0.01
166.6245	-71.0176	1602.691	-131.80	47.52	982219.8	0.40	0.22
162.6767	-71.0047	1747.732	-127.84	67.72	982194.5	0.24	0.14
164.7281	-70.9932	540.028	-141.21	-80.78	982418.1	0.61	-0.11
165.9158	-70.8477	1295.139	-117.30	27.61	982285.2	-0.60	-0.20
162.8528	-70.8139	1876.971	-100.35	109.67	982185.9	-0.05	-0.02
162.1858	-70.8122	898.301	-146.23	-45.72	982332.4	0.43	0.29
163.3319	-70.7985	963.829	-114.28	-6.43	982350.7	0.08	0.06
164.1859	-70.7703	908.697	-123.44	-21.76	982350.8	0.64	0.54
159.7336	-70.7588	1586.846	-97.93	79.63	982242.3	-2.05	-1.99
165.0941	-70.7062	1111.395	-99.44	24.91	982331.3	0.14	0.09
162.5251	-70.5987	1755.199	-42.43	153.96	982255.2	0.44	-0.24
159.7701	-70.4848	1913.567	-121.59	92.52	982138.7	-0.89	-0.39
161.0277	-70.3893	309.662	-98.90	-64.25	982471.4	-1.03	-1.45
159.9286	-70.1731	1132.923	-138.96	-12.19	982257.0	-0.96	-0.68
159.6444	-69.8906	1068.744	-108.33	11.25	982283.7	0.03	0.01
159.4012	-69.5014	317.241	-72.03	-36.53	982444.9	0.33	0.10

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