

新座標への変換方法

日本測地系の座標値(平成14年3月以前)から世界測地系の座標値(平成14年4月以降)
(旧座標値) (新座標値)
への変換方法には次の3つの方法があります。

1. 図郭の代表点を座標変換する方法
2. 図郭四隅を座標変換する方法
3. 数値地形図の全座標データを座標変換する方法

横内地区では1番の図郭の代表点を座標変換する方法により行ったものです。

数値の変換量

X 旧座標値→新座標値
変換数量 +352.014m
Y 旧座標値→新座標値
変換数量 -281.536m

代表点(3級基準点、点番号107)

X -804.040 → -452.026
Y-31, 721.993 → -32, 003.529

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2・3 級基準点成果表

4 級基準点成果表

2・3級基準点成果表

平成14年4月1日測量の基準が日本測地系から世界測地系に改正

代表点の変化量を用いた座標変換と各点の座標変換(TKY2JGDによる)の比較表

(茅野市横内地区)

平成14年5月27日

点番号	日本測地系(1)		世界測地系(2)		変化量(2)-(1)		107の変化量を付加する		差(3)-(2)		
	X(1)	Y(1)	X(2)	Y(2)	ΔX	ΔY	X(3)	Y(3)	ΔX	ΔY	
1	13.430	-31796.694	365.421	-32078.231	351.991	-281.537	365.444	-32078.230	0.022	0.001	
2	-1019.916	-31108.193	-667.901	-31389.738	352.015	-281.545	-667.902	-31389.729	-0.001	0.009	
3	-1089.395	-31603.967	-737.376	-31885.503	352.019	-281.536	-737.381	-31885.503	-0.005	0.000	
101	-448.374	-31875.959	-96.369	-32157.493	352.005	-281.534	-96.360	-32157.495	0.008	-0.001	
102	-532.916	-32139.265	-180.906	-32420.795	352.011	-281.530	-180.902	-32420.801	0.003	-0.005	
103	-563.831	-31547.918	-211.826	-31829.457	352.005	-281.539	-211.817	-31829.454	0.009	0.003	
104	-407.527	-31600.372	-55.526	-31881.911	352.001	-281.539	-55.513	-31881.908	0.013	0.003	
105	-607.768	-31790.289	-255.759	-32071.824	352.009	-281.535	-255.754	-32071.825	0.005	-0.001	
106	-778.182	-32040.748	-426.166	-32322.279	352.016	-281.531	-426.168	-32322.284	-0.003	-0.005	
107	-804.040	-31721.993	-452.026	-32003.529	352.014	-281.536	0.000	0.000	0.000	0.000	
108	-956.948	-31540.796	-604.932	-31822.334	352.016	-281.538	-604.934	-31822.332	-0.002	0.002	
109	-996.071	-31841.553	-644.052	-32123.086	352.019	-281.533	-644.057	-32123.089	-0.006	-0.003	
110	-1230.532	-31294.936	-878.511	-31576.476	352.021	-281.540	-878.518	-31576.472	-0.007	0.004	
* 1~ : 2級基準点					min=	351.991	-281.545		min=	-0.007	-0.005
* 101~ : 3級基準点					max=	352.021	-281.530		max=	0.022	0.009
					差=	0.029	0.014		差=	0.029	0.014
					Limit=	0.100	0.100				

* 「座標変換マニュアル」による座標変換は、変換前後の任意の点間距離で点検する。

許容範囲：50mm以内

4級基準点成果表

平成14年4月1日測量の基準が日本測地系から世界測地系に改正

代表点の変化量を用いた座標変換と各点の座標変換 (TKY2JGDによる) の比較表

平成14年7月25日

(茅野市横内地区)

点番号 (4級)	日本測地系 8系		世界測地系 TKY2JGDによる		世界測地系(代表点の変化量による)		変化量(X) $X_2 - X_1$ (m)	変化量(Y) $Y_2 - Y_1$ (m)	変化量の差	
	X_1 (m)	Y_1 (m)	X_2 (m)	Y_2 (m)	変化量(X_0)	変化量(Y_0)			(X) - (X_0)	(Y) - (Y_0)
B. 1	-423.761	-31,665.006	-71.759	-31,946.543	-71.747	-31,946.542	352.002	-281.537	-0.012	-0.001
B. 2	-437.572	-31,694.180	-85.569	-31,975.717	-85.558	-31,975.716	352.003	-281.537	-0.011	-0.001
B. 3	-454.746	-31,748.052	-102.742	-32,029.588	-102.732	-32,029.588	352.004	-281.536	-0.010	0.000
B. 4	-467.799	-31,805.875	-115.794	-32,087.410	-115.785	-32,087.411	352.005	-281.535	-0.009	0.001
B. 5	-476.555	-31,857.917	-124.549	-32,139.451	-124.541	-32,139.453	352.006	-281.534	-0.008	0.002
B. 6	-519.071	-31,840.611	-167.064	-32,122.146	-167.057	-32,122.147	352.007	-281.535	-0.007	0.001
B. 7	-561.923	-31,823.365	-209.915	-32,104.900	-209.909	-32,104.901	352.008	-281.535	-0.006	0.001
B. 8	-592.879	-31,738.748	-240.871	-32,020.284	-240.865	-32,020.284	352.008	-281.536	-0.006	0.000
B. 9	-577.868	-31,687.321	-225.861	-31,968.858	-225.854	-31,968.857	352.007	-281.537	-0.007	-0.001
B. 10	-556.017	-31,643.553	-204.011	-31,925.090	-204.003	-31,925.089	352.006	-281.537	-0.008	-0.001
B. 11	-532.319	-31,603.015	-180.314	-31,884.553	-180.305	-31,884.551	352.005	-281.538	-0.009	-0.002
B. 12	-478.752	-31,657.633	-126.748	-31,939.170	-126.738	-31,939.169	352.004	-281.537	-0.010	-0.001
B. 13	-487.581	-31,714.474	-135.577	-31,996.011	-135.567	-31,996.010	352.005	-281.537	-0.010	-0.001
B. 14	-502.041	-31,779.483	-150.035	-32,061.019	-150.027	-32,061.019	352.006	-281.535	-0.008	0.001
B. 15	-528.847	-31,687.996	-176.842	-31,969.533	-176.833	-31,969.532	352.005	-281.537	-0.009	-0.001
B. 16	-543.739	-31,755.650	-191.732	-32,037.186	-191.725	-32,037.186	352.007	-281.536	-0.007	0.000
B. 17	-595.771	-31,557.289	-243.765	-31,838.828	-243.757	-31,838.825	352.006	-281.539	-0.008	-0.003
B. 18	-646.585	-31,576.036	-294.577	-31,857.574	-294.571	-31,857.572	352.008	-281.538	-0.006	-0.002
B. 19	-668.730	-31,593.932	-316.722	-31,875.470	-316.716	-31,875.468	352.009	-281.538	-0.005	-0.002
B. 20	-684.064	-31,577.720	-332.055	-31,859.258	-332.050	-31,859.256	352.009	-281.538	-0.005	-0.002
B. 21	-707.996	-31,569.870	-355.987	-31,851.408	-355.982	-31,851.406	352.009	-281.538	-0.005	-0.002
B. 22	-742.515	-31,581.091	-390.505	-31,862.629	-390.501	-31,862.627	352.011	-281.538	-0.004	-0.002
B. 23	-753.108	-31,631.375	-401.097	-31,912.912	-401.094	-31,912.911	352.011	-281.537	-0.003	-0.001
B. 24	-765.346	-31,664.565	-413.334	-31,946.102	-413.332	-31,946.101	352.012	-281.537	-0.002	-0.001
B. 25	-773.295	-31,699.544	-421.282	-31,981.080	-421.281	-31,981.080	352.013	-281.536	-0.001	0.000
B. 26	-751.956	-31,740.699	-399.944	-32,022.235	-399.942	-32,022.235	352.012	-281.535	-0.002	0.001
B. 27	-702.368	-31,761.152	-350.357	-32,042.687	-350.354	-32,042.688	352.011	-281.535	-0.003	0.001
B. 28	-654.692	-31,774.755	-302.682	-32,056.290	-302.678	-32,056.291	352.010	-281.535	-0.004	0.001
B. 29	-641.410	-31,716.238	-289.401	-31,997.774	-289.396	-31,997.774	352.009	-281.536	-0.005	0.000
B. 30	-610.409	-31,667.945	-258.401	-31,949.482	-258.395	-31,949.481	352.008	-281.537	-0.006	-0.001
B. 31	-634.306	-31,642.059	-282.298	-31,923.596	-282.292	-31,923.595	352.008	-281.537	-0.006	-0.001

代表点の変化量を用いた座標変換と各点の座標変換 (TKY2JGDによる) の比較表

平成14年7月25日

点番号 (4 級)	日本測地系 日系		世界測地系 TKY2JGDによる		世界測地系(代表点の変化量による)		変化量(X) $X_2 - X_1$ (m)	変化量(Y) $Y_2 - Y_1$ (m)	変化量の差	
	X_1 (m)	Y_1 (m)	X_2 (m)	Y_2 (m)	変化量(X_0)	変化量(Y_0)			$(X) - (X_0)$	$(Y) - (Y_0)$
					352.014	-281.536				
B. 32	-612.702	-31,616.222	-260.695	-31,897.760	-260.688	-31,897.758	352.007	-281.538	-0.007	-0.002
B. 33	-565.292	-31,600.118	-213.287	-31,881.656	-213.278	-31,881.654	352.006	-281.538	-0.008	-0.002
B. 34	-642.386	-31,615.290	-290.378	-31,896.828	-290.372	-31,896.826	352.008	-281.538	-0.006	-0.002
B. 35	-670.305	-31,678.959	-318.296	-31,960.496	-318.291	-31,960.495	352.009	-281.537	-0.005	-0.001
B. 36	-704.245	-31,728.621	-352.234	-32,010.157	-352.231	-32,010.157	352.011	-281.536	-0.003	0.000
B. 37	-734.237	-31,704.567	-382.226	-31,986.103	-382.223	-31,986.103	352.012	-281.536	-0.003	0.000
B. 38	-704.940	-31,667.406	-352.930	-31,948.943	-352.926	-31,948.942	352.010	-281.537	-0.004	-0.001
B. 39	-701.202	-31,617.860	-349.192	-31,899.397	-349.188	-31,899.396	352.010	-281.537	-0.004	-0.001
B. 40	-483.121	-31,919.157	-131.114	-32,200.691	-131.107	-32,200.693	352.007	-281.534	-0.007	0.002
B. 41	-493.980	-31,965.078	-141.973	-32,246.611	-141.966	-32,246.614	352.008	-281.533	-0.006	0.003
B. 42	-507.080	-32,020.454	-155.072	-32,301.936	-155.066	-32,301.990	352.009	-281.532	-0.005	0.004
B. 43	-517.392	-32,072.398	-165.383	-32,353.929	-165.378	-32,353.934	352.009	-281.531	-0.005	0.005
B. 44	-571.093	-32,123.629	-219.082	-32,405.159	-219.079	-32,405.165	352.011	-281.530	-0.003	0.006
B. 45	-620.381	-32,106.157	-268.369	-32,387.688	-268.367	-32,387.693	352.013	-281.531	-0.002	0.005
B. 46	-663.463	-32,085.062	-311.450	-32,366.593	-311.449	-32,366.598	352.014	-281.531	-0.001	0.005
B. 47	-719.268	-32,044.679	-367.253	-32,326.210	-367.254	-32,326.215	352.015	-281.531	0.001	0.005
B. 48	-749.465	-32,044.317	-397.450	-32,325.848	-397.451	-32,325.853	352.016	-281.531	0.002	0.005
B. 49	-766.940	-32,008.224	-414.924	-32,289.756	-414.926	-32,289.760	352.016	-281.532	0.002	0.004
B. 50	-776.468	-31,968.193	-424.453	-32,249.725	-424.454	-32,249.729	352.015	-281.532	0.001	0.004
B. 51	-761.912	-31,919.942	-409.898	-32,201.475	-409.898	-32,201.478	352.015	-281.533	0.001	0.003
B. 52	-747.423	-31,859.836	-395.410	-32,141.370	-395.409	-32,141.372	352.014	-281.534	0.000	0.002
B. 53	-724.839	-31,819.174	-372.827	-32,100.708	-372.825	-32,100.710	352.012	-281.534	-0.002	0.002
B. 54	-626.378	-31,858.935	-274.368	-32,140.469	-274.364	-32,140.471	352.010	-281.534	-0.004	0.002
B. 55	-652.891	-31,898.214	-300.880	-32,179.748	-300.877	-32,179.750	352.011	-281.534	-0.003	0.002
B. 56	-666.465	-31,957.152	-314.453	-32,238.685	-314.451	-32,238.688	352.012	-281.533	-0.002	0.003
B. 57	-697.310	-32,003.779	-345.296	-32,285.311	-345.296	-32,285.315	352.014	-281.532	0.000	0.004
B. 58	-623.667	-32,028.847	-271.655	-32,310.379	-271.653	-32,310.383	352.012	-281.532	-0.002	0.004
B. 59	-556.823	-32,058.658	-204.813	-32,340.189	-204.809	-32,340.194	352.010	-281.531	-0.004	0.005
B. 60	-552.689	-32,002.523	-200.680	-32,284.055	-200.675	-32,284.059	352.010	-281.532	-0.005	0.004
B. 61	-534.245	-31,951.771	-182.237	-32,233.304	-182.231	-32,233.307	352.009	-281.533	-0.005	0.003
B. 62	-530.407	-31,900.192	-178.399	-32,181.726	-178.393	-32,181.728	352.008	-281.534	-0.006	0.002
B. 63	-570.493	-31,882.753	-218.484	-32,164.287	-218.479	-32,164.289	352.009	-281.534	-0.005	0.002

代表点の変化量を用いた座標変換と各点の座標変換 (TKY2JGDによる) の比較表

平成14年7月25日

点番号 (4級)	日本測地系 8系		世界測地系 TKY2JGDによる		世界測地系(代表点の変化量による)		変化量(X) $X_2 - X_1$ (m)	変化量(Y) $Y_2 - Y_1$ (m)	変化量の差	
	X_1 (m)	Y_1 (m)	X_2 (m)	Y_2 (m)	変化量(X_0)	変化量(Y_0)			(X) - (X_0)	(Y) - (Y_0)
B. 64	-586.447	-31,925.245	-234.437	-32,206.778	-234.433	-32,206.781	352.010	-281.533	-0.004	0.003
B. 65	-602.057	-31,982.095	-250.046	-32,263.627	-250.043	-32,263.631	352.011	-281.532	-0.003	0.004
B. 66	-682.709	-31,837.809	-330.698	-32,119.343	-330.695	-32,119.345	352.011	-281.534	-0.003	0.002
B. 67	-699.126	-31,880.023	-347.114	-32,161.557	-347.112	-32,161.559	352.012	-281.534	-0.002	0.002
B. 68	-706.470	-31,932.046	-354.457	-32,213.579	-354.456	-32,213.582	352.013	-281.533	-0.001	0.003
B. 69	-731.655	-31,964.074	-379.641	-32,245.606	-379.641	-32,245.610	352.014	-281.532	0.000	0.004
B. 70	-820.966	-32,005.174	-468.949	-32,286.706	-468.952	-32,286.710	352.017	-281.532	0.003	0.004
B. 71	-864.880	-31,961.816	-512.862	-32,243.348	-512.866	-32,243.352	352.018	-281.532	0.004	0.004
B. 72	-896.288	-31,936.787	-544.270	-32,218.319	-544.274	-32,218.323	352.018	-281.532	0.004	0.004
B. 73	-950.783	-31,887.154	-598.764	-32,168.687	-598.769	-32,168.690	352.019	-281.533	0.005	0.003
B. 74	-932.139	-31,781.594	-580.122	-32,063.128	-580.125	-32,063.130	352.018	-281.534	0.004	0.002
B. 75	-903.751	-31,737.762	-551.735	-32,019.297	-551.737	-32,019.298	352.016	-281.535	0.002	0.001
B. 76	-836.363	-31,777.023	-484.348	-32,058.558	-484.349	-32,058.559	352.015	-281.535	0.001	0.001
B. 77	-845.235	-31,827.624	-493.219	-32,109.158	-493.221	-32,109.160	352.016	-281.534	0.002	0.002
B. 78	-865.426	-31,876.890	-513.409	-32,158.423	-513.412	-32,158.426	352.017	-281.533	0.003	0.003
B. 79	-823.046	-31,893.893	-471.030	-32,175.426	-471.032	-32,175.429	352.016	-281.533	0.002	0.003
B. 80	-837.343	-31,926.516	-485.326	-32,208.049	-485.329	-32,208.052	352.017	-281.533	0.003	0.003
B. 81	-794.975	-31,841.432	-442.960	-32,122.966	-442.961	-32,122.968	352.015	-281.534	0.001	0.002
B. 82	-775.491	-31,801.744	-423.477	-32,083.279	-423.477	-32,083.280	352.014	-281.535	0.000	0.001
B. 83	-844.035	-31,716.662	-492.020	-31,998.198	-492.021	-31,998.198	352.015	-281.536	0.001	0.000
B. 84	-863.537	-31,679.473	-511.522	-31,961.009	-511.523	-31,961.009	352.015	-281.536	0.001	0.000
B. 85	-886.578	-31,657.002	-534.563	-31,938.538	-534.564	-31,938.538	352.015	-281.536	0.001	0.000
B. 86	-907.034	-31,641.128	-555.019	-31,922.664	-555.020	-31,922.664	352.016	-281.536	0.001	0.000
B. 87	-917.242	-31,602.188	-565.227	-31,883.725	-565.228	-31,883.724	352.015	-281.537	0.001	-0.001
B. 88	-928.410	-31,572.317	-576.395	-31,853.854	-576.396	-31,853.853	352.015	-281.537	0.001	-0.001
B. 89	-977.665	-31,614.906	-625.648	-31,896.442	-625.651	-31,896.442	352.017	-281.536	0.003	0.000
B. 90	-1,046.606	-31,608.164	-694.588	-31,889.700	-694.592	-31,889.700	352.018	-281.536	0.004	0.000
B. 91	-1,086.072	-31,637.870	-734.053	-31,919.405	-734.058	-31,919.406	352.019	-281.535	0.005	0.001
B. 92	-1,076.998	-31,681.922	-724.978	-31,963.457	-724.984	-31,963.458	352.020	-281.535	0.006	0.001
B. 93	-1,060.666	-31,728.319	-708.646	-32,009.853	-708.652	-32,009.855	352.020	-281.534	0.006	0.002
B. 94	-1,041.401	-31,776.991	-689.381	-32,058.525	-689.387	-32,058.527	352.020	-281.533	0.006	0.003
B. 95	-1,005.164	-31,754.000	-653.145	-32,035.534	-653.150	-32,035.536	352.019	-281.534	0.005	0.002

代表点の変化量を用いた座標変換と各点の座標変換 (TKY2JGDによる) の比較表

平成14年7月25日

点番号 (4級)	日本測地系 B系		世界測地系 TKY2JGDによる		世界測地系(代表点の変化量による)		変化量(X) $X_2 - X_1$ (m)	変化量(Y) $Y_2 - Y_1$ (m)	変化量の差	
	X_1 (m)	Y_1 (m)	X_2 (m)	Y_2 (m)	変化量(X_0)	変化量(Y_0)			$(X) - (X_0)$	$(Y) - (Y_0)$
					352.014	-281.536				
B.96	-978.530	-31,716.188	-626.512	-31,997.723	-626.516	-31,997.724	352.018	-281.535	0.004	0.001
B.97	-1,019.555	-31,675.877	-667.537	-31,957.412	-667.541	-31,957.413	352.018	-281.535	0.004	0.001
B.98	-945.808	-31,657.891	-593.791	-31,939.427	-593.794	-31,939.427	352.017	-281.536	0.003	0.000
B.99	-907.122	-31,688.782	-555.106	-31,970.318	-555.108	-31,970.318	352.016	-281.536	0.002	0.000
B.100	-942.339	-31,515.081	-590.324	-31,796.619	-590.325	-31,796.617	352.015	-281.538	0.001	-0.002
B.101	-978.027	-31,458.952	-626.011	-31,740.491	-626.013	-31,740.488	352.016	-281.539	0.002	-0.003
B.102	-1,010.588	-31,429.972	-658.572	-31,711.511	-658.574	-31,711.508	352.016	-281.539	0.002	-0.003
B.103	-1,052.558	-31,397.777	-700.541	-31,679.316	-700.544	-31,679.313	352.017	-281.539	0.003	-0.003
B.104	-1,074.894	-31,355.380	-722.877	-31,636.920	-722.880	-31,636.916	352.018	-281.540	0.004	-0.004
B.105	-1,049.649	-31,332.130	-697.632	-31,613.671	-697.635	-31,613.666	352.017	-281.540	0.003	-0.004
B.106	-1,076.743	-31,298.195	-724.726	-31,579.736	-724.729	-31,579.731	352.017	-281.541	0.003	-0.005
B.107	-1,105.326	-31,280.607	-753.308	-31,562.148	-753.312	-31,562.143	352.018	-281.541	0.004	-0.005
B.108	-1,139.289	-31,270.254	-787.271	-31,551.795	-787.275	-31,551.790	352.019	-281.541	0.005	-0.005
B.109	-1,174.823	-31,248.019	-822.804	-31,529.560	-822.809	-31,529.555	352.019	-281.541	0.005	-0.005
B.110	-1,210.579	-31,254.393	-858.559	-31,535.934	-858.565	-31,535.929	352.020	-281.541	0.006	-0.005
B.111	-1,193.699	-31,311.813	-841.679	-31,593.353	-841.685	-31,593.349	352.020	-281.540	0.006	-0.004
B.112	-1,176.460	-31,346.630	-824.440	-31,628.170	-824.446	-31,628.166	352.020	-281.540	0.006	-0.004
B.113	-1,155.595	-31,411.768	-803.575	-31,693.307	-803.581	-31,693.304	352.020	-281.539	0.006	-0.003
B.114	-1,128.512	-31,466.879	-776.493	-31,748.417	-776.498	-31,748.415	352.019	-281.538	0.005	-0.002
B.115	-1,118.935	-31,548.565	-766.916	-31,830.102	-766.921	-31,830.101	352.020	-281.537	0.005	-0.001
B.116	-1,098.397	-31,528.179	-746.378	-31,809.716	-746.383	-31,809.715	352.019	-281.537	0.005	-0.001
B.117	-1,067.300	-31,566.565	-715.282	-31,848.102	-715.286	-31,848.101	352.018	-281.537	0.004	-0.001
B.118	-1,013.642	-31,555.122	-661.625	-31,836.659	-661.628	-31,836.658	352.017	-281.537	0.003	-0.001
B.119	-1,014.842	-31,533.901	-662.825	-31,815.438	-662.828	-31,815.437	352.017	-281.537	0.003	-0.001
B.120	-998.288	-31,495.056	-646.272	-31,776.594	-646.274	-31,776.592	352.016	-281.538	0.002	-0.002
B.121	-1,055.289	-31,526.623	-703.271	-31,808.160	-703.275	-31,808.159	352.018	-281.537	0.004	-0.001
B.122	-1,071.590	-31,492.008	-719.572	-31,773.546	-719.576	-31,773.544	352.018	-281.538	0.004	-0.002
B.123	-1,040.448	-31,466.121	-688.431	-31,747.659	-688.434	-31,747.657	352.017	-281.538	0.003	-0.002
B.124	-1,089.672	-31,450.749	-737.654	-31,732.287	-737.658	-31,732.285	352.018	-281.538	0.004	-0.002
B.125	-1,118.508	-31,379.660	-766.489	-31,661.199	-766.494	-31,661.196	352.019	-281.539	0.005	-0.003
B.126	-1,135.545	-31,324.841	-783.526	-31,606.381	-783.531	-31,606.377	352.019	-281.540	0.005	-0.004
						Max(X_0, Y_0) =	352.020	-281.530	0.006	0.006

代表点の変化量を用いた座標変換と各点の座標変換 (TKY2JGDによる) の比較表

平成14年7月25日

点番号 (4級)	日本測地系 8系		世界測地系 TKY2JGDによる		世界測地系(代表点の変化量による)		変化量(X)	変化量(Y)	変化量の差		
	X_1 (m)	Y_1 (m)	X_2 (m)	Y_2 (m)	変化量(X_0)	変化量(Y_0)			(X)-(X ₀)	(Y)-(Y ₀)	
					352.014	-281.536	$X_2 - X_1$ (m)	$Y_2 - Y_1$ (m)			
							Min(X_0, Y_0) =	352.002	-281.541	-0.012	-0.005
							差(Max-Min) =	0.018	0.011	0.018	0.011
							Limit =	0.100	0.100		

* 代表点: 3級基準点 No.107