

Does your geodetic datum and mapping projections meet your GIS and mapping needs?

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Survis Ltd

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Suva, Fiji

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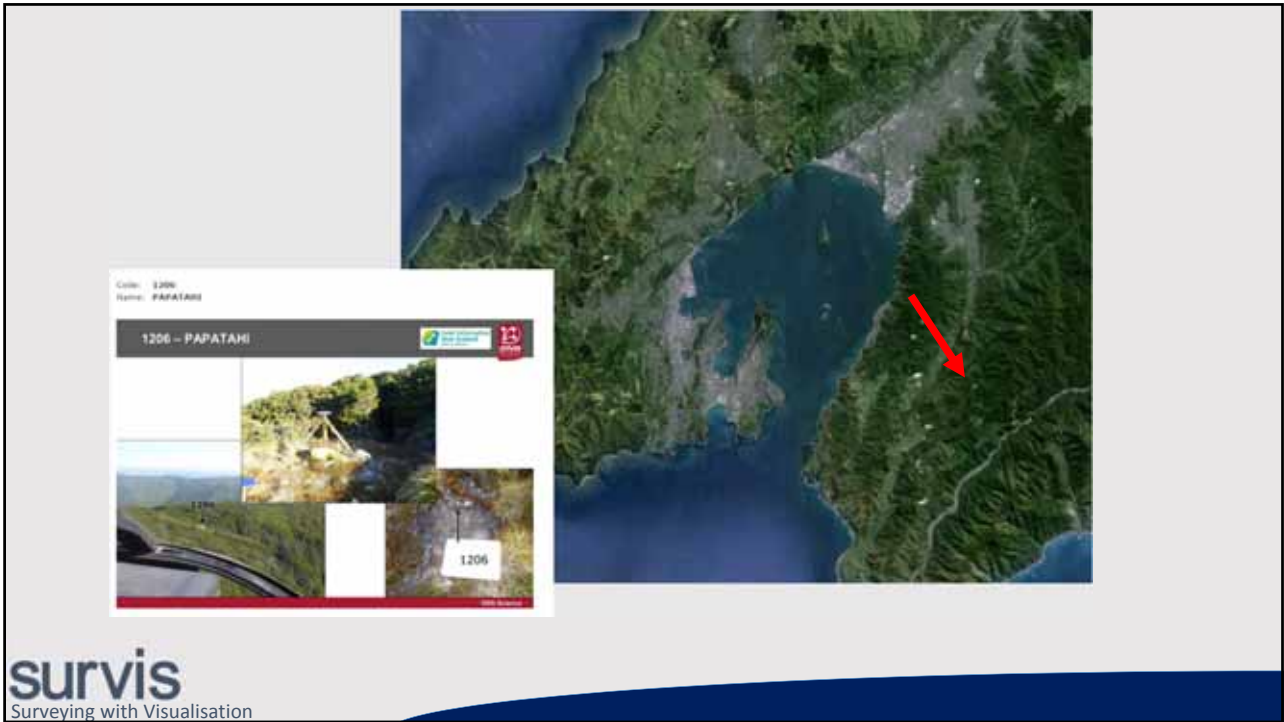
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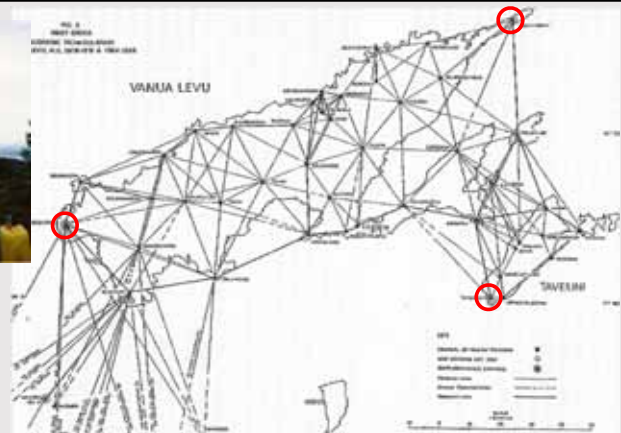
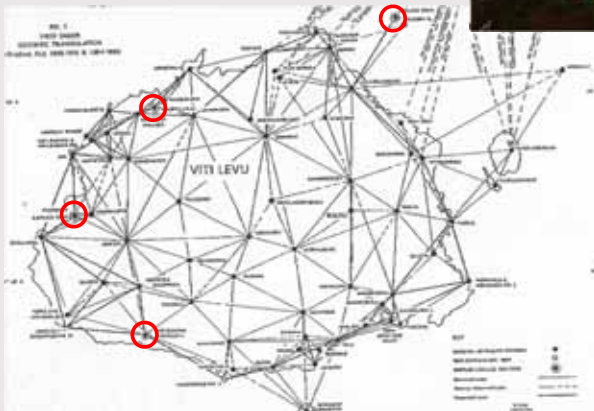
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GEODESY UNIT
MINISTRY OF LANDS, SURVEY & NATURAL RESOURCES

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Establish a New Datum and Map Projection (in terms of WGS84)

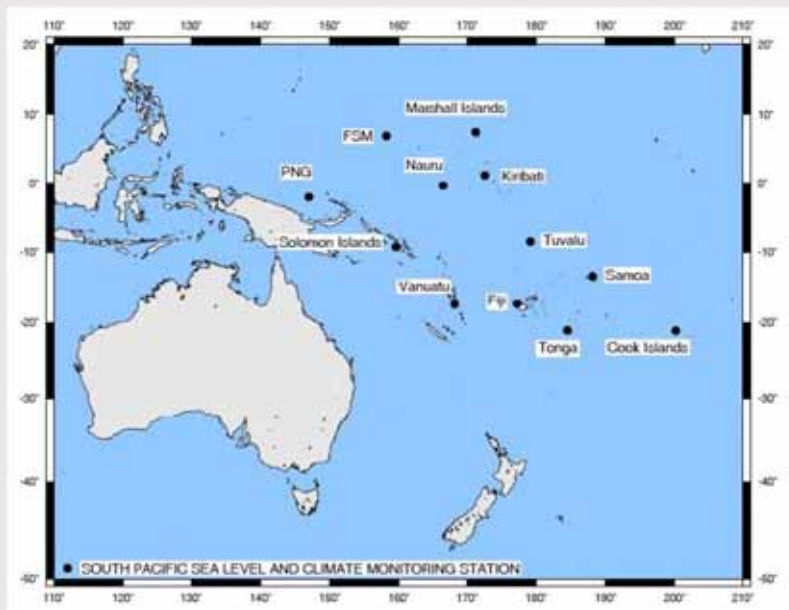
Update the geodetic survey control network

Capture new spatial data in terms of the new map projection.
(government, Council, private sector)

Transform historical GIS datasets
(e.g. Digital Cadastral Database, topographical data, imagery)



Transform using modern transformation parameters



Geodetic Station Record	
Ministry of Lands, Survey, Natural Resources and Environment P.O. Box 5, Nukunono, Tonga	
Geodetic Code: TONGA	Date: 8
Station Name: Tonga CGPS	Station Condition: Reliable
Tonga Map Grid (TMG) Coordinates:	
East: 1 680 671.86 m	Orthometric Height: 2.84
North: 2 680 752.47 m	Height Datum: MSL 1984
Projection: Tonga Map Grid	
Latitude: 17 00 45.84702 S	Ellipsoidal Height: 86.33
Longitude: 175 10 45.28058 W	Height Datum: ITRF84
Datum: Tonga Geodetic Datum 1984 (TGD1984)	Date updated: 14/10/2008
Historical Coordinates:	
East: Not Available	North: Not Available
Datum: CGRS	Projection: UTM Zone 1
Description: SIAO/SIAO Continuous GPS Station Model: 60, use 500 of base to 1,000 (TGD1984)	
Established by: Geodetic Survey Authority	Station Group: Tongatapu

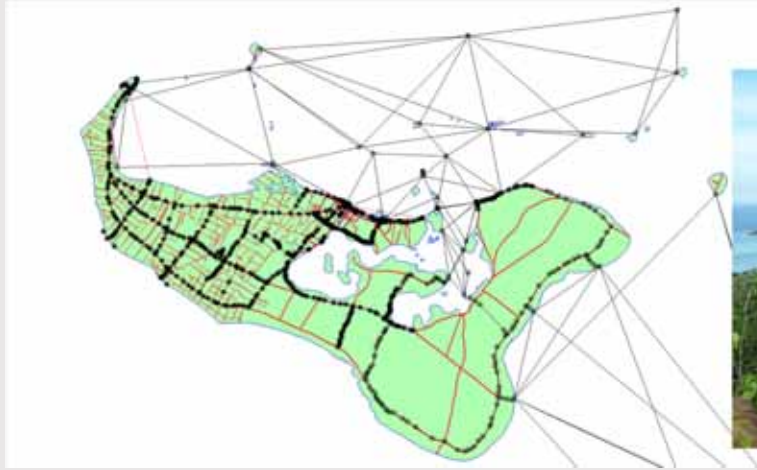
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Equipment Procurement and Training (Survey and GIS)

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Update the Existing Geodetic Network



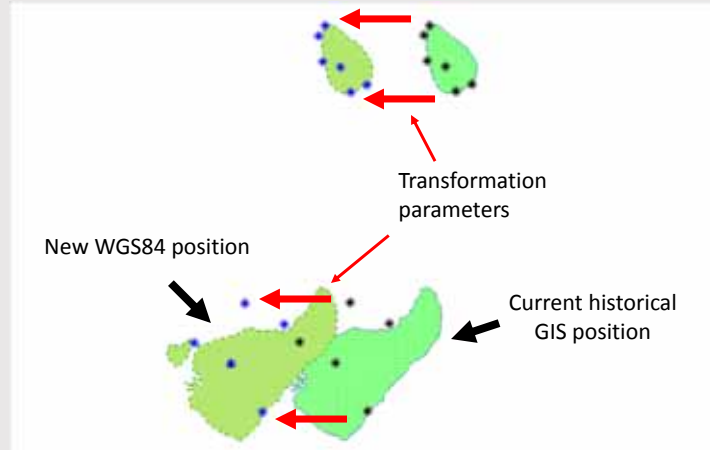
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Transformation Parameters

Island Group	Sheet No	DOS Datum Name	Datum Codes	dX(m)	dY(m)	dZ(m)
Niuafo'ou	1	U.S.Naval Observatory Eclipse Expedition 1969 (approx.)	FOUDDOS	339.5	429.2	-596.0
Niuaotoputapu	2	Admiralty Chart No 968 (1969)	TOPUDOS	-198.7	3967.6	-84.3
Vava'u (Fonuaofu)	3	Tongatapu (via Shoran Triangulation 1970)	FONDOS	180.0	145.9	32.9
Vava'u (Toku)	3	Tongatapu (via Shoran Triangulation 1970)	FONDOS	179.6	144.8	33.9
Vava'u (Lata)	3	Tongatapu (via Shoran Triangulation 1970)	LATEDOS	181.6	74.5	34.6
Vava'u (Vava'u Island)	4,5	Vava'u Cadastral	VAVAUDOS	343.4	-159.7	-965.8
Ha'apai (Tofua, Kaa)	6	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Mafanga'one)	7	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Kavevai)	8	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Lofanga)	9	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Luhaka)	10	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Luhia)	11	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Luhanga)	12	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Lomaka)	13	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Tokoua, Pomaika)	14	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Lekaleka)	15	Ha'apai Cadastral	HAPODOS	156.6	257.2	53.1
Ha'apai (Ona Ma'oma'oma)	16	Nomaka Cadastral	NOMDOS	156.6	257.2	53.1
Ha'apai (Out Tolu)	17	Nomaka Cadastral	NOYDOS	265.3	73.4	-190.5
Hanga Ha'apai, Hanga Tonga	18	Nomaka Cadastral	KELDOS	317.7	78.6	-199.9
Hanga Ha'apai, Hanga Tonga	18	Tongatapu (via Shoran Triangulation 1970)	HUNDOS	170.5	47.0	63.2
Tongatapu	19,20,21,22	Tongatapu Cadastral	TAPUDOS	161.9	96.4	76.8
Bua	23	Tongatapu Cadastral	BUADOS	158.9	97.8	79.7
'Ata	24	Admiralty Chart No 2421 (1970)	ATADOS	545.6	611.6	-929.7

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Transform GIS datasets



Establish a New Datum and Map Projection (in terms of WGS84)

Procure GIS and Survey equipment

Obtain training and development

Capture and survey new spatial data
in terms of the new map projection.

Transform historical GIS datasets
using the new transformation
parameters

Geodetic Datum Discussion Session
Thursday morning



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