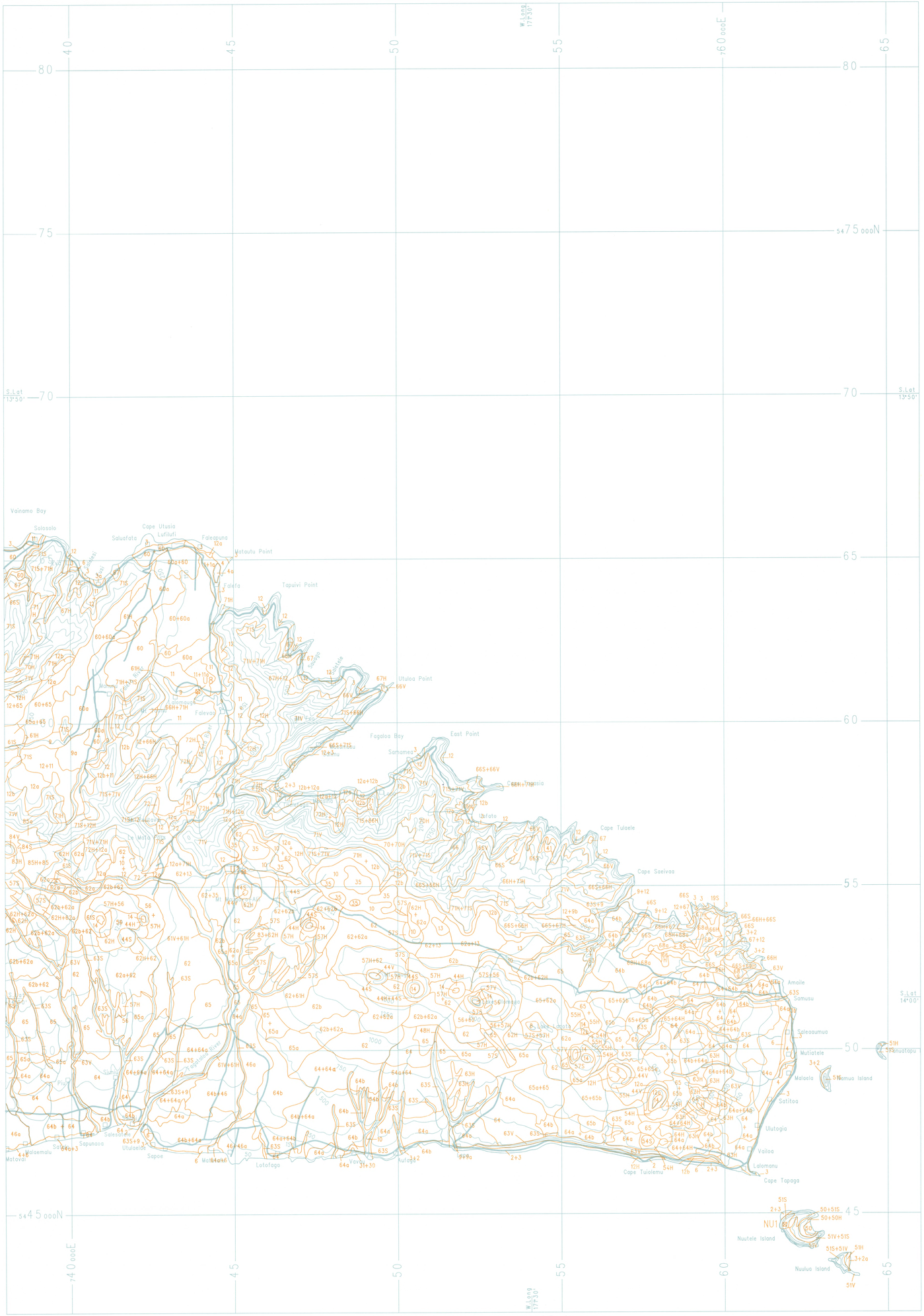
SOIL MAP — UPOLU SHEET 6 — 1:50,000



WESTERN SAMOA LAND RESOURCES PLANNING PROJECT 1989

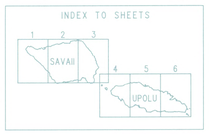
GENERAL MAP INFORMATION

SCALE

KILOMETRES: 1 0 1 2 3 4 5 6 7

MILES: 0 1 2 3 4 5

INDEX TO SHEETS



TOPOGRAPHICAL LEGEND

Populated Places: Town ..... APIA
Villages ..... Savaia
Roads
Coastline, Rivers and Streams
Contours
General features ..... Cape Tulivoe

Note: The contour interval varies to improve definition of coastal lowlands. First contour : 50 feet. Second contour : 150 feet. Third contour: 250 feet. Thereafter every 250 feet to 2000 feet. Over 2000 feet: every 500 feet (UPOLU), every 250 feet (SAVAII).

GENERAL NOTES

This map is a digital product derived from the Western Samoa Geographical Information System (GIS) database, which is available in plotout format at other scales and sheet-lines.
Topographical data for this map has been digitised from the NZMS 174 1:20000 Topographical series of Western Samoa and generalised to a prime operational scale of 1:50000.
The sheetlines and grid conform to the new 1:50000 Topographical Series under production in the Department of Lands & Survey, Apia.

Projection: Cassini-Soldner. Grid: UTM.

TRUE
MAGNETIC

MEAN MAGNETIC VARIATION FOR WESTERN SAMOA 12°30'E WITH ANNUAL INCREASE 2'

This map is published under the authority of Leaiifano J.T. Soon, Director of Lands & Survey, Government of Western Samoa as part of the Asian Development Bank and United Nations Development Programme jointly funded Land Resource Planning Project carried out by ANZDEC Ltd in association with the Division of Land and Soil Science, Department of Scientific and Industrial Research, New Zealand.

Cartographic Consultant D.D. McCormack
GIS Consultant D.J. Giltrap

Printed by V.R. Ward, Government Printer, New Zealand 1989

CLASSIFICATION OF SOIL SERIES ACCORDING TO SOIL TAXONOMY

Order	Group	Subgroup	Soil series	Soil families included in the series	Map symbols
Histosols	Tropofibrists	Hydric Fluvaquentic	Lalovi	dysic, isohyperthermic	7
			Latalua	eutic, isohyperthermic	8
Andisols	Fulvudand	Lithic Lithic	Sataua	medial-skeletal, amorphic, isohyperthermic	24,24a,24H
			Samoa	medial-skeletal, amorphic, isothermic	77
		Hydric Pachic	Mauganoa	medial-skeletal, amorphic, isothermic	75, 75H
		Hydric Pachic	Savai'i	hydrous-skeletal, amorphic, isothermic	78b
		Hydric Pachic	Salega	hydrous-skeletal, amorphic, isothermic hydrous-amorphic, isothermic	79, 79H
		Pachic	Vaisala	medial-skeletal, amorphic, isohyperthermic	23, 23H
		Pachic	Matane	medial-skeletal, amorphic, isothermic	76b
		Pachic	Lauto'o	medial-skeletal, amorphic, isothermic medial, amorphic, isothermic	84H, 84S, 84V 84H
		Eutric	Oto	medial-skeletal, amorphic, isohyperthermic	43H,43S,43V
		Eutric	Fa'amasa	medial-skeletal, amorphic, isohyperthermic	44H, 44S, 44V
		Acric	Atua	medial-skeletal, amorphic, isohyperthermic	42, 42H
		Acric	Caegae	medial-skeletal, amorphic, isohyperthermic	49, 49a, 49H
		Acric	Mata'ana	medial, amorphic, isothermic	86b
		Typic	Olomanu	medial, amorphic, isohyperthermic	30H, 30S
		Typic	Lefaga	medial-skeletal, amorphic, isohyperthermic	40, 40a, 40H
	Hapludand	Lithic	Togitogiga	medial-skeletal, amorphic, isohyperthermic medial over fragmental, amorphic, isohyperthermic	35, 35a, 35H
			Tanumalala	medial-skeletal, amorphic, isohyperthermic	41a, 41b, 41H
		Alic	Puna	medial-skeletal, amorphic, isohyperthermic	38, 38H
		Hydric	Tanutala	medial-skeletal, amorphic, isohyperthermic	39H, 39S
			Sili	hydrous-skeletal, amorphic, isothermic	81
			Maugasili	hydrous-skeletal, amorphic, isothermic	82H, 82S
		Eutric	Alataua	medial-skeletal, amorphic, isohyperthermic	22H, 22S
			Neiafu	medial-skeletal, amorphic, isohyperthermic	26H, 26S
			Tafua	medial, amorphic, isohyperthermic	52, 52H
			Fofu	medial over fragmental, amorphic, isohyperthermic	53S
		Acric	Tanumalala	medial-skeletal, amorphic, isohyperthermic	41
		Oxic	Tiotala	medial over clayey-skeletal, amorphic, isohyperthermic	57H, 57S, 57V
			Fagapolo	medial over clayey-skeletal, amorphic, isohyperthermic	56
		Typic	Mulifanua	medial-skeletal, amorphic, isohyperthermic	27H, 27S, 27V
			Magia	medial-skeletal, amorphic, isohyperthermic	29, 29a
			Tapuole	medial over skeletal, amorphic, isohyperthermic	45
			Upolu	medial-skeletal, amorphic, isohyperthermic (lithic subgroups on very steep slopes)	69H, 69S, 69V
			Elotoga	medial-skeletal, amorphic, isothermic	80H, 80S
Oxisols	Acroperox	Anionic	Fagaga	coarse silty, ferruginous, isohyperthermic	65
		Anionic, humic	Tuave	clayey, ferruginous, isohyperthermic	70, 70H
	Haploperox	Humic	Papaloa	clayey, kaolinitic, isohyperthermic	66H, 66S, 66V
		Typic	Luatuanu'u	clayey, kaolinitic, isohyperthermic	68, 68a, 68H
	Acrudox	Anionic	Vaipouli	clayey, gibbsitic, isohyperthermic	33
Mollisols	Hapludoll	Cumulic	Apia	fine, oxidic, isohyperthermic	1
		Fluventic	Sauniatu	fine loamy over sandy, oxidic, isohyperthermic	9, 9a, 9b
		Andic	Sasina	medial-skeletal, oxidic, isohyperthermic	21, 21H
		Lithic	Aopo	fragmental, mixed, isohyperthermic sandy-skeletal, mixed, isohyperthermic	18, 18H
		Lithic (andic)	Falealupo	loamy-skeletal, oxidic, isohyperthermic	19, 19a
			Pulea	clayey-skeletal, mixed (amorphic) isohyperthermic	20
		Lithic	Vaipapa	fine, oxidic, isohyperthermic	34H, 34S
			Mataoleali	sandy-skeletal, mixed, isothermic	73, 73a, 73H
			Mu	fragmental, mixed, isothermic	74, 74H
Inceptisols	Tropaquept	Lithic	Namoa	clayey-skeletal, mixed, nonacid, isohyperthermic	6b
		Typic	Namoa	fine, mixed, nonacid, isohyperthermic	6a
			Vaigafa	fine, mixed, nonacid, isohyperthermic	13
			Lano	fine silty, mixed, nonacid, isohyperthermic	14
			Palapala	fine, ferritic, acid, isothermic	16
	Humitropept	Andic	Ma'asina	medial-skeletal, oxidic, isohyperthermic	12,12a,12b,12H
			Aleisa	medial-skeletal, oxidic, isohyperthermic	47, 47a, 47H
			Fagaga	medial-skeletal, oxidic, isohyperthermic	63a, 63b, 63H
			Tiavi	medial-skeletal, oxidic, isothermic	85, 85a, 85b, 85H
		Fluventic (Andic)	Vaiola	fine, oxidic, isohyperthermic	10
		Fluventic	Falevao	fine, oxidic, isohyperthermic	11, 11a
		Lithic	A'ana	clayey-skeletal, oxidic, isohyperthermic	28c
		Oxic	A'ana	clayey-skeletal, oxidic, isohyperthermic	29a, 29b, 29H
			Vailele	fine, oxidic, isohyperthermic	29
			Moamoa	clayey-skeletal, oxidic, isohyperthermic	31
			Asoleilei	clayey-skeletal, gibbsitic, isohyperthermic	32
			Tafatafa	fine, oxidic, isohyperthermic	37, 37H
				clayey-skeletal, oxidic, isohyperthermic (also Lithic subgroups)	46, 46b, 46H
			Avele	clayey over loamy-skeletal, gibbsitic, isohyperthermic	59
				clayey-skeletal, gibbsitic, isohyperthermic	59a, 59b, 59H
			Solosolo	fine, gibbsitic, isohyperthermic	60, 60a
			Eleemili	fine, gibbsitic, isohyperthermic	62
				clayey-skeletal, gibbsitic, isohyperthermic	62a, 62b, 62H
			Aleipata	loamy-skeletal, oxidic, isohyperthermic	63H, 63S, 63V
			Falealili	clayey-skeletal, oxidic, isohyperthermic	64,64a,64b,64H
			Afiamalu	clayey-skeletal, gibbsitic, isothermic	83, 83H
		Typic	Papauta	fine, oxidic, isohyperthermic	58
				clayey-skeletal, oxidic, isohyperthermic	58a, 58b, 58H
	Eutropept	Typic	Vini	fine, smectitic, isohyperthermic	50, 50H
			Nu'utele	fine, smectitic, isohyperthermic (also Lithic subgroups)	51H, 51S, 51V
			Mulimauga	fine, oxidic, isohyperthermic	54H, 54S
			Olomauga	fine, oxidic, isohyperthermic	55, 55H
	Dystropept	Andic	Salailua	medial-skeletal, oxidic, isohyperthermic	48, 48a, 48H
			Lata	medial-skeletal, oxidic, isohyperthermic (also Lithic subgroups)	71H, 71S, 71V
		Oxic	Saleimoa	coarse loamy, gibbsitic, isohyperthermic	25
				clayey-skeletal, gibbsitic, isohyperthermic	25a, 25H
			Sesuaga	fine, halloysitic, isohyperthermic	67, 67H
			Uatato	fine, mixed, isohyperthermic	72, 72H
		Typic	Afuiva	loamy-skeletal, oxidic, isohyperthermic	36, 36H
			Salani	fine, gibbsitic, isohyperthermic	61H, 61S, 61V
Entisols	Sulfaquept	Typic	Loga	fine, mixed nonacid, isohyperthermic	1, 1a
	Tropopsamment	Aquic	Mutiatele	carbonatic, isohyperthermic	4, 4a
		Typic	Lufi	mixed, isohyperthermic	2, 2a
			Fusi	carbonatic, isohyperthermic (also Lithic subgroups)	3, 3a
	Troporthent	Lithic	Matavanu	fragmental, mixed, nonacid, isohyperthermic	17, 17a, 17H

Soil Taxonomy interpreted from recent and existing data by W.C. Rijkse, 1989

SOIL MAPPING UNITS ARRANGED PHYSIOGRAPHICALLY

SOILS OF THE COASTLANDS, VALLEY FLOORS AND THEIR MARGINS

from saline estuarine sand and clay
- Loga sandy clay 1
- Loga peaty sand 1a

from basaltic beach sand
- Lufi sand 2
- Lufi gravelly sand 2a

from calcerous sand
- Fusi sand 3
- Fusi shallow grey sand over basalt 3a
- Fusi stony and bouldery sand and stony clay 3b
- Mutiatele mottled sand 4
- Mutiatele peaty loamy sand and sandy peat 4a

from estuarine sediments and organic residue
- Apia silty clay 5
- Namoa clay loam 6
- Namoa peaty silt loam 6a
- Namoa shallow peaty clay over basalt 6b

from organic residues
- Lalovi peat 7
- Latalua loamy peat 8

from basic alluvium
- Sauniatu gravelly sandy clay loam 9
- Sauniatu silty clay loam 9a
- Sauniatu loamy sand 9b
- Vaiola silty clay loam and gravelly loam 10
- Falevao silty clay loam 11
- Falevao slightly mottled silty clay loam 11a

from basic colluvium
- Ma'asina stony clay 12
- Ma'asina stony and bouldery clay 12a
- Ma'asina very bouldery clay 12b
- Ma'asina hill soils 12H
- Vaigafa silty clay loam 13
- Lano silty clay loam and peaty clay loam 14

from any parent material
- Man made soils 15

from recent alluvium, colluvium and organic rosiduo
- Palapala peaty loam 16

SOILS OF THE LOWLANDS AND FOOTHILLS

(i) with weak to strong dry season (udic moisture regime)
1. Soils of the very slightly dissected landscapes

from mainly pahoehoe basalt of the Aopo Volcanics
- Mataviarru sandy and fine gravel 17
- Mataviarru stony gravel 17a
- Mataviarru hill soils 17H

from mixed pahoehoe and aa basalt of the Aopo Volcanics
- Aopo loamy sand 18
- Aopo hill soils 18H

from mainly pahoehoe basalt of the Puapua Volcanics
- Falealupo very bouldery silty clay loam 19
- Falealupo very bouldery silty clay loam, peaty phase 19A
- Pulea very bouldery silt loam 20
- Sasina very stony and bouldery silty clay loam 21
- Sasina hill soils 21H

from mainly scoria of the Puapua volcanics
- Ataiaua hill soils 22H
- Ataiaua steepland soils 22S

2. Soils of the slightly dissected landscapes

from aa, scoria and pahoehoe basalt of the Mulifanua Volcanics
- Vaisala very stony silt loam 23
- Vaisala hill soils 23H
- Sataua very stony silty clay loam 24
- Sataua very bouldery silty clay loam 24a
- Sataua hill soils 24H
- Saleimoa very stony silty clay loam 25
- Saleimoa very bouldery silty clay loam 25a
- Saleimoa hill soils 25H

from scoria and basalt of the Mulifanua Volcanics
- Neiafu hill soils 26H
- Neiafu steepland soils 26S
- Mulifanua hill soils 27H
- Mulifanua steepland soils 27S
- Mulifanua steepland soils, very steep phase 27V

from mixed aa and pahoehoe basalt of the Mulifanua Volcanics
- Magia stony clay loam 29
- Magia bouldery clay loam 29a
- A'ana stony silty clay 29
- A'ana very stony silty clay loam 29a
- A'ana bouldery silty clay 29b
- A'ana shallow bouldery silty clay loam 29c
- A'ana hill soils 29H

3. Soils of the moderately dissected landscapes

from scoria basalt of the Salani Volcanics
- Olomanu hill soils 30H
- Olomanu steepland soils 30S

from mixed pahoehoe and aa basalt of the Salani Volcanics
- Valele stony silty clay loam 31

from mainly pahoehoe basalt of the Salani Volcanics
- Moamoa stony clay 32

4. Soils of the strongly dissected landscapes

from pahoehoe, aa, scoria and dykes of basalt of the Fagaloa Volcanics
- Vaipouli silty clay loam 33
- Vaipapa hill soils 34H
- Vaipapa steepland soils 34S

(ii) without dry season (perudic moisture regime)
1. Soils of the very slightly dissected landscapes

from mainly pahoehoe basalt of the Puapua Volcanics
- Togitogiga very bouldery silty clay loam 35
- Togitogiga very stony humic silt loam 35a
- Togitogiga hill soils 35H
- Afuiva very bouldery silt loam 36
- Afuiva hill soils 36H
- Asoleilei stony silt loam 37
- Asoleilei hill soils 37H

from mainly scoria basalt of the Puapua Volcanics
- Puna gravelly clay loam 38
- Puna hill soils 38H
- Tanutala hill soils 39H
- Tanutala steepland soils 39S

2. Soils of the slightly dissected landscapes

from aa, scoria and pahoehoe basalt of the Lefaga Volcanics
- Lefaga stony silty clay loam 40
- Lefaga bouldery silty clay loam 40a
- Lefaga hill soils 40H
- Tanumalala stony silty clay loam 41
- Tanumalala very stony silty clay loam 41a
- Tanumalala very bouldery silt loam 41b
- Tanumalala hill soils 41H
- Afuia very bouldery silty clay loam 42
- Afuia hill soils 42H

from scoria basalt of the Mulifanua Volcanics
- Oto hill soils 43H
- Oto steepland soils 43S
- Oto steepland soils, very steep phase 43V
- Fa'amasa hill soils 44H
- Fa'amasa steepland soils 44S
- Fa'amasa steepland soils, very steep phase 44V
- Tapuele silty clay 45

from mixed aa and pahoehoe basalt of the Mulifanua Volcanics
- Tafatafa very stony silty clay loam 46
- Tafatafa bouldery silty clay loam 46a
- Tafatafa very bouldery silty clay loam 46b
- Tafatafa hill soils 46H
- Aleisa very stony silty clay loam 47
- Aleisa very bouldery silty clay loam 47a
- Aleisa hill soils 47H
- Salailua very stony silty clay loam 48
- Salailua bouldery silty clay 48a
- Salailua hill soils 48H
- Caegae very stony silty clay loam 49
- Caegae very bouldery silty clay loam 49a
- Caegae hill soils 49H

3. Soils of the moderately dissected landscapes

from calcareous lithic tuffs of the Vini Volcanics
- Vini clay 50
- Vini hill soils 50H
- Nu'utele hill soils 51H
- Nu'utele steepland soils 51S
- Nu'utele steepland soils, very steep phase 51V

from lithivitric tuffs and ash of the Vini Volcanics
- Tafua silty clay loam 52
- Tafua hill soils 52H
- Fofu steepland soils 53S

from scoria of the Mulifanua and Salani Volcanics
- Mulimauga hill soils 54H
- Mulimauga steepland soils 54S
- Olomauga stony silty clay 55
- Olomauga hill soils 55H
- Tagapolo silty clay 56
- Tiotala hill soils 57H
- Tiotala steepland soils 57S
- Tiotala steepland soils, very steep phase 57V

from mixed pahoehoe and aa of the Salani Volcanics
- Papauta silty clay 58
- Papauta stony silty clay 58a
- Papauta bouldery silty clay 58b
- Papauta hill soils 58H
- Avele stony silty clay loam 59
- Avele very stony silty clay loam 59a
- Avele bouldery silty clay loam 59b
- Avele hill soils 59H
- Solosolo silty clay loam 60
- Solosolo stony and bouldery clay 60a
- Salani hill soils 61H
- Salani steepland soils 61S
- Salani steepland soils, very steep phase 61V
- Eleemuli silty clay loam 62
- Eleemuli very stony silty clay loam 62a
- Eleemuli very bouldery silty clay loam 62b
- Eleemuli hill soils 62H

from mainly pahoehoe of the Salani Volcanics
- Aleipata hill soils 63H
- Aleipata steepland soils 63S
- Aleipata steepland soils, very steep phase 63V
- Falealili silty clay loam 64
- Falealili stony silty clay loam 64a
- Falealili very stony silty clay loam 64b
- Falealili hill soils 64H
- Fagaga silty clay loam 65
- Fagaga stony silty clay loam 65a
- Fagaga very stony silty clay loam 65b
- Fagaga hill soils 65H

4. Soils of the strongly dissected landscapes

from pahoehoe, aa, scoria and dykes of basalt of the Fagaloa Volcanics
- Papaloa hill soils 66H
- Papaloa steepland soils 66S
- Papaloa steepland soils, very steep phase 66V
- Sauaga clay 67
- Sauaga hill soils 67H
- Luatuanu'u clay 68
- Luatanu'u clay, eroded phase 68a
- Luatanu'u hill soils 68H
- Upolu hill soils 69H
- Upolu steepland soils 69S
- Upolu steepland soils, very steep phase 69V
- Tuave clay 70
- Tuave hill soils 70H

from pahoehoe, aa, and dykes of basalt of the Fagaloa volcanics
- Lata hill soils 71H
- Lata steepland soils 71S
- Lata steepland soils, very steep phase 71V
- Uafato silty clay 72
- Uafato hill soils 72H

SOILS OF THE UPLANDS

1. Soils of the very slightly dissected landscapes

from mainly pahoehoe basalt of the Aopo Volcanics
- Mataoleali gravelly sand 73
- Mataoleali gravel 73a
- Mataoleali hill soils 73H

from mixed aa and pahoehoe basalt of the Aopo Volcanics
- Mu gravel 74
- Mu hill soils 74H

from scoria and pahoehoe basalt of the Puapua Volcanics
- Maugamoa very bouldery peaty silt loam 75
- Maugamoa hill soils 75H
- Matane steepland soils 76S
- Samoa gravelly bouldery loam 77
- Savai'i steepland soils 78S

2. Soils of the slightly dissected landscapes

from aa, scoria and pahoehoe basalt of the Mulifanua Volcanics
- Salega humic stony silt loam 79
- Salega hill soils 79H
- Eltoga hill soils 80H
- Eltoga steepland soils 80S
- Sili stony loam 81
- Maugasili hill soils 82H
- Maugasili steepland soils 82S

3. Soils of the moderately dissected landscapes

from scoria basalt of the Salani Volcanics
- Afiamalu silt loam 83
- Afiamalu hill soils 83H
- Lauto'o hill soils 84H
- Lauto'o steepland soils 84S
- Lauto'o steepland soils, very steep phase 84V

from mixed aa and pahoehoe basalt of the Salani Volcanics
- Tiavi silty clay loam 85
- Tiavi stony silty clay loam 85a
- Tiavi stony and bouldary silty clay loam 85b
- Tiavi hill soils 85H

from scoria, pahoehoe and aa basalt of the Salani Volcanics
- Malaeana peaty loam 86S

Soil information on this map is based on surveys by A.C.S. Wright (N.Z. D.S.I.R. Soil Bulletin 22, 1963) and subsequent surveys by W.C. Rijkse and M. McLeod 1989