MAP OF THE KINGDOM OF TONGA

Figure 4.2
MEAN MONTHLY RAINFALL ON TONGATAPU, HA'A'APA'I, VAVA'U AND NIUATOPUTAPU: 1947-1990

Figure 4.4
COEFFICIENT OF MONTHLY RAINFALL ON TONGATAPU, HA'APAI, VAVA'U AND NIUATOPUTAPU: 1947-1990

Figure 4.5
Mean monthly potential evaporation

Mean Monthly Potential Evaporation on Tongatapu, Ha'apai, Vava'u and Niutoputapu: 1947-1990

Figure 4.6
IDEALISED FRESHWATER LENS ON A SMALL CORAL ISLAND

Figure 4.7
MAP OF TONGATAPU SHOWING LOCATION OF WELLS INCLUDED IN CENSUS

Figure 5.1
SALINITY PROFILES FROM DEEP MONITORING BORES ON TONGATAPU, NOVEMBER 1978

Figure 5.2
FIELD CHLORIDE AND CONDUCTIVITY MEASUREMENTS FOR WELLS ON LIFUKA 2-8-1985 (DATA FROM STOLL 1986)

RELATIONSHIP BETWEEN CHLORIDE ION CONCENTRATION AND ELECTRICAL CONDUCTIVITY

Figure 5.3
Tongatapu

Annual Rainfall from 1947 to 1990

ANNUAL RAINFALL AT NUKU'ALOFA, TONGATAPU, 1947-1990

Figure 5.4
Tongatapu

Annual Rainfall from 1927 to 1990

Figure 5.5
Mean monthly rainfall at Nuku’alofa

Mean Monthly Rainfall (mm)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Month

Period 1947-1990

Period 1981-1990


Figure 5.6
MAXIMUM, MEAN AND MINIMUM MONTHLY RAINFALL AT NUKU'ALOFA, TONGATAPU FOR PERIOD 1947-1990

Figure 5.7
LOCATION OF RAINFALL GAUGES ON TONGATAPU

Figure 5.8
Tongatapu
Annual rainfall at selected stations

Figure 5.9
ANNUAL RAINFALL AT NUKU’ALOFA, MU‘A, FU’AMOTU, VAINI, LIAHONA AND FO’UI, 1982-1986

Figure 5.10
Tongatapu
Cumulative annual rainfall at stations

Figure 5.12

CUMULATIVE ANNUAL RAINFALL AT NUKUALOFA, MU'A, FU'AAMOTU, VANI, LIAHONA AND FO'UI, 1982-1986

Cumulative annual rainfall (mm)

Rainfall station

Nukualofa  Mu'a  Fua'amotu  Vaini  Liahona  Fo'ui

RELATIONSHIP BETWEEN ANNUAL RAINFALL AND ANNUAL RECHARGE ON SMALL LOW-LYING ISLANDS

Figure 5.13
Coconut or other Large Tree

Bush / Shrub

Grass

Freshwater Lens

Water Table

SOIL MOISTURE ZONE

UNSATURATED ZONE

CAPILLARY ZONE

MODEL

INTERCEPTION STORAGE

ISMAX

SOIL MOISTURE STORAGE

SMC_MAX = FC x SMZ

SMC_MIN = WP x SMZ

GROUNDWATER STORAGE

NET RECHARGE TO FRESHWATER LENS

[LOSSES (OUTFLOW, DISPERSION)]

Figure 5.14
Tongatapu
Annual Recharge from 1947 to 1990

Figure 5.15
Tongatapu
Rainfall and Recharge from 1947 to 1990

Figure 5.16
WATER SALINITY MAP OF TONGATAPU, MAY 1990

Figure 5.17