



**Media Release**

**El Nino Advisory No.1 for Tonga**

(8 August 2014)

**An El Niño Watch is now in force for Tonga.**

**Summary**

Based on the global climate models and assessments of the Tonga's current climate regime there is at least a **50%** chance of a El Niño developing by September or October 2014. The effects of El Nino on Tonga usually include cooler night time temperatures, lower rainfall during the rainy season, and more tropical cyclones.

**What is El Nino?**

El Nino is the movement of warm ocean water from the north of Australia to the South American coast along the tropics. It brings warmer than normal water to the central and eastern tropical Pacific which usually results in changes in weather and climate. El Nino is a natural occurrence and happens about every 3 to 7 years.

**Current Situation**

The tropical Pacific Ocean surface temperature is currently at levels typically associated with a weak El Niño with warming seas surface temperatures in the Pacific since the beginning of the year to about April. Although there has been cooling of the ocean temperatures in the Pacific in the last 2 months, rainfall has persisted into the dry season in Tonga and night time temperatures have been cooler than normal. These are usually the indicators that an El Nino is on the move. However, continued warming of the Pacific Ocean and further drop in the trade winds would need to take place and to persist in the next 1 to 2 months in order to confirm beyond doubt that an El Niño has developed or will continue to develop.

**Effects of El Niño on Tonga's Climate**

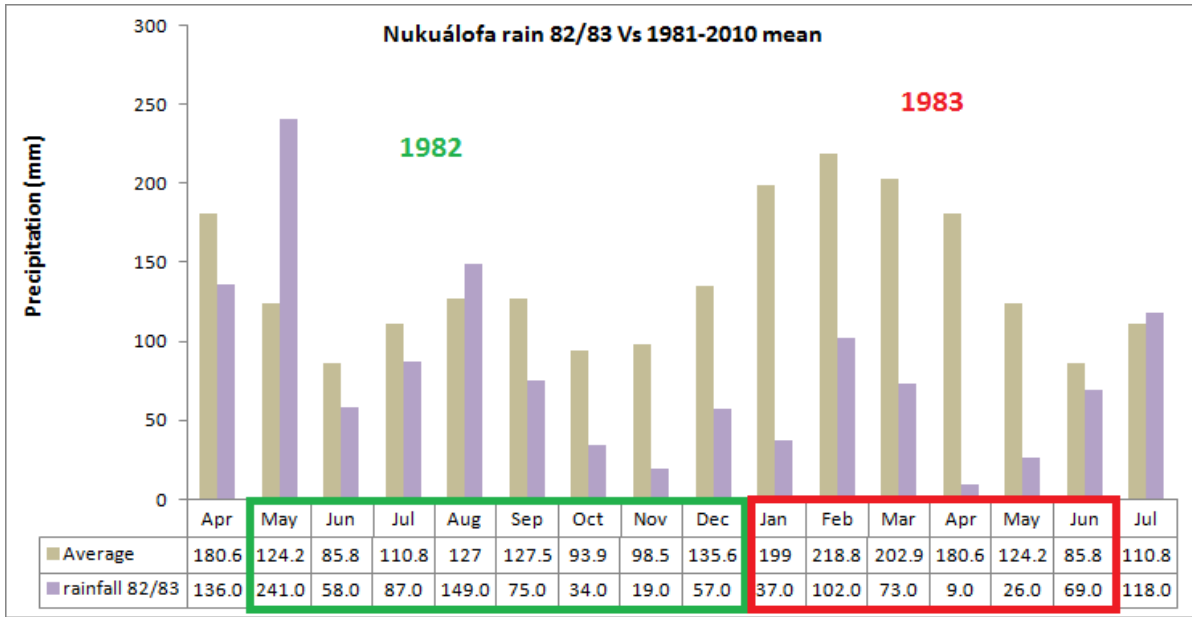
El Niño events normally last for around a year; however they can be shorter, or last much longer depending on the nature of the event. The effects of El Nino on Tonga usually varies but for most of the time it brings cooler dry seasons (like we are experiencing now) and drier wet seasons than normal and more cyclones. Usually Tonga is affected by 1 cyclone per year but increases to around 2 during El Nino.

**Major El Nino Events in recent history**

The worst droughts to be recorded in Tonga in recent history happened during El Nino Years. The 1982-83 and the 1997-98 caused water shortages to a point where water had to be distributed to the islands of Ha'apai and caused food shortages as a result of devastation to Agriculture. Tropical Cyclone "Isaac" (Category 4 Cyclone that affected most of Tonga Islands and most costly on record) and Tropical Cyclone "Ron" (Category 5 Cyclone, strongest ever recorded in Tonga's history affected Niuafu'ou) occurred in 1982 and 1997 respectively.

# Effects of the 1982/83 & 1997/98 El Nino on Tongan Rainfall

## Tongatapu 1982/83



## Ha'apai 1997/98

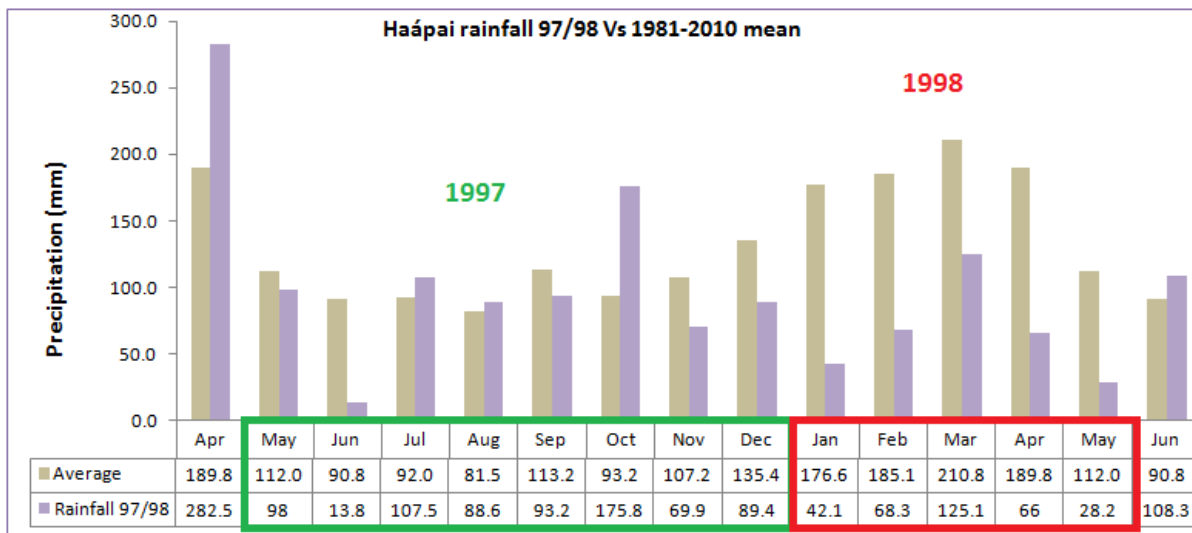
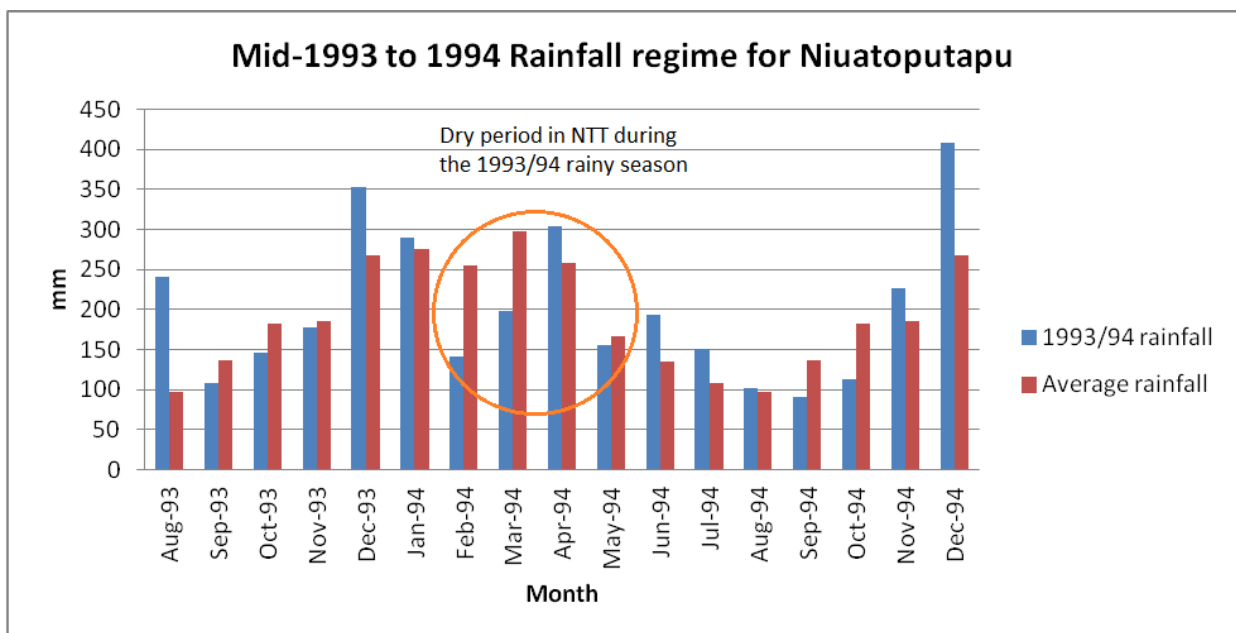
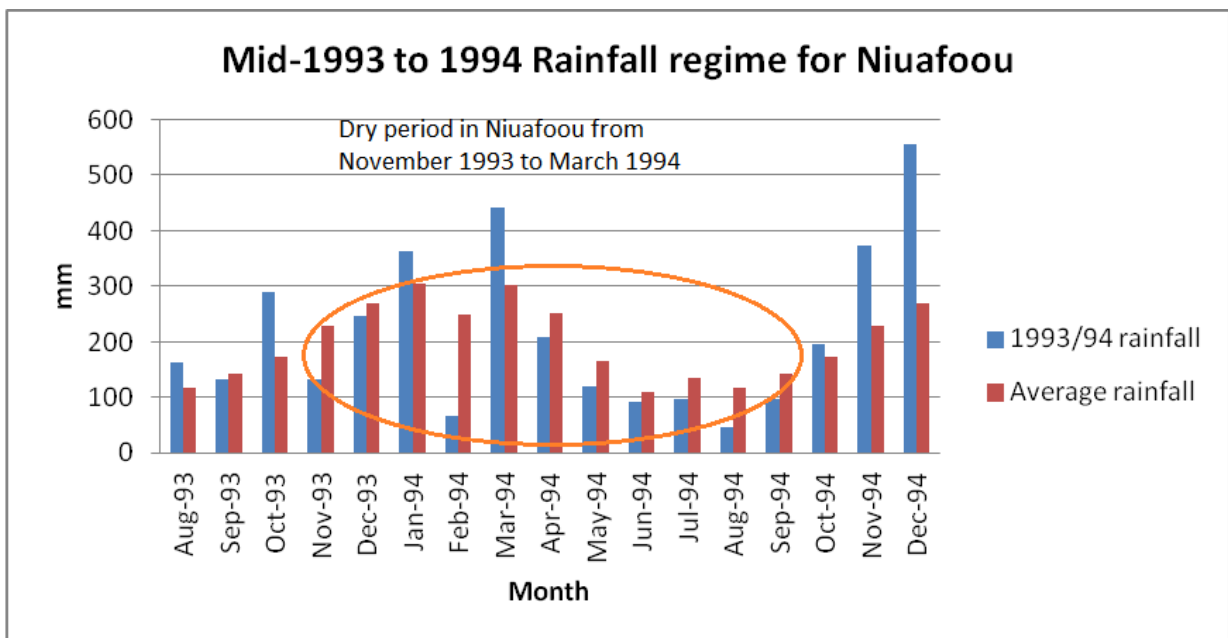


Figure 1: Shows rainfall was severely reduced during the raining seasons of 1983 and 1998 in Ha'apai and Tongatapu. This effect was attributed to the 1982/83 and 1997/98 El Nino.

## What is likely to happen in 2014/15 if El Nino develops in September/October 2014

If El Nino fully develops to the scale of the 1982/83 and 1997/98 events which looks unlikely at this stage, then the rainfall regime may start to become very dry towards the end of 2014 and throughout the first half of 2015. This could mean severe water shortages towards the middle of 2015. Tonga could also expect more cyclones than normal in the 2014/15 cyclone season starting in November 2014. The more likely scenario at this point in time taking into account the current ocean and climatic conditions is for a short-lived El Nino event like the 1993 event. The present conditions are similar to that of 1993. The rainfall regime of 1993-1994 is shown here as an indicator of possible rainfall regime Tonga could expect in the coming months. It shows that during the short lived El Nino of 1993/94 there were drought conditioned that were experienced especially during the rainy season with the worst drought of 8 months in experienced in Ha'apai from about October 1993 to May 1994. Similar conditions could happen in 2014/15.



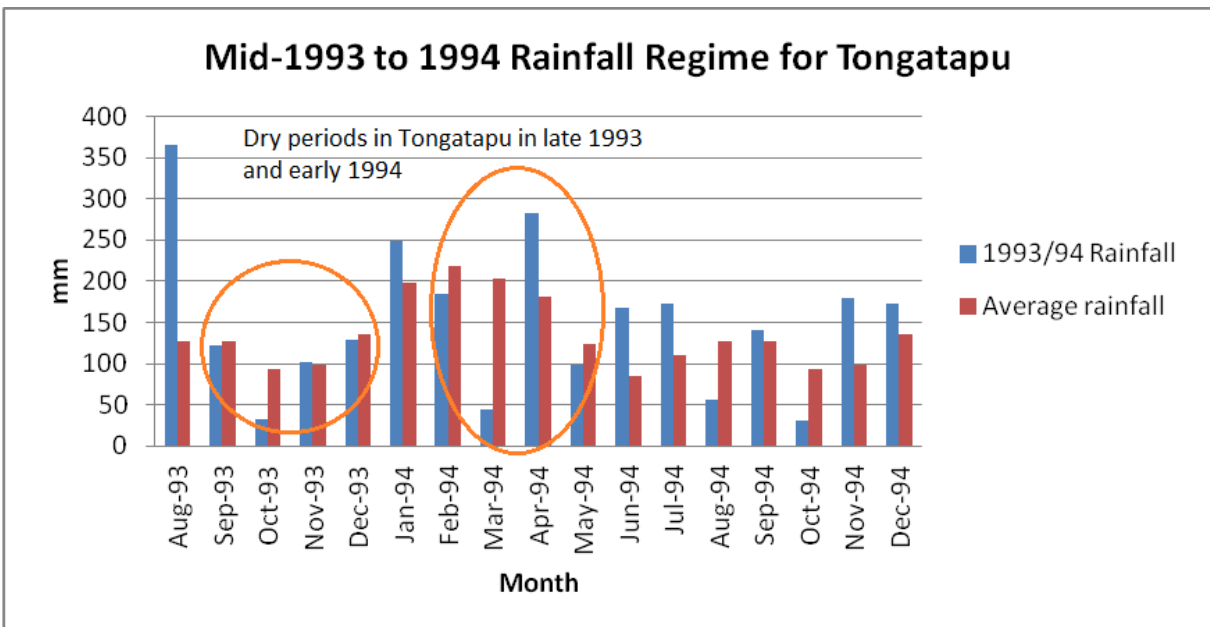
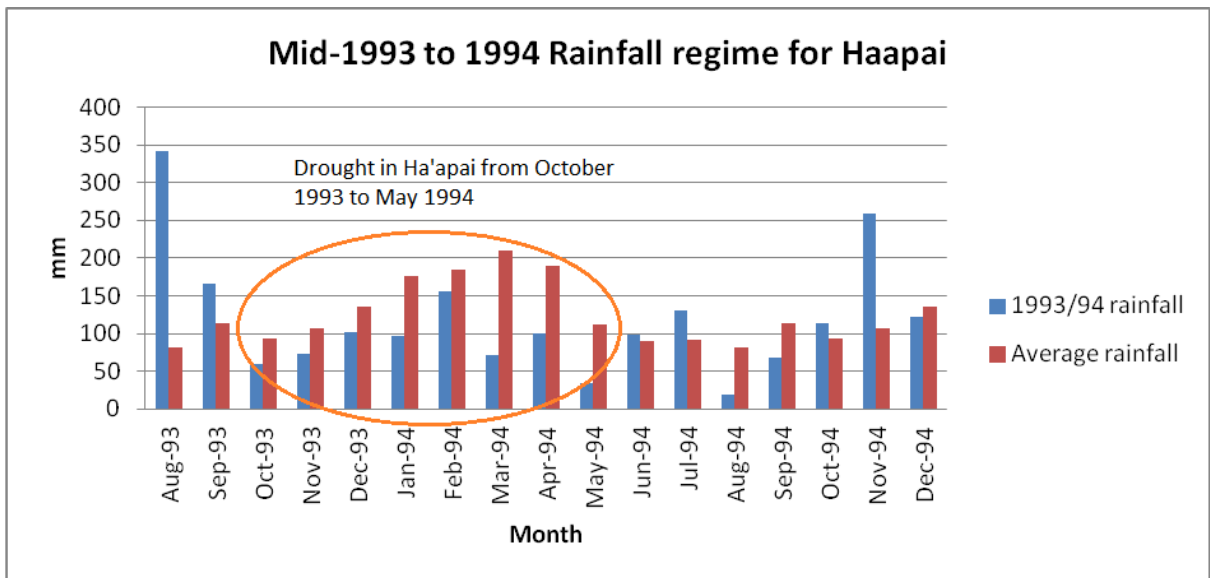
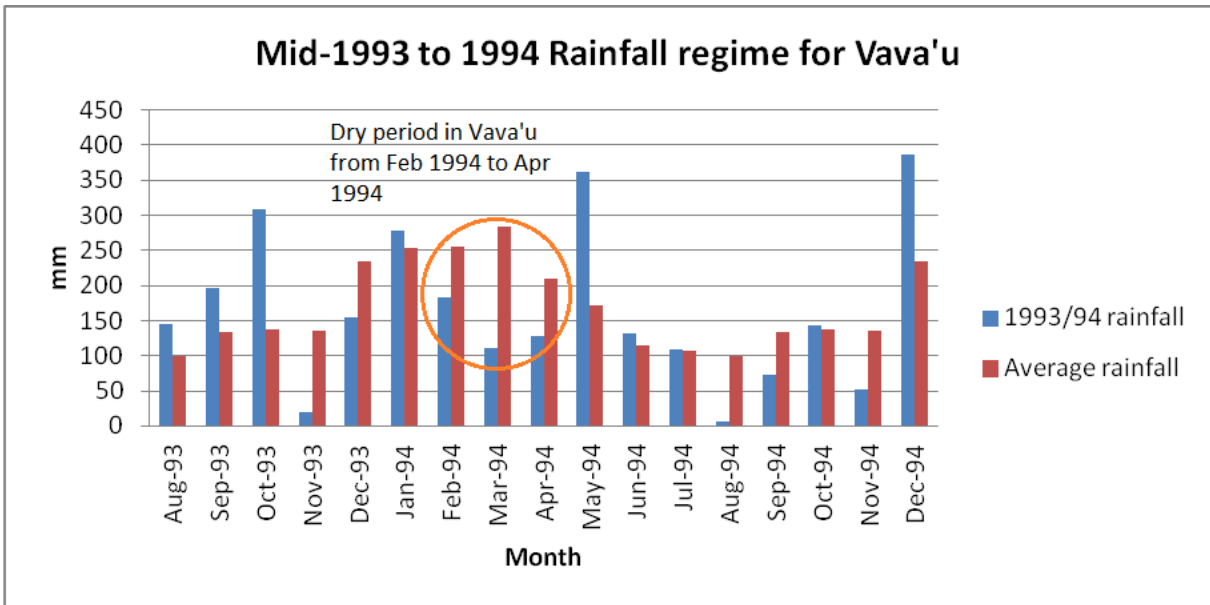


Figure 2: Present ocean and atmospheric conditions closely resembles the 1993 conditions. In 1993/94 Tonga experienced some drought conditions over the rainy season with the worst drought of 8 months from October 1993 to May 1994 in Ha'apai.

3 Tropical Cyclones also occurred in Tonga in the 1993/94 cyclone season (TC NINA-Hurricane, TC KINA- Hurricane and TC MICK- Storm) in January and February. 2 of those became hurricanes.

### **Recommended actions for the next 3 months**

Planners are encouraged to be on the alert for a possible El Nino development in the coming 3 months. Rainfall and tropical cyclone sensitive sectors such as Agriculture and Fisheries (Food Security), Health, Water Resource Management and Tourism should start to pay attention and follow closely the climate outlooks in the next few months.

The public are encouraged to start seeking advice from the relevant authorities e.g. Ministry of Agriculture and the National Emergency Management Office (NEMO) on the best practices to minimise the effects of El Nino.

Citizens are also encouraged to follow the El Nino Advisories over the coming months issued by the Meteorological Service. The next El Nino Advisory will be issued in early September 2014.

### **Contact & Further information**

For further information contact the Meteorology Division of the Ministry of Environment, Energy, Climate Change, Disaster Management, Meteorology, Information and Communications at Telephone 35355 or Email [metstaff@met.gov.to](mailto:metstaff@met.gov.to). More information is also available at [www.met.gov.to](http://www.met.gov.to)

**ENDS**

**Issued by the:** *Ministry of Environment, Energy, Climate Change, Disaster Management, Meteorology, Information & Communication, P.O. Box 1380, Level 2, O.G Sanft Building, Nuku'alofa, Tonga. Tel: (676) 28170 Fax: (676) 24861; Email: [enquiries@mic.gov.to](mailto:enquiries@mic.gov.to)  
Websites : [www.tongaportal.gov.to](http://www.tongaportal.gov.to)*



## Ongoongo Tuku Atu

# Fakamatala *El Nino* Fika 1 ma'a Tonga

(8 August 2014)

**'Oku 'oatu e fakatokanga tokateu kiha fa'ahi ta'u *El Niño* 'e ala kamata 'i Sepitema pe ko 'Okatopa 2014.**

### To'o konga lalahi

Fakatatau ki he ngaahi fakamatala'ea fakamuimui taha kuo lava ke tanaki 'oku 'i he 50% e faingamalie ke kamata ha faha'i ta'u *El Nino* he ta'u ni (2014) pea ke kamata 'i Sepitema pe ko 'Otatopa. Ko e ngaahi uesia 'a e *El Nino* ki Tonga 'oku kau kiai 'a e lahi ke momoko e 'ea he taimi po'uli, si'isi'i ange 'a e 'uha 'i he fa'ahi ta'u 'uha (Novema- 'Epeleli) pea lahi ange faingmalie ke hoko ha saikolone fakatalopiki lolotonga e fa'ahi ta'u Afaa.

### Ko e ha 'a e *El Nino*?

Ko e *El Nino* ko e fa'ahi ta'u 'oku nga'unu ai 'a e konga tahi mafana 'oku anga maheni ke toka ma'u pe ki he tokelau 'o Aositelelia 'o kolosi he Pasifiki 'o a'u ki 'Amelika Tonga. Ko e nga'unu 'a e konga tahi ko 'eni 'oku ne hiki'i hake ai e mafana e tahi i he Pasiki 'o lahi hake 'i he mafana angamahe ni pea hoko ai e ngaahi liliu kihe natula angamaheni e 'ea 'i he ngaahi feitu'u lahi kau ai 'a Tonga ni. Ko e *Nino* 'oku hoko fakanatula pe pea meimei ke hoko 'i he ta'u 3 ki he 7 kotoa pe.

### Ko e tu'unga lolotonga

Ko e tu'unga lolotonga e mafana e fukahi tahi 'oku ne talamai 'oku hangehange ka hoko ha *El Nino*. 'I Tonga ni kuo tau a'u mai eni kihe lolotonga 'o e fa'ahi ta'u la'ala'a 'oku kei 'uho'uha pe pea to e mokomoko ange 'a e 'ea tautefito kihe taimi po'uli. Ko e ngaahi liliu eni 'i he 'ea 'oku meimei ke o fakataha mo e fa'ahi ta'u *El Nino*. 'E toki lava ke fakapapau'i fakafuofua ki Sepitema pe 'Okatopa pe 'e hokohoko atu ai pe 'a e fakahi ta'u ko'eni kihe ta'u fo'ou (2015) 'o uesia ai 'a Tonga ni pe 'ikai.

### Ko e uesia 'e he *El Nino* e 'ea 'o Tonga ni

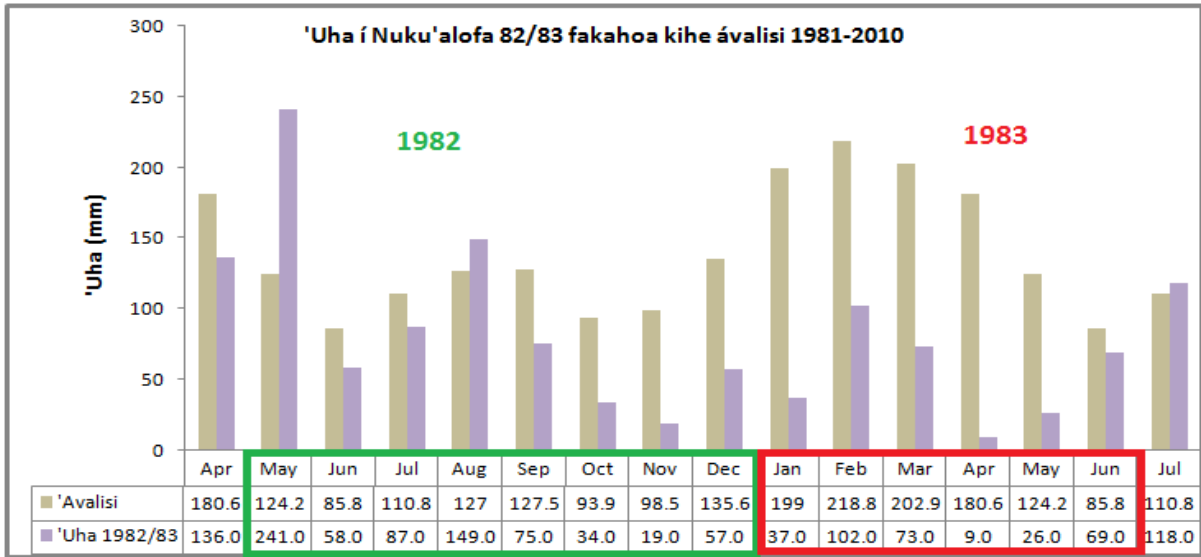
Ko e fa'ahi ta'u *El Nino* 'oku fa'a a'u pe hono loloa ki he ta'u 'e taha neongo 'oku lava pe ke nounou ange ai pe toe loloa ange ai. Ko e ngaahi uesia ki Tonga 'oku kau ai e mokomoko ange 'a e taimi po'uli, si'isi'i ange 'a e 'uha 'i he fa'ahi ta'u 'uha pea lahi ange mo e faingmalie ke uesia 'a Tonga ha saikolone fakatalopiki 'i he fa'ahi ta'u Afaa. 'Oku 'avalisi ki he saikolone 'e 1 te ne uesia 'a Tonga 'i he ta'u ka 'oku 'unu hange 'a e fika ko'eni 'o ofi 'i he 2 'i he fa'ahi ta'u *El Nino*.

### Ko e ngaahi *El Nino* lalahi 'o e kuo hili

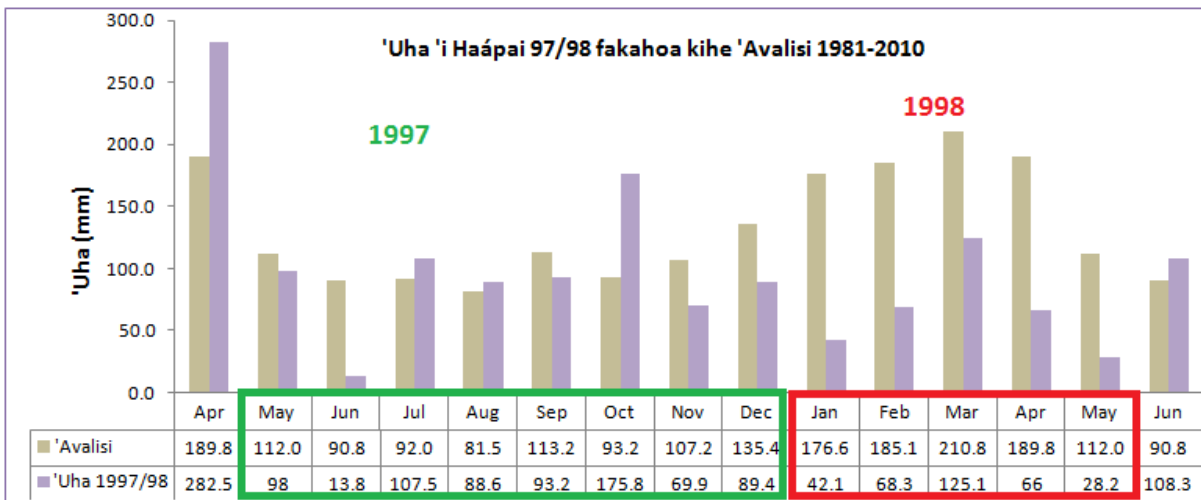
Ko e ngaahi taimi la'ala'a lalahi fakatupu honge vai ki Tonga ni 'oku lahi ke hoko ma'u pe 'i he ta'u *El Nino*. 'I he ongo *El Nino* ne to 'I he ta'u 1982/1983 mo e 1997/1998 ne 'au ki ha tu'unga ne iku fetuku vai mei Tongatapu ki Ha'apai pea nounou foki mo e me'atokoni ko e lahi e la'ala'aa. Pea ko e Saikolone maumau lahi ko ia ko 'Aisake (Kalasi 4) 'i he 1982 pea mo Ron (Kalasi 5, ko e malohi taha ia ke kolosi hotau potu tahi) he 1997 ne na hoko loua 'i he ta'u *El Nino*.

**Uesia he *El Nino* 'a e 'uho'uha 'i Tonga 'i he ta'u 1982/83 mo e 1997/98.**

**Tongatapu 1982/83**



**Ha'apai 1997/98**

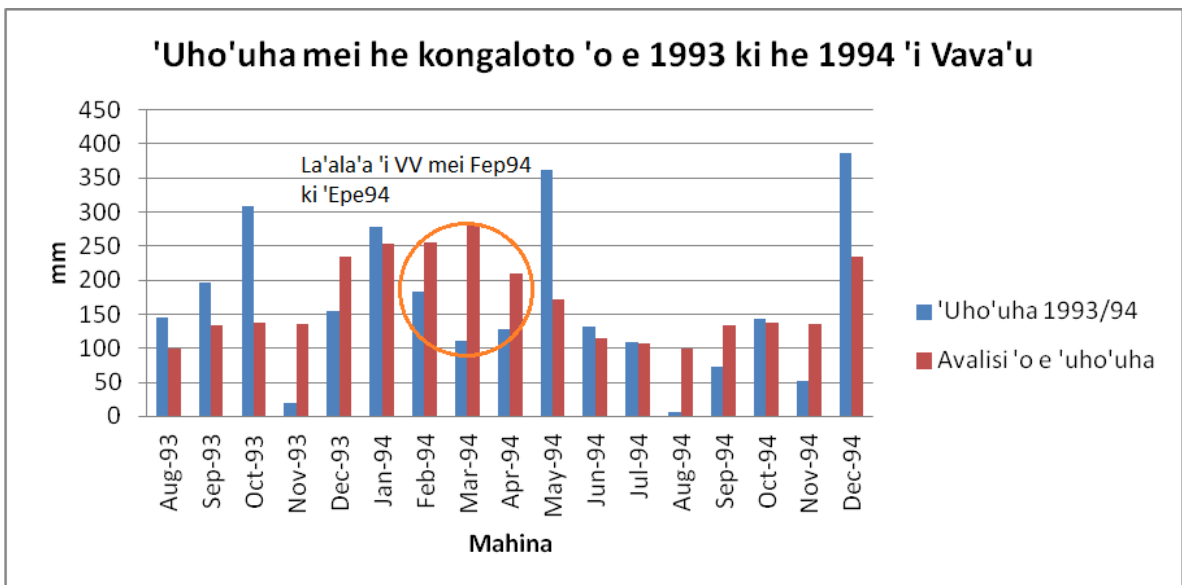
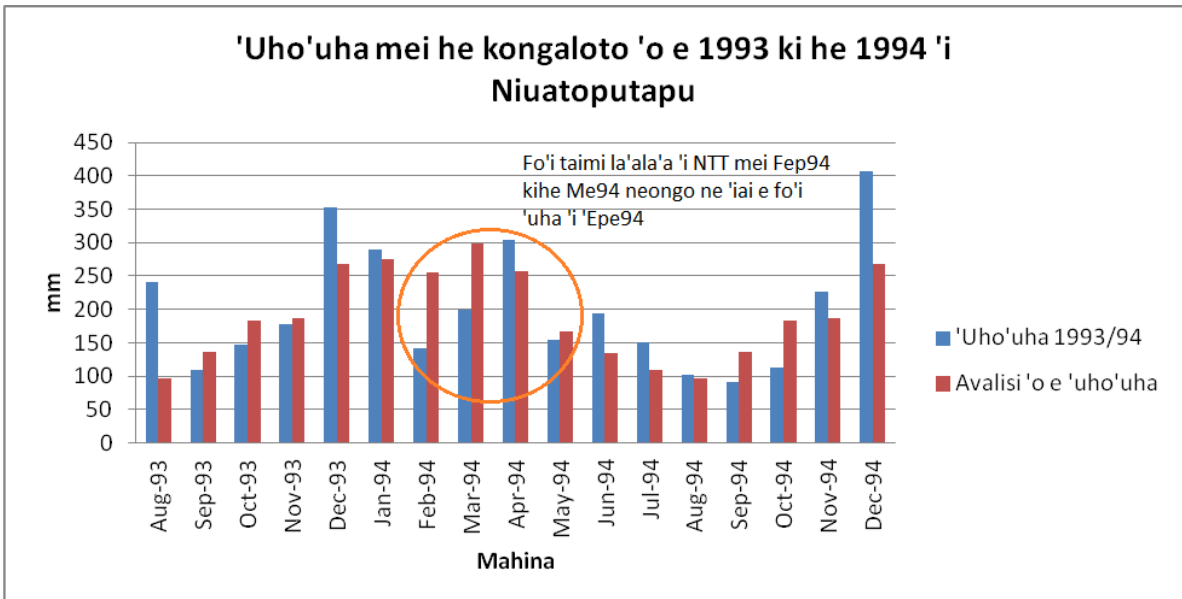
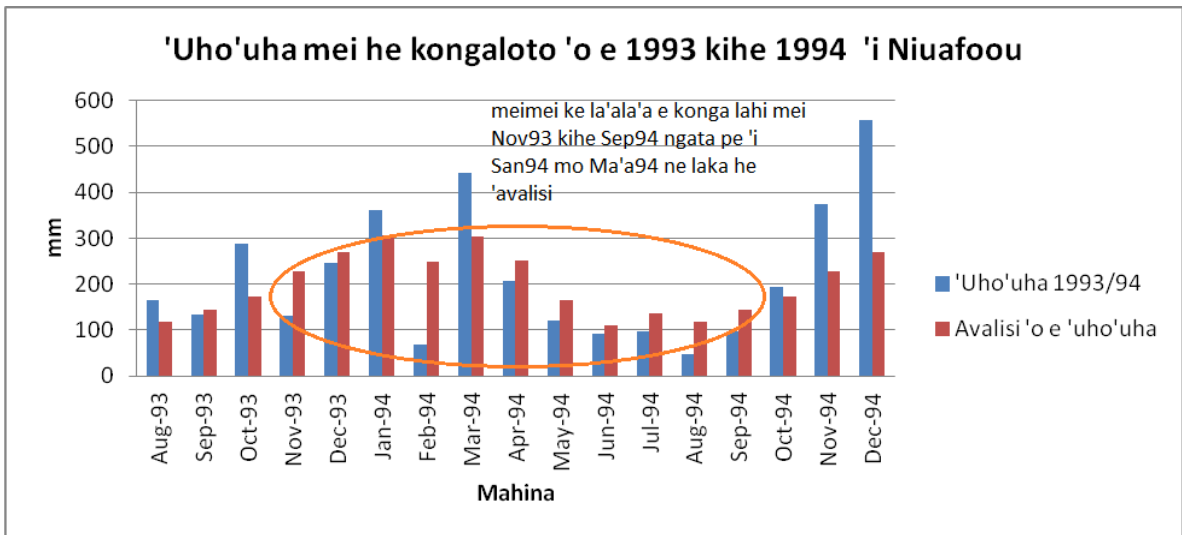


Fakatata 1. 'Oku mahino mei he kalafi ko e 'uha ne matu'aki si'isi'i he 1983 mo e 1998 'i Tongatapu mo Ha'apai. Ko e uesia ko 'eni 'oku makatu'unga ia 'i he *El Nino* ne hoko he 1982/1983 mo e 1997/1998.

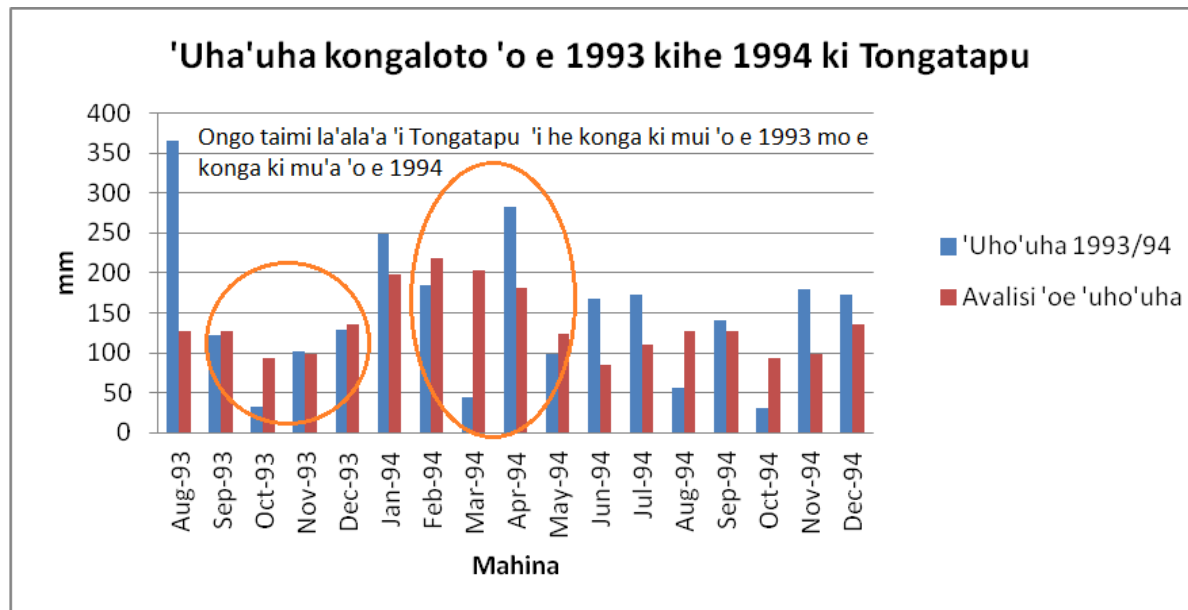
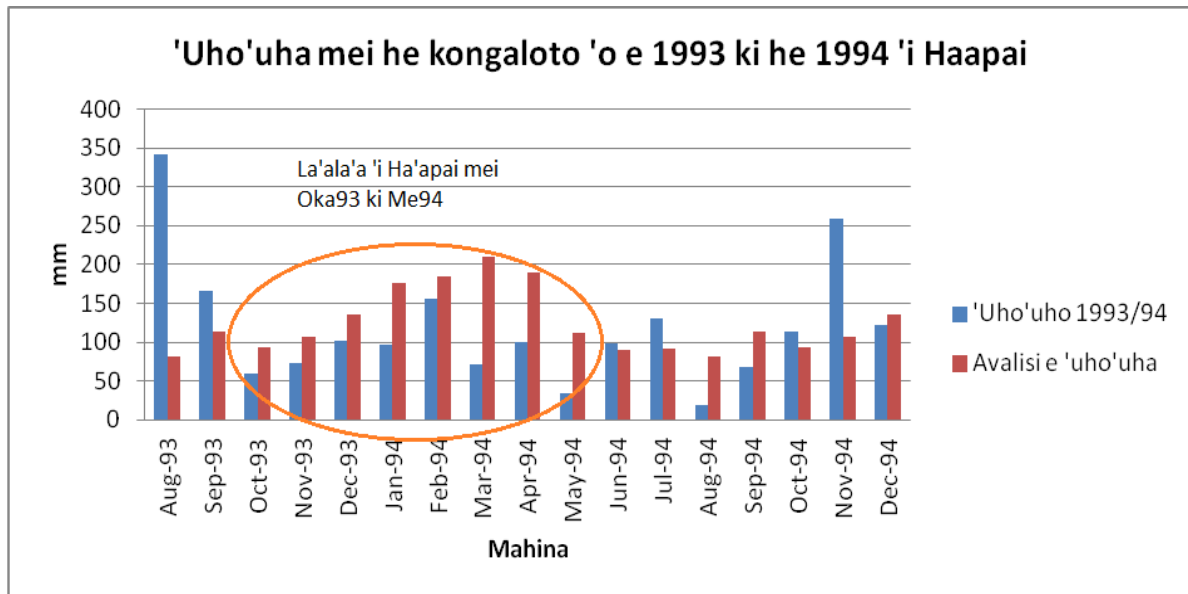
**Ko e ha leva e me'a 'e 'ala hoko 'oka hoko ai pe ha *El Nino* 'i Sepitema pe 'Okatopa 2014**

Ka faifai ange pea hoko ai pe ha *El Nino* malohi (hange ko e 1982/83 pe 1997/98), 'e malava ke holo e lahi e 'uha ofi kihe faka'osinga 'e ta'u ni 'o lele ai ki he kongala lahi 'o e 2015. 'A ia 'e malava ke nounou e me'i vai 'i he'ene a'u atu ki he vaeua'anga e ta'u 2015 pea lahi ange mo e faingamalie ke uesia 'e ha afaa 'a Tonga ni 'i he fa'ahi ta'u afaa ko'eni 2014/2015 'a ia 'oku kamata 'i Novema. Ka neongo ia, ko e fakafuofua ofi taha he taimi ni, hangehange ka 'ikai ke 'au 'a e malohi ia 'o e fa'ahi ta'u *El Nino* ko'eni kihe tu'unga 'o e *El Nino* malohi. 'Oku 'iai 'a e tui 'e malava ke hoko 'a e *El Nino* ko'eni he taimi nounou pe pea 'osi. Ko e tu'unga 'oku 'iai e 'ea he taimi ni 'oku ngali ke ofi 'aupito kihe sipinga 'oe fetafeaki 'a e 'ea mo e 'oseni he Pasifiki mo ia 'o e ta'u 1993. Ko e Fakatata 2 'oku ha ai e lahi e 'uha ne to 'i Tonga 'i he 1993/94 ke fai ha fakafuofua ki ha uesia 'e 'ala hoko kihe 'uho'uha 'i he toenga 'o e tau ni pea mo e ta'u fo'ou. 'Oku ha 'i he ngaahi Lekooti 'uha 'o e 1993 mo 1994 ne feto'aki holo pe 'a e 'uha 'i Tonga ni ka 'oku mahino mai ne uesia 'e he la'ala'a 'a e meimei motu kotoa 'i Tonga ni lolotonga e fa'ahita'u 'uho'uha 'aia ne uesia lahi taha 'a Ha'apai 'i he la'ala'a mahina 'e 8 mei Okatopa 1993 ki Me 1994 pea 'oku 'iai e manavasi'i na'a toe hoko pehe he ta'u ni kihe ta'u fo'ou. Ka kapau 'e hoko ha la'ala'a tatau 'e ngali 'e 'uluaki uesia pe 'a Tongatapu mo Ha'apai kamata meihe mahina Sepitema 2014 'o lele ai ki Me nai 2015.

Pea ko e toenga 'o Tokelau na'a ngali 'iai ha la'ala'a ofi holo he fa'ahi ta'u 'uho'uha mei Tisema 2014 nai ki 'Epeleli 2015.







Fakatata 2. Ko e tu'unga 'o e 'ea 'i he ta'u ni 'oku mei ke fai tatau mo e ta'u 1993. 'I he vakai koia ki he me'a ne hoko kihe 'uha 'ihe 1993/94 'oku mahino ne 'iai e la'ala'a lolotonga 'a e taimi 'oku totonu ke lahi ai e 'uha pea ne uesia lahi taha ai 'a Ha'apai 'i he mahina 'e 8 mei Okatopa 1993 ki Me 1994. 'Oku 'iai 'a e tokanga na'a to e hoko e me'a ni he ta'u ni kihe ta'u fo'ou.

### Ko e ngaahi me'a leva ke fakahoko he mahina 'e 3 ka hoko mai

Ke kamata leva ke fai ha tokanga mo ha tokateu pea fakakau e *El Nino* ki he ngaahi palani ngaue kotoa pe tau tefito ki he ngaahi Sekitoa tu'u lavea ngofua ki he feliuliuaaki 'a e 'uha mo e saikolone hange ko e Ngoue & Toutai (Malu 'a e Me'atokoni), Mo'ui, Vai mo e Takimamata mei he taimi ni mo muimui'i e ngaahi Fakamatala *El Nino* 'i he hokohoko atu ko'eni kae 'oleva ke mahino.

'Oku 'oatu foki mo e fale'i ki he kakai e Fonua kenau fengau'e'aki vaofi mo e ngaahi fa'unga pule hange ko e Potungau'e Ngoue mo e 'Ofisi Tokangaekina ngaahi fakatamaki kiha ngaahi fale'i fekau'aki mo e ngaahi ngaue ke fakahoko ke fakasi'isi'i 'a e tu'u lavea ngofua ki ha *El Nino*.

Pea ke hokohoko atu pe e muimui'i he kakai e Fonua 'a e ngaahi fakatokanga *El Nino* kotoa pe 'oku tuku atu. Ko e fakamatala *EL Nino* hono hoko 'e tukuatu ia he kongaloto kimu'a pe 'o Sepitema.

## **Ki ha to e fakaikiiki**

Ki ha to e fakaikiiki, kataki fetu'utaki ki he Va'a Fakamatala'ea 'o e Potungaue 'Atakai, Ma'u'anga Ivi, Feliliuaki e 'Ea, Ngaahi Fakatamaki Fakaenatula, Fakamatala'ea, Ma'u'anga Fakamatala mo e Fetu'utaki he Telefoni ko e 35 355 pe 'imeili ki he [metstaff@met.gov.to](mailto:metstaff@met.gov.to) pe vakai kihe uepisaiti [www.met.gov.to](http://www.met.gov.to)

## **NGATA'ANGA**

**Tukuatu mei he:** *Potungaue 'Atakai, Feliuliuaki 'o e 'Ea, Fakatamaki Fakanatula, Ma'u'anga Ivi, Ongoongo mo e Fetu'utaki, P.O. Box 1380, Level 2, O.G Sanft Building, Nuku'alofa, Tonga. Tel: (676) 28170 Fax: (676) 24861;Email : enquiries@mic.gov.to  
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