



Climate and Oceans Support
Program in the Pacific

Pacific Climate Change Data Portal

Module 23: 13/10/2022





Climate and Oceans Support
Program in the Pacific

A portal for the upload, analysis and visualisation of station climate data in Pacific

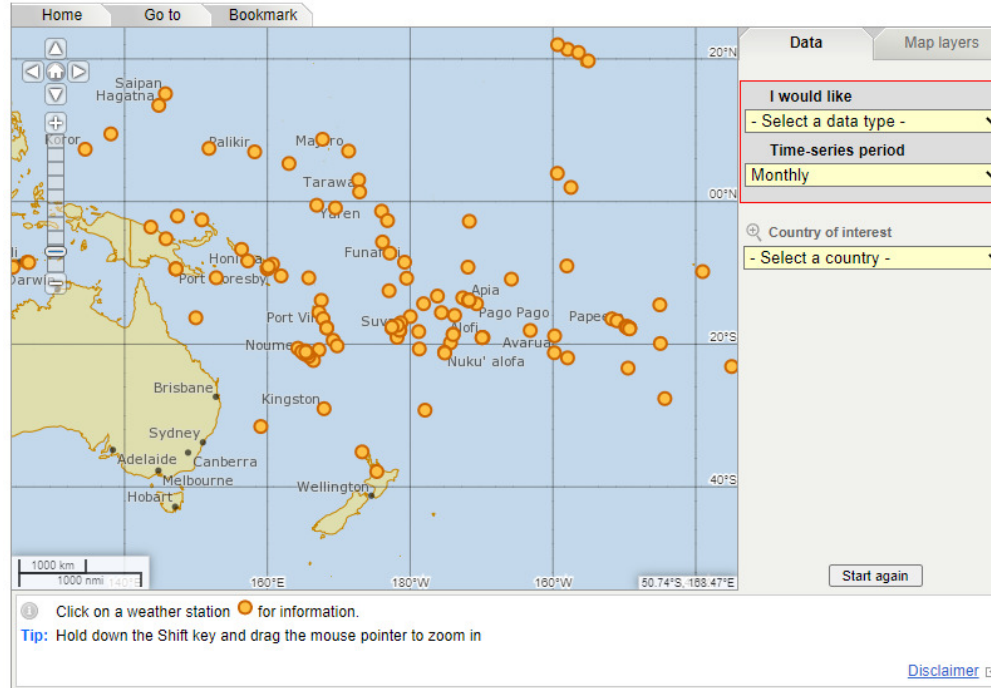
[Bureau Home](#) > [Climate](#) > Pacific Climate Change Data Portal

Pacific Climate Change Data Portal

[About Pacific Climate Change Data Portal](#)

The Pacific Climate Change Data portal provides site-specific historical climate information as well as trends in mean and extreme indices for the Pacific Islands and Timor Leste. The portal was initially developed through the AusAID funded Pacific Climate Change Science and Pacific-Australia Climate Change Science and Adaptation Planning Programs 2009-2014 with further improvements/updates undertaken during the DFAT funded [Climate and Oceans Support Program in the Pacific](#) 2018-2022.

The portal forms part of the Bureau of Meteorology's contributions to the [WMO RA-V Pacific Regional Climate Centre Network](#) as Consortium member for the Node on Climate Monitoring.



100+ stations
across 23
countries and
territories

<http://www.bom.gov.au/climate/pccsp/>



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Portal features

Site information
Site name: Noumea
WMO number: 91592
Country: New Caledonia
Latitude: 22.28°S Longitude: 166.45°E

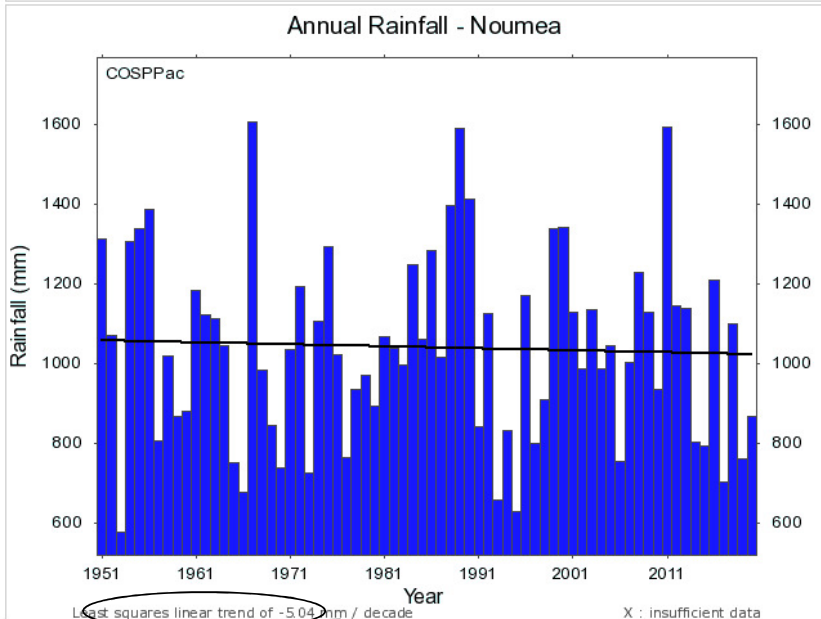

Nearest alternative sites
La Tontouta - New Caledonia (37 km)
La Foa - New Caledonia (92 km)
Houailou P - New Caledonia (139 km)
Mean annual cycle of monthly values

Download monthly time-series (restricted)
Rainfall (raw) [v]
Download

Time-series Period Monthly Daily
Data Source Raw Homogeneous

Variable: Rainfall (raw) [v]
Reporting Period: Annual [v]

Start year: 1951 End year: 2020 Plot
Years of running average: T [v] Full
(T=linear trend; A=average)
T A 3 5 7 9 11 13 15
 SI units Imperial units



Trends available in metric and imperial units

Variables include raw and homogenised:

- Rainfall
- TMax, TMin, TMean and DTR
- MSLP

Periods include:

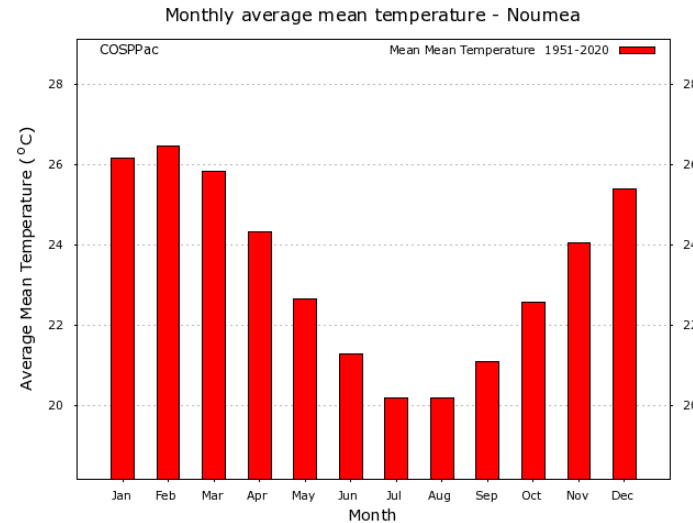
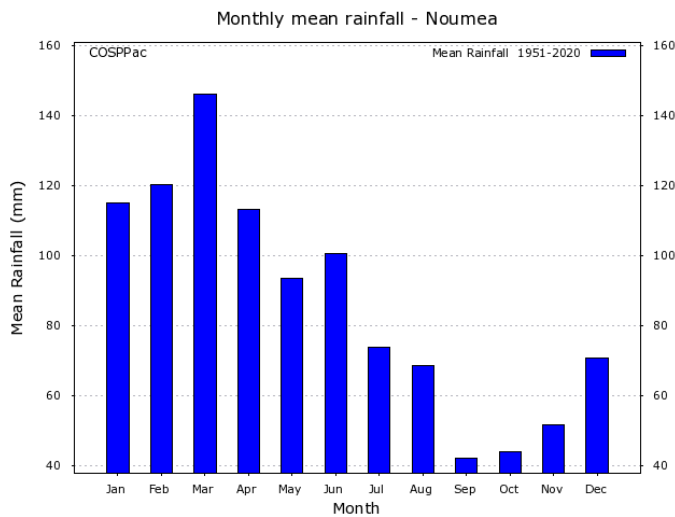
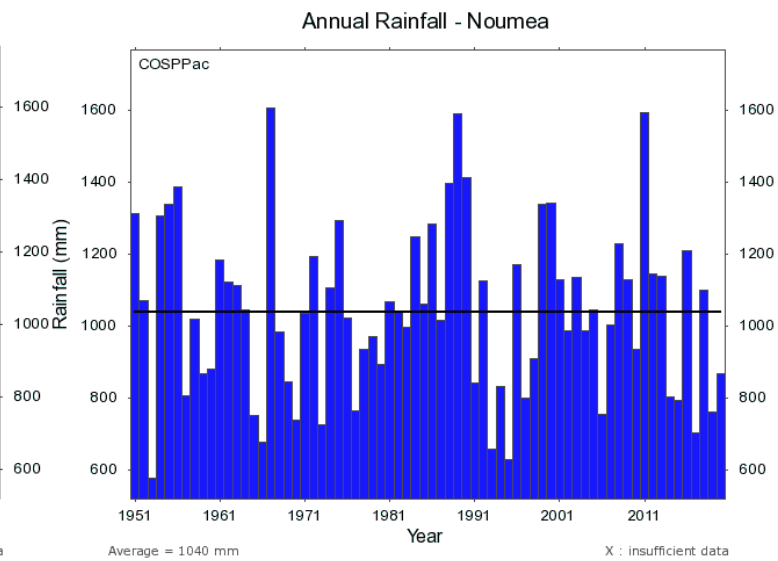
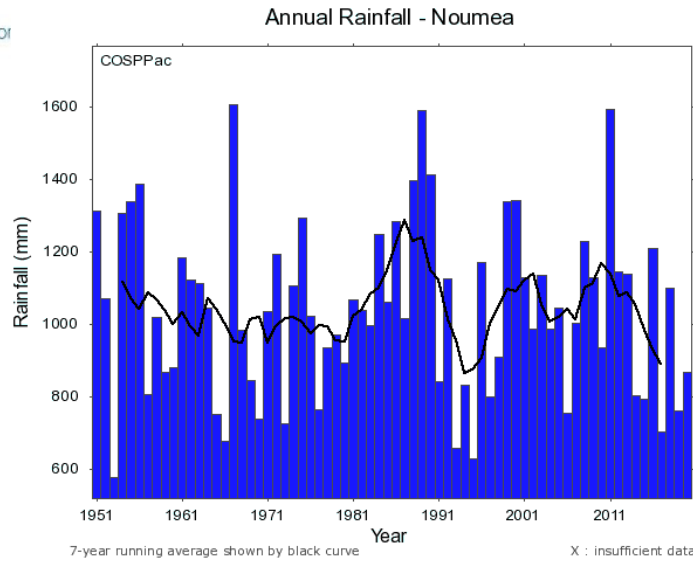
- Nov to Apr
- May to Oct
- DJF, MAM, JJA, SON
- Monthly

User can select any Start or End year for the trends and averages provided data is available



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Portal features



Users can view running averages over 3 -15 years, long-term means

and

mean annual cycle

for the period they are interested in



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Partner countries able and encouraged to manage their own data

The image displays two screenshots of a web application interface for logging into the Climate Data Uploader. Both screenshots are obscured by a large, semi-transparent red 'X'.

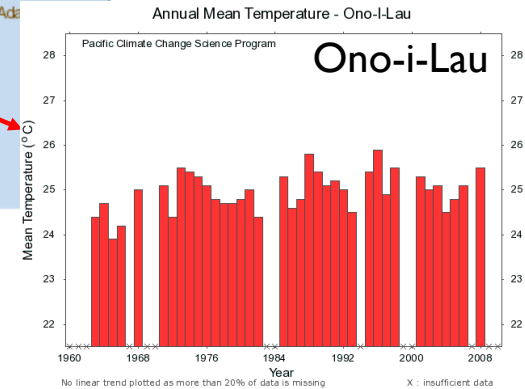
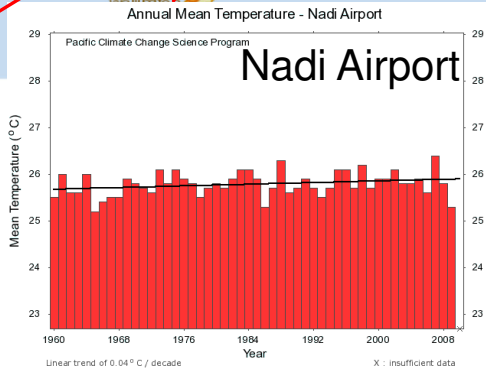
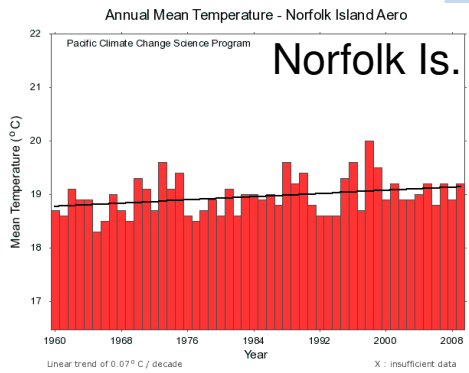
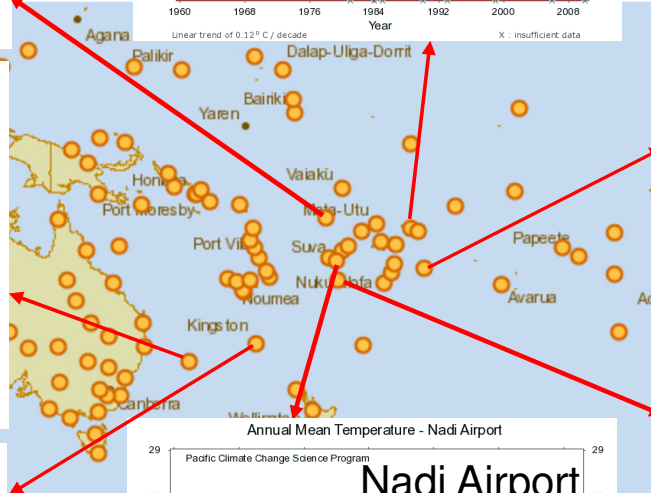
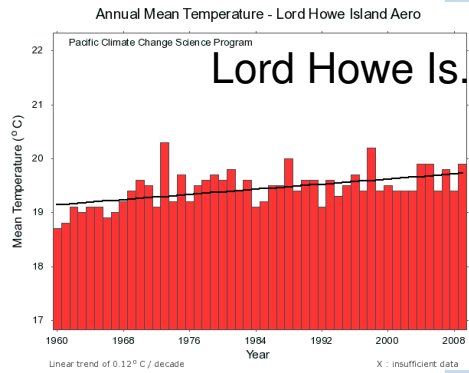
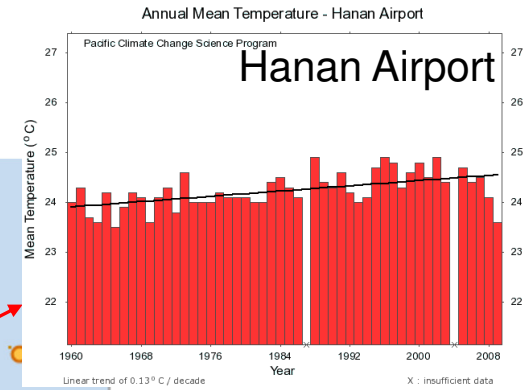
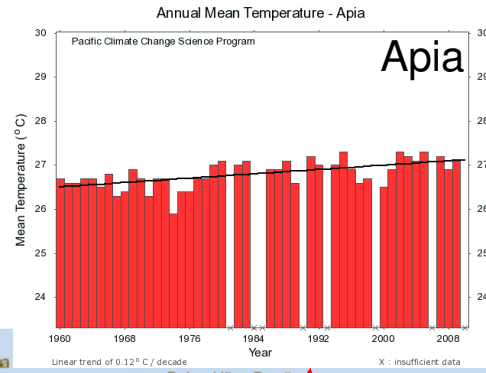
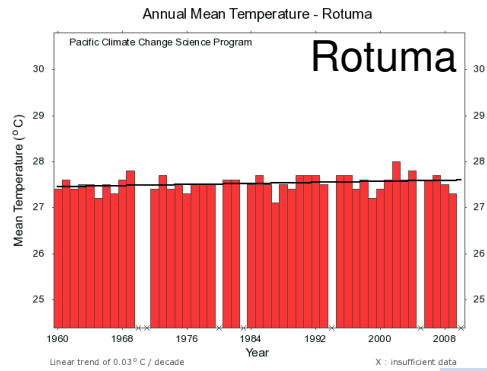
The top screenshot shows the login form with the following fields and options:

- Country:** A dropdown menu with "American Samoa" selected.
- User name:** A text input field.
- Password:** A text input field.
- Logon button:** A button labeled "Logon" is visible at the bottom of the form.

The bottom screenshot shows the same login form, but the "Logon" button is not visible, suggesting it might be located below the form or is a separate element.

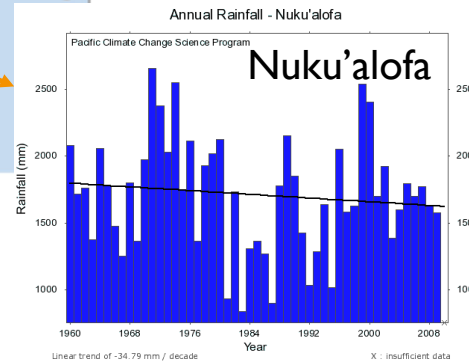
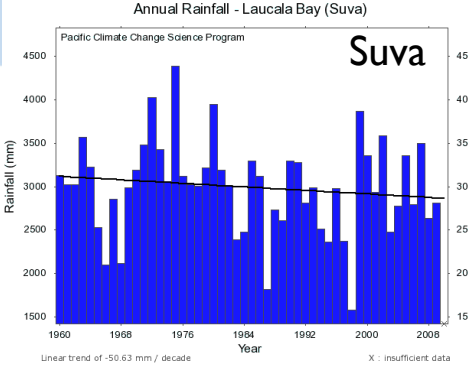
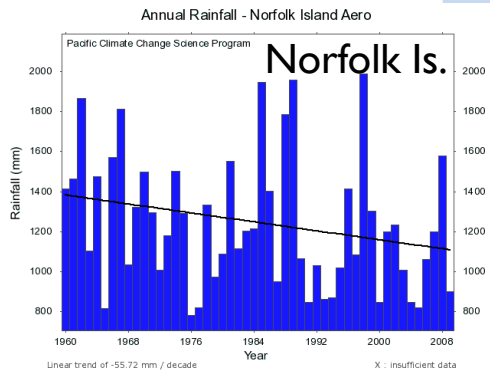
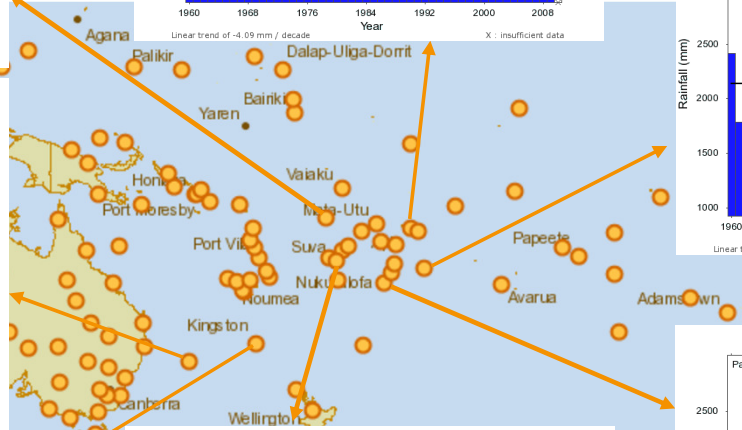
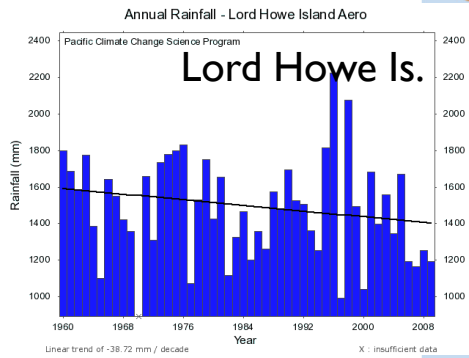
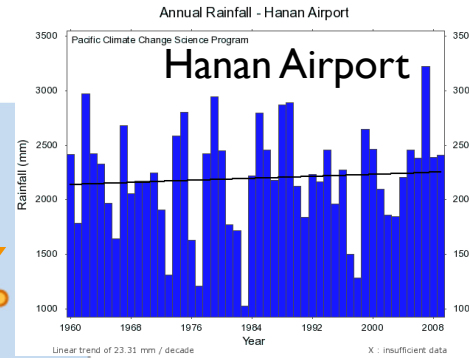
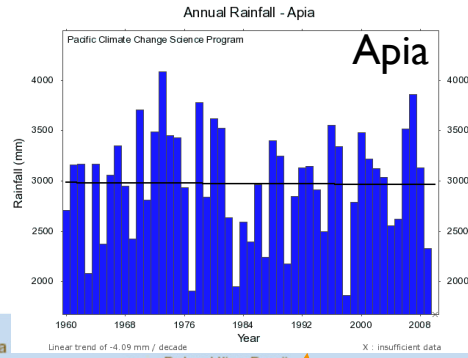
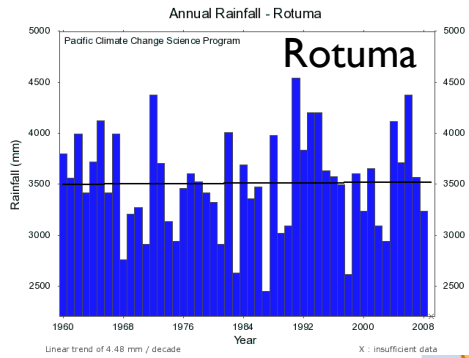


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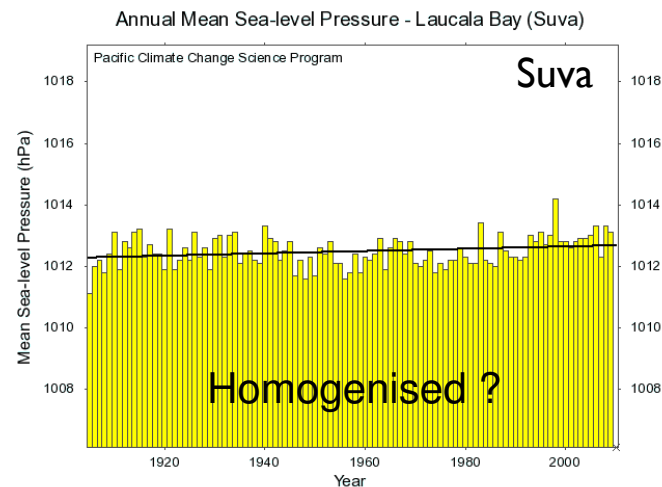
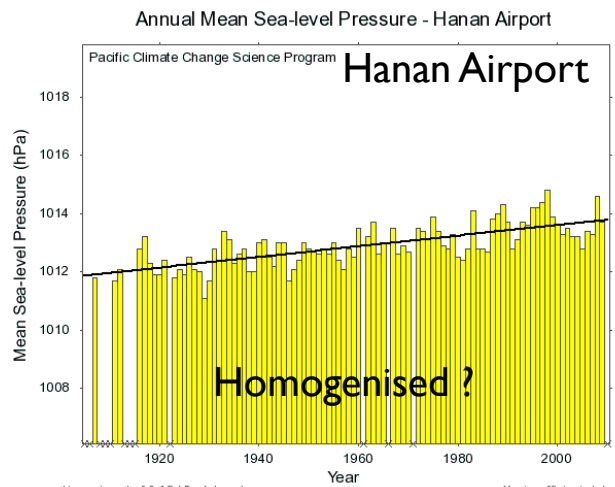
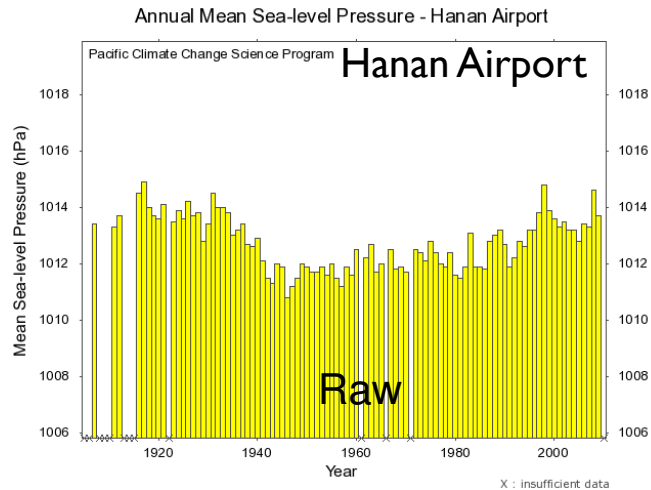


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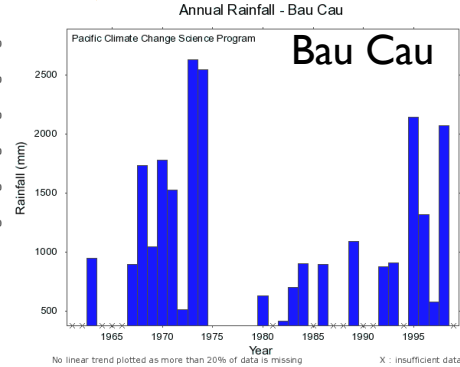
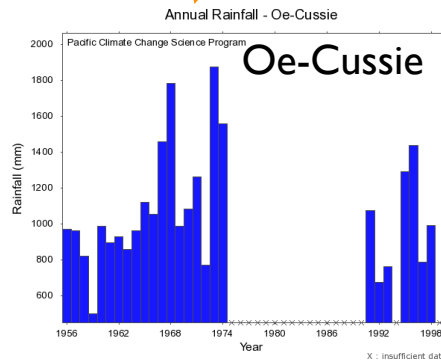
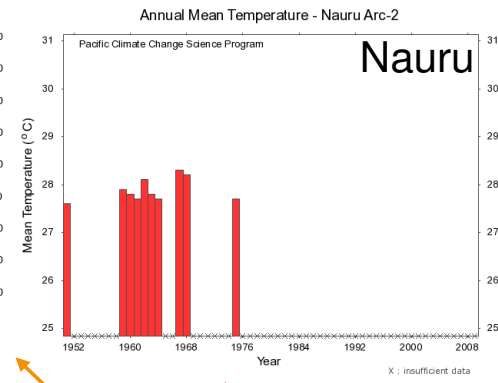
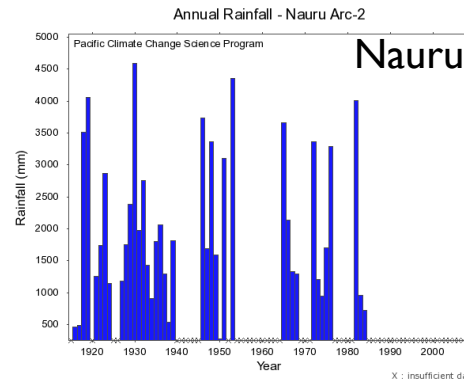
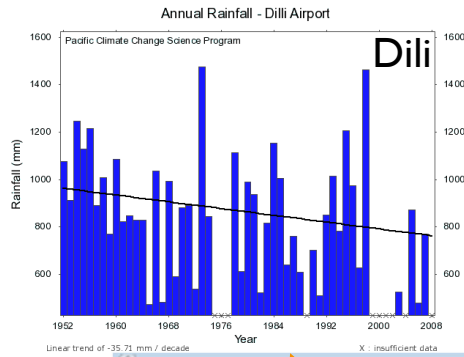
Analysis of other variables such as MSLP difficult due to lack of data and metadata





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Limited data for some locations





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During PACCSAP we advanced the Pacific Climate Change Data Portal by adding daily data

Pacific climate change site data

[About data](#) | [About climate extremes](#) | [Contacts for data](#)

Site information

Site name: Laucala Bay (Suva)
WMO number: 91690
Country: Fiji
Latitude: 18.15°S Longitude: 178.45°E

Nearest alternative sites

Suva - Fiji (3 km)
Nausori Mill - Fiji (15 km)
Nausori Airport - Fiji (16 km)

Download daily time-series (restricted)

Rainfall (raw)
Download

Time-series Period Monthly Daily

Data Source Raw Homogeneous

Variable

Reporting Period

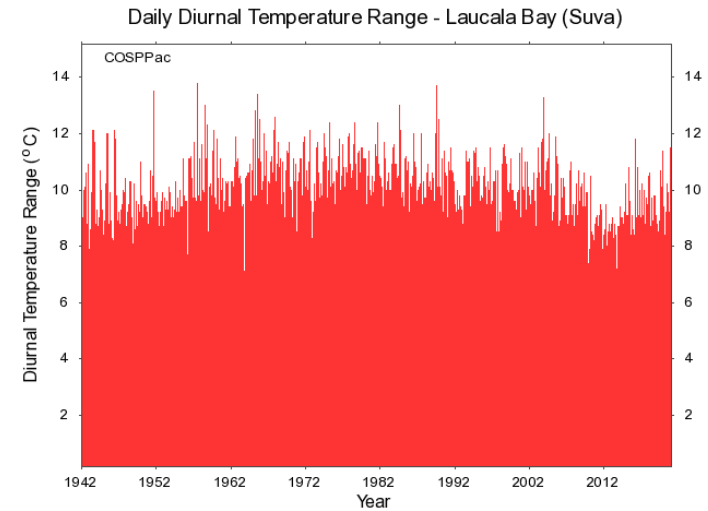
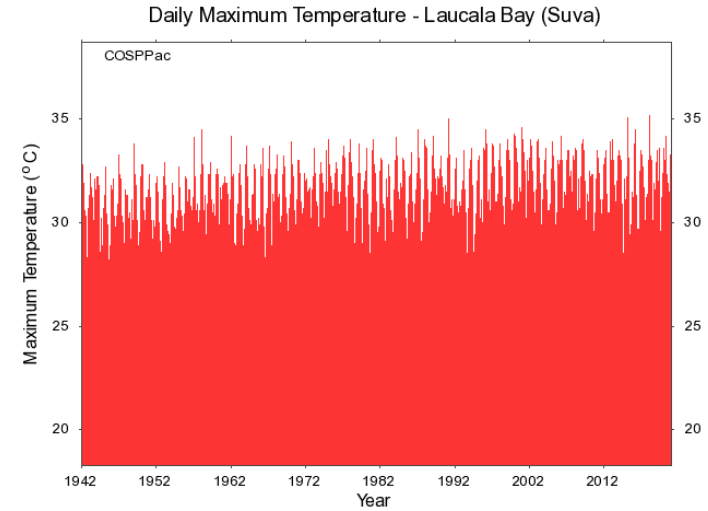
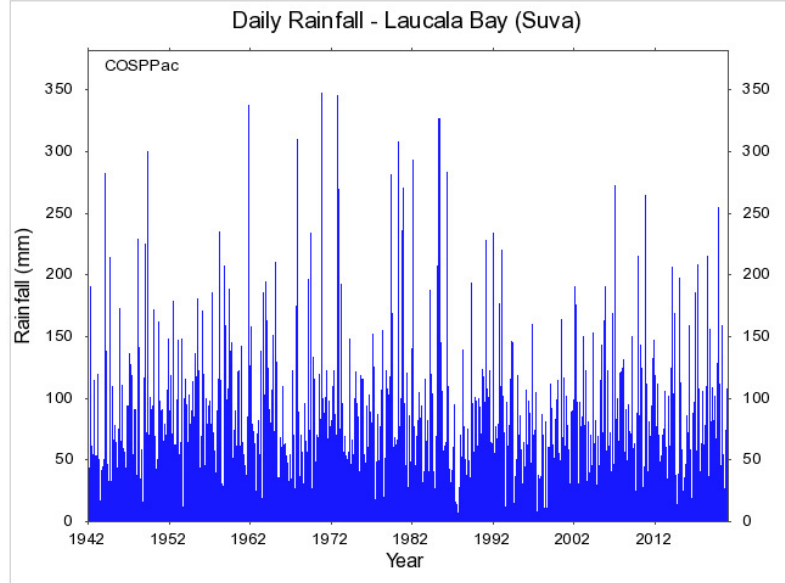
Start year End year Plot

Days of running average Full

(T=linear trend; A=average)

T A 3 5 7 9 11 13 15

SI units Imperial units





and climate extremes indices associated with the WMO ET-CCDI (replaced by ET-CDI then ET-CID)

Extreme Climate Indices used

Extreme climate events such as heat waves, cold snaps, floods and dry spells have significant impacts on society. To examine whether such extremes have changed over time a variety of extreme climate indices can be defined, such as the number of days per year which exceed, or fail to exceed, fixed thresholds. However, since people tend to adapt to their local climate, a threshold considered extreme in one part of the world could be considered quite normal in another. To overcome this problem, thresholds based on percentile values can also be defined.

Twenty-five of the total thirty extreme temperature and rainfall indices used here are based on those defined by the [WMO Expert Team on Climate Change Detection Monitoring and Indices](#). The core temperature indices which count the number of days where maximum temperature and minimum temperature are less than 0°C have not been included.

Extreme Temperature Indices	Definition
Highest maximum temperature (TXx)	Monthly maximum value of daily maximum temperature (TX)
Highest minimum temperature (TNx)	Monthly maximum value of daily minimum temperature (TN)
Lowest maximum temperature (TXn)	Monthly minimum value of daily maximum temperature (TX)
Lowest minimum temperature (TNn)	Monthly minimum value of daily minimum temperature (TN)
Summer days (SU25)	Annual count of days with maximum temperature (TX) > 25°C
Tropical nights (TR20)	Annual count of days with minimum temperature (TN) > 20°C
User-defined hot days (SUx)	Annual count of days with maximum temperature (TX) > 26 to 37°C (1°C intervals)
User-defined hot nights (TRx)	Annual count of nights with minimum temperature (TN) > 21 to 32°C (1°C intervals)
Cool days (TX10p)	Number of days with maximum temperature (TX) < 10th percentile
Cool nights (TN10p)	Number of nights with minimum temperature (TN) < 10th percentile
Warm days (TX90p)	Number of days with maximum temperature (TX) > 90th percentile
Warm nights (TN90p)	Number of nights with minimum temperature (TN) > 90th percentile
Warm spell duration (WSDI)	Annual count of days with 6+ consecutive days when TX > 90th percentile
Cold spell duration (CSDI)	Annual count of days with 6+ consecutive days when TN < 10th percentile
Diurnal temperature range (DTR)	Monthly mean difference between TX and TN
Growing Season Length (GSL)	Annual (1st July to 30th June in SH and 1st January to 31st December in NH) count between first span of 6+ days with TG > 5°C and first span of 6+ days with TG < 5°C, where TG is the daily mean T

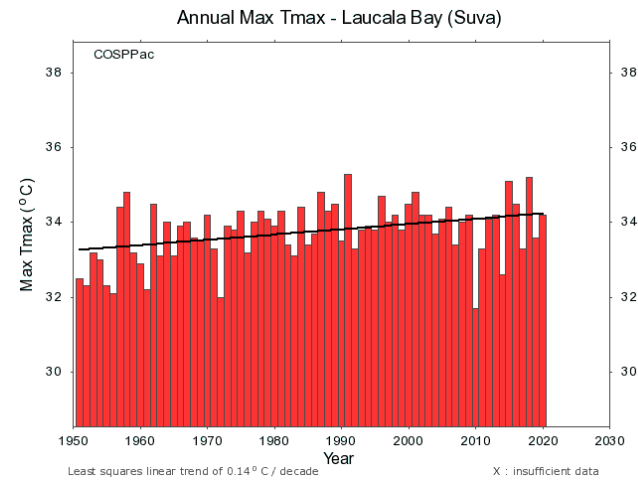
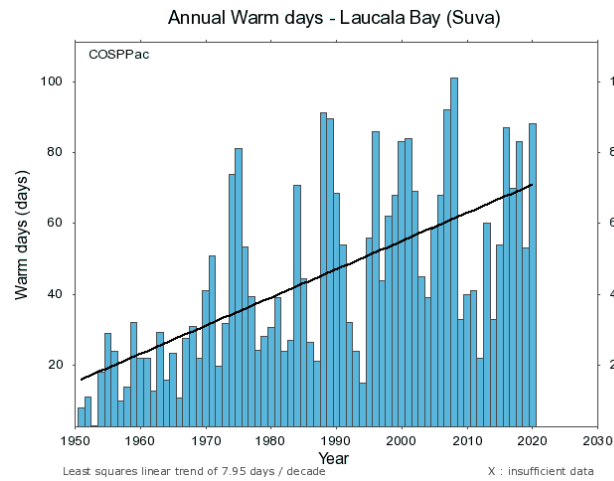
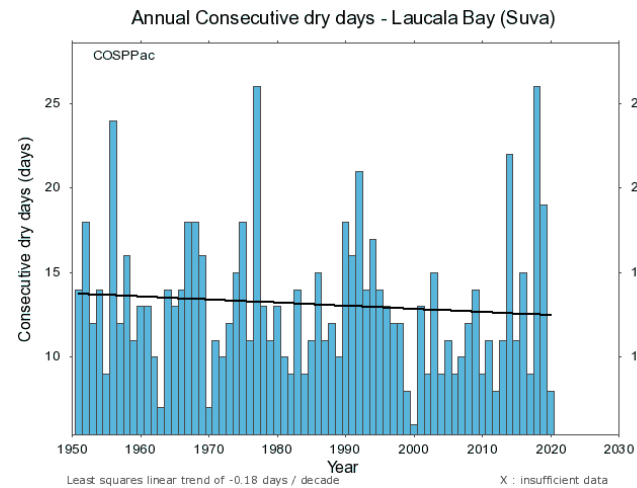
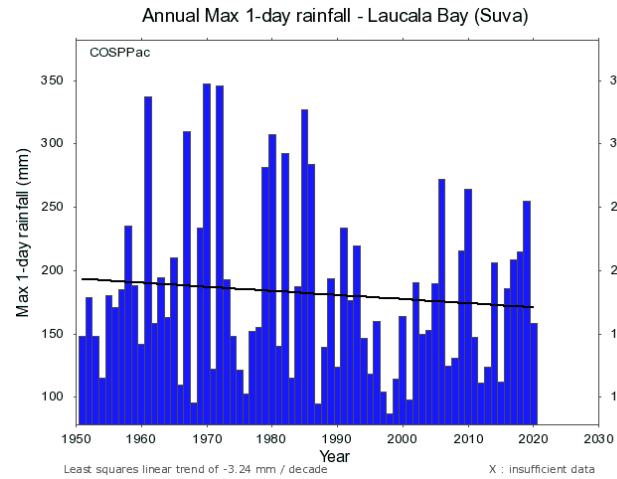
Extreme Precipitation Indices	Definition
Max 1-day rainfall (Rx1day)	Monthly maximum 1-day precipitation (PRCP)
Max 5-day rainfall (Rx5days)	Monthly maximum consecutive 5-day precipitation (PRCP)
Simple daily intensity (SDII)	Annual total precipitation divided by the number of wet days in the year; wet days defined as PRCP ≥ 1.0 mm
Rain days ≥ 10 mm (R10)	Annual count of days with PRCP ≥ 10 mm
Rain days ≥ 20 mm (R20)	Annual count of days with PRCP ≥ 20 mm
User defined rain days (Rnn)	Annual count of days when PRCP ≥ 1, 5, 30, 40, 50, 60, 70, 80 and 100 mm
Consecutive dry days (CDD)	Maximum number of consecutive days with daily rainfall (RR) < 1 mm
Consecutive wet days (CWD)	Maximum number of consecutive days with daily rainfall (RR) ≥ 1 mm
Very wet days rainfall (R95p)	Annual total precipitation when daily rainfall (RR) > 95th percentile
Extremely wet day rainfall (R99p)	Annual total precipitation when daily rainfall (RR) > 99th percentile
Annual total wet day rainfall (PRCPTOT)	Annual total precipitation in wet days (RR ≥ 1 mm)

Extreme Mean Sea Level Pressure (MSLP) Indices	Definition
Low MSLP days (MSLP10p)	Annual count of days when MSLP 0900 hrs < 10th percentile
High MSLP days (MSLP90p)	Annual count of days when MSLP 0900 hrs > 90th percentile
Very low MSLP days (MSLPn)	Annual count of days when MSLP 0900 hrs < 995 hPa



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Examples of trends in the ET-CCDI indices for Suva





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The portal isn't but the data is password protected (for most countries). Contact Simon for username/password. Remember the Bureau won't share your data without your permission

Sign in

http://www.bom.gov.au

Your connection to this site is not private

Username

Password

Further Information

For all queries related to the Pacific Climate Change Data portal please email cosppac_support@bom.gov.au.

[top](#)

Data Access

Except for the purposes of study, research, criticism and review, no part of these analyses may be reproduced, or redistributed for any commercial purposes. Please note that any use of these analyses should be acknowledged to the COSPPac Program and the relevant Pacific meteorological service.

The analyses presented here are based on data collected, maintained and owned by Pacific Island meteorological services. Please contact the relevant [meteorological service](#) for access to this data.



If you have data access you can get to the indices and raw and homogenised data used to produce the graphs

← → ↻ ⚠ Not secure | bom.gov.au/web01/ncc/www/pccsp/fclimdex/output/TN10p/USA_000001_raw_TN10p.txt

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1951	0.0	7.1	9.7	23.3	9.7	10.0	3.2	6.5	20.0	9.7	6.7	9.7	35.0
1952	6.5	0.0	9.7	23.3	16.1	13.3	25.8	19.4	20.0	16.1	0.0	19.4	52.0
1953	9.7	17.9	16.1	23.3	0.0	6.7	3.2	9.7	13.3	25.8	3.3	22.6	46.0
1954	16.1	25.0	32.3	13.3	3.2	3.3	19.4	3.2	3.3	32.3	23.3	32.3	63.0
1955	0.0	17.9	25.8	36.7	9.7	36.7	74.2	45.2	66.7	64.5	26.7	22.6	130.0
1956	0.0	10.3	9.7	13.3	12.9	20.0	48.4	16.1	50.0	29.0	26.7	12.9	76.0
1957	3.2	28.6	32.3	16.7	22.6	3.3	9.7	0.0	3.3	12.9	6.7	3.2	43.0
1958	9.7	17.9	35.5	6.7	3.2	23.3	3.2	0.0	10.0	12.9	13.3	29.0	50.0
1959	3.2	3.6	9.7	0.0	0.0	16.7	19.4	3.2	16.7	25.8	6.7	12.9	36.0
1960	19.4	20.7	12.9	3.3	9.7	10.0	19.4	12.9	10.0	22.6	10.0	16.1	51.0
1961	6.5	0.0	16.1	20.0	3.2	6.7	25.8	6.5	20.0	9.7	3.3	16.1	41.0
1962	9.7	25.0	16.1	10.0	3.2	26.7	41.9	25.8	16.7	45.2	13.3	41.9	84.0
1963	19.4	7.1	3.2	0.0	6.5	13.3	22.6	19.4	3.3	19.4	6.7	0.0	37.0
1964	0.0	3.4	3.2	6.7	6.5	6.7	25.8	29.0	13.3	22.6	40.0	3.2	49.0
1965	0.0	32.1	29.0	10.0	0.0	10.0	35.5	19.4	0.0	29.0	3.3	9.7	54.0
1966	6.5	0.0	12.9	20.0	9.7	13.3	0.0	3.2	0.0	0.0	0.0	0.0	20.0
1967	9.7	3.6	0.0	10.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	3.2	9.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	3.2	3.0
1969	22.6	0.0	6.5	6.7	16.1	13.3	12.9	0.0	6.7	38.7	20.0	16.1	49.0
1970	12.9	3.6	19.4	13.3	3.2	40.0	58.1	35.5	46.7	22.6	13.3	0.0	82.0
1971	19.2	16.7	57.1	13.0	45.4	23.0	9.7	18.9	10.0	25.8	6.7	6.1	77.0
1972	19.2	20.6	25.1	3.3	24.5	16.7	9.5	19.4	13.2	15.7	10.0	22.6	61.1



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Please check the contacts for data .pdf – let us know if it needs correcting

CONTACT DETAILS FOR PACIFIC ISLANDS METEOROLOGICAL DATA

AMERICAN SAMOA

Weather Service Office, Pago Pago
789 Airport Rd
96799 Pago Pago, Eastern District, American Samoa
Tel: + 1 684 699 9130

Website: <https://www.weather.gov/ppg>
<https://www.facebook.com/NWSPagoPago/>

COOK ISLANDS

Cook Islands Meteorological Service
P.O Box 127
Avarua, Rarotonga
Cook Islands
Tel: + 682 20603
Email: support@met.gov.ck
Website: <https://www.met.gov.ck/>

FEDERATED STATES OF MICRONESIA

Weather Service Office, Yap
P.O Box 10
Yap State
Federated States of Micronesia 96943
Tel: + 691 350 2194
Website: <https://www.weather.gov/gum/Yap>
<https://www.facebook.com/Weather-Service-Office-Yap-2143883775706826/>

Weather Service Office, Chuuk
P.O Box A
Weno, Chuuk
Federated States of Micronesia 96942
Tel: + 691 330 2548
Website: <https://www.weather.gov/gum/Chuuk>
<https://www.facebook.com/pages/category/Media-News-Company/Weather-Service-Office-Chuuk-263592613801421/>



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Final point. If you use the graphs for research or operations use the homogenised dataset

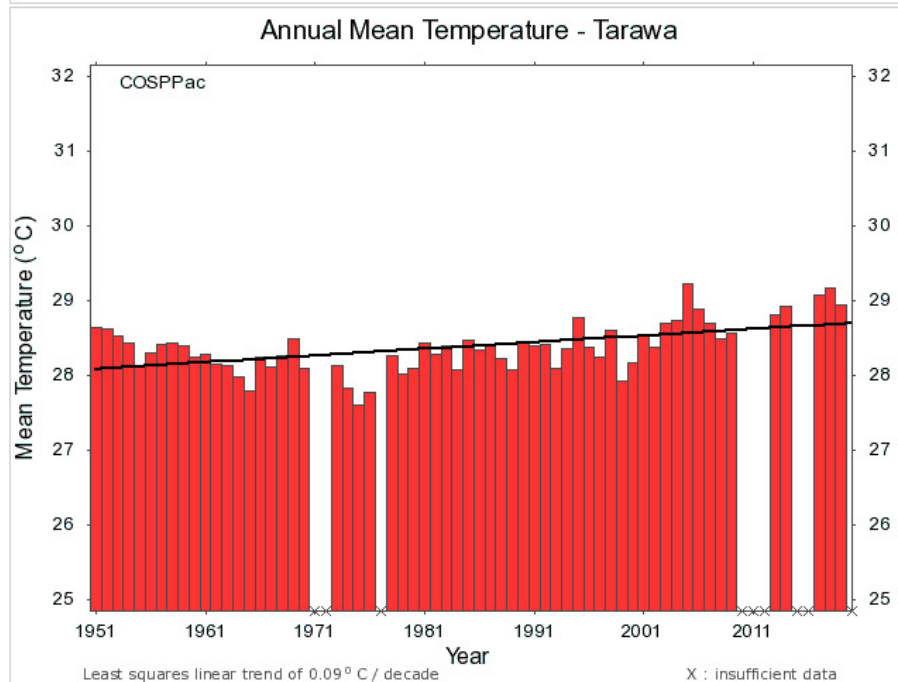

Site information
Site name: Tarawa
WMO number: 91610
Country: Kiribati
Latitude: 1.35°N Longitude: 172.92°E

Nearest alternative sites
Butaritari - Kiribati (187 km)
Banaba (Ocean) - Kiribati (452 km)
Beru - Kiribati (455 km)
[Mean annual cycle of monthly values](#)

Download monthly time-series (restricted)
Mean Temperature (homogenised) [v]
[Download]

Time-series Period: Monthly Daily
Data Source: Raw Homogeneous

Variable: Mean Temperature (homoger) [v]
Reporting Period: Annual [v]
Start year: 1951 End year: 2020 [Plot]
Years of running average: [T] [Full]
(T=linear trend; A=average)
T A 3 5 7 9 11 13 15
[v]
 SI units Imperial units





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Exercise: Question 1

<http://www.bom.gov.au/climate/pccsp/>

- When does Koror's (Palau) rainfall record start and end? As in what year?



Question 2

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- Find the trend (SI units) in Mean Air Temperature for Henderson-Honiara from 1951-2020?



Question 3

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- Find the trend (SI units) in the ETCCDI index Max 1-day rainfall for Nadi Airport, Fiji from 1951-2020?



Question 4

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- Let's go to Kwajalein/Bucholz Aaf in the Marshall Islands. What is the wettest month of the year? What is the warmest (tmean) month? Use the homogenised record



Question 5

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- And finally let's visit Hanan Airport in Niue. Use the homogenised record to tell me what the wettest year on record was since 1951? And year with the warmest day?



Question 6

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- Last question – which country doesn't need to send Simon their data to update the portal? 😊



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Next we focus on updating the portal