



# SOLOMON ISLANDS

## CLIMATE SUMMARY

### May 2010

The Climatology Section of the Solomon Islands Meteorological Service produces this monthly Climate summary. It provides a brief summary of Climate condition experienced at Meteorological Stations in the Solomon Islands and compiled at the end of each month. Data presented are still subject to quality control measures.

#### Brief summary

- *South Pacific Convergence Zone (SPCZ) positioned southeast of Solomon Islands from its normal position.*
- *Rainfall in May was normal.*
- *Normal to above normal Sea surface temperatures (SST) in Solomon Islands.*
- **El Nino Southern Oscillation (ENSO) neutral condition now established.**
- *Climate Outlook—June to August 2010, normal to above normal.*

#### May 2010 Climate Update

The South Pacific Convergence Zone (SPCZ) was displaced further south-east of Solomon Islands from its normal position during the month while plots of convection activities was observed over the country resulting in normal rainfall almost across the country.

Rainfall was generally normal across the country during the month of May. Auki, Henderson, Honiara, Kirakira, Lata and Munda recorded normal rainfall while only Taro recorded below normal rainfall. Henderson recorded the lowest monthly total rainfall of 110mm, while Lata recorded the highest total rainfall of 306mm. Auki, Kirakira and Munda recorded just above 200mm while Henderson, Honiara and Taro recorded below 200mm mark.

According to the satellite picture, intervals of fine weather was observed across the country. A region of less upper level cloud exits over northern part of Solomon Islands which resulted in less rainfall from pervious month on the stations in the north while more enhanced convection in the southern part of the country. Variable winds of 3 to 5 knots were predominant while general atmospheric circulation recorded across the country during the month was 1010.0hpa.

The Sea Surface Temperature (SST) in the Solomon Islands during the month was near climatology while there was a general pattern of warmer SST across the Tropical Pacific which indicates that generally, tropical Pacific SST values are now in the neutral level. In the South Pacific, warm SST anomalies above 1°C are present in Kiribati and North and east of Papua New Guinea. Globally, May SSTs were the second warmest on record for May, at 0.55°C above average.

El Niño condition now ceased and neutral condition now persist, while sea surface temperatures in the central Pacific have cooled during the last month, but still within the neutral threshold. The Trade winds and cloudiness in the central Pacific fluctuated around normal values.

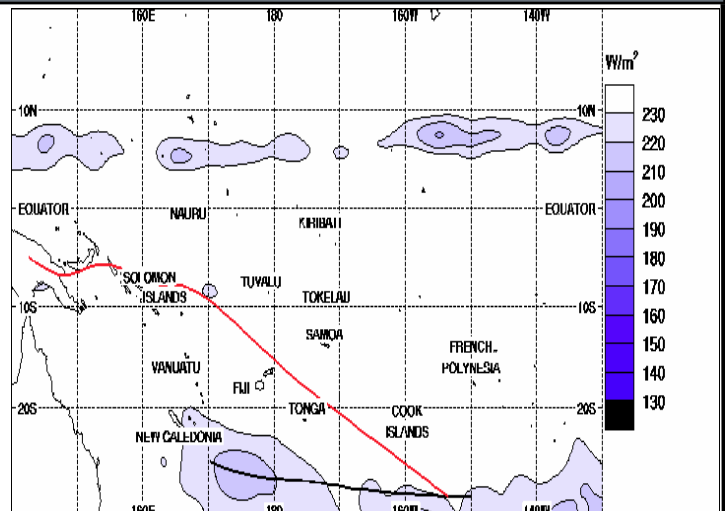


Fig 1 - Black line average position of SPCZ positioned in May 2010, red line average long term position of SPCZ—Source BOM.

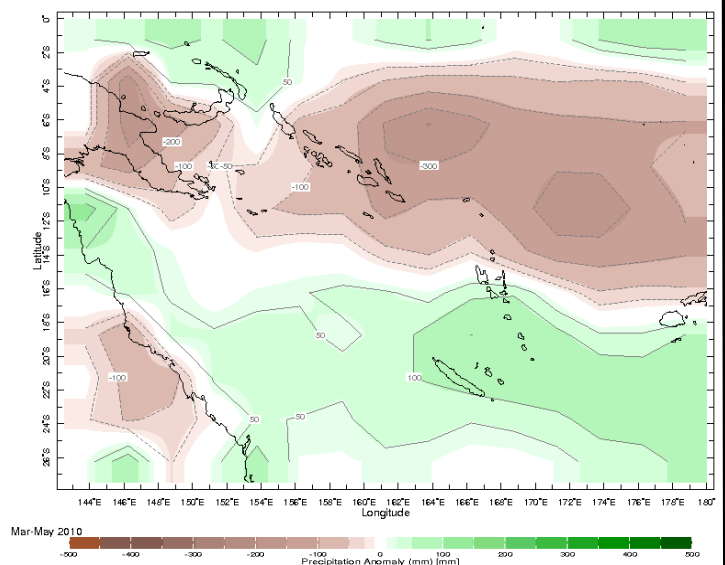


Fig 2. Source—NOAA NCEP May 2010 rainfall anomalies

STATIONS	PERIODS (YEARS)	MAR Rainfall (mm)	APR Rainfall (mm)	MAY Rainfall (mm)	33%tile Rainfall (mm)	67%tile Rainfall (mm)	Median Rainfall (mm)	Ranking
Auki	1962 – 2010	358	253	212	167	246	215	24 of 48
Henderson	1975 – 2010	409	77	110	82	148	110	18 of 35
Honiara	1954 – 2010	558	120	112	84	150	123	24 of 56
Kirakira	1965 – 2010	541	70	246	222	356	270	20 of 44
Lata	1975 – 2010	588	268	306	264	381	329	16 of 36
Munda	1962 – 2010	489	283	239	201	308	252	23 of 49
Taro	1975 – 2010	210	201	187	241	307	264	4 of 33

Fig 3. Rainfall Table in millimeters.

Generally, maximum and minimum air surface temperature during May was normal to above normal across the country, except for Munda minimum temperature which was below normal. Honiara was warmer than the rest of the country with 32.1°C while the rest are below the figure. Auki, Henderson, Honiara and Munda recorded above normal while Lata and Taro recorded normal maximum temperature.

Minimum air temperature recorded across the country was normal to above normal. Auki, Honiara and Lata recorded

warmer than cool temperature while Henderson and Taro recorded normal cool temperature during the month. Only Munda recorded below minimum temperature of 23.6°C.

The General air temperatures recorded during the month of May was normal to above normal for maximum and minimum temperatures across the country. No extremes records were observed during the month.

Stations	Temperatures in °C (Degree Celsius)							
	May Max Temp	33% Max Temp	66% Max Temp	Remarks	May Min Temp	33% Min Temp	66% Min Temp	Remarks
Auki	31.1	30.1	30.7	Above normal	23.9	23.2	23.5	Above normal
Henderson	31.7	30.9	31.2	Above normal	22.8	22.5	22.8	Normal
Honiara	32.1	30.6	31.1	Above normal	24.2	22.7	23.4	Above normal
Lata	30.3	30.0	30.3	Normal	24.8	24.1	24.4	Above normal
Munda	31.0	30.4	30.8	Above normal	23.6	23.8	24.1	Below normal
Taro	30.7	30.3	30.7	Normal	24.5	24.3	24.7	Normal

Fig 4. Maximum & Minimum Temperatures (°C).

### El Nino Southern Oscillation (ENSO)

El Niño Southern Oscillation (ENSO) indicators across the Tropical Pacific are now in neutral condition and therefore, confirms that El Niño event is now cease.

The Southern Oscillation Index (SOI) value has continue to fluctuate during the past weeks as monthly value for month of May was +10. The persistent positive value of SOI above +8 may indicate trend toward La Nina however still in neutral conditions.

Sea Surface Temperature in the central Pacific have cooled in the last month while ENSO neutral condition still persist. Trade winds and cloudiness also fluctuate around normal values in the central Pacific.

Most of the international Climate analysis are suggesting persistent cooling in the tropical Pacific Ocean sea surface temperature to below La Nina thresholds in the coming months.

SSTA 1.0X1.0 NMOC OCEAN ANOMALIES (C) 20100501 20100531

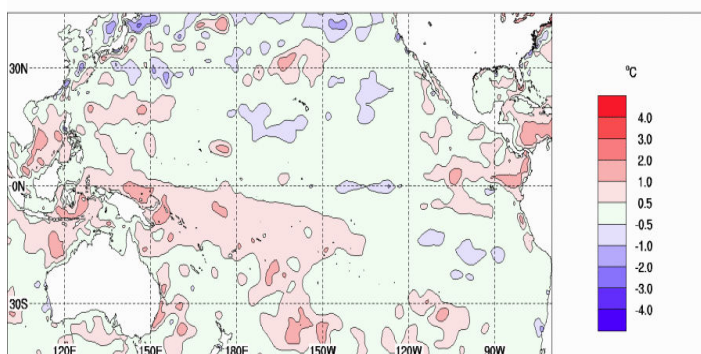
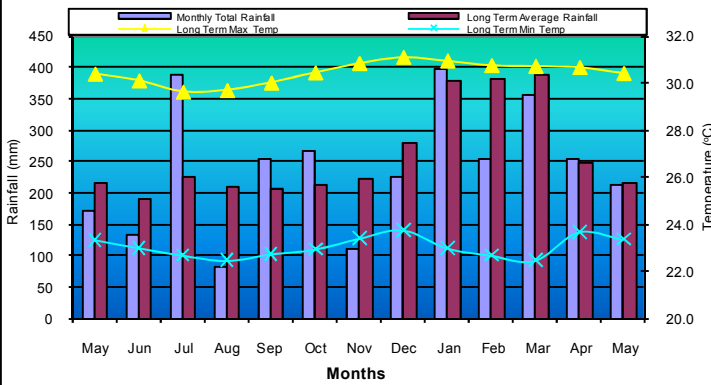


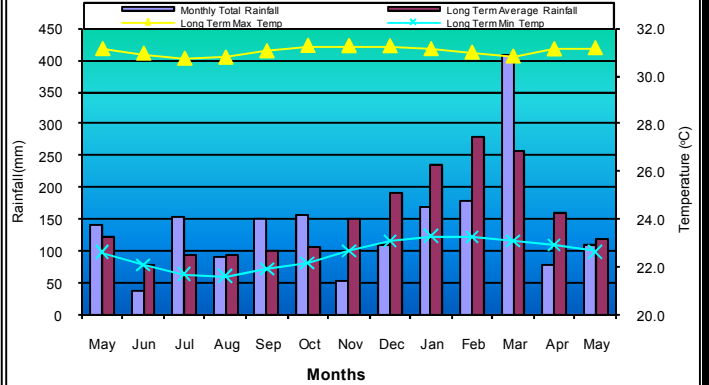
Fig 5 - Mean Sea Surface temperature anomaly distribution for May 2010 – Source BOM.

## Rainfall Records and Temperatures

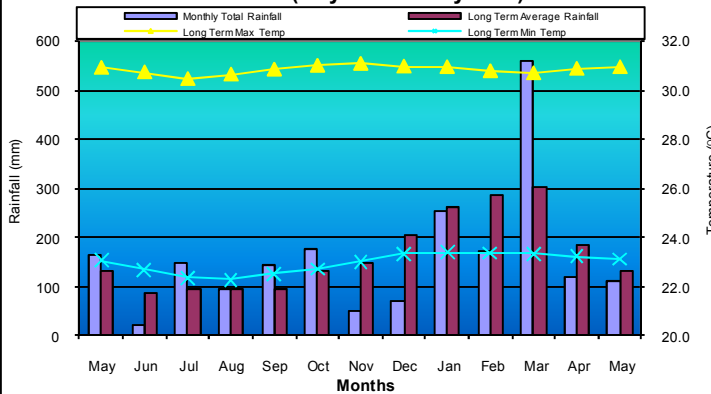
**Auki Rainfall Records and Temperatures for the last 13 months (May 2009 to May 2010)**



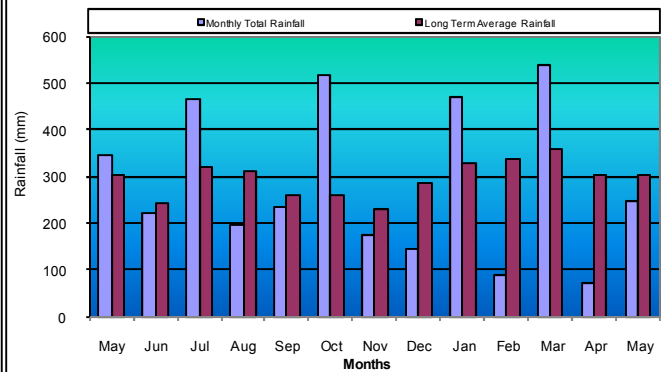
**Henderson Rainfall Records and Temperature for the last 13 Months (May 2009 to May 2010)**



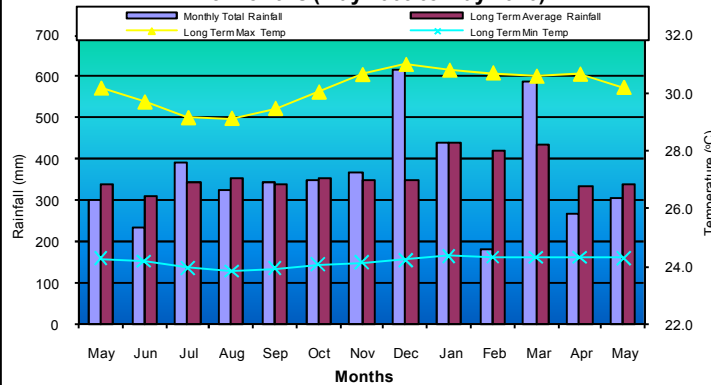
**Honiara Rainfall Records and Temperature for the last 13 months (May 2009 to May 2010)**



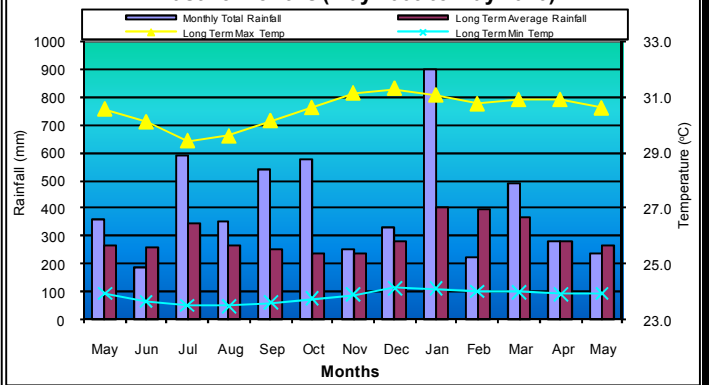
**KiraKira Rainfall Records for the last 13 months (May 2009 to May 2010)**



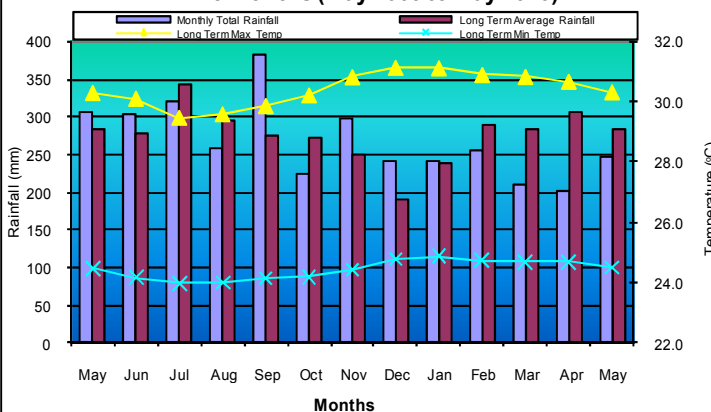
**LATA Rainfall Records and Temperatures for the last 13 months (May 2009 to May 2010)**



**Munda - Rainfall Records and Temperatures for the last 13 months (May 2009 to May 2010)**



**Taro Rainfall Records and Temperature for the last 13 months (May 2009 to May 2010)**



## Rainfall Validation - March to May 2010

STATIONS	Three months total Rainfall (mm)	Validated Rainfall (mm)	Forecasted Rainfall (mm)	33% Rainfall (mm)	66% Rainfall (mm)	Median Rainfall (mm)
Auki	823	Normal	Below normal	732	936	826
Henderson	596	Normal	Normal	437	590	515
Honiara	791	Above normal	Normal	543	661	606
Kirakira	857	Normal	Normal	853	1037	909
Lata	1162	Normal	Below normal	994	1180	1092
Munda	1011	Above normal	Normal	805	981	905
Taro	589	Below normal	Below normal	815	955	886

Normal to below normal rainfall was forecasted for Solomon Islands during the period with projected normal convection conditions. The forecasting skills for the period was generally good except for Auki and Munda which was very low.

The March—May 2010 forecast validation was calculated for seven climate stations across the country which indicate that Henderson, Kirakira and Taro were consistent with their forecast while Auki, Honiara and Munda were inconsistent.

Auki, Henderson, Kirakira and Lata recorded normal rainfall while Honiara and Munda recorded above normal and Taro below normal. Lata recorded the highest total rainfall of

1162mm during the period while Munda recorded the second highest rainfall of 1011mm. Rest of the stations recorded below 1000mm mark with Taro recorded the lowest total of 589mm.

The substantial rainfalls recorded during the period were received during the month of March. This was resulted from a tropical system associated with active trough located south of the country which resulted in Tropical cyclone Ului. As a result many flooding were experienced in many parts of the country during the period of Tropical cyclone Ului which caused few casualties and damages to properties.

## Solomon Islands Rainfall Outlook— June to August 2010

Normal to above normal rainfall is forecasted for most parts of Solomon Islands for the period—June to August except for Kirakira which is likely to be climatology condition. Enhance convection is likely to be over most parts of the country as the South Pacific Convergence Zone (SPCZ) is likely to be over the country .

Based on the current climate condition, Auki, Honiara and Lata are likely to be normal while Henderson, Munda and Taro are likely to be above normal. Climatology condition is projected for Kirakira for the period.

The rainfall forecast for Solomon Islands during the period begin to indicate trends opposite to that of El Niño which concluded that neutral conditions now persist in the Tropical Pacific Ocean.

Sea surface temperatures in the central Pacific now cooled but remain within the neutral threshold and; trade winds and cloudiness have fluctuate near normal values. Most of the climate predictions forecast that tropical Pacific will continue to cool below La Nina threshold in the coming months.

Forecasting skills for period for Solomon Islands is low to very low. Henderson, Honiara, Lata and Taro skills is very low while Auki, Kirakira and Munda is low. Generally, the forecasting skills for most of the stations during this time of the year is not quite significant as it indicate the inter—annual seasonal variations on our rainfall.

Normal to above normal sea surface temperatures (SST) is forecasted for Solomon Island as global models continue to

show ENSO neutral conditions across the equatorial tropical Pacific. The SST forecast confidence is moderate to high.

STATIONS	Below Normal (%)	33% Rainfall (mm)	Normal (%)	66% Rainfall (mm)	Above Normal (%)
Auki	34	534	45	668	20
Henderson	31	228	28	305	41
Honiara	24	222	59	330	17
Kirakira	37	690	33	980	30
Lata	34	864	38	1233	28
Munda	18	754	30	979	53
Taro	23	800	35	1014	42

Fig 6 - Solomon Islands Seasonal Climate Outlook data - June to August 2010