

THE RETROSPECT



FIJI METEOROLOGICAL SERVICE



Director's Message

Dear Colleagues,

There has been a lot of uncertainty during the last few months, causing many of us to rethink our short-, mid and long-term plans.

We have had to rethink our travel plans, holiday get together, schooling for children and grandchildren, shopping, entertainment, working from home, healthcare and so much more.

Since COVID-19 has hit our beautiful country, there has been “locked down” in areas where our officers reside making commuting challenging. Strict measures have been taken very professionally to ensure safety at work in the daily routine at Fiji Meteorological Service.

During the quarter there were two occurrences of tropical depression which brought about heavy rains and flooding over the Group. With all that’s happening around the country, the Fiji Meteorological Service continues to deliver its service to the community.

Misaeli Funaki

Important News and Updates

- 1. Weather Highlights
- 2. FMS Strategic Planning Workshop
- 3. World Meteorological Day 2020
- 4. 3rd Quarter Celebrations

WEATHER HIGHLIGHTS

February

The El-Niño Southern Oscillation was neutral during February, but leaning towards a weak El-Niño. In a typical ElNiño like pattern, the South Pacific Convergence Zone was displaced to the northeast of its normal position, away from the Fiji Group. Enormous southeasterly wind anomalies of 3.5-4.5m/s were prevalent in the Fiji region during the month.

Below average to well below average rainfall was recorded at most of the places in Fiji during the month. Out of the 28 stations, 11 stations recorded well below average rainfall, 12 below average, 3 near average rainfall, while Monasavu was the lone station with above average rainfall.

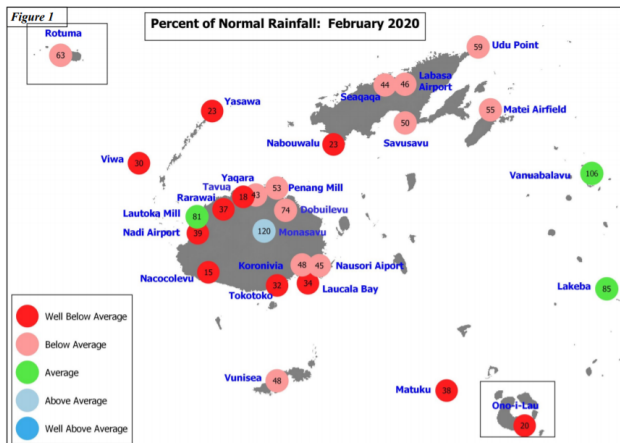

Extended period of consecutive dry days (days with rainfall <0.1mm) were recorded at most places during the second half of the month. Labasa Airport, Matei Airfield and Sigatoka registered 12 straight days without any rainfall, followed by Nadi Airport and Momi with 11 and Kubulau with 10. The driest station during the month was Momi with 25mm of total monthly rainfall, followed by Ono-i-Lau with 35mm, Nacocolevu with 47mm and Yasawa-i-Rara with 47mm.

It was driest February on record at Nabouwalu since observation began in 1918. This was a second consecutive month with significantly drier than usual condition in most parts of the country.

While near average or above average rainfall was received at most places during December due to the rainfall received through the passage of tropical cyclone Sarai and its predecessor tropical depression, TD03F, in the last week, it was comparatively dry in the rest of the month.

Furthermore, it was drier than normal in most parts of the country during November. As at end of February, a number of station in the Western, Northern and Central Divisions were in a meteorological drought state on a 3 and 6-month timescales.

A few new record high air temperatures for February were registered during the month. Yasawa-i-Rara and Viwa recorded new high mean monthly temperatures since observation began in 1950 and 1956, respectively. A new high daily maximum air temperature was registered at Labasa Airfield during the month with the observation spanning back to 1956. A record high daily minimum air temperature at Laucala Bay (Suva) for February was observed during the month since observation began in 1942 and a record high mean monthly minimum air temperature at Rotuma for February was registered since observation began in 1933.

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March

The El-Niño Southern Oscillation status was neutral during March, that is neither El-Niño nor La-Niña. Series of troughs of low pressure system, together with moist northeasterly wind flow resulted in significant rainfall in parts of the country during the month.

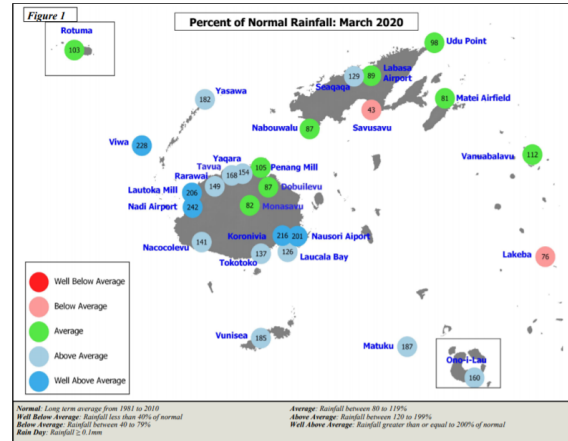
A number of places in Viti Levu recorded flash floods between 17th to 21st. This was mainly due to lingering trough of low pressure over Fiji. Prior to this trough affecting the group, wet weather prevailed across country thus the soil was considerably saturated after attaining tropical cyclone intensity on the 27th, Sarai passed to the west of the Fiji Group, before making an easterly turn on the south of Kadavu in the early hours of the 28th, passing through the Lau Group in a southeasterly direction and exiting the Fiji Waters by 30th.

Nabukaluka registered 332mm of rainfall on the 18th, followed by Koronivia with 269mm, Naqali with 230mm, Navolau and Koronivia with both 213mm, Nausori Airport with 199mm and Nasinu with 173mm, all on the same day.

Furthermore, Koronivia, Nausori Airport, Nasinu and Tokotoko received 374mm, 285mm, 267mm and 221mm of rainfall, respectively, over a 48-hour period between 18th and 19th. This heavy rainfall then later shifted to the Western Division, with Nadi Airport registering 214mm of rainfall between 20th and 21st, followed by Momi with 173mm and Lautoka Mill with 164mm on those same days. Due to prolonged wet weather, a major landslide occurred at the Namosi Quarry towards Mau Road, Navua on the 20th, which resulted in the unfortunate loss of three lives.

There were reports of the loss of two more lives during these rainfall events, with drowning in swollen creeks in separate incidents at Teidamu,

Lautoka and Togovere, Tavua.

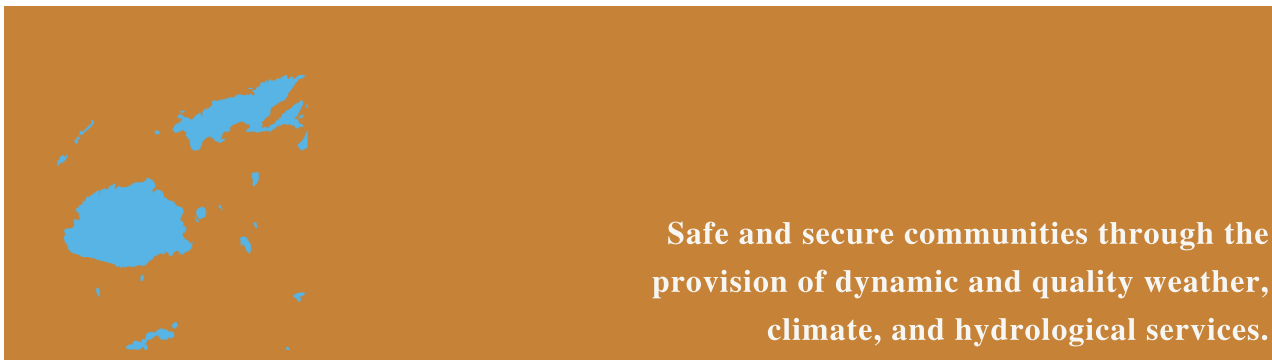


More than twice the normal total rainfall was registered at Nadi Airport, Lautoka Mill, Viwa, Nausori Airport and Koronivia. Furthermore, 11 other stations recorded above normal rainfall, while 9 received near normal rainfall. On the other hand, Lakeba and Savusavu Airfield registered below normal rainfall.

The total monthly rainfall at Koronivia during the month ranked as the wettest March on record since observations began in 1950.

TABLE 1. CLIMATE RECORDS ESTABLISHED IN MARCH 2020

Element	Station	Observed (record)	On	Rank	Previous (record)	Year	Records Began
Total Monthly Rainfall	Koronivia	798.0mm	-	New High	733.0mm	1969	1950
Daily Maximum Temperature	Tokotoko (Navua)	35.8°C	15 th	New High	34.5°C	2018	1992
Daily Maximum Temperature	Lakeba	33.6°C	11 th	New High	33.3°C	1992	1928
Mean Monthly Max Temperature	Tokotoko (Navua)	31.5°C	-	New High	31.3°C	2018	1992
Daily Minimum Temperature	Tokotoko (Navua)	27.0°C	24 th	New High	26.5°C	2010	1992

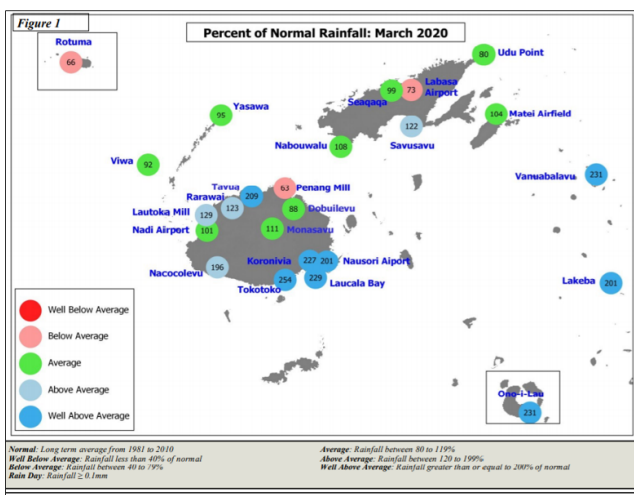


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April

The weather varied during the month with widespread rainfall and severe tropical cyclone Harold experienced in the early parts of the month, followed by a period of dry conditions and then the month ended with significant rainfall and flooding in the last week, especially in the Central Division.

Rainfall varied in the Western and Northern Divisions during the month ranging from well above average to below average. On the other hand, more than twice the normal rainfall was recorded across the Central and Eastern Divisions. Overall, out of the 24 stations, 8 recorded well above average rainfall, 4 above average, 9 near average, while Penang, Labasa Airport and Rotuma recorded below average rainfall.



Severe tropical cyclone Harold affected the Fiji Group as a Category 4 system. It made a direct landfall over Kadavu, with hurricane force winds also experienced over the Coral Coast on Viti Levu and southern Lau Group. The gale force winds extended to the rest of Viti Levu and Lomaiviti Group. During the passage of Harold, Ono-i-Lau recorded the highest sustained wind of 138km/hr, followed by Matuku with 112km/hr. The maximum recorded wind gust was at Ono-i-Lau with 191km/hr, followed by Momi with 147km/hr. Harold

also resulted in damaging heavy swells with sea flooding of low lying areas, storm surges and phenomenal seas experienced over the Western, Central and Eastern Divisions. An unfortunate life was lost in Kadavu.

In association with tropical cyclone Harold, there were reports of tornadoes at multiple locations in the Central Division on the 8th. A number of houses were severely damaged.

Harold brought significant rainfall in parts of the Central, Western and Eastern Divisions. The highest 24-hour rainfall was at Monasavu with 213mm, followed by Nadarivatu with 209mm. Very high intensity rainfall was also experienced, with the Ba town inundated with flood waters.

During the last week of the month, an extended period of heavy rainfall was experienced in the Central Division. The highest 24-hour rainfall during this event was at Waimanu with 209mm, followed by Nasinu with 204mm, both on the 28th. Over a 48-hour period between 27th and 28th, Tokotoko (Navua), Koronivia and Nasinu received 346mm, 332mm and 320mm of rainfall, respectively. Consequently, widespread flooding in the Central Division was experienced.

It was the wettest April on record at Nasinu in 11 years of observations. Furthermore, Nasinu's 24-hour rainfall on the 28th was a record high 1-day rainfall for April at the station.

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FIJI RAINFALL & TEMPERATURE OUTLOOK

JUNE TO AUGUST 2020 RAINFALL OUTLOOK

The statistical rainfall prediction model used by Fiji Meteorological Service does not have a biasness towards either significantly wetter or drier than normal during June to August season in most parts of Fiji. In a similar manner, the global climate models on average also do not favour either extremes in the Fiji region.

The SCOPIC model rainfall predictions are as follows :

Western Division : Equal chances of below normal, normal and above normal rainfall (Confidence - low)

Central Division : Normal or below normal (Confidence - low)

Northern Division : Equal chances of below normal, normal and above normal rainfall (Confidence - moderate)

Eastern Division : Equal chances of below normal, normal and above normal rainfall (Confidence - low)

Rotuma : Equal chances of below normal, normal and above normal rainfall (Confidence - low)

Global Rainfall Models (e.g. ECMWF, NSIPP, IRI, NCEP, etc.):

The global climate models on average favour neither above normal or below normal rainfall in the Fiji region during the June to August 2020 period

MARCH TO MAY 2020 RAINFALL OUTLOOK

The SCOPIC model rainfall predictions are as follows:

Western Division : Normal or below normal (Confidence - good)

Central Division : Normal or below normal (Confidence - moderate)

Northern Division : Normal or below normal (Confidence - moderate)

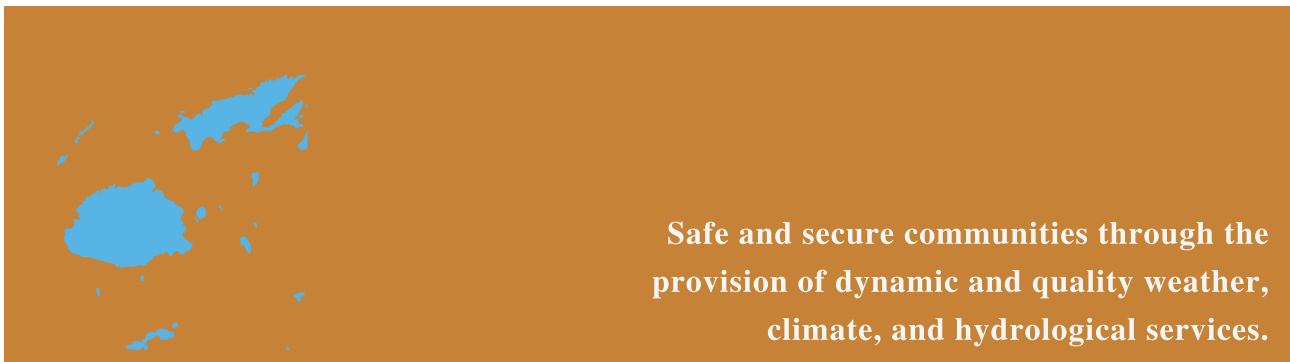
Eastern Division : Normal or below normal (Confidence - moderate)

Rotuma : Equal chances of below normal, normal and above normal rainfall (Confidence - low)

TEMPERATURE OUTLOOK:

The air temperatures over the Fiji Group are favoured to be above normal during both June to August and September to November 2020 periods. As the country is now into the Cool/Dry season, occasional periods of significantly cool nights are likely, especially during the June to August period.

Sea surface temperatures in the Fiji region are expected to be above normal during the June to August 2020 period.



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EVENTS

FMS STRATEGIC PLANNING WORKSHOP



Staff of Fiji Meteorological Service pictured with UNDP RESPAC Associate Manager, Mr. Navin Bhan (front row-first from left) during the Annual Work Planning (AWP) Meeting held at the Pearl Resort in Pacific Harbour.

The Annual Work Planning (AWP) Meeting is a new initiative that the Disaster Resilience for Pacific Small Island Developing States (RESPAC) project has trialed with the Vanuatu Meteorological and Geo Hazards Division (VMGD) earlier in February and now with the Fiji Meteorological Services (FMS). The AWP exercise was carried out so that joint activities (i.e. those funded by RESPAC but implemented by FMS) planned in the current year are implemented in a timely fashion and able to demonstrate value to, and contribute to FMS's key priority areas.

In previous years since RESPAC has started assisting FMS, the RESPAC Associate Manager has consulted FMS in the beginning of the year to confirm activities, finalize work plan and then release funding towards implementation.

This approach while practical and workable over the last few years was devoid of any holistic level planning. Additionally, it only catered to RESPAC's core interest area under component 1 which is on Climate Early Warning Systems (CLEWS). It has now become clear, after three years of implementation that a successful CLEWS system can only be built if all the different sections/divisions of the FMS work in tandem

to produce the data and information on which CLEWS can be mounted and operationalized. Hence in 2020, RESPAC is trialing out a different approach which hopes to bring FMS and its thematic divisions (i.e. Forecasting, Climate, Technical Services, Reporting and Facilities, Information Technology, Aerodrome Reporting and Finance and Operations) to a common planning platform on which they can map out their individual and joint activities. The meeting also identified overlaps or duplication so that funding can be made available for activities that have been identified and approved as per the planning process.



FMS Staff taking part in a group discussion.



FMS Senior Scientific Officer Climatology, Mr. Bipen Prakash presents during the meeting.



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COMMUNITY AWARENESS- KADAVU



Awareness session conducted at Vunisei Primary School.

An awareness team from Fiji Meteorological Service consisting of Senior Technical Officer (STO-T) Mr Sosiceni Dumukuro, STO-C Ms Varanise Vuniyayawa, Senior Scientific Officer (SSO-F) Mr Samisoni Waqavakatoga and Mr Mosese Seniucidromo conducted meteorological awareness to schools and communities in Kadavu Island from 6th March to 19th March 2020.

Meteorological awareness on weather, climate and hydrology and the hazards that is associated with it was conducted to villages, school students and teachers to enhance their knowledge on its impacts and threats. Thus, can minimise casualties, destruction to properties, livestock and plantations when the participants adhere and know the advisories and warning to alert them to prepare well in advance.



Awareness session conducted at Muani Village.



Awareness session conducted at Naivikadi Village.




Awareness session conducted at Vunisei Village.



Awareness session conducted at Natumua Village.

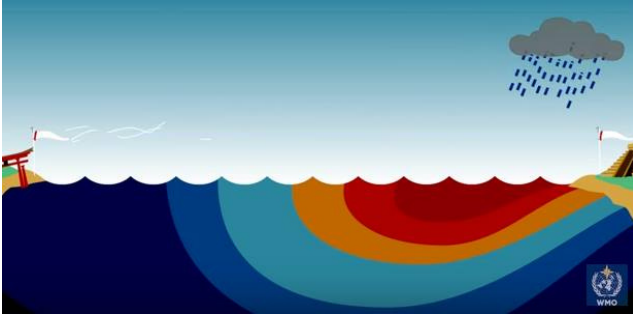


Awareness session conducted at Nalotu Village.



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WORLD MET DAY 2020



The theme for 2020 is “Climate and Water”. The theme aligns with the theme of World Water Day 2020, focusing on climate change and water.

The World Meteorological Day (WMD) is celebrated worldwide every year on the 23rd March. This Day coincides with the coming into being of the World Meteorological Organization (WMO) as the main international focal point for World Weather Watch services, forecasting, climate services and standards.

Each year during this worldwide celebration, there is a focus on a theme of topical interest, weather, climate or water-related issues. The theme for 2020 is “Climate and Water”. The theme aligns with the theme of World Water Day 2020, focusing on climate change and water.

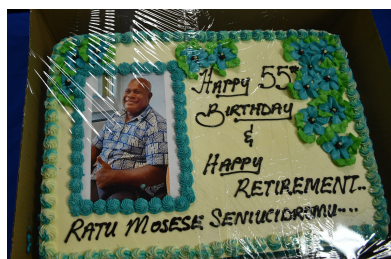
The World Meteorological Day celebration in Fiji provides a unique opportunity for the Fiji Meteorological Service to raise awareness on weather, climate and hydrology, to the general public, schools and stakeholders. It also provides an opportunity for the Department to reach out to the public in full capacity. The Department realises the need to maximise in a way to educate and reach out to the public.

The 2020 World Meteorological Day was planned to be celebrated in Vunisea, Kadavu but was later cancelled due to the COVID-19 restrictions put in place.



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3RD QUARTER STAFF CELEBRATIONS



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