

December 2020 Weather Review





SEYCHELLES METEOROLOGICAL AUTHORITY

January 2021 Climate and Weather Bulletin



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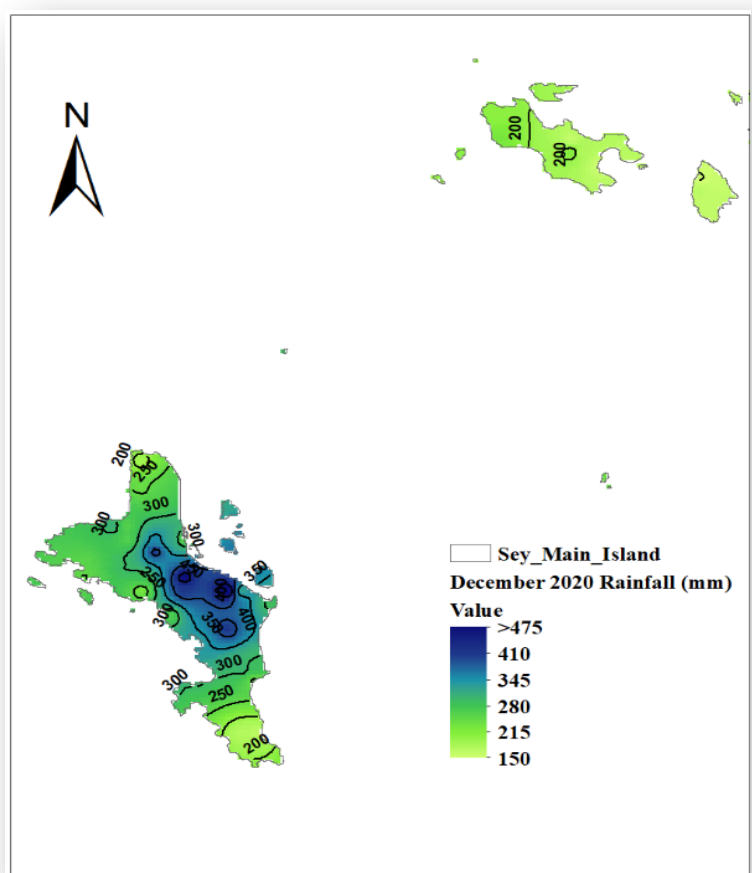
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1.0 INTRODUCTION

This bulletin reviews climate conditions over *Mahe, Praslin, and La Digue* and highlights the status of the climate systems during the month of December 2020. We are now well into our rainy season which is usually quite wet. December 2020 was marked by La Nina conditions which prevailed in the Pacific Ocean and consequently influenced the weather over the Seychelles Islands. During the month of December, there were three named storms that formed in the Southwest Indian Ocean basin (Severe tropical storm Bongoyo 4 Dec – 10 Dec, Severe tropical storm Charlane 19 Dec – 30 Dec, and Severe tropical storm Danilo 28 Dec – 12 Jan) which as a result increased rainfall and wind strength over the inner and outer islands.

2.0 RAINFALL PERFORMANCE IN DECEMBER 2020

2.1 Spatial Rainfall Distribution



The rainfall map for December 2020 shows good spatial distribution and rainfall amounts over Mahe, Praslin and La Digue. Of the three islands, Mahe received most of the rainfall with a greater concentration over the central part. Praslin received slightly less with more being reported towards the northwestern part of the island. Whereas La Digue recorded less than both Mahe and Praslin with a more even distribution. All stations across the three islands recorded rainfall amounts well above the 100 mm mark.

Figure 1: December 2020 Spatial Rainfall Distribution

Rainfall was recorded at 38 stations across Mahe, Praslin and La Digue during the month of December 2020. Comparing these rainfalls to their respective long-term mean, it shows that only 8 stations managed to exceed their long-term mean during this period (Seychelles international Airport, Rawindsonde at Pointe La Rue, Anse Boileau, Barbarons Biodiversity, Cascade, Montagne posee, and Anse Royale waterworks). The greatest amount was recorded at Cascade waterworks with 491.1 mm, while the lowest was at La Digue desalination station with an amount of 148.4 mm.

2.2 December rainfall totals compared to the long-term mean

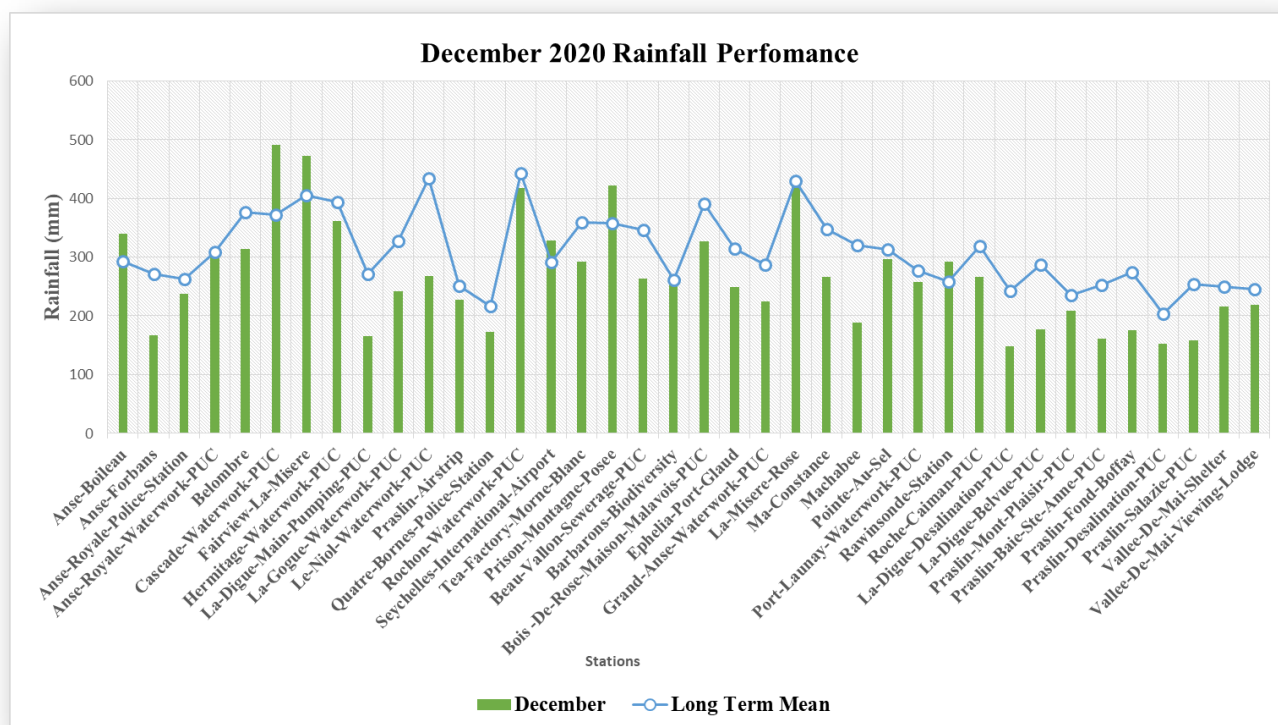
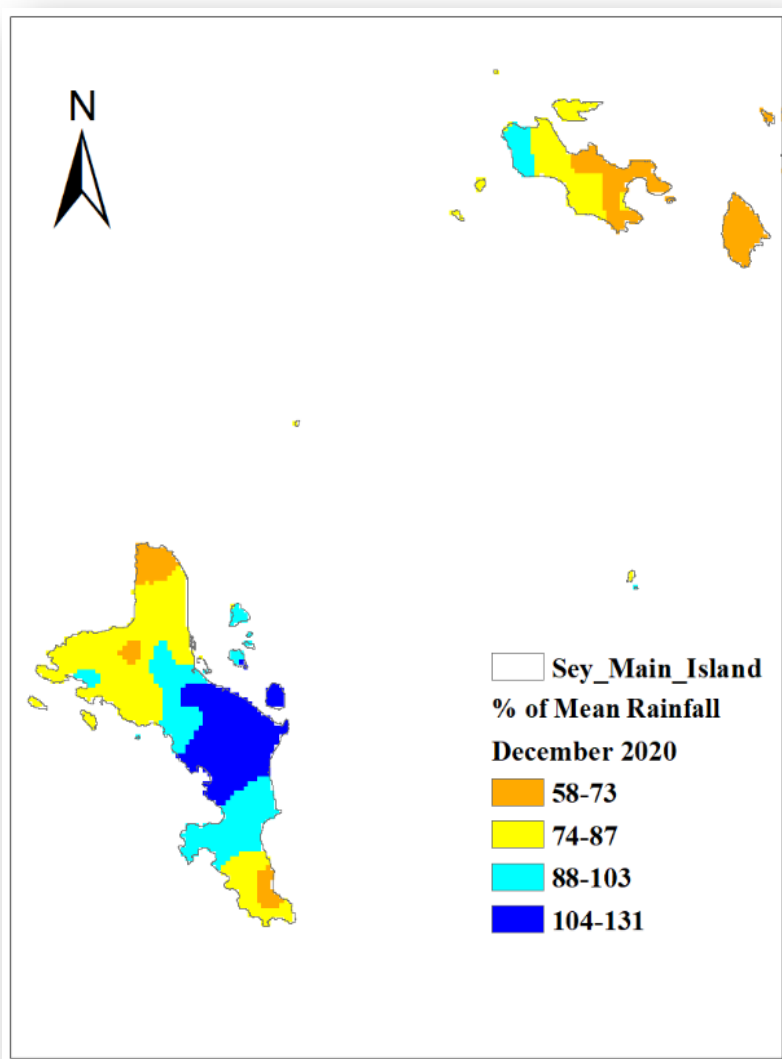


Figure 2: December rainfall totals compared to long-term mean

2.3 Percentage of mean Rainfall for December 2020



Looking at what these rainfalls meant in terms of percentage of the long-term mean for each station (Figure 3). Again it shows that the central part of Mahe dominated with the highest percentage which varied between 4 to 31 percent above the long-term mean. The highest was recorded at Cascade with 132% representing 32 percent above the long-term mean, whereas the lowest (59%) was recorded at Machabee representing a deficit of 41%. All stations on Praslin and La Digue did not receive enough rainfall to exceed the long-term mean.

Figure 3: Percentage of mean Rainfall for December 2020



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STATION	DECEMBER	LTM	BN	AN	BN?	AN?	ANOMALIES
Anse-Boileau	340.3	293.4	220.1	366.8	NO	NO	46.9
Anse-Forbans	166.3	271.5	203.6	339.4	YES	NO	-105.2
Anse-Royale-Police-Station	236.7	262.7	197.0	328.4	NO	NO	-26.0
Anse-Royale-Waterwork-PUC	309.4	308.6	231.5	385.8	NO	NO	0.8
Belombre	313.8	376.2	282.2	470.3	NO	NO	-62.4
Cascade-Waterwork-PUC	491.1	372.1	279.1	465.1	NO	YES	119.0
Fairview-La-Misere	472.2	405.7	304.3	507.1	NO	NO	66.5
Hermitage-Waterwork-PUC	361.9	393.9	295.4	492.4	NO	NO	-32.0
La-Digue-Main-Pumping-PUC	165.6	270.6	203.0	338.3	YES	NO	-105.0
La-Gogue-Waterwork-PUC	241.9	327.5	245.6	409.4	YES	NO	-85.6
Le-Niol-Waterwork-PUC	267	433.3	325.0	541.6	YES	NO	-166.3
Praslin-Airstrip	227.7	251.2	188.4	314.0	NO	NO	-23.5
Quatre-Bornes-Police-Station	173	216.3	162.2	270.4	NO	NO	-43.3
Rochon-Waterwork-PUC	417.5	442	331.5	552.5	NO	NO	-24.5
Seychelles-International-Airport	328.5	291.8	218.9	364.8	NO	NO	36.7
Tea-Factory-Morne-Blanc	291.7	359.4	269.6	449.3	NO	NO	-67.7
Prison-Montagne-Posee	421.7	357.6	268.2	447.0	NO	NO	64.1
Beau-Vallon-Sewerage-PUC	263	346.8	260.1	433.5	NO	NO	-83.8
Barbarons-Biodiversity	269.4	261.1	195.8	326.4	NO	NO	8.3
Bois -De-Rose-Maison-Malavois-F	327	390.2	292.7	487.8	NO	NO	-63.2
Ephelia-Port-Glaud	248.3	314.5	235.9	393.1	NO	NO	-66.2
Grand-Anse-Waterwork-PUC	224.2	287.4	215.6	359.3	NO	NO	-63.2
La-Misere-Rose	423	430.3	322.7	537.9	NO	NO	-7.3
Ma-Constance	265.4	347.4	260.6	434.3	NO	NO	-82.0
Machabee	187.7	320.2	240.2	400.3	YES	NO	-132.5
Pointe-Au-Sel	296.1	313.4	235.1	391.8	NO	NO	-17.3
Port-Launay-Waterwork-PUC	257.3	277.2	207.9	346.5	NO	NO	-19.9
Rawinsonde-Station	291.9	257.9	193.4	322.4	NO	NO	34.0
Roche-Caiman-PUC	265.6	318.6	239.0	398.3	NO	NO	-53.0
La-Digue-Desalination-PUC	148.4	242.9	182.2	303.6	YES	NO	-94.5
La-Digue-Belvue-PUC	177	287.7	215.8	359.6	YES	NO	-110.7
Praslin-Mont-Plaisir-PUC	208	235.1	176.3	293.9	NO	NO	-27.1
Praslin-Baie-Ste-Anne-PUC	160.2	252	189.0	315.0	YES	NO	-91.8
Praslin-Fond-Boffay	174.6	273.4	205.1	341.8	YES	NO	-98.8
Praslin-Desalination-PUC	152.1	203.8	152.9	254.8	YES	NO	-51.7
Praslin-Salazie-PUC	158.5	254.2	190.7	317.8	YES	NO	-95.7
Vallee-De-Mai-Shelter	215.8	249.1	186.8	311.4	NO	NO	-33.3
Vallee-De-Mai-Viewing-Lodge	219.1	244.9	183.7	306.1	NO	NO	-25.8

Table 1: Observed rainfall for December

Deeper analysis in table 1 above shows that out of the 38 stations only one received Above Normal rainfall (Cascade), 11 Below Normal, and 26 Normal rainfall amounts throughout December 2020. This highlights the impact of La Nina in reducing our December rainfall as the condition persists in the Pacific Ocean.

3.0 DAILY WEATHER FOR DECEMBER 2020 AT THE SEYCHELLES INTERNATIONAL AIRPORT

3.1 Daily rainfall, relative humidity, maximum and minimum temperatures in December 2020

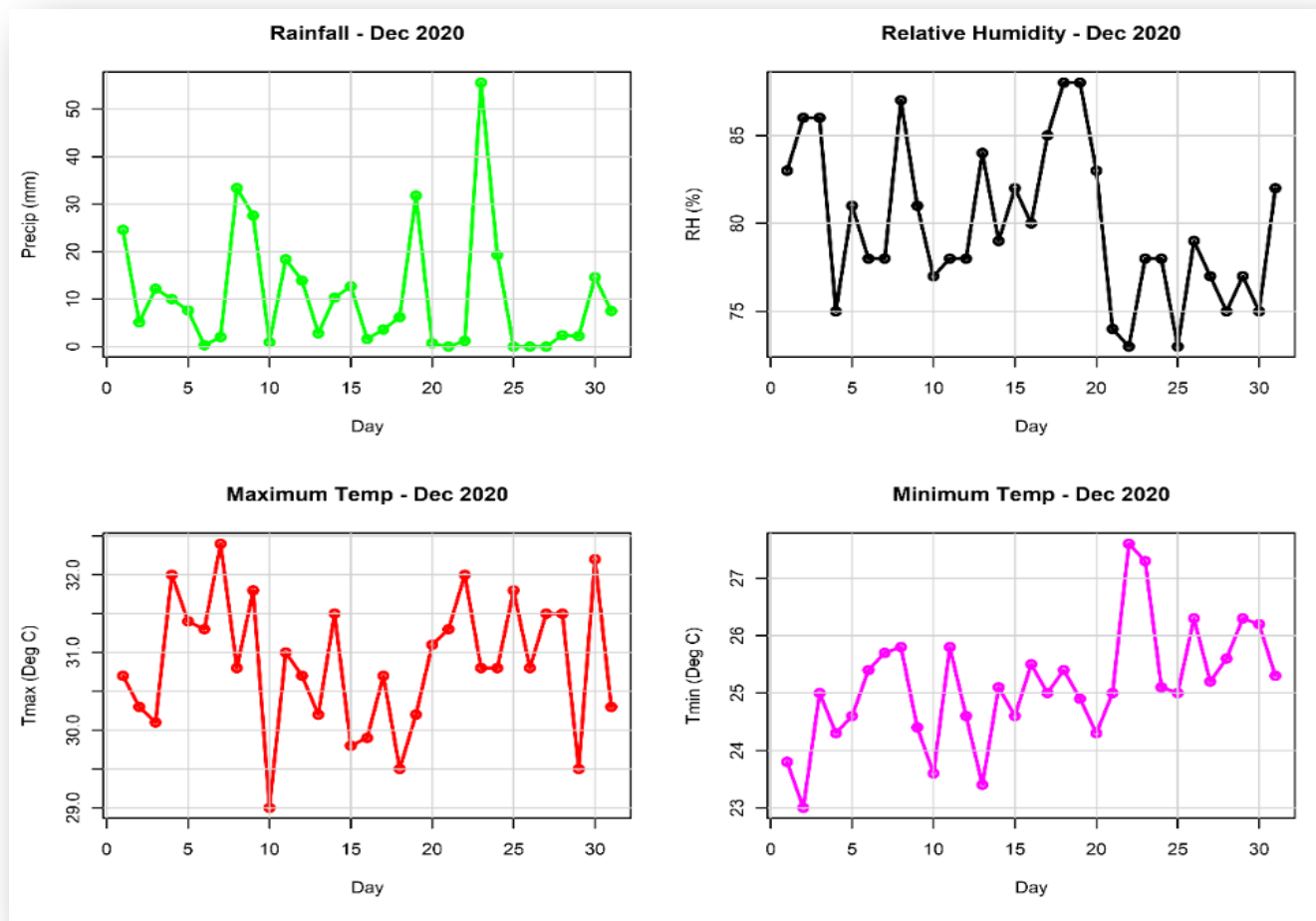


Figure 4: Daily rainfall, relative humidity, maximum and minimum temperatures in December 2020

A maximum of 55.6 mm of rainfall was recorded at the Airport Station on the 23rd of December. The Monthly mean relative humidity for the month was 79.9%, with a maximum of 88% recorded on the 18th and 19th. The highest maximum daily temperature was 32.4 °C recorded on the 7th, while the lowest minimum temperature was recorded on the 2nd with a value of 23 °C.

3.2 Daily solar Radiation, Sunshine hours, Mean Sea Level Pressure, and Surface wind speeds in December 2020

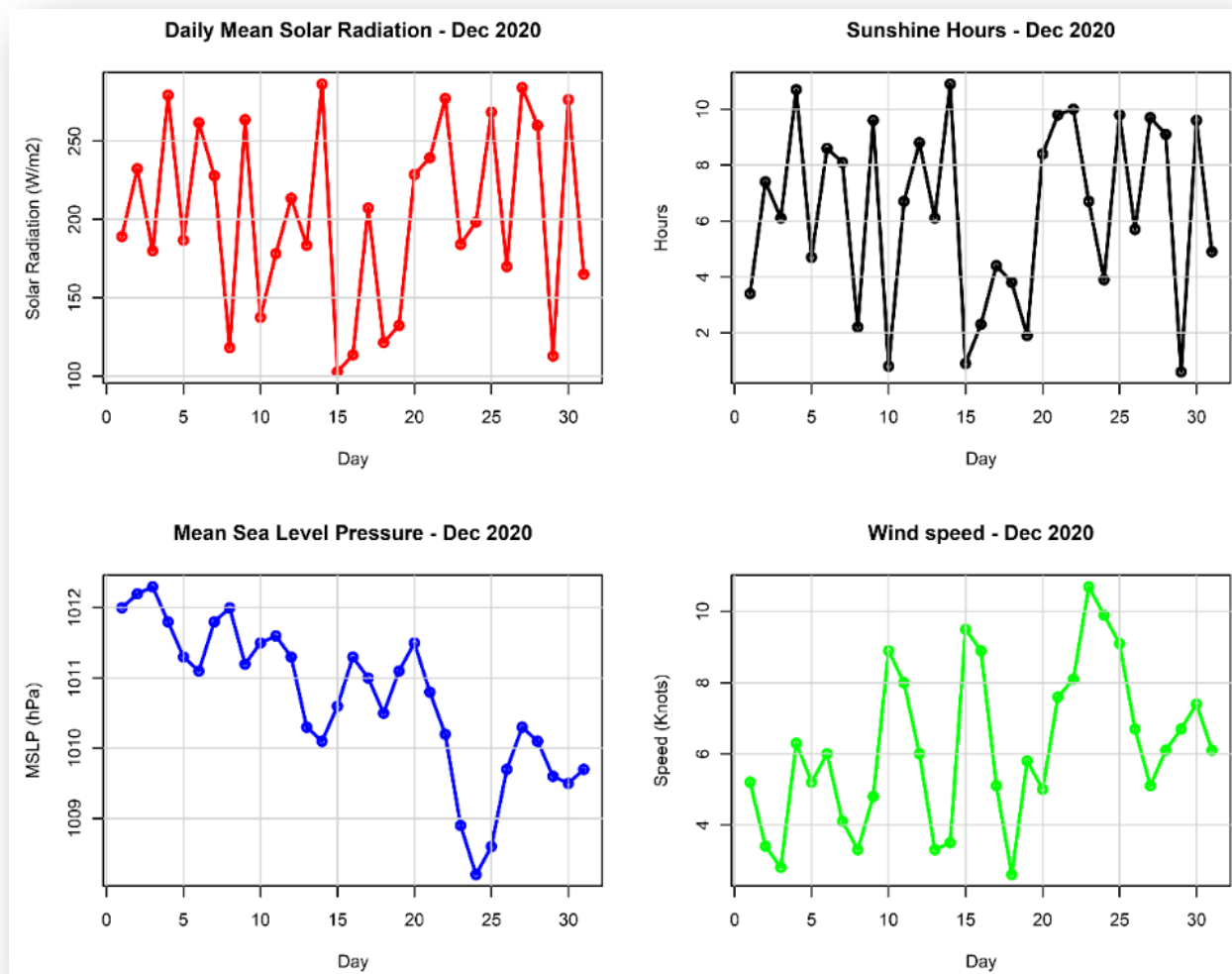


Figure 5: Daily solar Radiation, Sunshine hours, Mean Sea Level Pressure, and Surface wind speeds in December 2020

The average solar radiation during the month of December was 202.6 W/m², a decrease of 19.5 W/m² from the previous month, while the average sunshine hours stood at 6.3 hrs (Figure 5), a decrease of 0.8 hrs. The average monthly wind speed was 6.2 Knots (~11.5 km/hr) an increase of 0.6 Knots (~1.1 km/hr), and the average mean sea level pressure was 1010.7Hpa with the lowest being 1008.2Hpa recorded on the 24th.

4.0 WIND PATTERNS IN DECEMBER 2020

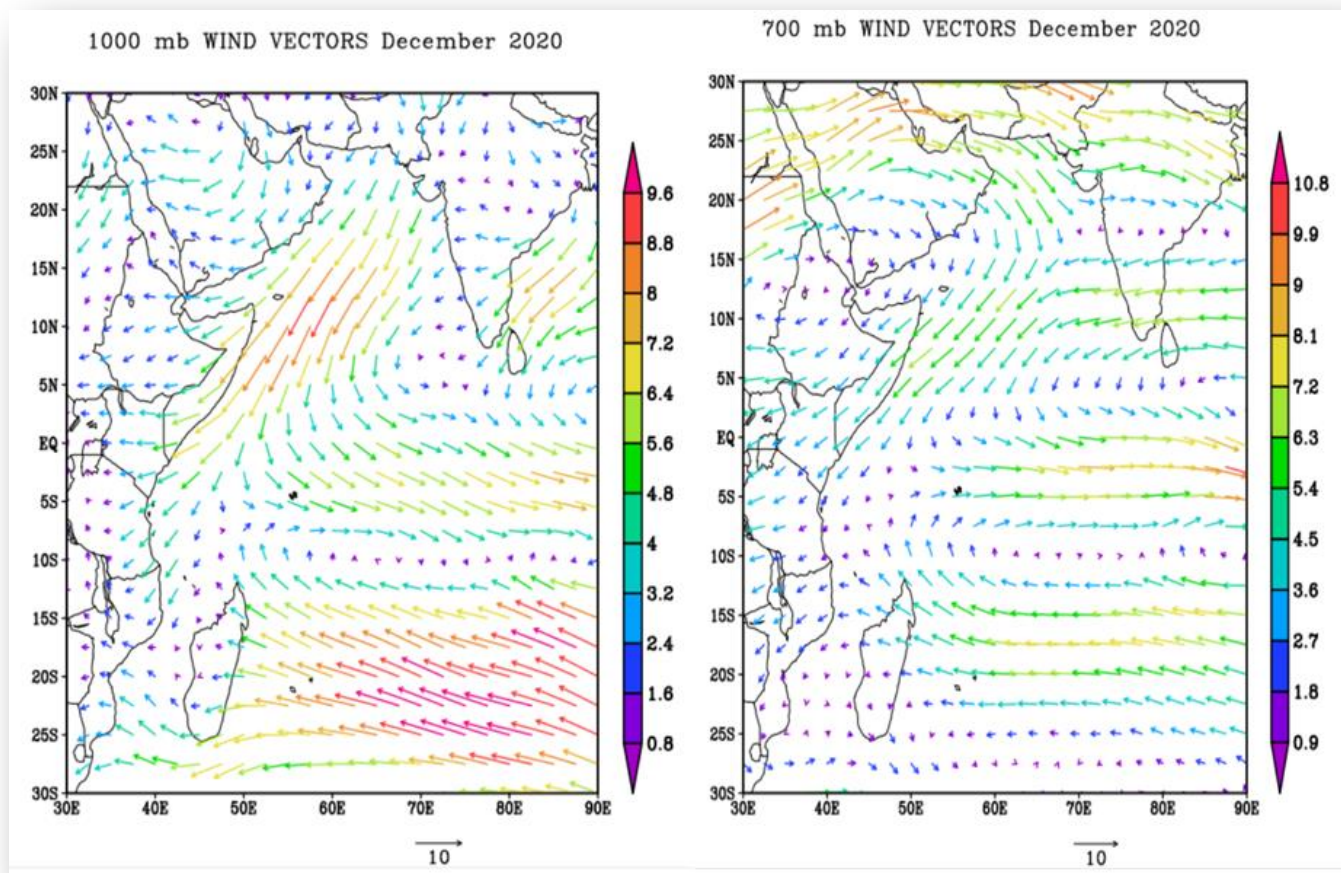


Figure 6: Surface wind flow (left) and wind flow at 700mb (right)

The wind pattern at the surface (1000 mb) shows a clear convergence of the winds just below the main island of Mahe. The same scenario is visible at the 700 mb level. This is a clear representation of the Inter-Tropical Convergence Zone (ITCZ) which usually increases rainfall over Seychelles during this period of the year. Despite the ITCZ being present within the region, its most active part remained east of Seychelles for the better part of the month. Usually, during the La Nina years, the eastern part of the basin receives far more rainfall than the western part due to the ITCZ being more active over this region. The winds maintained a mostly west to northwesterly direction throughout.