

#### **Best Sails**

Past Seasons Weather Routing Study

Metplan.org

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**Product Description** 



Past Seasons Weather Routing is a modern and useful tool for planning navigation strategies. Historical data set of atmospheric and sea conditions (wind, wave, current etc.) is used in order to simulate routes for the past 5 seasons, departing November 1<sup>st</sup>, 4<sup>th</sup> and 8<sup>th</sup>.

Desired Benefits:

- safety
- performance
- comfort



**Boat Settings** 

The boat speed is given by a cross table of true wind speed (TWS) and true wind angle (TWA), known as "polar" (1).

A waves polar is also used and applies a correction to the boat speed for different wave heights and angles (3) .

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**Boat Settings** 

The sails definition and sail selection tables can be found in 4.

When sailing boat speed is less than 4.5kt (VMG), than constant velocity at 5.5kt (motoring).

Boat Speed (polar) corrections:

- ▶ upwind: 85%
- downwind: 85%
- ▶ night: 90%
- best angle upwind: auto
- best angle downwind: auto
- crossed sea: 97% (swell above 2.5m)
- gusts: 95% (greater than 30% of wind speed)
- tacks/gybes: 70% during 10 min (2 cranks)



Routes starting on November 01<sup>st</sup>, 04<sup>th</sup> and 08<sup>th</sup>



**Figure 1:** The orange route is the "pilot" route, constructed from most frequent conditions from digital pilot charts. There are routes departing on Nov 1<sup>st</sup> (black), Nov 4<sup>th</sup> (red) and Nov 8<sup>th</sup> (green) : 2021,2020,2019,2018,2017.



## Routes starting on November 01<sup>st</sup>



**Figure 2:** The orange route is the "pilot" route, constructed from most frequent conditions from digital pilot charts. The black routes are the simulated ones departing Nov 1<sup>st</sup>: 2021,2020,2019,2018,2017.





**Figure 3:** 2021 route. It took 16 days. Mostly downwind 52% and 47% reaching. No tacks and only 3 gybes. 54 sail changes, with Code 3 the most used (42%). Average SOG around 9 kt. Maximum TWS of 26.7kt. Maximum wave height of 3m. La Niña (5).





**Figure 4:** 2020 route. It took 18 days. Mostly reaching (61%) and downwind (22%). No tacks and 3 gybes. Average SOG around 8.2 kt. Maximum TWS of 25kt. Maximum wave height of 3m. Engine use for 1 day. 58 sail changes, with Screacher the most used (41%). La Niña (5).





**Figure 5:** 2019 route. It took 22 days. Beating 50% and reaching 31%. 7 tacks and 7 gybes. 65 sail changes, mainly Genoa 30%. Average SOG around 7.4 kt. Maximum TWS of 26kt. Maximum wave height of 4m. Neutral (5).



**Figure 6:** 2018 route. It took 22 days. Reaching at 43% of and beating 32%. 57 tacks and 6 gybes. Average SOG of 7.5 kt. Maximum TWS of 22.5kt. Maximum wave height of 3m. Weak El Niño (5).





**Figure 7:** 2017 route. It took almost 19 days. Beating at 38% and reaching 37%. 9 tacks and 1 gybe. Average SOG of 8.4 kt. Maximum TWS of 30kt. Maximum wave height of 5m. Orange route is "pilot" route. Weak La Niña (5).

	Minimum	Average	Maximum
Duration	16 day(s) 11 hour(s) 5 minute(s)	19 day(s) 12 hour(s) 33 minute(s)	22 day(s) 0 hour(s) 55 minute(s)
Duration (dd:hh:mm:ss)	16:11:5:0	19:12:33:0	22:0:55:0
Beating time	0:5:10:0	5:16:20:0	10:23:10:0
% beating	1.3	27.5	49.8
Reaching time	6:18:45:0	8:10:19:0	11:6:35:0
% reaching	30.8	43.8	61.5
Downwind time	4:2:40:0	5:9:49:0	8:12:10:0
% downwind	19.5	28.66	51.7
Engine time	0:0:0:0	0:17:18:0	1:11:20:0
Ortho distance (nm)	3317	3317	3317
Distance sailed (nm)	3534	3752	3912
Added distance	217	436	596
Boat speed min (kt)	2.9	3.4	4.3
Boat speed average (kt)	7.4	8.1	8.9
Boat speed max (kt)	10.8	11.7	12.8
TWS min (kt)	0.9	3.4	7.3
TWS average (kt)	13.2	14.7	16.6
TWS max (kt)	22.5	26.0	30.1
Waves height max (m)	3.0	3.6	5.0

# Cross Table (TWS/TWA) - Nov 01<sup>st</sup>, 04<sup>th</sup> and 08<sup>th</sup>.

		Percentage (	(%) - ETD: 01nov	,04nov,08nov -	2017,2018,2019	9,2020,2021.	
(0, 10] -	0.29	0.042	0	0	0	0	0
(10, 20] -	0.13	0.042	0	0	0	0	0
(20, 30] -	0.21	0.042	0	0	0	0	0
(30, 40] -	0.084	0.084	0	0	0	0	0
(40, 50] -	0.21	0.042	0.97	2.7	0.8	0	0
(50, 60] -	0.13	2.3	5.8	2	0.76	0	0
(60, 70] -	0.084	0.67	4	2	0.38	0.042	0
(70, 80] -	0.17	1	3.4	1.3	0.46	0	0
<u>r</u> (80, 90] -	0.34	1.6	3.3	1.1	0.29	0.17	0
e (90, 100] -	0.21	1.3	2.1	1	0.46	0.17	0.17
(100, 110] -	0.38	1	3	1.1	0.42	0.13	0
(110, 120] -	0.25	1.2	3.5	2.8	0.8	0.042	0
(120, 130] -	0.25	0.67	4.4	4.9	2	0.55	0
(130, 140] -	0.21	0.76	3.1	5.5	2.6	0.34	0
(140, 150] -	0.25	1.5	4.3	2.8	2	0.25	0
(150, 160] -	0.17	0.084	0.71	2.7	1.8	0.55	0
(160, 170] -	0.042	0.13	0	0	0	0	0
(170, 180] -	0.17	0.042	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

## Cross Table (TWS/TWA) - Nov 01<sup>st</sup>

		Percer	ntage (%) - ETD	: 01nov - 2021,2	2020,2019,2018	,2017.	
(0, 10] -	0.26	0	0	0	0	0	0
(10, 20] -	0.26	0	0	0	0	0	0
(20, 30] -	0.13	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0.26	0	1.2	3.1	0.9	0	0
(50, 60] -	0.13	2.6	7.7	0.51	0	0	0
(60, 70] -	0	0.77	2.4	1.9	0	0	0
(70, 80] -	0.13	0.64	4.1	0.9	0.51	0	0
(80, 90] -	0.38	0.9	1.7	1.5	0.51	0	0
(90, 100] -	0	1.7	1.7	1.3	0.77	0.26	0
(100, 110] -	0.26	0.26	3.2	1.2	0.64	0	0
(110, 120] -	0.26	0.77	4	3.7	0.51	0	0
(120, 130] -	0	0.77	6.3	5.8	1.3	0.38	0
(130, 140] -	0.26	0.77	3.6	8.6	3.1	0.51	0
(140, 150] -	0.26	1.5	3.6	3.7	1.7	0.13	0
(150, 160] -	0.13	0.13	0.9	1.8	0.64	0	0
(160, 170] -	0.13	0.26	0	0	0	0	0
(170, 180] -	0.13	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Porcontag	a (%) ETD: 01a	2021		
	0	0	Percentage	e (%) - EID: UIN	IOV - 2021.	2	
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	0	0	0	0	0
(50, 60] -	0	0	0	0	0	0	0
(60, 70] -	0	0.76	0	0	0	0	0
(70, 80] -	0	0	0.76	0	0	0	0
≤ (80, 90] -	0	0	1.5	1.5	0	0	0
⋛ (90, 100] -	0	0	0	2.3	1.5	0.76	0
(100, 110] -	0	0	0.76	3.8	1.5	0	0
(110, 120] -	0	0	1.5	2.3	0	0	0
(120, 130] -	0	0.76	7.6	9.1	3.8	1.5	0
(130, 140] -	0	0.76	9.1	19	8.3	0	0
(140, 150] -	0	3	6.8	5.3	1.5	0	0
(150, 160] -	0	0	1.5	3	0	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 01r	10v - 2020.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	0	0	0	0	0
(50, 60] -	0	0	0	0.68	0	0	0
(60, 70] -	0	1.4	0	3.4	0	0	0
(70, 80] -	0	0.68	6.1	0.68	1.4	0	0
<u>≰</u> (80, 90] -	1.4	2	0.68	0.68	0	0	0
e (90, 100] -	0	2	2	2	0	0	0
(100, 110] -	0.68	0	5.4	2	0.68	0	0
(110, 120] -	0.68	0	11	7.5	0.68	0	0
(120, 130] -	0	0	10	10	0	0	0
(130, 140] -	0.68	2	1.4	8.2	2	0	0
(140, 150] -	0	4.1	2	3.4	0	0	0
(150, 160] -	0	0	0	0	1.4	0	0
(160, 170] -	0	0.68	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 01r	iov - 2019.		
(0, 10] -	0.57	0	0	0	0	0	0
(10, 20] -	11	0	0	0	0	0	0
(20, 30] -	0.57	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	1.1	0	2.3	7.4	0.57	0	0
(50, 60] -	0.57	8.5	16	0	0	0	0
(60, 70] -	0	0.57	4	0.57	0	0	0
(70, 80] -	0.57	0	3.4	1.7	0	0	0
≰ (80, 90] -	0	0	1.7	0.57	1.1	0	0
≥ (90, 100] -	0	0	1.1	0.57	0	0.57	0
(100, 110] -	0	0	2.8	0.57	0.57	0	0
(110, 120] -	0	0.57	2.3	1.7	0	0	0
(120, 130] -	0	1.1	8	4	1.1	0	0
(130, 140] -	0	0.57	4	2.3	0	0	0
(140, 150] -	0.57	0	6.2	1.1	2.3	0	0
(150, 160] -	0	0.57	1.1	1.1	0.57	0	0
(160, 170] -	0	0.57	0	0	0	0	0
(170, 180] -	0.57	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

				Percentag	e (%) - ETD: 01r	10V - 2018.		
(	0, 10] -	0	0	0	0	0	0	0
(1	.0, 20] -	0	0	0	0	0	0	0
(2	0, 30] -	0	0	0	0	0	0	0
(3	0, 40] -	0	0	0	0	0	0	0
(4	0, 50] -	0	0	0.58	2.9	3.5	0	0
(5	0, 60] -	0	1.2	6.4	0.58	0	0	0
(6	60, 70] -	0	1.2	2.9	0	0	0	0
(7	0, 80] -	0	2.3	8.1	0	1.2	0	0
⊴ (8	0, 90] -	0.58	1.7	2.3	2.9	1.2	0	0
≥ <sub>(90</sub>	, 100] -	0	5.8	2.3	0.58	0.58	0	0
(100	, 110] -	0.58	1.2	5.2	0	0	0	0
(110	, 120] -	0.58	2.9	2.3	4	0	0	0
(120	, 130] -	0	1.7	2.3	4.6	0	0	0
(130	, 140] -	0.58	0.58	0.58	10	0	0	0
(140	, 150] -	0.58	0.58	0.58	5.2	0	0	0
(150	, 160] -	0.58	0	1.7	3.5	0.58	0	0
(160	, 170] -	0.58	0	0	0	0	0	0
(170	, 180] -	0	0	0	0	0	0	0
		(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentage	e (%) - ETD: 01r	10v - 2017.		
(0, 10] -	0.66	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	2.6	3.9	0	0	0
(50, 60] -	0	2	13	1.3	0	0	0
(60, 70] -	0	0	4.6	5.9	0	0	0
(70, 80] -	0	0	1.3	2	0	0	0
≤ (80, 90] -	0	0.66	2	2	0	0	0
Ê (90, 100] -	0	0	2.6	1.3	2	0	0
(100, 110] -	0	0	1.3	0	0.66	0	0
(110, 120] -	0	0	3.3	3.3	2	0	0
(120, 130] -	0	0	3.9	2	2	0.66	0
(130, 140] -	0	0	3.9	5.3	6.6	2.6	0
(140, 150] -	0	0.66	2.6	3.9	4.6	0.66	0
(150, 160] -	0	0	0	1.3	0.66	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

#### Cross Table (TWS/TWA) - Nov 04<sup>th</sup>

		Perce	ntage (%) - ETD	: 04nov - 2021,2	020,2019,2018	,2017.		
(0, 10] -	0.62	0.12	0	0	0	0	0	
(10, 20] -	0.12	0.12	0	0	0	0	0	
(20, 30] -	0.49	0.12	0	0	0	0	0	
(30, 40] -	0.12	0.12	0	0	0	0	0	
(40, 50] -	0.37	0	1.5	4.7	1.1	0	0	
(50, 60] -	0.25	1.9	5.3	4.3	1.7	0	0	
(60, 70] -	0.12	0.49	4.3	1.7	0.49	0	0	
(70, 80] -	0.25	1.9	2.7	1.2	0	0	0	
≰ (80, 90] -	0.62	1.7	3	0.99	0	0	0	
≥ (90, 100] -	0.12	1.1	2.3	1.1	0	0	0	
(100, 110] -	0.37	0.86	2.5	0.99	0.37	0	0	
(110, 120] -	0.37	2	1.2	2.3	0.99	0	0	
(120, 130] -	0.25	0.99	3	4.2	3.6	0.99	0	
(130, 140] -	0.37	0.62	3	3.7	3.5	0.25	0	-
(140, 150] -	0.49	1.6	5.6	1.9	2.2	0.12	0	
(150, 160] -	0.37	0	0.25	1.1	2	0.62	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0.37	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]	-

			Percentag	e (%) - ETD: 04n	ov - 2021.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	5.4	11	2.4	0	0
(50, 60] -	0	1.8	4.2	7.1	7.1	0	0
(60, 70] -	0	0.6	1.8	3	2.4	0	0
(70, 80] -	0	0.6	0	1.2	0	0	0
∉ (80, 90] -	0.6	0.6	0	0	0	0	0
≤ (90, 100] -	0.6	0.6	0	0	0	0	0
(100, 110] -	0.6	0	0.6	0	0	0	0
(110, 120] -	0.6	0.6	1.8	1.2	0	0	0
(120, 130] -	0	0.6	7.7	8.3	0	0	0
(130, 140] -	0	1.2	7.7	3.6	0	0	0
(140, 150] -	0	0.6		3	0	0	0
(150, 160] -	0	0	0	0	0	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	je (%) - ETD: 04i	10v - 2020.			
(0, 10]	- 0	0	0	0	0	0	0	
(10, 20]	- 0	0	0	0	0	0	0	
(20, 30]	- 0	0	0	0	0	0	0	
(30, 40]	- 0	0	0	0	0	0	0	
(40, 50]	- 0	0	1.3	4.5	0	0	0	
(50, 60]	- 0	0.64	13	7.6	0	0	0	
(60, 70]	0.64	1.3	8.3	1.3	0	0	0	
(70, 80]	0.64	3.2	6.4	0	0	0	0	
≤ (80, 90]	- 1.3	2.5	1.9	0	0	0	0	
≥ <sub>(90, 100]</sub>	- 0	0.64	1.3	1.3	0	0	0	
(100, 110]	0.64	0	1.3	1.3	0	0	0	
(110, 120]	0.64	0	0	2.5	0.64	0	0	
(120, 130]	- 0	0	0.64	4.5	11	0	0	
(130, 140]	0.64	0	1.3	7	4.5	0	0	
(140, 150]	- 1.3	0.64	0	0	0	0	0	
(150, 160]	0.64	0	0	1.3	0	0	0	
(160, 170]	- 0	0	0	0	0	0	0	
(170, 180]	- 1.3	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	e (%) - ETD: 04r	iov - 2019.			
(0, 10] -	0.61	0	0	0	0	0	0	
(10, 20] -	0.61	0.61	0	0	0	0	0	
(20, 30] -	1.8	0.61	0	0	0	0	0	
(30, 40] -	0.61	0.61	0	0	0	0	0	
(40, 50] -	0.61	0	0	1.2	0	0	0	
(50, 60] -	1.2	4.3	3	1.8	1.2	0	0	
(60, 70] -	0	0.61	1.8	1.8	0	0	0	
(70, 80] -	0.61	3.7	2.4	2.4	0	0	0	
≰ (80, 90] -	0.61	1.2	5.5	4.9	0	0	0	
Ź (90, 100] -	0	1.2	4.3	3.7	0	0	0	
(100, 110] -	0.61	1.8	3.7	1.8	0.61	0	0	
(110, 120] -	0	3	0	1.2	1.8	0	0	-
(120, 130] -	0.61	1.2	1.2	2.4	1.2	0.61	0	
(130, 140] -	0	0.61	0.61	3.7	1.2	0	0	-
(140, 150] -	0.61	1.2	6.1	3.7	1.8	0	0	
(150, 160] -	0	0	0	1.8	1.2	1.8	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]	-

			Percentag	e (%) - ETD: 04r	10v - 2018.		
(0, 10] -	2.3	0.57	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0.57	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0.57	0	0.57	1.7	2.9	0	0
(50, 60] -	0	2.3	4.6	2.9	0	0	0
(60, 70] -	0	0	8	11	0	0	0
(70, 80] -	0	1.7	4.6	0.57	0	0	0
🛃 (80, 90] -	0	4	4	0	0	0	0
≤ (90, 100] -	0	2.3	3.4	0	0	0	0
(100, 110] -	0	1.7	3.4	0.57	0	0	0
(110, 120] -	0.57	2.3	3.4	5.7	0.57	0	0
(120, 130] -	0	1.1	4	4	2.3	0	0
(130, 140] -	0.57	1.1	3.4	0	2.9	0	0
(140, 150] -	0	2.3	8.6	0	0.57	0	0
(150, 160] -	0.57	0	0	0	0.57	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0.57	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

				Percentag	e (%) - ETD: 04r	iov - 2017.		
(	0, 10] -	0	0	0	0	0	0	0
(1	0, 20] -	0	0	0	0	0	0	0
(2	0, 30] -	0	0	0	0	0	0	0
(3	0, 40] -	0	0	0	0	0	0	0
(4	0, 50] -	0.68	0	0	4.8	0	0	0
(5	0, 60] -	0	0	1.4	2	0	0	0
(6	0, 70] -	0	0	1.4	1.4	0	0	0
(7	0, 80] -	0	0	0	2	0	0	0
≤ (8	0, 90] -	0.68	0	3.4	0	0	0	0
≥ <sub>(90</sub>	, 100] -	0	0.68	2.7	0.68	0	0	0
(100	, 110] -	0	0.68	3.4	1.4	1.4	0	0
(110	, 120] -	0	4.1	0.68	0.68	2	0	0
(120	, 130] -	0.68	2	0.68	1.4	3.4	4.8	0
(130	, 140] -	0.68	0	1.4	4.8	9.5	1.4	0
(140	, 150] -	0.68	3.4	1.4	2.7	9.5	0.68	0
(150	, 160] -	0.68	0	1.4	2.7	8.8	1.4	0
(160	, 170] -	0	0	0	0	0	0	0
(170	, 180] -	0	0	0	0	0	0	0
		(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

#### Cross Table (TWS/TWA) - Nov 08<sup>th</sup>

		Perce	ntage (%) - ETD	: 08nov - 2021,2	2020,2019,2018	,2017.	
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0.13	0.13	0	0	0	0	0
(40, 50] -	0	0.13	0.25	0.25	0.38	0	0
(50, 60] -	0	2.6	4.5	1	0.5	0	0
(60, 70] -	0.13	0.76	5.2	2.3	0.63	0.13	0
(70, 80] -	0.13	0.63	3.5	1.9	0.88	0	0
(80, 90] -	0	2.1	5.2	0.88	0.38	0.5	0
(90, 100] -	0.5	1.1	2.4	0.76	0.63	0.25	0.5
(100, 110] -	0.5	1.9	3.3	1.1	0.25	0.38	0
(110, 120] -	0.13	0.88	5.4	2.3	0.88	0.13	0
(120, 130] -	0.5	0.25	4.2	4.7	1	0.25	0
(130, 140] -	0	0.88	2.9	4.2	1.3	0.25	0
(140, 150] -	0	1.4	3.8	2.9	2	0.5	0
(150, 160] -	0	0.13	1	5.3	2.9	1	0
(160, 170] -	0	0.13	0	0	0	0	0
(170, 180] -	0	0.13	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	je (%) - ETD: 08r	nov - 2021.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0.61	0.61	0	0	0	0
(50, 60] -	0	1.8	6.7	1.2	0.61	0	0
(60, 70] -	0.61	1.2		5.5	1.2	0	0
(70, 80] -	0	1.2	1.2	3.6	0	0	0
⊴ (80, 90] -	0	6.7	3	0	0	0	0
≥ (90, 100] -	1.8	2.4	2.4	0	0	0	0
(100, 110] -	1.8	3	1.2	0.61	0	0	0
(110, 120] -	0	1.2	7.9	2.4	1.8	0	0
(120, 130] -	2.4	0.61	6.1	7.9	0.61	0	0
(130, 140] -	0	1.8	2.4	1.2	0	0	0
(140, 150] -	0	3	0	0	0	0	0
(150, 160] -	0	0	0	0	0	0	0
(160, 170] -	0	0.61	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 08r	10v - 2020.		
(0, 10]	- 0	0	0	0	0	0	0
(10, 20]	- 0	0	0	0	0	0	0
(20, 30]	- 0	0	0	0	0	0	0
(30, 40]	- 0	0	0	0	0	0	0
(40, 50]	- 0	0	0	0	0	0	0
(50, 60]	- 0	0	5.2	0.65	0	0	0
(60, 70]	- 0	2	5.2	1.3	1.3	0.65	0
(70, 80]	- 0	0	2.6	2	0.65	0	0
≤ (80, 90]	- 0	0	3.9	1.3	0.65	0	0
	0.65	1.3	3.9	0.65	0	0	0
(100, 110]	- 0	0	5.2	0.65	0	0	0
(110, 120]	- 0	0.65	7.2	0.65	1.3	0	0
(120, 130]	- 0	0	3.9	2.6	2.6	0	0
(130, 140]	- 0	0.65	3.9	4.6	2	0	0
(140, 150]	- 0	0.65	7.2	4.6	4.6	1.3	0
(150, 160]	- 0	0	2	6.5	2.6	0.65	0
(160, 170]	- 0	0	0	0	0	0	0
(170, 180]	- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]
			Percentag	e (%) - ETD: 08r	10v - 2019.		
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(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0.64	0	0	0	0	0	0
(40, 50] -	0	0	0.64	1.3	1.9	0	0
(50, 60] -	0	1.9	5.1	0	1.9	0	0
(60, 70] -	0	0.64	3.2	0	0.64	0	0
(70, 80] -	0.64	0.64	3.8	0.64	3.8	0	0
≰ (80, 90] -	0	0.64	1.9	0	0.64	2.6	0
≥ (90, 100] -	0	0	0.64	0	1.3	1.3	2.6
(100, 110] -	0.64	0	1.3	0	1.3	1.9	0
(110, 120] -	0	1.3	1.3	1.9	1.3	0.64	0
(120, 130] -	0	0	3.8	3.8	0.64	1.3	0
(130, 140] -	0	0.64	1.9	3.8	2.6	1.3	0
(140, 150] -	0	2.6	2.6	3.8	2.6	1.3	0
(150, 160] -	0	0	0	4.5	9	3.2	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 08r	10V - 2018.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	0	0	0	0	0
(50, 60] -	0	1.9	3.8	2.5	0	0	0
(60, 70] -	0	0	3.8	3.1	0	0	0
(70, 80] -	0	0.62	6.2	3.1	0	0	0
≰ (80, 90] -	0	2.5	7.5	1.9	0	0	0
≥ (90, 100] -	0	0.62	1.9	3.1	0	0	0
(100, 110] -	0	5.6	5	3.8	0	0	0
(110, 120] -	0	1.2	3.1	2.5	0	0	0
(120, 130] -	0	0	1.2	2.5	1.2	0	0
(130, 140] -	0	0.62	4.4	4.4	0	0	0
(140, 150] -	0	0	6.9	3.8	0.62	0	0
(150, 160] -	0	0	1.2	7.5	1.9	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 08r	10v - 2017.			
(0, 10] -	0	0	0	0	0	0	0	
(10, 20] -	0	0	0	0	0	0	0	
(20, 30] -	0	0	0	0	0	0	0	
(30, 40] -	0	0.63	0	0	0	0	0	
(40, 50] -	0	0	0	0	0	0	0	
(50, 60] -	0	7.5	1.9	0.63	0	0	0	
(60, 70] -	0	0	2.5	1.3	0	0	0	
(70, 80] -	0	0.63	3.8	0	0	0	0	
≤ (80, 90] -	0	0.63	9.4	1.3	0.63	0	0	
Ê (90, 100] -	0	1.3	3.1	0	1.9	0	0	
(100, 110] -	0	0.63	3.8	0.63	0	0	0	
(110, 120] -	0.63	0	7.5	3.8	0	0	0	
(120, 130] -	0	0.63	5.7	6.3	0	0	0	
(130, 140] -	0	0.63	1.9	6.9	1.9	0	0	
(140, 150] -	0	0.63	2.5	2.5	2.5	0	0	
(150, 160] -	0	0.63	1.9	8.2	1.3	1.3	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0.63	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]	

		Р	ercentage (%) -	ETD: 01nov,04r	10v,08nov - 202	1.	
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0.22	2.2	4.1	0.86	0	0
(50, 60] -	0	1.3	3.9	3	2.8	0	0
(60, 70] -	0.22	0.86	4.5	3	1.3	0	0
(70, 80] -	0	0.65	0.65	1.7	0	0	0
(80, 90] -	0.22	2.6	1.5	0.43	0	0	0
(90, 100] -	0.86	1.1	0.86	0.65	0.43	0.22	0
(100, 110] -	0.86	1.1	0.86	1.3	0.43	0	0
(110, 120] -	0.22	0.65	3.9	1.9	0.65	0	0
(120, 130] -	0.86	0.65	7.1	8.4	1.3	0.43	0
(130, 140] -	0	1.3	6.2	7.1	2.4	0	0
(140, 150] -	0	2.2	5.8	2.6	0.43	0	0
(150, 160] -	0	0	0.43	0.86	0	0	0
(160, 170] -	0	0.22	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentage	e (%) - ETD: 01r	iov - 2021.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	0	0	0	0	0
(50, 60] -	0	0	0	0	0	0	0
(60, 70] -	0	0.76	0	0	0	0	0
(70, 80] -	0	0	0.76	0	0	0	0
≤ (80, 90] -	0	0	1.5	1.5	0	0	0
P (90, 100] -	0	0	0	2.3	1.5	0.76	0
(100, 110] -	0	0	0.76	3.8	1.5	0	0
(110, 120] -	0	0	1.5	2.3	0	0	0
(120, 130] -	0	0.76	7.6	9.1	3.8	1.5	0
(130, 140] -	0	0.76	9.1	19	8.3	0	0
(140, 150] -	0	3	6.8	5.3	1.5	0	0
(150, 160] -	0	0	1.5	3	0	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 04n	ov - 2021.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	5.4	11	2.4	0	0
(50, 60] -	0	1.8	4.2	7.1	7.1	0	0
(60, 70] -	0	0.6	1.8	3	2.4	0	0
(70, 80] -	0	0.6	0	1.2	0	0	0
∉ (80, 90] -	0.6	0.6	0	0	0	0	0
≤ (90, 100] -	0.6	0.6	0	0	0	0	0
(100, 110] -	0.6	0	0.6	0	0	0	0
(110, 120] -	0.6	0.6	1.8	1.2	0	0	0
(120, 130] -	0	0.6	7.7	8.3	0	0	0
(130, 140] -	0	1.2	7.7	3.6	0	0	0
(140, 150] -	0	0.6		3	0	0	0
(150, 160] -	0	0	0	0	0	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	je (%) - ETD: 08r	nov - 2021.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0.61	0.61	0	0	0	0
(50, 60] -	0	1.8	6.7	1.2	0.61	0	0
(60, 70] -	0.61	1.2		5.5	1.2	0	0
(70, 80] -	0	1.2	1.2	3.6	0	0	0
⊴ (80, 90] -	0	6.7	3	0	0	0	0
≥ (90, 100] -	1.8	2.4	2.4	0	0	0	0
(100, 110] -	1.8	3	1.2	0.61	0	0	0
(110, 120] -	0	1.2	7.9	2.4	1.8	0	0
(120, 130] -	2.4	0.61	6.1	7.9	0.61	0	0
(130, 140] -	0	1.8	2.4	1.2	0	0	0
(140, 150] -	0	3	0	0	0	0	0
(150, 160] -	0	0	0	0	0	0	0
(160, 170] -	0	0.61	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

		Р	ercentage (%) -	ETD: 01nov,04r	10v,08nov - 2020	).	
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	0.44	1.5	0	0	0
(50, 60] -	0	0.22	6.3	3.1	0	0	0
(60, 70] -	0.22	1.5	4.6	2	0.44	0.22	0
(70, 80] -	0.22	1.3	5	0.88	0.66	0	0
≤ (80, 90] -	0.88	1.5	2.2	0.66	0.22	0	0
Ê (90, 100] -	0.22	1.3	2.4	1.3	0	0	0
(100, 110] -	0.44	0	3.9	1.3	0.22	0	0
(110, 120] -	0.44	0.22	5.9	3.5	0.88	0	0
(120, 130] -	0	0	4.8	5.7	4.8	0	0
(130, 140] -	0.44	0.88	2.2	6.6	2.8	0	0
(140, 150] -	0.44	1.8	3.1	2.6	1.5	0.44	0
(150, 160] -	0.22	0	0.66	2.6	1.3	0.22	0
(160, 170] -	0	0.22	0	0	0	0	0
(170, 180] -	0.44	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 01r	10v - 2020.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	0	0	0	0	0
(50, 60] -	0	0	0	0.68	0	0	0
(60, 70] -	0	1.4	0	3.4	0	0	0
(70, 80] -	0	0.68	6.1	0.68	1.4	0	0
<u>≰</u> (80, 90] -	1.4	2	0.68	0.68	0	0	0
e (90, 100] -	0	2	2	2	0	0	0
(100, 110] -	0.68	0	5.4	2	0.68	0	0
(110, 120] -	0.68	0	11	7.5	0.68	0	0
(120, 130] -	0	0	10	10	0	0	0
(130, 140] -	0.68	2	1.4	8.2	2	0	0
(140, 150] -	0	4.1	2	3.4	0	0	0
(150, 160] -	0	0	0	0	1.4	0	0
(160, 170] -	0	0.68	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 04r	10v - 2020.		
(0,10]-	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	1.3	4.5	0	0	0
(50, 60] -	0	0.64		7.6	0	0	0
(60, 70] -	0.64	1.3	8.3	1.3	0	0	0
(70, 80] -	0.64	3.2	6.4	0	0	0	0
≰ (80, 90] -	1.3	2.5	1.9	0	0	0	0
≤ (90, 100] -	0	0.64	1.3	1.3	0	0	0
(100, 110] -	0.64	0	1.3	1.3	0	0	0
(110, 120] -	0.64	0	0	2.5	0.64	0	0
(120, 130] -	0	0	0.64	4.5		0	0
(130, 140] -	0.64	0	1.3	7	4.5	0	0
(140, 150] -	1.3	0.64	0	0	0	0	0
(150, 160] -	0.64	0	0	1.3	0	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	1.3	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 08r	10v - 2020.		
(0, 10]	- 0	0	0	0	0	0	0
(10, 20]	- 0	0	0	0	0	0	0
(20, 30]	- 0	0	0	0	0	0	0
(30, 40]	- 0	0	0	0	0	0	0
(40, 50]	- 0	0	0	0	0	0	0
(50, 60]	- 0	0	5.2	0.65	0	0	0
(60, 70]	- 0	2	5.2	1.3	1.3	0.65	0
(70, 80]	- 0	0	2.6	2	0.65	0	0
≤ (80, 90]	- 0	0	3.9	1.3	0.65	0	0
	0.65	1.3	3.9	0.65	0	0	0
(100, 110]	- 0	0	5.2	0.65	0	0	0
(110, 120]	- 0	0.65	7.2	0.65	1.3	0	0
(120, 130]	- 0	0	3.9	2.6	2.6	0	0
(130, 140]	- 0	0.65	3.9	4.6	2	0	0
(140, 150]	- 0	0.65	7.2	4.6	4.6	1.3	0
(150, 160]	- 0	0	2	6.5	2.6	0.65	0
(160, 170]	- 0	0	0	0	0	0	0
(170, 180]	- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

									M
		Р	ercentage (%) -	ETD: 01nov,04r	nov,08nov - 2019	9.			
(0, 10]	- 0.4	0	0	0	0	0	0		20.0
(10, 20]	- 0.6	0.2	0	0	0	0	0		
(20, 30]	- 0.81	0.2	0	0	0	0	0	-	17.
(30, 40]	- 0.4	0.2	0	0	0	0	0		
(40, 50]	- 0.6	0	1	3.4	0.81	0	0	-	15
(50, 60]	- 0.6	5	8.5	0.6	1	0	0		
(60, 70]	- 0	0.6	3	0.81	0.2	0	0		12
(70, 80]	- 0.6	1.4	3.2	1.6	1.2	0	0		
₫ (80, 90]	- 0.2	0.6	3	1.8	0.6	0.81	0		10
	- 0	0.4	2	1.4	0.4	0.6	0.81		10
(100, 110]	- 0.4	0.6	2.6	0.81	0.81	0.6	0		
(110, 120]	- 0	1.6	1.2	1.6	1	0.2	0	-	7.5
(120, 130]	- 0.2	0.81	4.4	3.4	1	0.6	0		
(130, 140]	- 0	0.6	2.2	3.2	1.2	0.4	0	-	5.0
(140, 150]	- 0.4	1.2	5	2.8	2.2	0.4	0		
(150, 160]	- 0	0.2	0.4	2.4	3.4	1.6	0	-	2.5
(160, 170]	- 0	0.2	0	0	0	0	0		
(170, 180]	- 0.2	0	0	0	0	0	0		
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]	-	U.L

			Percentag	e (%) - ETD: 01n	iov - 2019.		
(0, 10] -	0.57	0	0	0	0	0	0
(10, 20] -	1.1	0	0	0	0	0	0
(20, 30] -	0.57	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	1.1	0	2.3	7.4	0.57	0	0
(50, 60] -	0.57	8.5	16	0	0	0	0
(60, 70] -	0	0.57	4	0.57	0	0	0
(70, 80] -	0.57	0	3.4	1.7	0	0	0
≰ (80, 90] -	0	0	1.7	0.57	1.1	0	0
	0	0	1.1	0.57	0	0.57	0
(100, 110] -	0	0	2.8	0.57	0.57	0	0
(110, 120] -	0	0.57	2.3	1.7	0	0	0
(120, 130] -	0	1.1	8	4	1.1	0	0
(130, 140] -	0	0.57	4	2.3	0	0	0
(140, 150] -	0.57	0	6.2	11	2.3	0	0
(150, 160] -	0	0.57	1.1	1.1	0.57	0	0
(160, 170] -	0	0.57	0	0	0	0	0
(170, 180] -	0.57	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

								(
			Percentag	e (%) - ETD: 04r	iov - 2019.			
(0, 10] -	0.61	0	0	0	0	0	0	
(10, 20] -	0.61	0.61	0	0	0	0	0	
(20, 30] -	1.8	0.61	0	0	0	0	0	
(30, 40] -	0.61	0.61	0	0	0	0	0	
(40, 50] -	0.61	0	0	1.2	0	0	0	-
(50, 60] -	1.2	4.3	3	1.8	1.2	0	0	
(60, 70] -	0	0.61	1.8	1.8	0	0	0	
(70, 80] -	0.61	3.7	2.4	2.4	0	0	0	
≤ (80, 90] -	0.61	1.2	5.5	4.9	0	0	0	
Ê (90, 100] -	0	1.2	4.3	3.7	0	0	0	
(100, 110] -	0.61	1.8	3.7	1.8	0.61	0	0	
(110, 120] -	0	3	0	1.2	1.8	0	0	-
(120, 130] -	0.61	1.2	1.2	2.4	1.2	0.61	0	
(130, 140] -	0	0.61	0.61	3.7	1.2	0	0	-
(140, 150] -	0.61	1.2	6.1	3.7	1.8	0	0	
(150, 160] -	0	0	0	1.8	1.2	1.8	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]	-

			Percentag	e (%) - ETD: 08r	10v - 2019.		
(0,10]-	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0.64	0	0	0	0	0	0
(40, 50] -	0	0	0.64	1.3	1.9	0	0
(50, 60] -	0	1.9	5.1	0	1.9	0	0
(60, 70] -	0	0.64	3.2	0	0.64	0	0
(70, 80] -	0.64	0.64	3.8	0.64	3.8	0	0
≰ (80, 90] -	0	0.64	1.9	0	0.64	2.6	0
<sup>≤</sup> (90, 100] -	0	0	0.64	0	1.3	1.3	2.6
(100, 110] -	0.64	0	1.3	0	1.3	1.9	0
(110, 120] -	0	1.3	1.3	1.9	1.3	0.64	0
(120, 130] -	0	0	3.8	3.8	0.64	1.3	0
(130, 140] -	0	0.64	1.9	3.8	2.6	1.3	0
(140, 150] -	0	2.6	2.6	3.8	2.6	1.3	0
(150, 160] -	0	0	0	4.5	9	3.2	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

		Р	ercentage (%) -	ETD: 01nov,04r	10v,08nov - 2018	3.	
(0, 10]	0.79	0.2	0	0	0	0	0
(10, 20]	- 0	0	0	0	0	0	0
(20, 30] -	- 0.2	0	0	0	0	0	0
(30, 40]	- 0	0	0	0	0	0	0
(40, 50] -	0.2	0	0.39	1.6	2.2	0	0
(50, 60]	0	1.8	4.9	2	0	0	0
(60, 70]	0	0.39	4.9	1.4	0	0	0
(70, 80] -	0	1.6	6.3	1.2	0.39	0	0
≤ (80, 90] -	0.2	2.8	4.5	1.6	0.39	0	0
≥ (90, 100)	0	3	2.6	1.2	0.2	0	0
(100, 110]	0.2	2.8	4.5	1.4	0	0	0
(110, 120] -	0.39	2.2	3	4.1	0.2	0	0
(120, 130]	0	0.99	2.6	3.7	1.2	0	0
(130, 140]	0.39	0.79	2.8	4.9	0.99	0	0
(140, 150] -	0.2	0.99	5.3	3	0.39	0	0
(150, 160]	0.39	0	0.99	3.6	0.99	0	0
(160, 170]	0.2	0	0	0	0	0	0
(170, 180] -	0.2	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

				Percentag	e (%) - ETD: 01n	10v - 2018.		
(0,	10] -	0	0	0	0	0	0	0
(10,	20] -	0	0	0	0	0	0	0
(20,	30] -	0	0	0	0	0	0	0
(30,	40] -	0	0	0	0	0	0	0
(40,	50] -	0	0	0.58	2.9	3.5	0	0
(50,	60] -	0	1.2	6.4	0.58	0	0	0
(60,	70] -	0	1.2	2.9	0	0	0	0
(70,	80] -	0	2.3	8.1	0	1.2	0	0
≤ (80,	90] -	0.58	1.7	2.3	2.9	1.2	0	0
≥ (90, 1)	00] -	0	5.8	2.3	0.58	0.58	0	0
(100, 1	10] -	0.58	1.2	5.2	0	0	0	0
(110, 1	20] -	0.58	2.9	2.3	4	0	0	0
(120, 1	30] -	0	1.7	2.3	4.6	0	0	0
(130, 1	40] -	0.58	0.58	0.58	10	0	0	0
(140, 1	50] -	0.58	0.58	0.58	5.2	0	0	0
(150, 1	60] -	0.58	0	1.7	3.5	0.58	0	0
(160, 1	70] -	0.58	0	0	0	0	0	0
(170, 1	80] -	0	0	0	0	0	0	0
		(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 04r	10v - 2018.		
(0, 10] -	2.3	0.57	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0.57	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0.57	0	0.57	1.7	2.9	0	0
(50, 60] -	0	2.3	4.6	2.9	0	0	0
(60, 70] -	0	0	8	11	0	0	0
(70, 80] -	0	1.7	4.6	0.57	0	0	0
🛃 (80, 90] -	0	4	4	0	0	0	0
<sup>≤</sup> (90, 100] -	0	2.3	3.4	0	0	0	0
(100, 110] -	0	1.7	3.4	0.57	0	0	0
(110, 120] -	0.57	2.3	3.4	5.7	0.57	0	0
(120, 130] -	0	1.1	4	4	2.3	0	0
(130, 140] -	0.57	1.1	3.4	0	2.9	0	0
(140, 150] -	0	2.3	8.6	0	0.57	0	0
(150, 160] -	0.57	0	0	0	0.57	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0.57	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 08r	10v - 2018.		
(0, 10] -	0	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	0	0	0	0	0
(50, 60] -	0	1.9	3.8	2.5	0	0	0
(60, 70] -	0	0	3.8	3.1	0	0	0
(70, 80] -	0	0.62	6.2	3.1	0	0	0
≰ (80, 90] -	0	2.5	7.5	1.9	0	0	0
Ê (90, 100] -	0	0.62	1.9	3.1	0	0	0
(100, 110] -	0	5.6	5	3.8	0	0	0
(110, 120] -	0	1.2	3.1	2.5	0	0	0
(120, 130] -	0	0	1.2	2.5	1.2	0	0
(130, 140] -	0	0.62	4.4	4.4	0	0	0
(140, 150] -	0	0	6.9	3.8	0.62	0	0
(150, 160] -	0	0	1.2	7.5	1.9	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

		Р	ercentage (%) -	ETD: 01nov,04r	iov,08nov - 201	7.	
(0, 10] -	0.22	0	0	0	0	0	0
(10, 20] -	0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0.22	0	0	0	0	0
(40, 50] -	0.22	0	0.87	2.8	0	0	0
(50, 60] -	0	3.3	5.5	1.3	0	0	0
(60, 70] -	0	0	2.8	2.8	0	0	0
(70, 80] -	0	0.22	1.7	1.3	0	0	0
<u>∢</u> (80, 90] -	0.22	0.44	5	1.1	0.22	0	0
(90, 100] -	0	0.66	2.8	0.66	1.3	0	0
(100, 110] -	0	0.44	2.8	0.66	0.66	0	0
(110, 120] -	0.22	1.3	3.9	2.6	1.3	0	0
(120, 130] -	0.22	0.87	3.5	3.3	1.7	1.7	0
(130, 140] -	0.22	0.22	2.4	5.7	5.9	1.3	0
(140, 150] -	0.22	1.5	2.2	3.1	5.5	0.44	0
(150, 160] -	0.22	0.22	1.1	4.1	3.5	0.87	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0.22	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentage	e (%) - ETD: 01r	10v - 2017.		
(0, 10] -	0.66	0	0	0	0	0	0
(10, 20] -	. 0	0	0	0	0	0	0
(20, 30] -	0	0	0	0	0	0	0
(30, 40] -	0	0	0	0	0	0	0
(40, 50] -	0	0	2.6	3.9	0	0	0
(50, 60] -	0	2	13	1.3	0	0	0
(60, 70] -	0	0	4.6	5.9	0	0	0
(70, 80] -	0	0	1.3	2	0	0	0
≤ (80, 90] -	0	0.66	2	2	0	0	0
≧ (90, 100] -	0	0	2.6	1.3	2	0	0
(100, 110] -	0	0	1.3	0	0.66	0	0
(110, 120] -	0	0	3.3	3.3	2	0	0
(120, 130] -	0	0	3.9	2	2	0.66	0
(130, 140] -	0	0	3.9	5.3	6.6	2.6	0
(140, 150] -	0	0.66	2.6	3.9	4.6	0.66	0
(150, 160] -	0	0	0	1.3	0.66	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

				Percentag	je (%) - ETD: 04r	iov - 2017.		
(	0, 10] -	0	0	0	0	0	0	0
(1	0, 20] -	0	0	0	0	0	0	0
(2	0, 30] -	0	0	0	0	0	0	0
(3	0, 40] -	0	0	0	0	0	0	0
(4	0, 50] -	0.68	0	0	4.8	0	0	0
(5	0, 60] -	0	0	1.4	2	0	0	0
(6	0, 70] -	0	0	1.4	1.4	0	0	0
(7	0, 80] -	0	0	0	2	0	0	0
≤ (8	0, 90] -	0.68	0	3.4	0	0	0	0
≥ <sub>(90</sub>	, 100] -	0	0.68	2.7	0.68	0	0	0
(100	, 110] -	0	0.68	3.4	1.4	1.4	0	0
(110	, 120] -	0	4.1	0.68	0.68	2	0	0
(120	, 130] -	0.68	2	0.68	1.4	3.4	4.8	0
(130	, 140] -	0.68	0	1.4	4.8	9.5	1.4	0
(140	, 150] -	0.68	3.4	1.4	2.7	9.5	0.68	0
(150	, 160] -	0.68	0	1.4	2.7	8.8	1.4	0
(160	, 170] -	0	0	0	0	0	0	0
(170	, 180] -	0	0	0	0	0	0	0
		(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	je (%) - ETD: 08r	iov - 2017.			
(0, 10]	- 0	0	0	0	0	0	0	
(10, 20]	- 0	0	0	0	0	0	0	
(20, 30]	- 0	0	0	0	0	0	0	
(30, 40]	- 0	0.63	0	0	0	0	0	
(40, 50]	0	0	0	0	0	0	0	
(50, 60]	0	7.5	1.9	0.63	0	0	0	
(60, 70]	- 0	0	2.5	1.3	0	0	0	
(70, 80]	- 0	0.63	3.8	0	0	0	0	
≤ (80, 90] -	- 0	0.63	9.4	1.3	0.63	0	0	
≥ (90, 100]	- 0	1.3	3.1	0	1.9	0	0	
(100, 110]	- 0	0.63	3.8	0.63	0	0	0	
(110, 120]	0.63	0	7.5	3.8	0	0	0	
(120, 130]	0	0.63	5.7	6.3	0	0	0	
(130, 140]	0	0.63	1.9	6.9	1.9	0	0	
(140, 150] -	0	0.63	2.5	2.5	2.5	0	0	
(150, 160]	- 0	0.63	1.9	8.2	1.3	1.3	0	
(160, 170]	0	0	0	0	0	0	0	
(170, 180] -	0	0.63	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] TWS	(20, 25]	(25, 30]	(30, 35]	

# Cross Table (AWS/AWA) - Nov 01<sup>st</sup>, 04<sup>th</sup> and 08<sup>th</sup>.

		Percentage (	%) - ETD: 01nov	,04nov,08nov -	2017,2018,201	9,2020,2021.		
(0, 10] -	0.13	0.55	0.17	0	0	0	0	
(10, 20] -	0.17	0.42	0.13	0	0	0	0	
(20, 30] -	0.29	0.5	0	0	0	0	0	
(30, 40] -	0.21	0.84	3.1	7.2	3.1	0.76	0	
(40, 50] -	0.084	1.3	2.5	5	2.6	0.92	0	
(50, 60] -	0.25	0.84	3.1	4	0.97	0.46	0	
(60, 70] -	0.17	1.4	3	2.1	0.92	0.17	0	
(70, 80] -	0.21	1.3	4.7	1.2	0.55	0.34	0.17	
<u>(</u> 80, 90] -	0.21	2.3	5	1.8	0.34	0.13	0	
(90, 100] -	0.042	2	4.4	2.6	0.34	0	0	
(100, 110] -	0	2.1	4.2	2.2	0.55	0	0	
(110, 120] -	0.42	3.1	2.6	1.3	0.084	0	0	
(120, 130] -	0.084	1.7	1.5	0.59	0.042	0	0	
(130, 140] -	0.042	0.5	2.6	0.29	0	0	0	
(140, 150] -	0	0	0.38	0.63	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0.042	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

## Cross Table (AWS/AWA) - Nov 01<sup>st</sup>

		Perce	ntage (%) - ETD	: 01nov - 2021,2	2020,2019,2018	,2017.		
(0, 10] -	0.13	0.51	0.13	0	0	0	0	
(10, 20] -	0	0.51	0	0	0	0	0	
(20, 30] -	0	0.13	0	0	0	0	0	
(30, 40] -	0.38	0.38	3.6	8.6	2.7	0.64	0	
(40, 50] -	0	0.9	2.3	4.2	2.1	0.13	0	
(50, 60] -	0.38	0.9	2.8	2.6	1.4	0.26	0	
(60, 70] -	0.26	0.77	2.3	2.3	1.3	0.26	0	
(70, 80] -	0.13	1.2	5.3	1.8	0.9	0.26	0	
🛃 (80, 90] -	0.26	3.2	6.2	1.5	0.51	0	0	
(90, 100] -	0	2.3	5.9	1.8	0.26	0	0	
(100, 110] -	0	3.1	6.4	2.7	0.77	0	0	
(110, 120] -	0.64	2.1	3.1	1.2	0.13	0	0	
(120, 130] -	0	1.8	1.7	0.26	0.13	0	0	
(130, 140] -	0	0.38	1.4	0	0	0	0	
(140, 150] -	0	0	0	0.13	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

				Percentag	e (%) - ETD: 01n	ov - 2021.		
(0,	10] -	0	0	0	0	0	0	0
(10,	20] -	0	0	0	0	0	0	0
(20,	30] -	0	0	0	0	0	0	0
(30,	40] -	0	0	0	0	0	0	0
(40,	50] -	0	0	1.5	0	0	0	0
(50,	60] -	0	0	0	1.5	0	0	0
(60,	70] -	0	0	0	3	0	0	0
(70,	B0] -	0	0.76	3.8	4.5	3	1.5	0
₹ (80, 5	90] -	0	3.8	3.8	0	0	0	0
₹ (90, 10	- [00	0	7.6		6.1	0.76	0	0
(100, 1	10] -	0	6.1		6.8	1.5	0	0
(110, 1)	20] -	0.76	3.8	5.3	3.8	0	0	0
(120, 1	30] -	0	3	0	0	0	0	0
(130, 14	40] -	0	0	2.3	0	0	0	0
(140, 1	50] -	0	0	0	0	0	0	0
(150, 1	60] -	0	0	0	0	0	0	0
(160, 1	70] -	0	0	0	0	0	0	0
(170, 1	80] -	0	0	0	0	0	0	0
		(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 01r	10v - 2020.			
(0, 10]	- 0	0	0	0	0	0	0	
(10, 20]	- 0	0	0	0	0	0	0	
(20, 30]	- 0	0	0	0	0	0	0	
(30, 40]	- 0	1.4	0.68	0	0	0	0	
(40, 50]	- 0	2	4.1	2.7	3.4	0	0	
(50, 60]	- 0.68	1.4	1.4	2.7	0.68	1.4	0	
(60, 70]	- 0	0	3.4	5.4	0	0	0	
(70, 80]	- 0	1.4	13	2.7	0	0	0	
≰ (80, 90]	- 1.4	2.7		2	0.68	0	0	
₹ (90, 100]	- 0	2	7.5	0	0	0	0	
(100, 110]	- 0	2.7	6.8	1.4	0	0	0	
(110, 120]	- 2.7	0.68	2.7	0	0	0	0	
(120, 130]	- 0	0	1.4	0	0	0	0	
(130, 140]	- 0	0	0.68	0	0	0	0	
(140, 150]	- 0	0	0	0.68	0	0	0	
(150, 160]	- 0	0	0	0	0	0	0	
(160, 170]	- 0	0	0	0	0	0	0	
(170, 180]	- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	e (%) - ETD: 01n	iov - 2019.			
(0, 10] -	0	1.7	0.57	0	0	0	0	
(10, 20] -	0	2.3	0	0	0	0	0	
(20, 30] -	0	0	0	0	0	0	0	
(30, 40] -	1.1	0	11	18	6.8	0	0	
(40, 50] -	0	0	0.57	6.2	0.57	0	0	
(50, 60] -	0	0	1.1	2.8	2.3	0	0	
(60, 70] -	0.57	0	1.7	1.7	0	1.1	0	
(70, 80] -	0.57	1.7	2.8	1.7	0	0	0	
≝ (80, 90] -	0	5.1	2.8	0.57	0.57	0	0	
(90, 100] -	0	2.3	5.1	1.7	0	0	0	
(100, 110] -	0	2.8	1.1	0.57	0	0	0	
(110, 120] -	0	2.3	1.7	0	0	0	0	
(120, 130] -	0	3.4	2.3	0.57	0	0	0	
(130, 140] -	0	0	0.57	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	e (%) - ETD: 01r	iov - 2018.			
(0, 10] -	0.58	0	0	0	0	0	0	
(10, 20] -	0	0	0	0	0	0	0	
(20, 30] -	0	0.58	0	0	0	0	0	
(30, 40] -	0.58	0.58	2.9	5.2	2.9	2.9	0	
(40, 50] -	0	2.3	4.6	5.8	0	0.58	0	
(50, 60] -	1.2	2.3	7.5	3.5	1.7	0	0	
(60, 70] -	0.58	3.5	5.2	1.2	4	0	0	
(70, 80] -	0	1.7	2.9	0.58	0	0	0	
∡ (80, 90] -	0	2.3	5.2	2.9	0	0	0	
(90, 100] -	0	0	2.9	0.58	0	0	0	
(100, 110] -	0	0.58	8.7	0	0	0	0	
(110, 120] -	0	1.7	4	0	0	0	0	
(120, 130] -	0	1.7	0.58	0	0	0	0	
(130, 140] -	0	1.7	1.7	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	
				(0) 575 00				
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			Percentag	e (%) - ETD: 01n	iov - 2017.			
(0, 10]	- 0	0.66	0	0	0	0	0	
(10, 20]	- 0	0	0	0	0	0	0	
(20, 30]	- 0	0	0	0	0	0	0	
(30, 40]	- 0	0	2	18	2.6	0	0	
(40, 50]	- 0	0	0.66	5.3	6.6	0	0	
(50, 60]	- 0	0.66	3.3	2	2	0	0	
(60, 70]	- 0	0	0.66	0.66	2	0	0	
(70, 80]	- 0	0	4.6	0	2	0	0	
≤ (80, 90]	- 0	2	3.9	2	1.3	0	0	
	- 0	0.66	3.9	1.3	0.66	0	0	
(100, 110]	- 0	3.9	3.3	5.9	2.6	0	0	
(110, 120]	- 0	2	2	2.6	0.66	0	0	
(120, 130]	- 0	0.66	3.9	0.66	0.66	0	0	
(130, 140]	- 0	0	2	0	0	0	0	
(140, 150]	- 0	0	0	0	0	0	0	
(150, 160]	- 0	0	0	0	0	0	0	
(160, 170]	- 0	0	0	0	0	0	0	
(170, 180]	- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

## Cross Table (AWS/AWA) - Nov 04<sup>th</sup>

		Percei	ntage (%) - ETD	: 04nov - 2021,2	2020,2019,2018	,2017.		
(0, 10]	- 0.25	1.1	0.37	0	0	0	0	
(10, 20]	- 0.49	0.49	0.25	0	0	0	0	
(20, 30]	- 0.74	0.99	0	0	0	0	0	-
(30, 40]	- 0.12	1.2	2.3	8.1	6	1.2	0	
(40, 50]	- 0	1.9	3	4.8	3.5	1.9	0	-
(50, 60]	- 0.25	0.86	2	3.8	0.37	0	0	
(60, 70]	- 0.25	2	2.8	2.2	0.74	0	0	-
(70, 80]	- 0.25	1.7	2.2	0.86	0.25	0	0	
≰ (80, 90]	0.25	1.7	3.5	1.7	0.25	0	0	
₹ (90, 100]	- 0	2	3.8	4.3	0.37	0	0	-
(100, 110]	- 0	1.7	2.8	3.3	0.74	0	0	
(110, 120]	- 0	4.1	2.1	0.74	0	0	0	-
(120, 130]	- 0.25	0.86	1.5	0.74	0	0	0	
(130, 140]	- 0	0.25	2	0.37	0	0	0	-
(140, 150]	- 0	0	0.49	0.74	0	0	0	
(150, 160]	- 0	0	0	0	0	0	0	-
(160, 170]	- 0	0	0	0	0	0	0	
(170, 180]	- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	-

			Percentag	e (%) - ETD: 04r	10v - 2021.			
(0, 10] -	0	0	0	0	0	0	0	
(10, 20] -	0	0	0	0	0	0	0	
(20, 30] -	0	0.6	0	0	0	0	0	
(30, 40] -	0	1.2	3			3.6	0	
(40, 50] -	0	1.8	0	1.2	8.3	7.7	0	
(50, 60] -	0	0.6	0	0.6	0.6	0	0	
(60, 70] -	0	0	0	0	0	0	0	
(70, 80] -	0	0.6	3	0	0	0	0	
≰ (80, 90] -	0	4.8	7.7	0.6	0	0	0	
₹ (90, 100] -	0	5.4	9.5	0	0	0	0	
(100, 110] -	0	3	2.4	0	0	0	0	
(110, 120] -	0	7.7	1.8	0	0	0	0	
(120, 130] -	0	1.2	0	0	0	0	0	
(130, 140] -	0	0	0	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentage	e (%) - ETD: 04n	iov - 2020.		
(0, 10] -	1.3	0	0	0	0	0	0
(10, 20] -	0.64	0	0	0	0	0	0
(20, 30] -	1.3	0	0	0	0	0	0
(30, 40] -	0.64	3.2	1.3	17	7.6	0	0
(40, 50] -	0	3.2	7	11	3.2	0	0
(50, 60] -	0	0	2.5	1.3	0	0	0
(60, 70] -	0	0.64	1.3	1.3	0	0	0
(70, 80] -	0	0	0	1.9	0	0	0
≰ (80, 90] -	0	0	1.3	2.5	0	0	0
₹ (90, 100] -	0	0.64	3.8	9.6	0	0	0
(100, 110] -	0	0.64	5.7	7	0	0	0
(110, 120] -	0	0.64	0.64	0	0	0	0
(120, 130] -	0	0	0	0	0	0	0
(130, 140] -	0	0	1.3	0	0	0	0
(140, 150] -	0	0	0	0	0	0	0
(150, 160] -	0	0	0	0	0	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 04r	10v - 2019.			
(0, 10] -	0	3	0.61	0	0	0	0	
(10, 20] -	0.61	1.8	1.2	0	0	0	0	
(20, 30] -	0	3.7	0	0	0	0	0	
(30, 40] -	0	0.61	3	3	2.4	0	0	
(40, 50] -	0	1.8	4.3	2.4	2.4	1.2	0	
(50, 60] -	0.61	1.8	2.4	7.9	0.61	0	0	
(60, 70] -	0	4.3	3.7	5.5	3.7	0	0	
(70, 80] -	0	2.4	1.2	1.2	0.61	0	0	
⊴ (80, 90] -	0	0.61	0.61	1.2	0.61	0	0	
₹ (90, 100] -	0	0.61	2.4	3.7	0.61	0	0	
(100, 110] -	0	0.61	2.4	1.2	0	0	0	
(110, 120] -	0	4.9	3.7	0.61	0	0	0	
(120, 130] -	0.61	1.2	1.2	0	0	0	0	
(130, 140] -	0	0.61	1.2	0	0	0	0	-
(140, 150] -	0	0	1.2	1.8	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

								M
			Percentag	e (%) - ETD: 04r	10v - 2018.			
(0, 10]	]- 0	2.3	11	0	0	0	0	- 20
(10, 20]	] - 0.57	0.57	0	0	0	0	0	
(20, 30]	- 11	0	0	0	0	0	0	- 17
(30, 40]	] - 0	1.1	3.4	6.3	3.4	2.3	0	
(40, 50]	]- 0	1.7	3.4	8.6	1.1	0	0	- 15
(50, 60)	] - 0	1.7	4.6	5.2	0	0	0	
(60, 70]	- 0.57	2.3	5.7	1.7	0	0	0	- 12
(70, 80]	] - 0	1.7	4	0.57	0	0	0	
≤ (80, 90]	] - 0	2.3	6.3	2.3	0	0	0	
₹ (90, 100]	- 0	2.9	1.1	5.2	0	0	0	- 10
(100, 110)	] - 0	4	0.57	2.3	0	0	0	
(110, 120]	]- 0	5.2	0	0	0	0	0	- 7.5
(120, 130)	] - 0	0.57	0	0.57	0	0	0	
(130, 140]	] - 0	0.57	0.57	0	0	0	0	- 5.0
(140, 150]	]- 0	0	0	0	0	0	0	
(150, 160)	] - 0	0	0	0	0	0	0	- 2 !
(160, 170)	] - 0	0	0	0	0	0	0	
(170, 180]	] - 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	- 0.0

			Percentag	je (%) - ETD: 04r	10v - 2017.			
(0, 10] -	. 0	0	0	0	0	0	0	
(10, 20] -	0.68	0	0	0	0	0	0	
(20, 30] -	1.4	0.68	0	0	0	0	0	
(30, 40] -	. 0	0	0.68	2	5.4	0	0	
(40, 50] -	. 0	0.68	0	0.68	2	0	0	
(50, 60] -	0.68	0	0	4.1	0.68	0	0	
(60, 70] -	0.68	2.7	3.4	2.7	0	0	0	
(70, 80] -	1.4	4.1	2.7	0.68	0.68	0	0	
(80, 90] -	1.4	0.68	0.68	2	0.68	0	0	
a (90, 100] -	. 0	0	2	3.4	1.4	0	0	
(100, 110] -	0	0	3.4	6.8	4.1	0	0	
(110, 120] -	. 0	1.4	4.8	3.4	0	0	0	
(120, 130] -	0.68	1.4	6.8	3.4	0	0	0	
(130, 140] -	0	0	7.5	2	0	0	0	
(140, 150] -	. 0	0	1.4	2	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

# Cross Table (AWS/AWA) - Nov 08<sup>th</sup>

		Percei	ntage (%) - ETD	: 08nov - 2021,2	2020,2019,2018	,2017.		
(0, 10] -	0	0	0	0	0	0	0	
(10, 20] -	0	0.25	0.13	0	0	0	0	
(20, 30] -	0.13	0.38	0	0	0	0	0	-
(30, 40] -	0.13	0.88	3.5	4.9	0.5	0.38	0	
(40, 50] -	0.25	1.3	2.1	6.1	2.3	0.76	0	-
(50, 60] -	0.13	0.76	4.7	5.5	1.1	1.1	0	
(60, 70] -	0	1.5	3.9	1.6	0.76	0.25	0	
(70, 80] -	0.25	1.1	6.6	1	0.5	0.76	0.5	
≰ (80, 90] -	0.13	1.9	5.3	2.1	0.25	0.38	0	
₹ (90, 100] -	0.13	1.8	3.4	1.6	0.38	0	0	
(100, 110] -	0	1.6	3.5	0.5	0.13	0	0	
(110, 120] -	0.63	3.2	2.5	1.9	0.13	0	0	-
(120, 130] -	0	2.5	1.4	0.76	0	0	0	
(130, 140] -	0.13	0.88	4.4	0.5	0	0	0	-
(140, 150] -	0	0	0.63	1	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	-
(160, 170] -	0.13	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	-

			Percentag	e (%) - ETD: 08r	nov - 2021.			
(0, 10] -	0	0	0	0	0	0	0	
(10, 20] -	0	0	0	0	0	0	0	
(20, 30] -	0.61	1.8	0	0	0	0	0	
(30, 40] -	0.61	2.4	3	7.9	0.61	0	0	
(40, 50] -	0.61	4.2	4.8	8.5	6.1	1.2	0	
(50, 60] -	0.61	1.2	7.9	0.61	3	0	0	
(60, 70] -	0	4.2	0.61	0.61	0	0	0	
(70, 80] -	0.61	1.8	9.1	0.61	0	0	0	
≤ (80, 90] -	0.61	2.4	6.1	3	0	0	0	
₹ (90, 100] -	0	1.8	5.5	3.6	0	0	0	
(100, 110] -	0	0.61	0.61	0	0	0	0	
(110, 120] -	0.61	1.2	0	0	0	0	0	
(120, 130] -	0	0	0	0	0	0	0	
(130, 140] -	0.61	0	0	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	e (%) - ETD: 08r	10v - 2020.		
(0, 10]	- 0	0	0	0	0	0	0
(10, 20]	- 0	0	0	0	0	0	0
(20, 30]	- 0	0	0	0	0	0	0
(30, 40]	- 0	0.65	0.65	5.9	0	0	0
(40, 50]	- 0	0.65	0.65	5.9	1.3	0	0
(50, 60]	- 0	0	5.2	7.2	1.3	2	0
(60, 70]	- 0	0.65	2.6	1.3	0.65	0	0
(70, 80]	- 0	1.3	9.2	1.3	0	0	0
≰ (80, 90]	- 0	3.3	2.6	1.3	0	0	0
₹ (90, 100]	- 0	0.65	3.3	2.6	0	0	0
(100, 110]	- 0	3.9	3.9	0.65	0	0	0
(110, 120]	- 0.65	5.2	3.3	3.9	0.65	0	0
(120, 130]	- 0	3.3	2.6	1.3	0	0	0
(130, 140]	- 0	0	7.2	0	0	0	0
(140, 150]	- 0	0	0.65	0.65	0	0	0
(150, 160]	- 0	0	0	0	0	0	0
(160, 170]	- 0	0	0	0	0	0	0
(170, 180]	- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	je (%) - ETD: 08r	10v - 2019.			
(0, 10]	- 0	0	0	0	0	0	0	
(10, 20]	- 0	1.3	0	0	0	0	0	
(20, 30]	- 0	0	0	0	0	0	0	
(30, 40]	- 0	0.64	3.8	3.8	1.3	1.9	0	
(40, 50]	- 0	1.3	1.3	5.1	0	2.6	0	
(50, 60]	- 0	0.64	1.9	1.9	0	3.8	0	
(60, 70]	- 0	0	1.9	0	0	1.3	0	
(70, 80]	- 0	0.64	0.64	0	1.9	3.2	2.6	
≰ (80, 90]	- 0	1.9	5.1	1.9	1.3	1.9	0	
₹ (90, 100]	- 0	2.6	1.9	0.64	1.9	0	0	
(100, 110]	- 0	0.64	3.8	0.64	0.64	0	0	
(110, 120]	- 1.9	1.9	4.5	2.6	0	0	0	
(120, 130]	- 0	1.9	3.2	1.9	0	0	0	
(130, 140]	- 0	0.64	5.1	1.9	0	0	0	
(140, 150]	- 0	0	1.9	3.8	0	0	0	
(150, 160]	- 0	0	0	0	0	0	0	
(160, 170]	- 0	0	0	0	0	0	0	
(170, 180]	- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	e (%) - ETD: 08r	10V - 2018.			
(0, 10	] - 0	0	0	0	0	0	0	
(10, 20	]- 0	0	0	0	0	0	0	
(20, 30	]- 0	0	0	0	0	0	0	
(30, 40	]- 0	0	1.9	4.4	0.62	0	0	
(40, 50	]- 0	0	1.9	8.1	2.5	0	0	
(50, 60	]- 0	1.2	3.8	11	1.2	0	0	
(60, 70	]- 0	2.5	8.1	5.6	1.2	0	0	
(70, 80	]- 0	1.9	3.1	2.5	0	0	0	
≰ (80, 90	]- 0	0	4.4	1.9	0	0	0	
₹ (90, 100	]- 0	3.8	0.62	0.62	0	0	0	
(100, 110	]- 0	3.1	5	0.62	0	0	0	
(110, 120	]- 0	5	2.5	0.62	0	0	0	
(120, 130	]- 0	3.1	0.62	0	0	0	0	
(130, 140	] - 0	1.9	5	0	0	0	0	
(140, 150	]- 0	0	0	0	0	0	0	
(150, 160	]- 0	0	0	0	0	0	0	
(160, 170	]- 0	0	0	0	0	0	0	
(170, 180	]- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	je (%) - ETD: 08r	10V - 2017.		
(0, 10]	- 0	0	0	0	0	0	0
(10, 20]	- 0	0	0.63	0	0	0	0
(20, 30]	- 0	0	0	0	0	0	0
(30, 40]	- 0	0.63	8.2	2.5	0	0	0
(40, 50]	0.63	0	1.9	2.5	1.3	0	0
(50, 60]	- 0	0.63	4.4	7.5	0	0	0
(60, 70]	- 0	0	6.3	0.63	1.9	0	0
(70, 80]	0.63	0		0.63	0.63	0.63	0
(80, 90]	- 0	1.9	8.2	2.5	0	0	0
(90, 100]	0.63	0	5.7	0.63	0	0	0
(100, 110]	- 0	0	4.4	0.63	0	0	0
(110, 120]	- 0	2.5	2.5	2.5	0	0	0
(120, 130]	- 0	4.4	0.63	0.63	0	0	0
(130, 140]	- 0	1.9	5	0.63	0	0	0
(140, 150]	- 0	0	0.63	0.63	0	0	0
(150, 160]	- 0	0	0	0	0	0	0
(160, 170]	- 0.63	0	0	0	0	0	0
(170, 180]	- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

		Р	ercentage (%) -	ETD: 01nov,04r	10v,08nov - 2021	1.		
(0, 10] -	0	0	0	0	0	0	0	
(10, 20] -	0	0	0	0	0	0	0	
(20, 30] -	0.22	0.86	0	0	0	0	0	
(30, 40] -	0.22	1.3	2.2	7.1	4.3	1.3	0	
(40, 50] -	0.22	2.2	2.2	3.4	5.2	3.2	0	
(50, 60] -	0.22	0.65	2.8	0.86	1.3	0	0	
(60, 70] -	0	1.5	0.22	1.1	0	0	0	
(70, 80] -	0.22	1.1	5.4	1.5	0.86	0.43	0	
≰ (80, 90] -	0.22	3.7	6	1.3	0	0	0	
(90, 100] -	0	4.7	8.6	3	0.22	0	0	
(100, 110] -	0	3	4.9	1.9	0.43	0	0	
(110, 120] -	0.43	4.3	2.2	1.1	0	0	0	
(120, 130] -	0	1.3	0	0	0	0	0	
(130, 140] -	0.22	0	0.65	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

				Percentag	e (%) - ETD: 01n	ov - 2021.		
(0, 10	D] -	0	0	0	0	0	0	0
(10, 20	0] -	0	0	0	0	0	0	0
(20, 30	D] -	0	0	0	0	0	0	0
(30, 40	0] -	0	0	0	0	0	0	0
(40, 50	D] -	0	0	1.5	0	0	0	0
(50, 60	D] -	0	0	0	1.5	0	0	0
(60, 70	D] -	0	0	0	3	0	0	0
(70, 80	D] -	0	0.76	3.8	4.5	3	1.5	0
≰ (80, 90	D] -	0	3.8	3.8	0	0	0	0
₹ (90, 100	0] -	0	7.6		6.1	0.76	0	0
(100, 110	D] -	0	6.1		6.8	1.5	0	0
(110, 120	0] -	0.76	3.8	5.3	3.8	0	0	0
(120, 130	oj -	0	3	0	0	0	0	0
(130, 140	0] -	0	0	2.3	0	0	0	0
(140, 150	oj -	0	0	0	0	0	0	0
(150, 160	oj -	0	0	0	0	0	0	0
(160, 170	oj -	0	0	0	0	0	0	0
(170, 180	o] -	0	0	0	0	0	0	0
		(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 04r	10v - 2021.			
(0, 10] -	0	0	0	0	0	0	0	
(10, 20] -	0	0	0	0	0	0	0	
(20, 30] -	0	0.6	0	0	0	0	0	
(30, 40] -	0	1.2	3			3.6	0	
(40, 50] -	0	1.8	0	1.2	8.3	7.7	0	
(50, 60] -	0	0.6	0	0.6	0.6	0	0	
(60, 70] -	0	0	0	0	0	0	0	
(70, 80] -	0	0.6	3	0	0	0	0	
≰ (80, 90] -	0	4.8	7.7	0.6	0	0	0	
₹ (90, 100] -	0	5.4	9.5	0	0	0	0	
(100, 110] -	0	3	2.4	0	0	0	0	
(110, 120] -	0	7.7	1.8	0	0	0	0	
(120, 130] -	0	1.2	0	0	0	0	0	
(130, 140] -	0	0	0	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	je (%) - ETD: 08r	nov - 2021.			
(0, 10]	- 0	0	0	0	0	0	0	
(10, 20]	- 0	0	0	0	0	0	0	
(20, 30]	- 0.61	1.8	0	0	0	0	0	
(30, 40]	- 0.61	2.4	3	7.9	0.61	0	0	
(40, 50]	0.61	4.2	4.8	8.5	6.1	1.2	0	
(50, 60]	0.61	1.2	7.9	0.61	3	0	0	
(60, 70]	- 0	4.2	0.61	0.61	0	0	0	
(70, 80]	- 0.61	1.8	9.1	0.61	0	0	0	
≰ (80, 90]	- 0.61	2.4	6.1	3	0	0	0	
₹ (90, 100]	- 0	1.8	5.5	3.6	0	0	0	
(100, 110]	- 0	0.61	0.61	0	0	0	0	
(110, 120]	0.61	1.2	0	0	0	0	0	
(120, 130]	- 0	0	0	0	0	0	0	
(130, 140]	0.61	0	0	0	0	0	0	
(140, 150]	- 0	0	0	0	0	0	0	
(150, 160]	- 0	0	0	0	0	0	0	
(160, 170]	- 0	0	0	0	0	0	0	
(170, 180]	- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

		P	ercentage (%) -	ETD: 01nov,04r	iov,08nov - 2020	D.	
(0, 10] -	0.44	0	0	0	0	0	0
(10, 20] -	0.22	0	0	0	0	0	0
(20, 30] -	0.44	0	0	0	0	0	0
(30, 40] -	0.22	1.8	0.88	7.9	2.6	0	0
(40, 50] -	0	2	3.9	6.6	2.6	0	0
(50, 60] -	0.22	0.44	3.1	3.7	0.66	1.1	0
(60, 70] -	0	0.44	2.4	2.6	0.22	0	0
(70, 80] -	0	0.88	7.2	2	0	0	0
≰ (80, 90] -	0.44	2	6.3	2	0.22	0	0
(90, 100] -	0	1.1	4.8	4.2	0	0	0
(100, 110] -	0	2.4	5.5	3.1	0	0	0
(110, 120] -	1.1	2.2	2.2	1.3	0.22	0	0
(120, 130] -	0	1.1	1.3	0.44	0	0	0
(130, 140] -	0	0	3.1	0	0	0	0
(140, 150] -	0	0	0.22	0.44	0	0	0
(150, 160] -	0	0	0	0	0	0	0
(160, 170] -	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

				(4) 575 44			
			Percentag	je (%) - ETD: 01r	10V - 2020.		
(0, 10	]- 0	0	0	0	0	0	0
(10, 20	]- 0	0	0	0	0	0	0
(20, 30	]- 0	0	0	0	0	0	0
(30, 40	]- 0	1.4	0.68	0	0	0	0
(40, 50	]- 0	2	4.1	2.7	3.4	0	0
(50, 60	] - 0.68	1.4	1.4	2.7	0.68	1.4	0
(60, 70	] - 0	0	3.4	5.4	0	0	0
(70, 80	]- 0	1.4	13	2.7	0	0	0
≰ (80, 90	] - 1.4	2.7	16	2	0.68	0	0
(90, 100)	] - 0	2	7.5	0	0	0	0
(100, 110	]- 0	2.7	6.8	1.4	0	0	0
(110, 120	] - 2.7	0.68	2.7	0	0	0	0
(120, 130	] - 0	0	1.4	0	0	0	0
(130, 140	]- 0	0	0.68	0	0	0	0
(140, 150	]- 0	0	0	0.68	0	0	0
(150, 160	] - 0	0	0	0	0	0	0
(160, 170	] - 0	0	0	0	0	0	0
(170, 180	]- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

			Percentage	e (%) - ETD: 04r	10v - 2020.			
(0, 10] -	1.3	0	0	0	0	0	0	
(10, 20] -	0.64	0	0	0	0	0	0	
(20, 30] -	1.3	0	0	0	0	0	0	
(30, 40] -	0.64	3.2	1.3	17	7.6	0	0	
(40, 50] -	0	3.2	7	11	3.2	0	0	
(50, 60] -	0	0	2.5	1.3	0	0	0	
(60, 70] -	0	0.64	1.3	1.3	0	0	0	
(70, 80] -	0	0	0	1.9	0	0	0	
≰ (80, 90] -	0	0	1.3	2.5	0	0	0	
₹ (90, 100] -	0	0.64	3.8	9.6	0	0	0	
(100, 110] -	0	0.64	5.7	7	0	0	0	
(110, 120] -	0	0.64	0.64	0	0	0	0	
(120, 130] -	0	0	0	0	0	0	0	
(130, 140] -	0	0	1.3	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	e (%) - ETD: 08r	10v - 2020.		
(0, 10]	- 0	0	0	0	0	0	0
(10, 20]	- 0	0	0	0	0	0	0
(20, 30]	- 0	0	0	0	0	0	0
(30, 40]	- 0	0.65	0.65	5.9	0	0	0
(40, 50]	- 0	0.65	0.65	5.9	1.3	0	0
(50, 60]	- 0	0	5.2	7.2	1.3	2	0
(60, 70]	- 0	0.65	2.6	1.3	0.65	0	0
(70, 80]	- 0	1.3	9.2	1.3	0	0	0
≰ (80, 90]	- 0	3.3	2.6	1.3	0	0	0
₹ (90, 100]	- 0	0.65	3.3	2.6	0	0	0
(100, 110]	- 0	3.9	3.9	0.65	0	0	0
(110, 120]	- 0.65	5.2	3.3	3.9	0.65	0	0
(120, 130]	- 0	3.3	2.6	1.3	0	0	0
(130, 140]	- 0	0	7.2	0	0	0	0
(140, 150]	- 0	0	0.65	0.65	0	0	0
(150, 160]	- 0	0	0	0	0	0	0
(160, 170]	- 0	0	0	0	0	0	0
(170, 180]	- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

		P	ercentage (%) -	ETD: 01nov,04r	10v,08nov - 2019	θ.		
(0, 10] -	0	1.6	0.4	0	0	0	0	
(10, 20] -	0.2	1.8	0.4	0	0	0	0	
(20, 30] -	0	1.2	0	0	0	0	0	
(30, 40] -	0.4	0.4	6	8.5	3.6	0.6	0	
(40, 50] -	0	1	2	4.6	1	1.2	0	
(50, 60] -	0.2	0.81	1.8	4.2	1	1.2	0	
(60, 70] -	0.2	1.4	2.4	2.4	1.2	0.81	0	
(70, 80] -	0.2	1.6	1.6	1	0.81	1	0.81	
≰ (80, 90] -	0	2.6	2.8	1.2	0.81	0.6	0	
(90, 100] -	0	1.8	3.2	2	0.81	0	0	
(100, 110] -	0	1.4	2.4	0.81	0.2	0	0	
(110, 120] -	0.6	3	3.2	1	0	0	0	
(120, 130] -	0.2	2.2	2.2	0.81	0	0	0	
(130, 140] -	0	0.4	2.2	0.6	0	0	0	
(140, 150] -	0	0	1	1.8	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

			Percentag	e (%) - ETD: 01n	iov - 2019.			
(0, 10] -	0	1.7	0.57	0	0	0	0	
(10, 20] -	0	2.3	0	0	0	0	0	
(20, 30] -	0	0	0	0	0	0	0	
(30, 40] -	1.1	0	11	18	6.8	0	0	
(40, 50] -	0	0	0.57	6.2	0.57	0	0	
(50, 60] -	0	0	1.1	2.8	2.3	0	0	
(60, 70] -	0.57	0	1.7	1.7	0	1.1	0	
(70, 80] -	0.57	1.7	2.8	1.7	0	0	0	
≝ (80, 90] -	0	5.1	2.8	0.57	0.57	0	0	
(90, 100] -	0	2.3	5.1	1.7	0	0	0	
(100, 110] -	0	2.8	1.1	0.57	0	0	0	
(110, 120] -	0	2.3	1.7	0	0	0	0	
(120, 130] -	0	3.4	2.3	0.57	0	0	0	
(130, 140] -	0	0	0.57	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

								C1	<b>MET</b>
			Percentag	e (%) - ETD: 04r	10v - 2019.			2	0.0
(0, 10] -	0	3	0.61	0	0	0	0	- 20	1.0
(10, 20] -	0.61	1.8	1.2	0	0	0	0		
(20, 30] -	0	3.7	0	0	0	0	0	- 17	1.5
(30, 40] -	0	0.61	3	3	2.4	0	0		
(40, 50] -	0	1.8	4.3	2.4	2.4	1.2	0	- 15	5.0
(50, 60] -	0.61	1.8	2.4	7.9	0.61	0	0		
(60, 70] -	0	4.3	3.7	5.5	3.7	0	0	- 12	2.5
(70, 80] -	0	2.4	1.2	1.2	0.61	0	0		
≰ (80, 90] -	0	0.61	0.61	1.2	0.61	0	0		
₹ (90, 100] -	0	0.61	2.4	3.7	0.61	0	0	- 10	J.U
(100, 110] -	0	0.61	2.4	1.2	0	0	0		
(110, 120] -	0	4.9	3.7	0.61	0	0	0	- 7.	5
(120, 130] -	0.61	1.2	1.2	0	0	0	0		
(130, 140] -	0	0.61	1.2	0	0	0	0	- 5.	0
(140, 150] -	0	0	1.2	1.8	0	0	0		
(150, 160] -	0	0	0	0	0	0	0	- 2.	5
(160, 170] -	0	0	0	0	0	0	0		
(170, 180] -	0	0	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	- 0.1	0

			Percentag	je (%) - ETD: 08r	10v - 2019.			
(0, 10]	- 0	0	0	0	0	0	0	
(10, 20]	- 0	1.3	0	0	0	0	0	
(20, 30]	- 0	0	0	0	0	0	0	
(30, 40]	- 0	0.64	3.8	3.8	1.3	1.9	0	
(40, 50]	- 0	1.3	1.3	5.1	0	2.6	0	
(50, 60]	- 0	0.64	1.9	1.9	0	3.8	0	
(60, 70]	- 0	0	1.9	0	0	1.3	0	
(70, 80]	- 0	0.64	0.64	0	1.9	3.2	2.6	
≰ (80, 90]	- 0	1.9	5.1	1.9	1.3	1.9	0	
₹ (90, 100]	- 0	2.6	1.9	0.64	1.9	0	0	
(100, 110]	- 0	0.64	3.8	0.64	0.64	0	0	
(110, 120]	- 1.9	1.9	4.5	2.6	0	0	0	
(120, 130]	- 0	1.9	3.2	1.9	0	0	0	
(130, 140]	- 0	0.64	5.1	1.9	0	0	0	
(140, 150]	- 0	0	1.9	3.8	0	0	0	
(150, 160]	- 0	0	0	0	0	0	0	
(160, 170]	- 0	0	0	0	0	0	0	
(170, 180]	- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

		P	ercentage (%) -	ETD: 01nov,04r	10v,08nov - 201	В.	
(0, 10]	0.2	0.79	0.39	0	0	0	0
(10, 20] -	0.2	0.2	0	0	0	0	0
(20, 30] -	0.39	0.2	0	0	0	0	0
(30, 40]	0.2	0.59	2.8	5.3	2.4	1.8	0
(40, 50] -	0	1.4	3.4	7.5	1.2	0.2	0
(50, 60]	0.39	1.8	5.3	6.3	0.99	0	0
(60, 70]	0.39	2.8	6.3	2.8	1.8	0	0
(70, 80] ·	0	1.8	3.4	1.2	0	0	0
≰ (80, 90] ·	0	1.6	5.3	2.4	0	0	0
₹ (90, 100] ·	. 0	2.2	1.6	2.2	0	0	0
(100, 110]	0	2.6	4.7	0.99	0	0	0
(110, 120] -	0	3.9	2.2	0.2	0	0	0
(120, 130]	0	1.8	0.39	0.2	0	0	0
(130, 140]	0	1.4	2.4	0	0	0	0
(140, 150] -	0	0	0	0	0	0	0
(150, 160]	. 0	0	0	0	0	0	0
(160, 170]	0	0	0	0	0	0	0
(170, 180] -	0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	e (%) - ETD: 01n	ov - 2018.			
(0, 10] -	0.58	0	0	0	0	0	0	
(10, 20] -	0	0	0	0	0	0	0	
(20, 30] -	0	0.58	0	0	0	0	0	
(30, 40] -	0.58	0.58	2.9	5.2	2.9	2.9	0	
(40, 50] -	0	2.3	4.6	5.8	0	0.58	0	
(50, 60] -	1.2	2.3	7.5	3.5	1.7	0	0	
(60, 70] -	0.58	3.5	5.2	1.2	4	0	0	
(70, 80] -	0	1.7	2.9	0.58	0	0	0	
ع (80, 90] -	0	2.3	5.2	2.9	0	0	0	
(90, 100] -	0	0	2.9	0.58	0	0	0	
(100, 110] -	0	0.58	8.7	0	0	0	0	
(110, 120] -	0	1.7	4	0	0	0	0	
(120, 130] -	0	1.7	0.58	0	0	0	0	
(130, 140] -	0	1.7	1.7	0	0	0	0	
(140, 150] -	0	0	0	0	0	0	0	
(150, 160] -	0	0	0	0	0	0	0	
(160, 170] -	0	0	0	0	0	0	0	
(170, 180] -	0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

									MET
				Percentag	e (%) - ETD: 04r	10v - 2018.			20.0
	(0, 10] -	0	2.3	1.1	0	0	0	0	- 20.0
	(10, 20] -	0.57	0.57	0	0	0	0	0	
	(20, 30] -	1.1	0	0	0	0	0	0	- 17.5
	(30, 40] -	0	1.1	3.4	6.3	3.4	2.3	0	
	(40, 50] -	0	1.7	3.4	8.6	1.1	0	0	- 15.0
	(50, 60] -	0	1.7	4.6	5.2	0	0	0	
	(60, 70] -	0.57	2.3	5.7	1.7	0	0	0	- 12.5
	(70, 80] -	0	1.7	4	0.57	0	0	0	
A	(80, 90] -	0	2.3	6.3	2.3	0	0	0	10.0
AW	(90, 100] -	0	2.9	1.1	5.2	0	0	0	- 10.0
(	100, 110] -	0	4	0.57	2.3	0	0	0	
(	110, 120] -	0	5.2	0	0	0	0	0	- 7.5
(	120, 130] -	0	0.57	0	0.57	0	0	0	
(	130, 140] -	0	0.57	0.57	0	0	0	0	- 5.0
(	140, 150] -	0	0	0	0	0	0	0	
(	150, 160] -	0	0	0	0	0	0	0	- 2.5
(	160, 170] -	0	0	0	0	0	0	0	2.5
(	170, 180] -	0	0	0	0	0	0	0	
		(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	- 0.0

			Percentag	e (%) - ETD: 08r	10V - 2018.			
(0, 10	o] - 0	0	0	0	0	0	0	
(10, 20	)]- O	0	0	0	0	0	0	
(20, 30	)] -       0	0	0	0	0	0	0	
(30, 40	)] - O	0	1.9	4.4	0.62	0	0	
(40, 50	0 - 0	0	1.9	8.1	2.5	0	0	
(50, 60	0 - 0	1.2	3.8	11	1.2	0	0	
(60, 70	0 - 0	2.5	8.1	5.6	1.2	0	0	
(70, 80	0 - 0	1.9	3.1	2.5	0	0	0	
≰ (80, 90	)]- O	0	4.4	1.9	0	0	0	
₹ (90, 100	]- 0	3.8	0.62	0.62	0	0	0	
(100, 110	]- 0	3.1	5	0.62	0	0	0	
(110, 120	]- 0	5	2.5	0.62	0	0	0	
(120, 130	- 0	3.1	0.62	0	0	0	0	
(130, 140	] - 0	1.9	5	0	0	0	0	
(140, 150	]- 0	0	0	0	0	0	0	
(150, 160	] - 0	0	0	0	0	0	0	
(160, 170	] - 0	0	0	0	0	0	0	
(170, 180	]- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	
		Р	ercentage (%) -	ETD: 01nov,04r	iov,08nov - 2017	7.		
-------------	--------	---------	-----------------	-----------------	------------------	----------	----------	--
(0, 10]	- 0	0.22	0	0	0	0	0	
(10, 20]	0.22	0	0.22	0	0	0	0	
(20, 30]	- 0.44	0.22	0	0	0	0	0	
(30, 40]	- 0	0.22	3.7	7.4	2.6	0	0	
(40, 50]	0.22	0.22	0.87	2.8	3.3	0	0	
(50, 60]	0.22	0.44	2.6	4.6	0.87	0	0	
(60, 70]	- 0.22	0.87	3.5	1.3	1.3	0	0	
(70, 80]	0.66	1.3	6.1	0.44	1.1	0.22	0	
≰ (80, 90]	- 0.44	1.5	4.4	2.2	0.66	0	0	
₹ (90, 100]	- 0.22	0.22	3.9	1.7	0.66	0	0	
(100, 110]	- 0	1.3	3.7	4.4	2.2	0	0	
(110, 120]	- 0	2	3.1	2.8	0.22	0	0	
(120, 130]	0.22	2.2	3.7	1.5	0.22	0	0	
(130, 140]	- 0	0.66	4.8	0.87	0	0	0	
(140, 150]	- 0	0	0.66	0.87	0	0	0	
(150, 160]	- 0	0	0	0	0	0	0	
(160, 170]	0.22	0	0	0	0	0	0	
(170, 180]	- 0	0	0	0	0	0	0	
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]	

				(0) 575 00			
			Percentag	e (%) - ETD: 01n	iov - 2017.		
(0, 10]	- 0	0.66	0	0	0	0	0
(10, 20]	- 0	0	0	0	0	0	0
(20, 30]	- 0	0	0	0	0	0	0
(30, 40]	- 0	0	2	18	2.6	0	0
(40, 50]	- 0	0	0.66	5.3	6.6	0	0
(50, 60]	- 0	0.66	3.3	2	2	0	0
(60, 70]	- 0	0	0.66	0.66	2	0	0
(70, 80]	- 0	0	4.6	0	2	0	0
≤ (80, 90]	- 0	2	3.9	2	1.3	0	0
₹ (90, 100]	- 0	0.66	3.9	1.3	0.66	0	0
(100, 110]	- 0	3.9	3.3	5.9	2.6	0	0
(110, 120]	- 0	2	2	2.6	0.66	0	0
(120, 130]	- 0	0.66	3.9	0.66	0.66	0	0
(130, 140]	- 0	0	2	0	0	0	0
(140, 150]	- 0	0	0	0	0	0	0
(150, 160]	- 0	0	0	0	0	0	0
(160, 170]	- 0	0	0	0	0	0	0
(170, 180]	- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

				Percentag	je (%) - ETD: 04r	10v - 2017.		
	0, 10] -	0	0	0	0	0	0	0
(1	.0, 20] -	0.68	0	0	0	0	0	0
(2	0, 30] -	1.4	0.68	0	0	0	0	0
(3	0, 40] -	0	0	0.68	2	5.4	0	0
(4	0, 50] -	0	0.68	0	0.68	2	0	0
(5	0, 60] -	0.68	0	0	4.1	0.68	0	0
(6	60, 70] -	0.68	2.7	3.4	2.7	0	0	0
(7	0, 80] -	1.4	4.1	2.7	0.68	0.68	0	0
≤ (8	0, 90] -	1.4	0.68	0.68	2	0.68	0	0
₹ (90	, 100] -	0	0	2	3.4	1.4	0	0
(100	, 110] -	0	0	3.4	6.8	4.1	0	0
(110	, 120] -	0	1.4	4.8	3.4	0	0	0
(120	, 130] -	0.68	1.4	6.8	3.4	0	0	0
(130	, 140] -	0	0	7.5	2	0	0	0
(140	, 150] -	0	0	1.4	2	0	0	0
(150	, 160] -	0	0	0	0	0	0	0
(160	, 170] -	0	0	0	0	0	0	0
(170	, 180] -	0	0	0	0	0	0	0
		(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

			Percentag	je (%) - ETD: 08r	ov - 2017.		
(0, 10]	- 0	0	0	0	0	0	0
(10, 20]	- 0	0	0.63	0	0	0	0
(20, 30]	- 0	0	0	0	0	0	0
(30, 40]	- 0	0.63	8.2	2.5	0	0	0
(40, 50]	- 0.63	0	1.9	2.5	1.3	0	0
(50, 60]	- 0	0.63	4.4	7.5	0	0	0
(60, 70]	- 0	0	6.3	0.63	1.9	0	0
(70, 80]	- 0.63	0		0.63	0.63	0.63	0
≰ (80, 90]	- 0	1.9	8.2	2.5	0	0	0
(90, 100]	- 0.63	0	5.7	0.63	0	0	0
(100, 110]	- 0	0	4.4	0.63	0	0	0
(110, 120]	- 0	2.5	2.5	2.5	0	0	0
(120, 130]	- 0	4.4	0.63	0.63	0	0	0
(130, 140]	- 0	1.9	5	0.63	0	0	0
(140, 150]	- 0	0	0.63	0.63	0	0	0
(150, 160]	- 0	0	0	0	0	0	0
(160, 170]	- 0.63	0	0	0	0	0	0
(170, 180]	- 0	0	0	0	0	0	0
	(0, 5]	(5, 10]	(10, 15]	(15, 20] AWS	(20, 25]	(25, 30]	(30, 35]

# Heatmap - Nov 01<sup>st</sup>











MET



MET

### Remarks

### **Best Sails**



All the simulated routes implies in significant number of sail changes. The 2021 simulation changed sail 54 times, the smallest number. In 2017, 64 sail changes, the higher number. The complete list of sail choices along the route can be found in the log book files by clicking *here*.

- In 2021 Code 3 was the most used (42%) due to predominance of downwind (51%) force 5.
- Screacher was the most used in 2020 (41%) and 2018 (31%) due to predominance of reaching (61% and 43% respectively) force 4 or 5.
- Genoa was the most used in 2019 (30%) and 2017 (38%) due to predominance of beating (50% and 38% respectively) force 4;

### **Atmospheric Conditions**



- Marked variability of atmospheric/sea conditions between years.
- Marked variability of conditions between different departure days in the same year.
- The passage duration varies from 16 (2021) to 22 days (2019).
- Prevailing wind force 4 and 5.
- Prevailing reaching and downwind sailing.
- Wind direction tends to shift counterclockwise as atmospheric synoptic systems pass through (for example, cold fronts and extra-tropical cyclones).



- It seems to be a number of 1 to 3 atmospheric systems passing through during the passage.
- La Niña was present in the last two years in which general conditions seemed to be more favourable.
- The synoptic scale transient weather systems (fronts and cyclones) seems to have important contribution.
- The choice of departure day and pathway can be more determinant than the presence or not of La Ninã or El Niño.

### Sea Conditions



The mean waves directions tends to predominate from E or NE at the initial part and changes to SW from the middle to the end of the passage. Mostly due to swell direction contribution. Wind waves, as expected, follow the wind directions. When combined waves heights are higher, they tend to be at the same direction as wind waves. That occurs mostly when wind speed is above 20 kt.

- Maximum Combined Significant Wave Height varies from 3 to 5 m.
- Maximum Wind Waves Height from 2 to 4m.
- Maximum Swell Waves Height from 2 to 5m.

## Appendix A



#### Boat Performance Table (Polar Data)

TWA/TWS	0.0	5.0	8.0	10.0	12.0	15.0	20.0	24.0	30.0	40.0	60.0
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0	0.00	3.00	4.50	5.50	6.40	6.40	6.70	6.80	5.50	5.00	1.50
45.0	0.00	3.60	5.30	6.50	7.20	7.30	7.70	7.80	6.80	6.20	2.80
50.0	0.00	4.15	6.00	7.30	8.00	8.20	8.60	8.90	7.80	7.10	4.00
55.0	0.00	4.70	6.80	8.20	8.90	9.00	9.30	9.40	8.50	8.10	4.80
60.0	0.00	4.90	7.10	8.50	9.10	9.40	9.80	9.90	8.80	8.60	5.50
70.0	0.00	5.00	7.20	8.70	9.30	9.80	10.30	10.60	9.60	9.30	7.20
80.0	0.00	5.10	7.30	8.80	9.50	10.30	10.90	11.40	10.70	10.40	8.10
90.0	0.00	5.10	7.40	8.90	9.80	10.80	11.60	12.10	12.20	12.00	8.70
100.0	0.00	5.20	7.50	9.00	10.00	11.00	12.00	12.60	13.30	13.00	8.90
110.0	0.00	5.20	7.40	9.10	10.20	11.20	12.20	12.80	13.80	14.00	9.00
120.0	0.00	5.00	7.10	9.10	10.40	11.30	12.40	13.00	14.10	14.40	9.10
130.0	0.00	4.80	6.80	8.80	10.00	11.30	12.50	13.30	14.50	14.90	9.20
140.0	0.00	4.50	6.20	8.50	9.40	11.00	12.30	13.20	15.00	15.30	9.30
150.0	0.00	3.70	5.70	8.00	8.90	10.20	11.30	12.20	14.70	15.50	9.40
160.0	0.00	3.00	4.90	7.00	7.90	9.30	10.40	11.30	13.80	14.60	9.30
170.0	0.00	2.40	4.30	6.20	7.00	7.90	8.80	9.50	11.20	13.00	9.10
179.0	0.00	2.00	3.70	5.20	6.00	7.10	8.00	8.50	10.00	11.00	8.50
180.0	0.00	2.00	3.70	5.20	6.00	7.10	8.00	8.50	10.00	11.00	8.50

#### Boat Performance Diagram (Polar Diagram)





# Appendix B

#### Waves Polar

TWS=5	0	1	2	5	10
0	100	95	90	80	50
45	100	97	95	90	70
90	100	100	98	95	90
135	100	101	102	103	105
180	100	102	103	105	108
TWS=10	0	1	2	5	10
0	100	97	95	90	60
45	100	98	97	93	77
90	100	100	100	97	93
135	100	102	103	105	110
180	100	103	105	110	115
TWS=20	0	1	2	5	10
0	100	95	90	85	70
45	100	99	98	95	84
90	100	100	100	98	96
135	100	102	104	106	112
180	100	104	107	115	118
TWS=30	0	1	2	5	10
0	100	98	95	90	80
45	100	100	99	96	90
90	100	100	100	99	97
135	100	103	105	108	115
180	100	105	108	115	120



## Appendix C

Sails definition and sails selection criteria.

		TWA/TWS	5	8	10	12	15	18	20	22	24	30	40
		45	3	3	2	2	2	1	1	1	1	8	8
		50	3	3	2	2	2	1	1	1	1	8	8
		55	3	3	2	2	2	1	1	1	1	8	8
		60	3	3	2	2	2	1	1	1	1	8	8
		70	3	3	4	4	2	2	1	1	1	8	8
		80	4	4	4	4	2	2	1	1	1	8	8
		90	4	4	4	4	4	4	2	1	1	8	8
1	Durin	100	5	4	4	4	4	4	2	2	1	1	8
1	Duja	110	5	5	5	4	4	4	4	2	2	1	8
2	Genoa	120	7	5	5	5	5	5	4	2	2	1	8
3	Code 0	130	7	7	7	7	5	5	5	4	4	2	8
4	Screacher	140	7	7	7	7	7	7	6	5	4	2	8
5	Code 3	150	7	7	7	7	7	7	6	6	5	2	8
6	Spi A2	160	7	7	7	7	7	7	6	6	6	2	8
7	Spi A2G	170	7	7	7	7	7	7	6	6	6	2	8
8	Storm Jib	180	7	7	7	7	7	7	6	6	6	2	8



## Appendix D





Figure 8: Oceanic Niño Index - El Niño (blue), La Niña (orange).

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2010	1.5	1.2	0.8	0.4	-0.2	-0.7	-1.0	-1.3	-1.6	-1.6	-1.6	-1.6
2011	-1.4	-1.2	-0.9	-0.7	-0.6	-0.4	-0.5	-0.6	-0.8	-1.0	-1.1	-1.0
2012	-0.9	-0.7	-0.6	-0.5	-0.3	0.0	0.2	0.4	0.4	0.3	0.1	-0.2
2013	-0.4	-0.4	-0.3	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2	-0.2	-0.3
2014	-0.4	-0.5	-0.3	0.0	0.2	0.2	0.0	0.1	0.2	0.5	0.6	0.7
2015	0.5	0.5	0.5	0.7	0.9	1.2	1.5	1.9	2.2	2.4	2.6	2.6
2016	2.5	2.1	1.6	0.9	0.4	-0.1	-0.4	-0.5	-0.6	-0.7	-0.7	-0.6
2017	-0.3	-0.2	0.1	0.2	0.3	0.3	0.1	-0.1	-0.4	-0.7	-0.8	-1.0
2018	-0.9	-0.9	-0.7	-0.5	-0.2	0.0	0.1	0.2	0.5	0.8	0.9	0.8
2019	0.7	0.7	0.7	0.7	0.5	0.5	0.3	0.1	0.2	0.3	0.5	0.5
2020	0.5	0.5	0.4	0.2	-0.1	-0.3	-0.4	-0.6	-0.9	-1.2	-1.3	-1.2
2021	-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4	-0.5	-0.7	-0.8	-1.0	-1.0
2022	-1.0	-0.9	-1.0	-1.1	-1.0	-0.9	-0.8	-0.9				

Figure 9: Oceanic Niño Index - El Niño (blue), La Niña (red).

### The CFS.v2 ensemble mean (black dashed line) indicates La Niña persisting into the Northern Hemisphere winter 2022-23, and then transitioning to ENSOneutral in January-March 2023.



Figure 10: Foreasts indicate La Niña persisting into Southern Hemisphere summer 2022-2023.