

# Banff Wind Speed and Direction: 1961-2025

Kelvin Hirsch and Mark Heathcott, November 2025

Daily Noon (LST) Observations (Dataset = Heathcott Oct 2025)

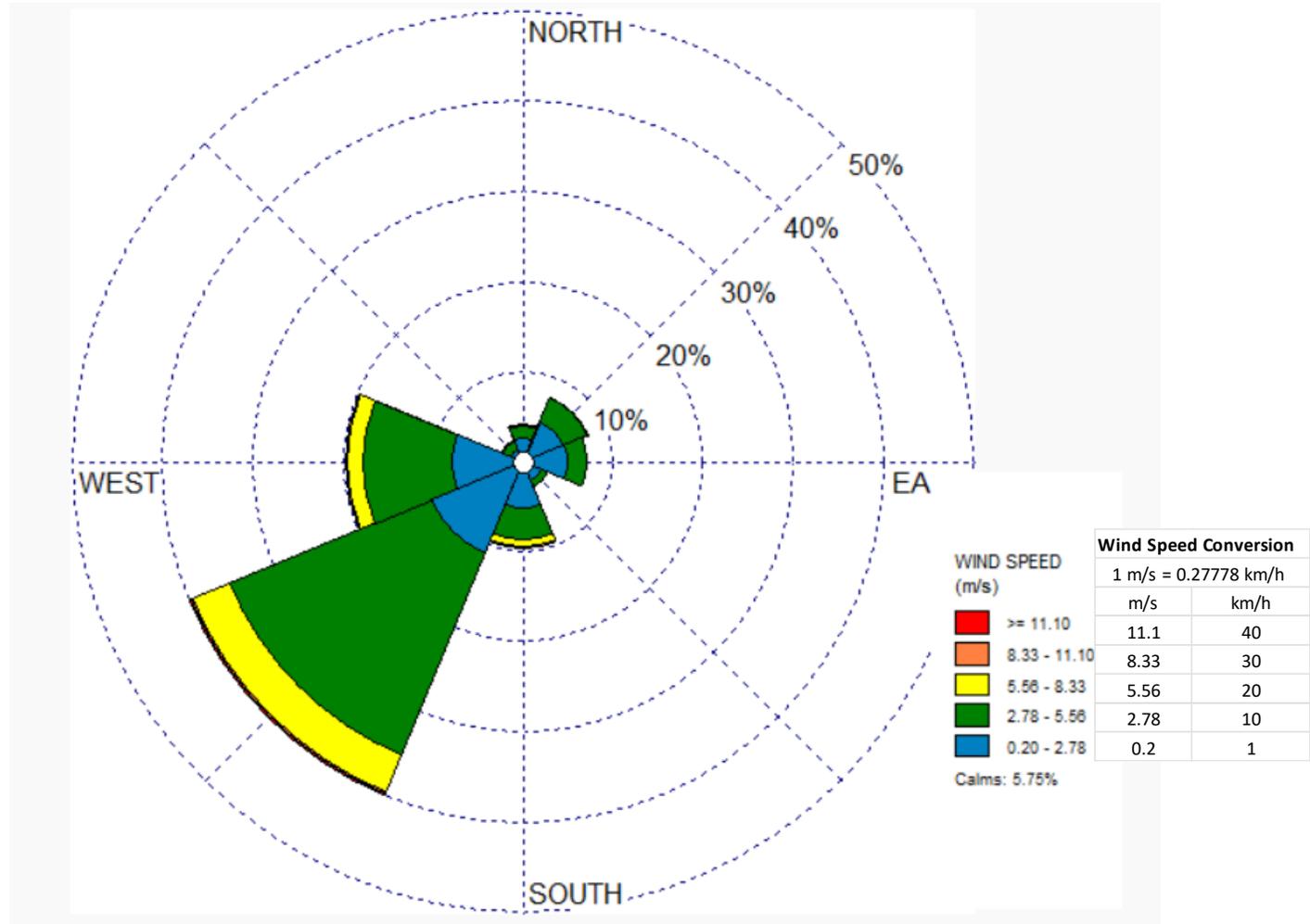
Banff Station information		
WMO ID	71122	
ECCC ID	3050519	
Lat	51o 11' 36.09"	
Long	115o 33' 8.05"	
Elevation	1397	
	1398	

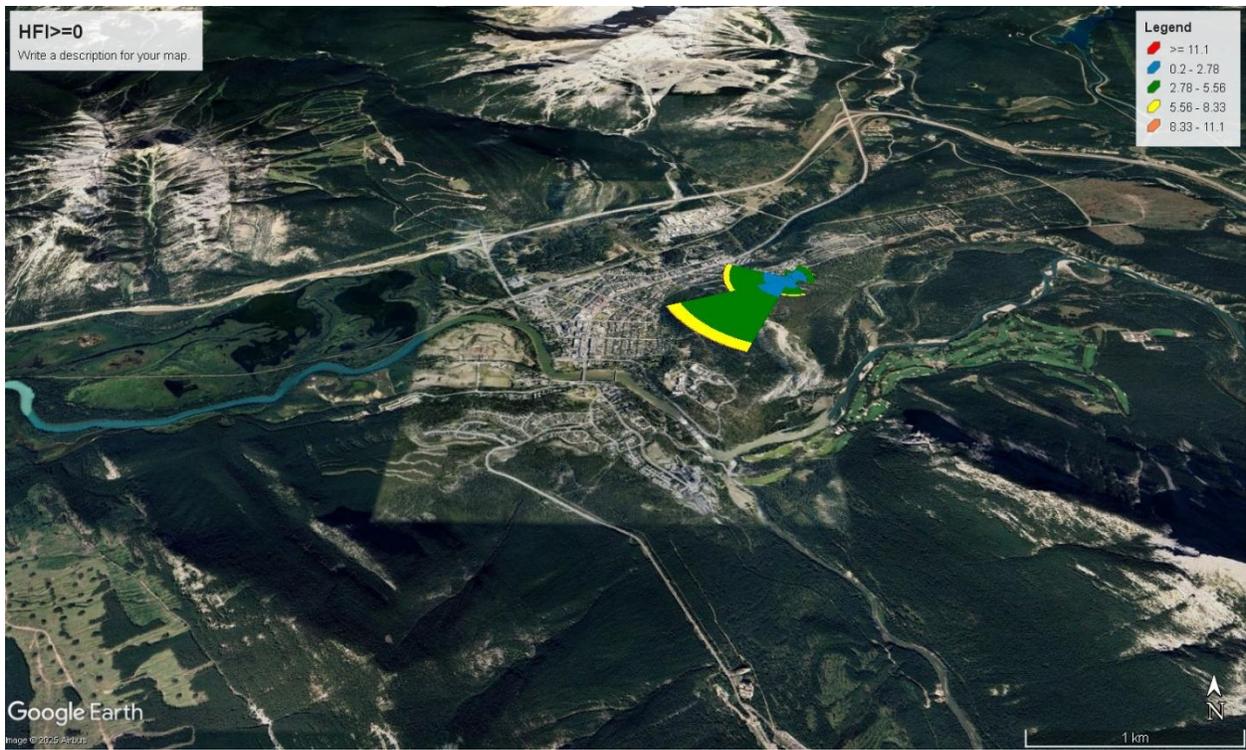
## ECCC methodology

The direction (true or geographic, not magnetic) from which the wind blows. It represents the average direction during the two-minute period ending at the time of observation. Expressed in tens of degrees (10's deg), 9 means 90 degrees true or an east wind, and 36 means 360 degrees true or a wind blowing from the geographic North Pole. A value of zero (0) denotes a calm wind.

1. HFI >=0 (All data for the whole fire season)

HFI >= 0 (all days in the fire season) (n=13799)

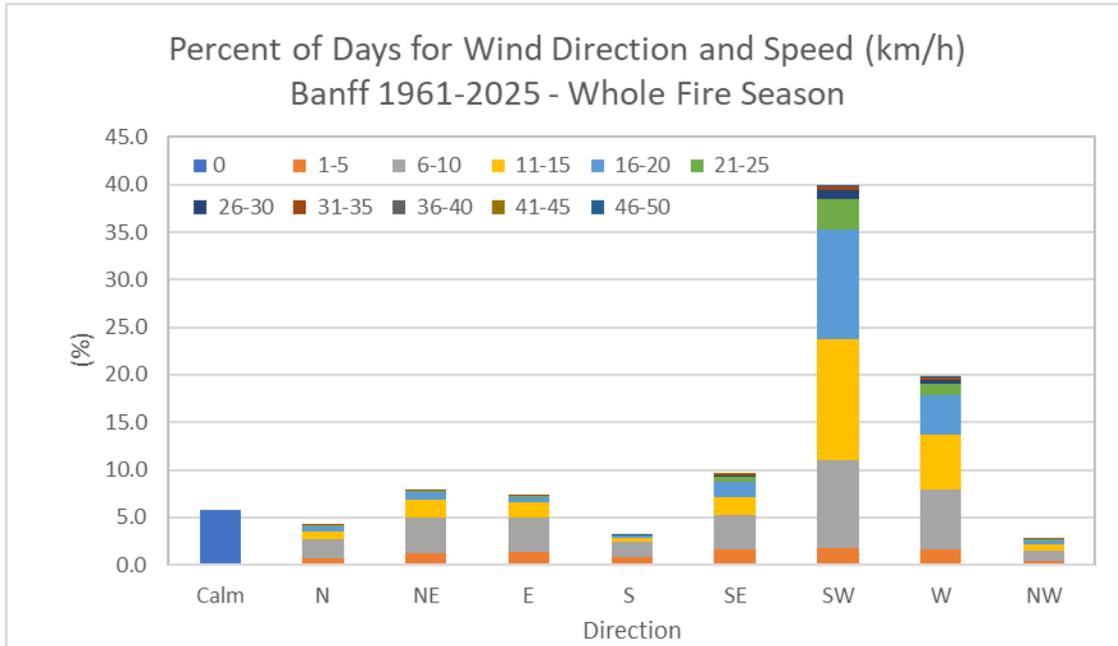






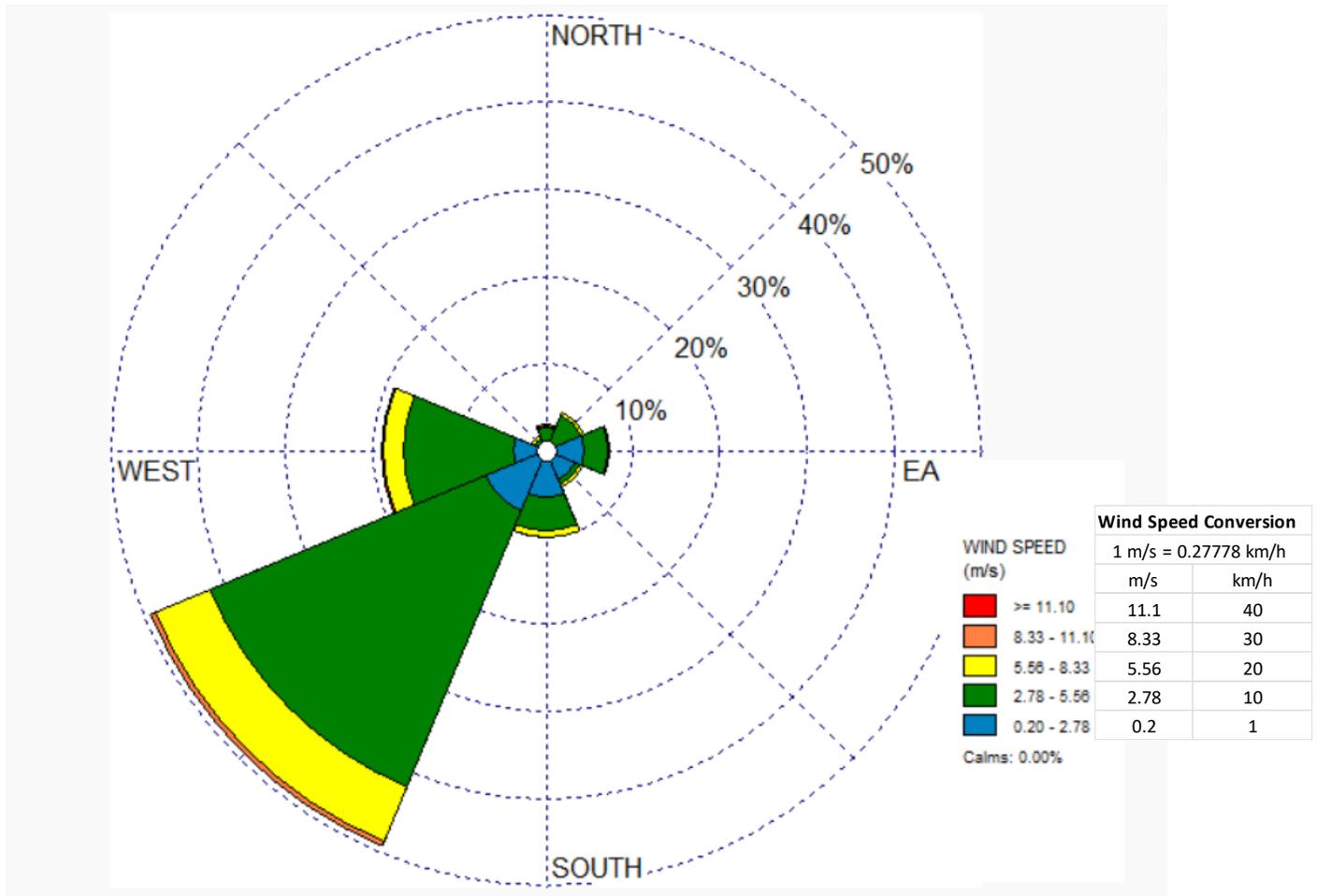
From Excel Spreadsheet (for verification)

Percent of Total Days for each wind speed and direction													
	0	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50		Total Days at WD=Y
Calm	5.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.75
N	0.00	0.76	1.96	0.83	0.46	0.13	0.02	0.01	0.00	0.00	0.00	0.00	4.18
NE	0.00	1.21	3.72	1.89	0.86	0.09	0.03	0.01	0.00	0.00	0.00	0.00	7.81
E	0.00	1.39	3.56	1.59	0.61	0.06	0.01	0.01	0.00	0.00	0.00	0.00	7.22
S	0.00	0.85	1.54	0.50	0.21	0.06	0.02	0.00	0.00	0.00	0.00	0.00	3.18
SE	0.00	1.64	3.58	1.90	1.57	0.56	0.19	0.12	0.01	0.01	0.00	0.00	9.59
SW	0.00	1.82	9.18	12.79	11.41	3.32	0.94	0.30	0.07	0.04	0.01	0.01	39.89
W	0.00	1.58	6.34	5.73	4.22	1.19	0.46	0.15	0.02	0.02	0.01	0.01	19.71
NW	0.00	0.49	1.06	0.57	0.42	0.11	0.01	0.01	0.00	0.00	0.00	0.00	2.68
Totals Day at WS=X	5.75	9.75	30.93	25.81	19.77	5.52	1.68	0.60	0.10	0.07	0.01	0.01	100



2. HFI = 4000-1000 kW/m

4000-1000 kW/m (n=583)



Met Data Information | Frequency Count | Frequency Distribution | Wind Rose | Graph



Dates: 1961-06-05 - 01:00 ... 2024-09-25 - 08:00

	Directions / Wind Classes (m/s)	0.20 - 2.78	2.78 - 5.56	5.56 - 8.33	8.33 - 11.10	>= 11.10	Total
1	337.5 - 22.5	7	9	1	1	0	18
2	22.5 - 67.5	6	20	2	0	0	28
3	67.5 - 112.5	26	16	1	0	0	43
4	112.5 - 157.5	21	4	2	0	0	27
5	157.5 - 202.5	32	22	4	1	0	59
6	202.5 - 247.5	44	199	40	3	0	286
7	247.5 - 292.5	23	73	13	0	2	111
8	292.5 - 337.5	4	5	2	0	0	11
	Sub-Total	163	348	65	5	2	583
	Calms						0
	Missing/Incomplete						1
	Total						584

Met Data Information | Frequency Count | Frequency Distribution | Wind Rose | Graph



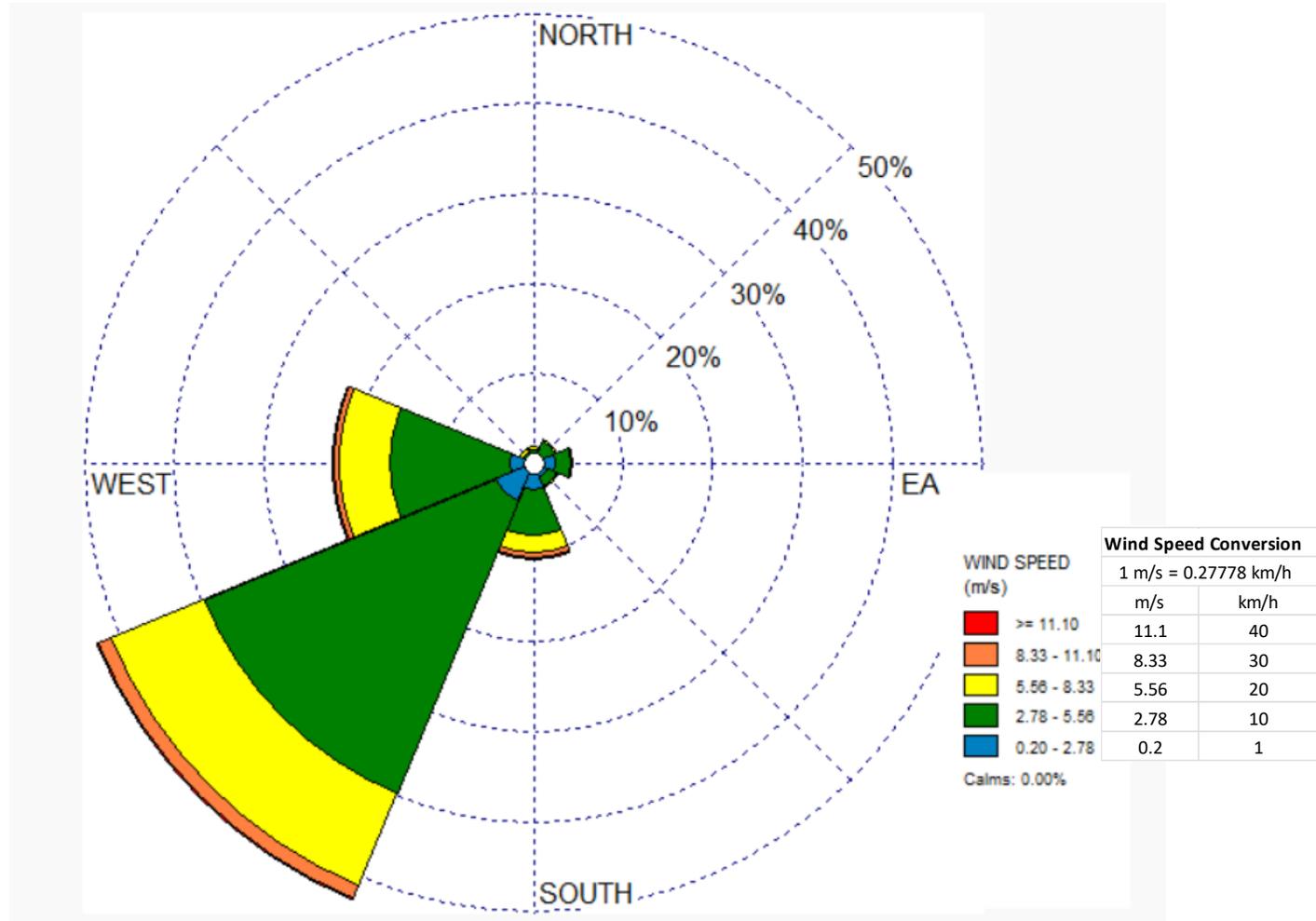
Dates: 1961-06-05 - 01:00 ... 2024-09-25 - 08:00

% On

	Directions / Wind Classes (m/s)	0.20 - 2.78	2.78 - 5.56	5.56 - 8.33	8.33 - 11.10	>= 11.10	Total (%)
1	337.5 - 22.5	1.19863	1.54110	0.17123	0.17123	0.00000	3.08219
2	22.5 - 67.5	1.02740	3.42466	0.34247	0.00000	0.00000	4.79452
3	67.5 - 112.5	4.45205	2.73973	0.17123	0.00000	0.00000	7.36301
4	112.5 - 157.5	3.59589	0.68493	0.34247	0.00000	0.00000	4.62329
5	157.5 - 202.5	5.47945	3.76712	0.68493	0.17123	0.00000	10.102700
6	202.5 - 247.5	7.53425	34.075300	6.84932	0.51370	0.00000	48.972600
7	247.5 - 292.5	3.93836	12.500000	2.22603	0.00000	0.34247	19.006800
8	292.5 - 337.5	0.68493	0.85616	0.34247	0.00000	0.00000	1.88356
	Sub-Total	27.911000	59.589000	11.130100	0.85616	0.34247	99.828800
	Calms						0.00000
	Missing/Incomplete						0.17123
	Total						100.00

3. HFI >4000 kW/m

>4000 kW/m (n=1186)





Dates: 1961-06-04 - 01:00 ... 2024-09-25 - 08:00

	Directions / Wind Classes (m/s)	0.20 - 2.78	2.78 - 5.56	5.56 - 8.33	8.33 - 11.10	>= 11.10	Total
1	337.5 - 22.5	7	11	4	1	0	23
2	22.5 - 67.5	8	23	3	0	0	34
3	67.5 - 112.5	29	22	2	0	0	53
4	112.5 - 157.5	21	13	2	0	0	36
5	157.5 - 202.5	36	60	24	7	1	128
6	202.5 - 247.5	55	416	131	18	4	624
7	247.5 - 292.5	32	158	67	6	4	267
8	292.5 - 337.5	4	11	5	1	0	21
	Sub-Total	192	714	238	33	9	1186
	Calms						0
	Missing/Incomplete						1
	Total						1187



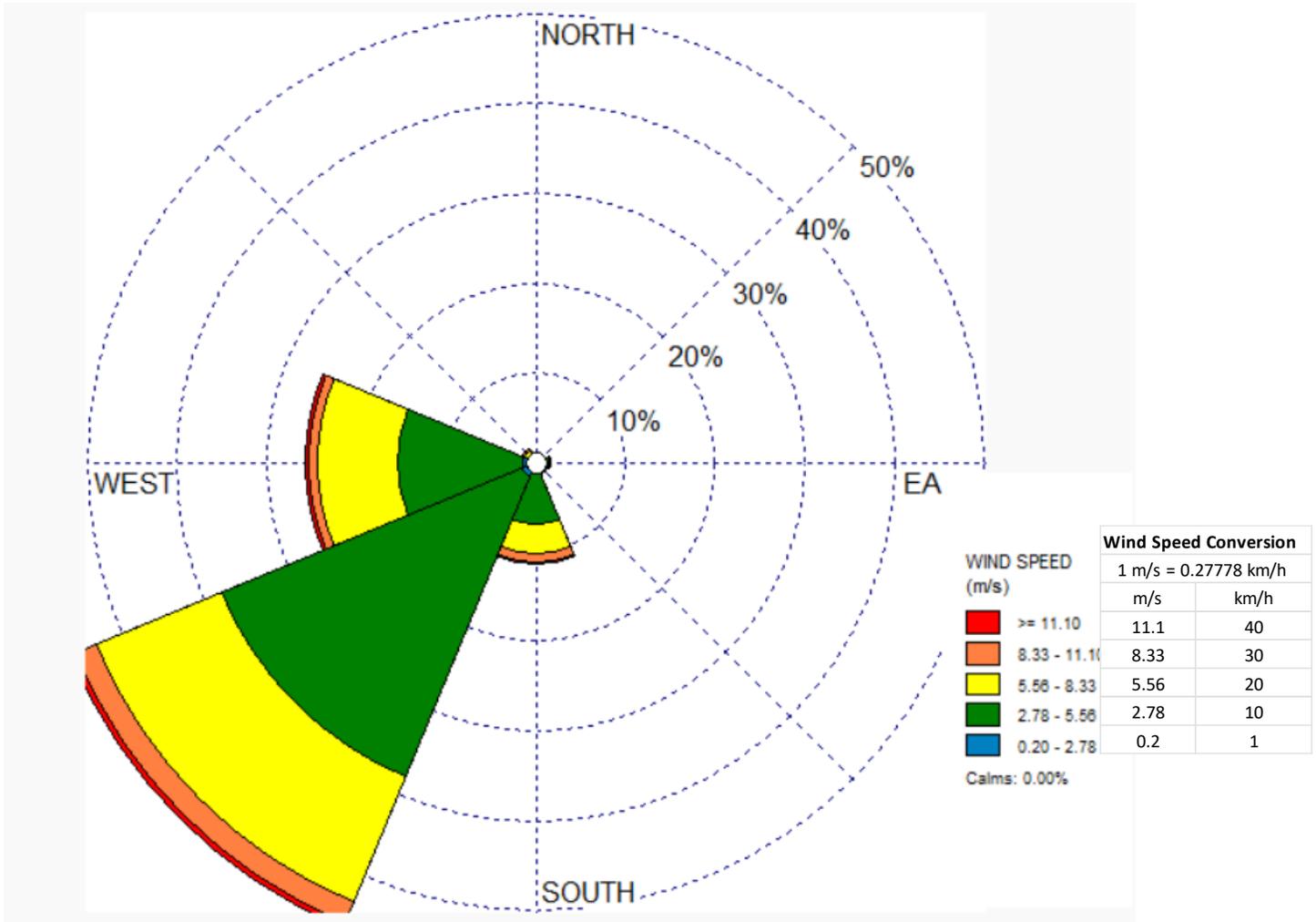
Dates: 1961-06-04 - 01:00 ... 2024-09-25 - 08:00

% On

	Directions / Wind Classes (m/s)	0.20 - 2.78	2.78 - 5.56	5.56 - 8.33	8.33 - 11.10	>= 11.10	Total (%)
1	337.5 - 22.5	0.58972	0.92671	0.33698	0.08425	0.00000	1.93766
2	22.5 - 67.5	0.67397	1.93766	0.25274	0.00000	0.00000	2.86436
3	67.5 - 112.5	2.44313	1.85341	0.16849	0.00000	0.00000	4.46504
4	112.5 - 157.5	1.76917	1.09520	0.16849	0.00000	0.00000	3.03286
5	157.5 - 202.5	3.03286	5.05476	2.02190	0.58972	0.08425	10.783500
6	202.5 - 247.5	4.63353	35.046300	11.036200	1.51643	0.33698	52.569500
7	247.5 - 292.5	2.69587	13.310900	5.64448	0.50548	0.33698	22.493700
8	292.5 - 337.5	0.33698	0.92671	0.42123	0.08425	0.00000	1.76917
	Sub-Total	16.175200	60.151600	20.050500	2.78012	0.75821	99.915800
	Calms						0.00000
	Missing/Incomplete						0.08425
	Total						100.00

4. HFI >10000

>10000 kW/m (n=603)



	Directions / Wind Classes (m/s)	0.20 - 2.78	2.78 - 5.56	5.56 - 8.33	8.33 - 11.10	>= 11.10	Total
1	337.5 - 22.5	0	2	3	0	0	5
2	22.5 - 67.5	2	3	1	0	0	6
3	67.5 - 112.5	3	6	1	0	0	10
4	112.5 - 157.5	0	9	0	0	0	9
5	157.5 - 202.5	4	38	20	6	1	69
6	202.5 - 247.5	11	217	91	15	4	338
7	247.5 - 292.5	9	84	54	6	2	155
8	292.5 - 337.5	0	6	3	1	0	10
	Sub-Total	29	365	173	28	7	602
	Calms						0
	Missing/Incomplete						1
	Total						603

	Directions / Wind Classes (m/s)	0.20 - 2.78	2.78 - 5.56	5.56 - 8.33	8.33 - 11.10	>= 11.10	Total (%)
1	337.5 - 22.5	0.00000	0.33167	0.49751	0.00000	0.00000	0.82919
2	22.5 - 67.5	0.33167	0.49751	0.16584	0.00000	0.00000	0.99502
3	67.5 - 112.5	0.49751	0.99502	0.16584	0.00000	0.00000	1.65837
4	112.5 - 157.5	0.00000	1.49254	0.00000	0.00000	0.00000	1.49254
5	157.5 - 202.5	0.66335	6.30182	3.31675	0.99502	0.16584	11.442800
6	202.5 - 247.5	1.82421	35.986700	15.091200	2.48756	0.66335	56.053100
7	247.5 - 292.5	1.49254	13.930300	8.95522	0.99502	0.33167	25.704800
8	292.5 - 337.5	0.00000	0.99502	0.49751	0.16584	0.00000	1.65837
	Sub-Total	4.80929	60.530700	28.689900	4.64345	1.16086	99.834200
	Calms						0.00000
	Missing/Incomplete						0.16584
	Total						100.00