The Experiments of Weather Instruments & Observations lab.

(First Semester)

ASD / 2nd Stage

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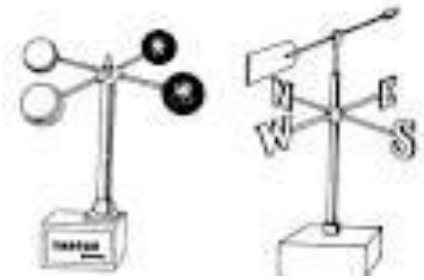
The Wind

The moves of air masses in the horizontal direction, and it moves as a result of the gradient in atmospheric pressure.

Wind measured Instruments:

1. Wind speed measuring devices (Anemometers).
2. Wind direction measuring devices (wind vane).



Anemometer wind vane

Nddff ←

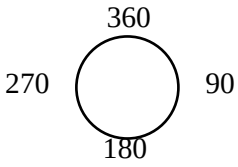
Amount of clouds and winds group:

N	Amount of clouds (0-9)

Code No.	N	SKY COVER 5
0	○	No clouds
1	◔	One tenth or less, but not zero
2	◔	Two-tenths to three-tenths
3	◔	Four-tenths
4	◑	Five-tenths
5	◕	Six-tenths
6	◕	Seven-tenths to eight-tenths
7	◕	Nine-tenths or overcast with openings
8	●	Completely overcast (ten-tenths)
9	⊗	Sky obscured

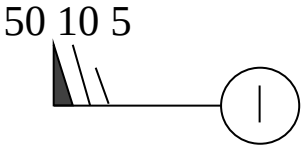
dd	Wind direction (01-36)

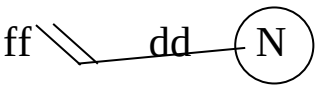
To set the correct direction we add a zero to the right and draw the direction from outside towards to the station.



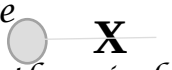
Code table 0877 True Direction, in tens of degrees			
Code figure	Direction	Code figure	Direction
00	Calm (no motion, or no waves)	19	185°-194°
		20	195°-204°
01	5°-14°	21	205°-214°
02	15°-24°	22	215°-224°
03	25°-34°	23	225°-234°
04	35°-44°	24	235°-244°
05	45°-54°	25	245°-254°
06	55°-64°	26	255°-264°
07	65°-74°	27	365°-274°
08	75°-84°	28	275°-284°
09	85°-94°	29	285°-294°
10	95°-104°	30	295°-304°
11	105°-114°	31	305°-314°
12	115°-124°	32	315°-324°
13	125°-134°	33	325°-334°
14	135°-144°	34	335°-344°
15	145°-154°	35	345°-354°
16	155°-164°	36	355°-4°
17	165°-174°	99	Variable, or all directions,
18	175°-184°		or unknown, or waves confused, direction indeterminate.

ff	Wind speed is plotted clockwise from the direction line





Symbol	Description	Symbol	Description
	Calm		53 – 57 knots
	1 - 2 knots		58 - 62 knots
	3 - 7 knots		63 - 67 knots
	8 - 12 knots		68 - 72 knots
	13 - 17 knots		73 - 77 knots
	18 - 22 knots		78 - 82 knots
	23 - 27 knots		83 - 87 knots
	28 - 32 knots		88 - 92 knots
	33 - 37 knots		93 – 97 knots
	38 - 42 knots		98 – 102 knots
	43 - 47 knots		Wind direction variable
	48 – 52 knots		Wind direction given but wind speed missing

1. *In the event that the wind direction is variable, it is drawn in the most frequent direction, as shown in Figure* 

2. *If the wind direction is lost, we do not draw the wind information.*

3. *If the wind speed information is lost, the diagram will be as follows*

4. *If the wind is calm or calm, the drawing will be as follows* 

5. *The drawing is in knot units, but if it is in m/s units, it is multiplied by 2 to convert to knots.*

6. *If the wind speed exceeds (100kt.), we write instead of* ff *the number 99 and add a new group (*00fff*) and write the value of the real wind speed in three places after* 00.

For example if the wind is south at a speed of 125 kt. The clouds cover half of the sky, so the code is as follows: 41899 00125