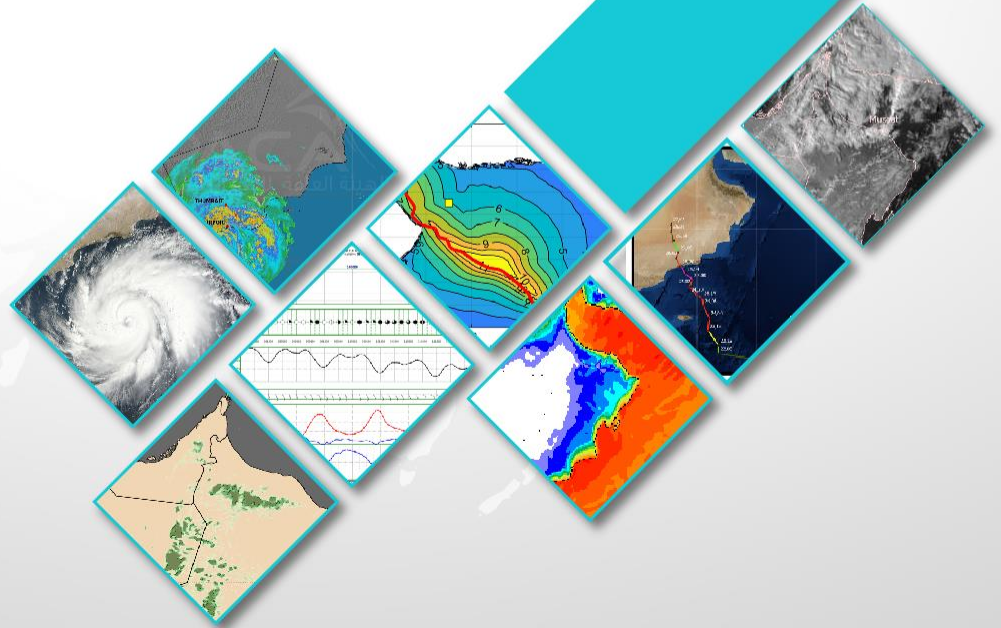




# Synoptic Observations

Content creator: [Munira Alquraini](#)

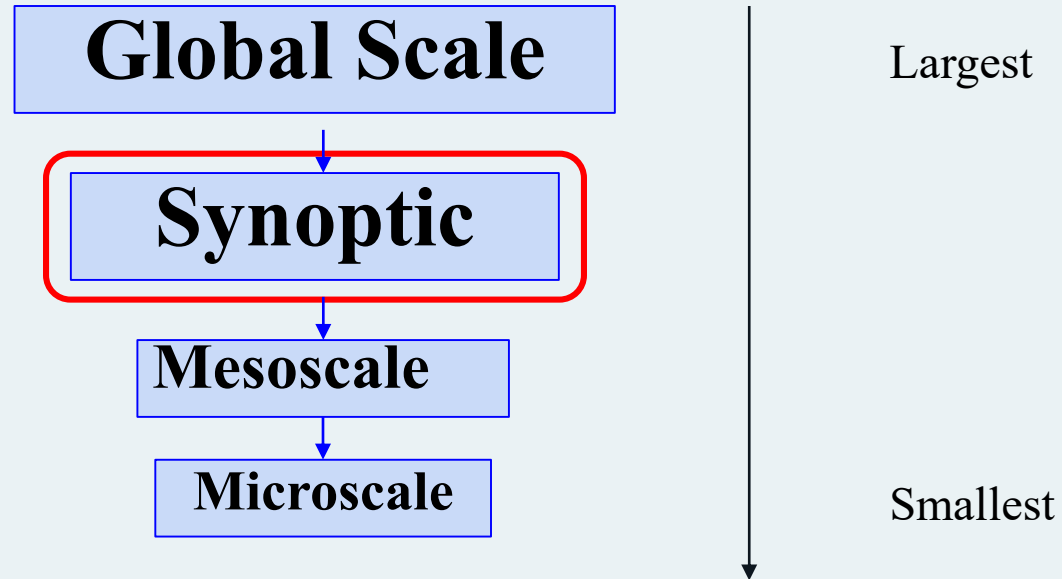
Lecturer: [Munira Alquraini](#)

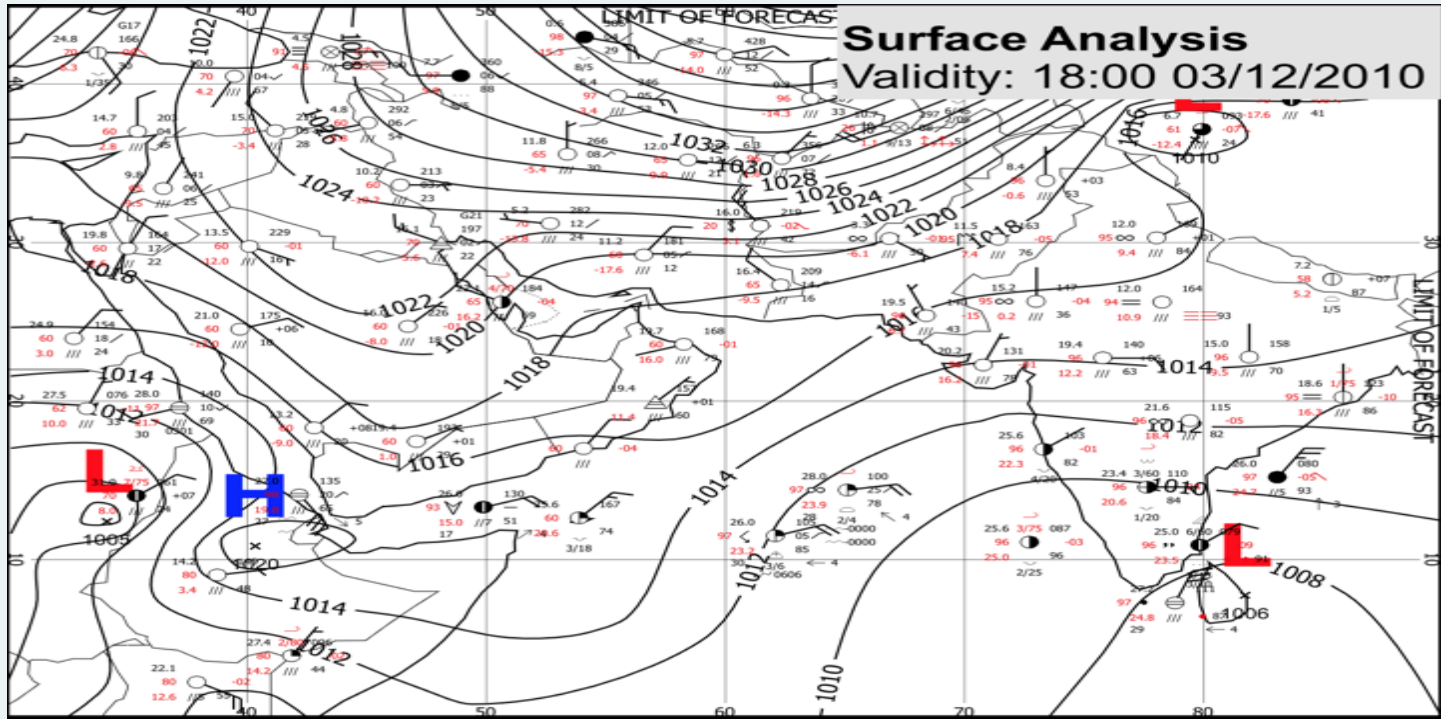


# Content

- Scale of Motion
- Ship Report
- METAR
- Practice

# Title: Scale of Motion





# Ship reports (Numbers)

**Ship Report / Ship Synoptic Code**  
Coded report of surface observation from a sea station



## Examples of Ship Reports:

BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705 40506  
50407=

BBXX

SHIP 24121 99122 71353 31475

82706 10252 20225 40061 55008 76062 83223 91312 22242 00234 20805 31215  
40806 51005 62052 80122 ICE 23223



**BBXX**

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705  
40506 50407=

<b>Surface report from Coastal Station</b>	AAXX
<b>Surface report from Ship</b>	BBXX

**BBXX** : Identifier for Ship weather report



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705  
40506 50407=

**BRAVO** : Call sign of the Ship





BBXX **YYGG**<sup>iw</sup>

BRAVO **20123** 99252 10595 41494

81412 10285 20269 40100 53012 79586

40506 50407=

Code Figure	lw indicator	
0	Wind Speed Estimated	m/s
1	Wind Speed from anemometer	m/s
3	Wind Speed Estimated	knots
4	Wind Speed from anemometer	knots

**20 12 3** : 20: Day of the month

**12**: UTC Time (4 PM Local Time)

**3**: wind speed type / unit (table1)



BBXX YYGGiw

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705  
40506 50407=

20 12 3 : 20: Day of the month (20th)

12: UTC Time (4 PM Local time)

3: Wind Speed is estimated / knots



BBXX

99LaLaLa

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705  
40506 50407=

**99 252** : 99: Ship Position Group (Latitude)

**252** : Degrees and tenth (25.2°)



BBXX

QcLoLoLo

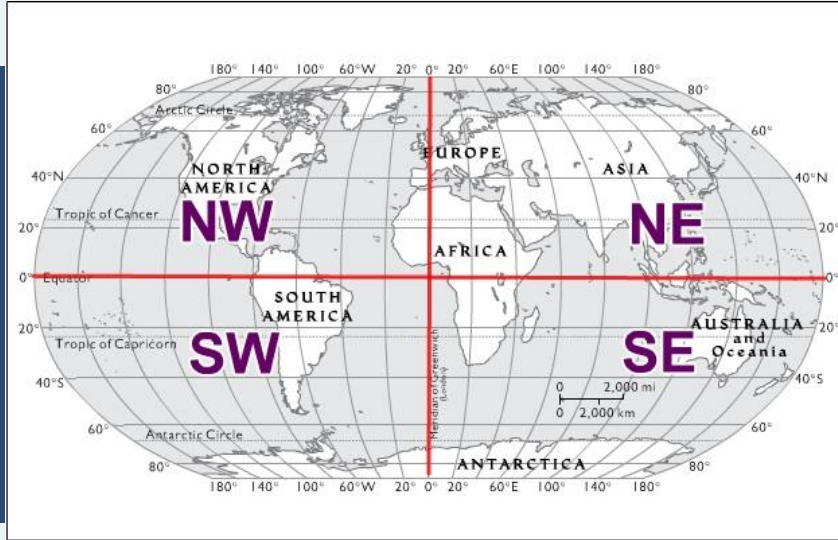
BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705 40506

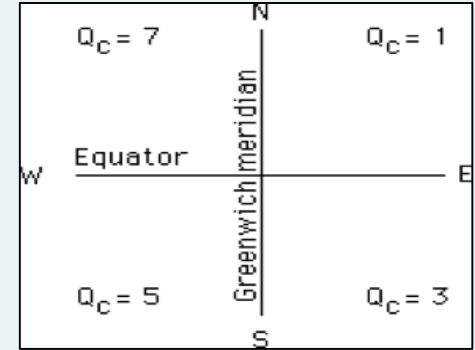
50407=

1 0595 : 1

0595



5°)



BBXX

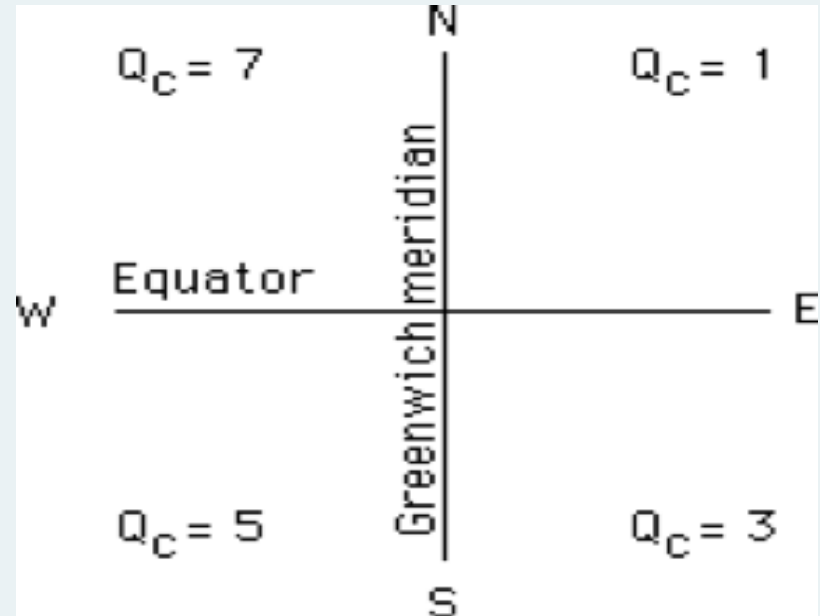
BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705

40506 50407=

**Latitude: 25.2° N**

**Longitude: 59.5° E**



BBXX

4iXhVv

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31

50407=

4 1 4 94

1	Precipita	1	Manned / Included
2	Precipita	2	Manned / Omitted / No Phenome
3	Precipita	3	Manned / Omitted / Not Available
		4	Auto / Included

**VV = Horizontal visibility at surface**

Code figure	Distance km	Distance yards	Code figure	Distance km	Distance yards	Code figure	Distance km	Distance yards	Code figure	Distance km	Distance n. miles	Code figure	Distance km	Distance n. miles
00	< 0.0	< 110	20	2.0	2,118	40	4.0	4,376	60	10	5.4	80	30	16.2
01	0.1	110	21	2.1	2,297	41	4.1	4,485	61	11	5.9	81	35	18.9
02	0.2	220	22	2.2	2,406	42	4.2	4,594	62	12	6.5	82	40	21.6
03	0.3	330	23	2.3	2,516	43	4.3	4,737	63	13	7.0	83	45	24.3
04	0.4	440	24	2.4	2,625	44	4.4	4,813	64	14	7.6	84	50	27.0
05	0.5	550	25	2.5	2,735	45	4.5	4,923	65	15	8.1	85	55	29.7
06	0.6	660	26	2.6	2,844	46	4.6	5,032	66	16	8.6	86	60	32.4
07	0.7	770	27	2.7	2,953	47	4.7	5,141	67	17	9.2	87	65	35.1
08	0.8	880	28	2.8	3,063	48	4.8	5,251	68	18	9.7	88	70	37.8
09	0.9	990	29	2.9	3,172	49	4.9	5,360	69	19	10.3	89	> 70	> 37.8
10	1.0	1,000	30	3.0	3,282	50	5.0	5,470	70	20	10.8	90	< 0.05	< 0.03
11	1.1	1,210	31	3.1	3,391	51			71	21	11.3	91	0.05	0.03
12	1.2	1,313	32	3.2	3,500	52			72	22	11.9	92	0.2	0.1
13	1.3	1,422	33	3.3	3,610	53			73	23	12.4	93	0.5	0.3
14	1.4	1,532	34	3.4	3,719	54			74	24	13.0	94	1	0.5
15	1.5	1,641	35	3.5	3,829	55			75	25	13.5	95	2	1.1
16	1.6	1,750	36	3.6	3,938	56	6	n. miles	76	26	14.0	96	4	2.2
17	1.7	1,859	37	3.7	4,047	57	7	3.8	77	27	14.6	97	10	5.4
18	1.8	1,969	38	3.8	4,157	58	8	4.3	78	28	15.1	98	20	11
19	1.9	2,075	39	3.9	4,266	59	9	4.9	79	29	15.7	99	≥ 50	≥ 27

(See note (1) below)

The symbol < indicates "less than". The symbol > indicates "more than". The symbol ≥ indicates "more than or equal to".

**Notes.** — (1) The 90-99 decade is always employed in ship reports for the reason that horizontal visibility cannot be determined with greater accuracy at sea. The full table is only shown here to enable reports from land stations to be decoded aboard ships.  
 (2) If the horizontal visibility is not the same in different directions, the shorter distance is coded.  
 (3) If the observed horizontal visibility is between two of the distances given in the table, the code figure for the shorter distance is reported, e.g. if the distance is estimated to be between 0.3 and 0.5 n.miles the code figure 93 is reported.  
 (4) In the international scale the distances for all code figures are expressed in metres. The visibilities listed above are the equivalent distances in nautical miles.



BBXX

BRAVO 20123 99252 10595 41494

Ndoff

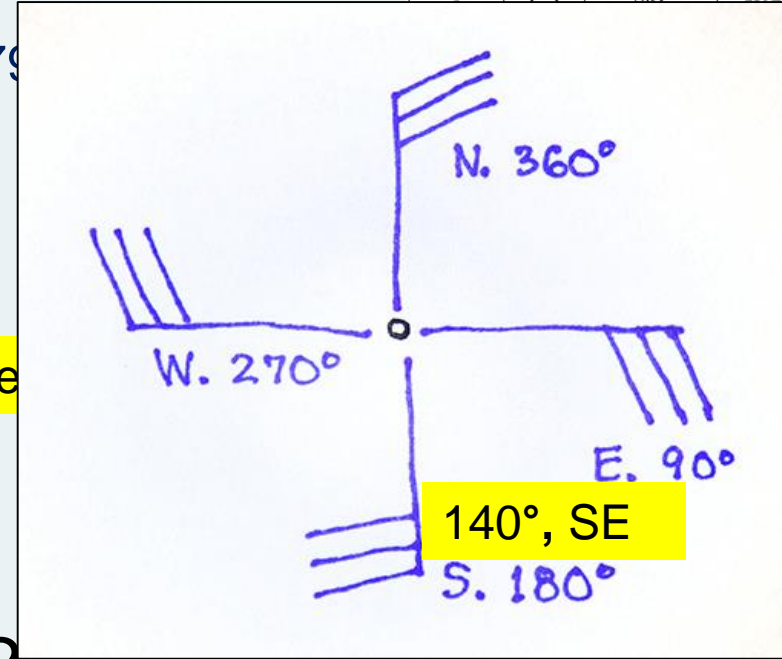
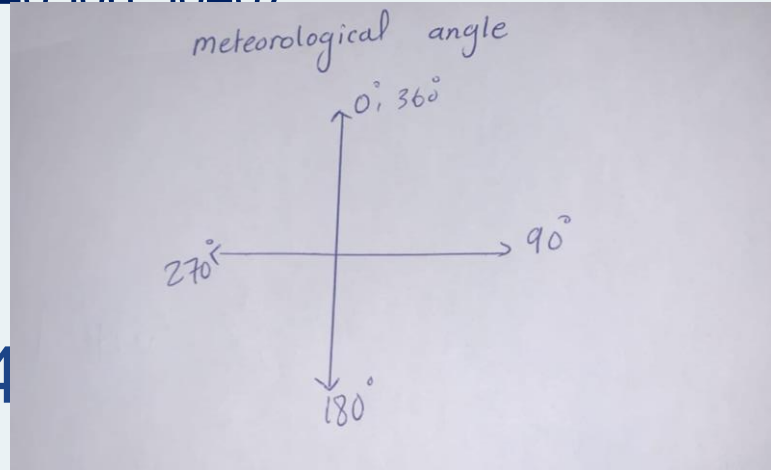
81412 10285 20269 40100 53012 79

40506 50407-

8 1

8 :

14



Sky Cover (oktas)	Sym- bol	Name	Abbr.	Sky Cover (tenths)
	☉	Sky		0
				1
				2 to 3
				4
				5
				6
				7 to 8
				9
				10
				un- known
				un- known
				2 oktas).

12: Wind Speed (12 knots)



BBXX

BRAVO 20123 99252 10595 41494

81412 <sup>1snTTT</sup> 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705  
40506 50407=

- 1 0 285:** 1 : Group indicator for air temperature  
0 : Temperature sign is + (if 1 Temperature sign is - )  
285 : Air Temperature is 28.5 °C





BBXX

BRAVO 20123 99252 10595 41494

81412 10285 <sup>2snTdTdTd</sup>20269 40100 53012 79586 8587/ 22265 00280 20405 31705  
40506 50407=

**2 0 269**: 2 : Group indicator for Dew Point Temp

0 : Temperature sign is + (if 1 Temperature sign is -)

269 : Air Temperature is 26.9 °C



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 <sup>4PPPP</sup>40100 53012 79586 8587/ 22265 00280 20405 31705

40506 50407=

**4 0100:** 4 : Group indicator for MSL Pressure

0100 : MSL Pressure of 1010.0 hPa



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 <sup>5app</sup>53012 79586 8587/ 22265 00280 20405 31705

40506 50407=

**5 3 012:5** : Group indicator for Pressure change

**3** : Code Identifier (Table 7)



# Table 7

**a** = Characteristic of barometric tendency during the three hours preceding the time of observation

Code figure	Trace	Description of curve	Pressure <i>now</i> , compared with 3 hours ago
0		Rising, then falling Rising, then falling	The same Higher
1		Rising, then steady Rising, then rising more slowly	} Higher
2		Rising (steadily or unsteadily)	Higher
3		Falling, then rising Steady, then rising Rising, then rising more quickly	} Higher
4		Steady	The same
5		Falling, then rising Falling, then rising	The same Lower
6		Falling, then steady Falling, then falling more slowly	} Lower
7		Falling (steadily or unsteadily)	Lower
8		Steady, then falling Rising, then falling Falling, then falling quickly	} Lower



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 <sup>5app</sup>53012 79586 8587/ 22265 00280 20405 31705

40506 50407=

**5 3 012:5** : Group indicator for Pressure change

**3** : Code Identifier (Table 7) (Pressure increasing)

**012** : Pressure change of 0.12 hPa in the last three hours



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20

50407=

7wwW1W2

Code No.	W <sub>1</sub> , W <sub>2</sub>	PAST WEATHER
0		Clear or few clouds
1		Partly cloudy (scattered) or variable sky
2		Cloudy (broken) or overcast
3		Sandstorm or duststorm, or drifting or blowing snow
4		Fog, ice fog, thick haze or thick smoke
5		Drizzle
6		Rain
7		Snow, or rain and snow mixed, or ice pellets
8		Shower(s)
9		Thunderstorm, with or without precipitation

7 95 86: 7 : Weather Type Indicator

95 : Current weather Thunderstorm and drizzle

86 : Past weather Shower and Rain



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 **8587/** 22265

8NhOrCLCMCH

40506 50407=

**8587/**: 8 : Cloud Indicator

5 : Amount of Low or medium clouds

8 : low cloud type

7 : medium cloud type (Table 9)

/ : High cloud type (Table 10)

Sky Cover (oktas)	Sym-bol	Name	Abbr.	Sky Cover (tenths)
0	○	Sky Clear	SKC	0
1	◐	Few* Clouds	FEW*	1
2	◑			2 to 3
3	◒	Scattered	SCT	4
4	◓			5
5	◔	Broken	BKN	6
6	◕			7 to 8
7	◖			9
8	●	Overcast	OVC	10
(9)	⊗	Sky Obscured		un-known
(/)	⊖	Not Measured		un-known

\* "Few" is used for (0 oktas) < coverage ≤ (2 oktas).



## Table 8

$C_L$  = Type of low cloud (Sc, St, Cu, Cb)

Code figure

- 0 No stratocumulus, stratus, cumulus or cumulonimbus.
- 1 Cumulus with little vertical extent and seemingly flattened, or ragged cumulus other than of bad weather\*, or both.
- 2 Cumulus of moderate or strong vertical extent, generally with protuberances in the form of domes or towers, either accompanied or not by other cumulus or by stratocumulus, all having their bases at the same level.
- 3 Cumulonimbus the summits of which, at least partially, lack sharp outlines, but are neither clearly fibrous (cirriform) nor in the form of an anvil; cumulus, stratocumulus or stratus may also be present.
- 4 Stratocumulus formed by the spreading out of cumulus; cumulus may also be present.
- 5 Stratocumulus not resulting from the spreading out of cumulus.
- 6 Stratus in a more or less continuous sheet or layer, or in ragged shreds, or both, but no stratus fractus of bad weather.\*
- 7 Stratus fractus of bad weather\* or cumulus fractus of bad weather\*, or both (pannus), usually below altostratus or nimbostratus.
- 8 Cumulus and stratocumulus other than that formed from the spreading out of cumulus; the base of the cumulus is at a different level from that of stratocumulus.





## Table 8 conti.

$C_L$  = Type of low cloud (Sc, St, Cu, Cb) — *continued*

- 9 Cumulonimbus, the upper part of which is clearly fibrous (cirriform), often in the form of an anvil; either accompanied or not by cumulonimbus without anvil or fibrous upper part, by cumulus, stratocumulus, stratus or pannus.
- 1 Stratocumulus, stratus, cumulus or cumulonimbus are invisible owing to fog, darkness or other surface phenomena.

*Notes.* (1) If there is fog but the sky is discernible through the fog, the cloud type, height and amount are reported as if no fog were present.

(2) In deciding which code figure to use when more than one cloud type is present, the order of priority, irrespective of quantity, is 9, 3, 4, 8, 2, otherwise whichever of the types 1, 5, 6 or 7 covers the largest area of sky.



BBXX

BRAVO 20123 99252 10595 41494

8NhOrCLCMCH

81412 10285 20269 40100 53012 79586 8587/ 22265 00280 20405 31705  
40506 50407=

**8587/:** 8 : Cloud Indicator

5 : Amount of Low or medium Cloud 5/8

8 : low cloud type **Cumulus and Stratocumulus**

7 : medium cloud type (Table 9)

/ : High cloud type (Table 10)



# Table 9

$C_M$  = Type of medium cloud (Ac, As, Ns)

Code figure	Description
0	No altocumulus, altostratus or nimbostratus.
1	Altostratus, the greater part of which is semi-transparent; through this part the sun or moon may be weakly visible, as through ground glass.
2	Altostratus, the greater part of which is sufficiently dense to hide the sun or moon, or nimbostratus.
3	Altocumulus, the greater part of which is semi-transparent; the various elements of the cloud change only slowly and are all at a single level.
4	Patches (often in the form of almonds or fishes) of altocumulus, the greater part of which is semi-transparent; the clouds occur at one or more levels and the elements are continually changing in appearance.
5	Semi-transparent altocumulus in bands, or altocumulus in one or more fairly continuous layers (semi-transparent or opaque), progressively invading the sky; these altocumulus clouds generally thicken as a whole.
6	Altocumulus resulting from the spreading out of cumulus (or cumulonimbus).
7	Altocumulus in two or more layers, usually opaque in places, and not progressively invading the sky; or opaque layer of altocumulus, not progressively invading the sky; or altocumulus together with altostratus or nimbostratus.
8	Altocumulus with sproutings in the form of small towers or battlements, or altocumulus having the appearance of cumuliform tufts.
9	Altocumulus of a chaotic sky, generally at several levels.
/	Altocumulus, altostratus or nimbostratus are invisible owing to fog, darkness or other surface phenomena, or because of the presence of a continuous layer of lower cloud.



BBXX

BRAVO 20123 99252 10595 41494

8NhOrCLCMCH

81412 10285 20269 40100 53012 79586 8597/ 22265 00280 20405 31705  
40506 50407=

**8597/:** 8 : Cloud Indicator

5 : Amount of Low or medium Cloud 5/8

9 : cumulonimbus

7 : Altocumulus

/ : High clouds type (Table 10)



# Table 10

$C_H$  = Type of high cloud (Ci, Cc, Cs)

Code figure

- 0 No cirrus, cirrocumulus or cirrostratus.
- 1 Cirrus in the form of filaments, strands or hooks, not progressively invading the sky.
- 2 Dense cirrus, in patches or entangled sheaves, which usually do not increase and sometimes seem to be the remains of the upper part of cumulonimbus; or cirrus with sproutings in the form of small turrets or battlements, or cirrus having the appearance of cumuliform tufts.
- 3 Dense cirrus, often in the form of an anvil, being the remains of the upper parts of cumulonimbus.
- 4 Cirrus in the form of hooks or of filaments, or both, progressively invading the sky; they generally become denser as a whole.
- 5 Cirrus (often in bands converging towards one point or two opposite points of the horizon) and cirrostratus, or cirrostratus alone; in either case, they are progressively invading the sky, and generally growing denser as a whole, but the continuous veil does not reach 45 degrees above the horizon.
- 6 Cirrus (often in bands converging towards one point or two opposite points of the horizon) and cirrostratus, or cirrostratus alone; in either case, they are progressively invading the sky, and generally growing denser as a whole; the continuous veil exceeds more than 45 degrees above the horizon, without the sky being totally covered.
- 7 Veil of cirrostratus covering the celestial dome.
- 8 Cirrostratus not progressively invading the sky and not completely covering the celestial dome.
- 9 Cirrocumulus alone, or cirrocumulus accompanied by cirrus or cirrostratus or both, but cirrocumulus is predominant.
- 1 Cirrus, cirrocumulus or cirrostratus are invisible owing to fog, darkness or other surface phenomena, or because of the presence of a continuous layer of lower cloud.



BBXX

BRAVO 20123 99252 10595 41494

8NhrCLCMCH

81412 10285 20269 40100 53012 79586 8597/ 22265 00280 20405 31705  
40506 50407=

**8597/:** 8 : Cloud Indicator

5 : Amount of Low or medium Cloud 5/8

9 : cumulonimbus

7 : Altocumulus

/ : invisible



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 84

40506 50407=

$v_s$  = Ship's average speed made good during the 3 hours preceding time of observation

Code figure	Speed in knots	Code figure	Speed in knots
0	Ship stopped	5	21 to 25
1	1 to 5	6	26 to 30
2	6 to 10	7	31 to 35
3	11 to 15	8	36 to 40
4	16 to 20	9	Over 40

**222 6 5:222** : Section indicator of maritime data

**6** : Ship is moving **West** in the last 3 hours

**5** : Ship average speed last 3 hours **21 to 25 knots**



BBXX

BRAVO 20123 99252 10595 41494

OSsTwTwTw

81412 10285 20269 40100 53012 79586 8597/ 22265 00280 20405 31705

40506 50407=

0 0 280: 0 : group indicator of SST

0 : Temperature sign is + (if 1 Temperature sign is - )

280 : SST is 28.0 °C





BBXX

BRAVO 20123 99252 10595 41494

2PwPwHwHw

81412 10285 20269 40100 53012 79586 8597/ 22265 00280 20405 31705

40506 50407=

**20405:** 2 : group indicator for wind waves

04 : Period of wind wave (4 seconds)

05 : Height of wind wave in units of half meters  
(2.5 m/s)

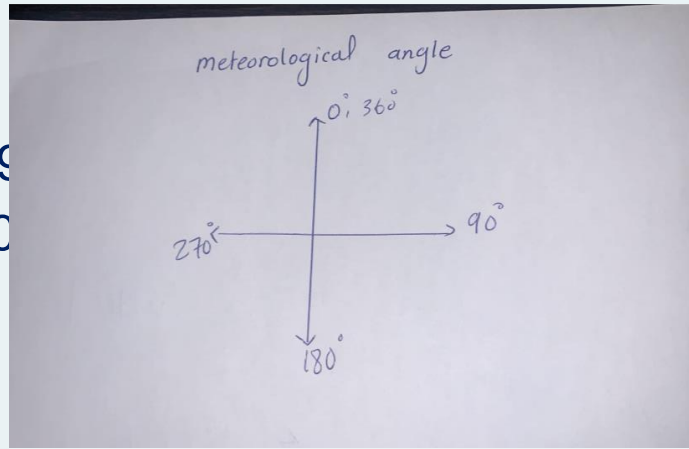


BBXX

BRAVO 20123 9

81412 10285 20

40506 50407=



3dwdw1//  
/ 22265 00280 20405 31705

**31705:** 3 : group indicator for swell direction

17 : Direction of first Swell 170°, SE

05 : Direction of Second Swell 50°, NE



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8597/ 22265 00280 20405 31705

4Pw1Pw1Hw1Hw1

40506 50407=

**40506:** 4 : indicator for period and height of first swell group.

05 : period of first swell (**05 sec**).

06 : height of first swell in unit of half meter. (06 X  
0.5=**3 m**)



BBXX

BRAVO 20123 99252 10595 41494

81412 10285 20269 40100 53012 79586 8597/ 22265 00280 20405 31705

4Pw2Pw2Hw2Hw2

40506 50407=

**5 04 07**: 5 : indicator for period and height of nd swell group.

04 : period of second swell (**04 sec**)

07 : height of second swell in unit of half meter  
(07 X 0.5=**3.5 meters**)





# METAR



METAR **OOMS** **172250Z** 22003KT 190V250  
CAVOK 24/14 Q1009 NOSIG

**OOMS:** Muscat International Airport

**172250Z :**

17 : date of the month

2250Z: Time of observation 22:50 UTC



METAR OOMS 172250Z **22003KT** **190V250**  
CAVOK 24/14 Q1009 NOS

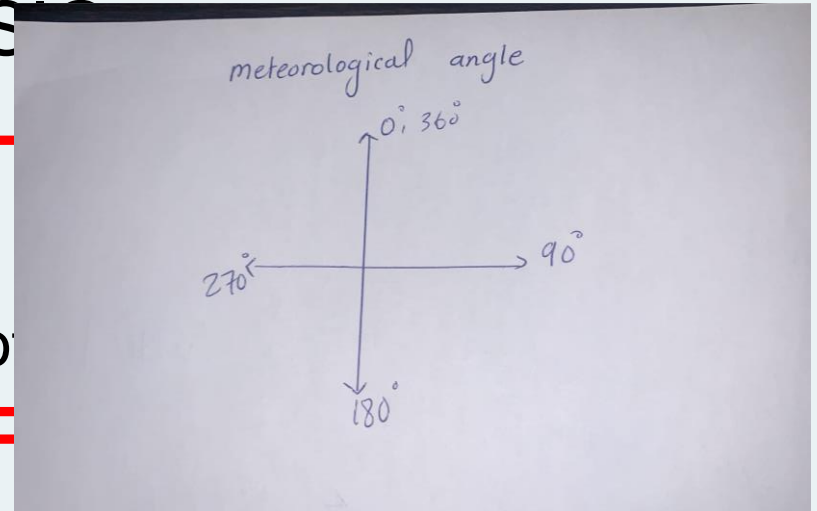
**22003KT**

220: Wind Direction

03KT: Wind speed is 3 knots

**190V250**

Wind Direction is varying from 190° to 250°



METAR OOMS 172250Z 22003KT 190V250  
CAVOK 24/14 Q1009 NOSIG

**CAVOK** : Clouds and Visibility is OK

- \* Visibility is 10km or more.
- \* no cloud below 5000 feet
- \* No significant weather at or in the vicinity of the aerodrome.





METAR OOMS 172250Z 22003KT 190V250  
CAVOK 24/14 Q1009 NOSIG

24 : Temperature

14 : Dew point



METAR OOMS 172250Z 22003KT 190V250  
CAVOK 24/14 Q1009 NOSIG

**Q1009** : Pressure 1009 mb

**NOSIG**: No significant change expected





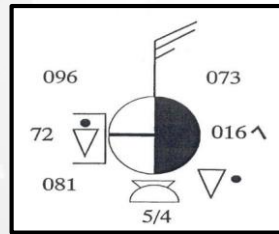
# Thank you

Kindly scan this "QR code"  
to evaluate this lecture



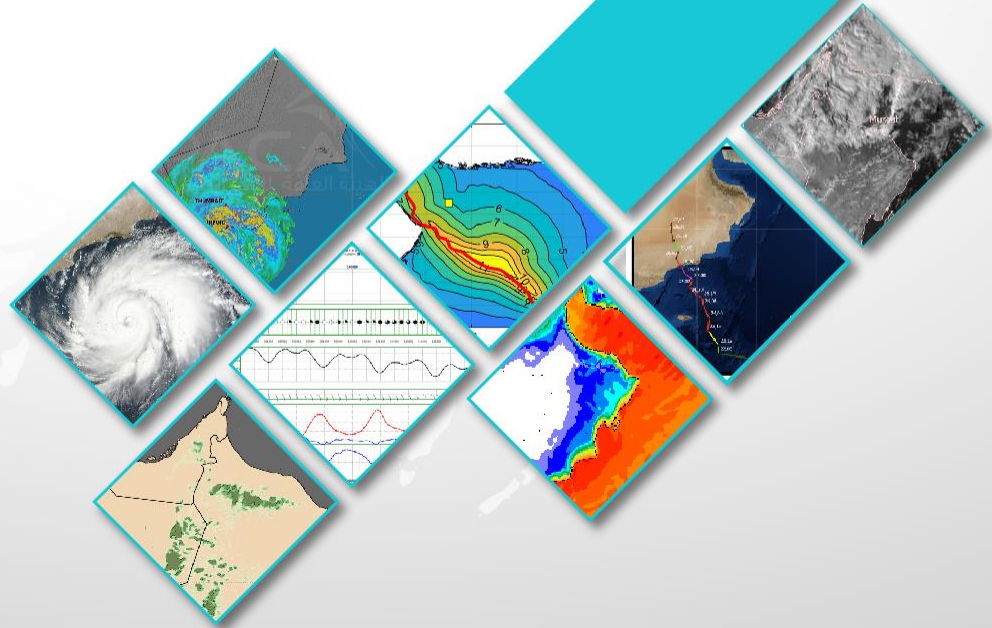


# Station Plot



Content creator: [Afada AlHubaishi](#)

Lecturer: [Afada AlHubaishi](#)



# Content

- Station Model
- Practice



## Station Model / Surface Plot

Simple symbols to display large amounts of meteorological information in a small area



# Synoptic Observations:

- Surface

- 850 mb

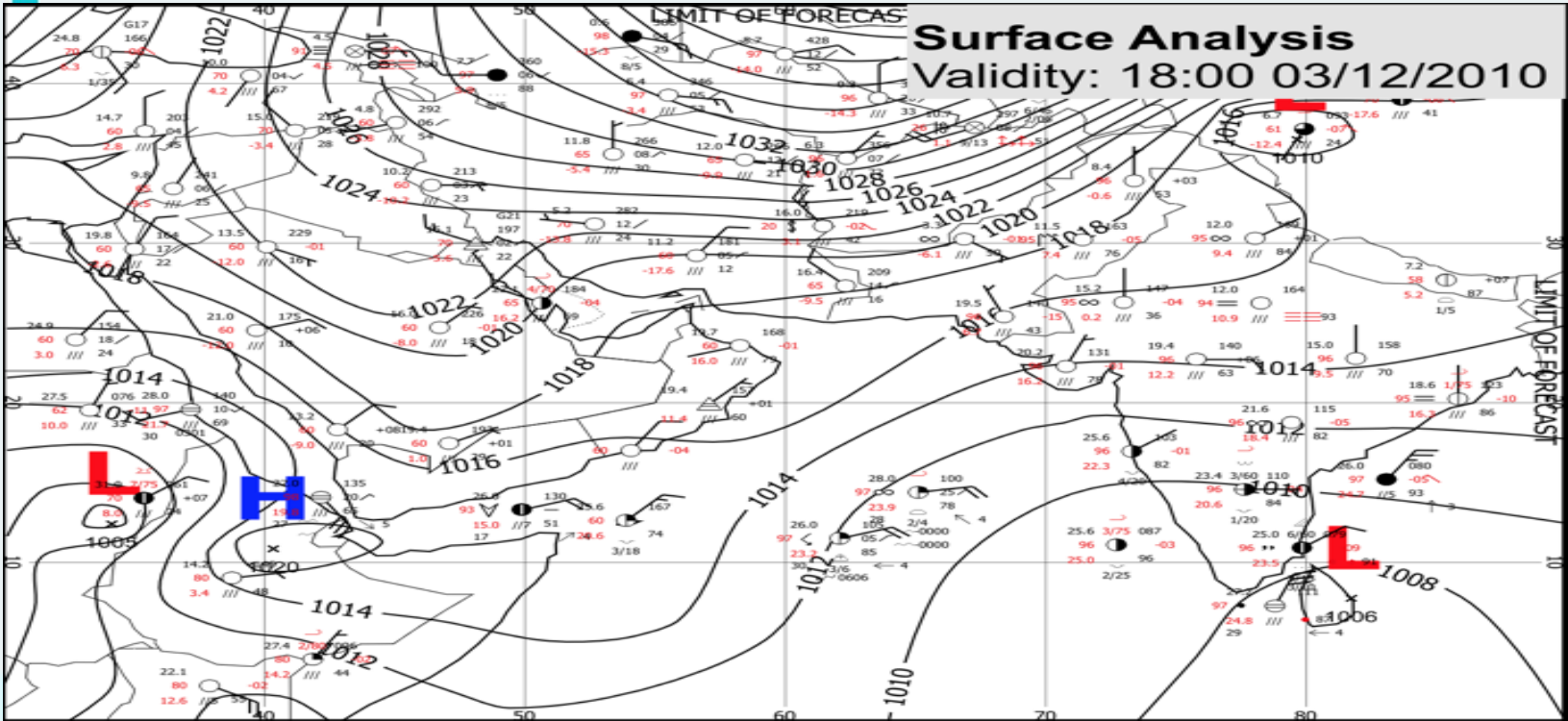
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- 500 mb

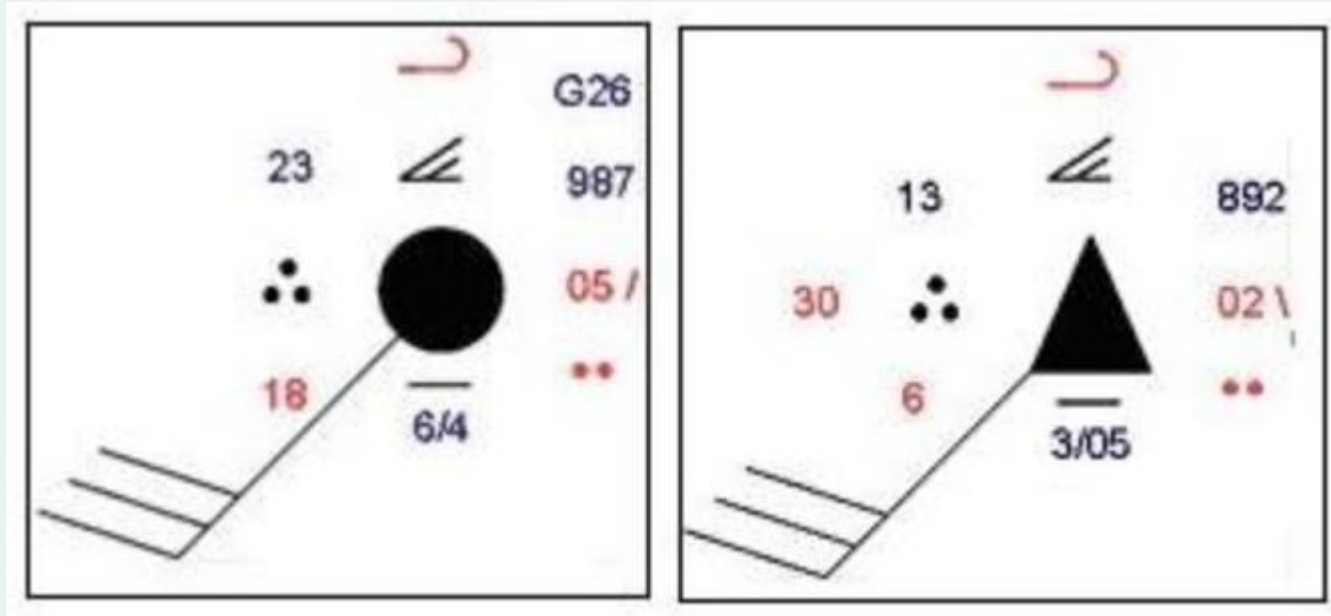
- 300 mb

Upper Air Observations





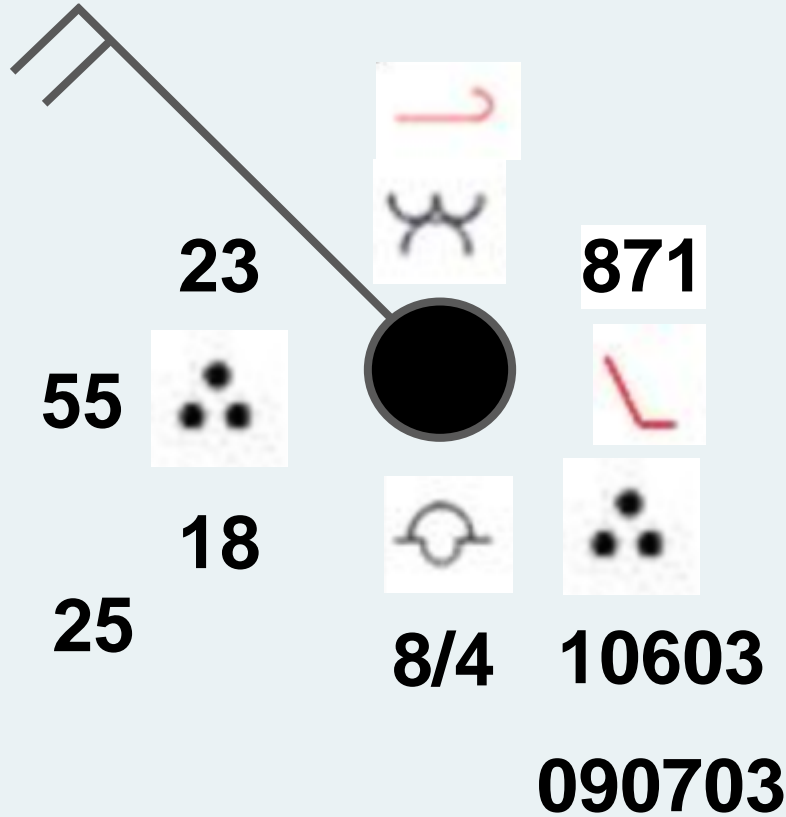




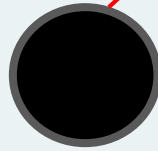
Manual  
Observation

Automatic  
Observation





## Cloud Cover



-  **No clouds**
-  **Less than one-tenth or one-tenth**
-  **Two-tenths or three-tenths**
-  **Four-tenths**
-  **Five-tenths**
-  **Six-tenths**
-  **Seven-tenths or eight-tenths**
-  **Nine-tenths**
-  **Completely overcast**
-  **Sky obscured**

# Overcast

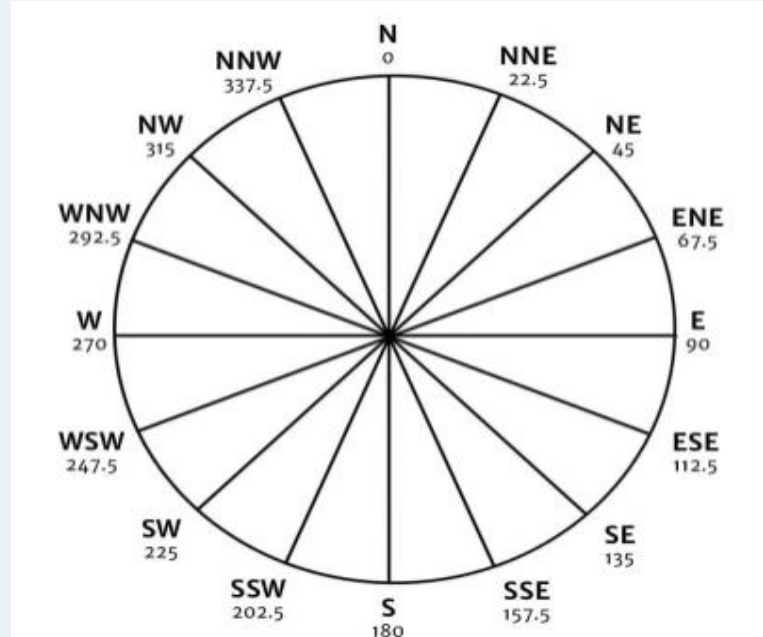


From

Wind Direction

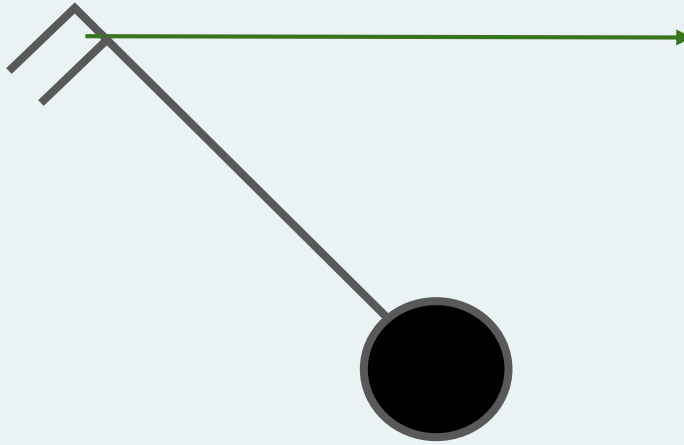


North West



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for Satellite Applications





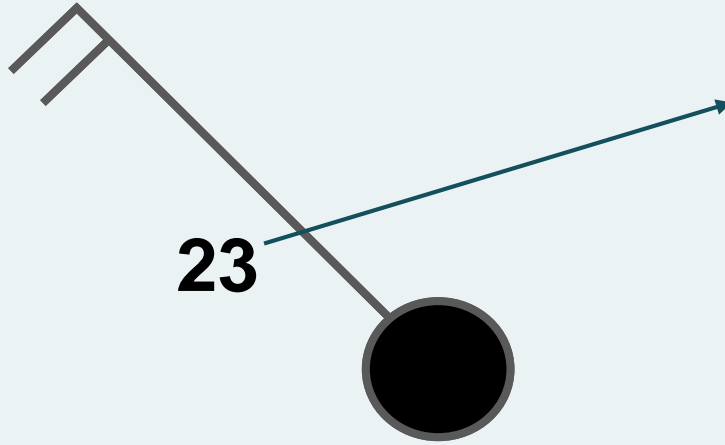
# Wind Speed

18-22 Knots

9-11 m/s

Speed (knots)	Symbol	Speed (knots)	Symbol
Less than 1		33-37	
1-2		38-42	
3-7		43-47	
8-12		48-52	
13-17		53-57	
18-22		58-62	
23-27		98-102	
28-32		103-107	



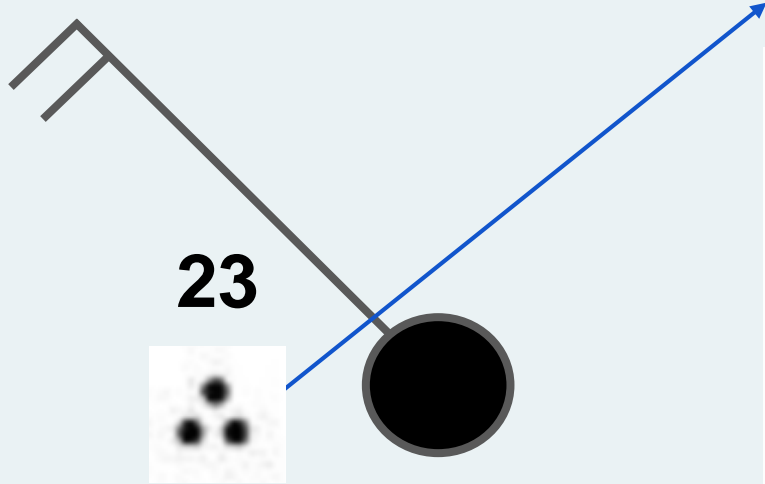


**Air  
Temperature**

**23 °C**



# Current Weather

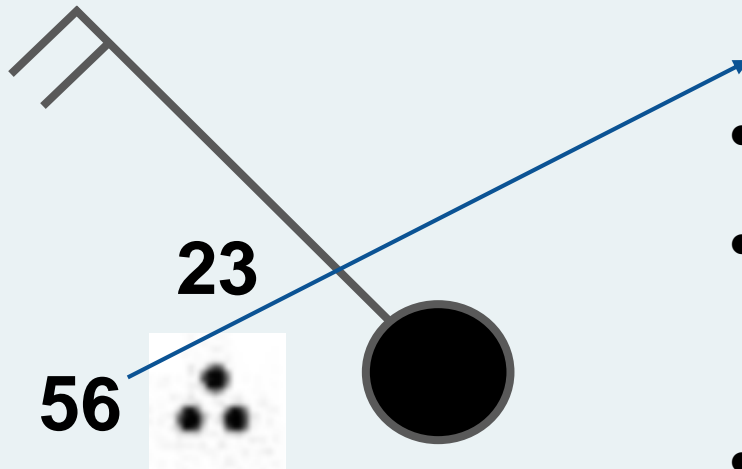


••	•••	••••	Rain (light,moderate,heavy)
*••	*•••	*••••	Snow (light,moderate,heavy)
⚡	⚡	⚡	Thunder (with rain,snow,no precipitation)
	▽*	▽*	Shower (rain,snow)
	••		Drizzle
∞	∞		Freezing rain, Freezing drizzle
	△		Ice pellets/Sleet
=	≡		Fog (shallow,deep)
	∞		Haze

## Moderate Rain



# Visibility



- In either meters or kilometres
- Visibilities below five kilometres are recorded to the nearest 100 metres
- Visibilities above five kilometres are given to the nearest kilometre

(0-50)----- (0.0-5.0 km)

(56-80)----- (06-30 km)

(81-88)----- (35-70 km)

6 km



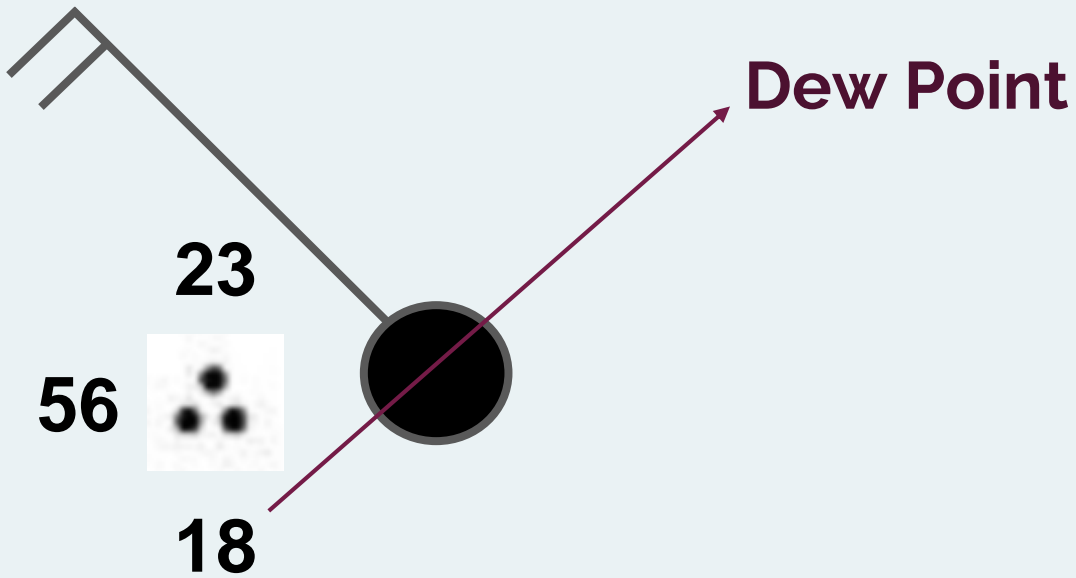


**Table 1: Codes for visibilities of less than five kilometres**

Code	Distance (km)	Code	Distance (km)	Code	Distance (km)
00	<0.0	19	1.9	38	3.8
01	0.1	20	2.0	39	3.9
02	0.2	21	2.1	40	4.0
03	0.3	22	2.2	41	4.1
04	0.4	23	2.3	42	4.2
05	0.5	24	2.4	43	4.3
06	0.6	25	2.5	44	4.4
07	0.7	26	2.6	45	4.5
08	0.8	27	2.7	46	4.6
09	0.9	28	2.8	47	4.7
10	1.0	29	2.9	48	4.8
11	1.1	30	3.0	49	4.9
12	1.2	31	3.1	50	5.0

**Table 2: Codes for visibilities of more than five kilometres**

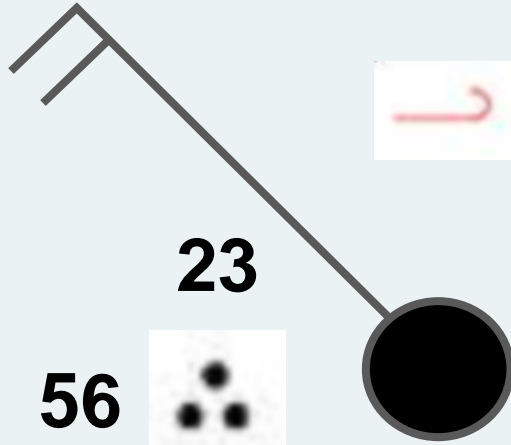
Code	Distance (km)	Code	Distance (km)
56	6	73	23
57	7	74	24
58	8	75	25
59	9	76	26
60	10	77	27
61	11	78	28
62	12	79	29
63	13	80	30
64	14	81	35
65	15	82	40
66	16	83	45
67	17	84	50
68	18	85	55
69	19	86	60
70	20	87	65
71	21	88	70
72	22	89	>70



18 °C



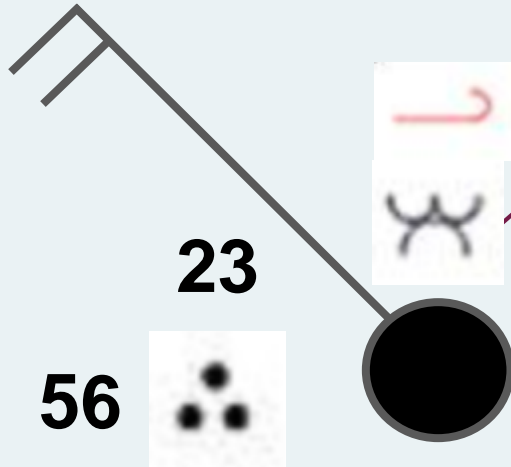
# High Cloud Type












- Cirrus in the form of filaments, strands or hooks, not progressively invading the sky.
- Dense cirrus in patches, which do not increase and seem to be the remains of the upper part of cumulonimbus; or cirrus with sproutings in the form of small turrets or battlements.
- Dense cirrus, often in the form of an anvil; being the remains of the upper parts of cumulonimbus.
- Cirrus in the form of hooks or of filaments, or both, progressively invading the sky; they generally become denser as a whole.
- Cirrus and cirrostratus, or cirrostratus alone; progressively invading the sky, but not reaching 45° above the horizon.
- Cirrus and cirrostratus, or cirrostratus alone; progressively invading the sky, reaching more than 45° above the horizon, but without the sky being totally covered.
- Veil of cirrostratus covering the celestial dome.
- Cirrostratus not progressively invading the sky and not completely covering the celestial dome.
- Cirrocumulus alone, or cirrocumulus accompanied by cirrus or cirrostratus or both, but cirrocumulus is predominant.



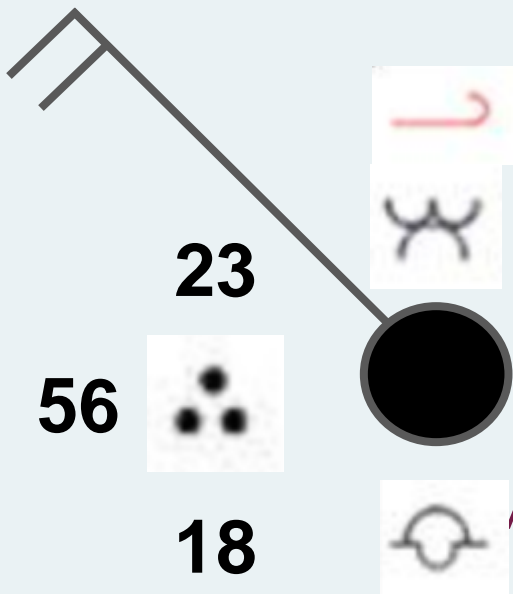
# Medium Cloud Type












-  Altostratus through which the sun or moon may be weakly visible.
-  Altostratus, dense enough to hide the sun or moon, or nimbostratus.
-  Altocumulus, the greater part of which is semi-transparent and at a single level
-  Patches of altocumulus, the greater part of which is semi-transparent the clouds occur at one or more levels
-  Semi-transparent altocumulus in bands, or altocumulus in one or more fairly continuous layers, progressively invading the sky.
-  Altocumulus resulting from the spreading out of cumulus (or cumulonimbus).
-  Altocumulus in two or more layers, not progressively invading the sky or altocumulus together with altostratus or nimbostratus.
-  Altocumulus with sproutings in the form of small towers or battlements.
-  Altocumulus of a chaotic sky, generally at several levels.



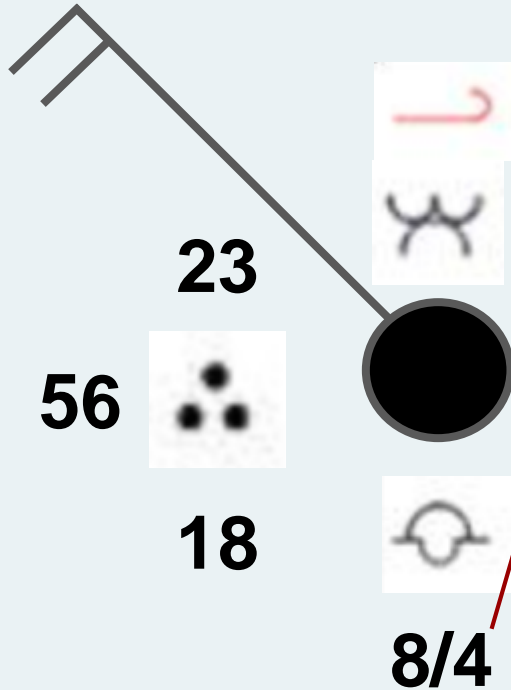
# Low Cloud Type



-  Cumulus with little vertical extent
-  Cumulus of moderate or strong vertical extent,
-  Cumulonimbus without fibrous or anvil top
-  Stratocumulus formed by the spreading out of cumulus
-  Stratocumulus not resulting from the spreading out of cumulus
-  Stratus in a more or less continuous sheet or layer,
-  Stratus fractus of bad weather
-  Cumulus and stratocumulus at a different levels
-  Cumulonimbus, fibrous or anvil top

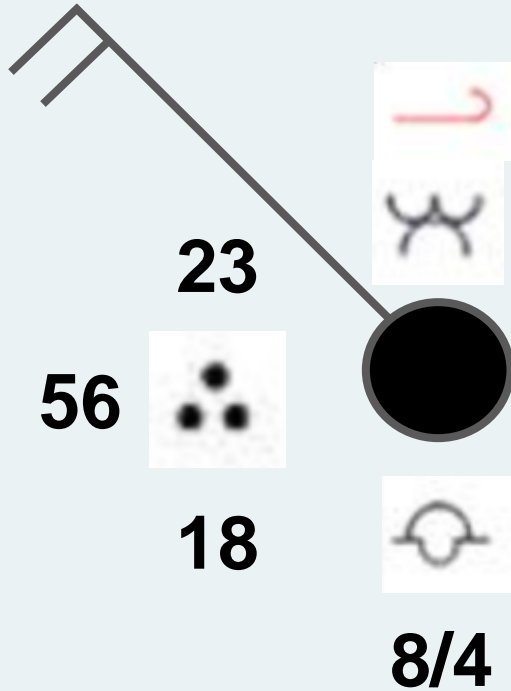


# Low Cloud Cover/ Hight



Cloud heights for manned stations	
Code	Height in feet
0	0-149
1	150-299
2	300-599
3	600-999
4	1,000-1,999
5	2,000-2,999
6	3,000-4,999
7	5,000-6,499
8	6,500-7,999
9	8,000 or above
/	Cloud height unknown





## Pressure

- Pressure is recorded in millibars and tenths and the last three digits are plotted

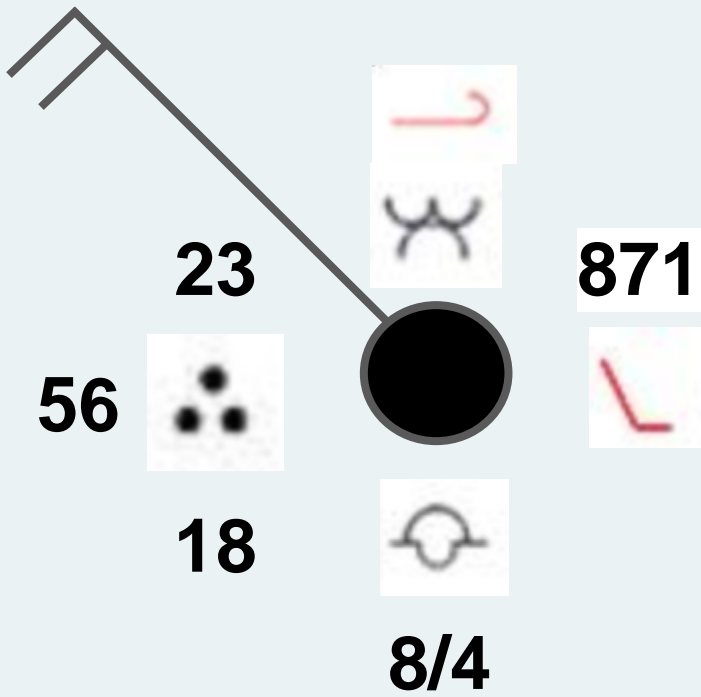
(0-4)----- Add 10 and point

(5-9)----- Add 9 and point

# 987.1 mb



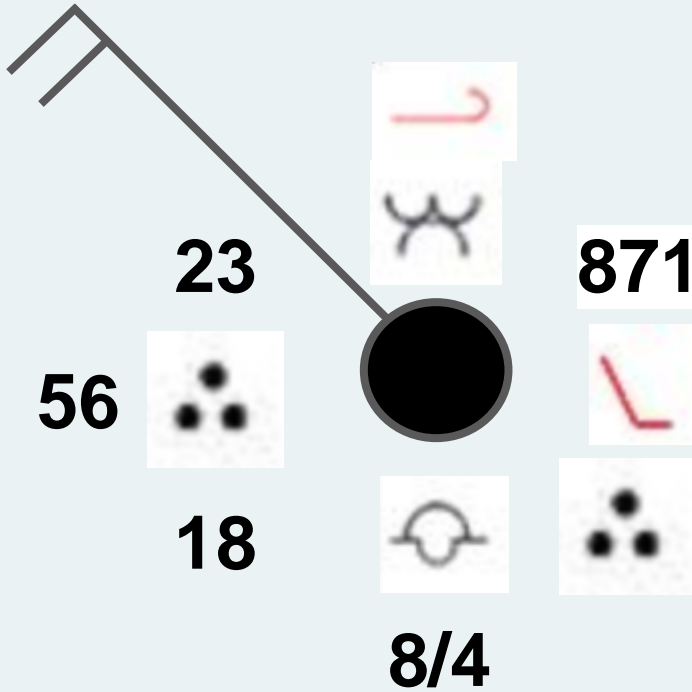
# Pressure Tendency



	Continuously falling		Continuously rising
	Falling, then steady		Rising, then steady
	Falling before a lesser rise		Falling before a greater rise
	Rising before a greater fall		Rising before a lesser fall
		Steady	







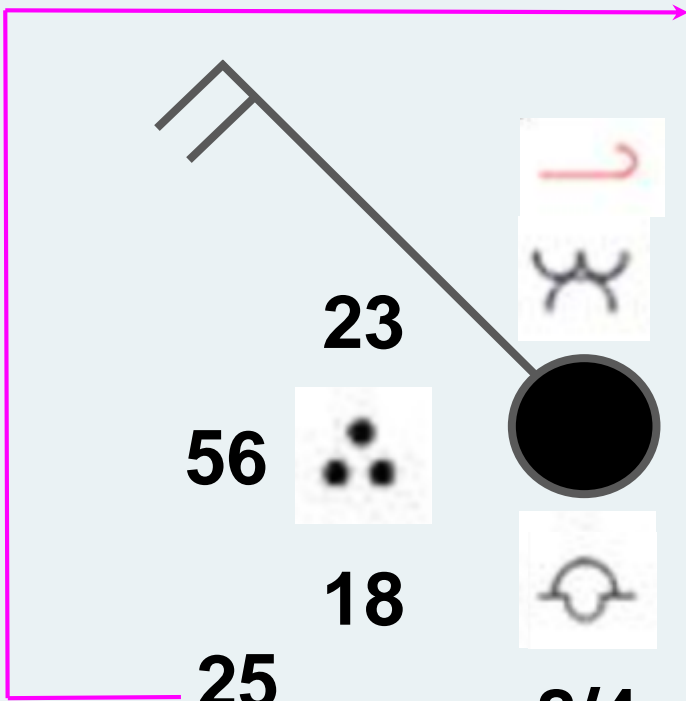
# Past Weather

..	••	•••	Rain (light, moderate, heavy)
**	***	***	Snow (light, moderate, heavy)
⊄	⊄	⊄	Thunder (with rain, snow, no precipitation)
▽	▽	▽	Shower (rain, snow)
	„	„	Drizzle
∞	∞	∞	Freezing rain, Freezing drizzle
	△	△	Ice pellets/Sleet
=	≡	≡	Fog (thin, thick)
	∞	∞	Haze

# Or Cloud Cover



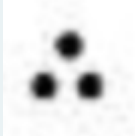
# Sea Surface Temperature



23

871

56



18



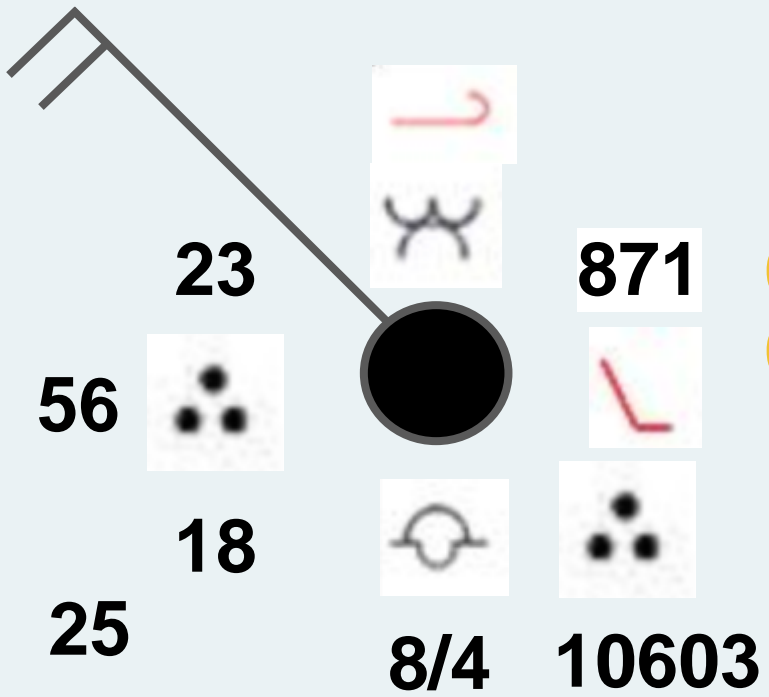
25

8/4

25 °C



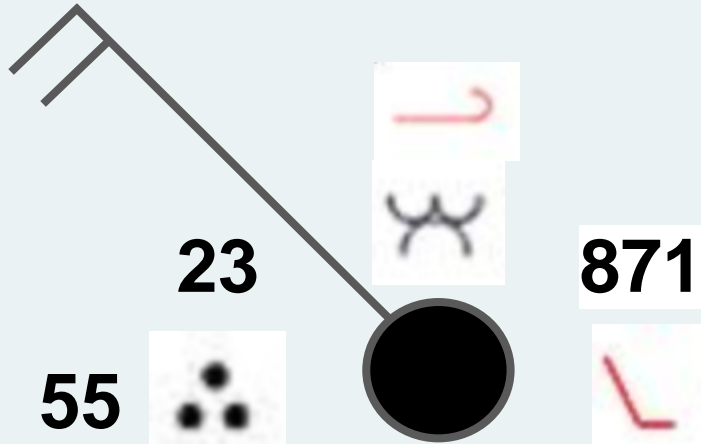
# Wave Information



- 1: Group Identifier (Bouey)
- 06: Wave Period 6 Seconds
- 03: Wave Height 3 Half meters

2: Group Identifier (Ship)





23

871

55



18



25

8/4

10603

090703

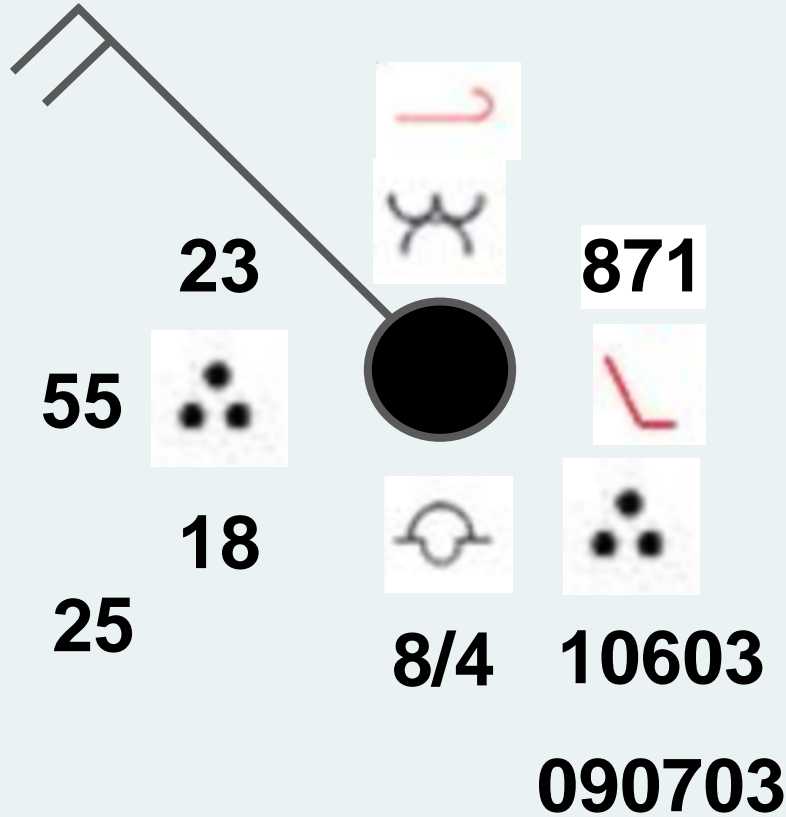
## Swell Information

**09:** Swell Direction (From 90°)

**07:** Swell Period 7 Seconds

**03:** Swell Height 3 Half meters







ICC-MUSCAT  
ations



# Thank you

Kindly scan this "QR code"  
to evaluate this lecture