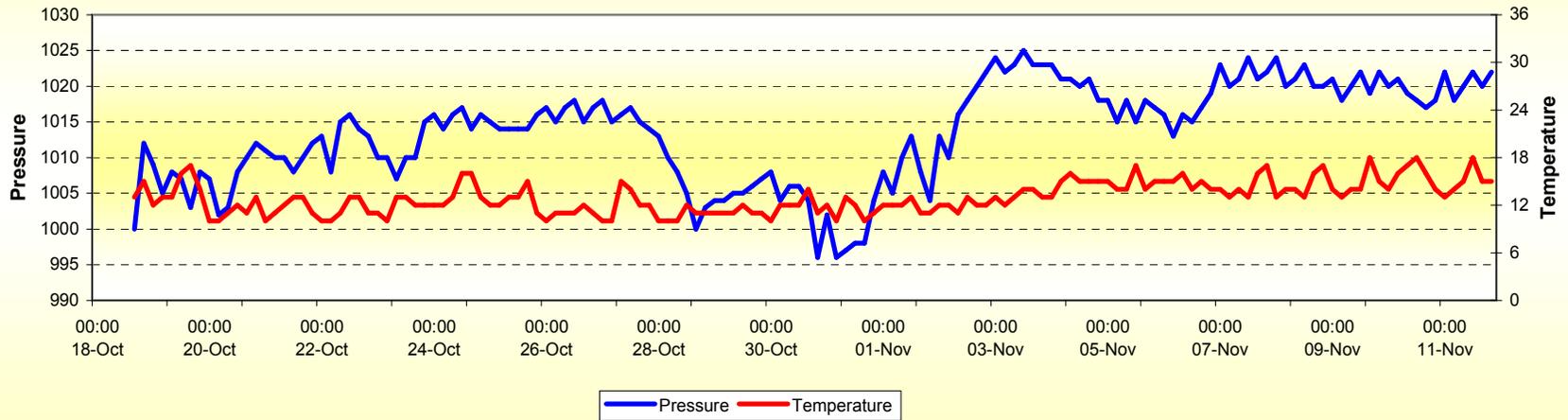
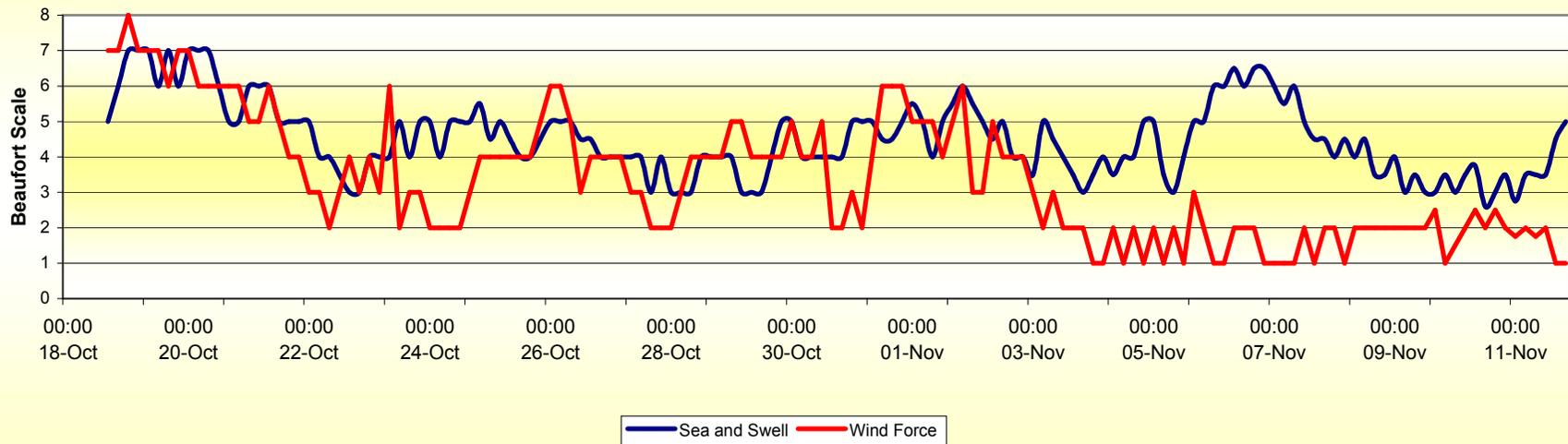


# Antares 2003 3D MSS

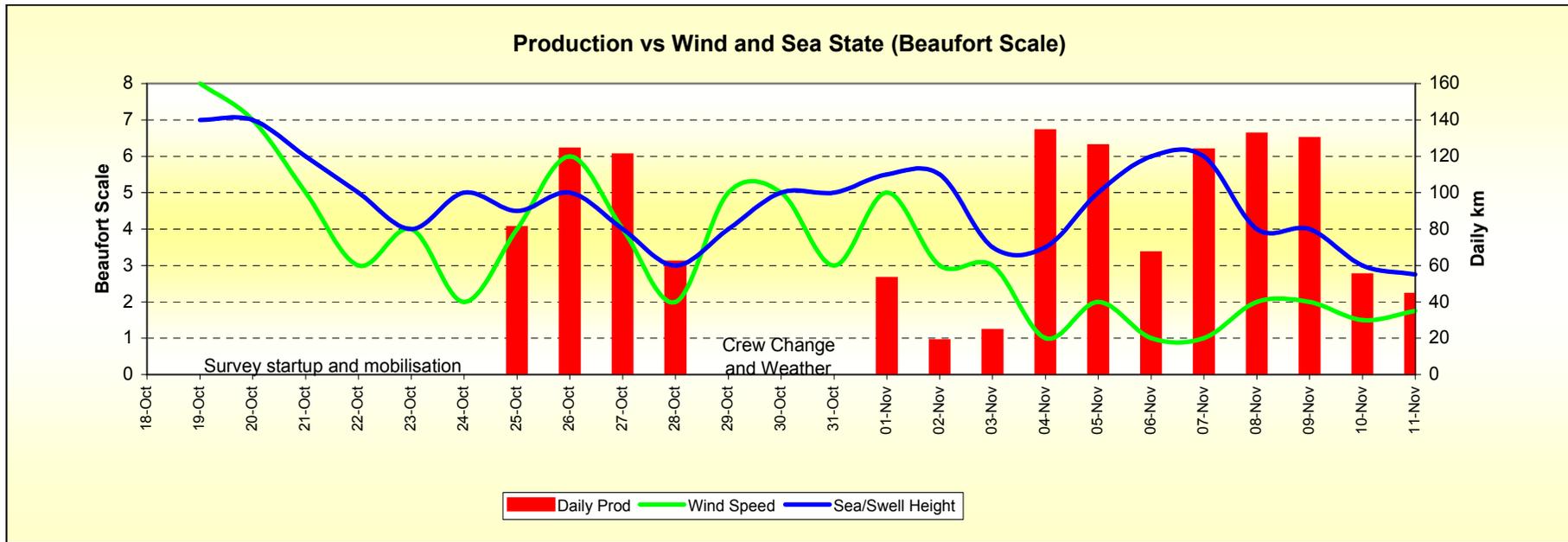
## October- November Temperature and Barometric Pressure Data



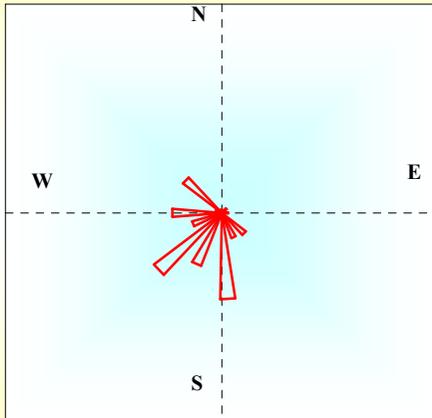
## Sea and Swell -vs Wind Force ( Beaufort Scale)



## Antares 2003 3D MSS Weather and Sea Observations



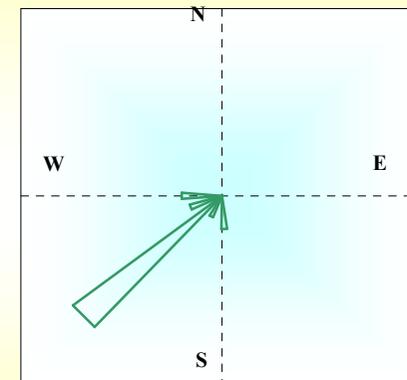
October - November Wind Direction



**Beaufort Scale**

| Force | Wind Force  | Height of Waves |
|-------|-------------|-----------------|
| 0     | 0-1 knot    | Calm            |
| 1     | 1-3 knots   | 0.1m            |
| 2     | 4-6 knots   | 0.2 to 0.3m     |
| 3     | 7-10 knots  | 0.6 to 1.0m     |
| 4     | 11-16 knots | 1.0m to 1.5m    |
| 5     | 17-21 knots | 2.0 to 2.5m     |
| 6     | 22-27 knots | 3.0 to 4.0m     |
| 7     | 28-33 knots | 4.0 to 5.5m     |
| 8     | 34-40 knots | 5.5 to 7.5m     |

October - November Swell Direction



| Date   | Time  | Pressure | Temperature | Wind Force | Wind Dir | Sea and Swell | Sea Dir |
|--------|-------|----------|-------------|------------|----------|---------------|---------|
| 18-Oct | 00:00 |          |             |            |          |               |         |
|        | 04:00 |          |             |            |          |               |         |
|        | 08:00 |          |             |            |          |               |         |
|        | 12:00 |          |             |            |          |               |         |
|        | 16:00 | 1000     | 13          | 7          | sw       | 5             | WSW     |
|        | 20:00 | 1012     | 15          | 7          | WSW      | 6             | WSW     |
| 19-Oct | 00:00 | 1009     | 12          | 8          | nw       | 7             | w       |
|        | 04:00 | 1005     | 13          | 7          | nw       | 7             | w       |
|        | 08:00 | 1008     | 13          | 7          | nw       | 7             | w       |
|        | 12:00 | 1007     | 16          | 7          | nw       | 6             | w       |
|        | 16:00 | 1003     | 17          | 6          | nw       | 7             | w       |
|        | 20:00 | 1008     | 14          | 7          | nw       | 6             | w       |
| 20-Oct | 00:00 | 1007     | 10          | 7          | nw       | 7             | w       |
|        | 04:00 | 1002     | 10          | 6          | nw       | 7             | w       |
|        | 08:00 | 1003     | 11          | 6          | nw       | 7             | w       |
|        | 12:00 | 1008     | 12          | 6          | w        | 6             | w       |
|        | 16:00 | 1010     | 11          | 6          | w        | 5             | WSW     |
|        | 20:00 | 1012     | 13          | 6          | w        | 5             | WSW     |
| 21-Oct | 00:00 | 1011     | 10          | 5          | s        | 6             | WSW     |
|        | 04:00 | 1010     | 11          | 5          | w        | 6             | w       |
|        | 08:00 | 1010     | 12          | 6          | WSW      | 6             | WSW     |
|        | 12:00 | 1008     | 13          | 5          | w        | 5             | WSW     |
|        | 16:00 | 1010     | 13          | 4          | w        | 5             | w       |
|        | 20:00 | 1012     | 11          | 4          | WSW      | 5             | w       |
| 22-Oct | 00:00 | 1013     | 10          | 3          | w        | 5             | w       |
|        | 04:00 | 1008     | 10          | 3          | w        | 4             | w       |
|        | 08:00 | 1015     | 11          | 2          | w        | 4             | w       |
|        | 12:00 | 1016     | 13          | 3          | sw       | 3.5           | w       |
|        | 16:00 | 1014     | 13          | 4          | ne       | 3             | WSW     |
|        | 20:00 | 1013     | 11          | 3          | nw       | 3             | WSW     |
| 23-Oct | 00:00 | 1010     | 11          | 4          | nw       | 4             | WSW     |
|        | 04:00 | 1010     | 10          | 3          | s        | 4             | WSW     |
|        | 08:00 | 1007     | 13          | 6          | wnw      | 4             | WSW     |
|        | 12:00 | 1010     | 13          | 2          | s        | 5             | WSW     |
|        | 16:00 | 1010     | 12          | 3          | s        | 4             | WSW     |
|        | 20:00 | 1015     | 12          | 3          | se       | 5             | SW      |
| 24-Oct | 00:00 | 1016     | 12          | 2          | se       | 5             | SW      |
|        | 04:00 | 1014     | 12          | 2          | se       | 4             | SW      |
|        | 08:00 | 1016     | 13          | 2          | s        | 5             | SW      |
|        | 12:00 | 1017     | 16          | 2          | se       | 5             | SW      |
|        | 16:00 | 1014     | 16          | 3          | se       | 5             | SW      |
|        | 20:00 | 1016     | 13          | 4          | s        | 5.5           | SW      |
| 25-Oct | 00:00 | 1015     | 12          | 4          | se       | 4.5           | s       |
|        | 04:00 | 1014     | 12          | 4          | se       | 5             | s       |
|        | 08:00 | 1014     | 13          | 4          | se       | 4.5           | s       |
|        | 12:00 | 1014     | 13          | 4          | se       | 4             | s       |
|        | 16:00 | 1014     | 15          | 4          | SSW      | 4             | s       |
|        | 20:00 | 1016     | 11          | 5          | s        | 4.5           | s       |
| 26-Oct | 00:00 | 1017     | 10          | 6          | s        | 5             | w       |
|        | 04:00 | 1015     | 11          | 6          | SSW      | 5             | SSW     |
|        | 08:00 | 1017     | 11          | 5          | sw       | 5             | WW      |
|        | 12:00 | 1018     | 11          | 3          | sw       | 4.5           | SSW     |
|        | 16:00 | 1015     | 12          | 4          | sw       | 4.5           | SSW     |
|        | 20:00 | 1017     | 11          | 4          | sw       | 4             | SSW     |
| 27-Oct | 00:00 | 1018     | 10          | 4          | sw       | 4             | SSW     |
|        | 04:00 | 1015     | 10          | 4          | sw       | 4             | SSW     |
|        | 08:00 | 1016     | 15          | 3          | WSW      | 4             | SSW     |
|        | 12:00 | 1017     | 14          | 3          | WSW      | 4             | SSW     |
|        | 16:00 | 1015     | 12          | 2          | sw       | 3             | SW      |
|        | 20:00 | 1014     | 12          | 2          | sw       | 4             | SSW     |

Daily Prod    Accum Prod

80.4188            80.4188

123.6375            204.0563

120.4313            324.4875

|        |       |      |    |   |     |     |     |          |          |
|--------|-------|------|----|---|-----|-----|-----|----------|----------|
| 28-Oct | 00:00 | 1013 | 10 | 2 | sw  | 3   | SSW | 61.4250  | 385.9125 |
|        | 04:00 | 1010 | 10 | 3 | se  | 3   | SSW |          |          |
|        | 08:00 | 1008 | 10 | 4 | ne  | 3   | s   |          |          |
|        | 12:00 | 1005 | 12 | 4 | e   | 4   | s   |          |          |
|        | 16:00 | 1000 | 11 | 4 | e   | 4   | s   |          |          |
|        | 20:00 | 1003 | 11 | 4 | s   | 4   | s   |          |          |
| 29-Oct | 00:00 | 1004 | 11 | 5 | s   | 4   | s   |          |          |
|        | 04:00 | 1004 | 11 | 5 | SSW | 3   | s   |          |          |
|        | 08:00 | 1005 | 11 | 4 | sw  | 3   | s   |          |          |
|        | 12:00 | 1005 | 12 | 4 | sw  | 3   | s   |          |          |
|        | 16:00 | 1006 | 11 | 4 | sse | 4   | SW  |          |          |
|        | 20:00 | 1007 | 11 | 4 | sse | 5   | s   |          |          |
| 30-Oct | 00:00 | 1008 | 10 | 5 | SSW | 5   | SW  |          |          |
|        | 04:00 | 1004 | 12 | 4 | WSW | 4   | SW  |          |          |
|        | 08:00 | 1006 | 12 | 4 | WSW | 4   | SW  |          |          |
|        | 12:00 | 1006 | 12 | 5 | WNW | 4   | SW  |          |          |
|        | 16:00 | 1004 | 14 | 2 | nw  | 4   | SW  |          |          |
|        | 20:00 | 996  | 11 | 2 | nw  | 4   | SW  |          |          |
| 31-Oct | 00:00 | 1002 | 12 | 3 | nnw | 5   | SW  |          |          |
|        | 04:00 | 996  | 10 | 2 | nw  | 5   | SW  |          |          |
|        | 08:00 | 997  | 13 | 4 | w   | 5   | SW  |          |          |
|        | 12:00 | 998  | 12 | 6 | SSW | 4.5 | SW  |          |          |
|        | 16:00 | 998  | 10 | 6 | sw  | 4.5 | SW  |          |          |
|        | 20:00 | 1004 | 11 | 6 | sw  | 5   | SW  |          |          |
| 01-Nov | 00:00 | 1008 | 12 | 5 | sw  | 5.5 | SW  | 52.4625  | 438.3750 |
|        | 04:00 | 1005 | 12 | 5 | WSW | 5   | SW  |          |          |
|        | 08:00 | 1010 | 12 | 5 | sw  | 4   | WSW |          |          |
|        | 12:00 | 1013 | 13 | 4 | WSW | 5   | SW  |          |          |
|        | 16:00 | 1008 | 11 | 5 | w   | 5.5 | SW  |          |          |
|        | 20:00 | 1004 | 11 | 6 | w   | 6   | SW  |          |          |
| 02-Nov | 00:00 | 1013 | 12 | 3 | sw  | 5.5 | s   | 18.1500  | 456.5250 |
|        | 04:00 | 1010 | 12 | 3 | sw  | 5   | SW  |          |          |
|        | 08:00 | 1016 | 11 | 5 | SSW | 4.5 | SW  |          |          |
|        | 12:00 | 1018 | 13 | 4 | SSW | 5   | SW  |          |          |
|        | 16:00 | 1020 | 12 | 4 | w   | 4   | SW  |          |          |
|        | 20:00 | 1022 | 12 | 4 | sw  | 4   | SW  |          |          |
| 03-Nov | 00:00 | 1024 | 13 | 3 | sw  | 3.5 | SW  | 23.9250  | 480.4500 |
|        | 04:00 | 1022 | 12 | 2 | SSW | 5   | SW  |          |          |
|        | 08:00 | 1023 | 13 | 3 | WSW | 4.5 | SW  |          |          |
|        | 12:00 | 1025 | 14 | 2 | w   | 4   | SW  |          |          |
|        | 16:00 | 1023 | 14 | 2 | w   | 3.5 | SW  |          |          |
|        | 20:00 | 1023 | 13 | 2 | w   | 3   | SW  |          |          |
| 04-Nov | 00:00 | 1023 | 13 | 1 | n   | 3.5 | SW  | 133.6875 | 614.1375 |
|        | 04:00 | 1021 | 15 | 1 | nw  | 4   | SW  |          |          |
|        | 08:00 | 1021 | 16 | 2 | nw  | 3.5 | SW  |          |          |
|        | 12:00 | 1020 | 15 | 1 | sse | 4   | SW  |          |          |
|        | 16:00 | 1021 | 15 | 2 | sse | 4   | SW  |          |          |
|        | 20:00 | 1018 | 15 | 1 | sse | 5   | SW  |          |          |
| 05-Nov | 00:00 | 1018 | 15 | 2 | sse | 5   | SW  | 125.4375 | 739.5750 |
|        | 04:00 | 1015 | 14 | 1 | s   | 3.5 | SW  |          |          |
|        | 08:00 | 1018 | 14 | 2 | s   | 3   | SW  |          |          |
|        | 12:00 | 1015 | 17 | 1 | s   | 4   | SW  |          |          |
|        | 16:00 | 1018 | 14 | 3 | s   | 5   | SW  |          |          |
|        | 20:00 | 1017 | 15 | 2 | s   | 5   | SW  |          |          |
| 06-Nov | 00:00 | 1016 | 15 | 1 | SSW | 6   | SW  | 66.4875  | 806.0625 |
|        | 04:00 | 1013 | 15 | 1 | sw  | 6   | SW  |          |          |
|        | 08:00 | 1016 | 16 | 2 | sw  | 6.5 | SW  |          |          |
|        | 12:00 | 1015 | 14 | 2 | s   | 6   | SW  |          |          |
|        | 16:00 | 1017 | 15 | 2 | sw  | 6.5 | SW  |          |          |
|        | 20:00 | 1019 | 14 | 1 | sw  | 6.5 | SW  |          |          |
|        | 00:00 | 1023 | 14 | 1 | SSW | 6   | SW  | 123.1313 | 929.1938 |

|        |       |      |    |      |     |      |    |          |           |
|--------|-------|------|----|------|-----|------|----|----------|-----------|
| 07-Nov | 04:00 | 1020 | 13 | 1    | s   | 5.5  | SW |          |           |
|        | 08:00 | 1021 | 14 | 1    | s   | 6    | SW |          |           |
|        | 12:00 | 1024 | 13 | 2    | s   | 5    | SW |          |           |
|        | 16:00 | 1021 | 16 | 1    | SSW | 4.5  | SW |          |           |
|        | 20:00 | 1022 | 17 | 2    | SSW | 4.5  | SW |          |           |
| 08-Nov | 00:00 | 1024 | 13 | 2    | s   | 4    | SW | 131.8500 | 1061.0438 |
|        | 04:00 | 1020 | 14 | 1    | SSW | 4.5  | SW |          |           |
|        | 08:00 | 1021 | 14 | 2    | SSS | 4    | SW |          |           |
|        | 12:00 | 1023 | 13 | 2    | s   | 4.5  | SW |          |           |
|        | 16:00 | 1020 | 16 | 2    | SSW | 3.5  | SW |          |           |
|        | 20:00 | 1020 | 17 | 2    | SSW | 3.5  | SW |          |           |
| 09-Nov | 00:00 | 1021 | 14 | 2    | sse | 4    | SW | 129.3938 | 1190.4375 |
|        | 04:00 | 1018 | 13 | 2    | SSW | 3    | SW |          |           |
|        | 08:00 | 1020 | 14 | 2    | s   | 3.5  | SW |          |           |
|        | 12:00 | 1022 | 14 | 2    | s   | 3    | SW |          |           |
|        | 16:00 | 1019 | 18 | 2.5  | s   | 3    | SW |          |           |
|        | 20:00 | 1022 | 15 | 1    | s   | 3.5  | SW |          |           |
| 10-Nov | 00:00 | 1020 | 14 | 1.5  | s   | 3    | SW | 54.4868  | 1244.9243 |
|        | 04:00 | 1021 | 16 | 2    | s   | 3.5  | SW |          |           |
|        | 08:00 | 1019 | 17 | 2.5  | SSW | 3.75 | SW |          |           |
|        | 12:00 | 1018 | 18 | 2    | SSW | 2.6  | SW |          |           |
|        | 16:00 | 1017 | 16 | 2.5  | SW  | 3    | SW |          |           |
|        | 20:00 | 1018 | 14 | 2    | SW  | 3.5  | SW |          |           |
| 11-Nov | 00:00 | 1022 | 13 | 1.75 | SSW | 2.75 | SW | 43.7815  | 1288.7058 |
|        | 04:00 | 1018 | 14 | 2    | SW  | 3.5  | SW |          |           |
|        | 08:00 | 1020 | 15 | 1.75 | s   | 3.5  | SW |          |           |
|        | 12:00 | 1022 | 18 | 2    | sse | 3.5  | SW |          |           |
|        | 16:00 | 1020 | 15 | 1    | s   | 4.5  | SW |          |           |
|        | 20:00 | 1022 | 15 | 1    | sse | 5    | SW |          |           |
| 12-Nov | 00:00 |      |    |      |     |      |    |          |           |
|        | 04:00 |      |    |      |     |      |    |          |           |
|        | 08:00 |      |    |      |     |      |    |          |           |
|        | 12:00 |      |    |      |     |      |    |          |           |
|        | 16:00 |      |    |      |     |      |    |          |           |
|        | 20:00 |      |    |      |     |      |    |          |           |

**October-November 2003**

| <b>DIRECTION</b> | <b>COUNT</b> | <b>X VALUE</b> | <b>Y VALUE</b> | <b>DIRECTION</b> | <b>COUNT</b> | <b>X VALUE</b> | <b>Y VALUE</b> |
|------------------|--------------|----------------|----------------|------------------|--------------|----------------|----------------|
| <b>Wind</b>      |              |                |                | <b>Swell</b>     |              |                |                |
| N                | 1            | 0              | 0              | N                | 0            | 0              | 0              |
|                  | 0            | -0.01671       | 0.99986        |                  | 0            | 0              | 0              |
|                  | 0            | 0.149829       | 0.988712       |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| NNE              | 0            | 0              | 0              | NNE              | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| NE               | 2            | 0              | 0              | NE               | 0            | 0              | 0              |
|                  | 0            | 1.341569       | 1.483304       |                  | 0            | 0              | 0              |
|                  | 0            | 1.569599       | 1.2395         |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| ENE              | 0            | 0              | 0              | ENE              | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 3            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| E                | 2            | 0              | 0              | E                | 0            | 0              | 0              |
|                  | 0            | 1.993023       | -0.166912      |                  | 0            | 0              | 0              |
|                  | 0            | 1.993023       | 0.166912       |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| ESE              | 0            | 0              | 0              | ESE              | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| SE               | 10           | 0              | 0              | SE               | 0            | 0              | 0              |
|                  | 0            | 6.707847       | -7.416521      |                  | 0            | 0              | 0              |
|                  | 0            | 7.847994       | -6.197499      |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| SSE              | 9            | 0              | 0              | SSE              | 0            | 0              | 0              |
|                  | 0            | 3.164385       | -8.425359      |                  | 0            | 0              | 0              |
|                  | 0            | 4.52169        | -7.781665      |                  | 0            | 0              | 0              |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| S                | 29           | 0              | 0              | S                | 16           | 0              | 0              |
|                  | 0            | -0.484585      | -28.99595      |                  | 0            | -0.267357      | -15.99777      |
|                  | 0            | 4.345043       | -28.67265      |                  | 0            | 2.397265       | -15.81939      |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| SSW              | 19           | 0              | 0              | SSW              | 11           | 0              | 0              |
|                  | 0            | -6.680368      | -17.78687      |                  | 0            | -3.867581      | -10.29766      |
|                  | 0            | -9.54579       | -16.42796      |                  | 0            | -5.52651       | -9.510924      |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| SW               | 28           | 0              | 0              | SW               | 85           | 0              | 0              |
|                  | 0            | -18.78197      | -20.76626      |                  | 0            | -57.0167       | -63.04043      |
|                  | 0            | -21.97438      | -17.353        |                  | 0            | -66.70795      | -52.67874      |
|                  | 0            | 0              | 0              |                  | 0            | 0              | 0              |
|                  | 0            |                |                |                  | 0            |                |                |
| WSW              | 10           | 0              | 0              | WSW              | 15           | 0              | 0              |
|                  | 0            | -8.96256       | -4.435372      |                  | 0            | -13.44384      | -6.653058      |
|                  | 0            | -9.575446      | -2.882852      |                  | 0            | -14.36317      | -4.324277      |

|     |    |           |           |     |    |           |           |
|-----|----|-----------|-----------|-----|----|-----------|-----------|
|     | 0  | 0         | 0         |     | 0  | 0         | 0         |
|     | 0  |           |           |     | 0  |           |           |
| W   | 16 | 0         | 0         | W   | 18 | 0         | 0         |
|     | 0  | -15.94418 | -1.335293 |     | 0  | -17.93721 | -1.502205 |
|     | 0  | -15.94418 | 1.335293  |     | 0  | -17.93721 | 1.502205  |
|     | 0  | 0         | 0         |     | 0  | 0         | 0         |
|     | 0  |           |           |     | 0  |           |           |
| WNW | 2  | 0         | 0         | WNW | 0  | 0         | 0         |
|     | 0  | -1.792512 | 0.887074  |     | 0  | 0         | 0         |
|     | 0  | -1.915089 | 0.57657   |     | 0  | 0         | 0         |
|     | 0  | 0         | 0         |     | 0  | 0         | 0         |
|     | 0  |           |           |     | 0  |           |           |
| NW  | 16 | 0         | 0         | NW  | 0  | 0         | 0         |
|     | 0  | -10.73256 | 11.86643  |     | 0  | 0         | 0         |
|     | 0  | -12.55679 | 9.915998  |     | 0  | 0         | 0         |
|     | 0  | 0         | 0         |     | 0  | 0         | 0         |
|     | 0  |           |           |     | 0  |           |           |
| NNW | 1  | 0         | 0         | NNW | 0  | 0         | 0         |
|     | 0  | -0.351598 | 0.936151  |     | 0  | 0         | 0         |
|     | 0  | -0.50241  | 0.864629  |     | 0  | 0         | 0         |
|     | 0  | 0         | 0         |     | 0  | 0         | 0         |