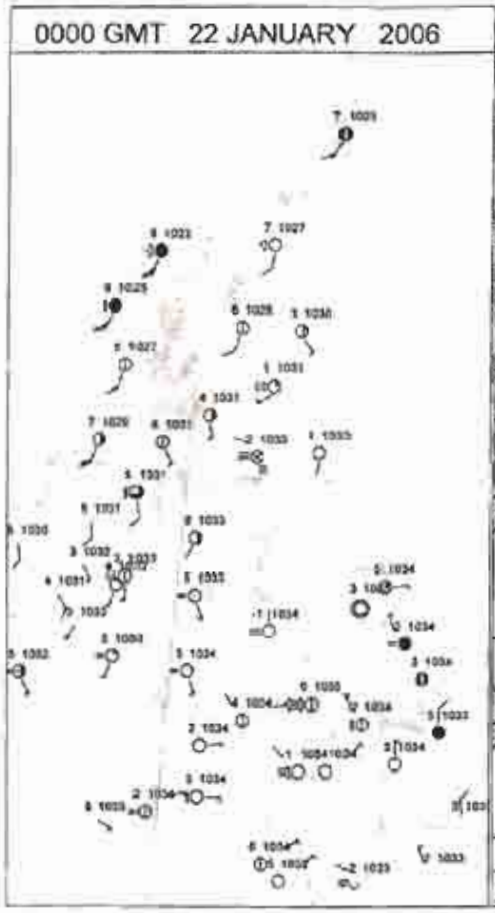
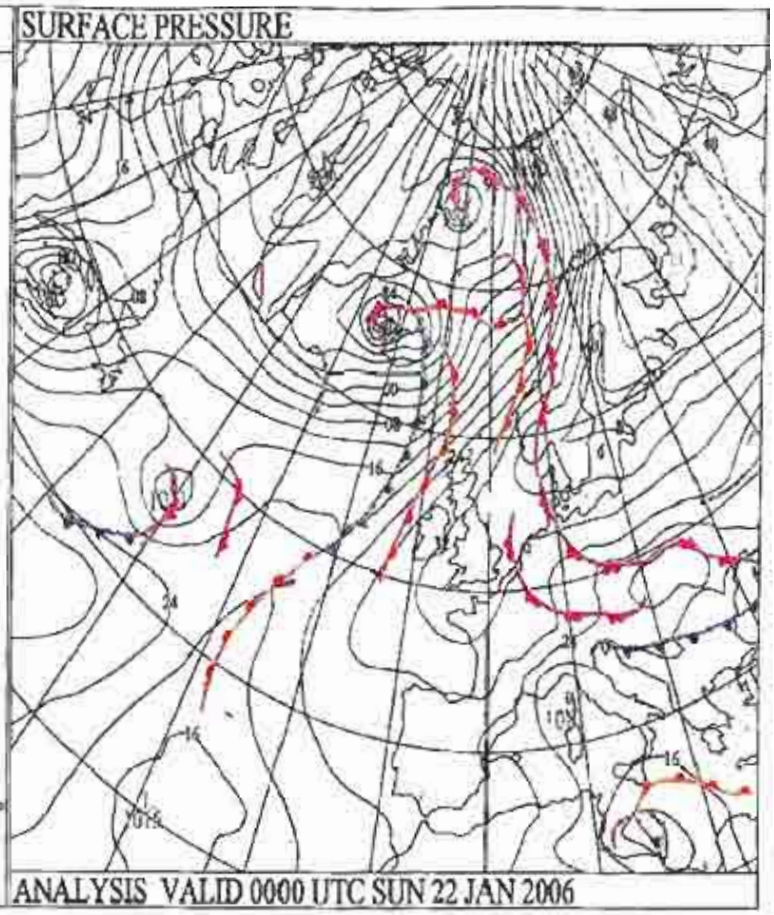
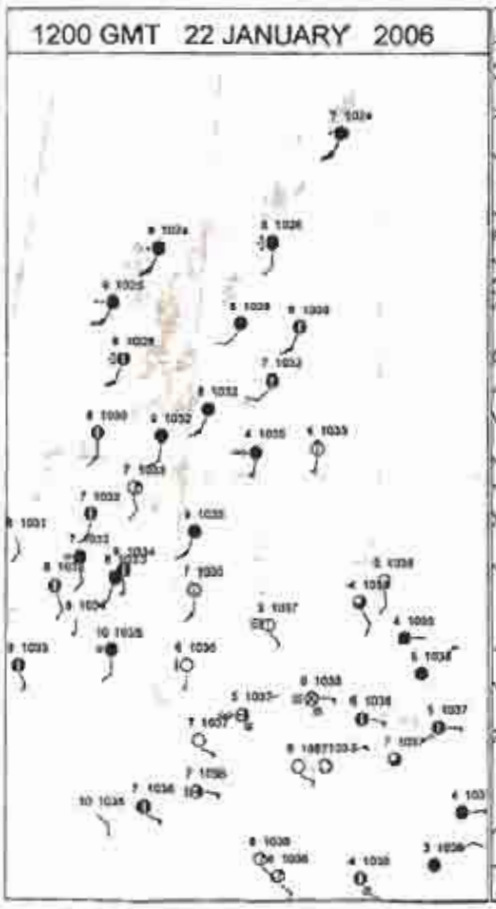
Meteorological office charts covering period
22 January to 29 January

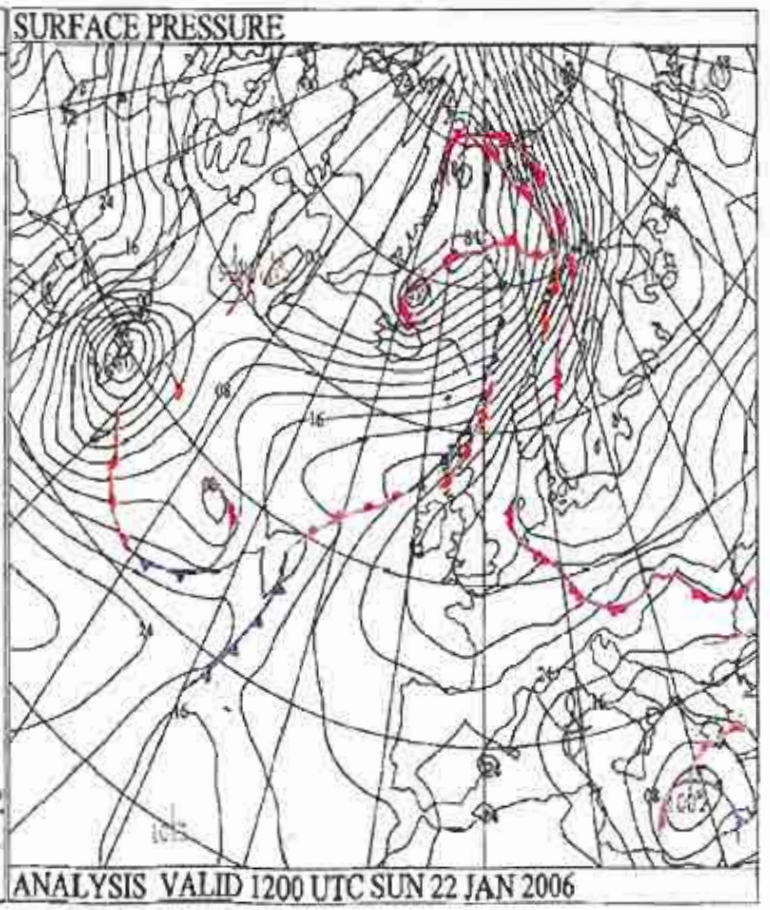
Sunday 22 January 2006

DAILY WEATHER SUMMARY



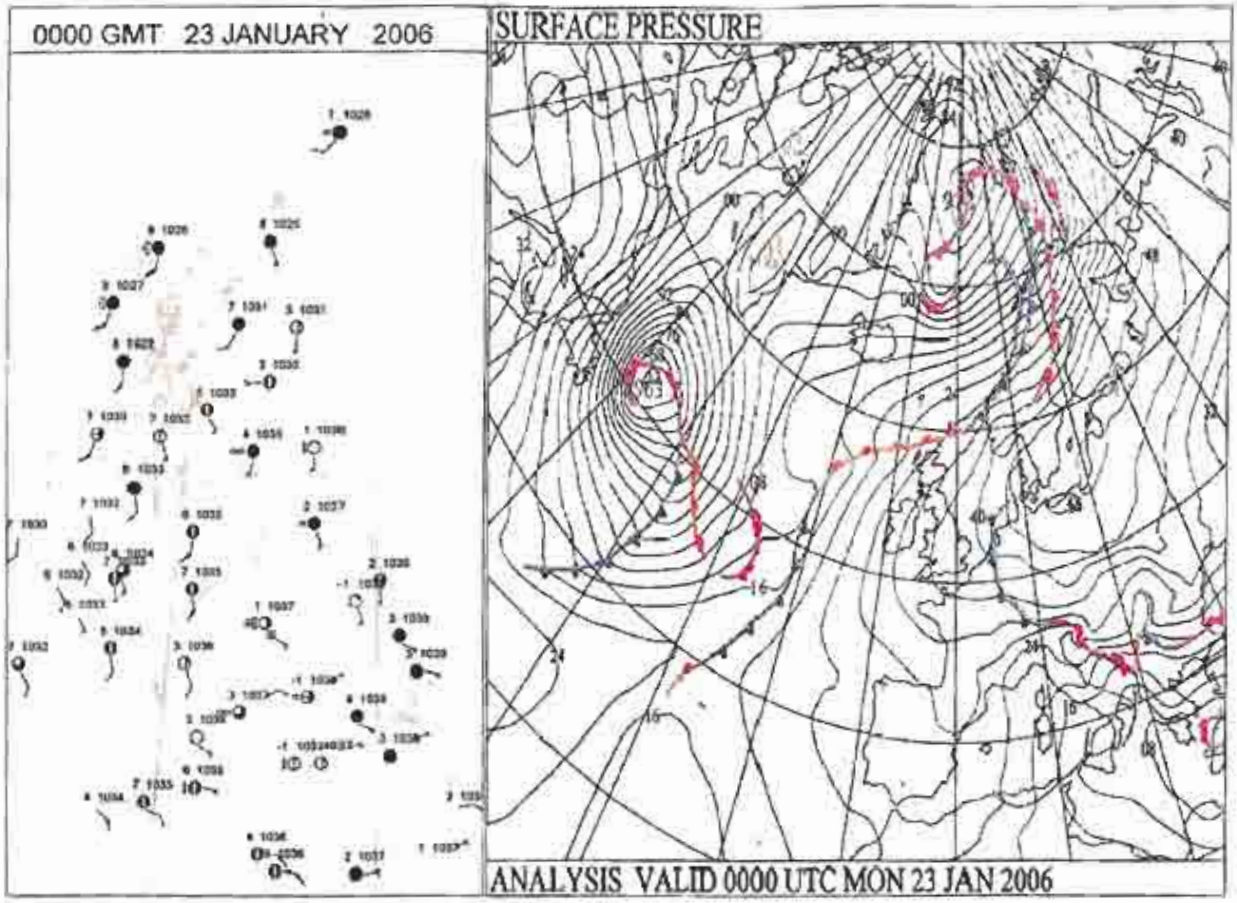


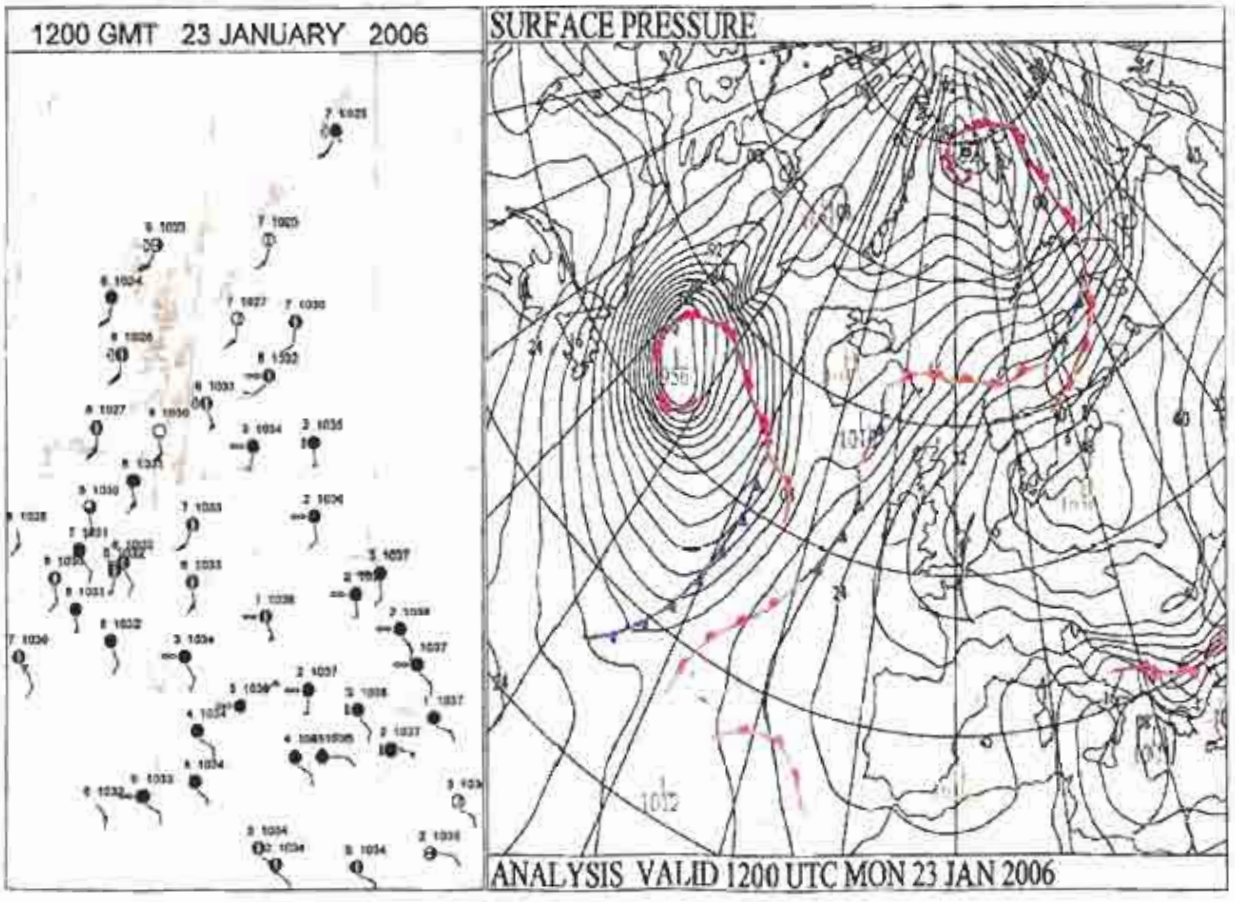




Monday 23 January 2006

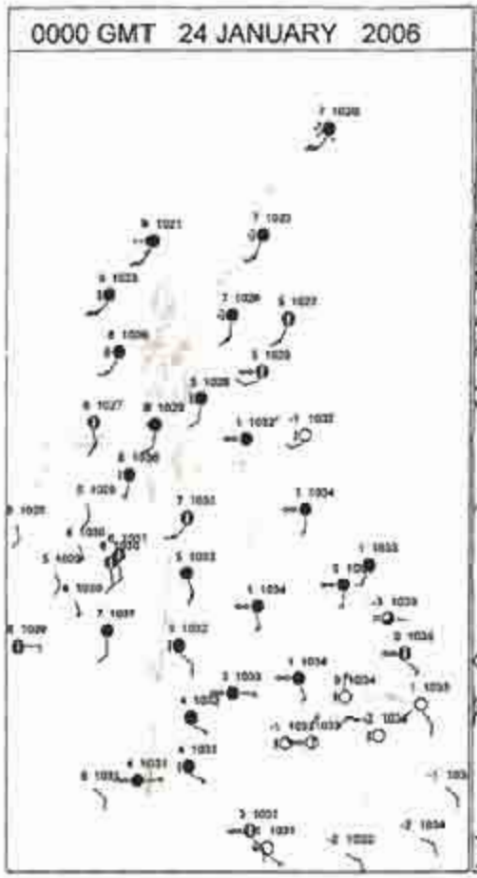
DAILY WEATHER SUMMARY

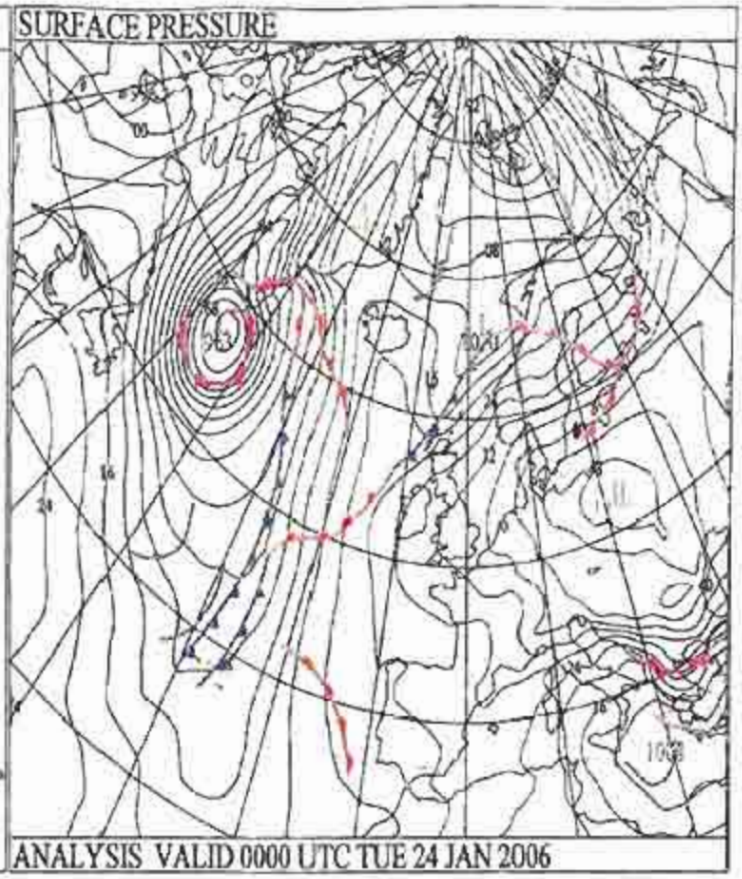


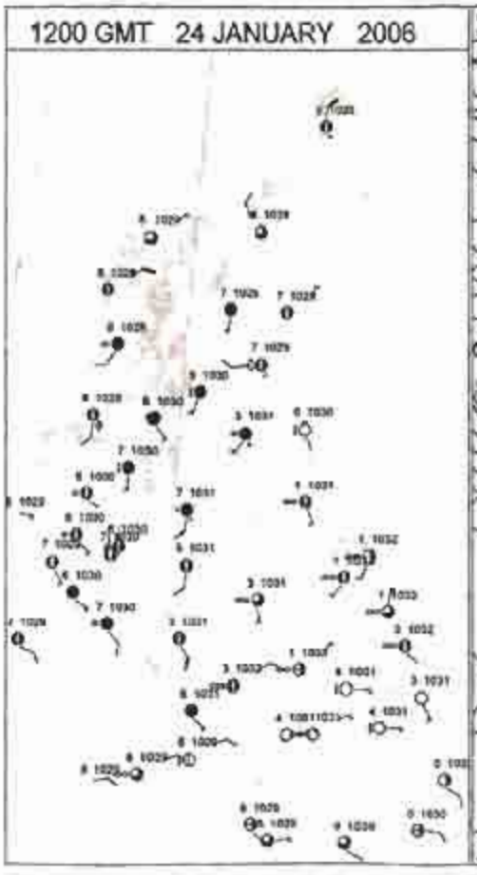


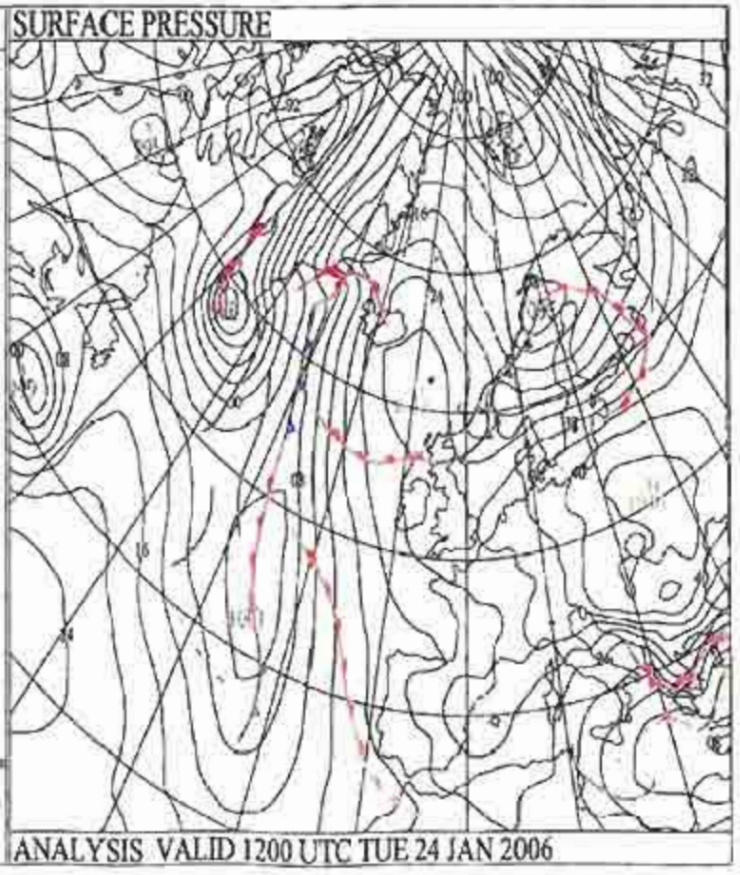
Tuesday 24 January 2006

DAILY WEATHER SUMMARY



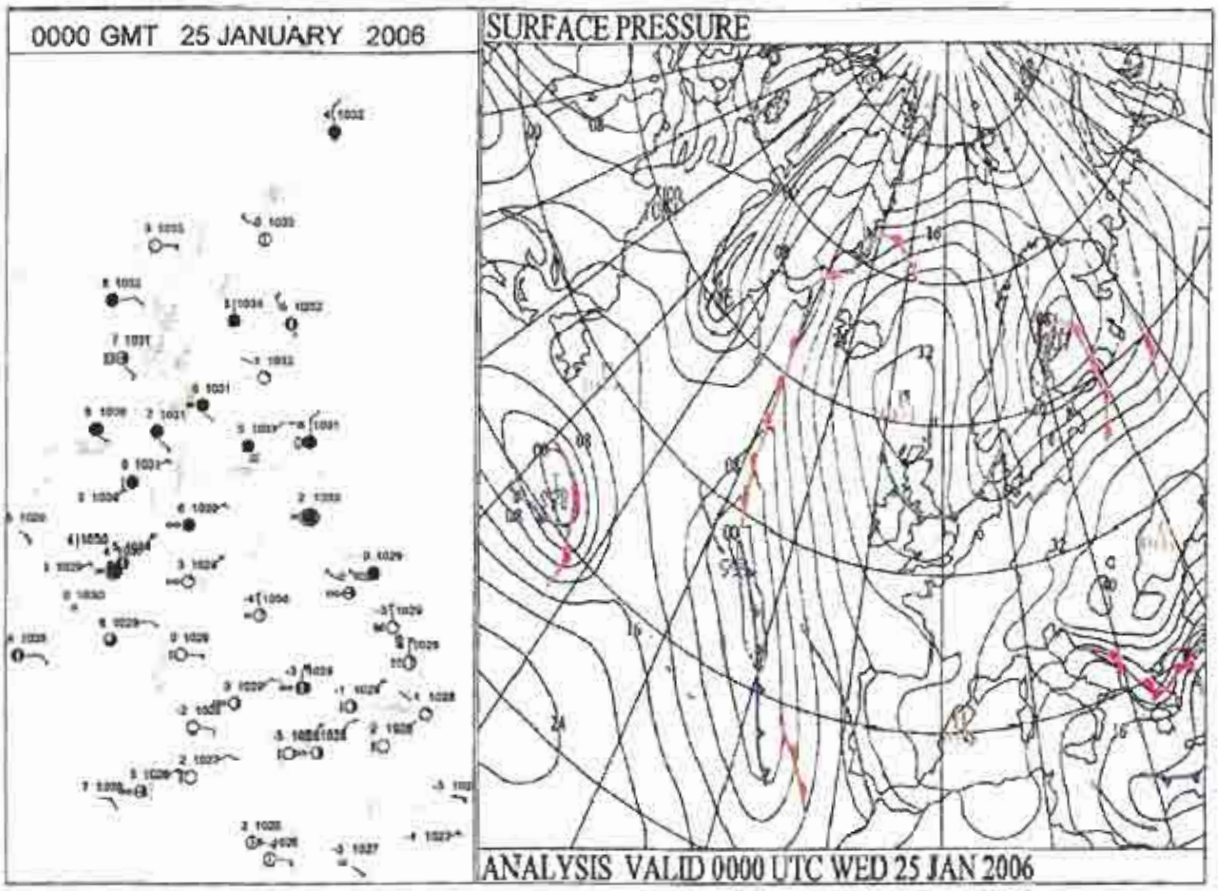


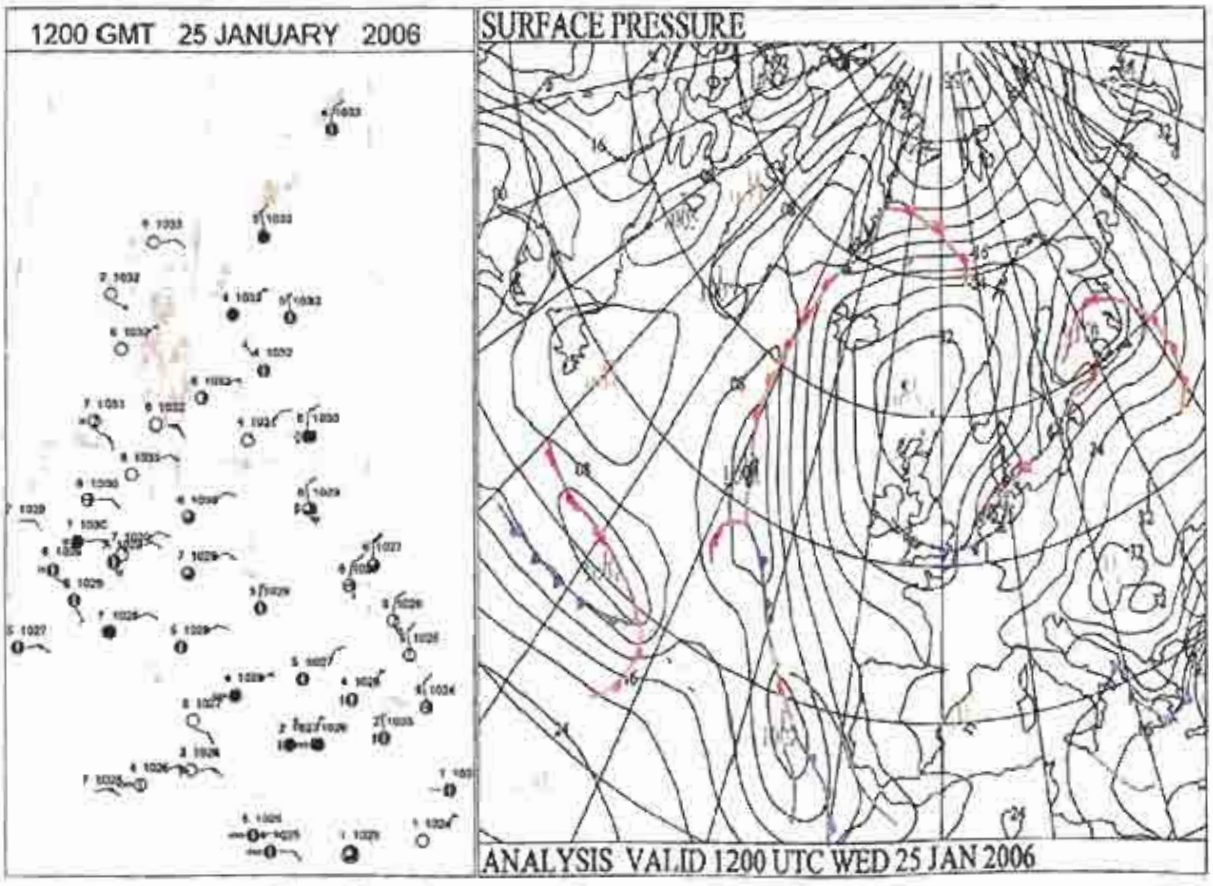




Wednesday 25 January 2006

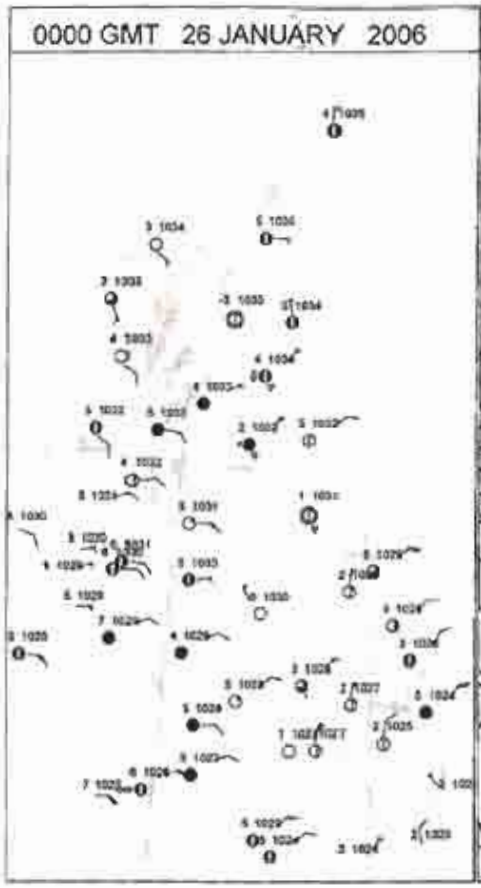
DAILY WEATHER SUMMARY

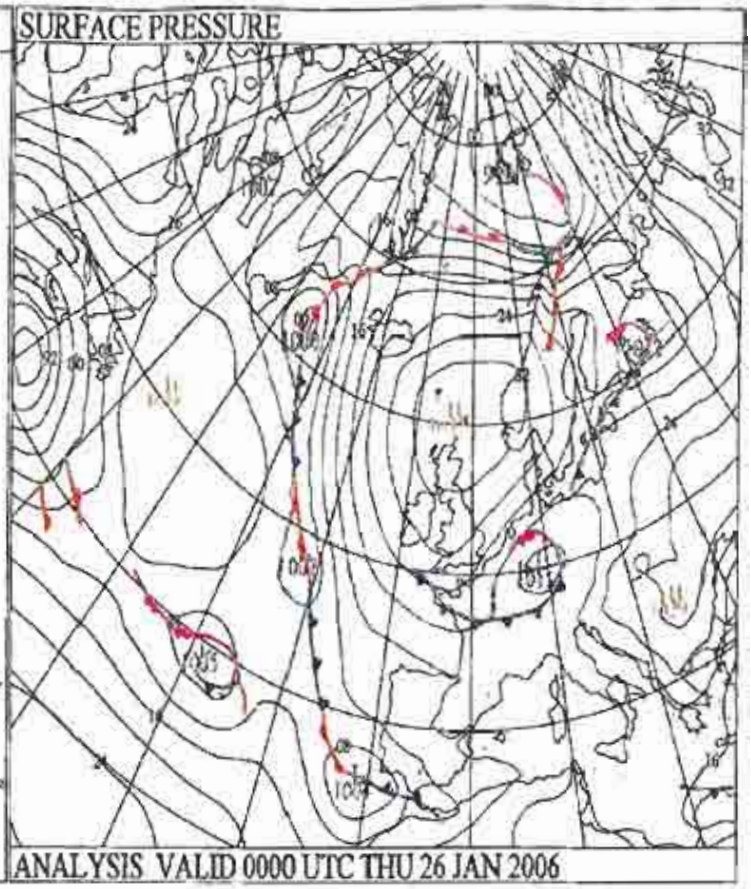


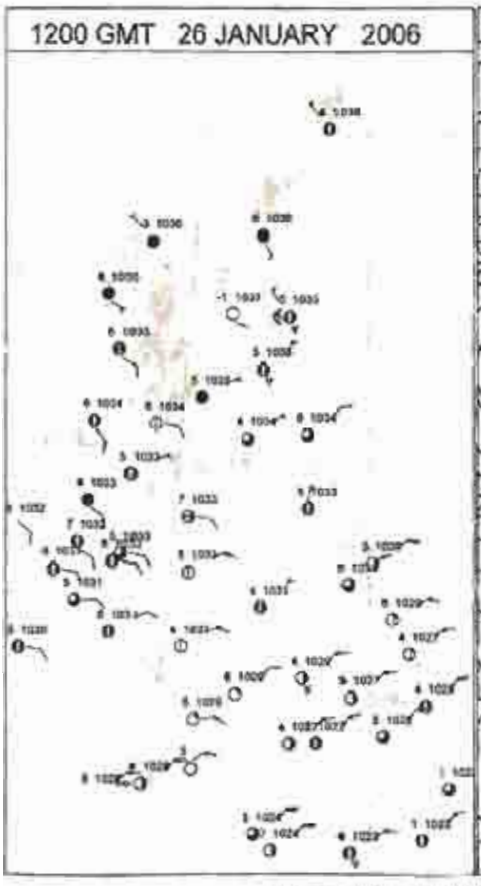


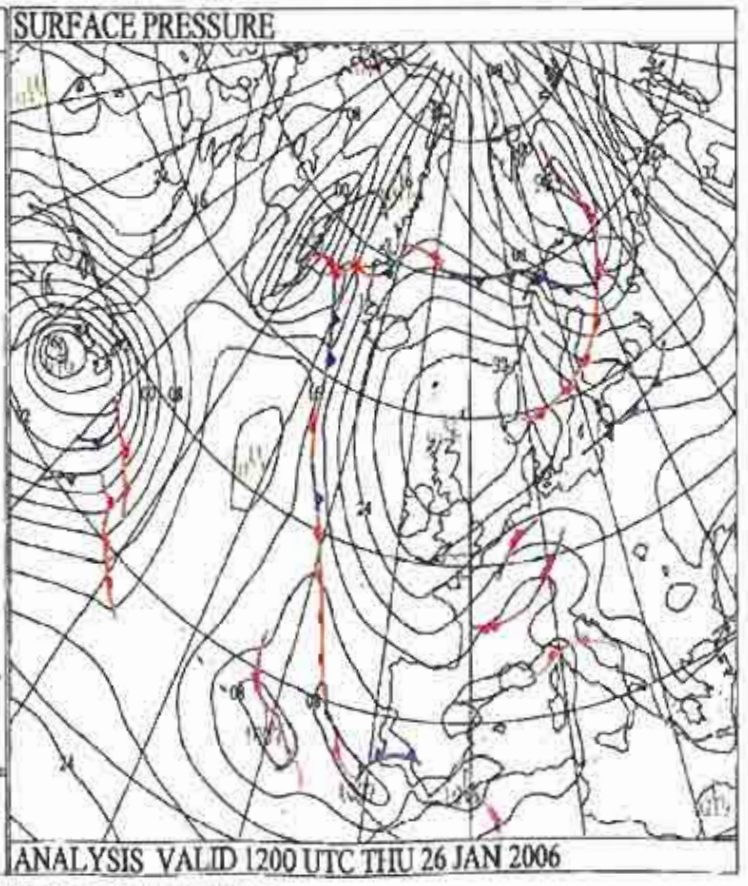
Thursday 26 January 2006

DAILY WEATHER SUMMARY



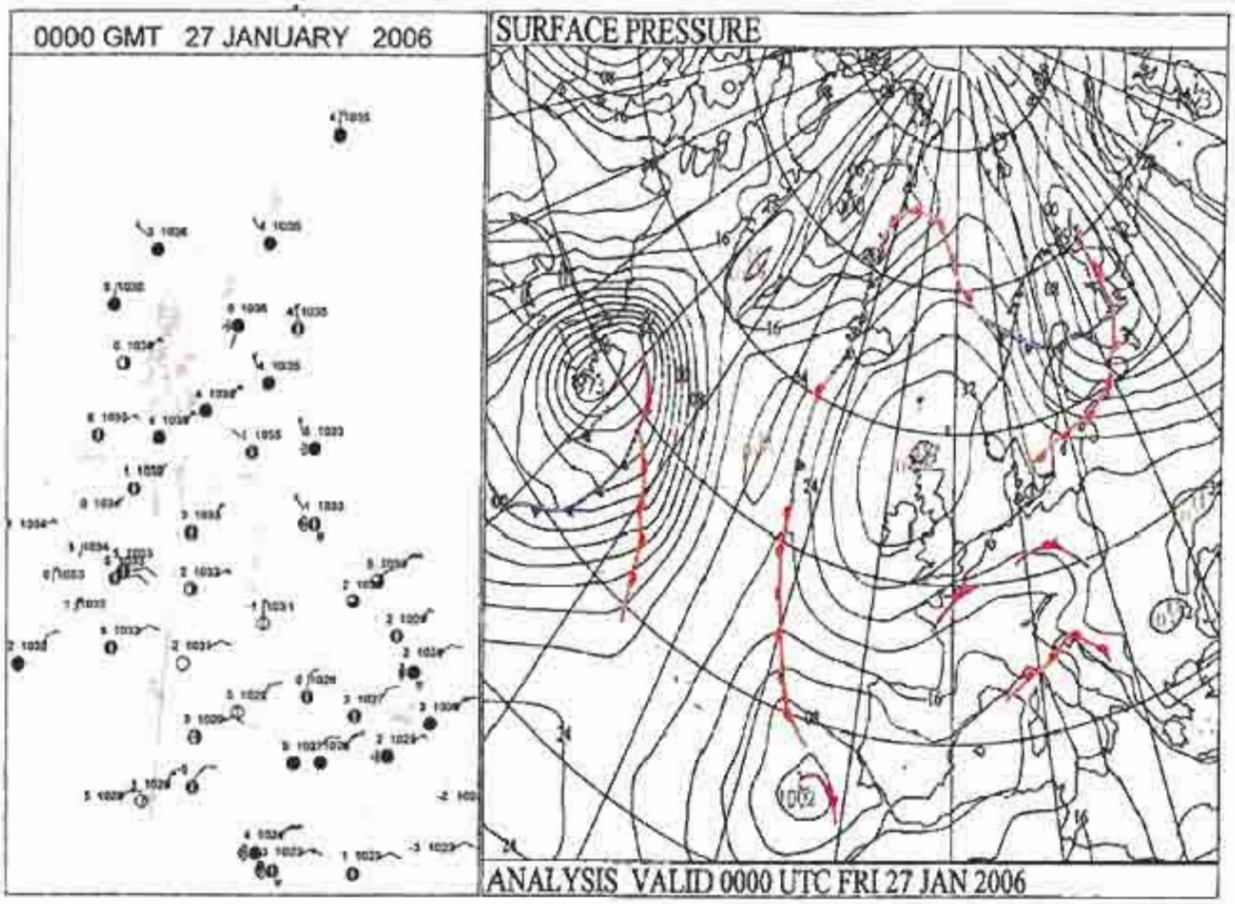


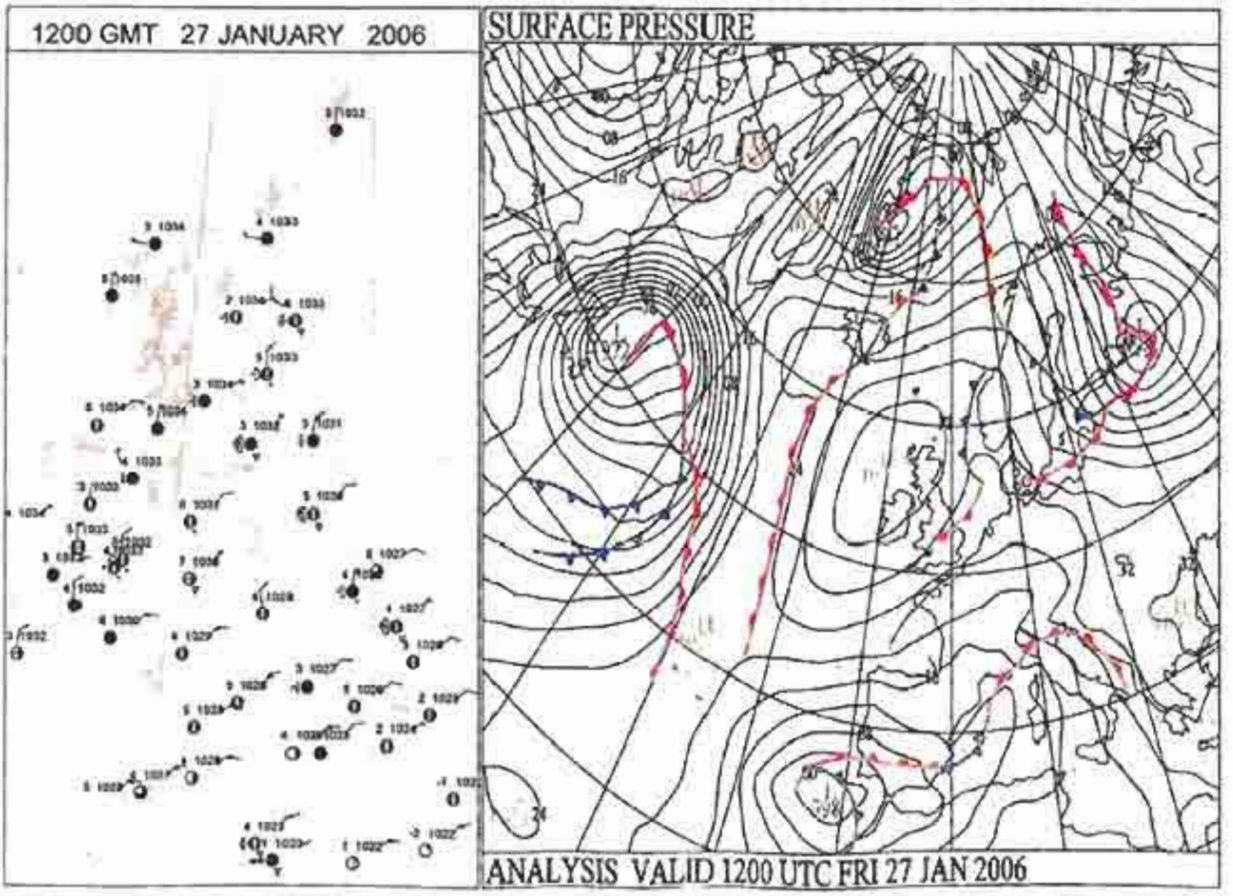




Friday 27 January 2006

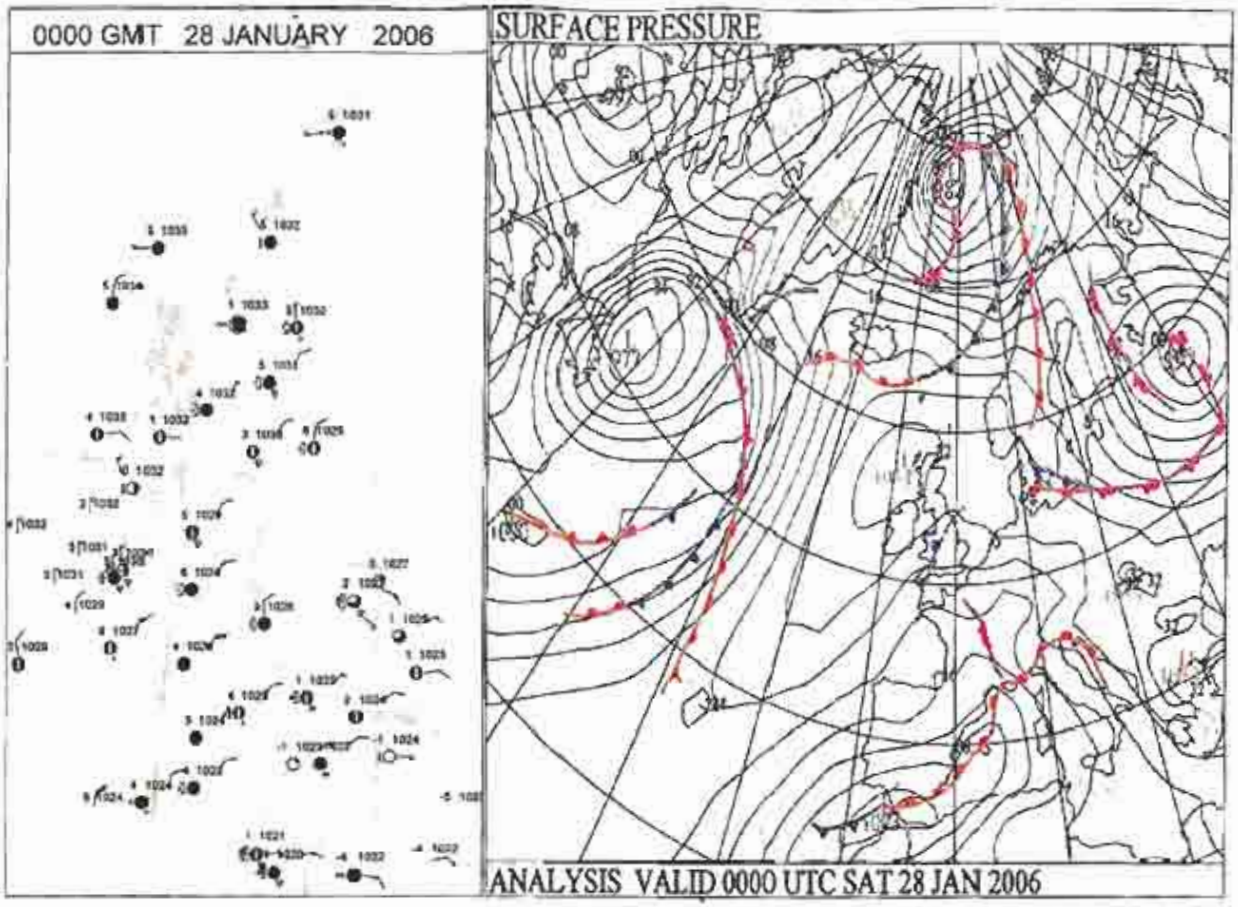
DAILY WEATHER SUMMARY

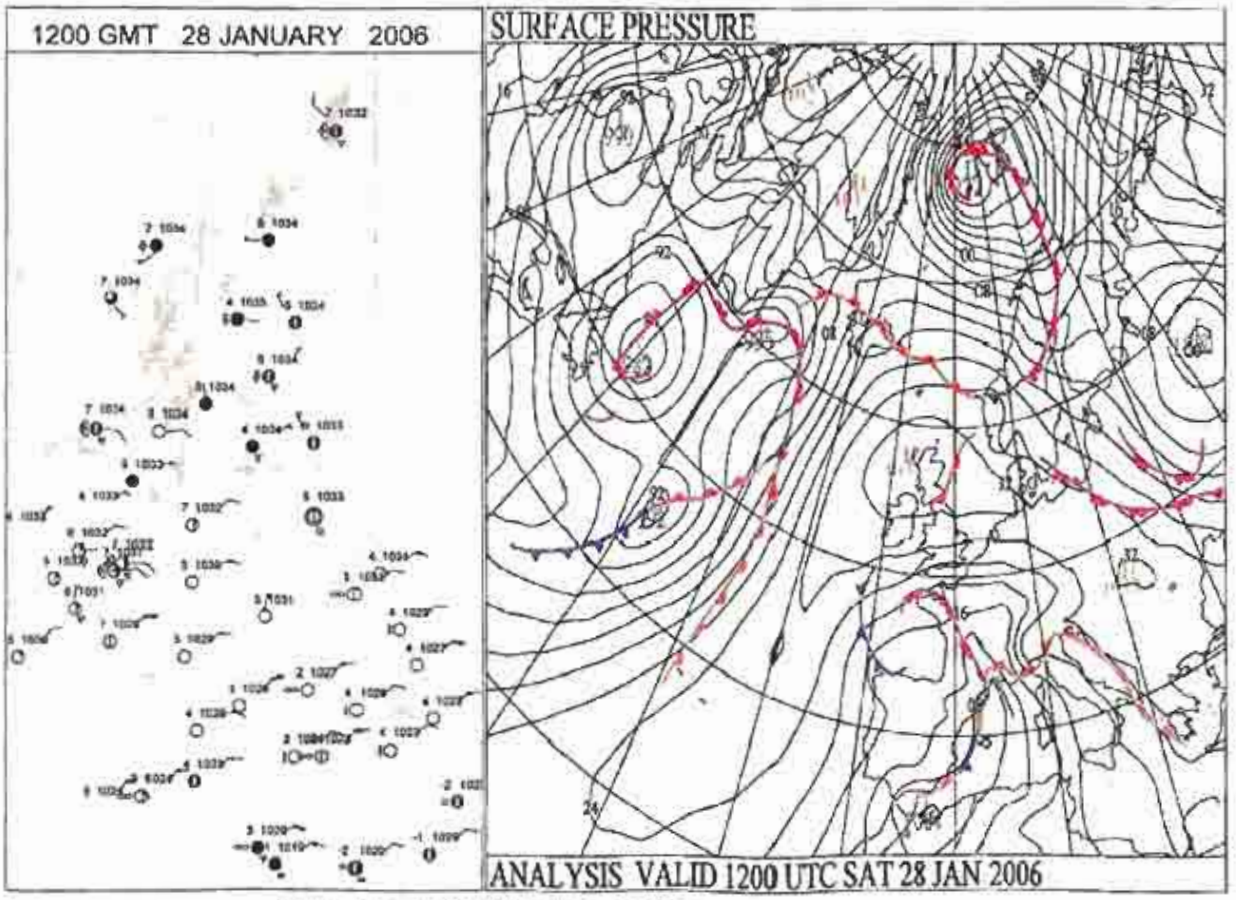




Saturday 28 January 2006

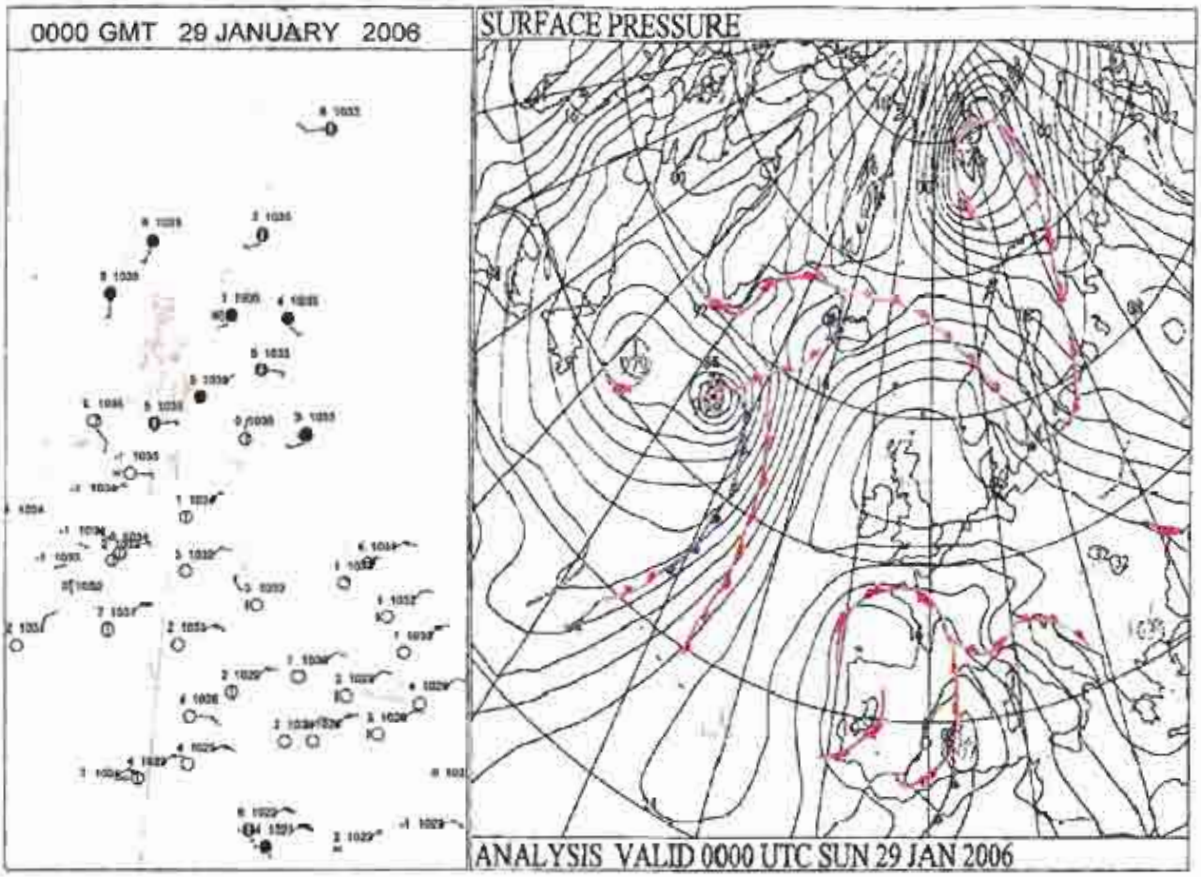
DAILY WEATHER SUMMARY

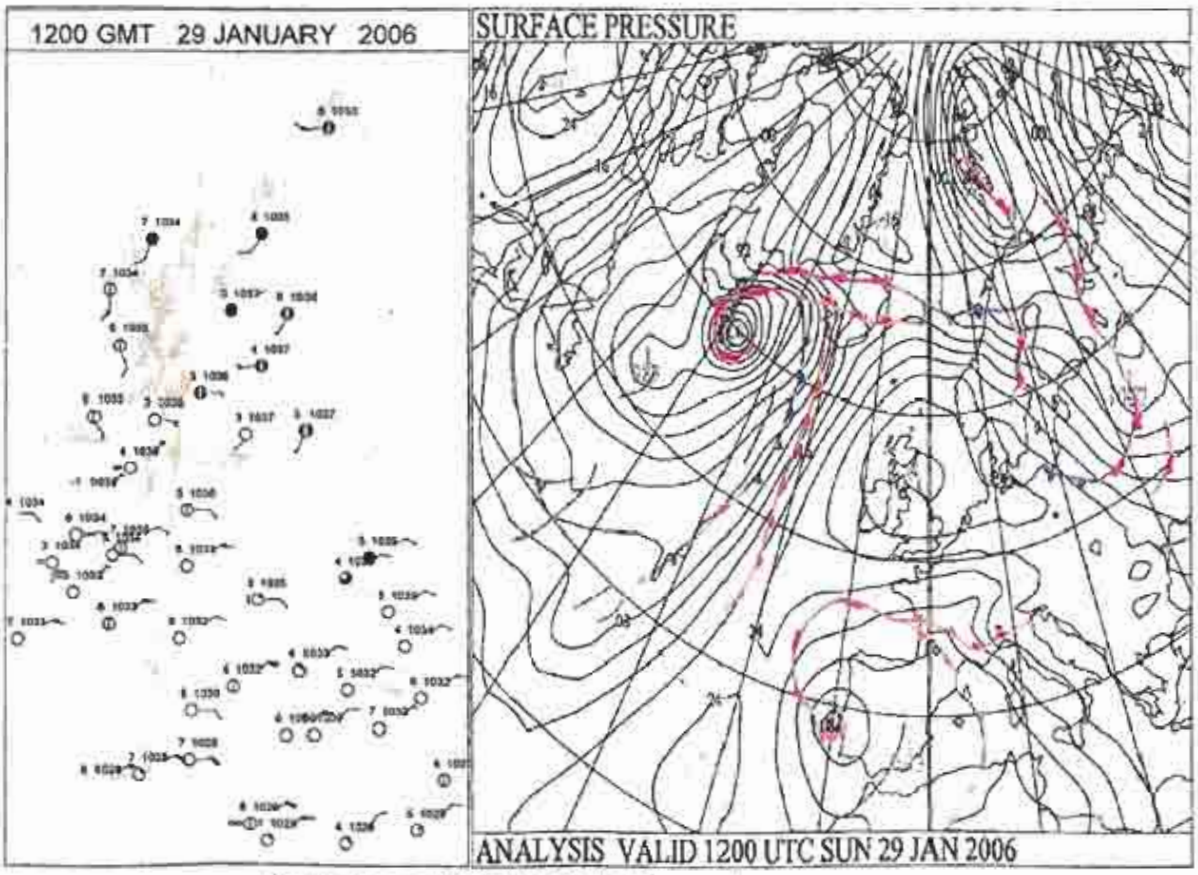




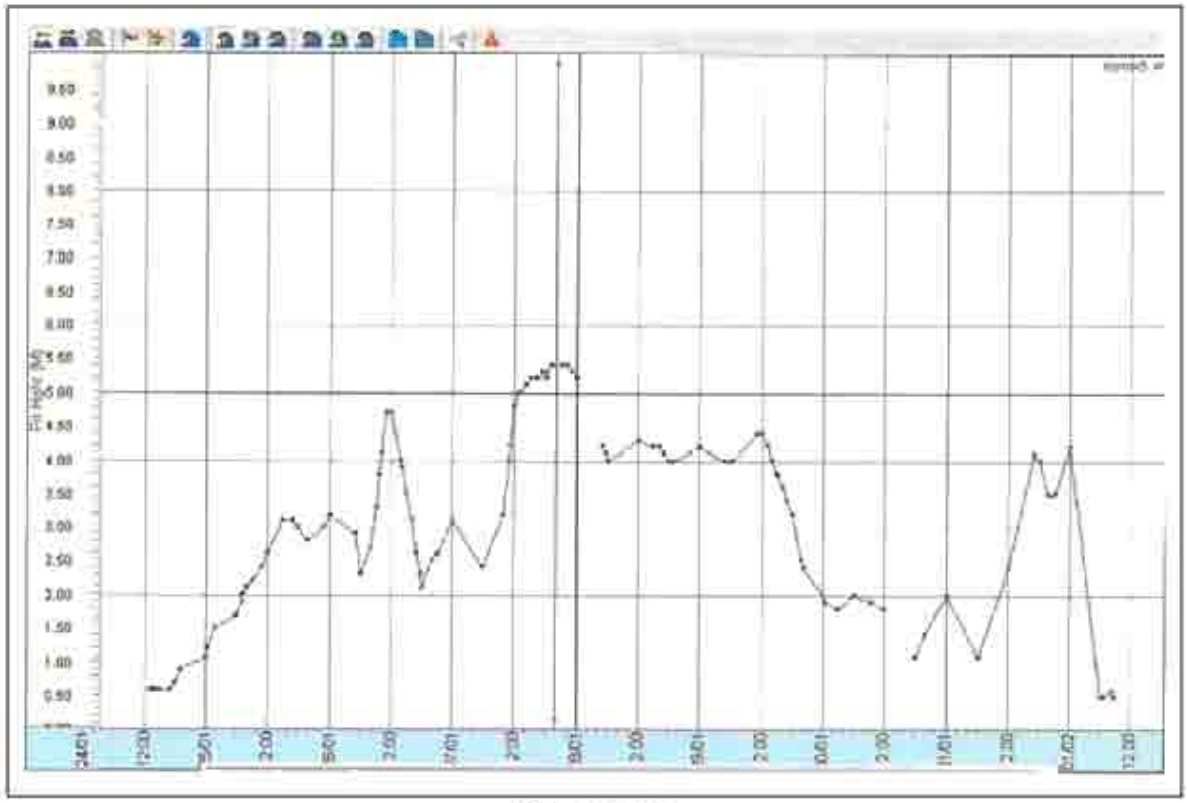
Sunday 29 January 2006

DAILY WEATHER SUMMARY

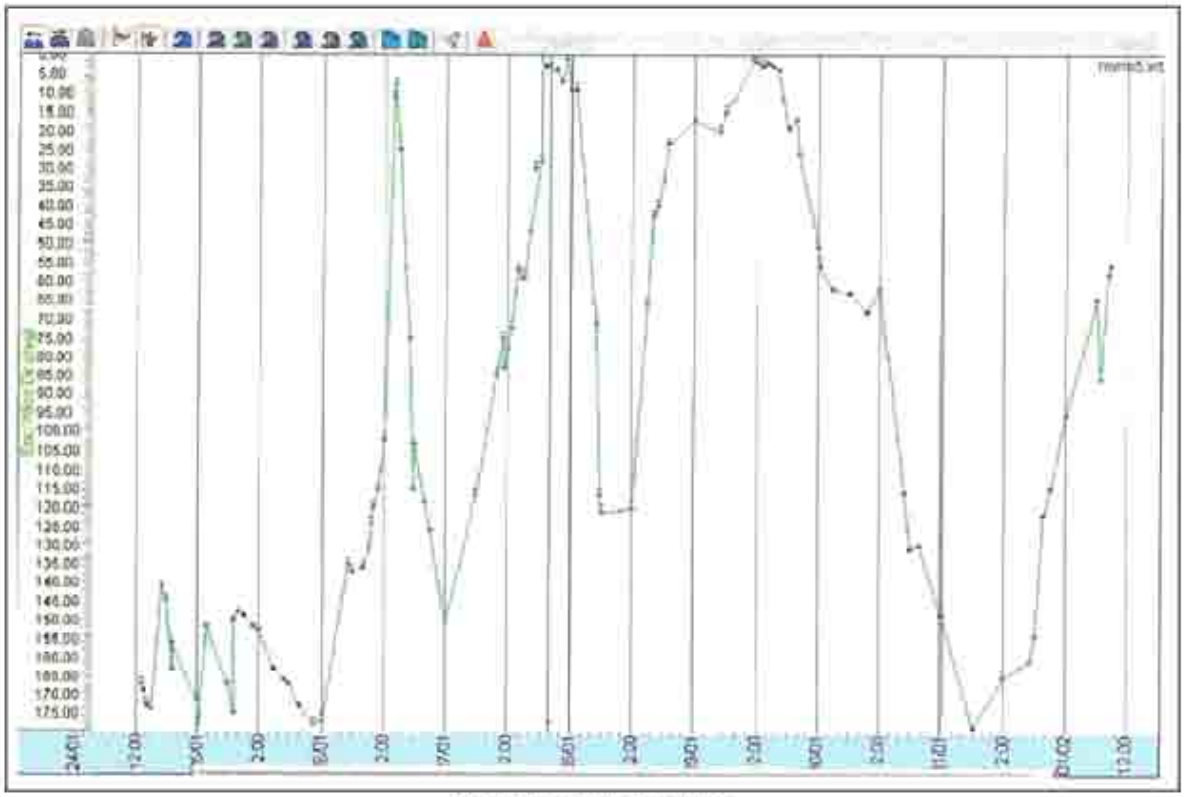




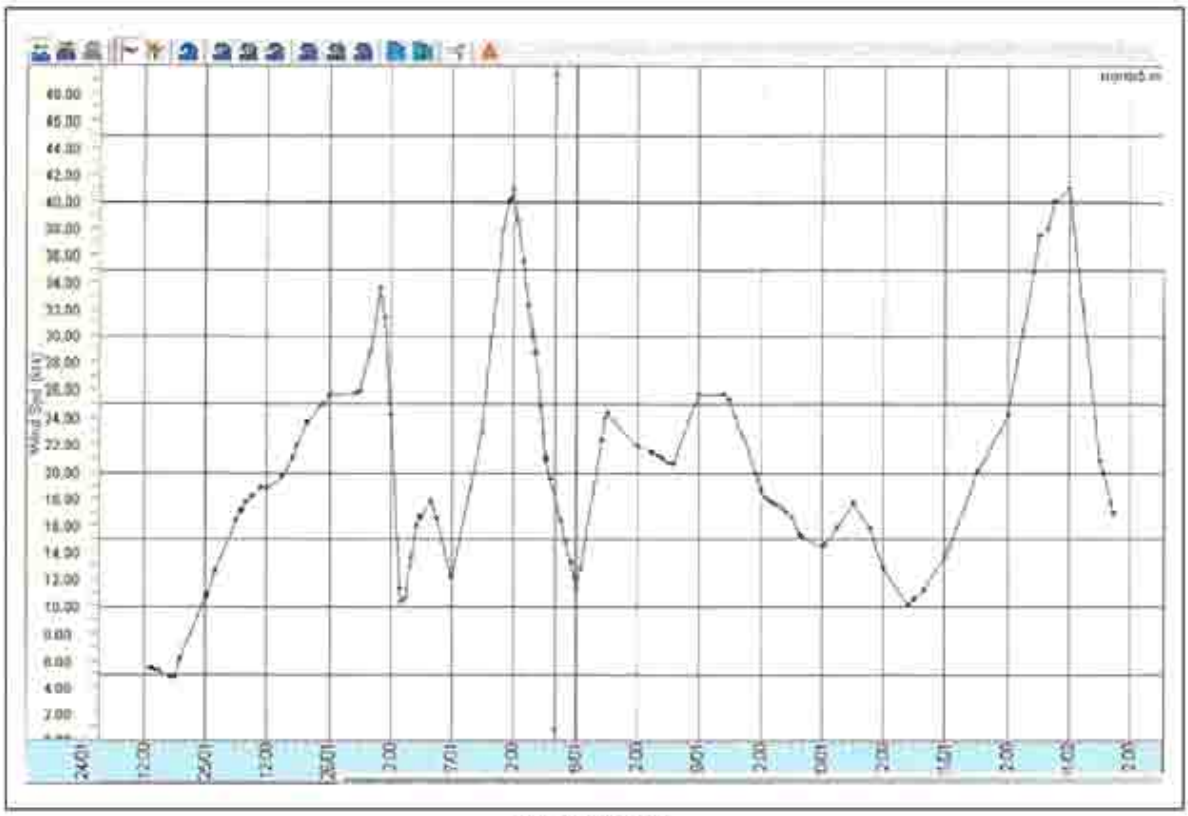
Conditions at the time of the incident



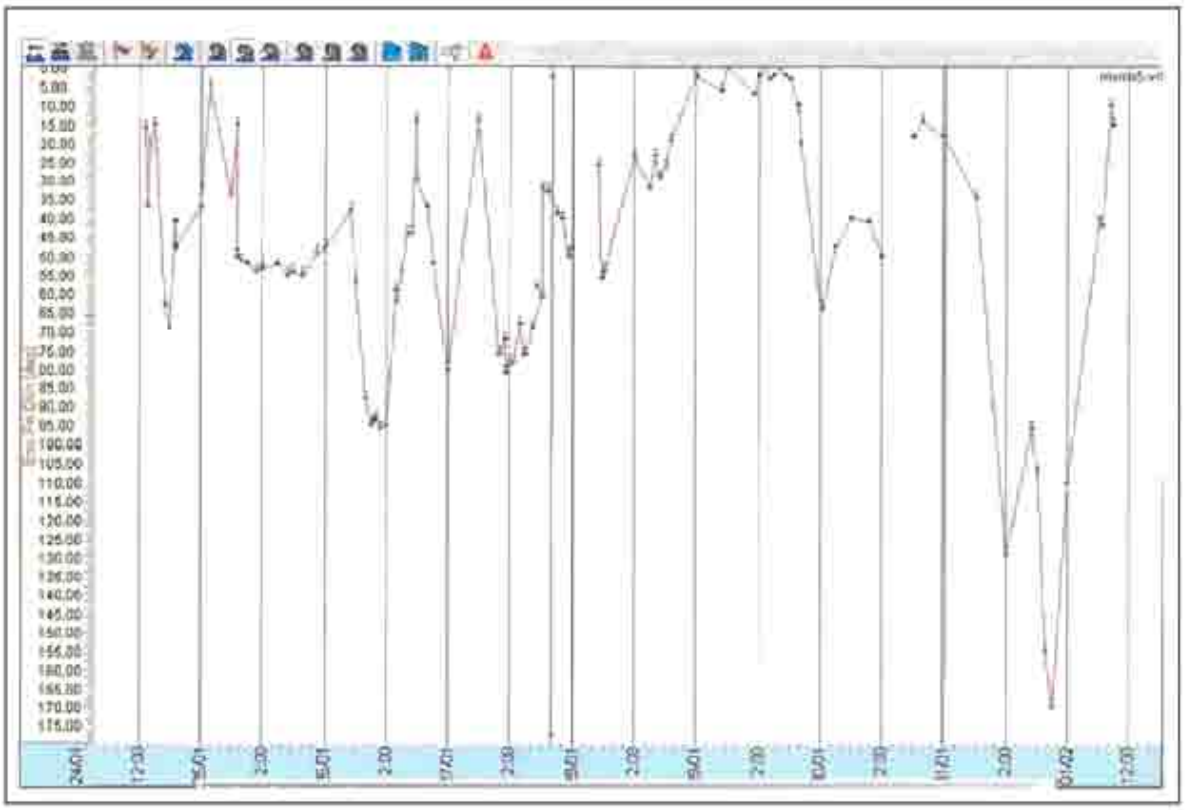
Wave height



Relative wind direction



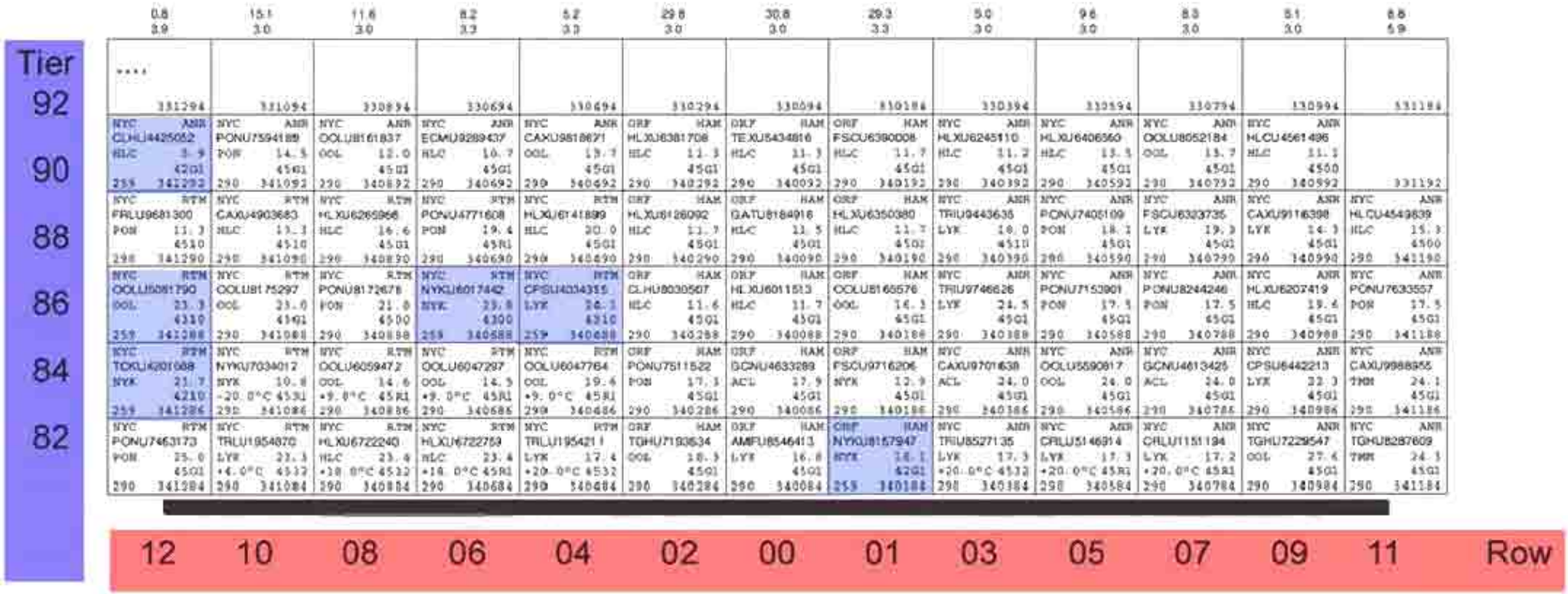
Wind speed



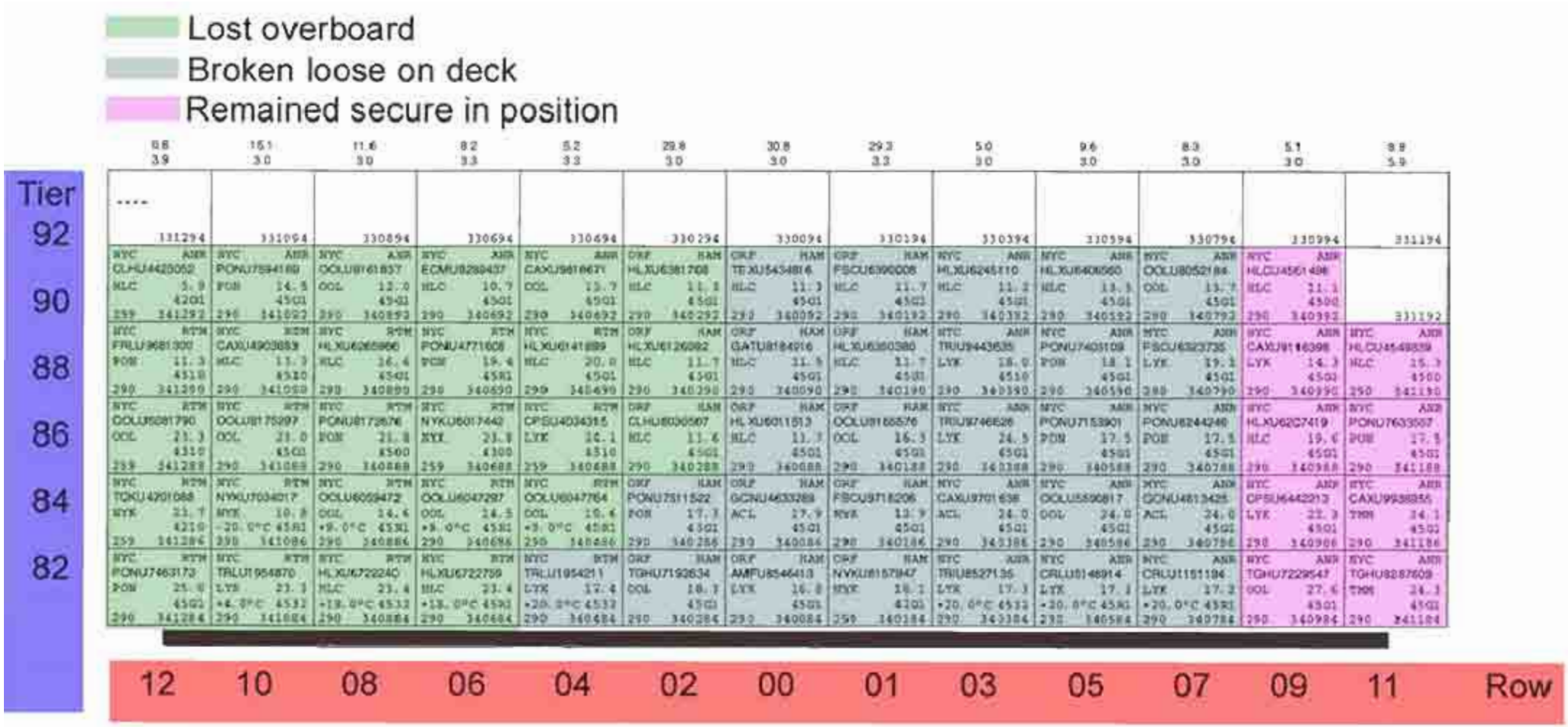
Encountered wave direction

Position of 8' 6" high containers

Position of 8ft 6" high containers



Bay 34 - post accident


Lost overboard
Broken loose on deck
Remained secure in position
Tier
92
90
88
86
84
82
12
10
08
06
04
02
00
01
03
05
07
09
11
Row

Containers in excess of maximum permissible weights laid down in cargo securing manual

Containers in excess of maximum permissible tier weight

Containers in excess of declared weight

Refridgerated containers

Actual weight 27.78

Actual weight 16.0

Individual actual stack weight	89.2	84.9	88.4	91.8	94.8	70.2	69.2	70.7	95.0	90.4	91.7	94.9	81.2
Maximum permissible stack weight	85	100	100	100	100	100	100	100	100	100	100	100	100
Overload	4.2T												

Weight in tonnes

Blue Star Ship Management memorandum, after suffering 3 incidents of lost or damaged containers

FROM: A1XOSIUN
SUBJECT: Loss of Cargo
File MA 1 (R) and SO 4

Lashings KWW class and heavy weather

In recent months we have experienced three incidents on this class of ship whereby we have lost or damaged deck containers. All incidents are directly attributable to heavy heather and the movement of the ship in a large seaway.

All Masters must take cognisance of all the weather information before planning their passage Including the data available from Orion and when on passage take suitable and timely action to alter their track or speed to reduce violent movement or the taking of white water fwd. Whilst the schedule always remains of importance, safety of the ship and delivery of the cargo undamaged takes precedence.

In the latest incident we have lost 12 containers overside, again weather was one of the factors but of more importance was the failure to comply with the requirements of the cargo securing manual, all be it for the best of intentions. The Cargo Securing Manual is the bible and Must always be complied with Regardless of individuals thoughts or beliefs.

All modern lashing systems today rely on complex forces and leave little room For manoeuvre, but all rely on the principal of NO heavies over lights. However The practicality of this is known therefore differences of up to ten percent between boxes can be considered acceptable.

There should always be NO loaded boxes in the outboard row on the sixth tier
And for forty/forty five foot stows no loaded boxes in any row on the sixth tier.

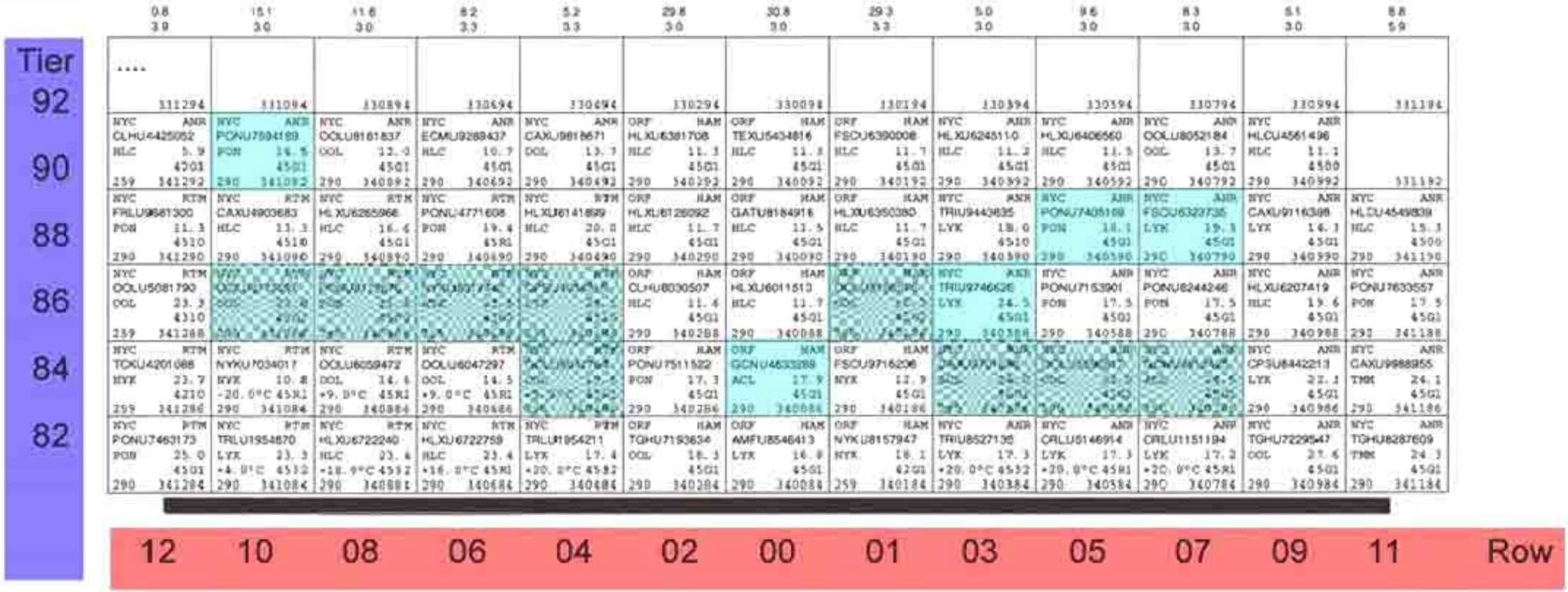
I have copied this message to central planners for them to take note of, and no ship should be asked to disregard the rules, as any benefits gained by loading those last few boxes are quickly lost when we dump cargo into the sea.

Should any ship be approached by planners to contravene the requirements of The cargo securing Manual, which we would remind you is a legal document approved By class and flag state, we are to be contacted immediately.

Instances of heavy containers loaded over light

Heavy containers loaded over light

Heavy containers loaded over light in excess of self imposed 10% difference



Freight Container (Safety Convention) Regulations 1984
- factors to be considered in the examination

Factors to be considered in the examination

7. The competent person shall carry out a detailed visual examination of the exterior, and if reasonably practicable (eg if the container is empty at the time) of the interior of the container. All load bearing parts, including the base structure, should be examined. If, in the view of the competent person, the external condition of the container warrants, he may require a container to be unloaded. Exceptionally he may call for the removal of insulation where he has reason to believe that this may be covering significant defects. This removal of insulation should be no more than may be required to uncover the suspected defect. The underside of the container should be examined either when the container is resting on a skeletal trailer or, if the competent person considers it necessary, after the container has been lifted onto other supports. The competent person must consider at least the following factors:

(a) corrosion
(b) the condition of any welding
(c) the condition of any riveting or similar method of fastening
(d) the presence of mechanical damage
(e) the condition of at least the following structural components where fitted -

Corner fittings	End frames, (and fixings
Grappler arm positions	in the case of folding end frames)
Fork-lift pockets	Door and hatch closure gear
Floor	Roof
Upper and lower side rails	External panelling
Floor bearers	

(f) the validity of the safety approval plate.

The above factors take no account of examinations required by other national or international provisions relating to the tanks of tank containers.

* obtainable from the International Maritime Organisation, 4 Albert Embankment London SE1 7SA.

Parametric rolling calcuation

Parametric rolling calculation

P&O Nedlloyd Genoa –Parametric rolling, approximate calculations

LOA 210m
Breadth 32.3m

Wave period/frequency

At critical wave length $\lambda = L$ $T_w = 0.8\sqrt{\lambda}$

$\therefore$ $T_w = 0.8\sqrt{210} = 11.59$ secs

$\omega_w = \frac{2\pi}{11.59} = 0.542$ rad/s

Encounter frequency

At 5 knots with seas 35° off port bow

V = 5 knots = 2.57m/s $\mu = 180 - 35 = 145°$

$\omega_e = \omega_w - \omega_w^2 V \cos\mu$

$= 0.542 + 0.063 = 0.605$ rad/s $T_E = 10.4$ secs

Wave encounter period $T_E \approx 10.4$ secs

Ships roll period

Ships roll period can be equated to $w_o = 7.854\frac{\sqrt{GM}}{B}$

Before 15:32, GM = 0.82m

$w_o = \frac{7.854\sqrt{0.82}}{32.3} = 0.22$ rad/s

So, with GM = 0.82m, ship's natural roll period $T_o = 28.5$ secs

After 15:32, GM = 1.17m

$w_o = \frac{7.854\sqrt{1.17}}{32.3} = 0.263$ rad/s

So, with GM = 1.17m, ship's natural roll period $T_o = 23.9$ secs

Parametric rolling criterion

For parametric rolling T_R has to equal 1.8 - 2.1 times T_E
For $T_E = 10.4$ secs

$T_R = 18.72 - 21.84$ for parametric rolling

With GM =1.17, $T_o = 23.9 > T_R$

$\therefore$ Vessel approaching but not meeting criterion for parametric rolling