

APPENDIX 13

Roger Badham

“Sydney-Hobart 1998 Race Weather Notes”

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Sydney Hobart
1998

Weather Notes

by

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OVERVIEW

This is a typical Hobart race - with the S change, but this is one of the most difficult in recent years to accurately pinpoint the wind changes due to an intense low that looks set to develop near Tasmania. The low is associated with an upper cold air trough (and fast moving fronts) that will produce heaps of breeze south of Tasmania and things look pretty reasonable on the Tassie coast. Over Bass St - well it depends exactly where the low develops - how close to TAS... but best guess is not too far south and the forecast at the time of writing this (early hours of 26th) is for quite strong winds across Bass St on 27th and slowly moderating winds on the 28th. It's a game person to label the fronts (as I usually do... A, B, C etc)... but I have attempted to do this.... in a fashion. Positioning the axis and position of the high in Bass st is also likely to be difficult. Of all the models, I like the Bureau's LAPS, though it only goes out 48 hrs. The AVN has nice winds.... but keeps the low due east of TAS as does the GASP model.

This afternoon/tonight 26th NE sea breeze in the afternoon ahead of a southerly front ("A") expected around midnight. This is a SW change through Bass St and a S (180) change along the NSW coast. This is really a trough system and thunderstorms are likely with and ahead of the trough. Late yesterday, storms gave short wind squalls of 50 to 60 kts across VIC - this will be the case again this afternoon, so be prepared. A low in the Tasman looks like being absorbed into the trough/front and sliding down the front to be off Tasmania tomorrow. The LAPS appears to be good in the handling of this.

Sunday 27th - High pressure must wait over the Bight while a low pressure system spins up SE of TAS. The high will ridge along the VIC coast and north Bass St around the NSW corner, but if the low really spins up, then it will be the cyclonic circulation around this that will dominate Bass St. On the NSW coast, it's simply the outfeed of the strong winds in Bass St with some ridging... but that makes for SW winds on the south coast NOT S-SE. The models already part company here - some showing more frontal activity (EC) and less ridging) while they all vary in the position of the low. That low will 'max out' later today and then ease way to the SE and S.

Monday 28th - Slowly the winds relax in Bass St as the low shifts away and high pressure is allowed to ridge a little more in across Bass St to form a new centre over the Tasman Sea off the south coast of NSW. A stronger front crosses the Bight to cross Tasmania Tuesday. A stronger and more identifiable front crosses the Bight and gets the winds across most of TAS around to the NW. This is all around a deep low well south of Tasmania.

Tuesday 29th - A small cell of high pressure builds over the Tasman Sea and a cold front crosses TAS. Yet another front in the westerly flow across the Bight sets up to cross TAS tomorrow. Winds relax significantly over northern and central Bass St.

Wednesday 30th ^{CREW DINNER} Front crosses TAS with NW-W winds. This allows the high ridge to slip further south and moderate the W flow across the northern half of Tasmania.

Thursday 31st Possibly quite soft across most of TAS for the first time in a week as the W flow retreats south and high pressure dominates.

SAT 26

WINDS:

MORNING: NW soft turning NE/10-15
 AFTERNOON: NNE/16 building 20-25
 AFTER DARK: S (190-180)/20-25 around midnight?

WEATHER:

Cloud spreading from the west with a few showers/storms developing ahead of, or with, the S change. Watch for a sharp nasty squall type cloud structure around the storms that could give 50 kt winds. Remember that such squalls may not be the front/trough and so the winds would go 'silly' or back to the SE-NE ahead of the proper wind change.

CURRENT:

Plenty of current flooding in across the shelf. Strong at 1.5 to 2.5 kts from 3 miles off.

MAJOR DECISION:

The S winds. Will they stay S after the change or go more SE or SW???? I like the models that show S going SW on the far south coast and across Bass St since the driving mechanism will be deepening low pressure near southern TAS and that the high cell over the Bight will not be allowed to fully ridge into Bass St.

WHAT TO WATCH

- * high tide in Harbour at 1427 hrs... thus slackening water, so with freshening sea breeze, the tide should not dominate.
- * winds between 1400 and 0000 hrs should be good NE-NNE. Shower/storm clouds are possible with squalls in the later evening - immediately ahead of, and with, the front/trough. Watch for dark shower/storm clouds coming across from the W direction, softening the sea breeze and screwing the direction as large cloud systems approach
- * maximum WS with sea breeze probably around 1800-2000 hrs.... if no storms around.
- * ~~The NE-NNE wind should hold well into the night - until the S change is very close....~~

WHAT MIGHT GO WRONG

- * The front is a trough and front combo type system... thus beware of a false S change going 'screwy' and then back to S after an hour or 2 when the top of the 'real-front' moves through.
- * The low does not form as quickly or as deeply as indicated here, hence less strong SW winds across Bass St and hence more S in the winds behind the front, going SE later.
- * If the S change is late and the NNE winds begin to fail, then the coast is not the best place.... you'd be better to stay out 5 to 10 miles and hang onto the NE winds.

WHAT'S BEST TO USE:

FAX: Analysis charts every 6 hours to watch the crowding isobars across Bass St and the position of the front/trough combination.

OTC: VIS: for every sked to monitor the winds and pressure at Gabo Is - WRITE THEM ALL DOWN!! This is giving you a good feel on how the winds behind the front are behaving and steady they are. Now remember that Gabo Is is good at showing SW winds.

Try and mentally picture the low pressure system and the extent of the circulation around that low (into Bass St) and the lack of ridging from the high pressure system.

DIAL IT: Try the NSW service, but really, the forecast should not be any better than VIS or the Relay vessel forecasts. Begin to monitor Bass St forecasts and observations

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SUN 27

WINDS:

Jervis Bay: S/20 easing S-SSE/15 later in the day.
Gabo Island: SSW going SW/30-35
NE Bass St: SW/20-30 increasing W-WSW/30-40 to max out later in the day

WEATHER:

A few showers offshore on far south coast and showers across Bass St.

CURRENT:

If the winds are strong, then the circulation around the cold pool eddy and the running of the strong current offshore will not worry you. You will be concerned with seaway across Bass St and when the moderation in conditions will occur.

NOTES/DECISIONS:

The major question here is how significant is the low pressure system SE or E of TAS that's driving the winds. Will it race away to the SE and moderate the winds quickly.... or take until mid to late 28th for this to occur???

WHAT TO WATCH

- * Breaking away from land (at Gabo) should not be too difficult, using current.
- * Back along the NSW coast - watch for a sudden jump in winds as you enter the Bass St winds somewhere 30 miles south of Montague Island??? A jump up in windspeed and right trend in direction.
- * notice how many fast moving frontal lines are possible in the W flow across the Bight; none of these will really concern you until the low shifts away and then they begin to impact on the winds across TAS.

WHAT MIGHT GO WRONG

- * If the low forms further to the SE of TAS, then the circulation in Bass St will not be as strong and you will be in less wind strength and probably more left (ie SSW to S?) and you must assess whether the high ridge will dominate Bass St tomorrow; ie a small cell of high pressure forming over NE Bass St or the SW Tasman Sea with much softer winds. Under this situation with the winds really dying, then you may think about the current and the cold eddy more seriously.
- * The models all vary as to the actual strength and direction of winds across Bass later today; I like the LAPS (and the Bureau Meso model) showing max winds late today with SW/30-35 across Bass St.

WHAT'S BEST TO USE:

FAX: For the actual position of the low and the extent of the circulation around it as well as its forecast movement.

OTC: VIS: monitor the winds and pressure at Gabo Is - WRITE THEM ALL DOWN!!

VIM: any reference for winds in Bass St

DIAL IT: Try the NSW, but the forecast should not be any better than VIS or the Relay vessel forecasts. Use the TAS dial it service for how things look in Bass St and long term thoughts for Tassie coast.

S-H FLEET FORECAST: WRITE DOWN this forecast on every sked and map it out. Are there any changes during the day?

MON 28

WINDS:

Montagu-Gabo: S/15 going SW/20-15
 NE Bass St: SW/25-20 to possibly 15 kts.
 SE Bass St: SW-WSW/30-20 and moderating
 NE Tassie: SW-WSW/30-20 and moderating
 SE Tassie: SW-WSW/25-20 and moderating

WEATHER:

A few showers across Bass St. Mainly fine in the lee of TAS and mainly fine along the NSW coast.

CURRENT:

~~THE SOFT adverse current off the cold eddy could pose a problem for slow boats if the wind across Nth Bass~~
 St moderate. Otherwise, wind will dominate over current as all currents south of 38.5 S appear to be less than 0.5 kt.

NOTES/DECISIONS:

This is a downspeed day - the winds moderating from the north as the intense low SE of TAS begins to move away and high pressure is allowed to ridge along Nth Bass St. However a new front 'B' is expected to cross the Bight and begin to influence the winds over central Bass St and south. The front will take the winds right - from SW-WSW around to W and then NW tomorrow.

why be east or west of the line

wind angle freeing up??? as you enter Bass St?

WHAT TO WATCH

- * The position of the low getting away from TAS and how much high pressure riding is allowed into Bass St ~~control the moderation of the winds.~~
- * A quick set of 'rough rules' for Tassie sea breezes: With a gradient wind of NW, the north eastern section of the Tassie coast (not Banks St) will experience a reasonable NE sea breeze while the south eastern regions will have a much weaker E-NE sea breeze and the Derwent is soft and cuts off early in the evening. With a W-SW gradient flow, A nice SE sea breeze sets up along the south eastern coastal areas (good up Derwent and stays in well into night) but the SE-E sea breezes are softer on the north eastern coastal regions.

WHAT MIGHT GO WRONG

- * The low/front move away very quickly and there's a very fast moderation in the flow.... that give more SW and downspeed rapidly with weak sea breezes along the TAS coast.
- * Low and front are slow moving, then obviously the morning strength winds last for longer.

WHAT'S BEST TO USE:

FAX: For the movement of the low and beginning to watch for the next front entering the Bight.
 OTC: VIM: any reference for winds in Bass St and Tassie coast - for sketch of map in region??

DIAL IT: Use the TAS dial-it for how things look in Bass St and outlook for Tassie coast.

S-H FLEET FORECAST: WRITE DOWN this forecast on every sked and map it out. Are there any changes during the day?

WINDS:

NE Bass St: SW-WSW/20-10 slowly decreasing then going W-NW/15-20
 SE Bass St: WSW-W/25-20 and turning WNW/20
 NE Tassie: WSW-W/25-20 going W-NW/20-25 ahead of front
 SE Tassie: WSW/W/25-20 turning NW/20-30 well offshore ahead of the approaching front.

Then SW (240-220) change through at 20-30 kts in many areas for up to 6-10 hours.

WEATHER:

Still some cloud and showers offshore from TAS, but becoming fine in Bass St as the SW winds moderate. Then you should focus on the front crossing the Bight and attempting to get the winds around to W to NW. This front would be wrapping around a deep low well to the south of TAS, so the flow should trend W-NW around this deep low, irrespective of the front for the Tassie coast, but not so much for Bass St.

CURRENT:

Counter current close in on much of the Tassie coast but probably less than 0.5 kt

NOTES/DECISIONS:

Front "B" could be strong at 30-35 kts for a brief time as it crosses southern Tassie early tomorrow. Needs to be monitored by coast radio (VIM) or fax. - watch speed of front; if fast then watch it!!
 On or east of the line - why be west and why be east.

WHAT TO WATCH

- * More NW-N on the NE Tassie coast.... but generally in this type of offshore flow, you're better to be away from the coast and on the line.
- * If the front is not significant, then the high from the Bight will be allowed to ridge more into Bass St and that will substantially reduce the winds across Bass St with more left in the direction; ie W-SW.
- * Up the Derwent, the NW wind will persist well into the night in the pre-frontal flow.

WHAT MIGHT GO WRONG

- * the numerical models like the front but there's no guarantee that it will be this pronounced.

WHAT'S BEST TO USE:

FAX: For the development and movement of the front.
 OTC: VIM: any reference for winds in Bass St and Tassie coast with coastal station reports.
 DIAL IT: Use the TAS dial-it for how things look in Bass St and for Tassie coast sea breezes.
 S-H FLEET FORECAST: WRITE DOWN this forecast on every sked and map it out. Are there any changes during the day?

WED

WINDS:

SE Bass St: SW-W/20-15 slowly becoming W/15 late in the day
 NE Tassie: W/15-20 with softer NE sea breezes along the coast
 SE Tassie: W/20-15 becoming S-SE 15 around Derwent and Storm Bay.

WEATHER:

A few showers seawards. Cu cloud decreasing.

CURRENT:

Counter currents, particularly when nearing Maria Island.

NOTES:

Again the flow is dominated by a strong low well to the south of Tasmania so that the basic flow is W to WNW irrespective of the fronts in the system.

WHAT TO WATCH

- * A new front over the Bight assisting in taking the wind into the NW
- * Again NE sea breezes on the north coast and S-SE sea breezes around into Storm Bay

WHAT MIGHT GO WRONG

- * The deep low to the south is further south and the whole flow is softer and more sea breeze dominated.

WHAT'S BEST TO USE:

FAX: Position of low and fronts

OTC: VIM: any reference for winds in Tassie coast with coastal station reports.

DIAL IT: Use the TAS dial-it for how things look on the Tassie coast for sea breezes.

S-H FLEET FORECAST: WRITE DOWN this forecast on every sked and map it out. Are there any changes during the day?

THU

WINDS:

NE Tassie: NW-SW/20-10 becoming NE/8-12 in afternoon.

SE Tassie: NW-SW/25-15

WEATHER:

The front??? If the front crosses in the morning, then some cloud and a brief shower possible in the south.

CURRENT:

Need to watch counter currents, particularly when nearing Maria Island. Also watch flow from Derwent, especially in ebb tide.

NOTES:

A slow decrease in the winds as the deep low south of Tassie moves away and high pressure again dominates Bass St.

WHAT'S BEST TO USE:

FAX: Position and movement of low well south

OTC: VIM: any reference for winds in Tassie coast

DIAL IT: Use the TAS dial-it for how things look on the Tassie coast

S-H FLEET FORECAST: WRITE DOWN this forecast on every sked and map it out. Are there any changes during the day?

435.

FORECASTS from the Bureau of Met at the start

Sydney:

A fine day with increasing cloud. The chance of a shower or thunderstorm this evening. Light to moderate northeast winds, freshening near the coast in the afternoon.

Sydney Coastal Waters:

Sydney Coastal Waters:

W/NW winds 5/10 knots inshore at first, otherwise E/NE winds 10/15 knots, reaching 20 knots during the afternoon and evening. Sea 1 metre rising to 2 metres this afternoon. Swell 1 to 1.5 metres.

Outlook for Sunday: S'ly change 20/30 knots early morning, winds tending SE and easing to 15/25 knots during the day.

Illawarra Coastal Waters:

Port Hacking to Ulladulla and 60nm seaward W/NW winds 5/10 knots inshore at first, otherwise NE winds 10/15 knots, reaching 20 knots by the afternoon. Sea 1 to 2 metres. Swell 1 to 1.5 metres.

Outlook for Sunday S'ly change 20/30 knots early morning, easing to S/SE 15/25 knots during the day.

South Coastal Waters:

Ulladulla to Gabo Island and 60nm seaward N/NE winds 15/20 knots, reaching 25 knots this afternoon. S'ly change 20/30 knots late tonight. Sea 1 to 2 metres, rising to 3 metres with change. Swell 1 to 1.5 metres.

Outlook for Sunday: E/SE winds 15/25 knots.

Sydney Airport Forecast

*YSSY TAF YSSY 251733Z 1818

32005KT 9999 SCT020

FM24 04015KT 9999 FEW020 SCT035

FM12 34015KT 9999 SCT035 BKN100

FM16 20020G30KT 9999 SCT020 BKN035

PROB30 INTER 1218 5000 TSRA BKN012 SCT040CB

CURRENT & TIDE INFORMATION

SYDNEY HARBOUR

low tide at 0815 (0.5m) and high tide at 1427 (1.4m). That means at the start that there is a decreasing flood tide sweeping in from the Heads around to Wedding Cake and down the Harbour at Bradleys Head. At 1300 hrs, there would still be 0.2 to 0.4 kt running down the Harbour, but decreasing over that hour to be reasonably slack.

THE NSW COAST, EAST BASS ST & TAS COAST

From George Cresswell, CSIRO Marine Research

Comments on 23 Dec 1998 0655Z-1016Z image

There are similarities between the present eddy centred at about 36 S, 152 E and the one shown in the 1989 image and current measurements in my discussion. The Anticlockwise Eddies off SE Australia suggest using that as a guide. I'd expect currents to accelerate southward with 4 knots being possible in the warm band from 35 30'S to 37 S. I see that the EAC meander and the eddy are starting to graze one another at about 35 20'S, 153 30'E. My feeling is that this could lead to some rapid changes in the position and shape of the eddy.

There is a clockwise eddy - max speed about 1 knot - centred at 38 30'S, 151 E.

Off the continental shelf of E Tas there is (still) a warm feature that will be rotating anticlockwise at maybe 1 knot. I expect that the currents on the shelf will not be as favourable - and possibly unfavourable.

Comments on 22 Dec 1998 0716Z-0857Z image

The situation with the EAC meander and the large eddy centred at about 36 S, 152 E is largely unchanged. The eddy may slide southward by up to 100 km during the next week. There is a noticeable band of warm water that peels off the EAC meander near Sugarloaf Point and runs southward on the shelf all the way to Jervis Bay, where it feeds into the eddy. We've seen bands like this before, but haven't surveyed them adequately.

In Nov 1989 we stemmed one between Jervis Bay and Sydney. We encountered it just north of Jervis Bay when the sounder read 125 m. The current was 2.2 knots southward and the warm EAC water extended all the way to the bottom. Even at the 75 m isobath off Pt Kembla (we'd come in closer) the current was 1.5 knots. There is a cold plume heading northward on the E Tas shelf past Flinders Is - probably about 1/2 knot. Out to sea from E Tas appears to be a warm eddy as was hinted in the writeup yesterday.

Comments on the image from 21 Dec 1998 1724Z-1901Z.

The pattern of the EAC system has evolved quite quickly since 19 Dec. The branch of the EAC that flowed in towards Pittwater has been cut off. All the EAC flow now follows the meander out to sea at 3+ knots.

The anticlockwise eddy extends from Wollongong to Bass Str and from the shelf edge off Narooma about 350 km out to sea. It is big. A large amount of warm water peels off the eastern edge of the eddy and reaches southward. Near Green Cape more water from the eddy follows the shelf edge to the south. Perhaps an eddy will form or become more obvious to the east of Bass Str.

There is upwelling of 15 deg C water at the Gippsland coast. The eastern Tas region is partly cloud free and shows cold 14 deg C water nearshore, possibly the result of forcing by northerly winds. There is warmer 16 deg C water off the shelf and it is there that the currents are likely to be favourable (southward), but only to the extent of maybe 1 knot.

Comments on the image from 19 Dec 1998 0316Z-0634Z.

It appears that the EAC system off SE Australia is starting to fold into a recognisable pattern: A broad jet of 26 deg C water that has edged in near Smoky Cape shoots southward to 34 30'S. A branch of it spreads westward towards Pittwater and then splits, with most running southward to Eden. It then turns seaward and loops around a large anticlockwise eddy, closing back on itself off Jervis Bay.

The eddy is about 200 km north-south and 350 km east-west. These eddies usually precess anticlockwise - we can look at the images over the next few days to see if this does happen. We have seen in the past that the pressing of an eddy against the continental shelf edge seems to increase the slope of the sea surface, leading to enhanced southward currents on its western side. (Take a look at the current measurements across the eddy in The Anticlockwise Eddies off South East Australia.

Clouds' current vector map. Included is my interpretation of the satellite images - I don't pretend to be an expert in this area, so if you can infer anything else from the images then go for it!!

A Sydney to Jarvis Bay

The current has flooded in well across the shelf and should be favourable to from 1 or 2 miles off the coast. There is probably no need to go further offshore than 7 miles; from there it should be at maximum flow of nearly 2 kts.

B & C Jarvis Bay to Cape Howe

From Bass Pt to Pt Perpendicular, there is some return flow evident right near the coast.... but no one will go in there????? From Pt Perpendicular to off Batemans Bay, the main axis of the current heads offshore so that south of Batemans Bay and definitely south of Montague Island, you need to be near the shelf to get in the stronger set. Inside 7 to 10 miles from the coast appears very soft with possibly return flow. The main flow of current runs from 36 S 151.5 E to 38 S 152 E so as to sweep around a cut-off cold pool of counter rotating eddy centred at 38.5 S 151 E. Anywhere east of this cold eddy, the current will be heading south.... but it's a loong way out east of the rhumb line and looks a very risky move?????

If you choose the rhumb line, then you'd be better from Eden to Cape Howe and south to favour being slightly offshore - on the shelf line, rather than close in (with the rhumb line) as you'll definitely see counter current here.

D Bass St

To use the current correctly you would choose 151.5 to 152 E - a long way east. Else you have to enter Bass St on the shelf line, some 10-15 miles off. West of the cold eddy, I'm really not too sure, but I suspect there will be weak counter current.... though you will see that a warm thin river of flow comes out of the cold eddy at around '7 oclock' and heads SSW towards the NE tip of Tasmania and that indicates possibly some assisting current there... but it would be weak and it does appear to head back north (adverse) at around 40 S 149.5 E. So it seems that in Bass St, that on the rhumb line is the best for the first half section to Flinders Is and then east of the rhumb line for the second half.... but the flows here are weak and I think that wind may be more important, provided you have wind!!!

E Tas Coast

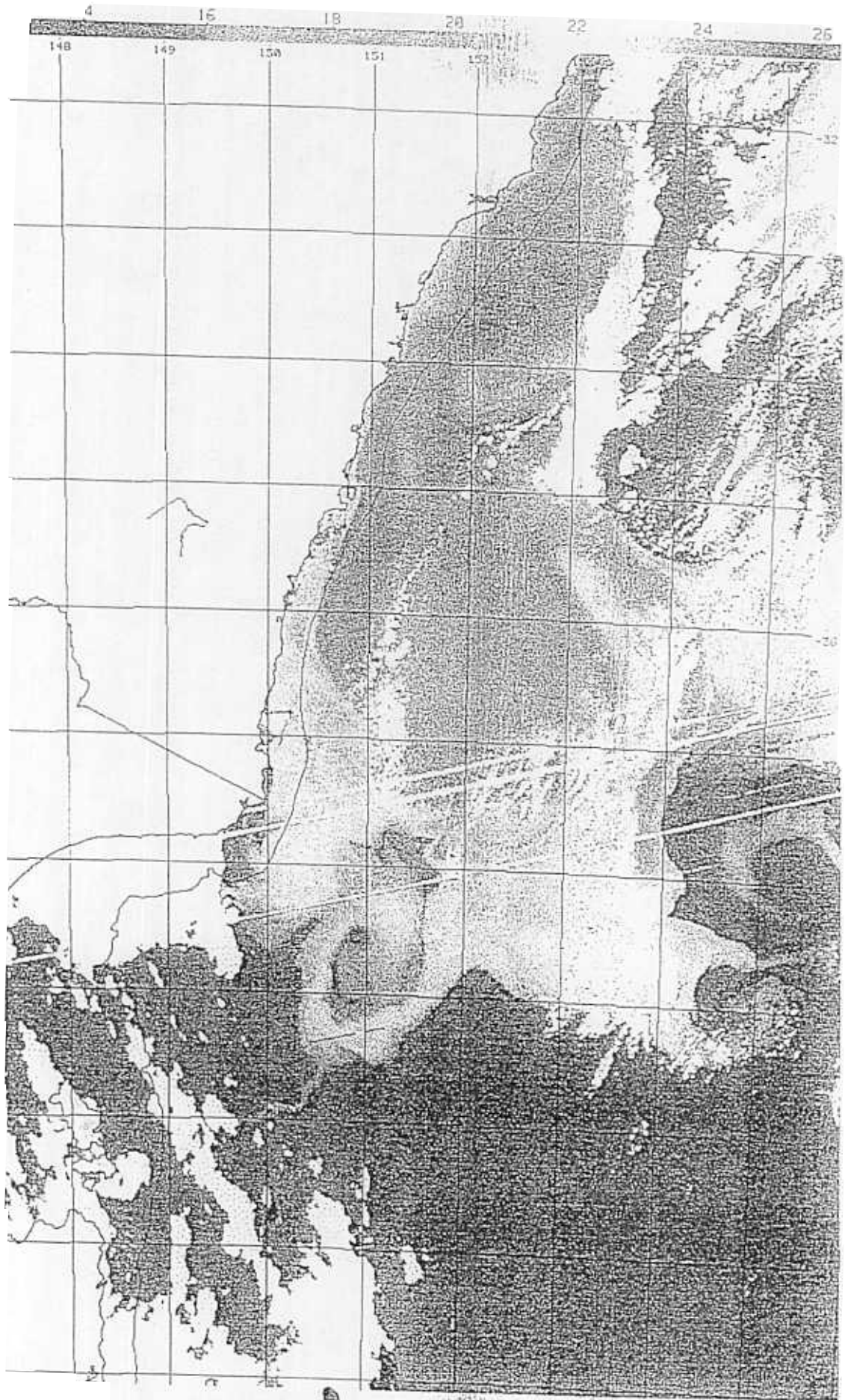
I have little info on Tassie coast and not that what George Cresswell give you is also vague and very little.

TIDE PREDICTIONS FOR HOBART

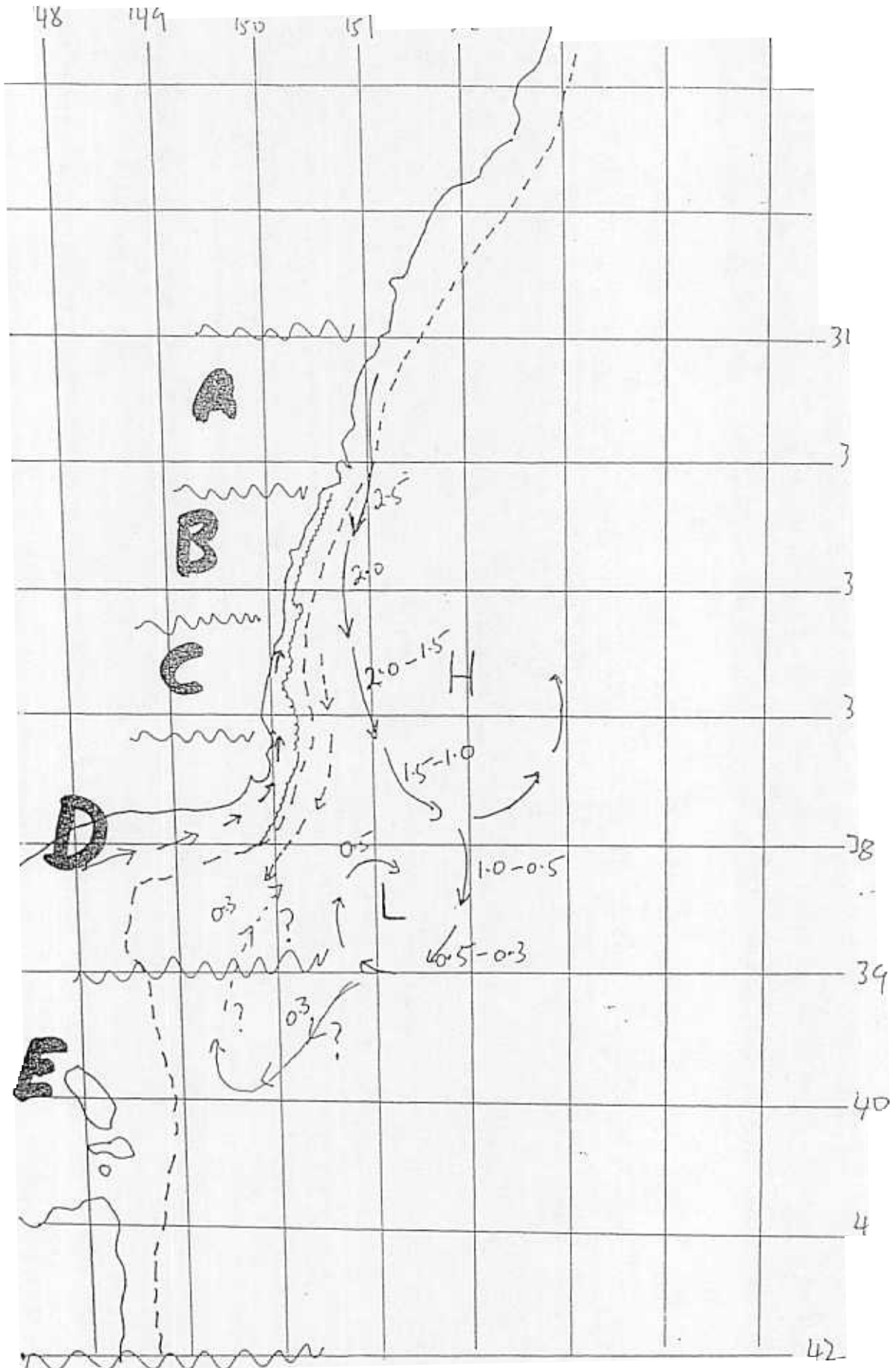
DECEMBER - 1998

NOTE** These are standard time; ie add 1 hour

| Fri 25 | Sat 26 | Sun 27 | Mon 28 | Tue 29 | Wed 30 | Thu 31 |
|----------|----------|----------|----------|----------|----------|----------|
| Time (m) | Time (m) | Time (m) | Time (m) | Time (m) | Time (m) | Time (m) |
| 0139 1.5 | 0214 1.5 | 0249 1.6 | 0328 1.6 | 0408 1.7 | 0453 1.8 | 0542 1.8 |
| 0656 1.2 | 0800 1.1 | 0904 1.0 | 1007 0.9 | 1110 0.8 | 1212 0.7 | 1313 0.6 |
| 1219 1.5 | 1324 1.5 | 1430 1.4 | 1543 1.4 | 1701 1.4 | 1819 1.3 | 1930 1.4 |
| 1927 0.7 | 2007 0.8 | 2047 0.8 | 2127 0.9 | 2207 1.0 | 2248 1.0 | 2334 1.1 |



25th 047 / 3 pm.



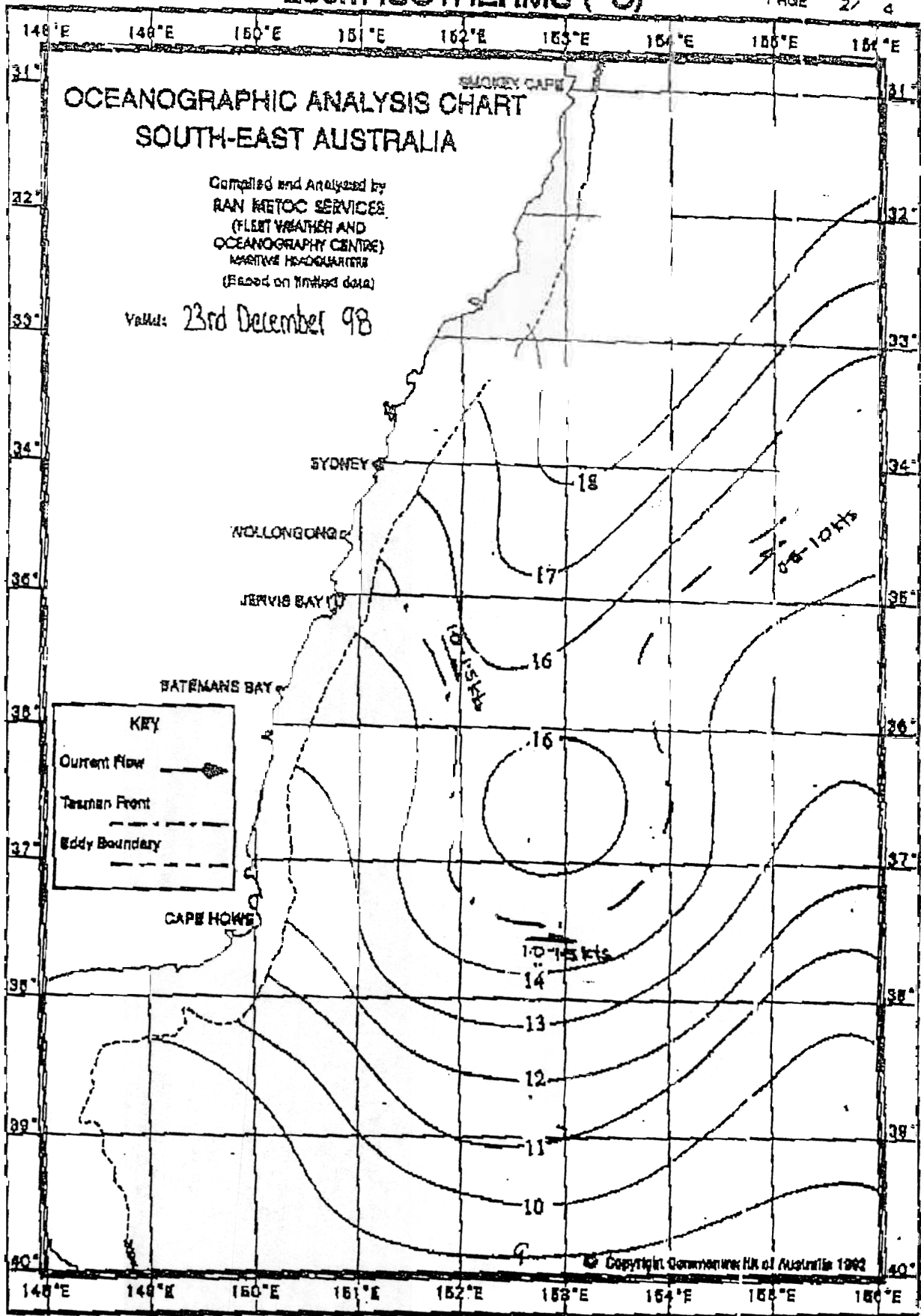
446

DEC-23-98 15:38 FROM: 95634182

NAME: FWOOC

250m ISOTHERMS (C)

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COASTAL STATION OBSERVATIONS

(as referenced on the OTC weather skeds and dial up observations)

During the race you should monitor Sydney Radio (VIS), Melbourne Radio (VIM) for the latest warnings as well as regular weather skeds... or use the mobile phones to contact the Bureau of Met dial up services. [Also 7ZR at night along the Tasmanian coast as they give the 9pm coastal station reports and most detailed synoptic description of what's going on] These notes discuss the usefulness of the various station reports.

NSW COAST:

Norah Head:

Representative of the flow over Sydney coastline and immediately offshore... but only useful before you leave the dock - following that you should be using your own observations and stations ahead of you.

Sydney Airport (Mascot):

Good in the afternoons and in an onshore flow, otherwise lighter and not necessarily in line with the coastal winds.

Bellambi (automatic station):

Well exposed and good for most flows - only available on Internet polling of real-time data.

Jervis Bay (Point Perpendicular Lighthouse):

Very good representation of the flow in S-SE winds. Not so good in a soft offshore flow.

Ulladulla (automatic station):

Just south of Ulladulla and representative of the S flows, but sheltered in soft to moderate offshore flows.

Moruya Heads (Pilot Station):

Not very representative in all flows - if it's blowing there it's a gale at sea!

Narooma (Pilot station):

A good representative of the flow, especially with a SSW to SE wind. However, it is often missing from the reports.

Gabo Island (Lighthouse):

Good indicator, but the bend in the coastline does tend to channel the winds to favour NE/NNE and SW/SSW direction. Thus the reported direction and strength will not always be in line with the winds offshore or further northwards along the coast. SW-SSW winds at Gabo may be a little more right further out in Bass St, but definitely more S along the NSW nearer Montagu Island.

Wilson's Prom (Lighthouse):

Funnelling and channelling of the winds through Bass St and across the Prom, make the winds at the station stronger and favouring ENE and WNW direction. The direction can be misleading and King Is (further west, from VIM or VIH) can often be a better guide of upstream wind direction.

BASS ST

King Is (Currie):

Gives a good indicator of NW and W flow ahead of an approaching front. Not representative enough to use for small wind direction changes.

Cape Otway:

Along with King Is, it gives a good idea of the flow entering western Bass St. However, it is not as good as King Is and the 2 should be used together.

Wilson's Prom (Lighthouse):

as previous

Swan Is (Lighthouse in Bank's St):

Gives a good idea of the winds funnelling through Banks St - where the W-NW flow is generally stronger than the rest of eastern Bass St. The Banks St winds would not be that strong further seawards.

Flinders Is (Whitemark):

Winds tend to be weaker at the station, especially overnight and in the early morning when they can be substantially reduced, even in a strong W flow.

TASMANIA

Eddystone (Lighthouse):

Reasonably good indicator of the flow around the corner of Banks St, ie the NE Tassie coast. It gives a better idea of winds seawards, except in W-SSW flow where the report would be less than that experienced seawards (especially at night). Onshore flow pretty good.

Bicheno & Scammender (Tassie east coast):

Report a weaker wind strength for offshore winds and only truly represent in fresh onshore flows.

Palmer's Lookout:

Way up high above Port Arthur. Very useful for appreciating the flow above the Derwent... even if the wind is not getting down to the water level!

Cape Bruny:

Good indicator of W to SE flow. Protected for NW to NE flow.

Maatsuyker Is:

Good indicator for speed and direction - but NW flow tends to be stronger than experienced due to deflection of winds around the corner of Tassie.

Strahan:

Too protected to be really useful in either direction or speed

Marrawah (NW Tassie, sometimes could be Cape Grim):

Also useful for the strength and direction of approaching fronts. Also useful to get an idea of whether the onshore flow is fading close to the shoreline - but not too reliable in offshore flow.

Low Head:

Not a good indicator of the flow through Bass St.

THE SA COAST

Neptune Is & Cape Borda:

Only really useful in the strong S-SW flow behind an active cold front. Not really of much use during the summer, except when a small heat low moves out from the SA coastline - they would give an idea of the flow behind the low/trough.

WEATHER FAX CHARTS

FAX

AXM and AXI RADIOFACSIMILE RADIO BROADCAST

BROADCAST FREQUENCIES: AXM (Canberra) - 2628, 5100, 11030, 13920, 20469 kHz
Full chart directory : Inmarsat - 613 9273 8200

AXM and AXI RADIOFACSIMILE SCHEDULE

BROADCAST FREQUENCIES: AXM 2628, 5100, 1030, 13920, 20469 kHz

| TX TIME | DESCRIPTION OF ITEM | AREA |
|-----------|--|--------|
| 0015-0045 | AXM/AXI SCHEDULE (2 PARTS) | - |
| 0045-0100 | INFORMATION NOTICE | - |
| 0200-0215 | MSL PROG VALID 0000 (H+24) | AUST |
| 0245-0300 | MSL ANAL VALID 0000 | AUST |
| 0300-0315 | 500 HPA ANAL VALID 0000 | AUST |
| 0430-0445 | SEA SURFACE ISOTHERMS | SEAUST |
| 0445-0500 | 250 METRE ISOTHERMS S.E. | SEAUST |
| 0500-0515 | SEA SURFACE ISOTHERMS | SWAUST |
| 0745-0800 | WIND WAVES HT(M) PROG | AUST |
| 0800-0815 | SWELL WAVES HT(M) PROG | AUST |
| 0845-0900 | MSL ANAL VALID 0600 | AUST |
| 1200-1215 | MSL PROG VALID 1200 (H+36) | AUST |
| 1430-1445 | MSL ANAL VALID 1200 | AUST |
| 1500-1515 | 500 HPA ANAL VALID 1200 | AUST |
| 1515-1530 | MSL PROG VALID 1200 (H+36) | AUST |
| 1600-1615 | 500 HPA PROG VALID 1200 (H+24) | AUST |
| 1930-1945 | WIND WAVES HT(M) PROG VALID 1200 (H+24) | AUST |
| 1945-2000 | SWELL WAVES HT(M) PROG VALID 1200 (H+24) | AUST |
| 2015-2030 | MSL ANAL VALID 1800 | AUST |
| 2330-2345 | MSL PROG VALID 0000 (H+36) | AUST |

WHEN BEST TO USE THE FAX CHARTS:

The fax charts are best to use for the timing and intensity of the weather systems - the positions of the high pressure ridge as it comes through Bass St on Sunday and also the minor fronts that will be fast moving across the Bight in the westerly airstream. Also the freshening NNE-NW winds developing on Monday off the Tassie coast.

The ridge of the high pressure is difficult to place with any accuracy - try linking the centres of high pressure and go via the 'pointy' shaped isobars. That ridge marks a shift in WD or a 'dead zone' with differing winds each side.

THE MANUAL AND COMPUTER(LAPS) PROGS :

The Bureau no longer draw a manual forecast chart at night - only their 00Z (11am) chart is a manual product. The night time forecast chart is computer product only - valid at 12Z (11pm). You must, of course, figure out where to place the fronts on these charts and for the very weak fronts, this is not always an easy task. Look for any 'wiggle' or trough in the westerly flow and look for a slight thickness trough in the dashed or dotted thickness lines. Else, simply use the 4 analysis charts available every 6 hours and extrapolate the movement of the fronts. The best use of the computer chart is made by direct comparison with the manual chart - looking for subtle differences in the isobars and surface troughs. The thickness lines on the LAPS computer forecast charts indicate the direction of movement of the surface weather system and, if applicable, the likely directional movement of any large cloud systems (thunderstorms).

RADIO FORECASTS

1. WEATHER FORECASTS AND WARNINGS AT THE FRONT AND BACK OF EVERY SYDNEY-HOBART RADIO SKED. These forecasts will be given extra detail by Lance Leslie's (UNSW) fine mesh model - as was available at the start.

2. OTC COAST RADIO STATIONS

FREQ HF SSB: 2201, 4426, 6507, 8176, 12365 kHz
VHF: 67

| STATION | TIME | COVERAGE |
|---------|---------------------------|---|
| VIS | 0633, 433),1833 | QLD & NSW COAST Useful reports: (Norah Hd, Mascot), Jervis Bay, Moruya, Montagu Is, Gabo Is, Wilsons Prom. |
| VIM | (0715), 0848, 1448, 2048, | SA, VIC & TAS COAST Useful reports: SA: (Cape Border etc) VIC: Cape Otway, Wilsons Prom, Gabo Is TAS: Flinders Is: Eddystone Pt, Swan Is, Bicheno, Palmers LO, Hobart, Bruny Is, Maatsuyker Is, Marrawah, Cape Grim, King Is |

3. ABC RADIO

7ZR 0005
936 kHz (listen in from 2350 hrs)
Late night weather bulletin that includes TAS coastal forecast and the 9pm Tas. coastal weather reports.

4. VOLMET: HF SSB 2965, 6676, 11387

Broadcast every 30 minutes of Melbourne (Tullamarine), Sydney (Mascot) and other airports. but none in Tasmania. This is not really a great deal of use during the race.

5. ATIS: LW or VHF

Continuous broadcast of weather conditions at specific airports.

SYDNEY: VHF: 127.6 115.4

EAST SALE: LW: 350 kHz
VHF: 316.2

HOBART: VHF: 112.7, 124.4

Hobart ATIS could be useful as a measure of the winds at the Hobart end of the Derwent. However, it closes down o'nite and won't be of use between midnight and 6am.

A. MOBILE TELEPHONE INFORMATION (analogue phone for better range)

There are a variety of 1900 phone numbers for Bureau of Met fax charts.

NEW SOUTH WALES

| | |
|----------------------------------|---------------------------|
| Full state service | 1900 155 361 |
| Sydney forecast | 1900 926 100 |
| NSW coastal waters forecasts | 1900 926 101 |
| | 1900 969 955 |
| Yachtline for NSW coastal waters | 1900 920 556 1900 155 334 |

BOATING WX: ph: 131236

On the NSW coast, the Bureau now run a statewide boating forecast and observations in conjunction with the Waterways Auth. Call 131236, taking option 3 for weather forecasts as well as the most recent observations, updated throughout the night. In the forecast section you have a choice of 4 regions;

- | | |
|-------------------------------------|---|
| 1: Sydney closed and coastal waters | 2: Far north coast and Mid north coast of NSW |
| 3: Hunter and Sydney coastal areas | 4: Illawarra and Far South coastal areas |

VICTORIA

| | |
|------------------------------------|---------------------------|
| Full state service | 1900 155 363 |
| Melbourne forecast | 1900 926 109 |
| Yachtline for Port Phillip Bay | 1900 920 557 1900 155 335 |
| Victorian coastal waters forecasts | 1900 926 110 |
| including the bays | 1900 969 966 |

TASMANIA

| | |
|------------------------------------|--------------|
| Full state service | 1900 155 364 |
| Hobart forecast | 1900 926 157 |
| Tasmanian coastal waters forecasts | 1900 969 940 |

B. PORTABLE OFFICE TYPE FAX:

There are a variety of 1902 93 phone numbers for Bureau of Met fax charts.

| | |
|-------------------|---------------|
| MSL ANALYSIS | 1902 93 25210 |
| LAPS +24 | 1902 93 25438 |
| GASP 2/3 | 1902 93 15728 |
| GASP 4/5 | 1902 93 15003 |
| GASP 6/7 | 1902 93 15004 |
| LAPS WINDS | 1902 93 45475 |
| (+12 to +36) | |
| Satellite Picture | |
| Australian Region | 1902 93 35201 |
| South Eastern | 1902 93 35203 |

C. INTERNET CONNECTIONS

WEATHER BUREAU

<gopher://babel.ho.bom.gov.au/>

click onto

weather forecasts and charts for main menu

click onto

charts for latest hand drawn analyses, +24, +48 and +72 prognoses

click onto

satellite images for latest 3hourly updated Australia or SE Australia IR image from James Cook Uni.

click NSW or Tasmania for latest coastal waters forecasts and standard coastal waters observations (6am, 9am and 3pm on NSW, but every 3 hours except midnight for Tasmanian waters.

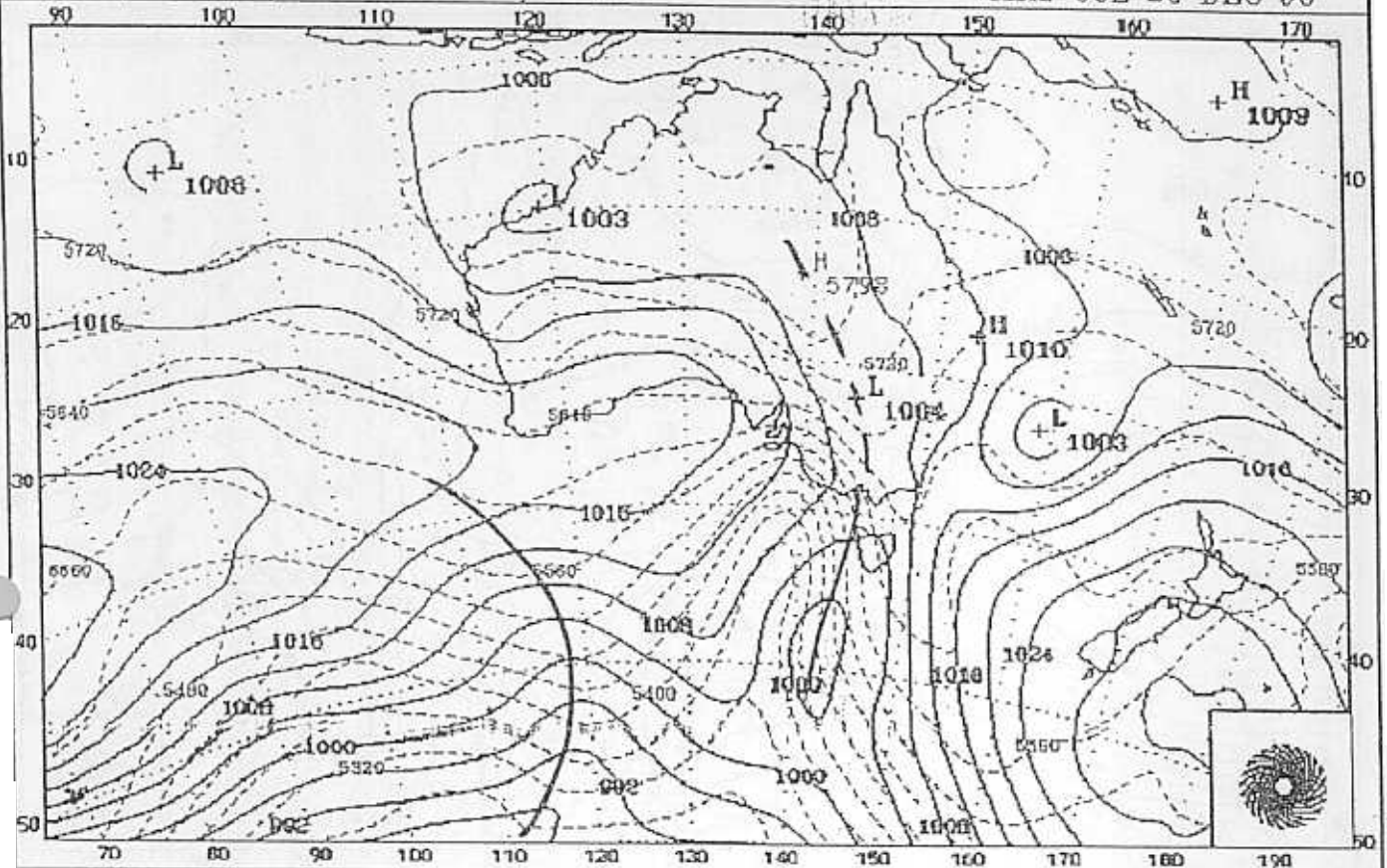
BUREAU OF METEOROLOGY

NHC MELBOURNE

PROG(LAPS+12) MSLP

THIK

VALID 00Z 26 DEC 98



LAMBERT CONFORMAL PROJECTION

ISSUED: 13UTC 25 DEC 98

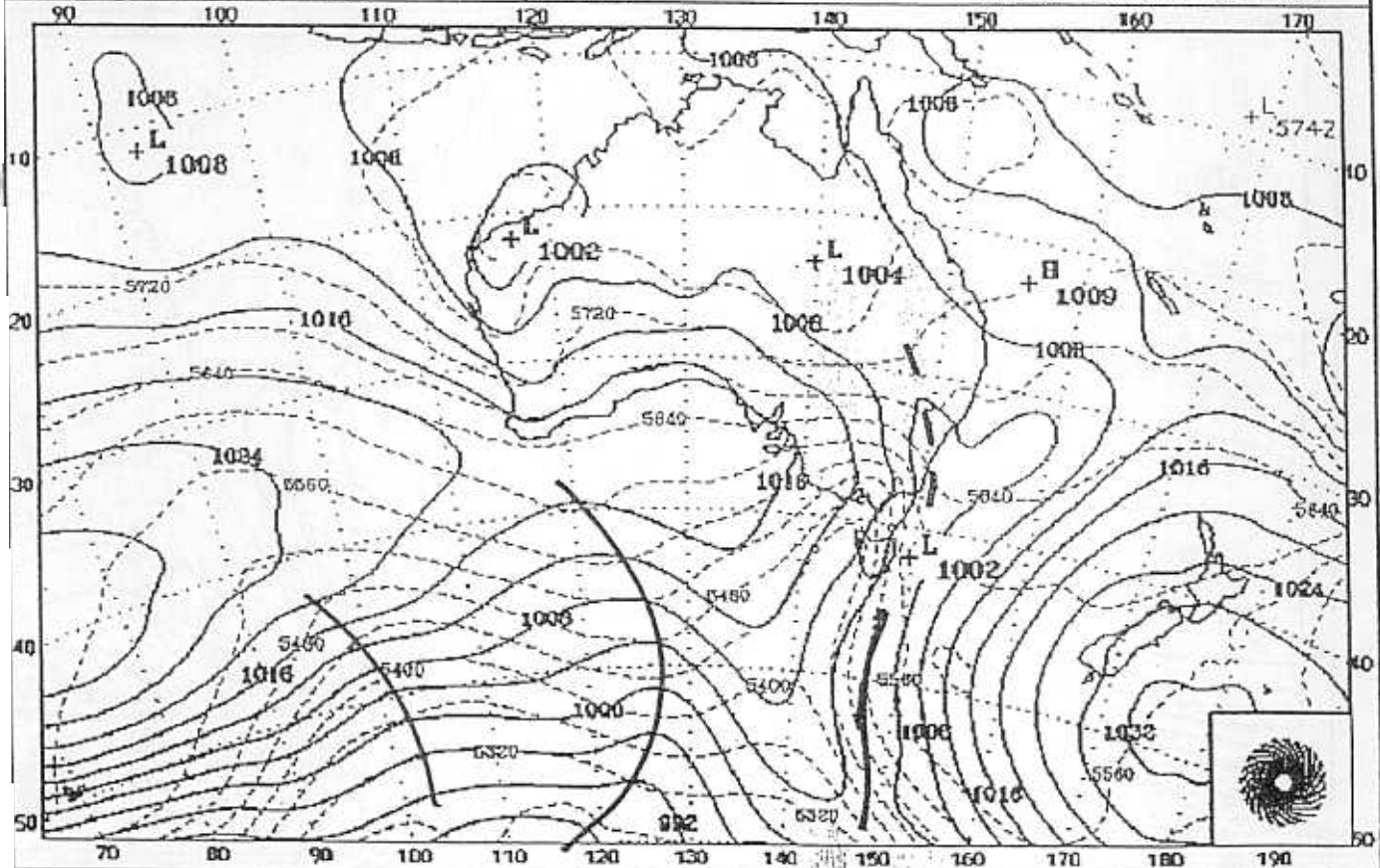
BUREAU OF METEOROLOGY

NHC MELBOURNE

PROG(LAPS+24) MSLP

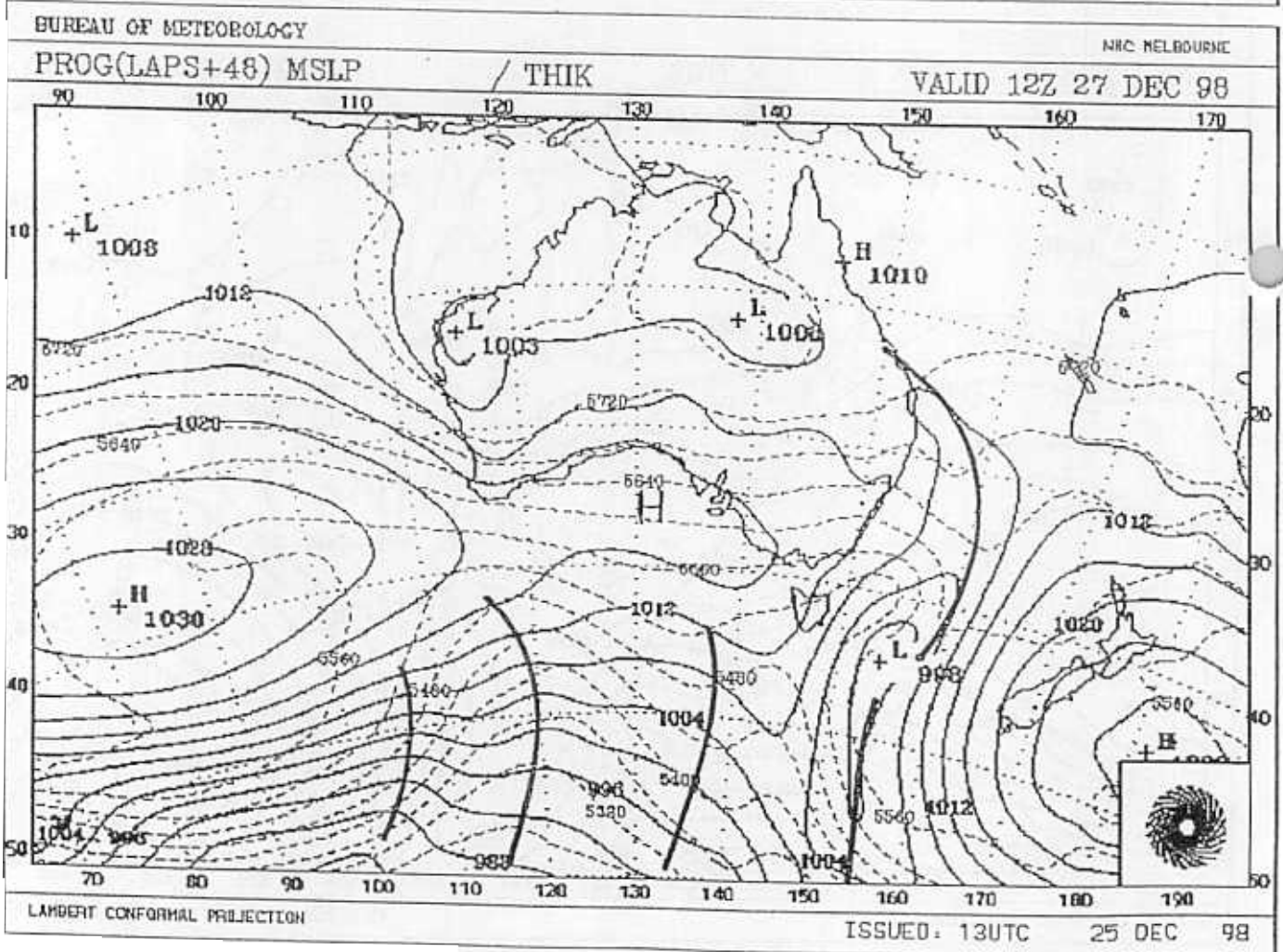
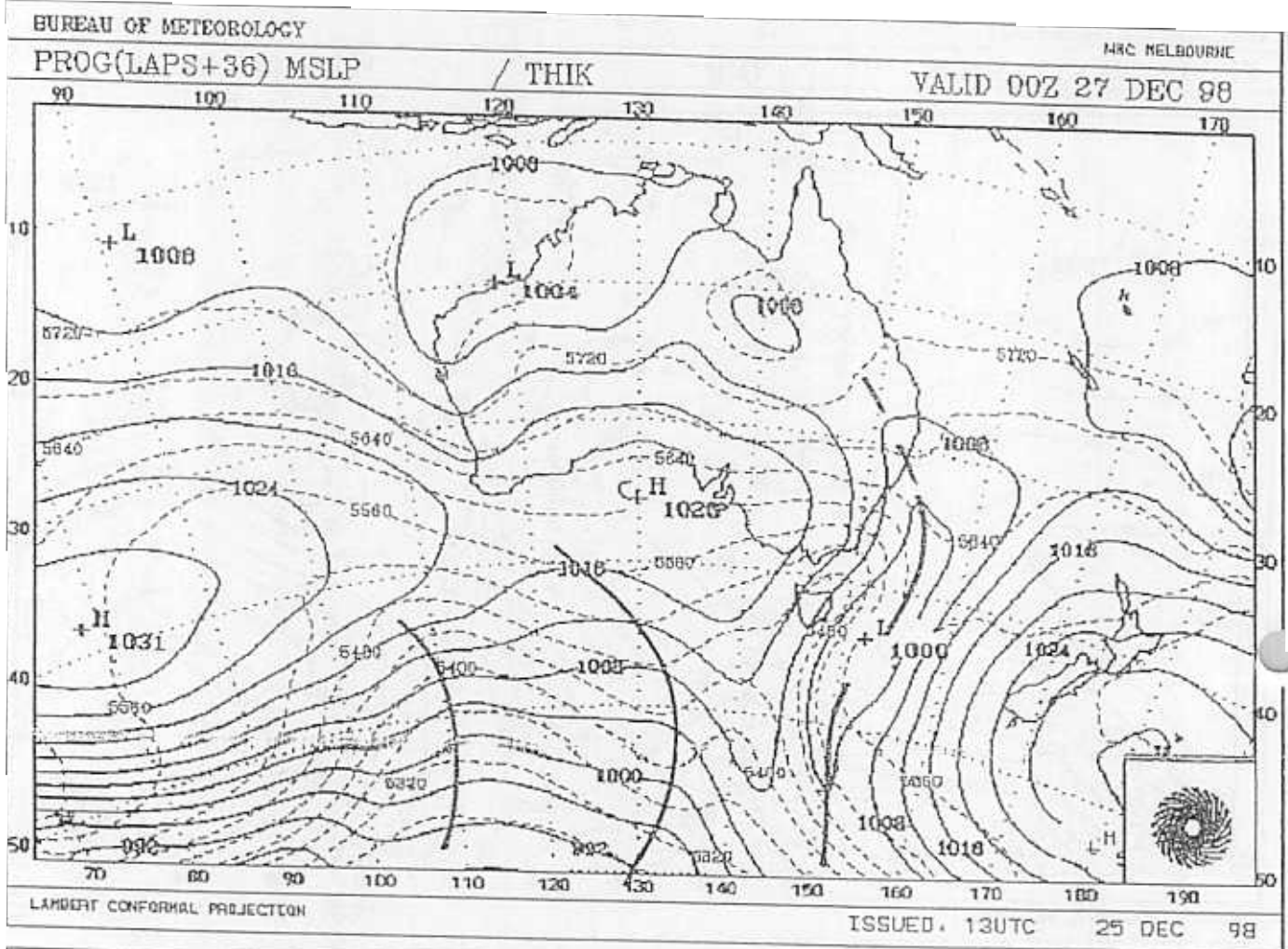
THIK

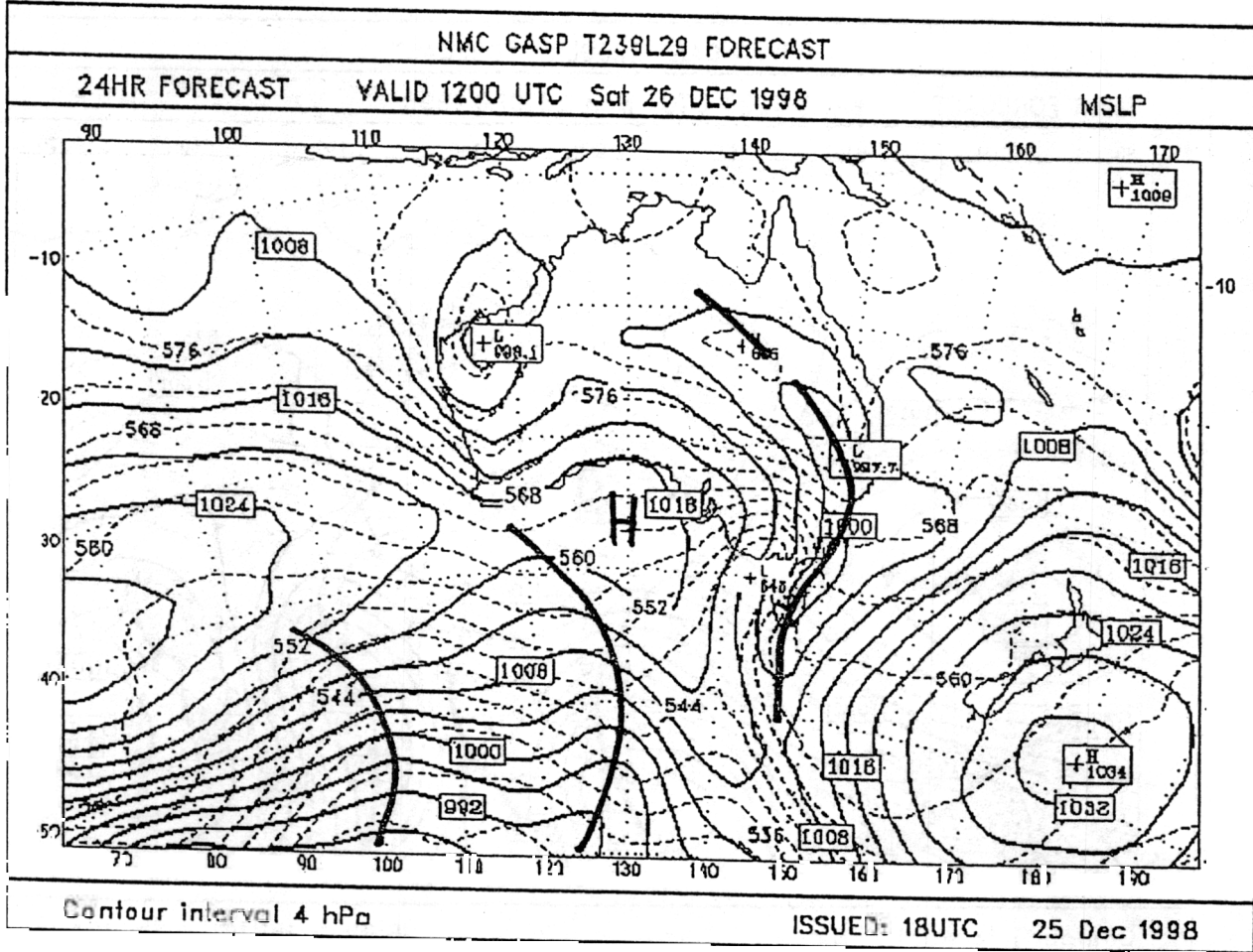
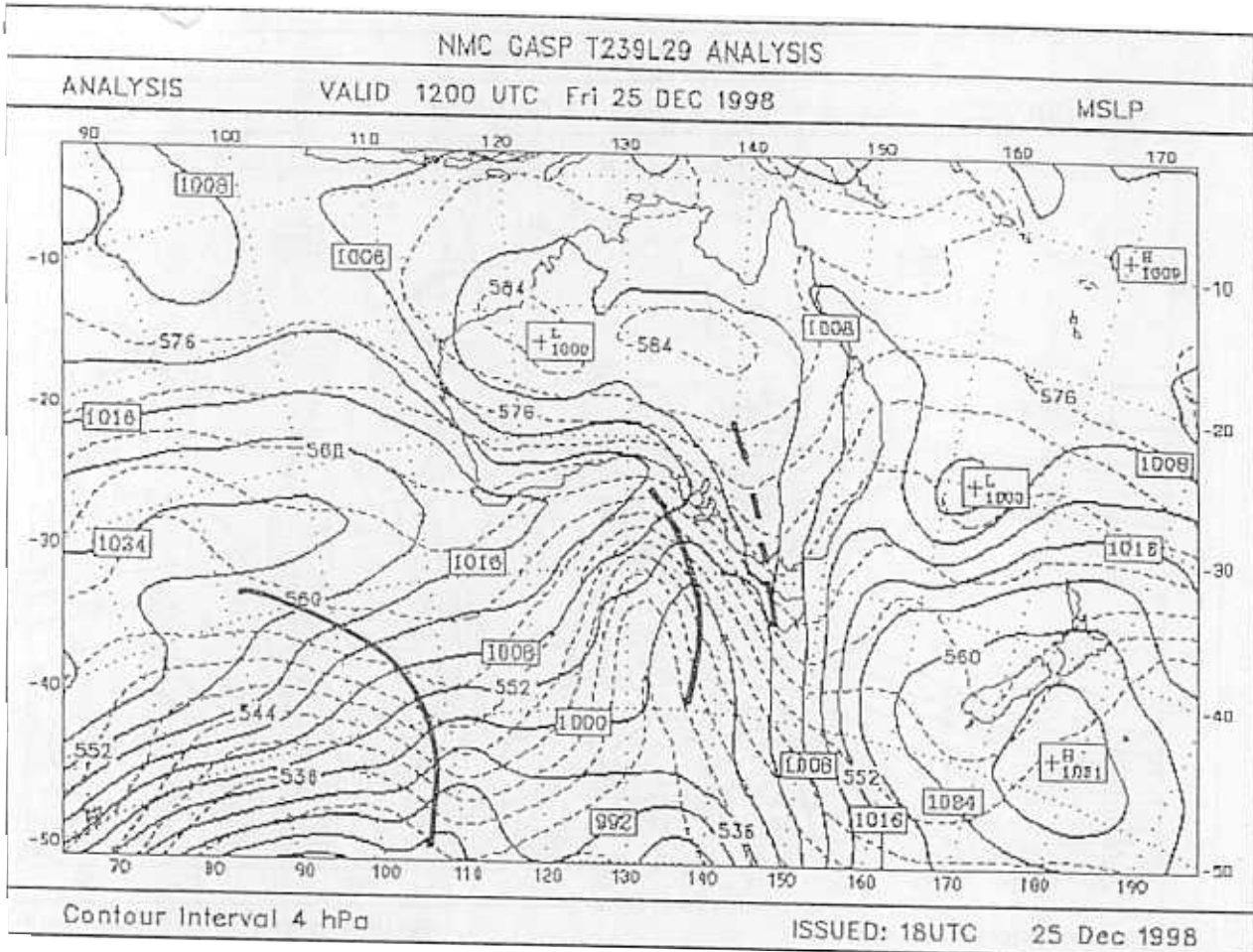
VALID 12Z 26 DEC 98



LAMBERT CONFORMAL PROJECTION

ISSUED: 13UTC 25 DEC 98

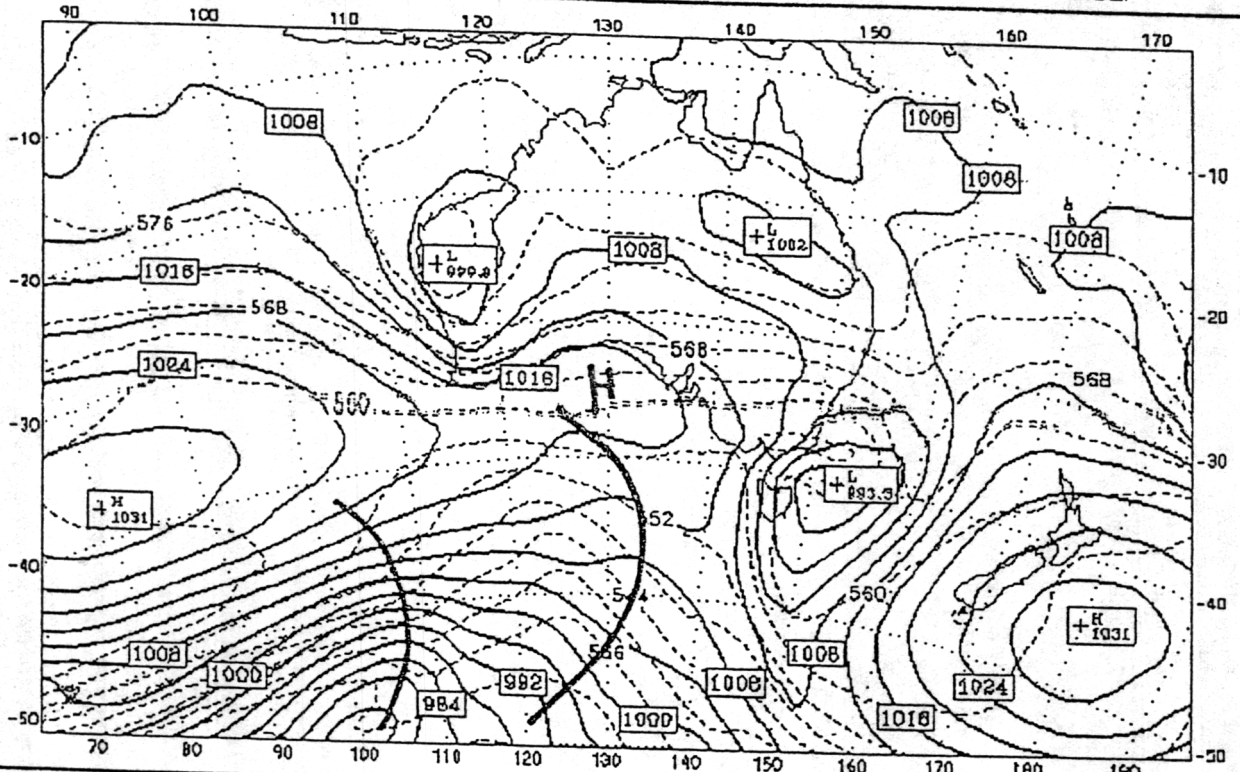




NMC GASP T239L29 FORECAST

48HR FORECAST VALID 1200 UTC Sun 27 DEC 1998

MSLP



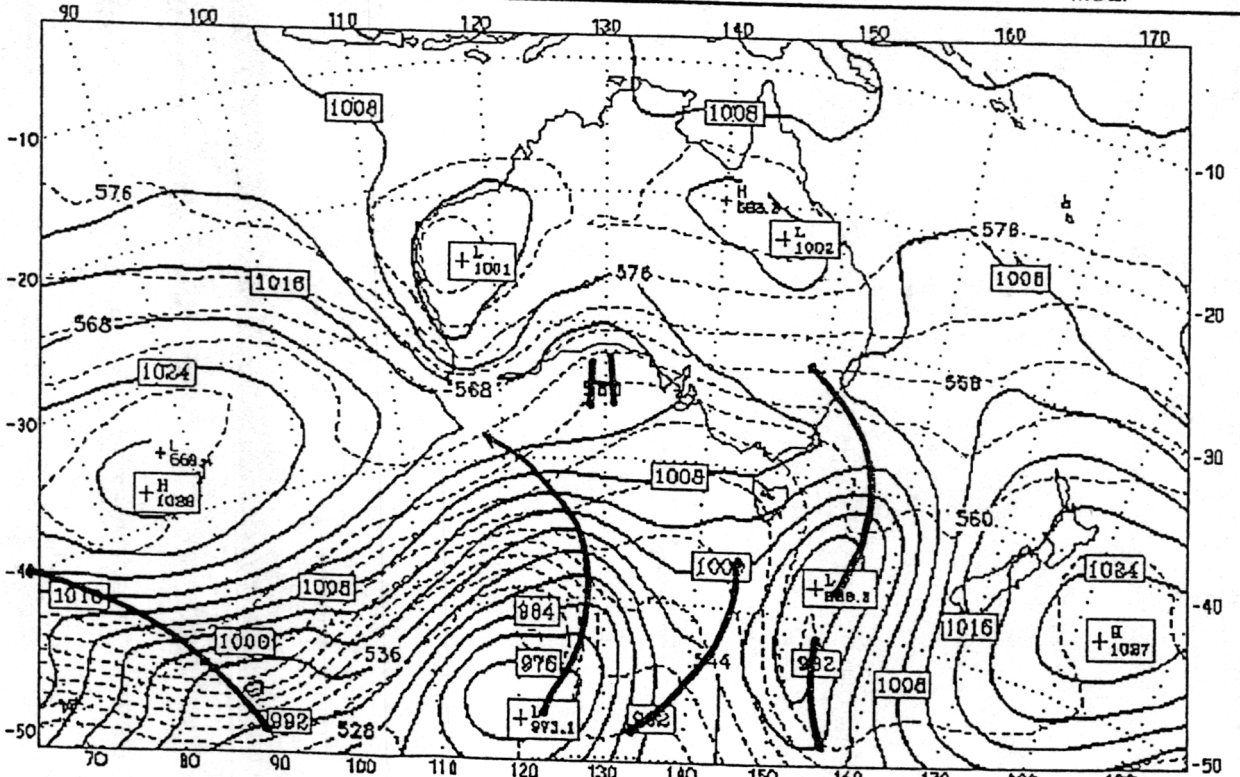
Contour Interval 4 hPa

ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

72HR FORECAST VALID 1200 UTC Mon 28 DEC 1998

MSLP



Contour interval 4 hPa

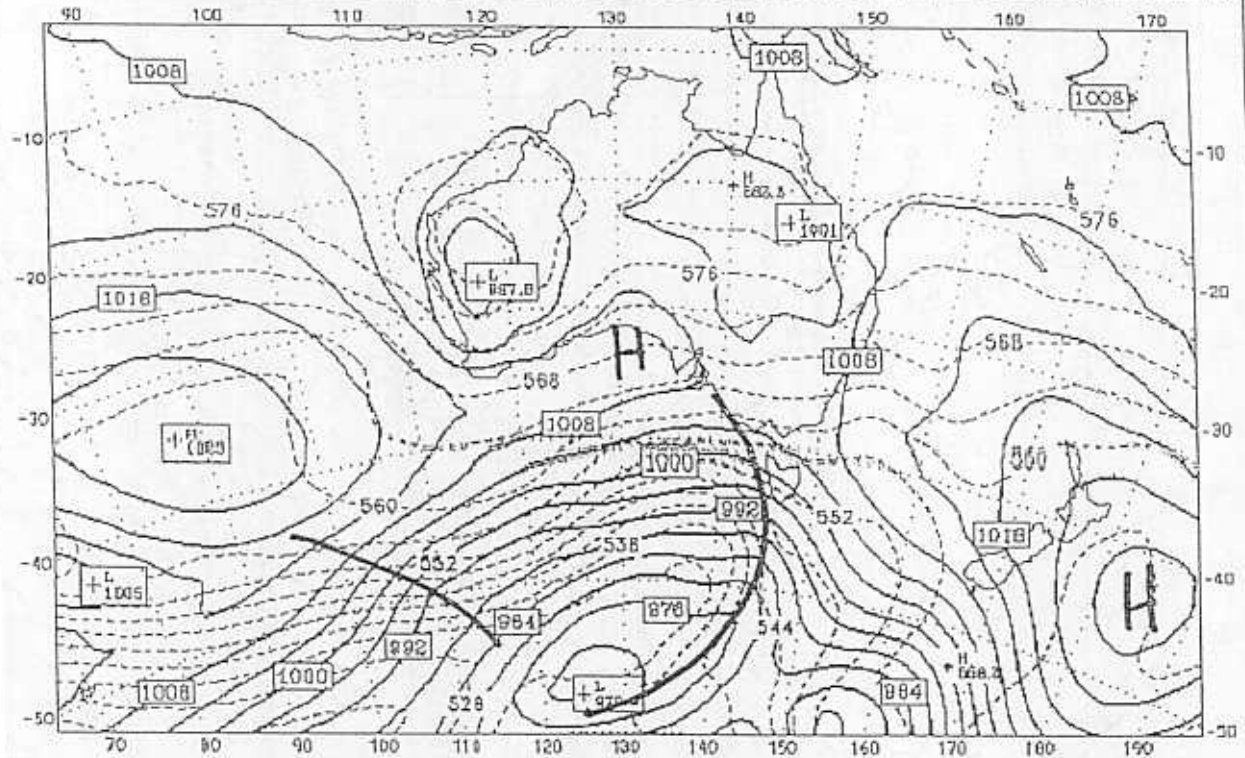
ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

96HR FORECAST

VALID 1200 UTC Tue 29 DEC 1998

MSLP



Contour Interval 4 hPa

ISSUED: 18UTC

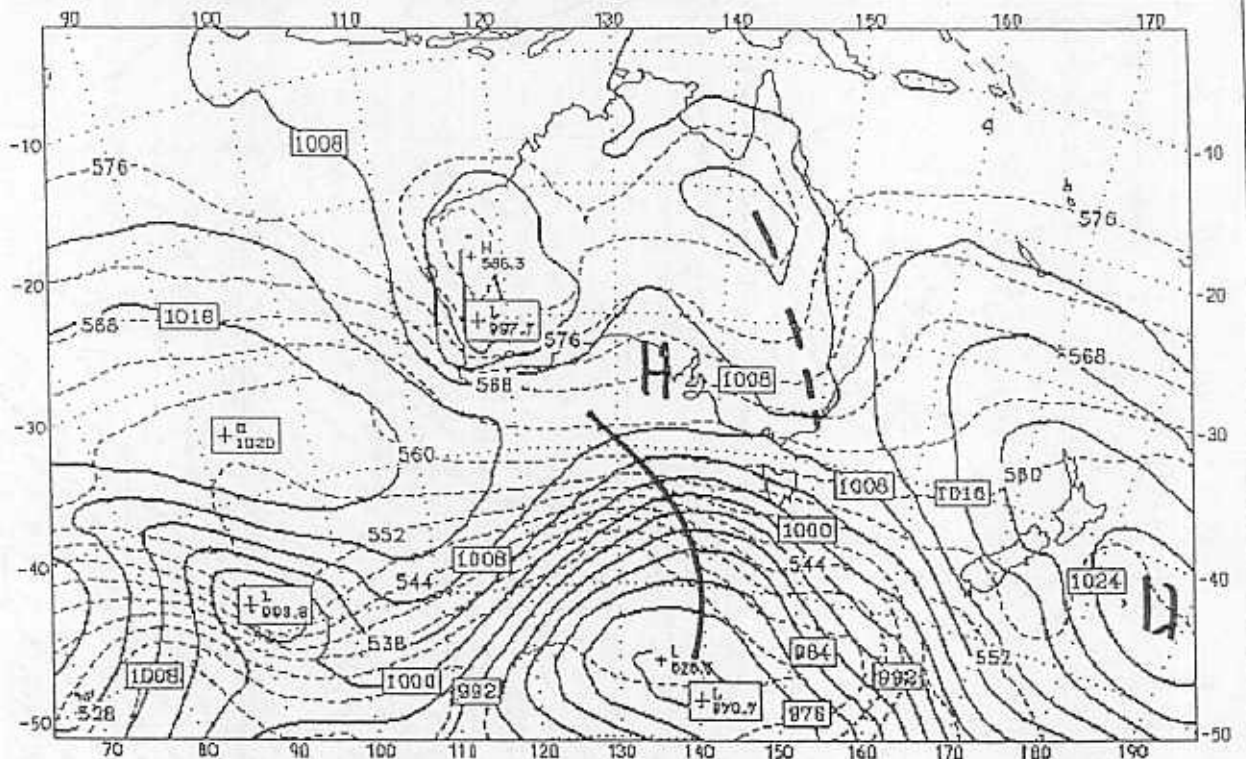
25 Dec 1998

NMC GASP T239L29 FORECAST

120HR FORECAST

VALID 1200 UTC Wed 30 DEC 1998

MSLP



Contour Interval 4 hPa

ISSUED: 18UTC

25 Dec 1998

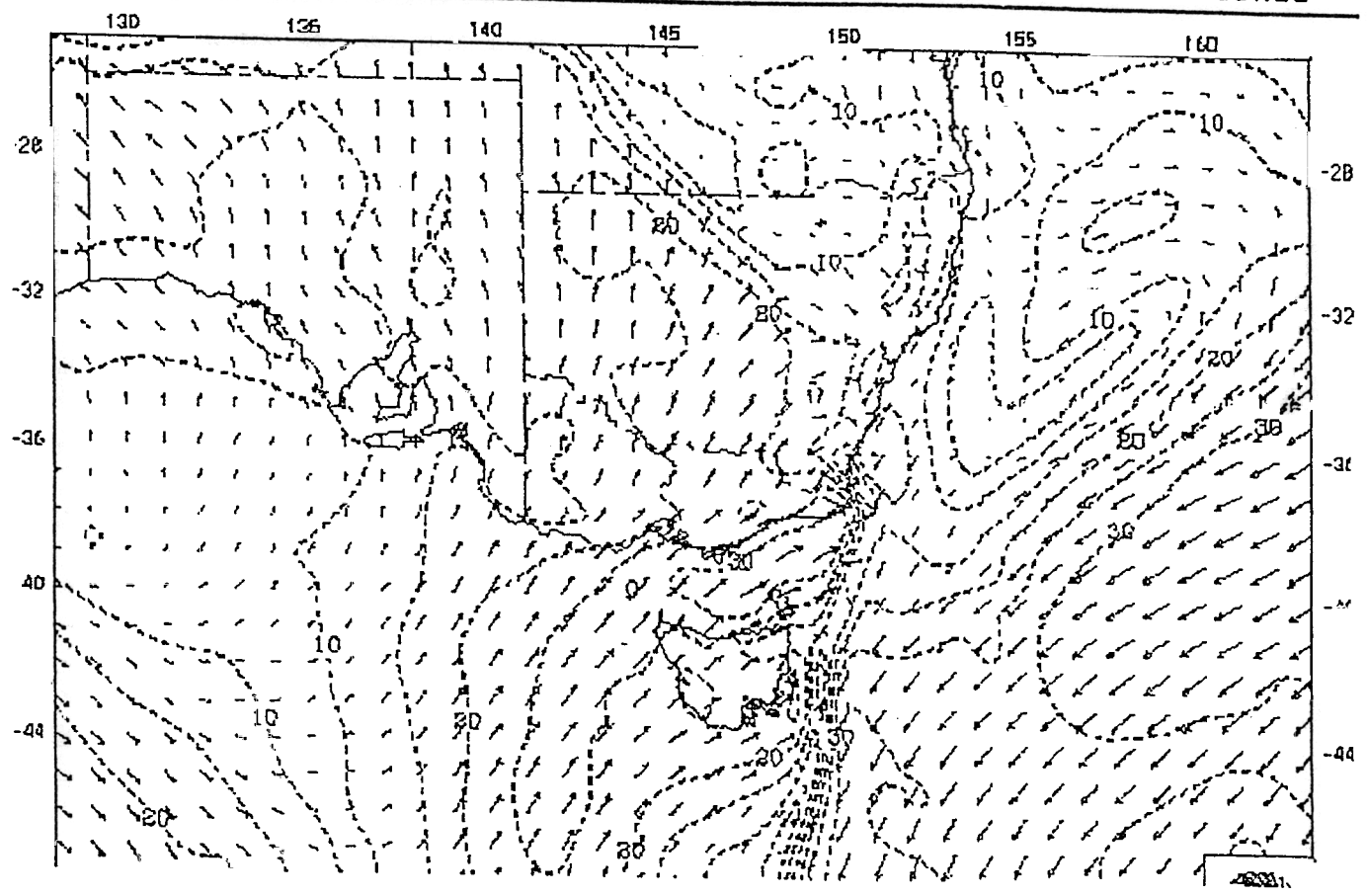
151

24HR FORECAST

VALID 1200 UTC Sat 26 DEC 1998

WIND

991.0S

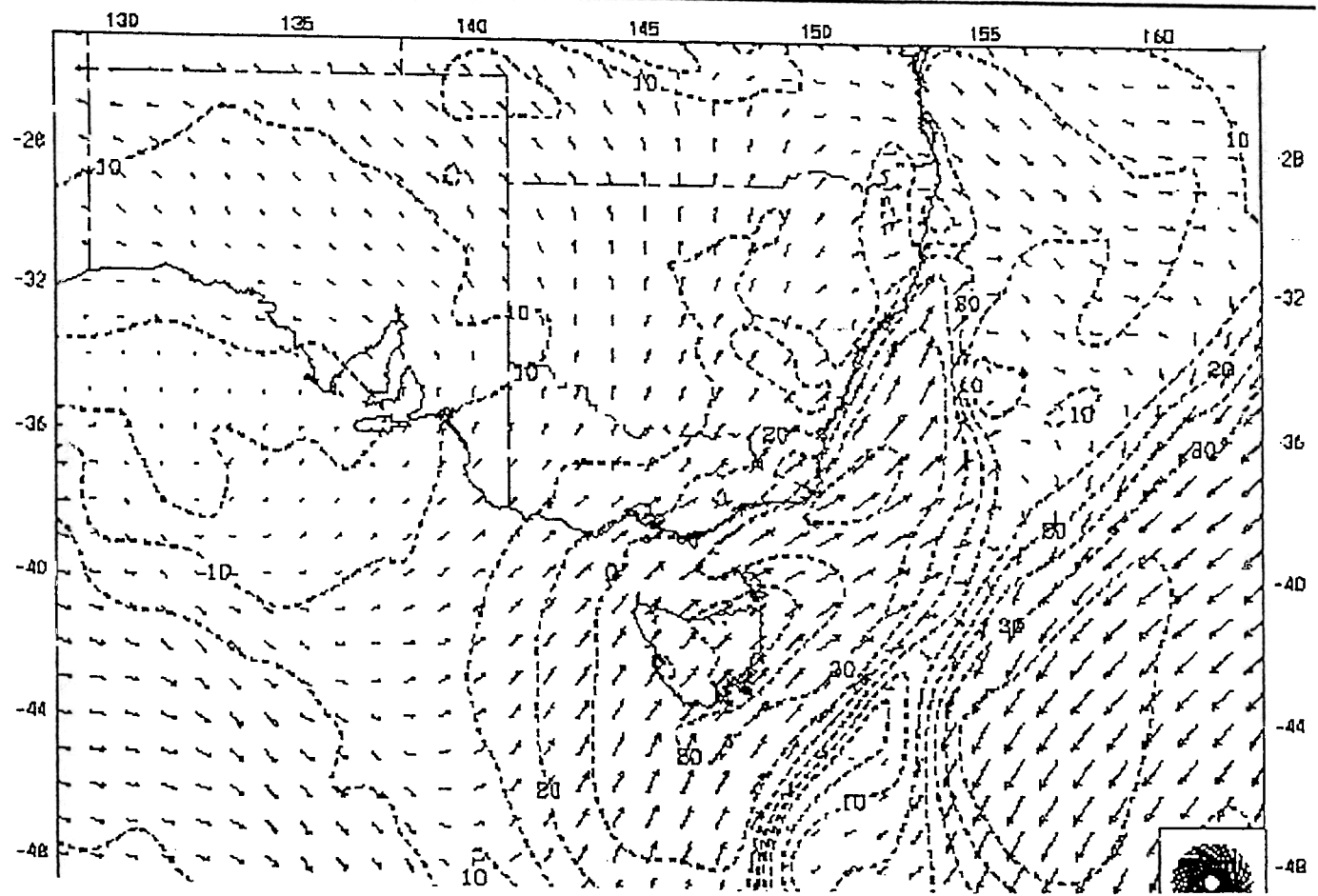


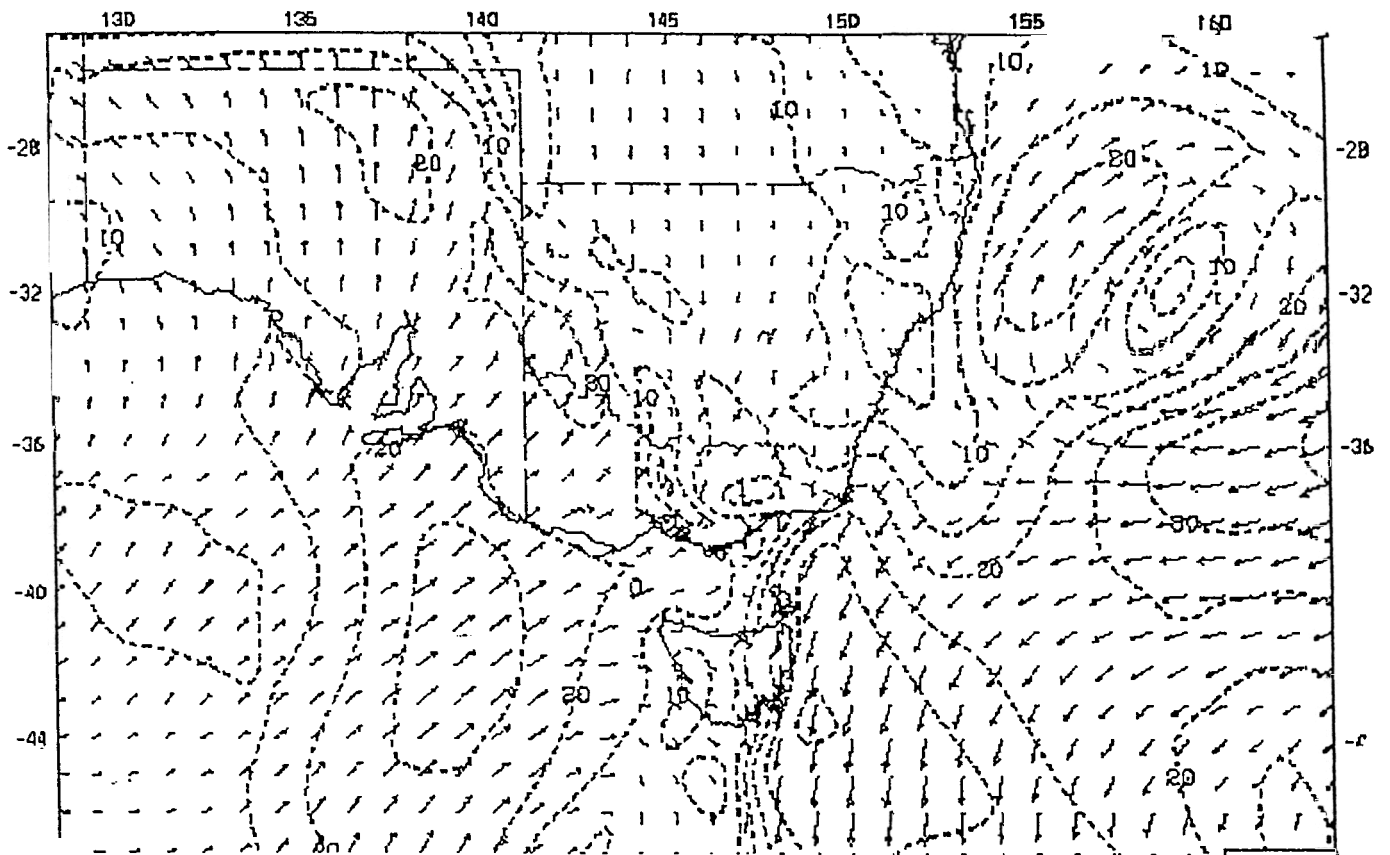
36HR FORECAST

VALID 0000 UTC Sun 27 DEC 1998

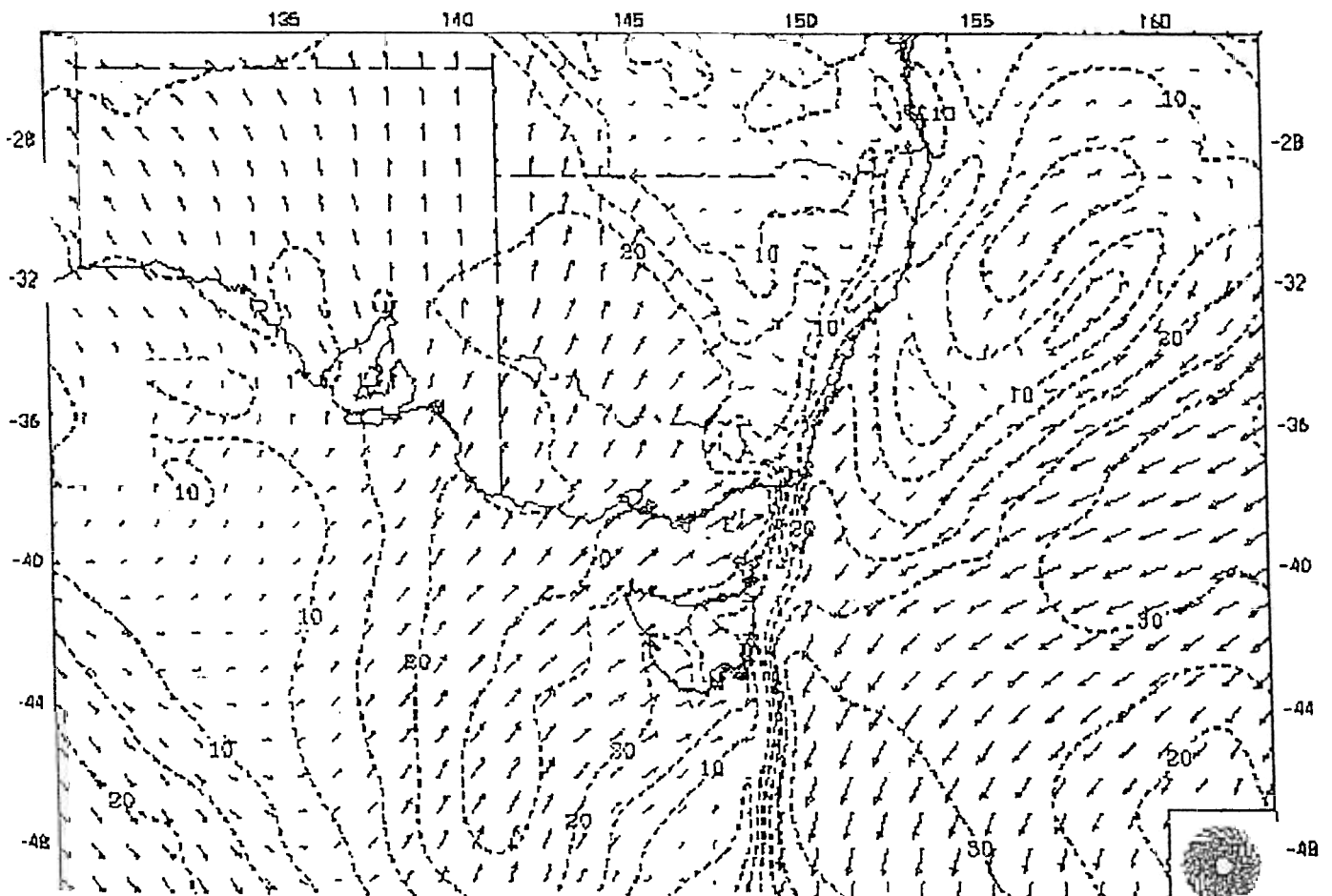
WIND

991.0S

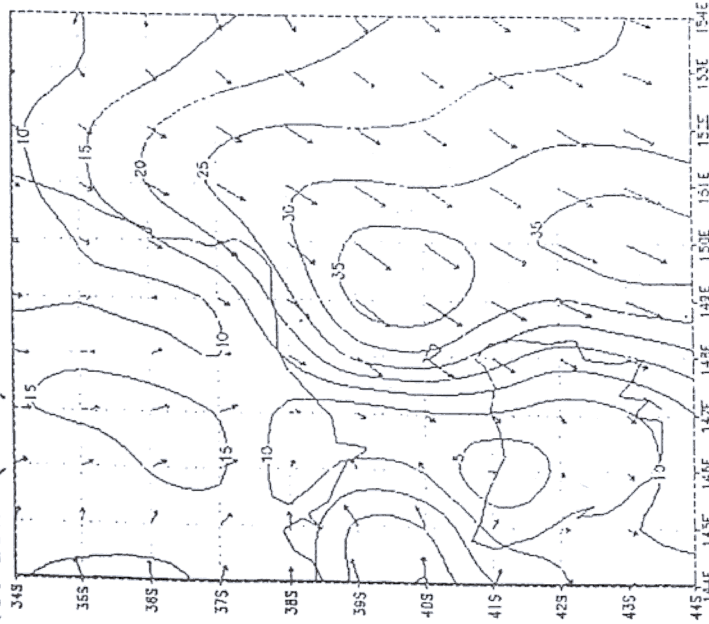




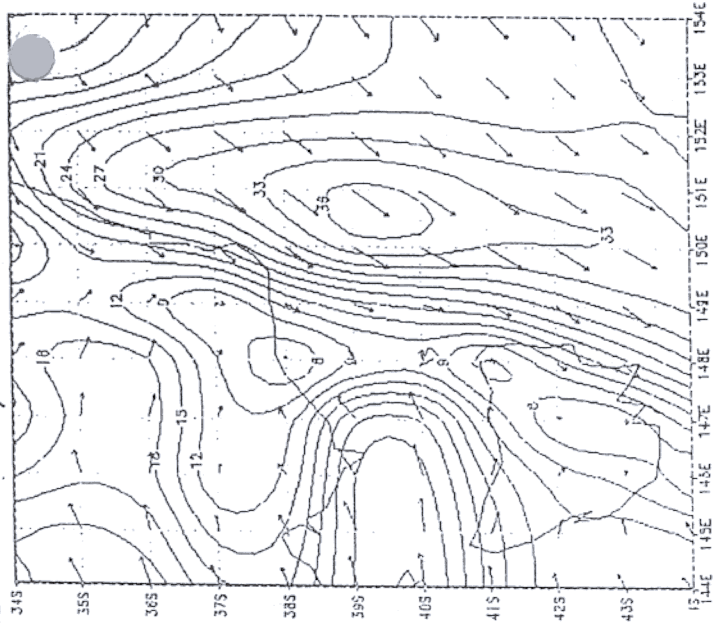
21HR FORECAST VALID 0900 UTC Sat 26 DEC 1998



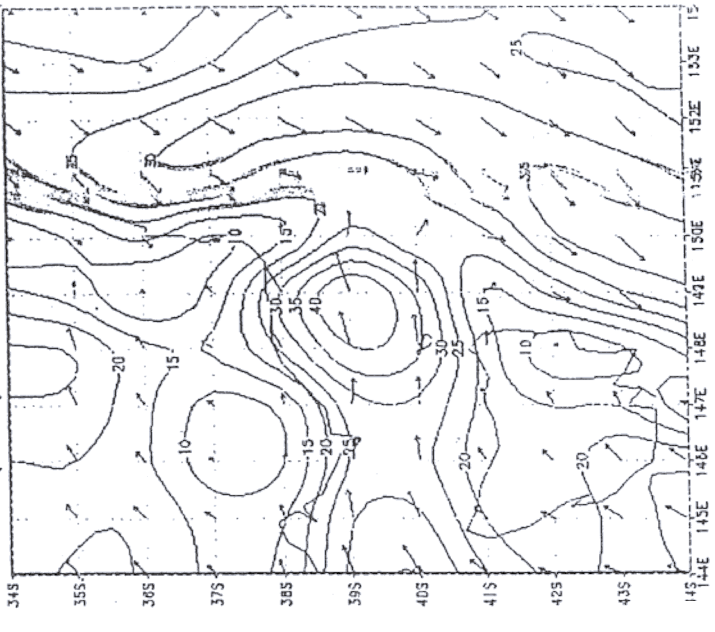
ch not 300 0 26d 99



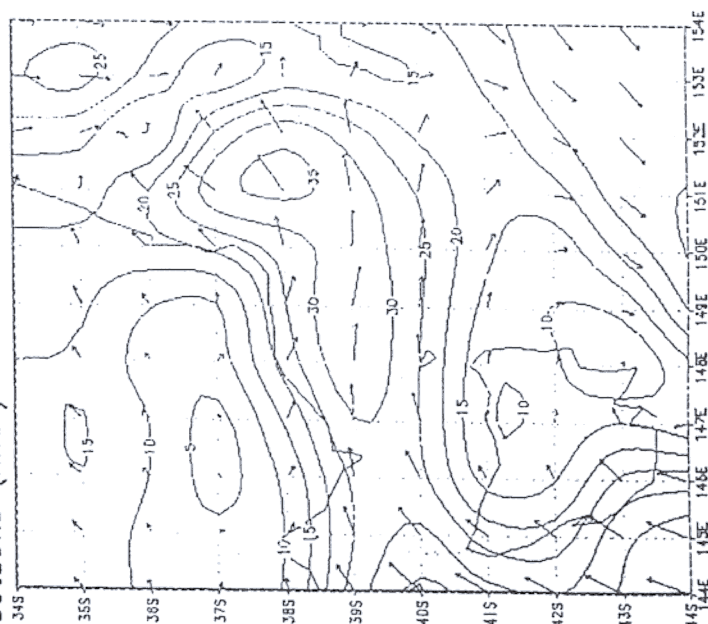
is hs (t) 000 r 06Z 25dec 1998



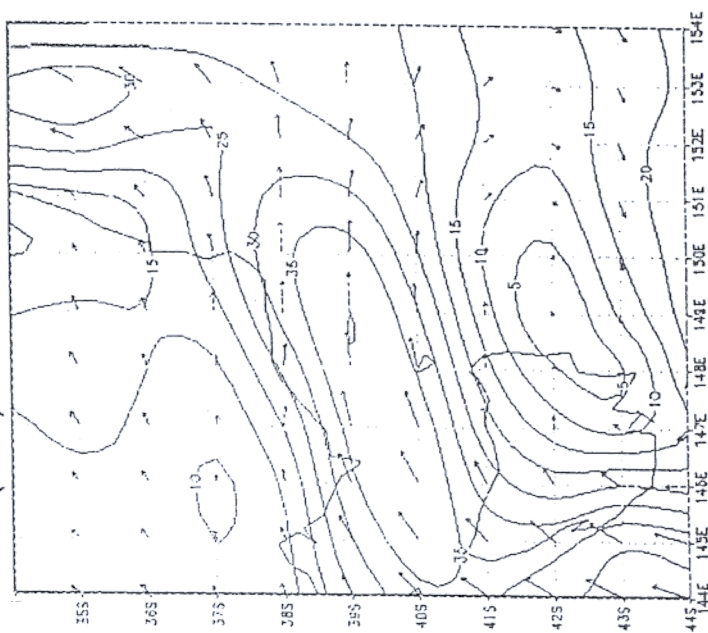
iso s (t) 1000 m 23Z 25dec 1998



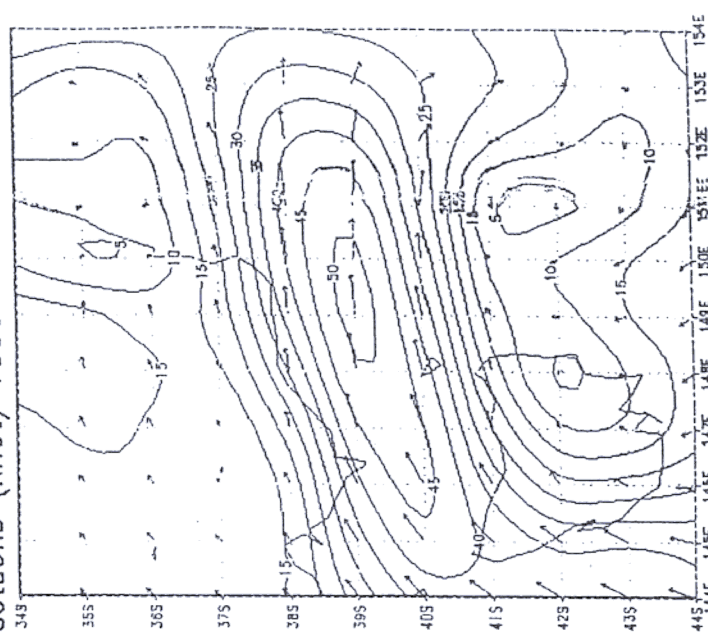
otachs (knot) 1000 mb 18Z 26dec1998



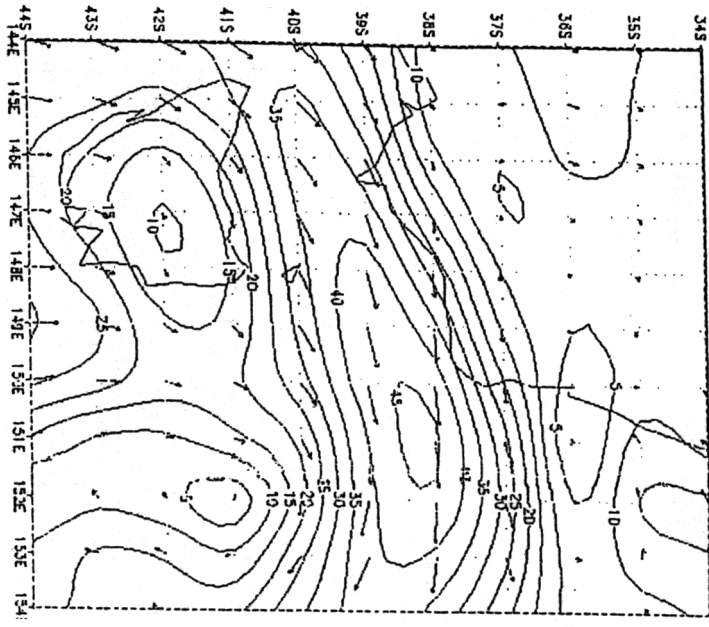
tachs (knot) 1000 mb 00Z 27dec1998



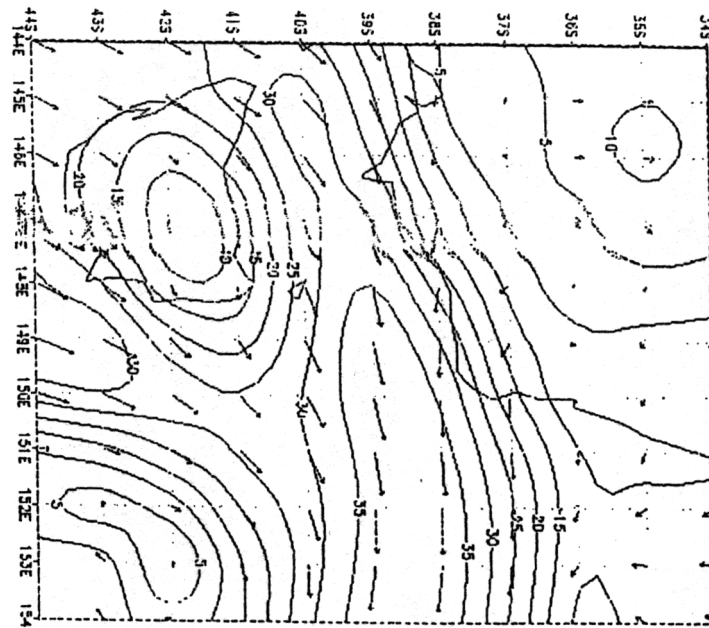
otachs (knot) 1000 mb 06Z 27dec1998



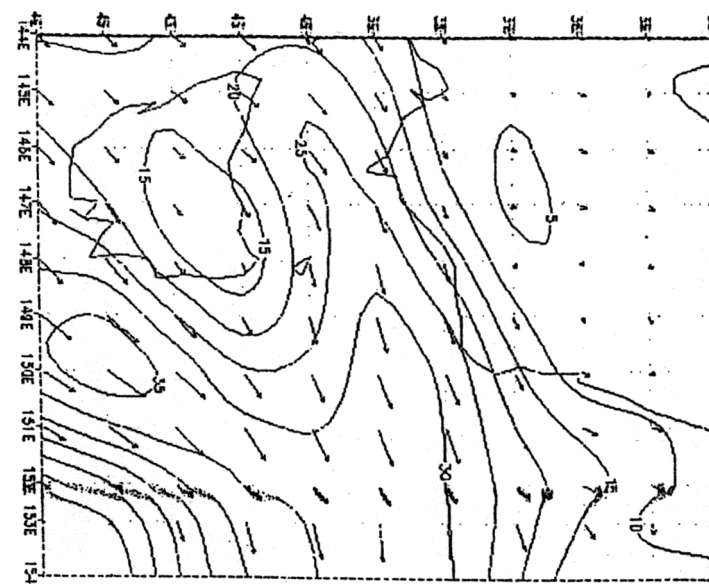
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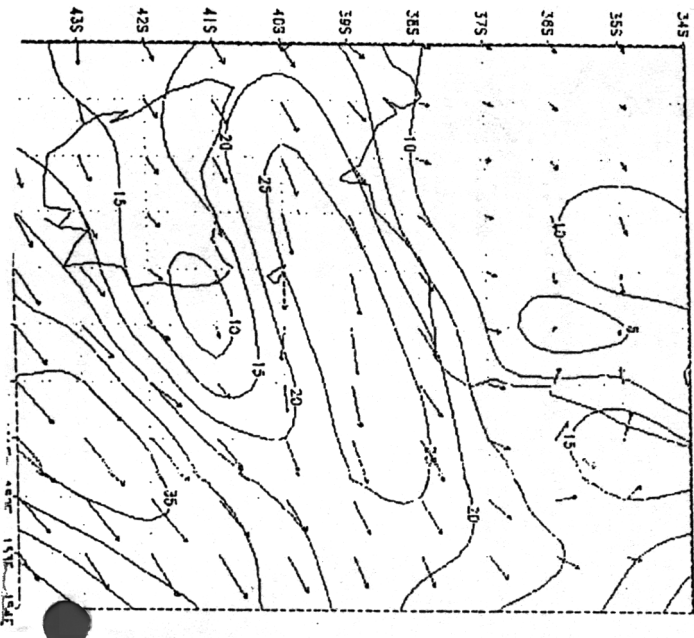
isotachs (knot) 1000 mb 18Z 27dec1998



isotachs (knot) 1000 mb 12Z 28dec1998



isotachs (knot) 1000 mb 06Z 28dec1998



isotachs (knot) 1000 mb 12Z 28dec1998

