



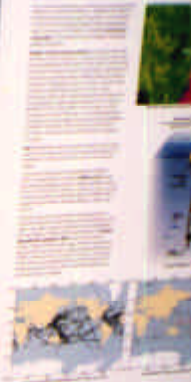
Atmosphere and Ocean

Text describing atmospheric and oceanic processes, accompanied by diagrams of ocean circulation and atmospheric layers.



Monitoring the

Text describing monitoring techniques, accompanied by a satellite image and a diagram of a monitoring station.



Monitoring the Ocean

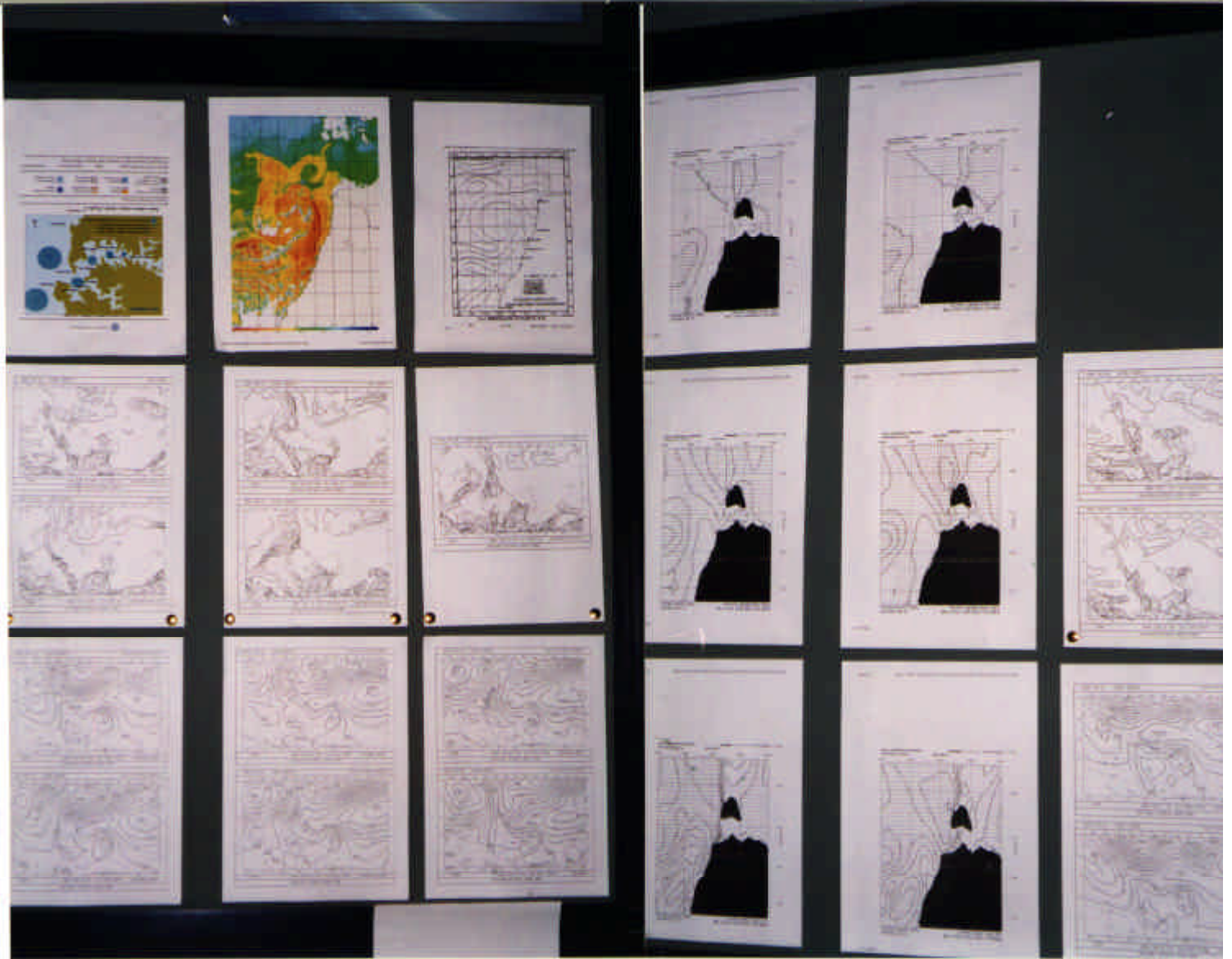
Text describing ocean monitoring, accompanied by a map of the ocean and a diagram of a monitoring station.



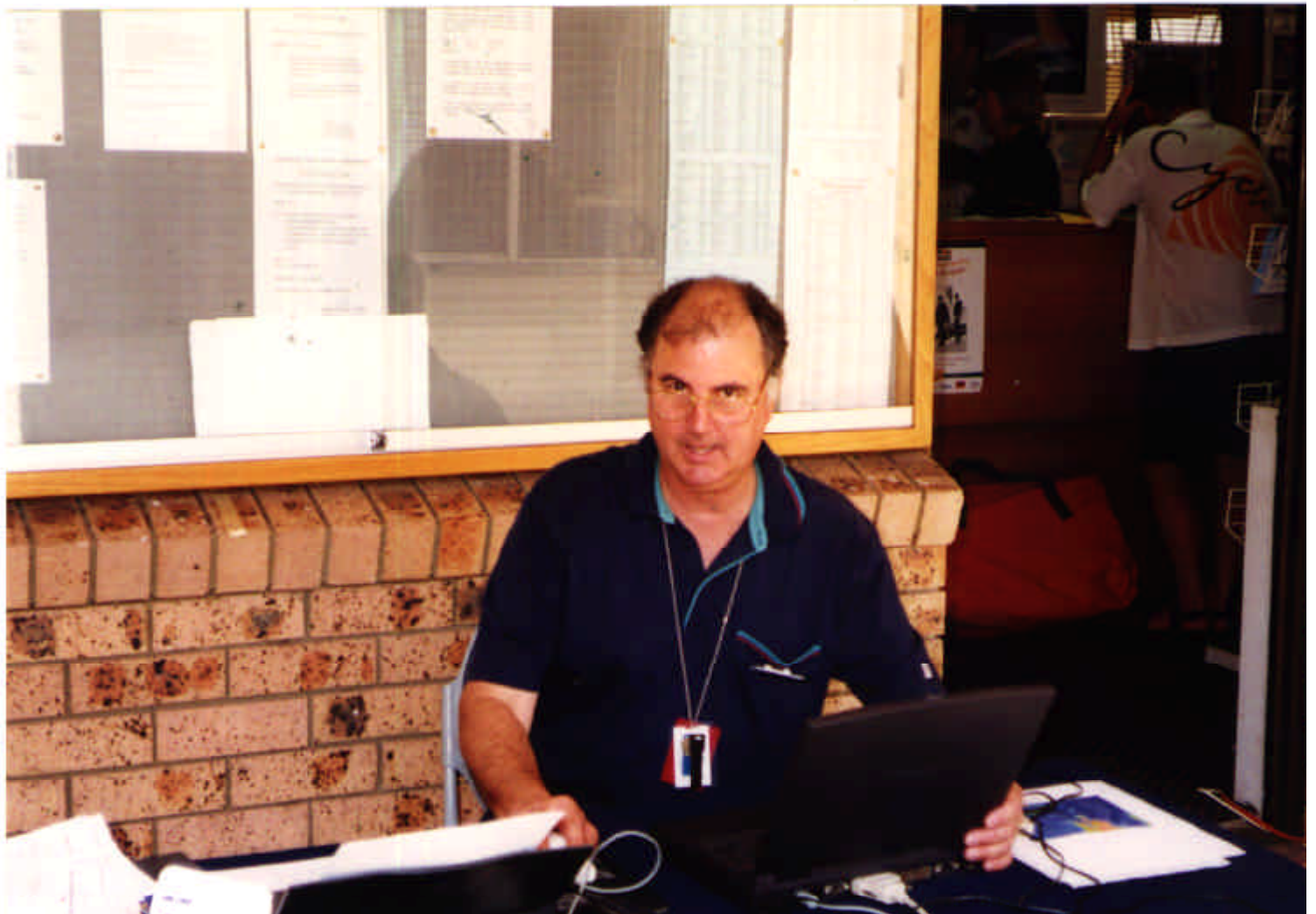
Weather, Ocean, Human Activity

Text describing the relationship between weather, ocean, and human activity, accompanied by a diagram of a coastal area and a map of the world.











STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF METEOROLOGY
1999-2000
Annual Report
The Bureau of Meteorology is pleased to present this report on its activities during the past year. The Bureau has continued to provide excellent service to the public and to the State of New York. The Bureau has also continued to improve its services and to expand its reach. The Bureau has also continued to provide excellent service to the public and to the State of New York. The Bureau has also continued to improve its services and to expand its reach.

Station	Temp	Humidity	Wind	Pressure	Clouds	Precip
Albany	55	65	10	30.1	100	0.0
Buffalo	45	55	15	30.2	100	0.0
Catonsville	65	75	10	30.0	100	0.0
Chester	60	70	10	30.1	100	0.0
Cornwall	60	70	10	30.1	100	0.0
Delaware	65	75	10	30.0	100	0.0
Elmira	45	55	15	30.2	100	0.0
Essex	60	70	10	30.1	100	0.0
Hamilton	65	75	10	30.0	100	0.0
Hempstead Harbor	65	75	10	30.0	100	0.0
Kingston	60	70	10	30.1	100	0.0
Long Beach	65	75	10	30.0	100	0.0
Malone	45	55	15	30.2	100	0.0
Marshall	60	70	10	30.1	100	0.0
Massena	45	55	15	30.2	100	0.0
Monticello	60	70	10	30.1	100	0.0
Orangetown	65	75	10	30.0	100	0.0
Port Jervis	45	55	15	30.2	100	0.0
Rochester	55	65	10	30.1	100	0.0
Saratoga Springs	60	70	10	30.1	100	0.0
Schenectady	55	65	10	30.1	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0
Schoharie	45	55	15	30.2	100	0.0

Atmosphere

The atmosphere is the layer of gases that surrounds the Earth. It is composed of a mixture of gases, including nitrogen, oxygen, and carbon dioxide. The atmosphere plays a crucial role in regulating the Earth's temperature and protecting life on the planet. It also plays a role in the water cycle and the formation of clouds and precipitation.



METeorology on the NET

<http://www.bom.gov.au>

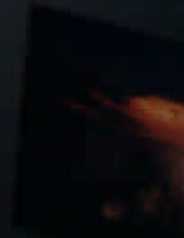
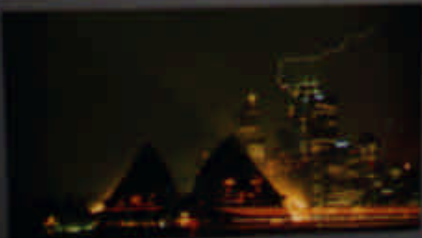
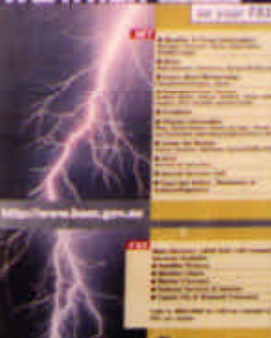
- Weather and Climate Information
- Forecasting
- Research and Development
- Public Information
- International Cooperation
- Education and Training
- Operational Services
- Support Services



WEATHER

Forecasting and Analysis

- Temperature
- Humidity
- Wind
- Pressure
- Clouds
- Precipitation





BUREAU OF METEOROLOGY

WEATHER INFORMATION FOR THE SYDNEY- HOBART, TELSTRA CUP, and SYDNEY-COFFS HARBOUR YACHT RACES

Web Sites

<http://www.bom.gov.au>

The Australian Bureau of Meteorology home page. Add /marine for ocean products.

http://www.bom.gov.au/reguser/sp_ev/svdhob.shtml

(Note: Remember to include the underscore "_" in sp_ev)

Web page set up by the Bureau of Meteorology especially for Sydney – Hobart Yacht Race competitors, including latest hourly coastal observations, weather charts and high resolution wind, sea and swell prognoses.

<http://www.bom.gov.au/info/wmd/olympic/>

Latest observations and forecasts around Sydney Harbour.

Link to the Manly Hydraulics Laboratory near real time NSW wave data and graphs. For the MHL home page go to <http://www.mhl.nsw.gov.au>

http://www.marine.csiro.au/yacht_races/

For the best satellite imagery of Sea Surface Temperatures from CSIRO.

(Note the underscore "_" in yacht_races)

<http://www.svd-hob.telstra.com.au/weather/index.cfm>

Telstra's Sydney-Hobart weather page.

Weather by Fax (INFOFAX – Bureau fax based polling service)

Main Directory – Freepoll		1800 630100
Sydney-Hobart race forecast - Sydney to 38S		1902 935811
Sydney-Hobart race forecast - 38S to Hobart		1902 935812
Sydney-Hobart Coastal Observations		1902 935813
N.S.W. Coastal Waters forecasts		1902 935220
N.S.W. Marine warnings		1902 935071
N.S.W. Latest Coastal observations		1902 935229
Victorian Coastal Waters forecasts		1902 935230
Victorian Marine warnings		1902 935012
Victorian Latest Coastal observations		1902 935239
Tasmanian Coastal Waters forecasts -text		1902 935240
Tasmanian Coastal Waters forecasts - map		1902 935246
Tasmanian Marine warnings		1902 935049
Tasmanian Latest Coastal observations		1902 935249
Notes on the Weather (+4 day forecast)	NSW	1902 935422
	VIC	1902 935423
	TAS	1902 935424
Sydney Metropolitan forecast		1902 935222
Current Sydney weather radar image		1902 935228
Lord Howe Island Forecast		1902 935701
Tasmanian State, Cities & Towns		1902 935242
Aust region MSL Analysis chart		1902 935210
Aust region +24 Forecast chart		1902 935211
Aust region GASP 2-3 day Forecast charts		1902 935728
Aust region GASP 4-5 day Forecast charts		1902 935003
Aust region GASP 6-7 day Forecast charts		1902 935004
Latest satellite pictures (Australia)		1902 935201
Latest satellite pictures (SE Australia)		1902 935203
Model forecast winds – East Australia +12, +24, +36 hr		1902 935475
Aust region Total Wave		1902 935301
Aust region Swell		1902 935266
Recorded Telephone Service		
NSW coastal waters		1900 926101
		1900 969955
Sydney Forecast		1900 926100
Victorian coastal waters		1900 926110
		1900 969966
Tasmanian coastal waters		1900 969940
Hobart Forecast		1900 926157

SYDNEY - HOBART QUESTIONNAIRE

We hope that the service from the Bureau of Meteorology will provide you with timely and accurate information, to enhance the safety of your passage to Hobart and also the chance to gain a competitive edge. In our endeavour to continue improving our services for this race, please take some time to answer the following questions and return this form in the reply paid envelope supplied. Wishing you a safe, fun and exciting race.

Brett Gage, Marine Weather Manager NSW.

Did you use the internet, weather fax, mobile phone or radio to access weather information during the race and did you experience any difficulties with the mode of access you used ?

Which products did you find most useful ?

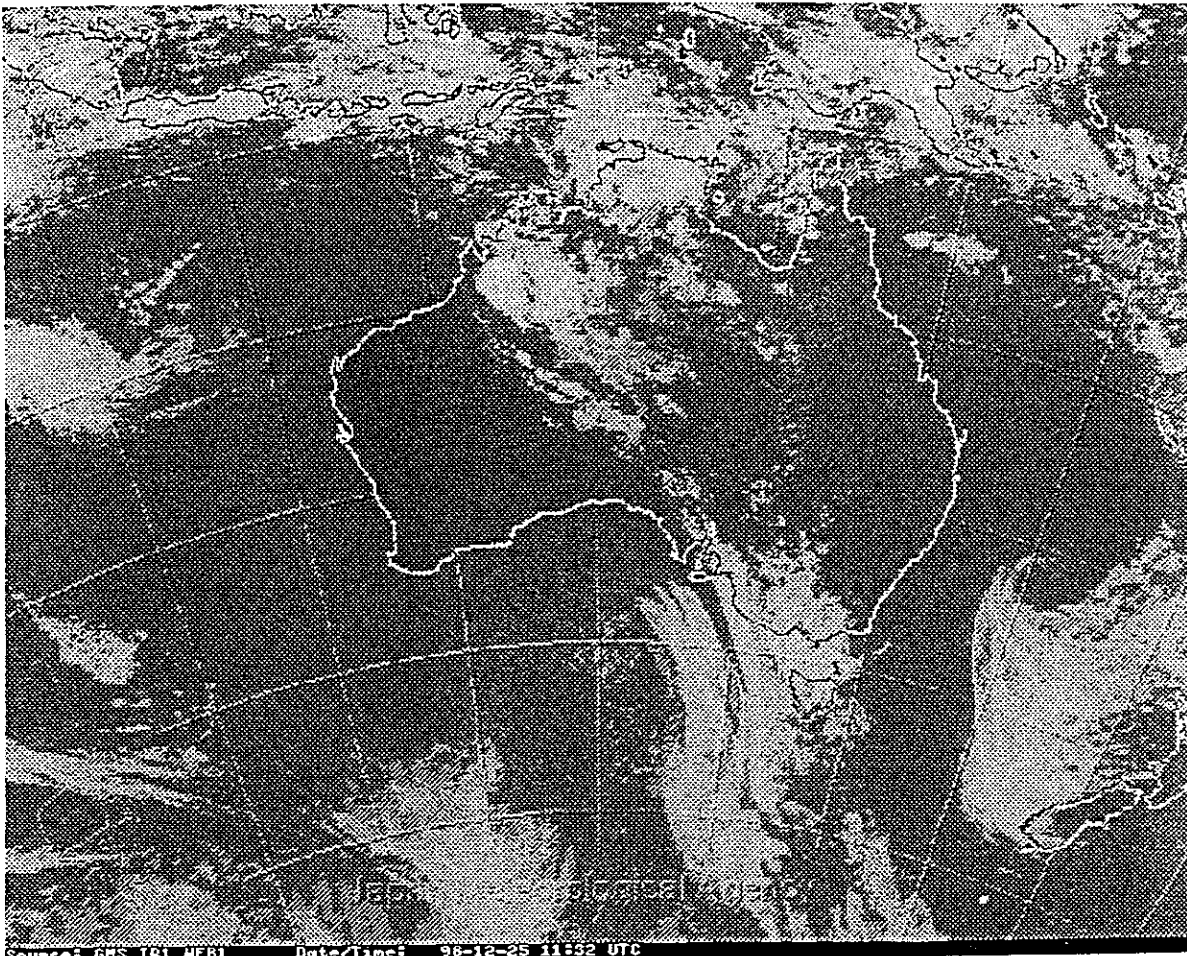
Was the Sydney - Hobart forecast reasonably accurate and if not, when and why ?

Did the meso- scale charts provide good guidance against observed conditions and if not, which product was lacking accuracy and at what time and day ?

Is there any weather information that you know of, that was not provided in the weather pack, that you would like to be included for next years race ?



BUREAU OF METEOROLOGY



Source: Japan Meteorological Agency GMS-5
via Bureau of Meteorology, Australia

Captured: Fri Dec 25 12:00 UTC

[Return to: Met Net \(Home page\)](#)

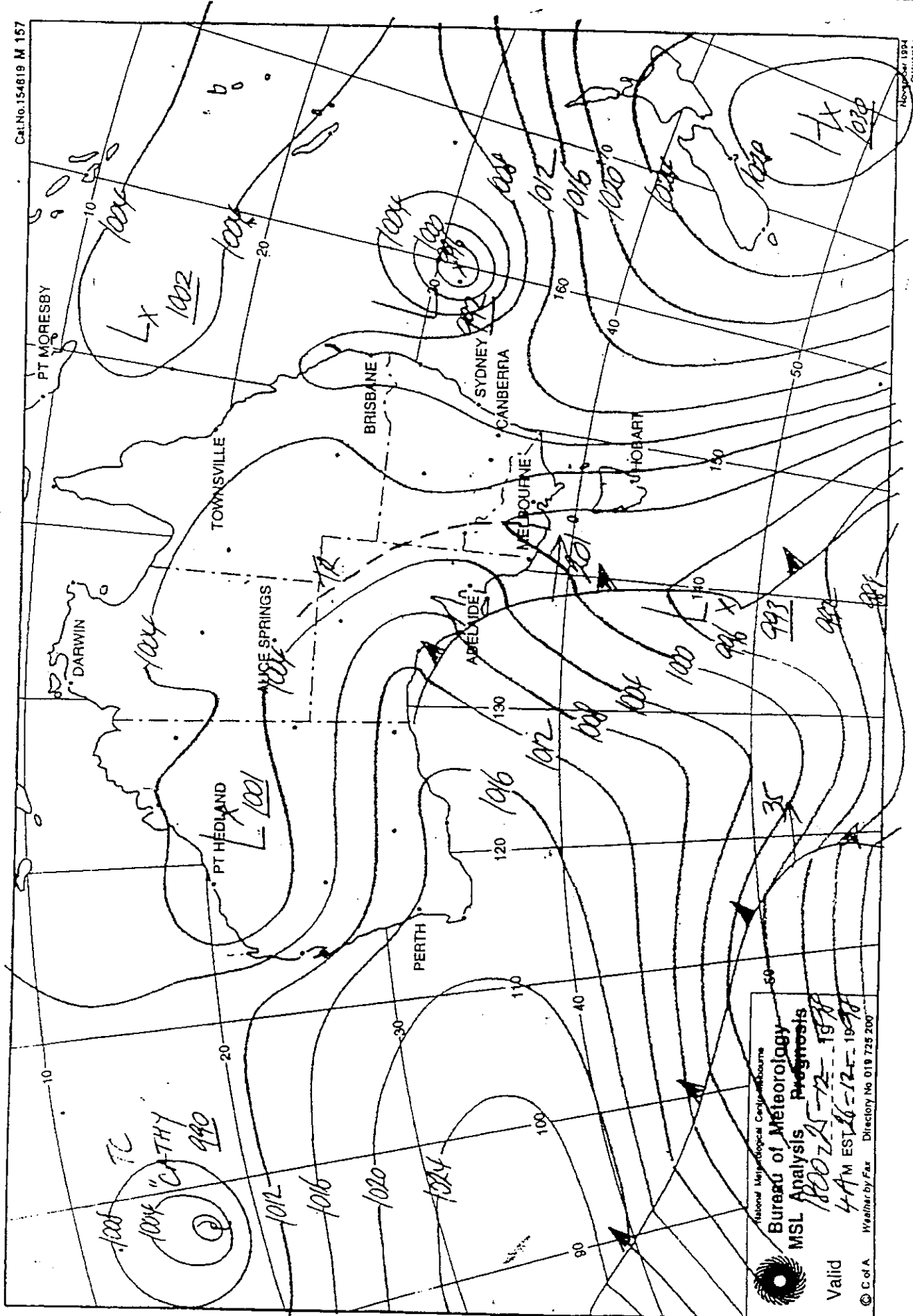
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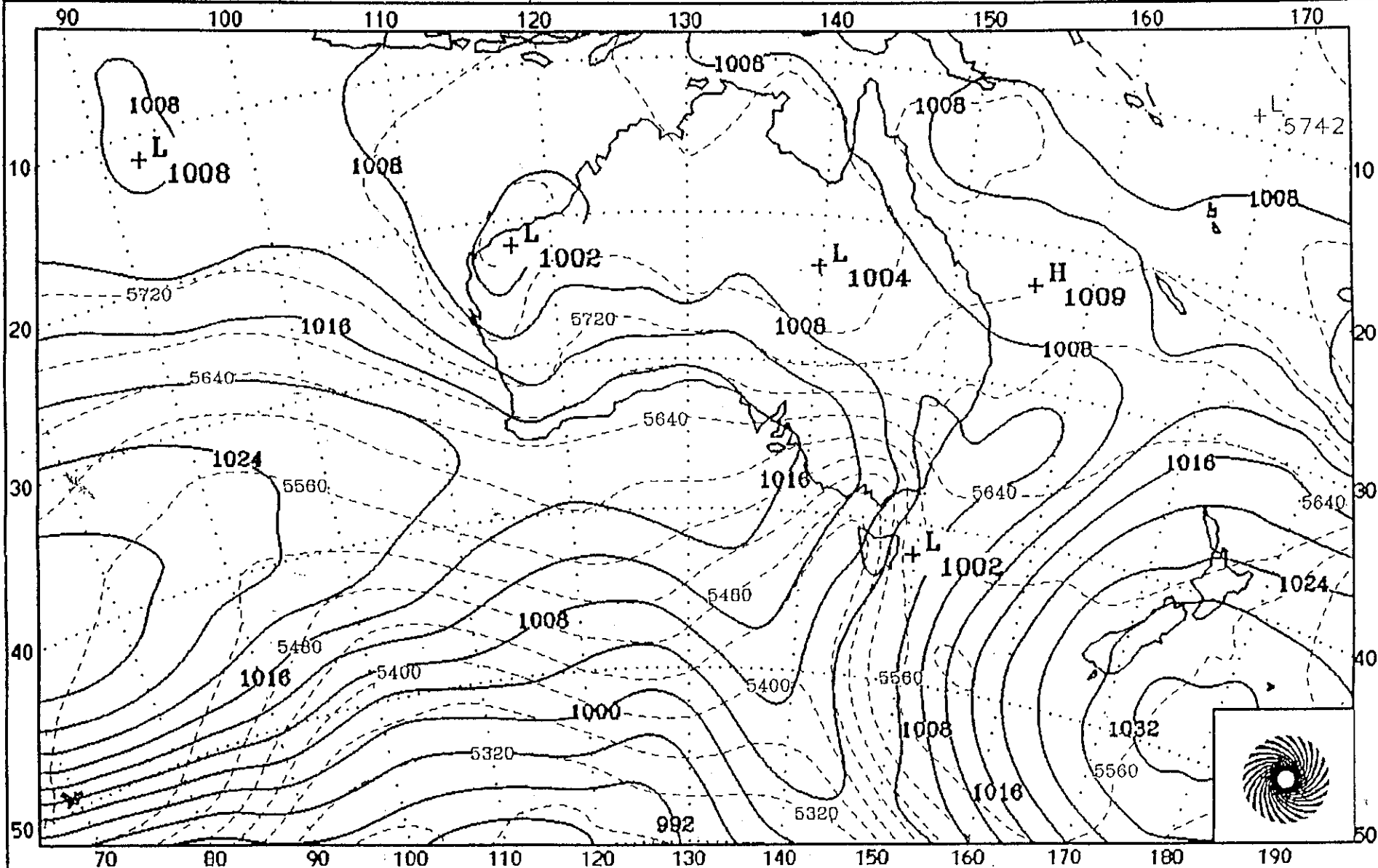


National Meteorological Centre
Bureau of Meteorology
MSL Analysis Prognosis
 1800Z 25-12-1978
 4 AM EST 26-12-1978
 Valid
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November 1978
 Darwin

PROG(LAPS+24) MSLP / THIK

VALID 12Z 26 DEC 98



LAMBERT CONFORMAL PROJECTION

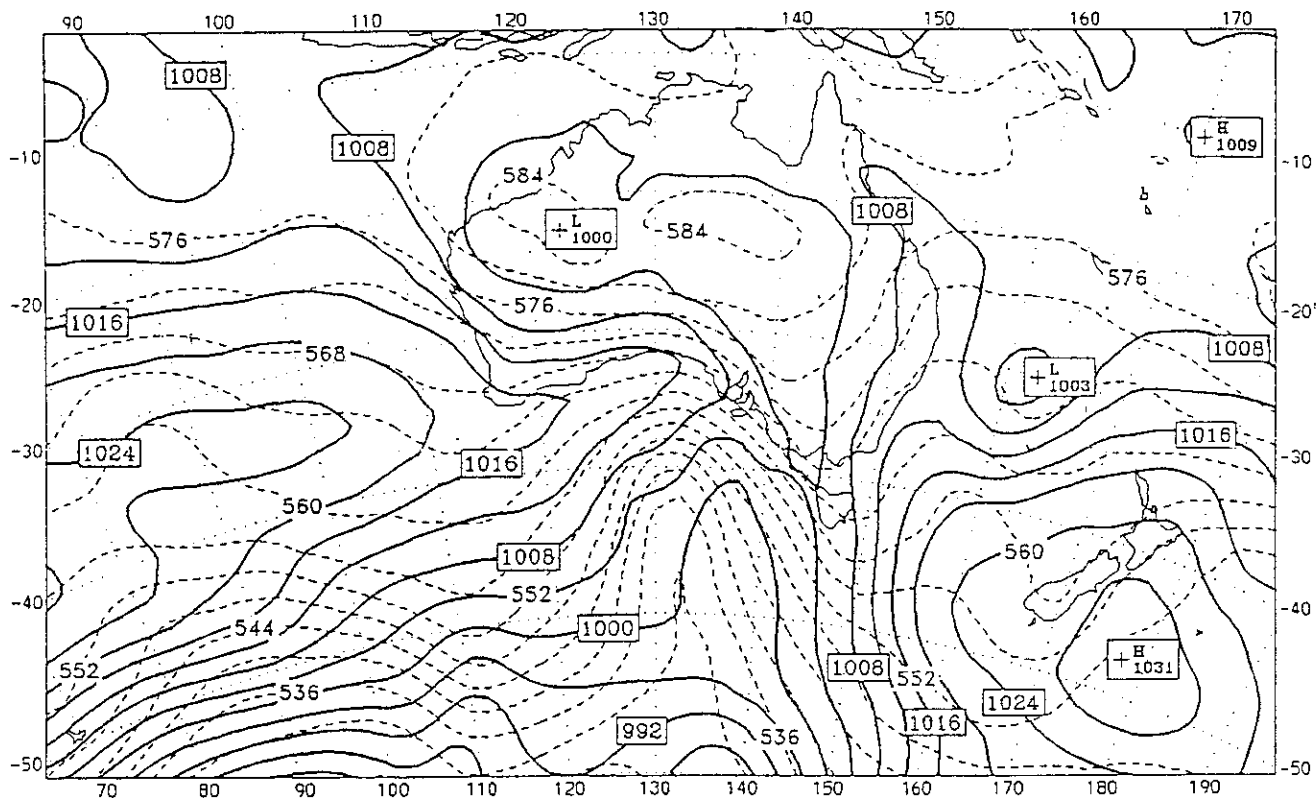
ISSUED, 13UTC 25 DEC 98

NMC GASP T239L29 ANALYSIS

ANALYSIS

VALID 1200 UTC Fri 25 DEC 1998

MSLP



Contour interval 4 hPa

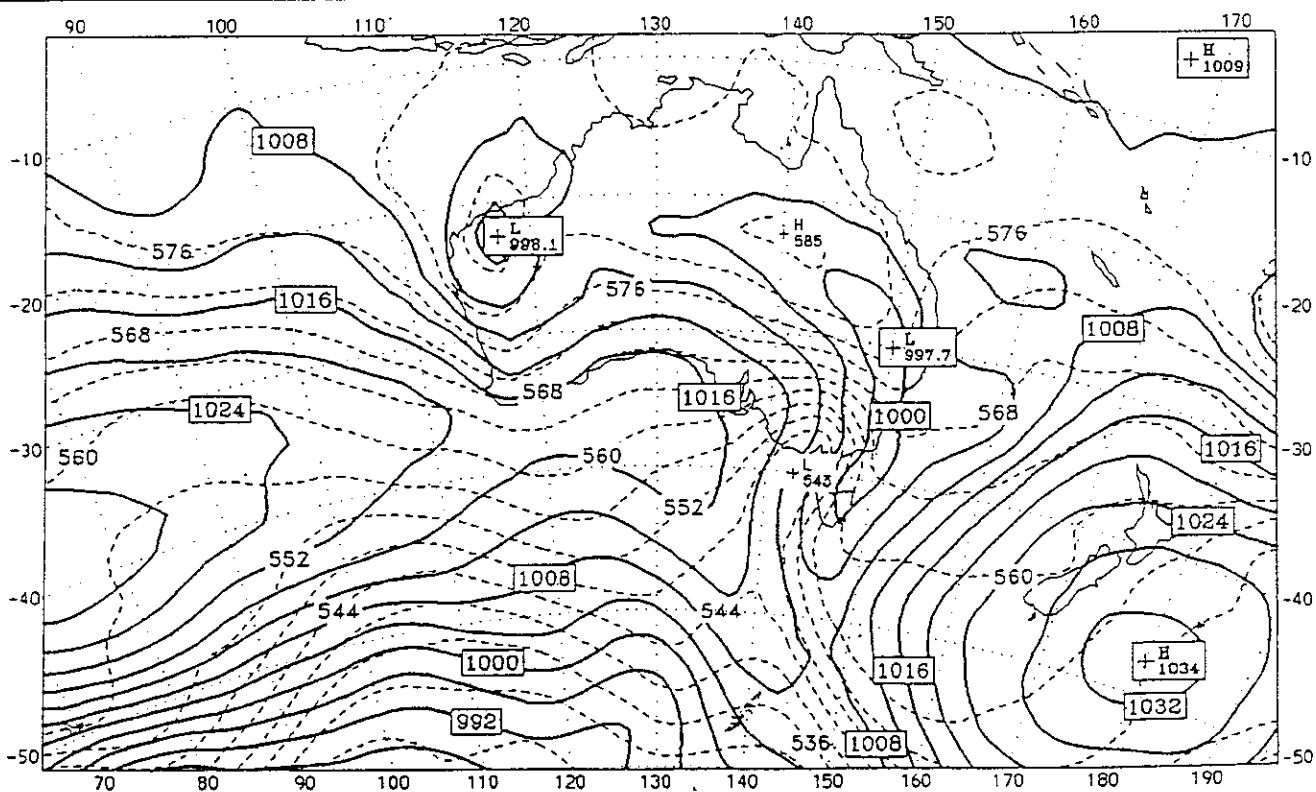
ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

24HR FORECAST

VALID 1200 UTC Sat 26 DEC 1998

MSLP



Contour interval 4 hPa

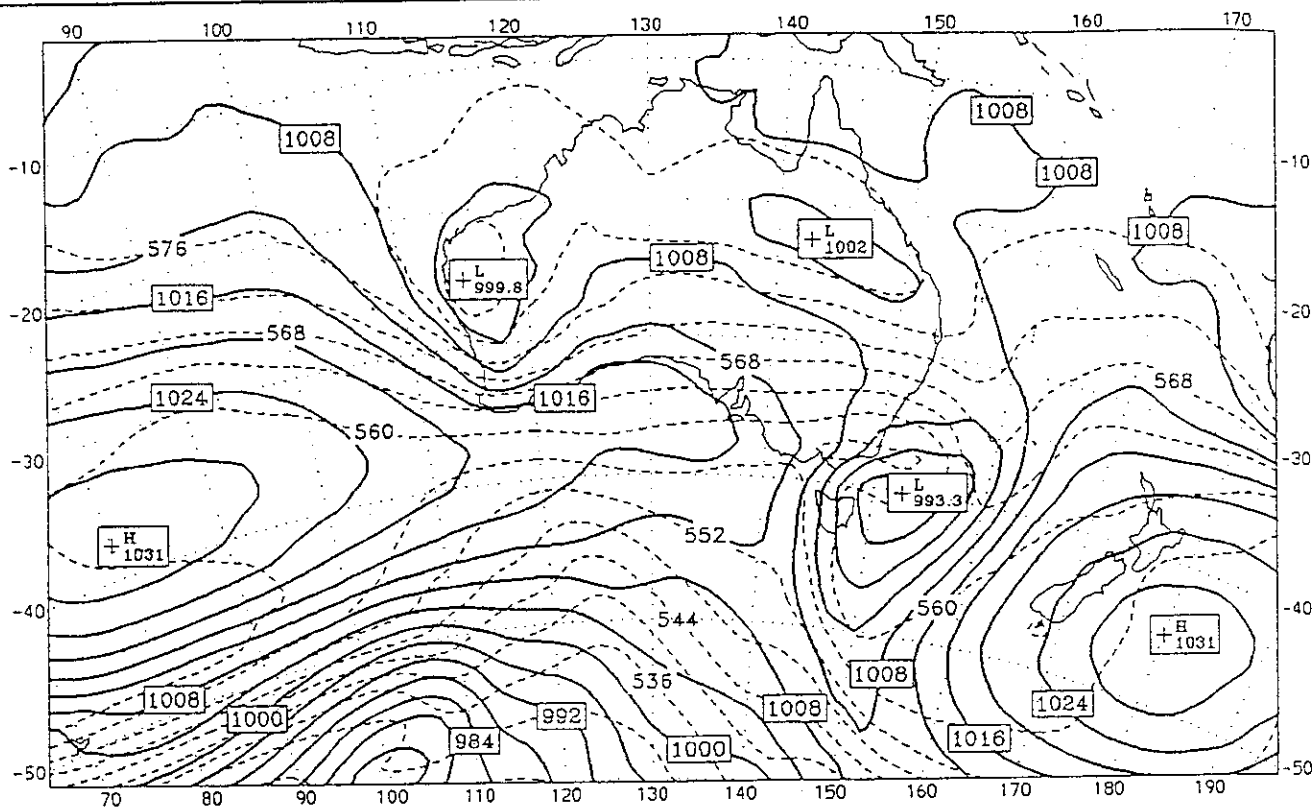
ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

48HR FORECAST

VALID 1200 UTC Sun 27 DEC 1998

MSLP



Contour interval 4 hPa

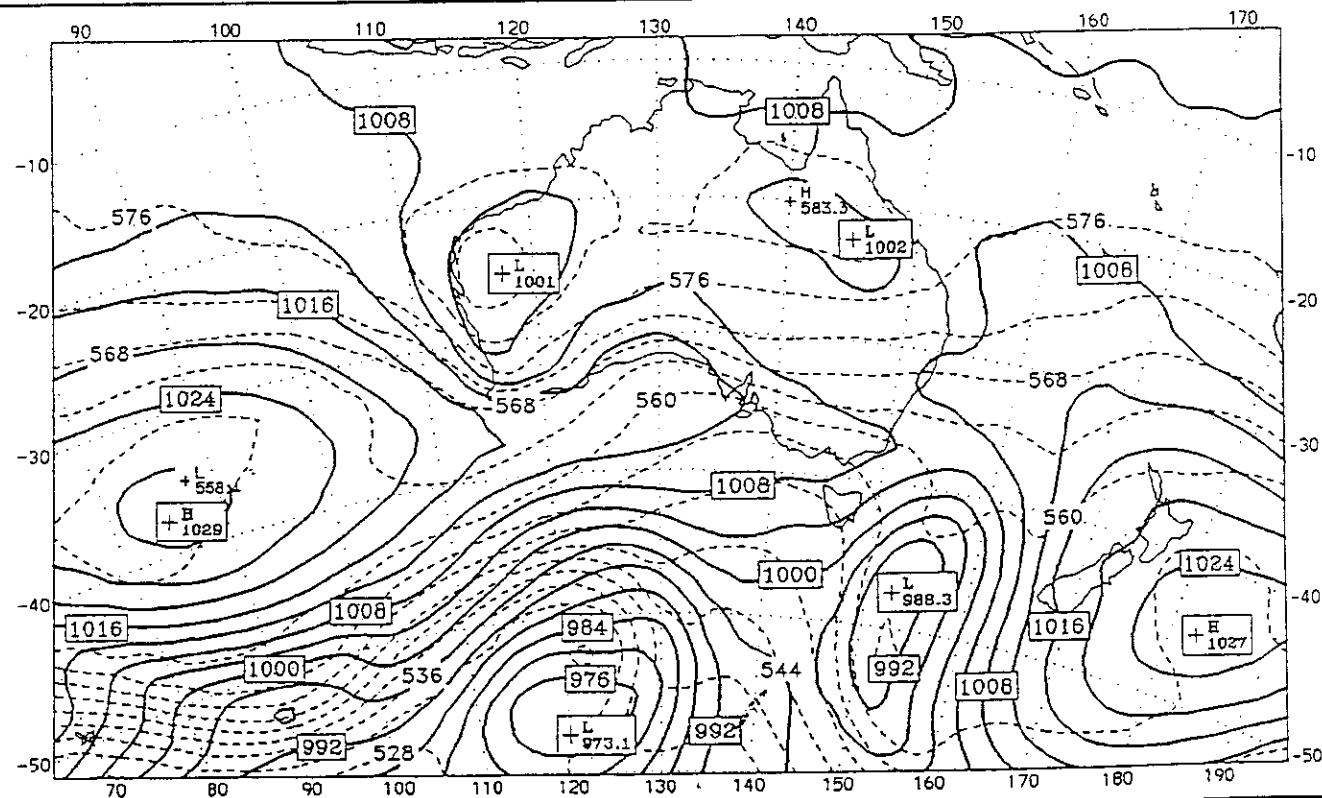
ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

72HR FORECAST

VALID 1200 UTC Mon 28 DEC 1998

MSLP



Contour interval 4 hPa

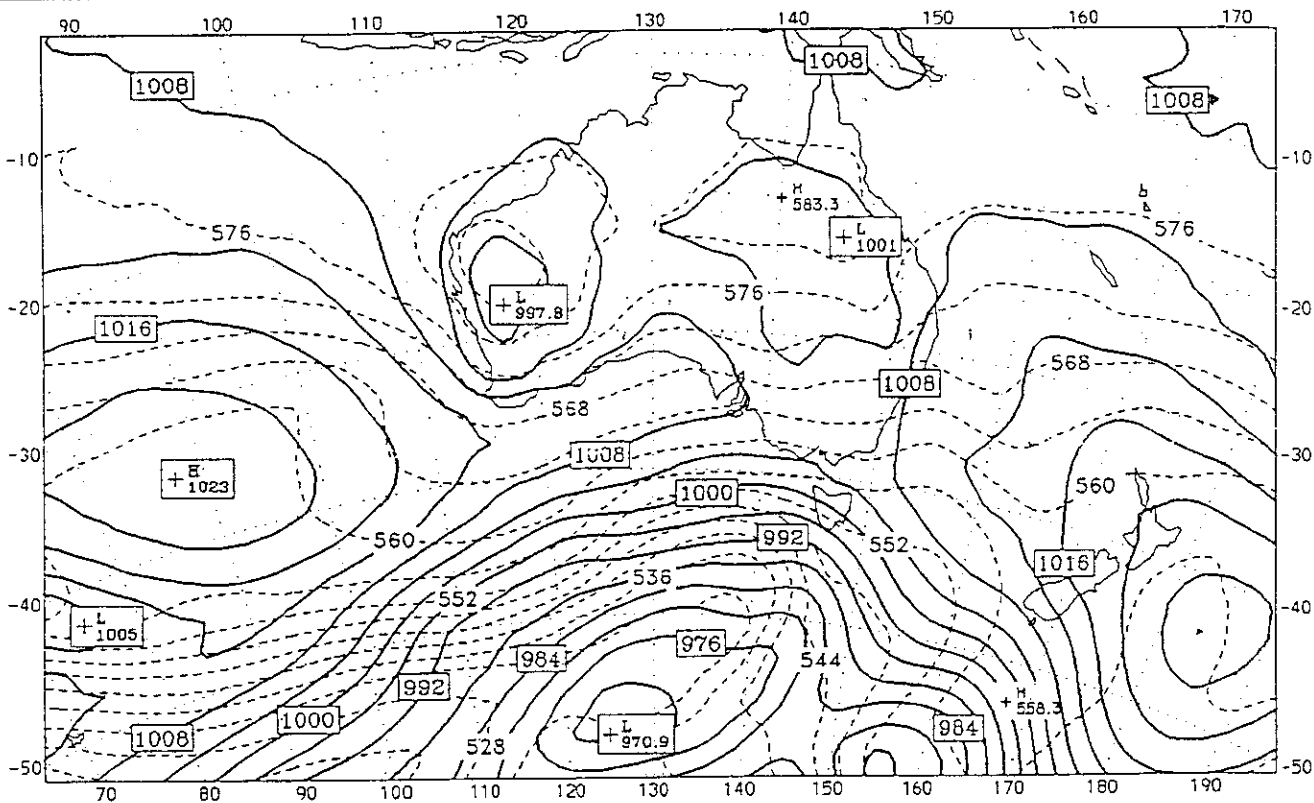
ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

96HR FORECAST

VALID 1200 UTC Tue 29 DEC 1998

MSLP



Contour interval 4 hPa

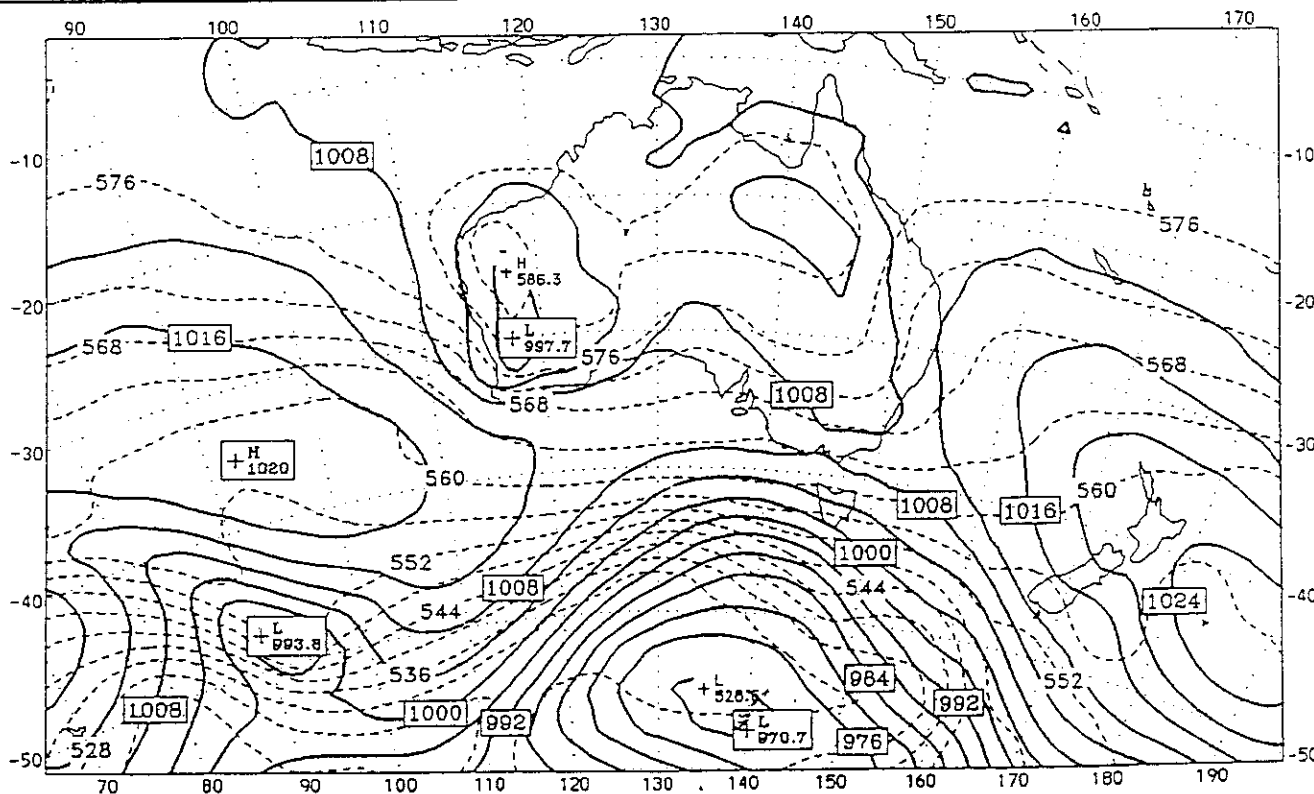
ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

120HR FORECAST

VALID 1200 UTC Wed 30 DEC 1998

MSLP



Contour interval 4 hPa

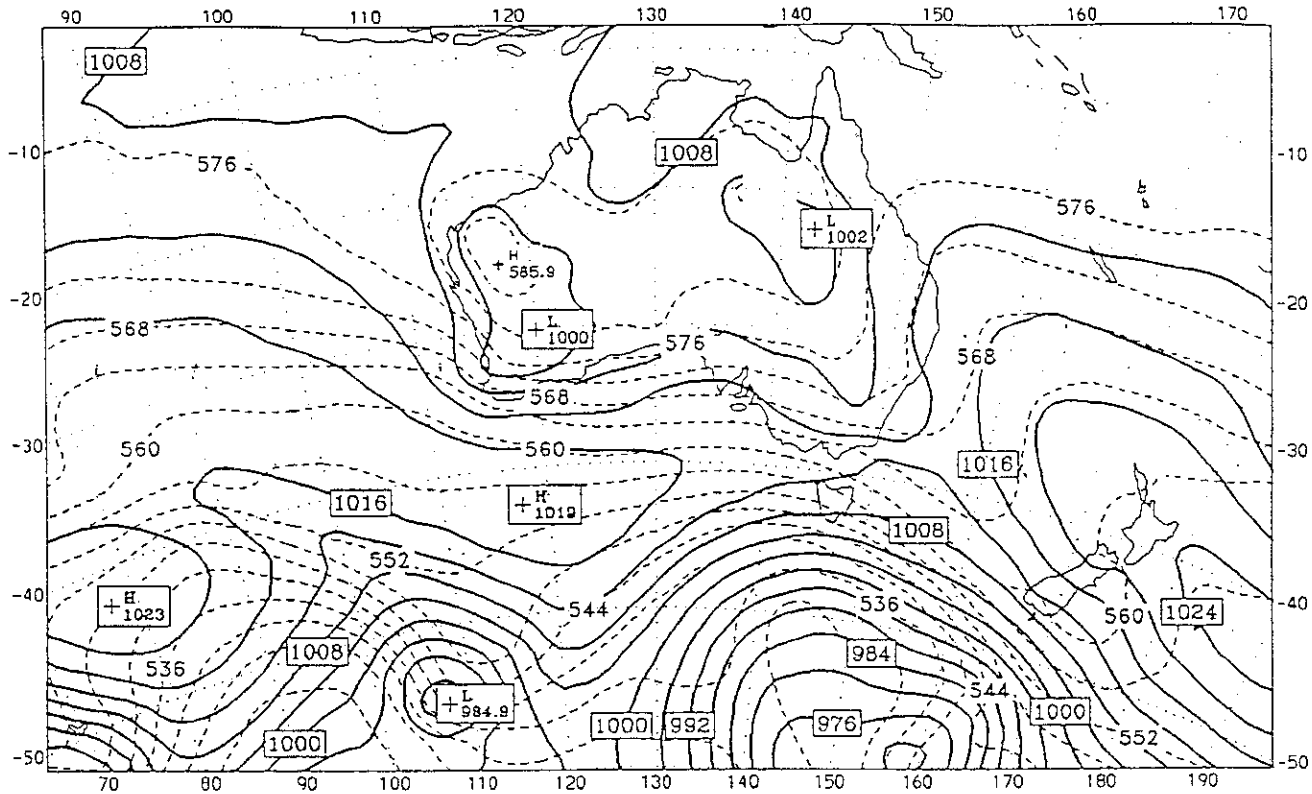
ISSUED: 18UTC 25 Dec 1998

NMC GASP T239L29 FORECAST

6DAY FORECAST

VALID 1200 UTC Thu 31 DEC 1998

MSLP



Contour interval 4 hPa

ISSUED: 18UTC

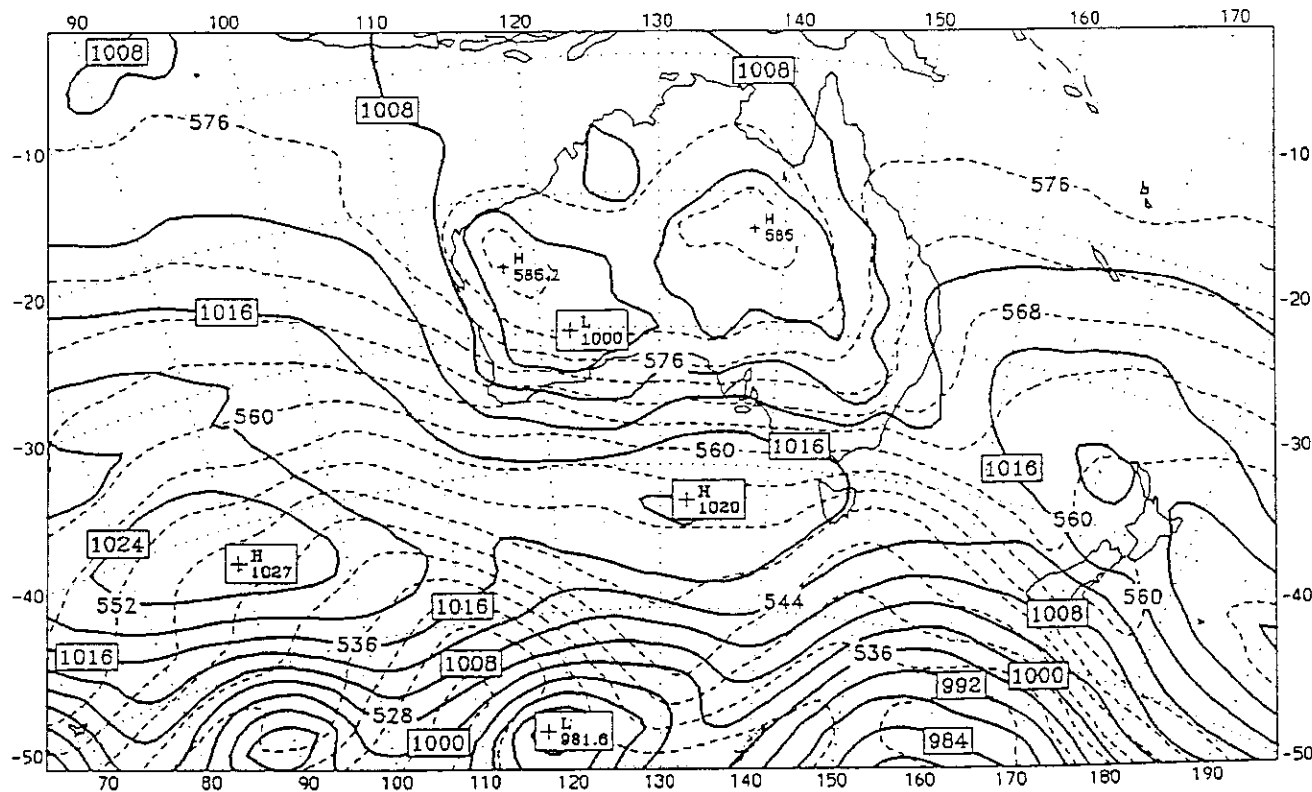
25 Dec 1998

NMC GASP T239L29 FORECAST

7DAY FORECAST

VALID 1200 UTC Fri 1 JAN 1999

MSLP



Contour interval 4 hPa

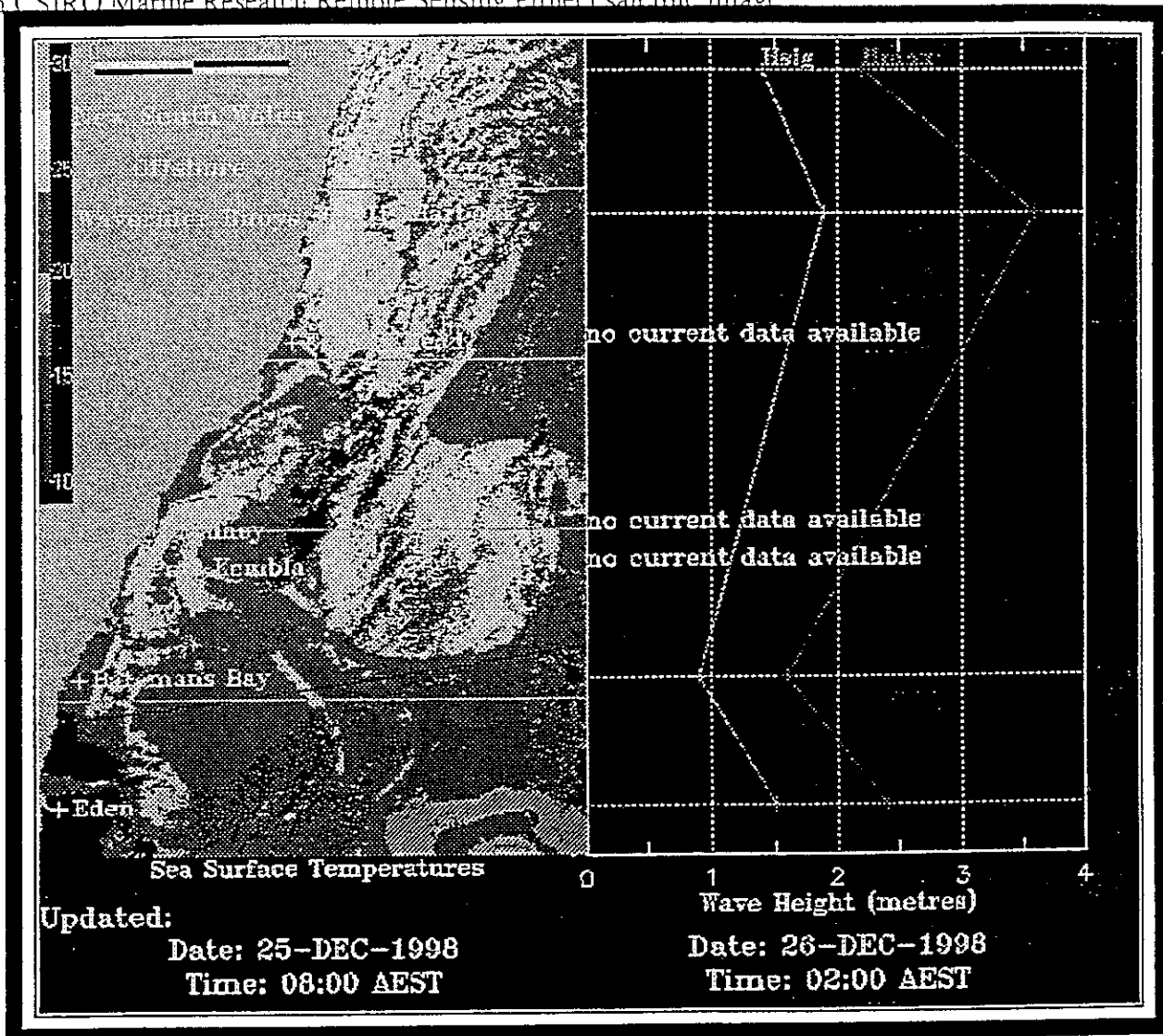
ISSUED: 18UTC

25 Dec 1998

Latest NSW Coastal Wave Heights

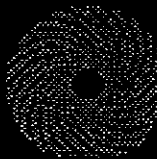
The information available from here is routinely updated at 00:40, 03:40, 09:40 and 15:40 Hrs Australian Eastern Standard Time. If large waves (over 3.5m Hsig) are present at any of the sites then all sites will be updated at about 40 minutes past each hour.

The map beside the plots represents the latest available sea surface temperature and is derived from a CSIRO Marine Research Remote Sensing Project satellite image



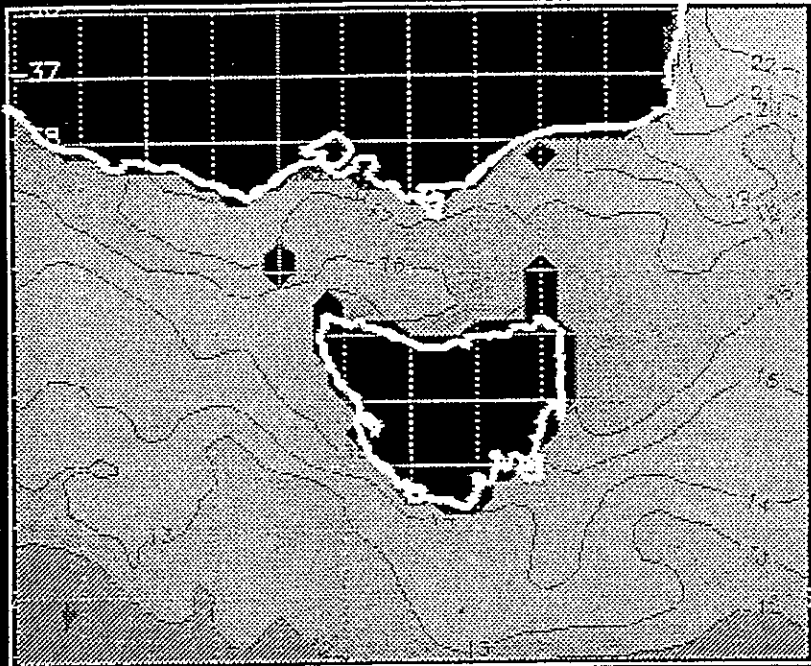
IMPORTANT: This information has been recovered directly from automatic recording equipment and has *not* been quality controlled by MHL. It should not be used for any commercial purpose without the written consent of the Manly Hydraulics Laboratory Manager.

REGION SST: Regional Analysis
REGION: N.S.W. Coast
PARAMETER: Sea Surface Temperature (°C) 24/12/1998



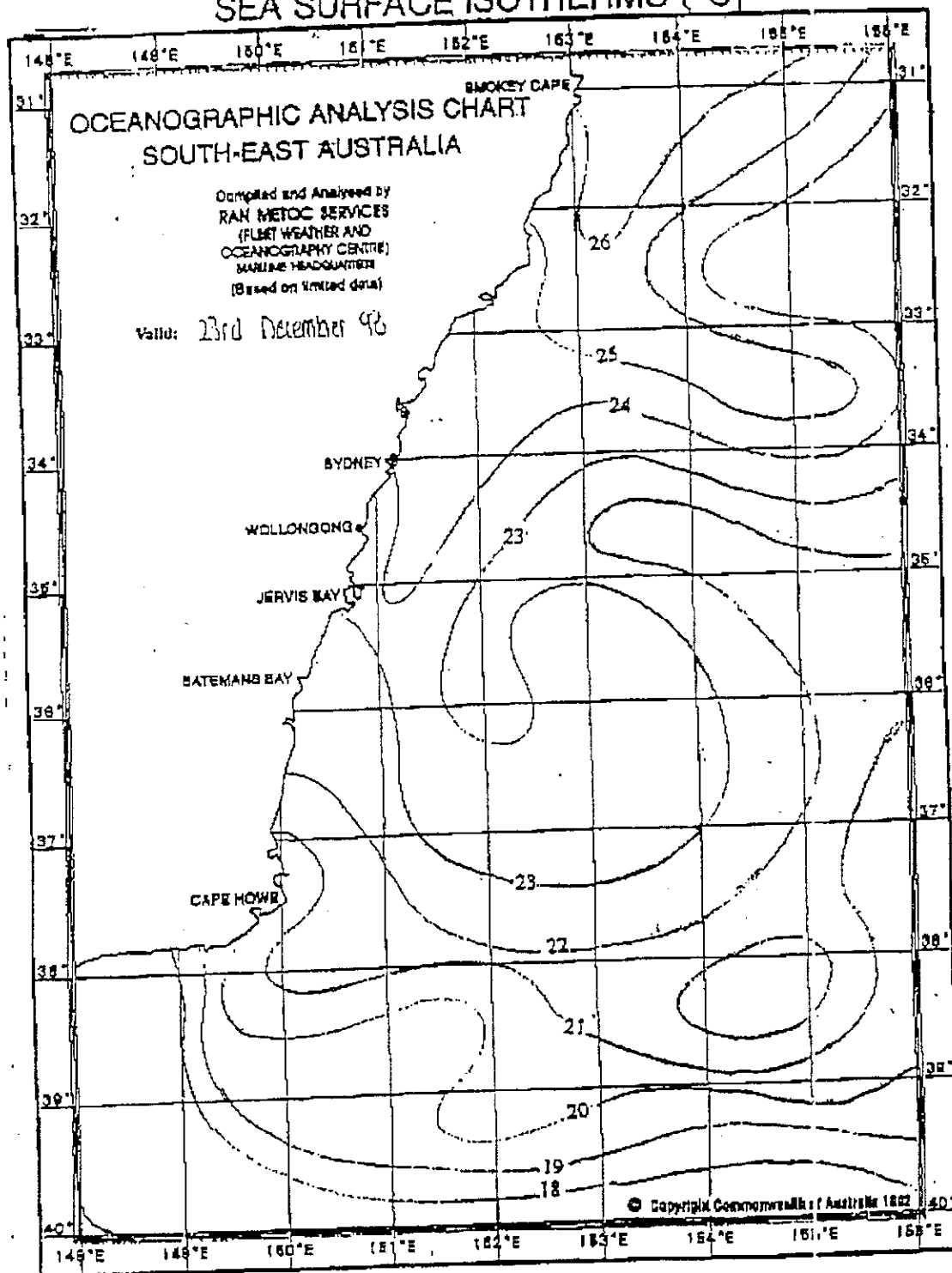
Produced by NMC BoM Specialized Oceanographic Centre
Weather by Fax: 1800 530 100 Free fax services directory
Weathercall: 1800 637 999 Free voice services directory
Internet URL: <http://www.bom.gov.au>
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REGION SST: Regional Analysis
REGION: Victoria/Tasmania
PARAMETER: Sea Surface Temperature (°C) 24/12/1998



Produced by NIMC BoM Specialised Oceanographic Centre
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Weathercall: 1800 657 999 Free voice services directory
Internet URL: <http://www.bom.gov.au>
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SEA SURFACE ISOTHERMS (°C)



TIDE PREDICTIONS FOR HOBART
DECEMBER - 1998

<i>Fri 18</i>		<i>Sat 19</i>		<i>Sun 20</i>		<i>Mon 21</i>		<i>Tue 22</i>		<i>Wed 23</i>		<i>Thu 24</i>	
Time	(m)	Time	(m)	Time	(m)	Time	(m)	Time	(m)	Time	(m)	Time	(m)
0642	1.7	0004	1.2	0045	1.3	0138	1.3	0250	1.3	0030	1.4	0104	1.4
1439	0.8	0719	1.7	0800	1.7	0842	1.7	0929	1.7	0436	1.3	0551	1.3
2125	1.3	1520	0.7	1601	0.7	1643	0.7	1724	0.7	1019	1.6	1116	1.6
		2220	1.3	2310	1.3	2352	1.4			1805	0.7	1845	0.7

TIDE PREDICTIONS FOR HOBART
DECEMBER - 1998

<i>Fri 25</i>		<i>Sat 26</i>		<i>Sun 27</i>		<i>Mon 28</i>		<i>Tue 29</i>		<i>Wed 30</i>		<i>Thu 31</i>	
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

TIDE PREDICTIONS FOR HOBART
JANUARY - 1999

<i>Fri 1</i>		<i>Sat 2</i>		<i>Sun 3</i>		<i>Mon 4</i>		<i>Tue 5</i>		<i>Wed 6</i>		<i>Thu 7</i>	
Time	(m)	Time	(m)	Time	(m)	Time	(m)	Time	(m)	Time	(m)	Time	(m)
0633	1.9	0025	1.2	0132	1.3	0312	1.3	0437	1.3	0034	1.5	0117	1.5
1411	0.5	0727	1.9	0821	1.9	0915	1.8	1013	1.7	0547	1.2	0651	1.2
2039	1.4	1507	0.5	1601	0.5	1654	0.6	1745	0.6	1110	1.6	1207	1.5
		2145	1.4	2247	1.4	2345	1.5			1831	0.7	1914	0.8

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Times stated are Eastern Standard Time. During Daylight Saving Time (if in force) one hour needs to be added to the times stated.



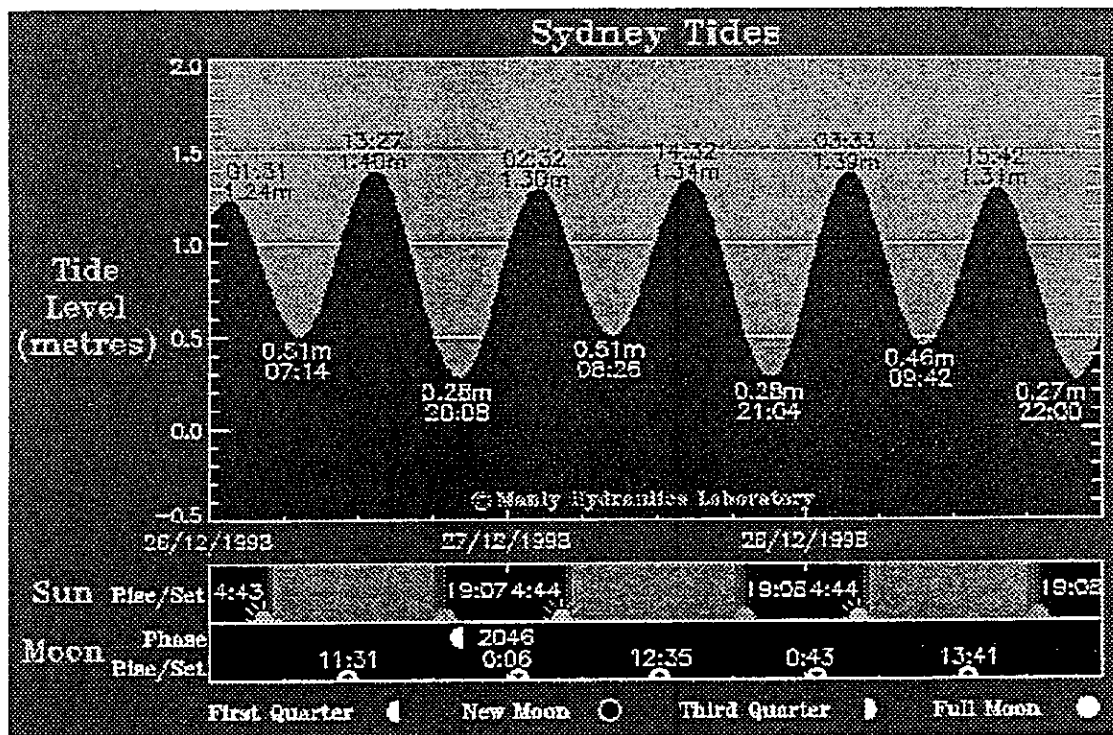
NTF Home Page

Comments and Queries to Paul Please.

Sydney Predicted Tide

Predicted tidal levels for other New South Wales ocean locations will vary from those at Sydney although, in general, the variation will not be more than 0.2 metres. The maximum time difference for other NSW coastal ports is up to 10 minutes. The actual tide may differ from the predicted tide due to meteorological and oceanographic conditions. Zero on the tide plot is Indian Springs Low Water, which is approximately the level of the Lowest Astronomical Tide.

Data similar to this and much more generally useful information is published in the NSW Tide Charts.



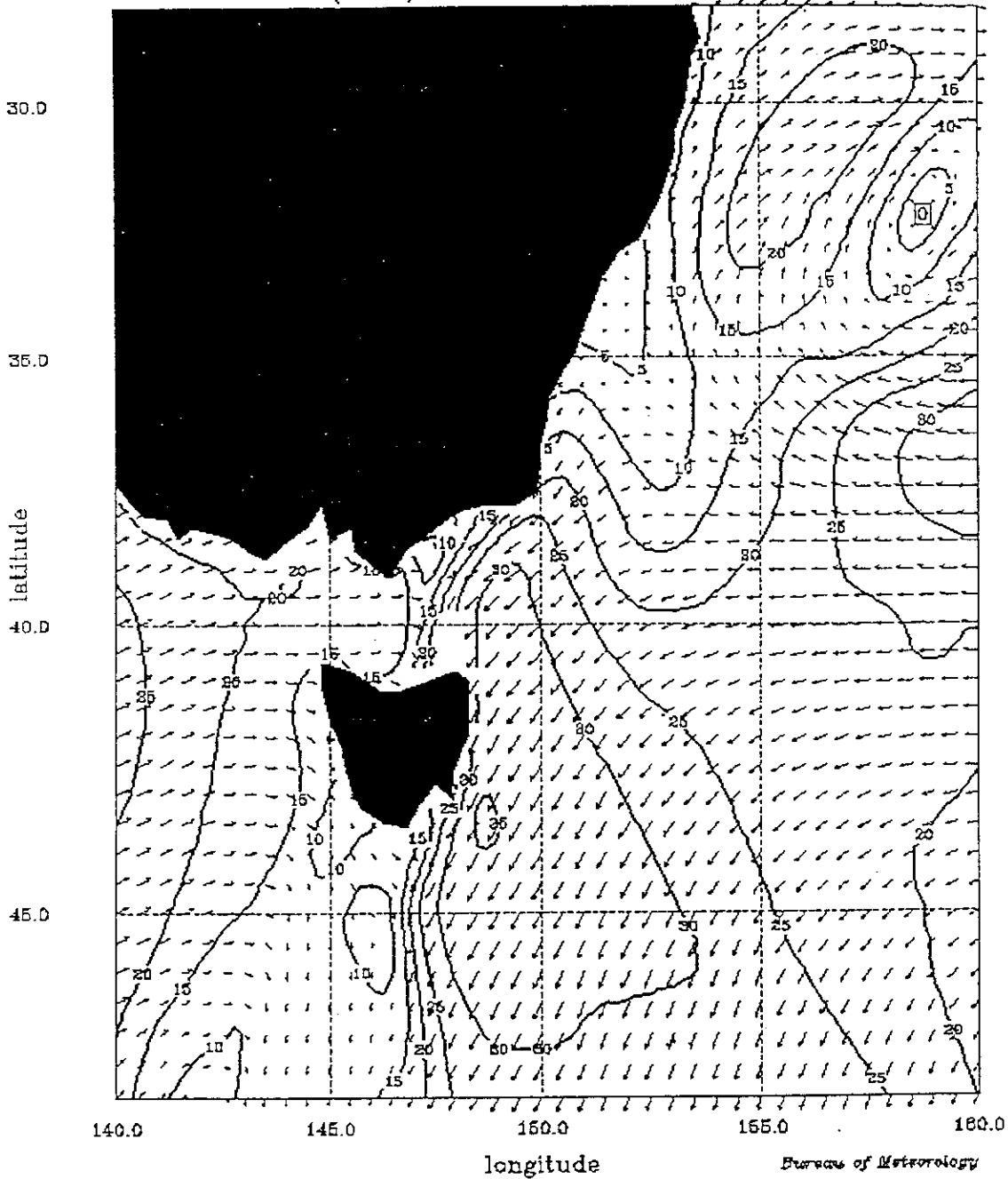
Note: All times are Australian Eastern Standard Time.

Important: These predictions have been generated from data recorded by MHL and are NOT the official tide predictions for Sydney and should not be used for navigational purposes.

For inquiries about this data contact Col Nalty, CNalty@mhl.nsw.gov.au.

FORECAST FROM MESO SCALE NAM
10m WIND SPEED (knots)

12 HR FORECAST
VALID 0000UTC 981226

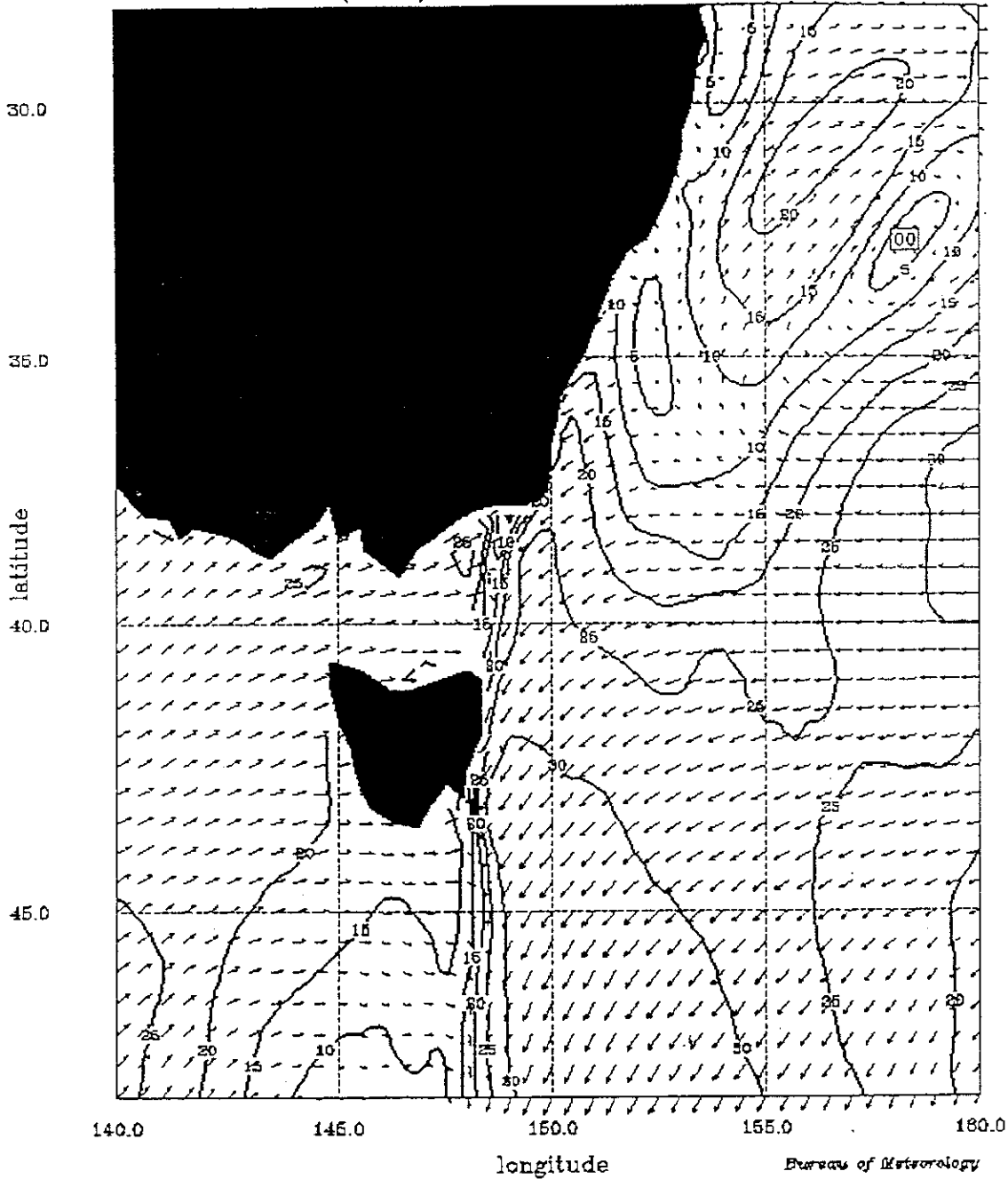


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE WAM
10m WIND SPEED (knots)

18 HR FORECAST
VALID 0600UTC 981226

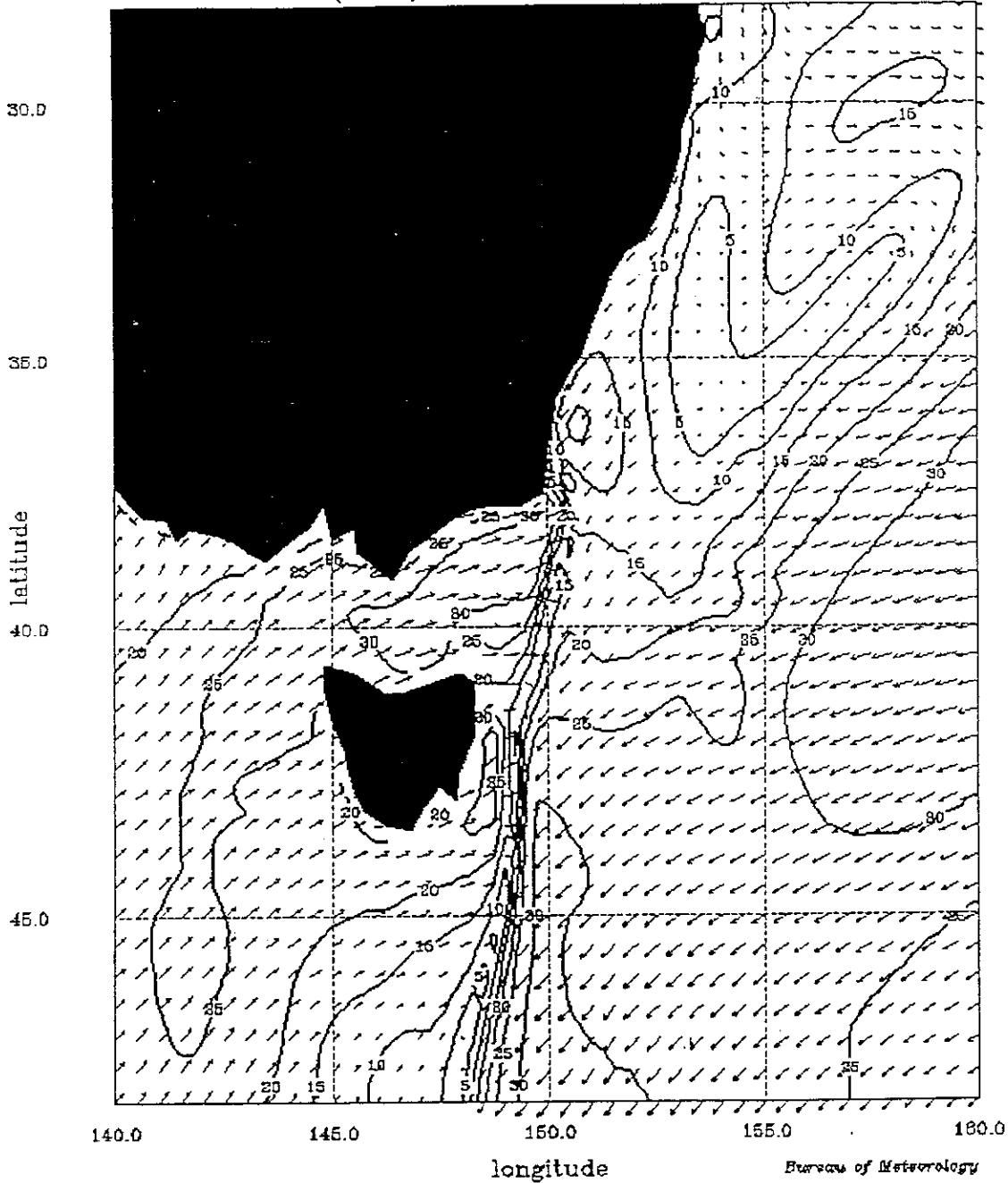


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FORECAST FROM MESO SCALE WAM
10m WIND SPEED (knots)

24 HR FORECAST
VALID 1200UTC 981226

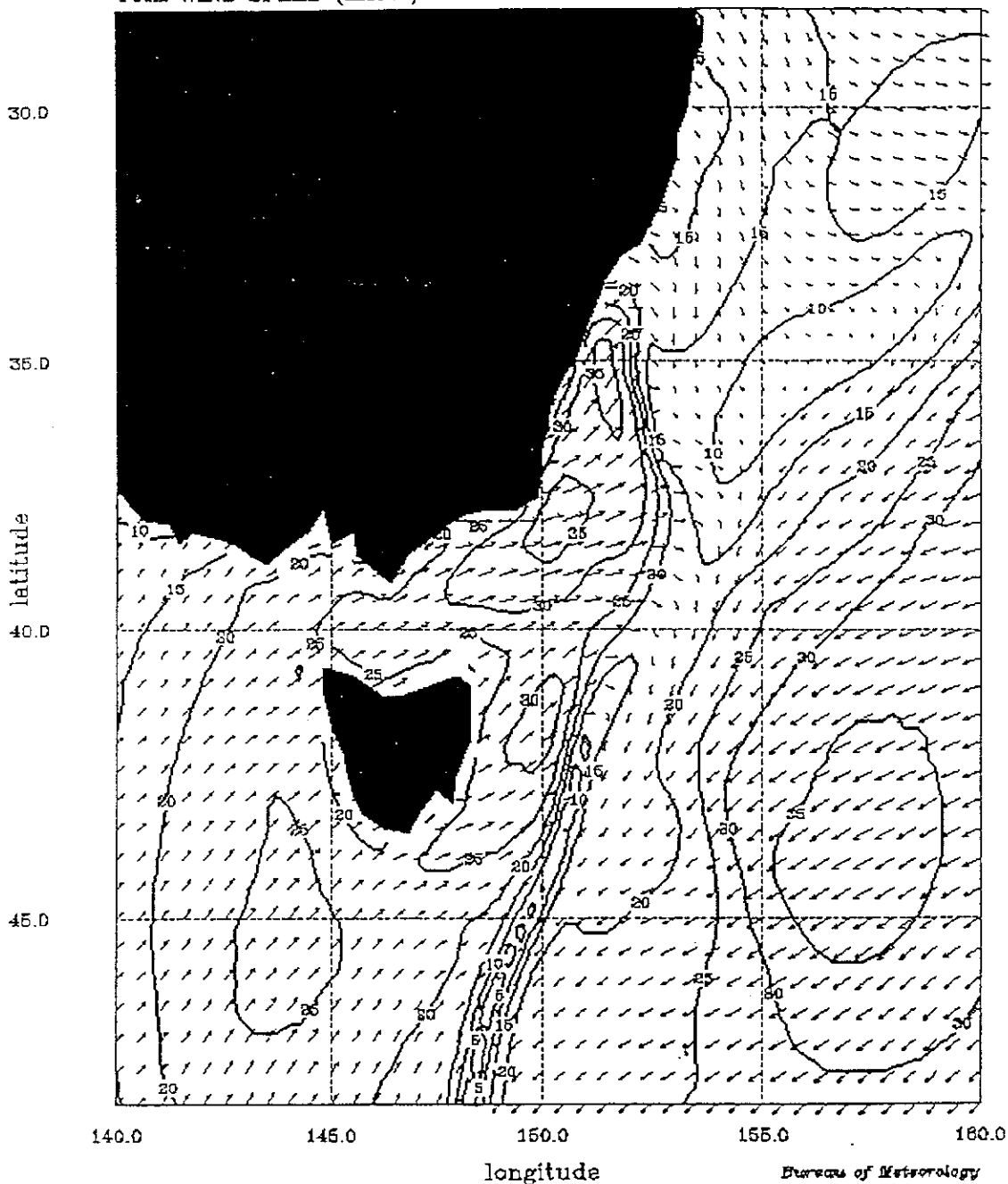


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE WAM
10m WIND SPEED (knots)

30 HR FORECAST
VALID 1800UTC 981226

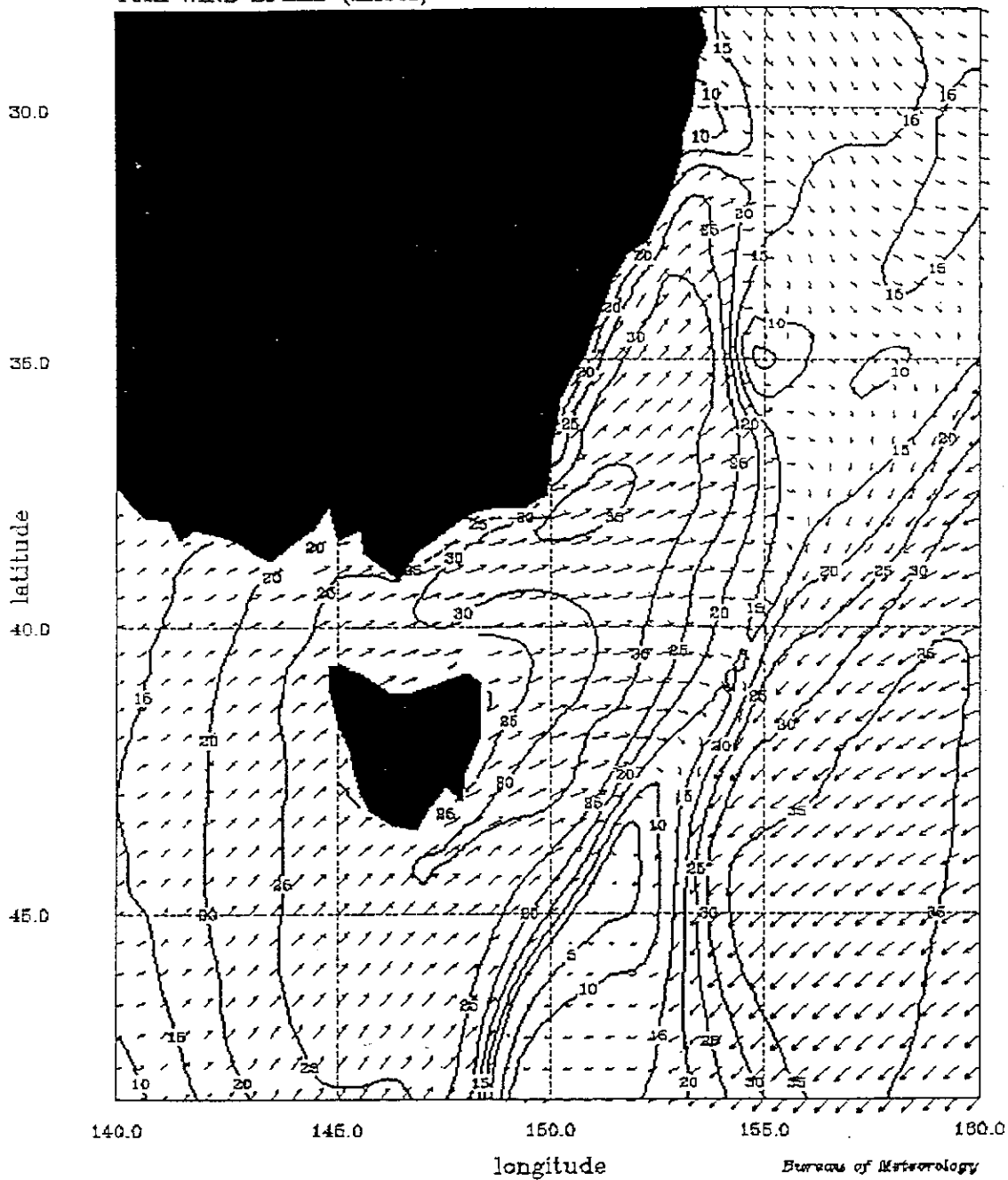


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE NAM
10m WIND SPEED (knots)

36 HR FORECAST
VALID 0000UTC 981227

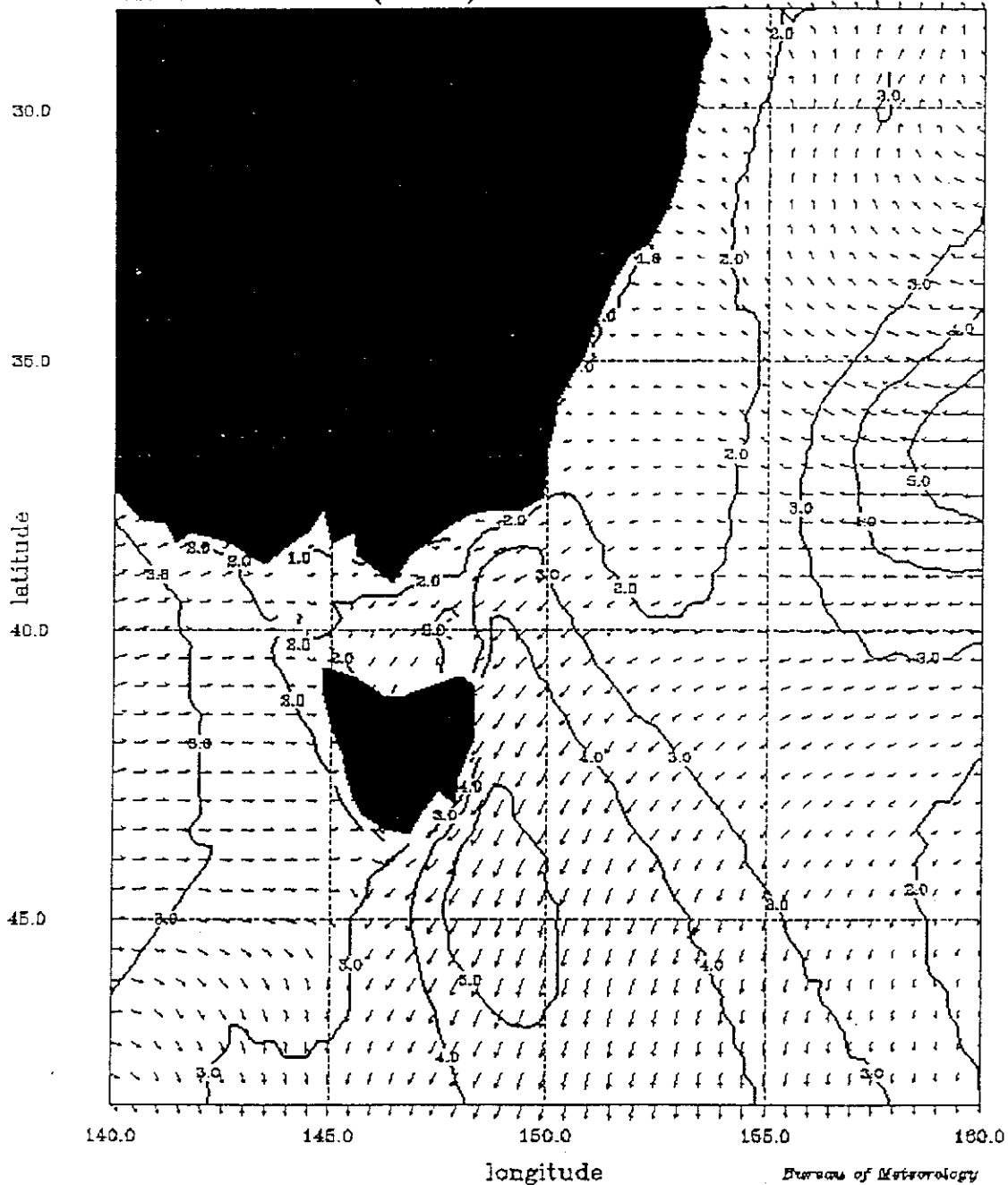


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE WAM
TOTAL WAVE HEIGHT (metres)

12 HR FORECAST
VALID 0000UTC 981226

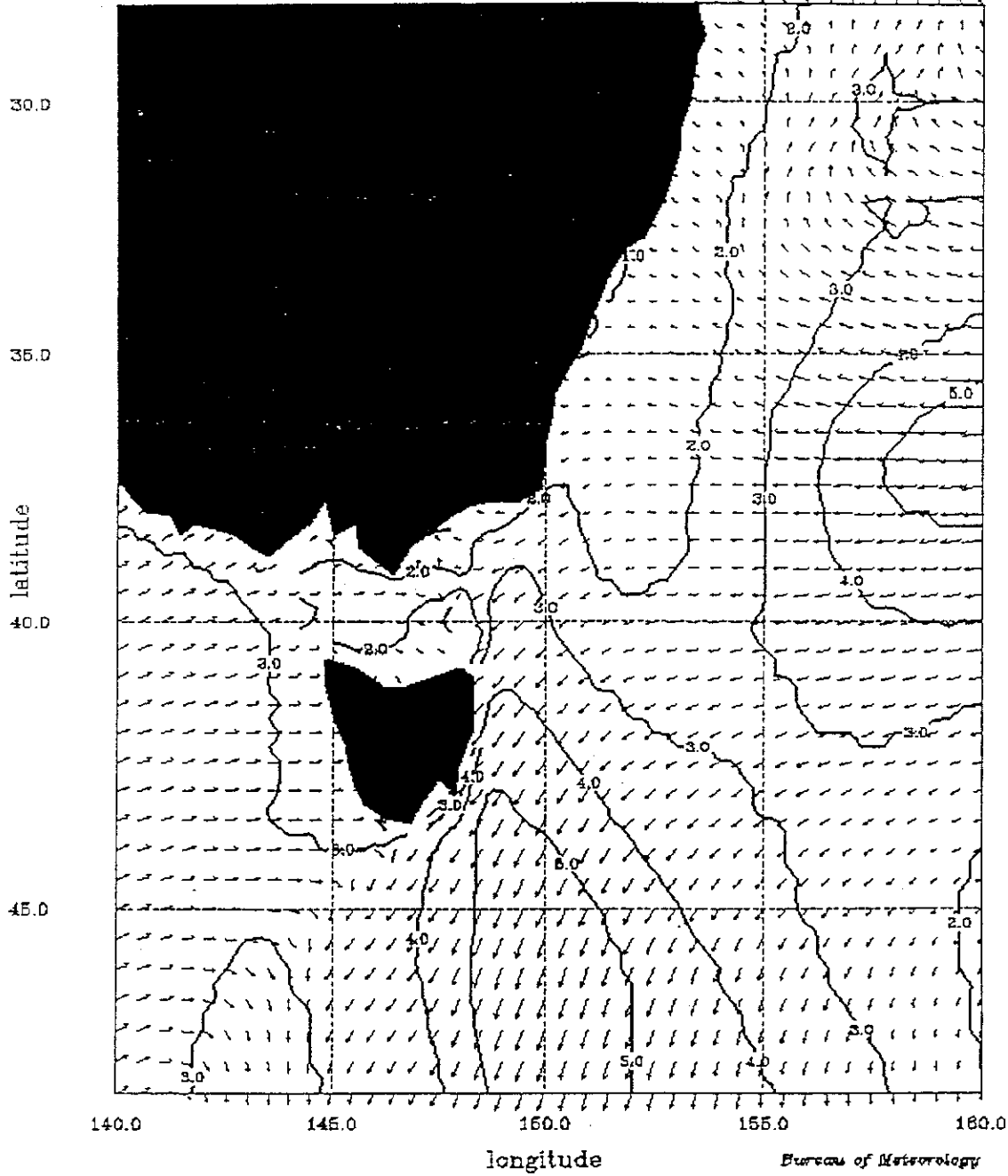


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE WAM
TOTAL WAVE HEIGHT (metres)

18 HR FORECAST
VALID 0600UTC 981226

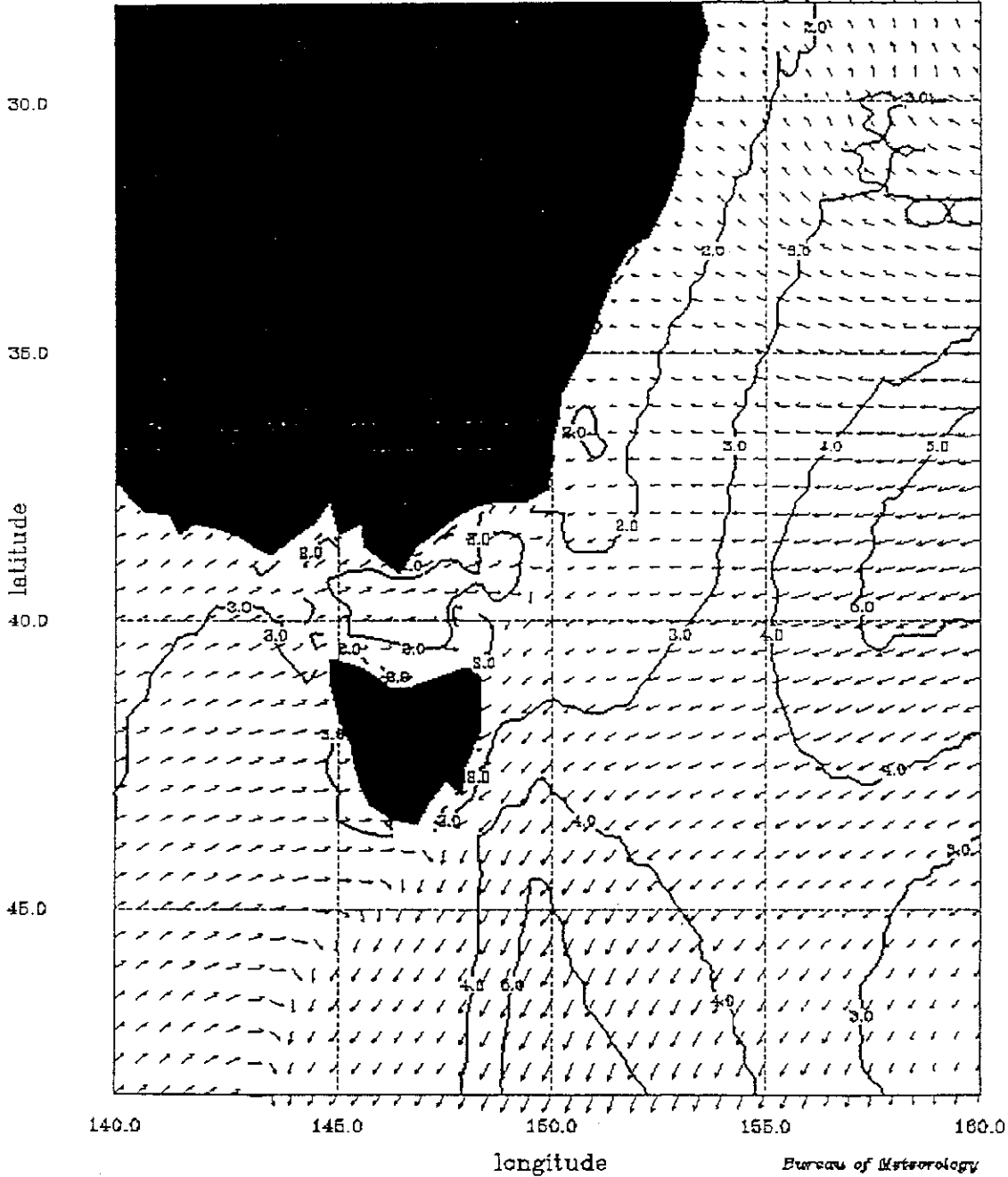


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE NAM
TOTAL WAVE HEIGHT (metres)

24 HR FORECAST
VALID 1200UTC 981226

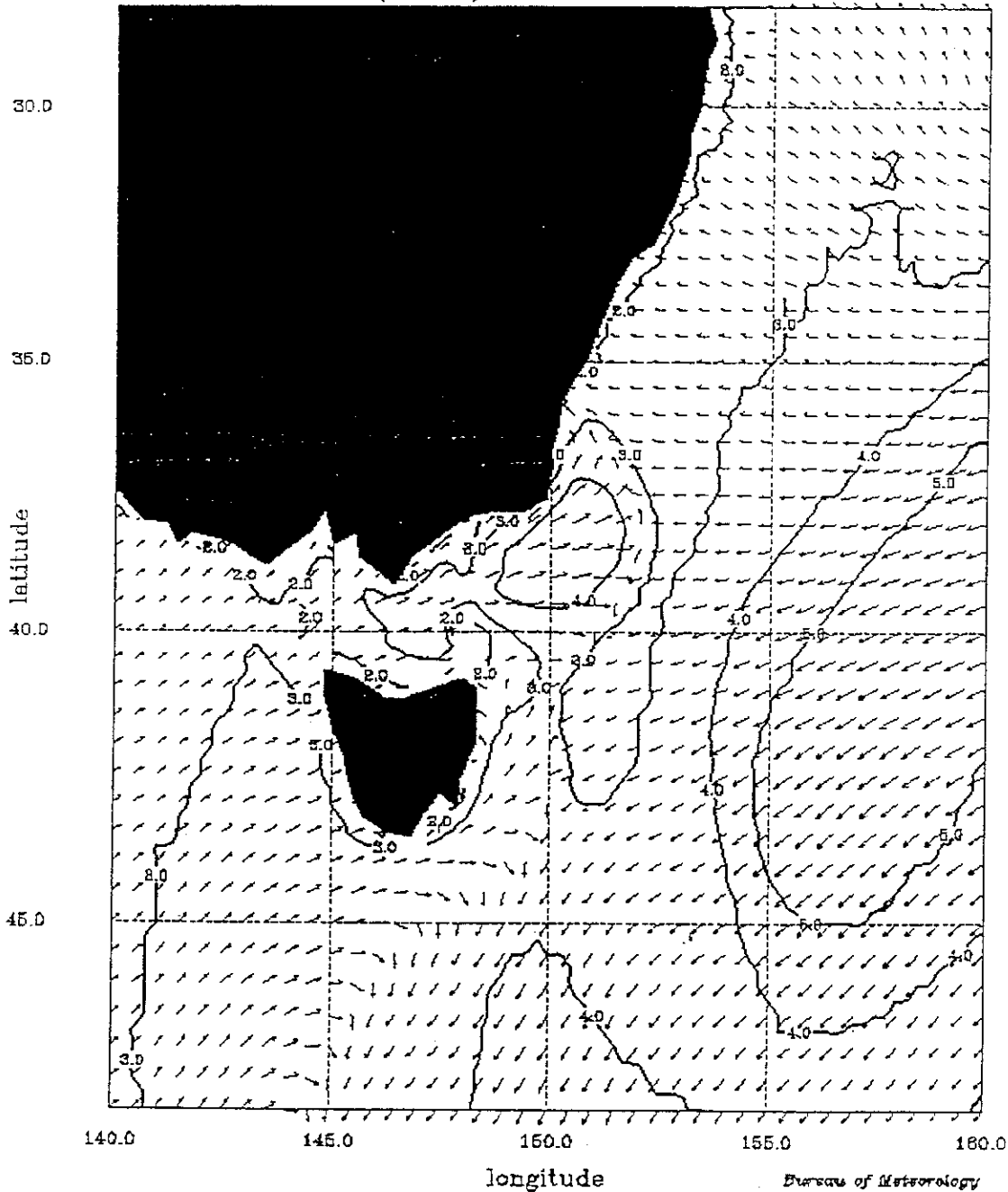


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE WAM
TOTAL WAVE HEIGHT (metres)

30 HR FORECAST
VALID 1800UTC 981226

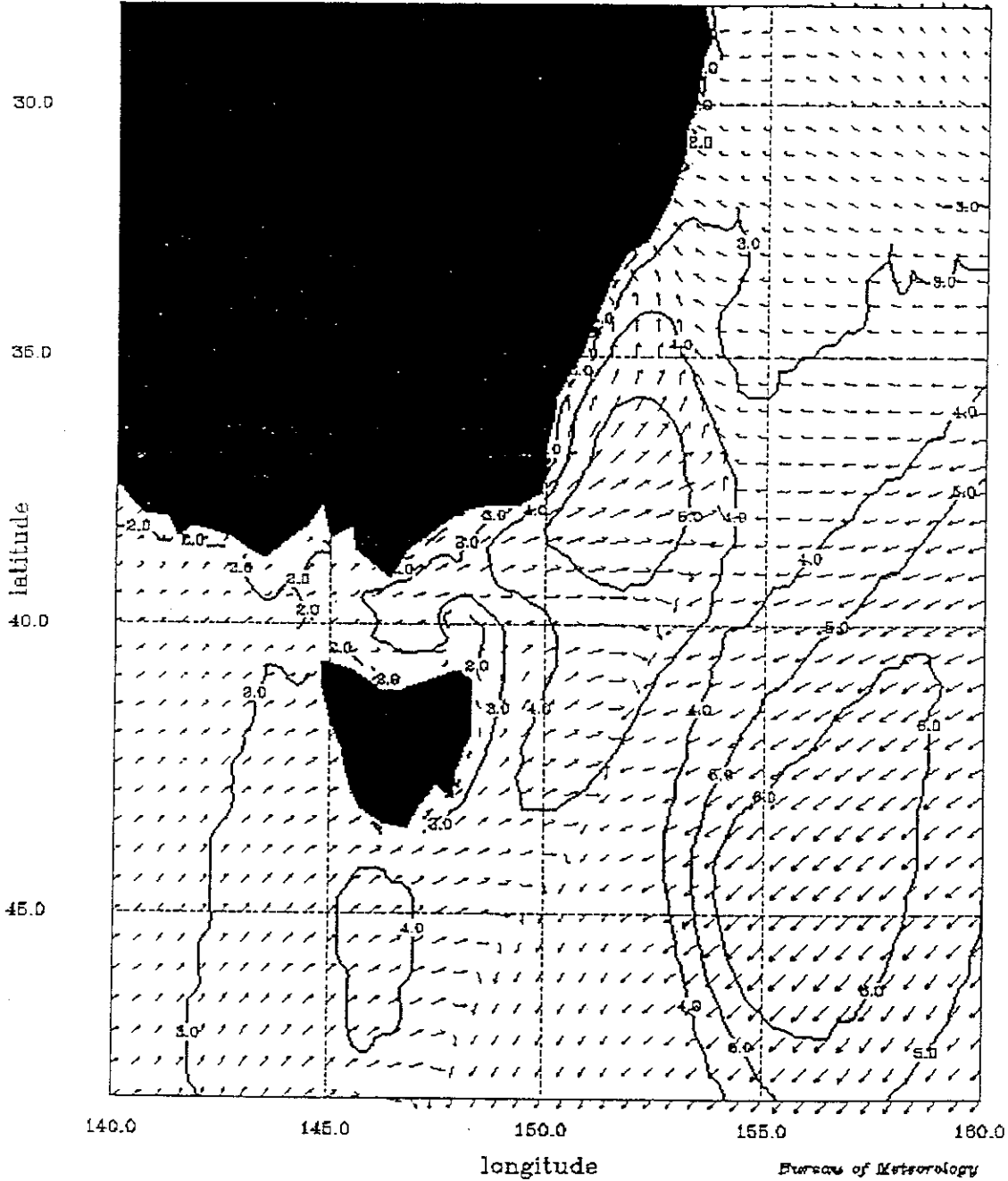


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Specialised Oceanographic Centre

FORECAST FROM MESO SCALE WAM
TOTAL WAVE HEIGHT (metres)

36 HR FORECAST
VALID 0000UTC 981227

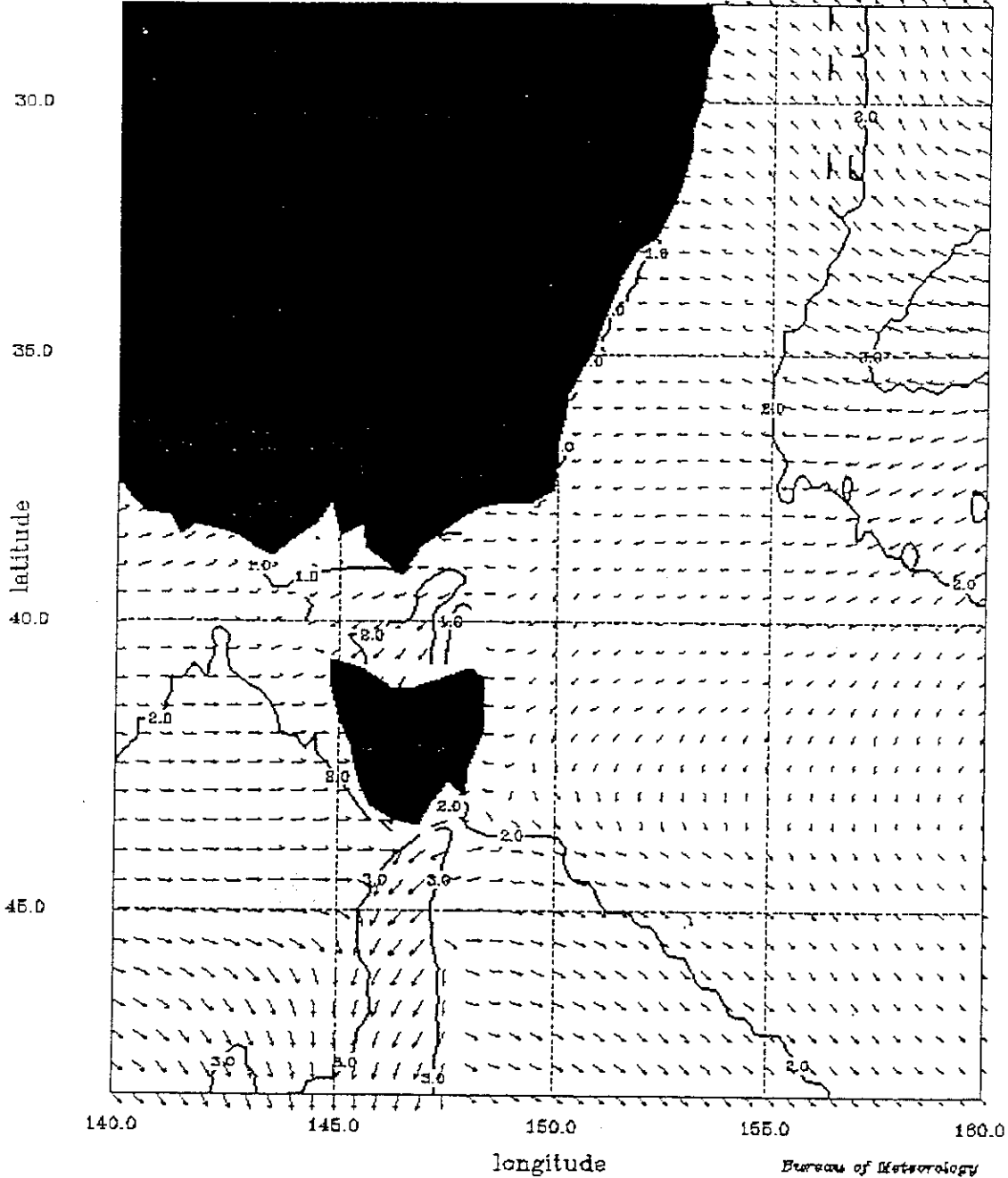


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Bureau of Meteorology
Specialised Oceanographic Centre

FORECAST FROM MESO SCALE WAM
SWELL WAVE HEIGHT (metres)

12 HR FORECAST
VALID 0000UTC 081226

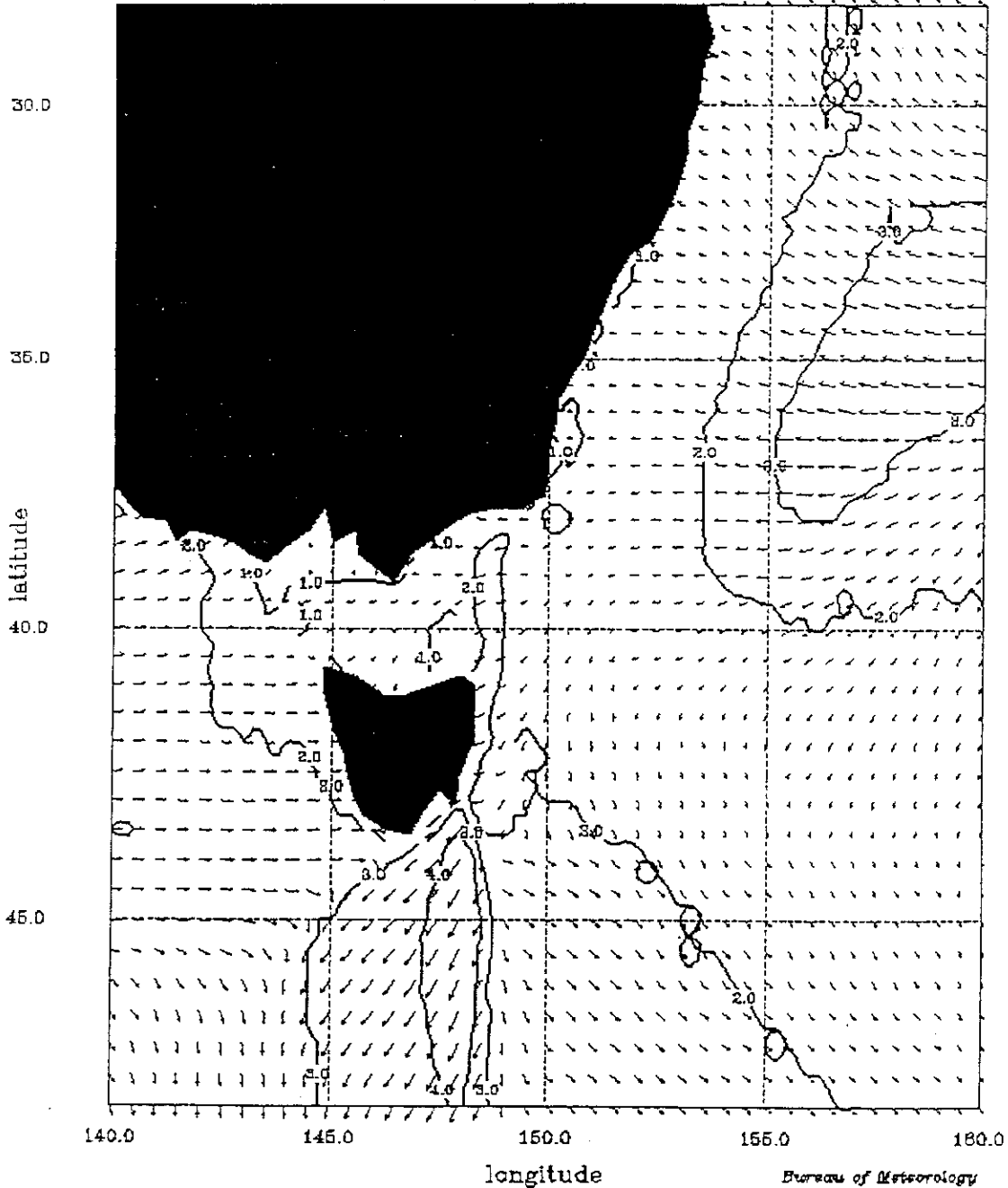


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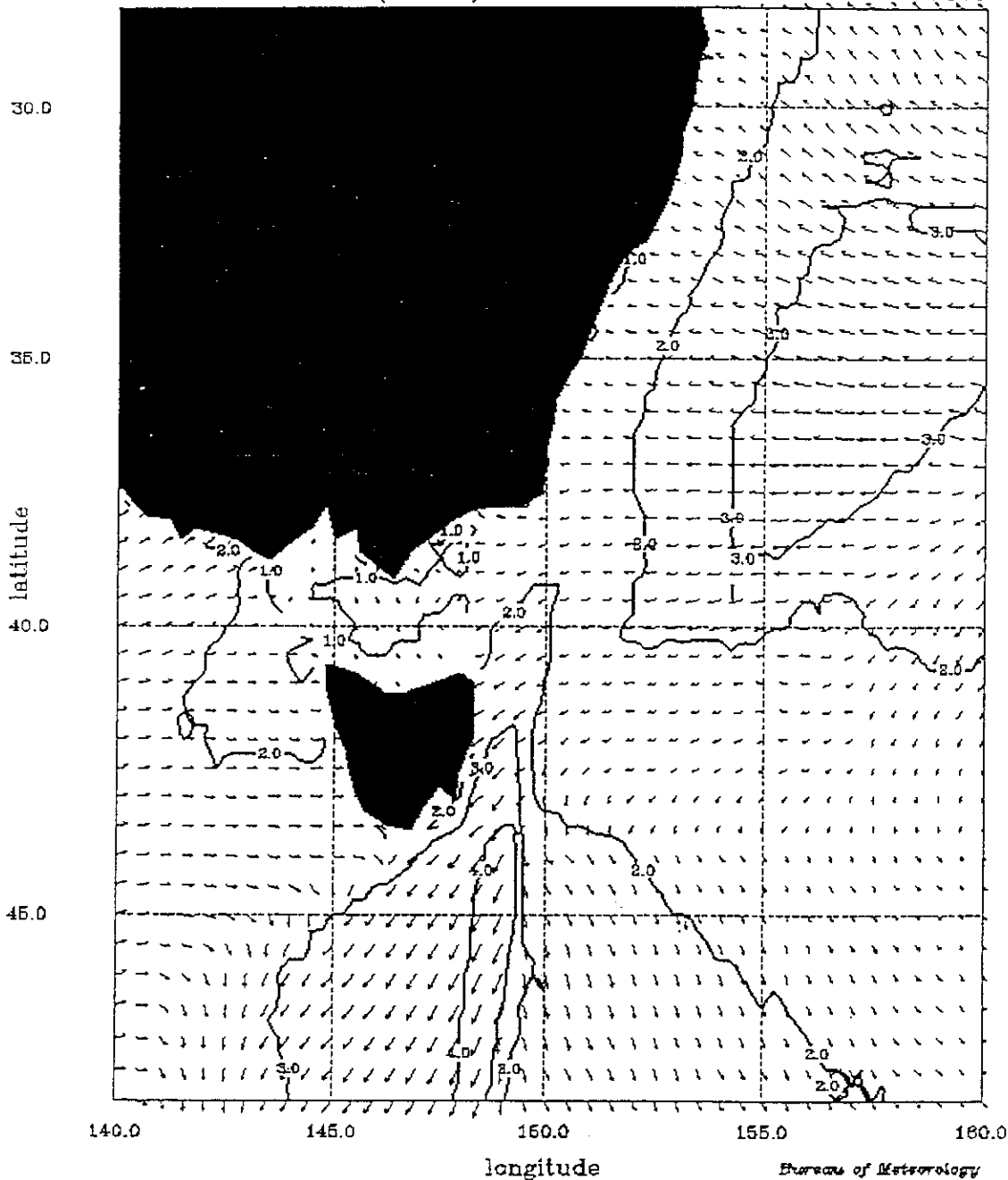
FORECAST FROM MESO SCALE WAM
SWELL WAVE HEIGHT (metres)

18 HR FORECAST
VALID 0600UTC 981226



FORECAST FROM MESO SCALE WAM
SWELL WAVE HEIGHT (metres)

24 HR FORECAST
VALID 1200UTC 981226

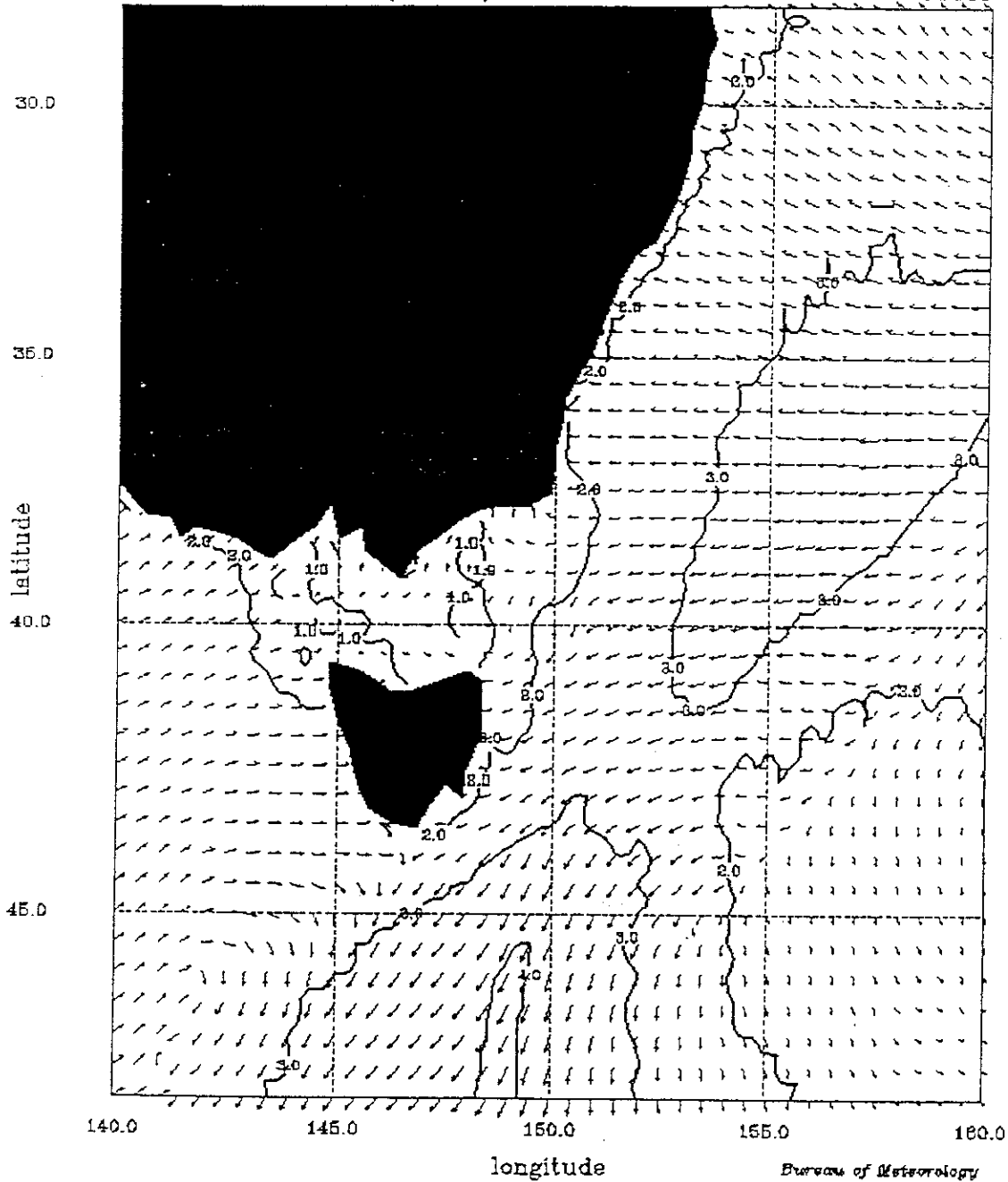


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FORECAST FROM MESO SCALE WAM
SWELL WAVE HEIGHT (metres)

30 HR FORECAST
VALID 1800UTC 981226

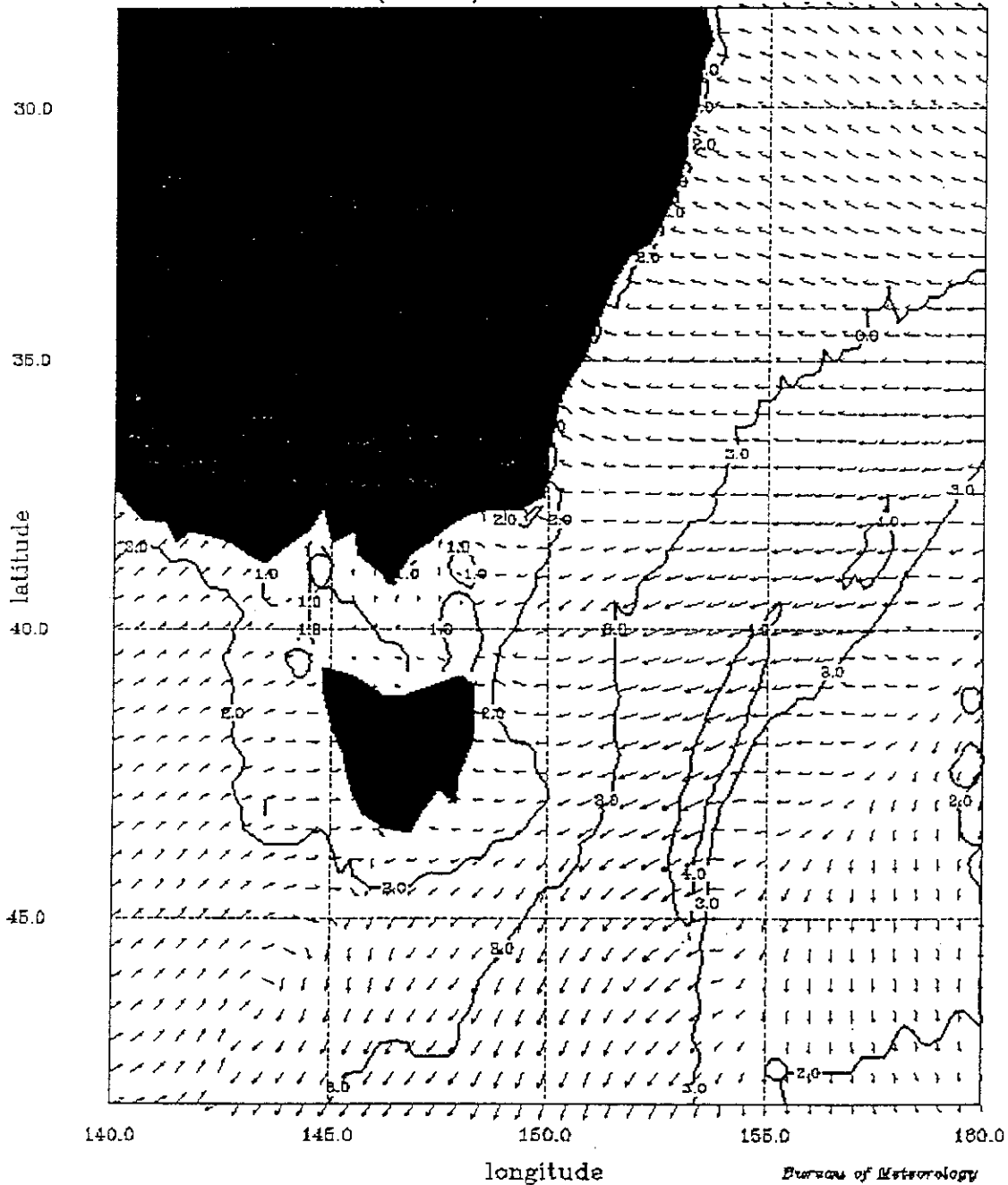


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FORECAST FROM MESO SCALE WAM
SWELL WAVE HEIGHT (metres)

36 HR FORECAST
VALID 0000UTC 981227



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ZCZC ID27200 B PROD COTCS CGFCS P1HRDCPY XRYCT CI811 XCYCA CHRFC

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BUREAU OF METEOROLOGY
NEW SOUTH WALES REGIONAL OFFICE
300 Elizabeth St. Sydney, Ph [02] 9296 1555

SYDNEY - HOBART YACHT RACE FORECAST 26 - 31 December 1998

Forecasts issued from Sydney covering Sydney --> 38S on Weather by fax 1902 935 244

Dec 26 (0500, 1000, 1300) Sydney --> Jervis Bay

27 (0200, 1300) Jervis Bay --> Gabo Island

28 (0200, 1300) Jervis Bay --> Gabo Island

Forecasts issued from Hobart covering 38S --> Hobart on Weather by fax 1902 935 247

Dec 27 (1300) Bass Strait

28 (0200, 1300) Bass Strait & East Coast Tas. from 1300

29 (0200, 1300) Bass Strait & East Coast Tas.

30 (0200, 1300) Bass Strait & East Coast Tas.

31 (0200, 1300) Bass Strait & East Coast Tas.

Coastal Observations are available from 1902 935 813

ISSUED BY THE BUREAU OF METEOROLOGY, SYDNEY
Issued at 0904 on Saturday the 26th of December 1998

FOR

AREA: Sydney to Jervis Bay.

SYNOPTIC SITUATION: A high near New Zealand is ridging onto the central NSW coast. A low 995hPa near Lord Howe Island is slow moving. A cold front is over western Victoria.

WARNINGS: Gale Warning is current south from Broken Bay.

WIND: Northeast wind 10/15 knots freshening to 15/25 knots by late afternoon or evening. A S/SW change 30/35 knots, with stronger gusts, expected near Jervis Bay around midnight-2am and then near Sydney around 3am-5am Sunday.

WAVES: 1 to 2 metres, rising to 3 to 4 metres with S'y change .

SWELL: 1 to 1.5 metres, increasing to 2 to 3 metres after S'ly change.

WEATHER: Scattered showers and thunderstorms developing this evening ahead of the change. A few showers persisting following the southerly change.

OUT LOOK FOR NEXT 48 HOURS: Winds moderating north of Jervis Bay Sunday evening. Strong to gale force SW/W winds south of Jervis Bay expected to moderate Monday evening.

NNNN