

OUTBACK AIR RACE 2015

RACE NEWSLETTER – CHINWAG #4
JUNE 2015



In this edition:

- The Classic Safari Company Raffle
- New Major Sponsor
- Enroute Weather from our BoM Expert Karina Tarbath
- Update from Race LAME Jan Ende
- Race Scoring Principals
- EDH & Social Media Updates
- Treasurer's Corner
- And More...

Steadfast Outback Air Race Update

Chinwag No. 4: 9th June, 2015

Royal Aero Club of WA, Jandakot Airport

WELCOME BY ROWAN HILL, 2015 Outback Air Race Manager

Welcome to our most winter chinwag, the days will be getting longer at our next meet.

We are starting to hit fundraising targets, with over \$90,000 raised by participants alone. Well done to everyone for helping us get this far! We know there are many more team events planned in the coming weeks and months which will see this number grow rapidly.

The committee are having a lot of fun and getting a lot of things done – on all aspects of the race planning from logistics to accommodation, fuel, media, events and sponsorship.

We are joined by Michael Bleus and Jayne Northover who are both representing the RFDS.

SAFETY MOMENT – See and avoid



Firstly, both the parachutist and pilot survived the above incident. This series of images highlights the importance of see and avoid techniques at small aerodromes – which are usually shared by many different aircraft types, with different performance, not just GA aircraft. Remember that in all cases the landing aircraft (or parachutist in this case) has right of way.

Operations in the vicinity of non-controlled aerodromes CAAP 166-1(3):

- ✓ Minimise distractions in cockpit
- ✓ Most collisions occur on downwind or final (most distractions)
- ✓ VFR pilots to remain clear of cloud (IFR Traffic risk!)
- ✓ Turn external lights on!
- ✓ Overfly at 2000' or more (cct height of high performance a/c is 1500'!)
- ✓ GA to give way to commercial a/c if safe. Offer to "give way" to be explicit and confirmed.
- ✓ Consider glider and parachuting ops (broadcast on Area Frequency/CTAF). Communicate!
- ✓ CCT heights:
 - High performance (>150 kts): 1500' above aerodrome
 - Medium performance (55 to 150 kts): 1000' above aerodrome
 - Low performance (up to 55 kts): 500' above aerodrome
- ✓ Take-off and Landing Separation:
 - T/off: Preceding A/c has commenced turn OR is more than 600m ahead
 - Landing: Preceding departing a/c has vacated runway or departing a/c is beyond point to allow landing roll.
- ✓ Never descend into active side of cct because of difficulty of seeing and being seen
- ✓ Departing Aerodrome:
 - Extend one of the legs or climbing departure overhead
 - Do not turn against traffic until well outside cct area and no traffic

THE CLASSIC SAFARI COMPANY – AUSTRALIA WIDE RAFFLE!

Classic Safaris have donated a **12 night luxury safari wilderness and rail tour of Zimbabwe and South African for 2 worth \$20,000+** for use as an event-wide Raffle.



Est. 1992

We are currently working with relevant state authorities so that we can host the raffle Australia wide, with raffle ticket books provided to participants to sell. All funds raised will go towards your team total, meaning you will have the potential to earn around another \$3-3,500 if you sell five books (30 tickets @ \$20 each), which we think will be easy given the prize on offer!

We will send all participants an email once details are finalised asking how many books you would like to receive. There will be some administrative controls requirements, such as maintaining a record of all sales and keeping all ticket stubs, both sold and unsold, which we will detail further in the email.

The Classic Safari Company as new Major Sponsor!

Given the value of the donation from The Classic Safari Company we can announce that they are our first 2015 Major Sponsor!

The Classic Safari Company are a leading Australian Safari Specialist, Est. 1992 by South African born Julie McIntosh (of Team 29 – Juliet's Safaris). They operate tours in African and Latin America and India sub-continent and support many charities including Cancer Council Australia, Victor Chang Cardiac Research Institute, Taronga Foundation and, now, the Royal Flying Doctor Service via the Outback Air Race!

We welcome The Classic Safari Company as our newest and first event Major Sponsor!

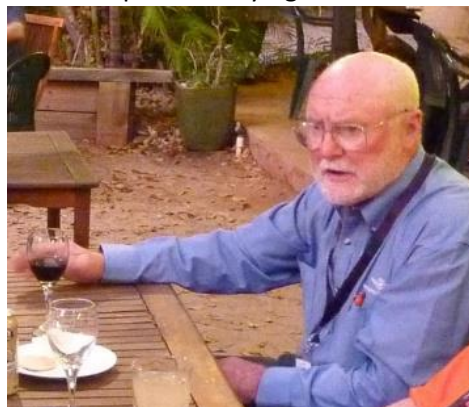
RACE LAME (LICENSED AIRCRAFT MAINTENANCE ENGINEER) – Jan Ende

Jan Ende joins us again as our race LAME for 2015. Jan has extensive experience flying in the outback and has previously flown on every leg of this event. In addition to the daily briefing provided by our flight director Don Rechichi, Jan plans to speak to us all about his tips and advice for each leg including what to look out for and any scenic diversions he recommends.

Jan says there are many stunning places on route which he looks forward to telling us all about.

In his LAME capacity, Jan says he will take some common spares with him such as tyres and tubes however wants to remind everyone that he cannot do scheduled maintenance enroute (eg. 50 and 100 hourlies) – so have these completed before departing!

While enroute Jan will monitor the chat frequency 123.45 for any difficulties.

**ABOUT HIS X-RFDS CESSNA 180 VH-FDH**

Jan's C180 has a rich history which started when it was put into service by the RFDS in March 1960. The Cessna served until 1972 at which point was sold to Jim Robertson who operated the aircraft in an area now known as Coral Bay. The aircraft changed owners again however this time was not frequently used and put into storage for 12 years and generally neglected. Jan heard that there was a plane for sale that may have been the X-RFDS aircraft that he flew, and knew as soon as he saw it in the hanger it was his old aircraft.

Penny & Jan mortgaged their house and spent 2-3 years restoring VH-FDH back to her full 1960 colours, including painting the RDFS logo, since aircraft decals didn't exist back then.

There was a push to have the aircraft ready for the inaugural Outback Air Race in 1996 and they manage to have her ready no less than 10 days before the race! The logbook includes many signatures from many RFDS pilots. We look forward to having Jan, Penny and VH-FDH join us again for the 2015 race!



SEND US YOUR STORY!!

We are currently developing press releases to distribute and engage with media, to increase event exposure and meet our commitments to our race sponsors and supporters. We are in the lookout for engaging stories from teams that may be published.

Fiona Hamilton is taking the lead on this – please send any stories or information to her on sponsorship2015@outbackairrace.com.au

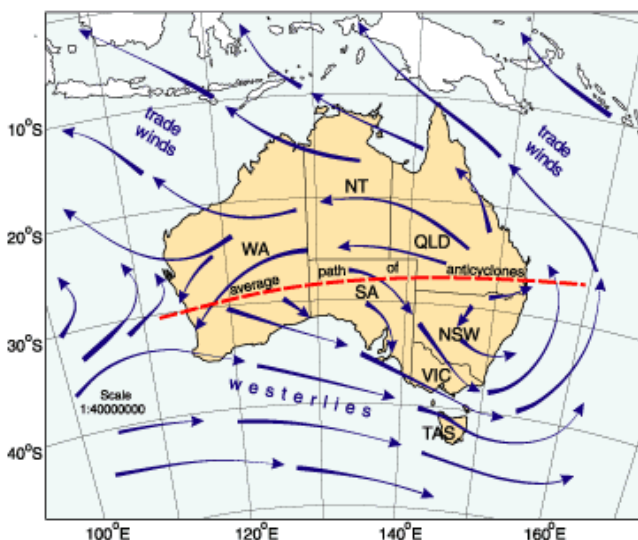
We will also be collecting media articles from the race to demonstrate sponsorship value for the next events. If you are aware of any media coverage of the event, such as community newspapers and radio interviews, please contact Fiona!



AVIATION WEATHER – Karina Tarbath

Karina Tarbath from the Bureau of Meteorology joined us as guest speaker at this chinwag, talking to us about weather conditions to expect on route for August/September.

She provided us with the attached set of slide notes (see back of this Newsletter) with a summary of each leg. In terms of the Australia wide forecast, she explained that during winter the Sub-Tropical ridge moves higher and further inland, creating prevailing westerly's in the southern portion of Australia and easterly's in the North. This system also creates very stable and great flying conditions inland at this time of year, which is why this event is held in these months.



Karina even referred to the forecast conditions in some of the northern legs as “Glamour Flying” or “Champagne Flying” conditions – a terms she has taken from her sailing experience which is used to describe sailors that only sail in perfect conditions with a Champagne flute in hand! *(editor's note: we here at the Steadfast Outback Air Race can't endorse drinking Champagne while flying!)*

Karina explained that the legs with highest likelihood of inclement weather would be coastal at the race start in Esperance and finish on Hamilton Island, where it is possible for persistent low cloud to form due to moist air being drawn from the sea. She said to expect headwinds of up to 25-30kt on our final leg, meaning a stop for fuel given our leg distance is even more likely.



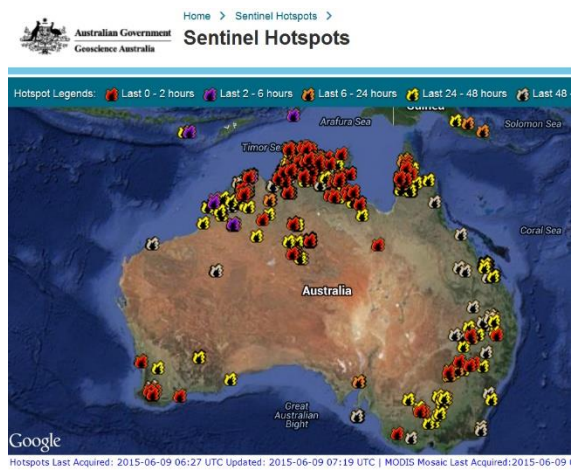
Some exciting and rare weather phenomenon to look out for include “morning glory” cloud which only form between September and November in the Gulf of Carpentaria. These are a long roll cloud, often as low as 100-200ft AGL and sometimes 1000km+ in length. She explains that they are thought to be formed by mesoscale circulations overnight in environments where strong sea breeze result in high low-level humidity and requires solid radiation inversion overnight. **Caution:** they are associated with strong shear, strong low level winds.

Inversion layers which form overnight (encouraged by lack of cloud) can also have a significant effect on the weather. The inversion layer will trap in smoke, therefore the lower the inversion layer the higher density of smoke will be experienced and can cause overnight worsening of conditions if the layer drops overnight. A similar effect can occur with winds – Low Level or Nocturnal jets are formed when an inversion layer drops greatly, thus increasing the wind speed below the layer.

Throughout her talk, Karina continually reiterated that the weather office is available to talk through weather conditions over the phone and that Pilots were their first priority. She said that at times they may be busy however will always make time for Pilots. They can even provide longer term forecasts over the phone, such as what to expect the next weekend.

Another good resource for pilots is the [Geoscience Australia Sentinel Hotspots map](#) which uses infrared temperature sensors from satellites to detect active fires. This can be useful for determining or predicting smoke related visibility issues.

Karina has also provided a two page sheet with useful links, which we have also attached to this newsletter. Karina has put in a lot of effort to this presentation, given us the most detailed forecast we’ve ever had for an air race and we thank her very much for her time!



TEAM EVENTS

There has been a lot happening around Australia. Here are some highlights. Be sure to keep Peter (webmaster@outbackairrace.com.au) informed of your events so we can help advertise and promote them!

- **Dongara Flying Craz** – Plant Sale – 6th June (completed – Kathleen & Gavin, how did it go?)
- **The Altitude Chasers** – Fundraising Dinner (completed - \$15,000 raised!)
- **Bad Mooney Rising** – Quiz Night – 11th July – Tickets available from our teams facebook page
- **ATOM** – Auction Night – 25th July – See ATOM’s Facebook page too!
- **Lawson Grains** – Black Tie Dinner & Auction – 25th July (Rutherglen, Murray River)

- **Robin Safari** – Robin Safari Raffle – Soon! (see pictures below for some of the items on offer – more [here](#)) (Also they just past the \$4k mark!)
- **Aviators Farewell** – 16th August, RACWA



MERCHANDISE – Peter Williams



An exciting array of Race Merchandise (carry bags, pens, t-shirts, mouse mats, etc...) is now available via Vista Print! Race participants can use race merchandise sales to support their fundraising.

Customisation is available with some assistance from your OAR Committee (Team Sponsors' logos and team photo as an example).

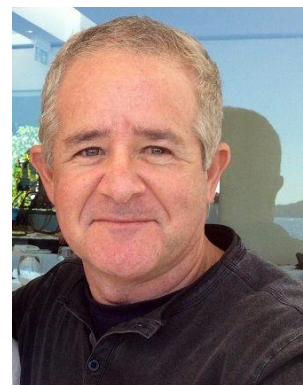
We emailed out details on how to obtain your merchandise last month, please let the committee (Peter Williams) know if not received or if you have any questions.

AVIATION UPDATE – Don Rechichi, Flight and Safety Director

Each daily briefing will include departure and arrival procedures for the day's leg however please familiarise yourselves as much as possible before the race by using online resources such as CASA Ontrack videos

Keep a look out for the safety form that will be sent out on 7th July (approx). We will need them returned promptly for JRCC and ATC at Cairns and Townsville who will input the information into their systems prior to the start of the air race.

Life jackets – Since they are a requirement when not in gliding distance of land (our last leg), I have been in discussion with Western Airmotive about a group discount for



CASA approved life jackets. They can provide them for \$160 each if we order 10. I currently have 8 requests from participants. Please let me know if you required a life jacket so we can secure this discount at safety2015@outbackairrace.com.au

TREASURER'S CORNER – Stuart Payne, Registrar and Treasurer.



Well done to everyone, the funds are coming in! There are no big updates from a treasury perspective this month, just a few points as below.

Shopping centers – A reminder that we don't need a charitable collection license. All we need is the authority to fundraise, as the RFDS holds the charitable collection license. The Authority to fundraise is available in your participants pack.

All clothing has now been ordered, thanks to Fiona for organising this!

Please note that our insurance will expire at the end of this financial year. This is known by the RFDS and they will supply us a new copy as soon as they have received it. Please keep a look out for it. You may get questions from venues that have a keen eye!

Please contact our Webmaster (webmaster@outbackairrace.com.au) or our Treasurer (treasurer2015@outbackairrace.com.au) if you have questions. We're here to help you!

WEBSITE - Peter Kneale, Webmaster



<http://www.outbackairrace.com.au/leaderboard>

We now have a widget on the leaderboard page showing total participants funds raised. At the time of writing, we have already exceeded \$85,000 funds raised due to all of your efforts. Well done everyone!

We are targeting \$250,000 raised by participants. While this may seem like a daunting figure, think about the number of participants we have this year and the minimum fundraising amount. 71 participants @ \$2,000 each is \$142,000. With many teams and participants targeting well in excess of this amount (and some already exceeded) and many big team events expected in the coming months, \$250,000 is well within our grasp.

[@outbackairrace](#)

We are now tweeting! There is an active Outback Air Race twitter community helping to spread our message. In particular have a look at “The Instrumentals” team account ([@OutbackAir2015](#)) and also the individual accounts from committee member Cindy ([@CindySocietal](#)) and participant Leanne ([@LeanneMcknzie](#)).



Outback Air Race History

The Outback Air Race began in 1996 as a concept created by the fund raising division of the Royal Flying Doctor Service (WA Section). The website has been updated recently to include two articles on the 1996 and 1998 races. See History > [OAR 1996 – 2009](#) page on the website.

If you have any photos or media from the early races please send them to our webmaster for posting!
Any queries, contact Peter at webmaster@outbackairrace.com.au



RACE SCORING PRINCIPLES - Peter Kneale, Webmaster (and Race Scorer)

With only a few months until the race start, we thought you might like to start forming your race strategy. Here is an overview of the race scoring, with more detailed to be explained at the race pre-start in Esperance.

GPS Units

The committee will supply every team one Holux M-241 GPS unit, a set of batteries and Velcro to attach to your aircraft. The unit is about the size of an old 35mm film canister will need to be positioned such that it can see the sky. For consistency of results they all carry the same firmware version and are set to record aircraft position once every second.



Software

At the end of each leg, teams will hand their GPS units in to the race scorer for downloading and processing. We use custom designed software developed by [Robert Hind](http://www.robert-hind.com) to score each teams leg and populate the leaderboard. Robert continues to support the software which also includes features such as encrypted race co-ordinates so not even the race scorer is able to know the exact start and finish points!

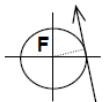
Robert Hind
www.robert-hind.com

Scoring

Before each leg, our flight director will provide you with the start and finish waypoints, by way of visual feature (for example, a road crossing or local landmark) and distance and bearing from the departure and arrival aerodromes. They will typically be within 10nm of the aerodrome so as to not disrupt your flight planning.

Each leg is scored out of a maximum 1800 points, with points lost for both time and position accuracy.

The start and finish times are calculated based on the time at which the plane was closest to the start and finish point. One point is lost for every second higher or lower than your nominated time.



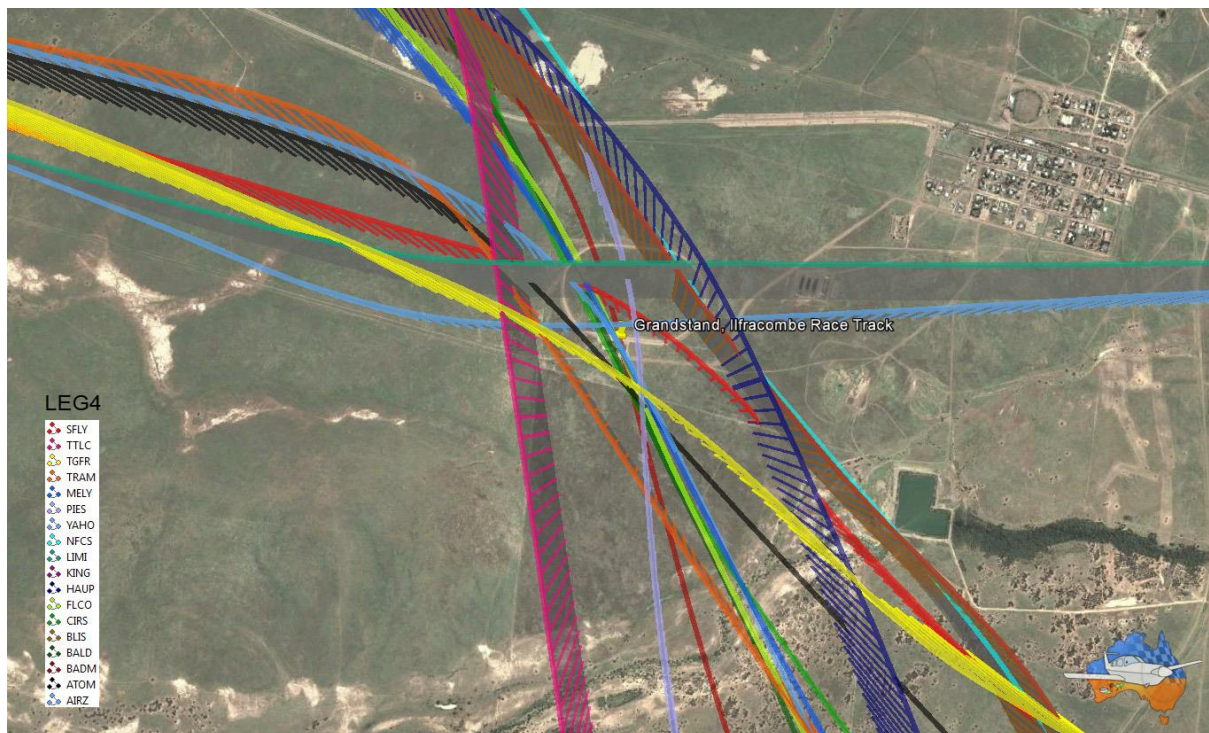
The same points are used to calculate your start and finish distance points. One point is lost for every 200th of a nautical mile. This works out to be one point lost per 9.26m.

If the time difference is greater than 10 minutes (600 points), then the leg score is based on the time difference only

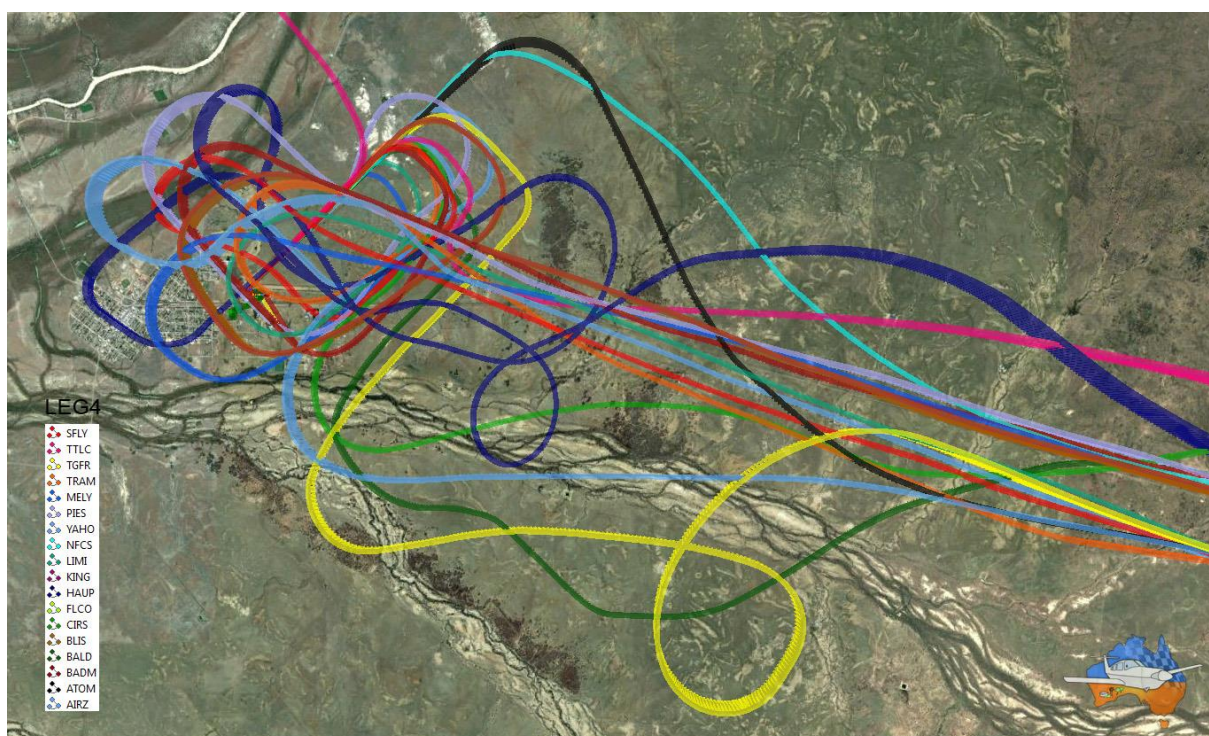
You are able to use all tools at your disposal including GPS and iPad applications.

On the next page we have some aircraft plots taken from GPS data from the last race.





Racers overflying a race finish point, the Grandstand of Ilfracombe race track near Longreach. Note two tracks from the right hand side from racers making their own diversions during the leg.



Racers arriving at Longreach, which was busy at times due to commercial traffic.

AIRCRAFT STICKERS

We arranged a group discount with our race sticker supplier Go Graphics for individual team stickers, should you wish to get sponsor or team stickers printed for your plane.

We will send an email out to all participants with the pricing and ordering instructions.

The cut-off for sending in your image files and information will be Friday 17th July which will enable us to deliver the stickers approximately 2 weeks before the race.



EVERYDAY HEROS

A reminder to everyone on the process for rattle tins and offline donations. Other donation methods are also described on our Everyday Heros user guide available on our [forms page](#).

Rattle Tins

- All teams to request the tin directly from your local RFDS representative, as per the contact details below.
- Rattle the tin, make money
- When complete, return the unique identifier (label) back to your RFDS representative. This is an important step this is how the RFDS track their tins.
- Suggested input method into Everyday Heros - take the coins to a bank (preferably with coin counter!) and deposit direct into your account
- In EDH, click “pay now” and pay via your preferred method (eg. Credit card). You can include a comment such as “Rattle Tin – Bunbury 1/6/2015”
- The funds you input are not tax deductible as you are only handling the funds on behalf of another party (RFDS).

State	Contact	Phone	Email
QLD	Janine Gardner	07 3852 7594	JGardner@rfdsqlld.com.au
SA	Kirsten Alderson	08 8238 3340	kirsten.alderon@flyingdoctor.net
VIC	Geoff Fraser	03 8412 0400	geoff.fraser@rfdsvic.com.au
NSW	Rosemary Ferrari	02 9941 8805	Rosemary.Ferrari@rfdsse.org.au
WA	Jayne Northover	08 9417 6408	Jayne.Northover@rfdswa.com.au

Offline Donations (Via Pledge Form)

- Used to take cash or cheque into Australia Post
- To use, log into EDH and click the link “Download Pledge Form”
- Take to Australia post and pay with cash or cheque, noting the limitations on quantity of coin and notes (described on the pledge form)

- The amount will appear on your EDH page
- The form can be mailed in
- Valid as tax receipt when the payment receipt is attached

Offline Donation (Direct to RFDS)

- If someone has donated direct to the RFDS and you want the funds attributed to your team, please email Peter and he will contact Jayne to process an “offline donation”
- This method is not preferred as it is not an automated process, however it can be useful if someone is unwilling to donate via Everyday Heros.

There is also an **EDH hotline** you can call for help – it is: **1300 798 768** (freecall)

IMPORTANT DATES

- Raffle Ticket Book Request – June 17th (approx.)
- Finale Dinner (final numbers) – June 30th
- Accommodation final payment – July 15th
- Aircraft Info and Pilot Declaration forms – July 7th
- Indemnity and Release Form – August 15th

SOCIAL MEDIA

We are continuing to increase the event’s exposure on social media in various forms, with event presence established on Facebook and Instagram (#OAR2015).



Please look us up and like/follow us!

COMING ATTRACTIONS

- Next Chinwag: **Tuesday 14th July**, 6:30 PM for a 7:00 PM start, at RACWA Jandakot. The July Chinwag will be our last before the Aviator’s Farwell.
- Aviator’s Farewell: **Sun 16th Aug**, 10 am at RACWA Jandakot.



Please come along if you can, we’d love to see you. Check the OAR website for dates.

OUR SPONSORS & SUPPORTERS

And finally, our event would not be possible if were not for the generous support of the following sponsors and supporters.

We thank all of them sincerely!

Naming Rights Supporter:



Major Sponsors:



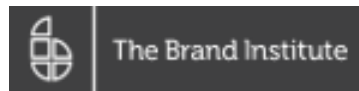
WATCH THIS SPACE FOR MORE MAJOR SPONSORS!

Leg Sponsors:



WATCH THIS SPACE FOR MORE LEG SPONSORS!

Supporters:





Australian Government

Bureau of Meteorology

- > BUREAU OF METEOROLOGY
- > WEATHER SERVICES
- > AVIATION

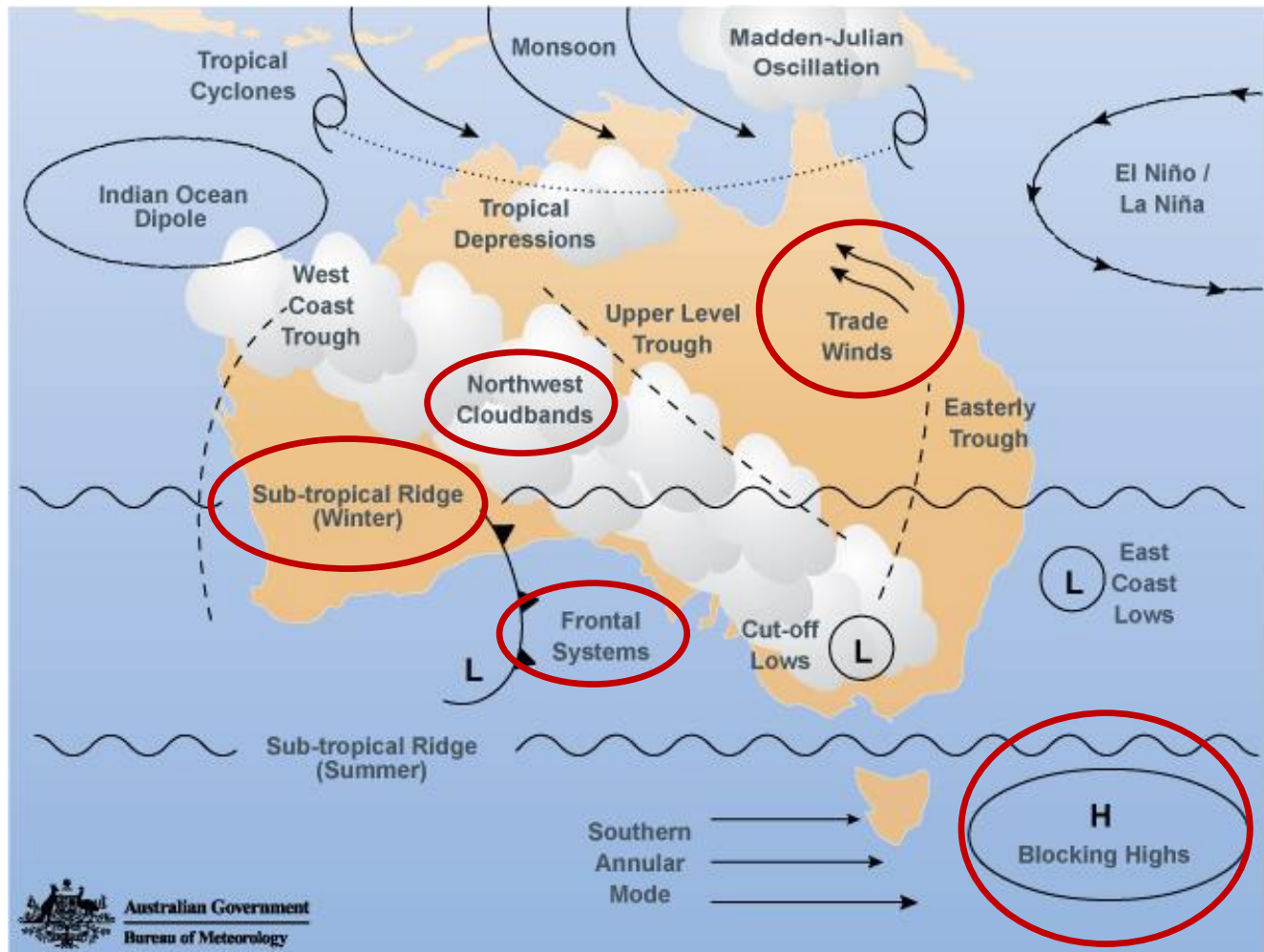
Royal Flying Doctor Service Outback Air Race 2015

Karina Tarbath
Bureau of Meteorology



Synoptic Overview

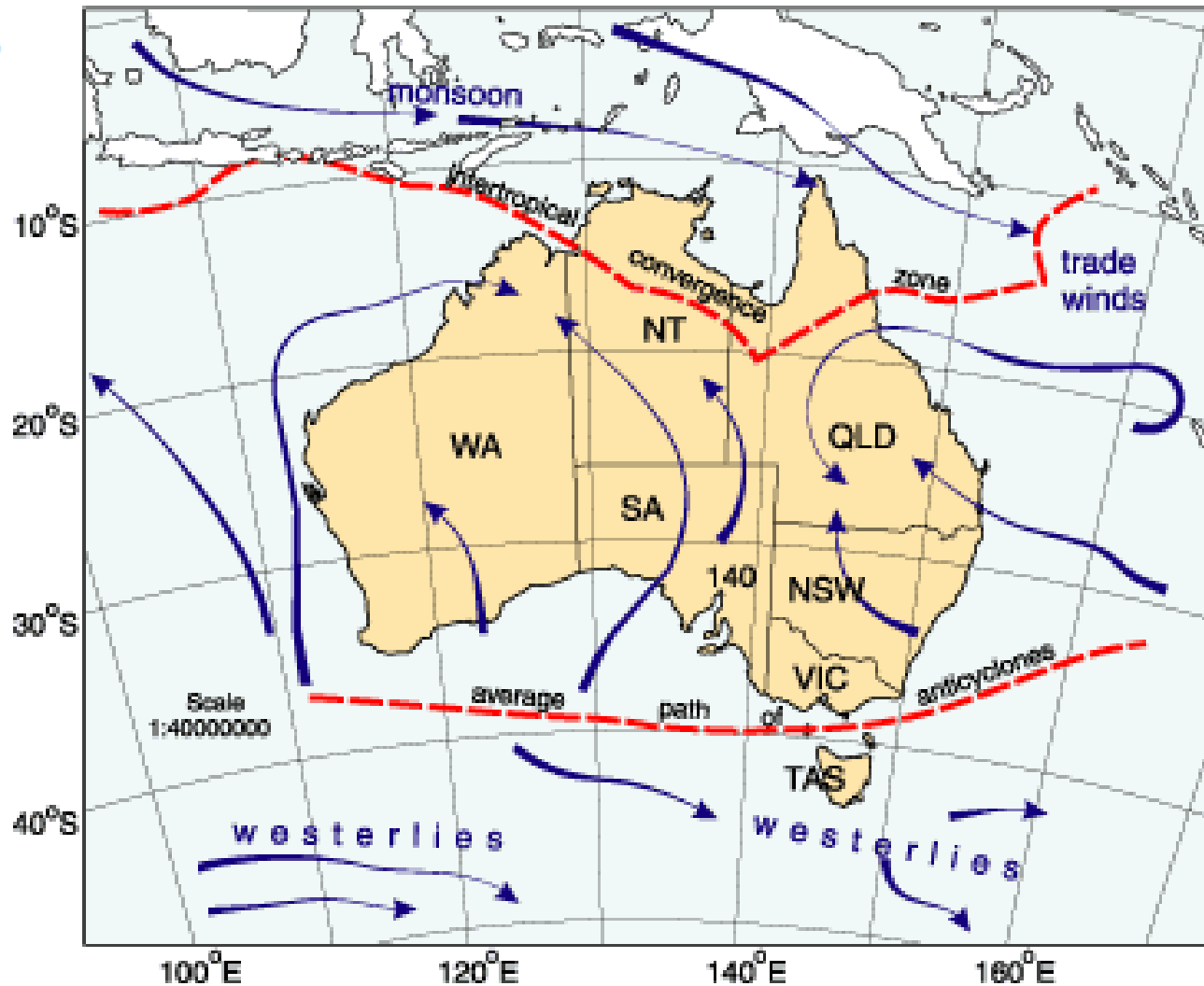
Significant synoptic features



Australian Government
Bureau of Meteorology

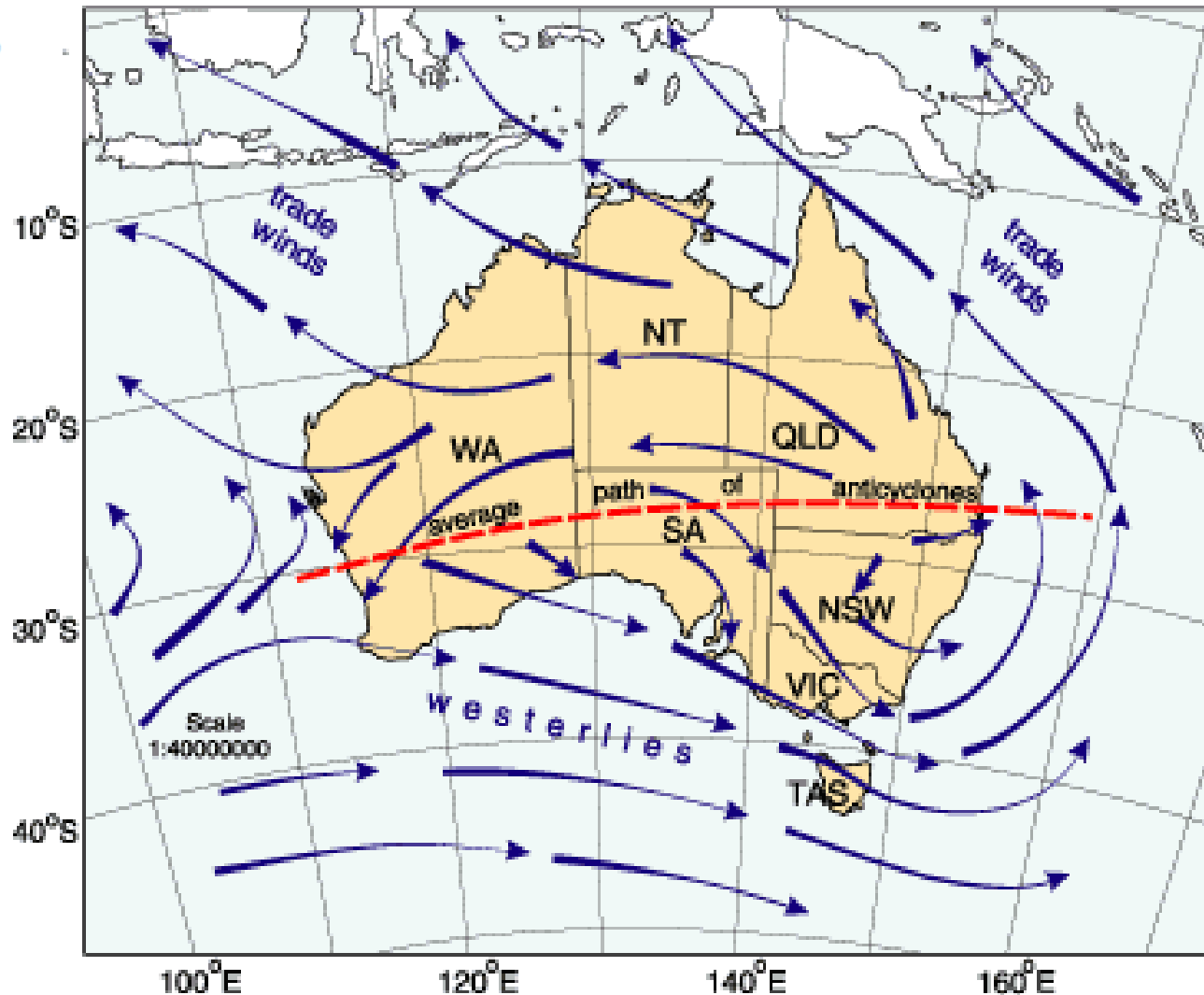
Typical Summer Synoptics

Sub-tropical ridge to the south



Typical Winter Synoptics

Sub-tropical ridge to the north





Winter Phenomena

Weather

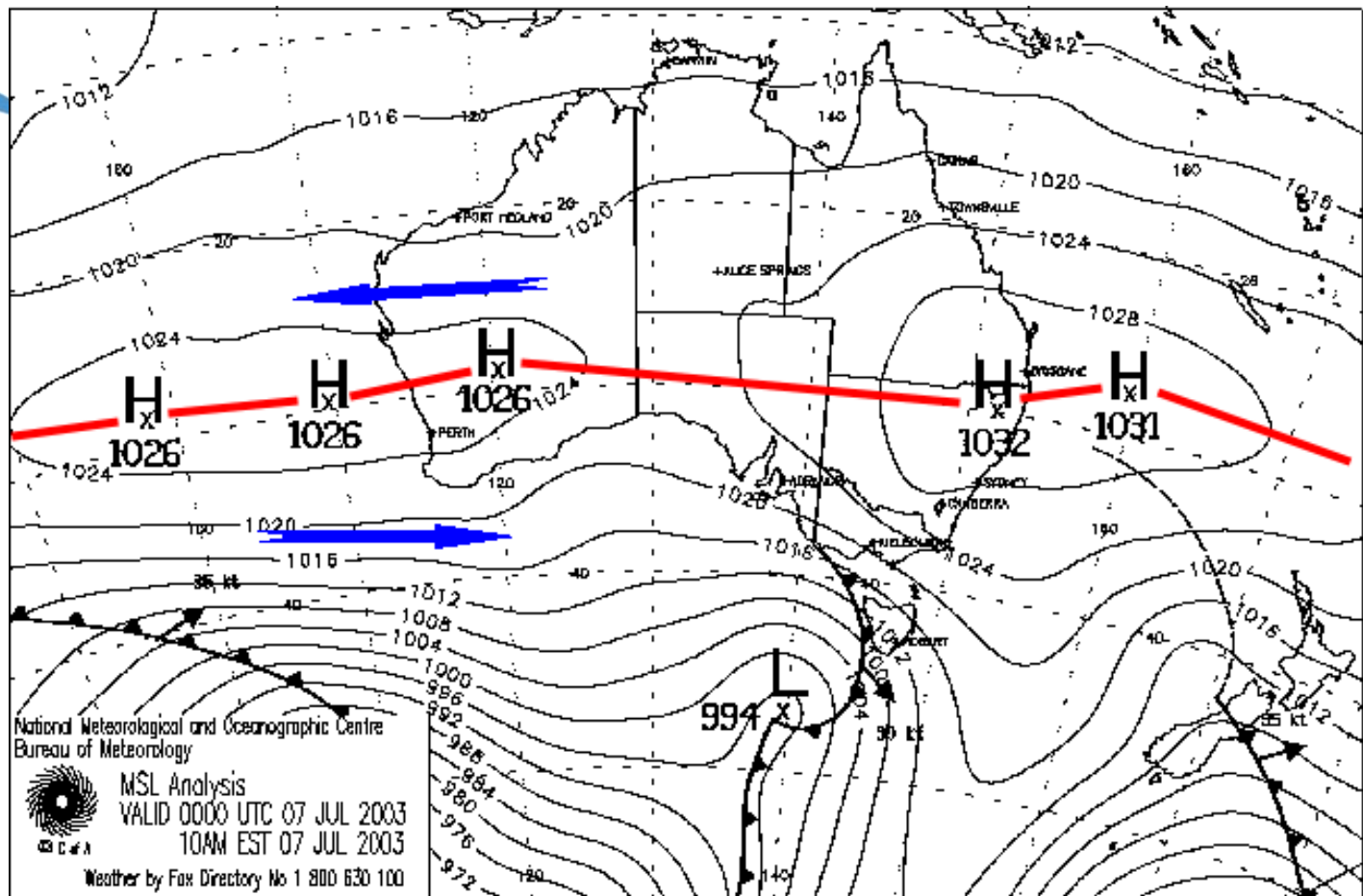
- Fog
- Cold fronts – thunderstorms
- NW Cloud bands
- Low cloud and showers associated with onshore flow and coastal convergence

Hazards

- Icing
- Smoke
- Turbulence



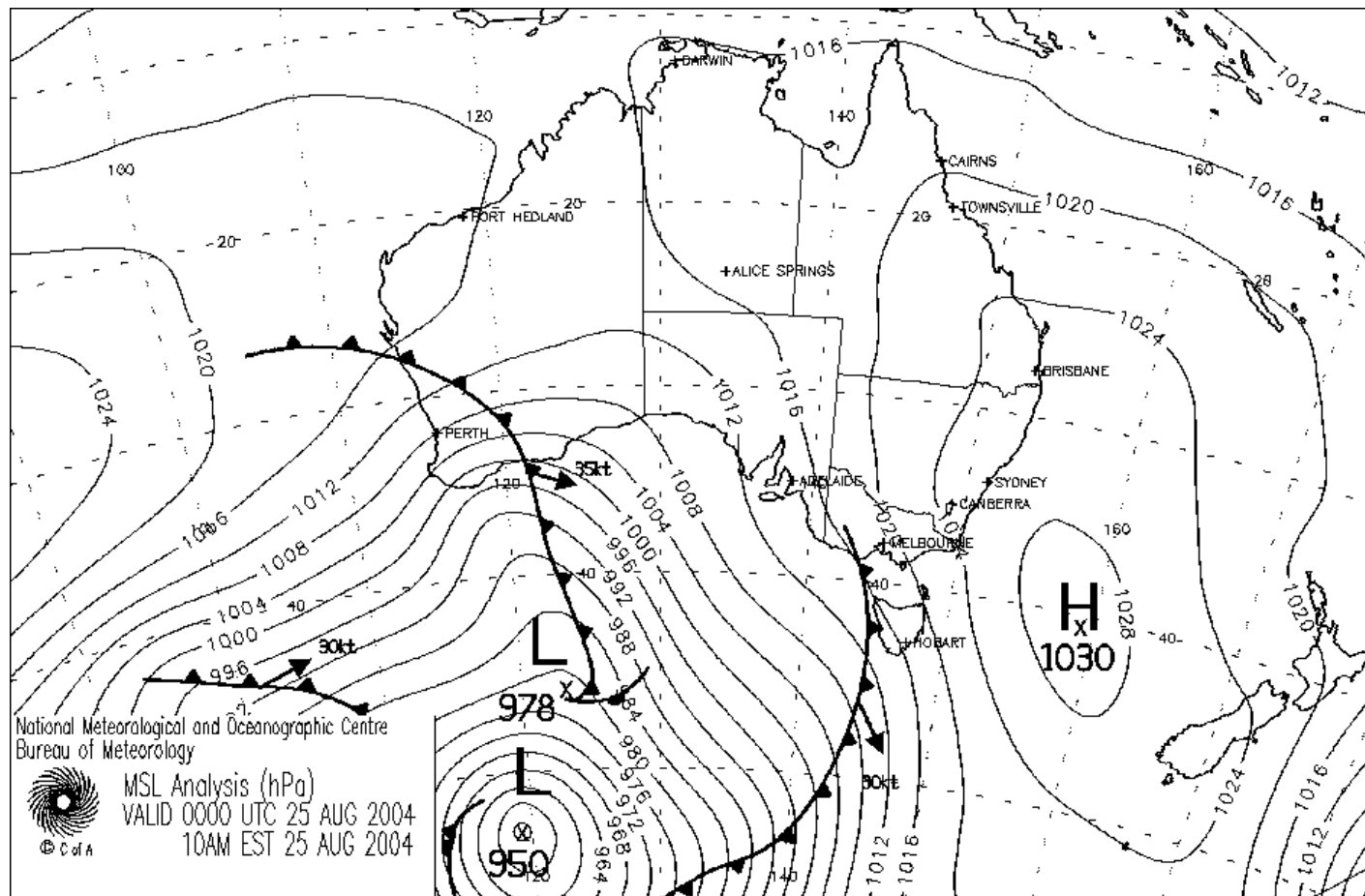
Review of Synoptic Basics:



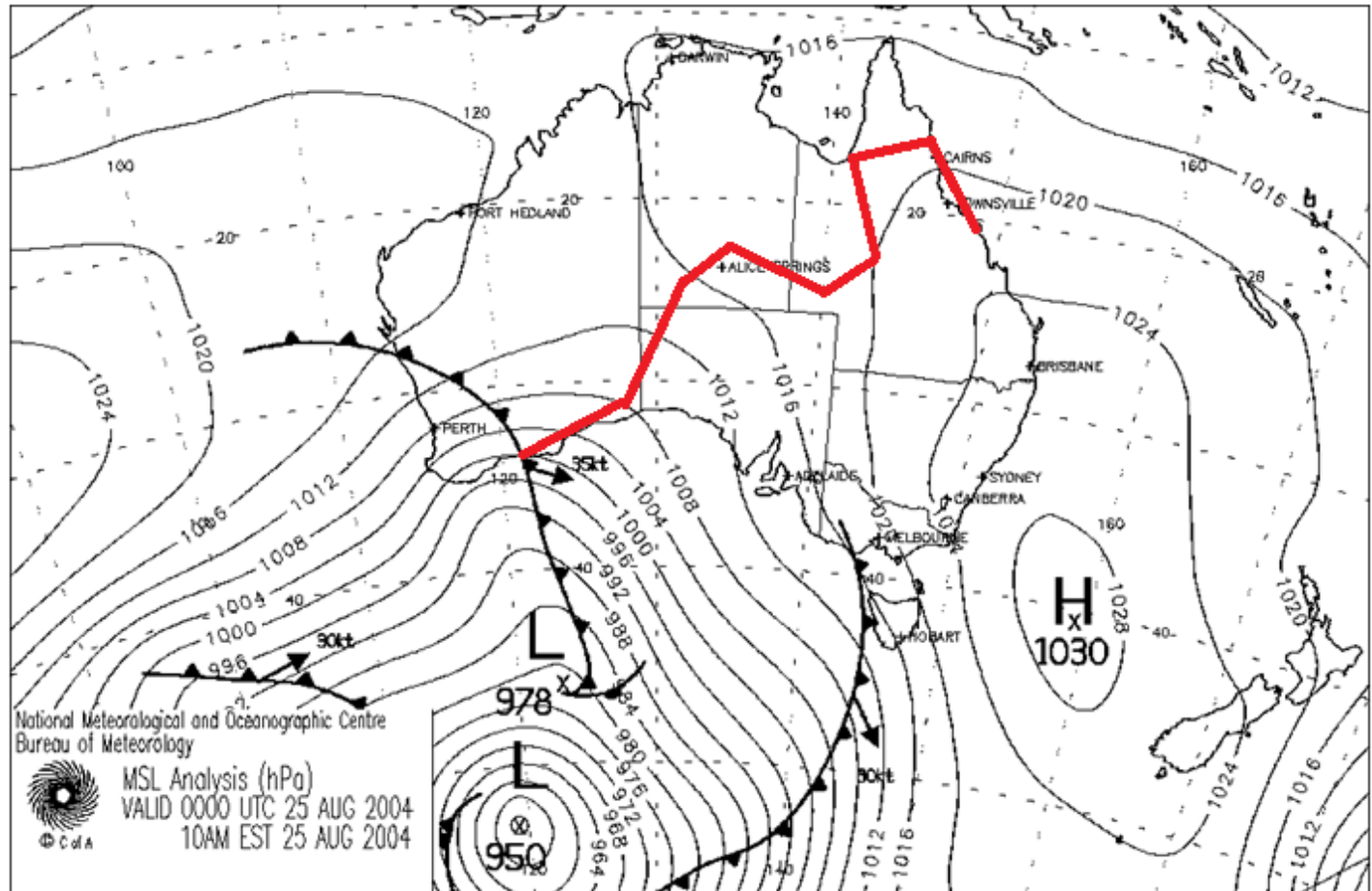
- Flow trajectories, air mass origins, atmospheric stability



Late August: A 'chin-wag' in context!



Late August: A 'chin-wag' in context!





South Coast Flying: YESP - YFRT



Weather

Subtropical ridge to the north, disrupted at approximately 5-day intervals by cold fronts. **Prevailing W/SW flow**

- **Ridge:** Possible showers, drizzle, fog or low cloud, otherwise fine, stable weather
- **Cold fronts:** Thunderstorms, showers, hail, windy conditions

Hazards

- **Ridge:** FG, ST, DZ or SHRA
- **Cold fronts:** TSRA, SHRA, Turbulence, Icing, ST in precip, Hail



South Coast Flying: YESP - YFRT

Ridge Pattern

➤ Weather

Light SHRA or DZ,
possible FG or fine
conditions depending on
low level moisture

➤ Cloud

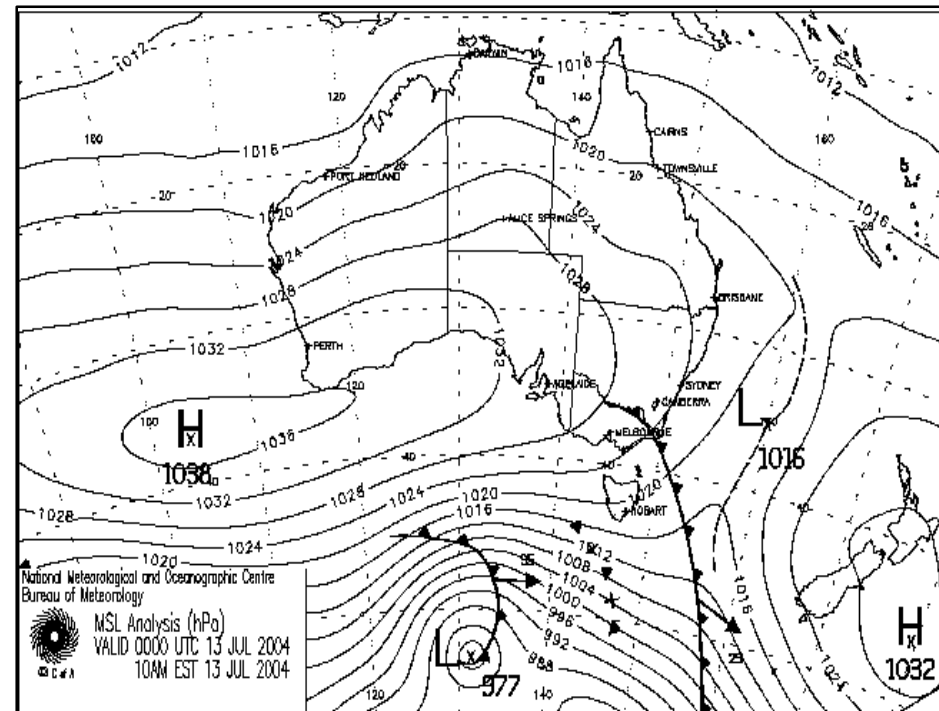
BKN/SCT ST tending SC
(usually clears with time
as cloud is beneath
subsidence inversion)

➤ Icing

Nil as cloud is well below
the freezing level

➤ Flying Conditions

May be poor during the
morning, but improves
with daytime heating/
mixing



July 2004



South Coast Flying: YESP - YFRT

Frontal Pattern

➤ **Weather**

TSRA, TSGS, SHRA,
SHGS

➤ **Cloud**

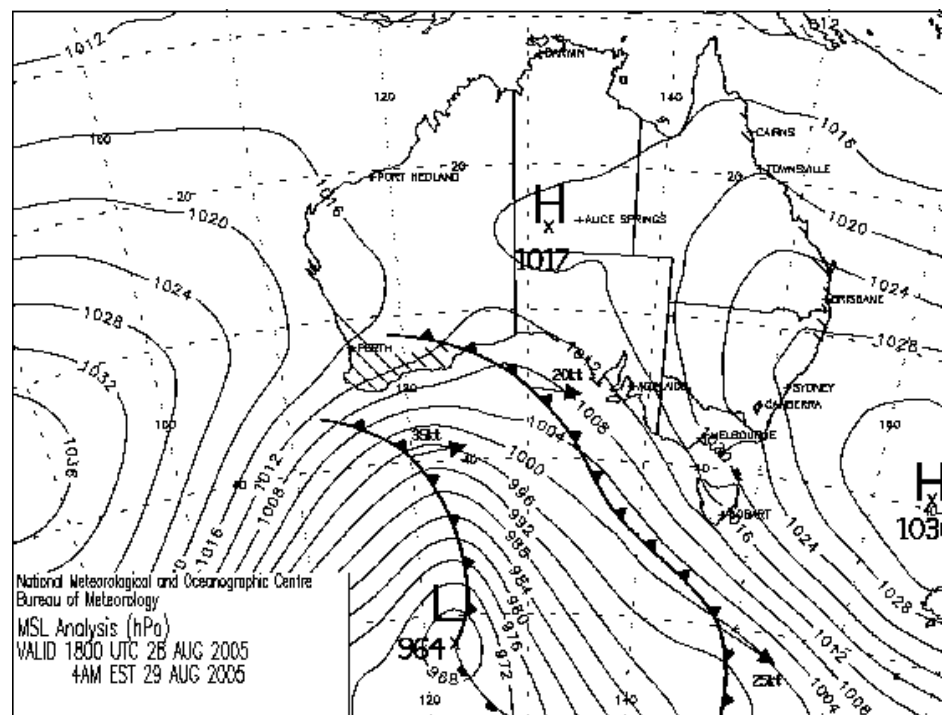
CB, BKN ST, BKN CU,
BKN AC/AS with and near
the front, generally clears
quite rapidly in the wake of
front

➤ **Icing & Turbulence**

Low FZL, increased
moisture & inherently
unstable atmosphere

➤ **Flying Conditions**

Poor in weather, but clears
rapidly with passage of the
front





Central Interior Flying: YFRT – YAYE - YBAS

Weather

Generally fine with light winds and clear conditions beneath the ridge axis.

(Light E'ly flow: dry, continental air mass)

Predominant hazards

- Northwest cloud bands
- Low level turbulence
- Occasional cold fronts

- Smoke



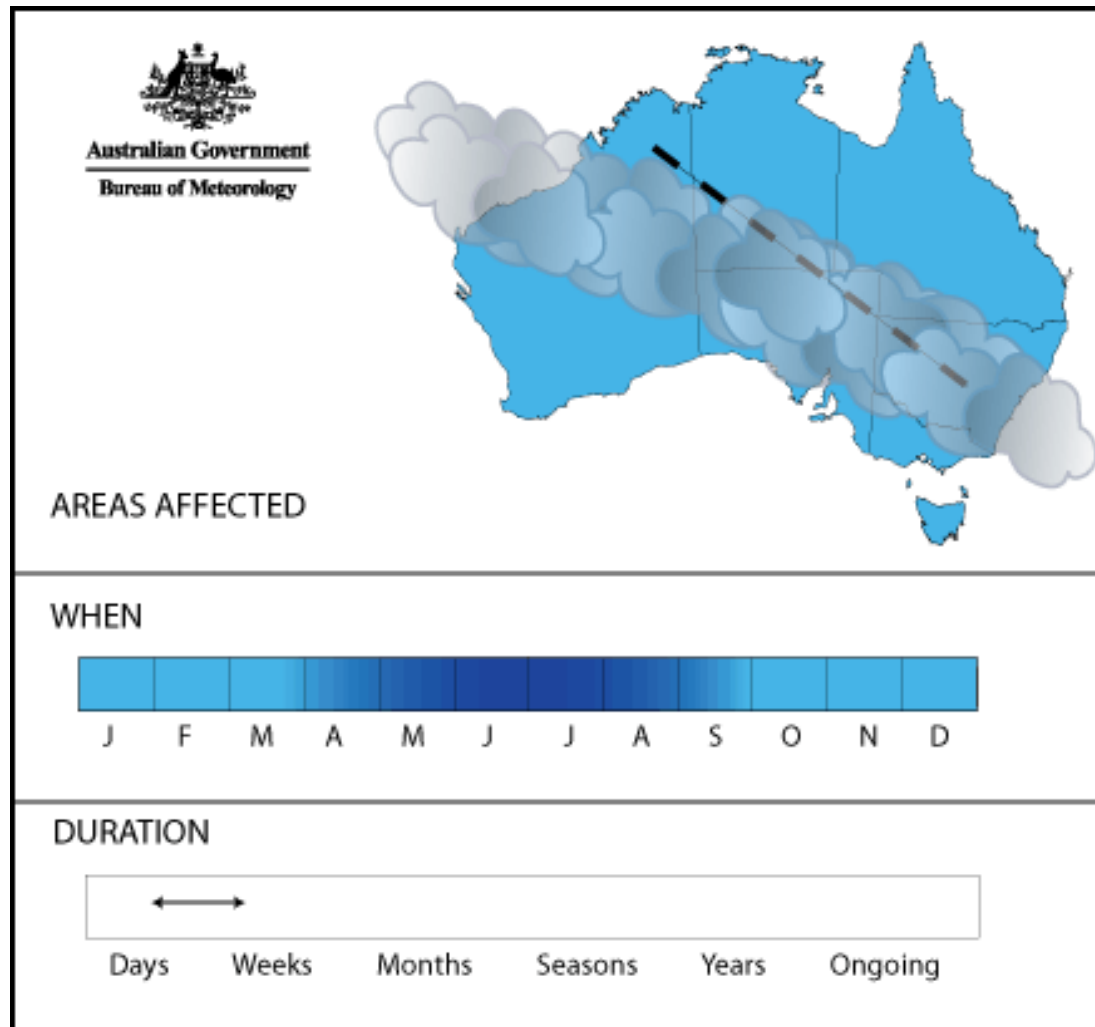


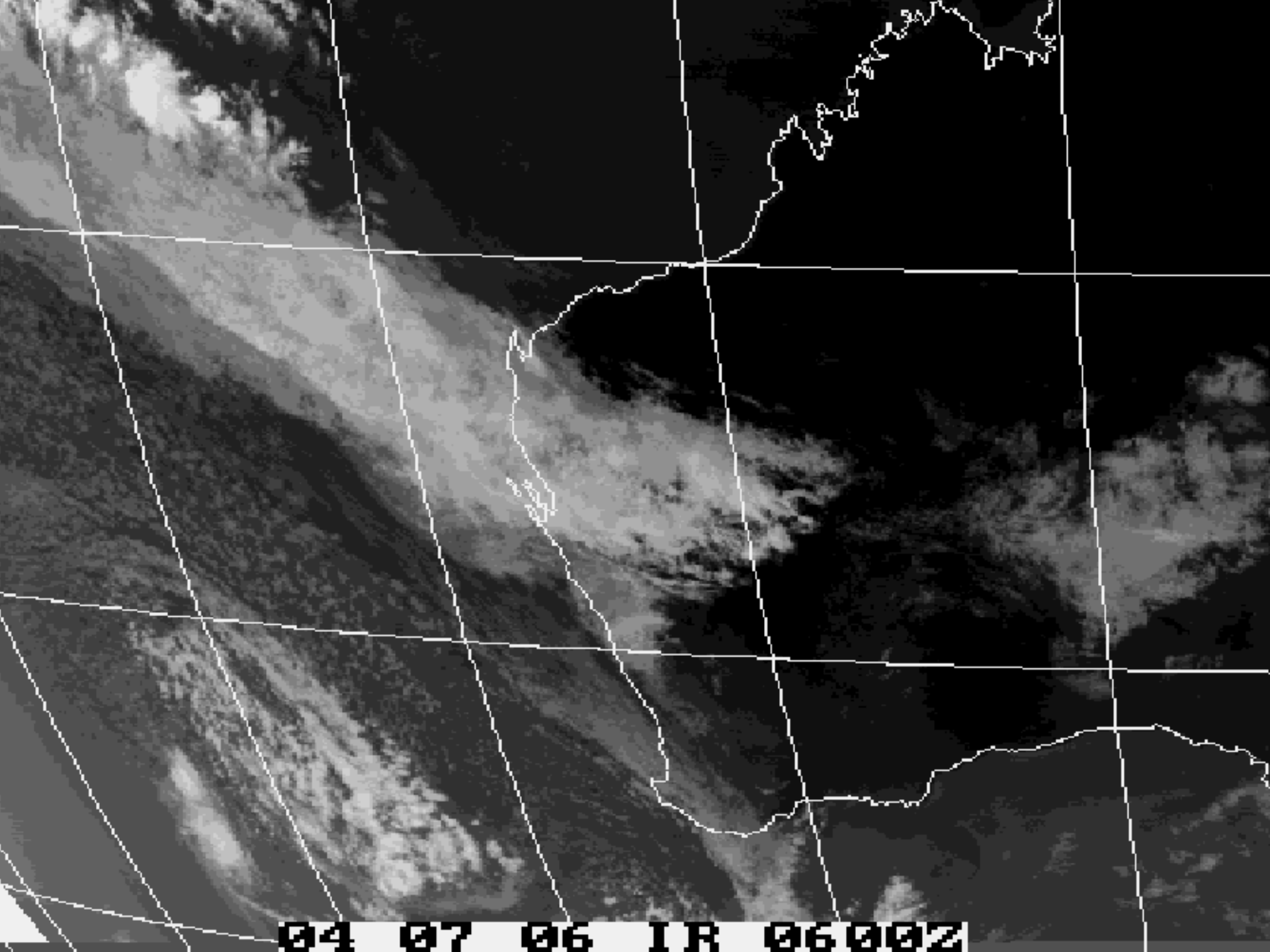
North-West Cloud Bands

- So called due to their distinctive NW – SE oriented shape. Main source of rainfall through Central Australia
- Typically occur during the winter months
- Moisture feed from the warm, moist tropics
- Lead to widespread rain and accompanying low cloud and reduced visibility
- Generally quite stable though may have isolated embedded CB
- May lead to significant icing problems given high moisture content and deep vertical extent of cloud
- May make conditions conducive to fog formation over the subsequent few days

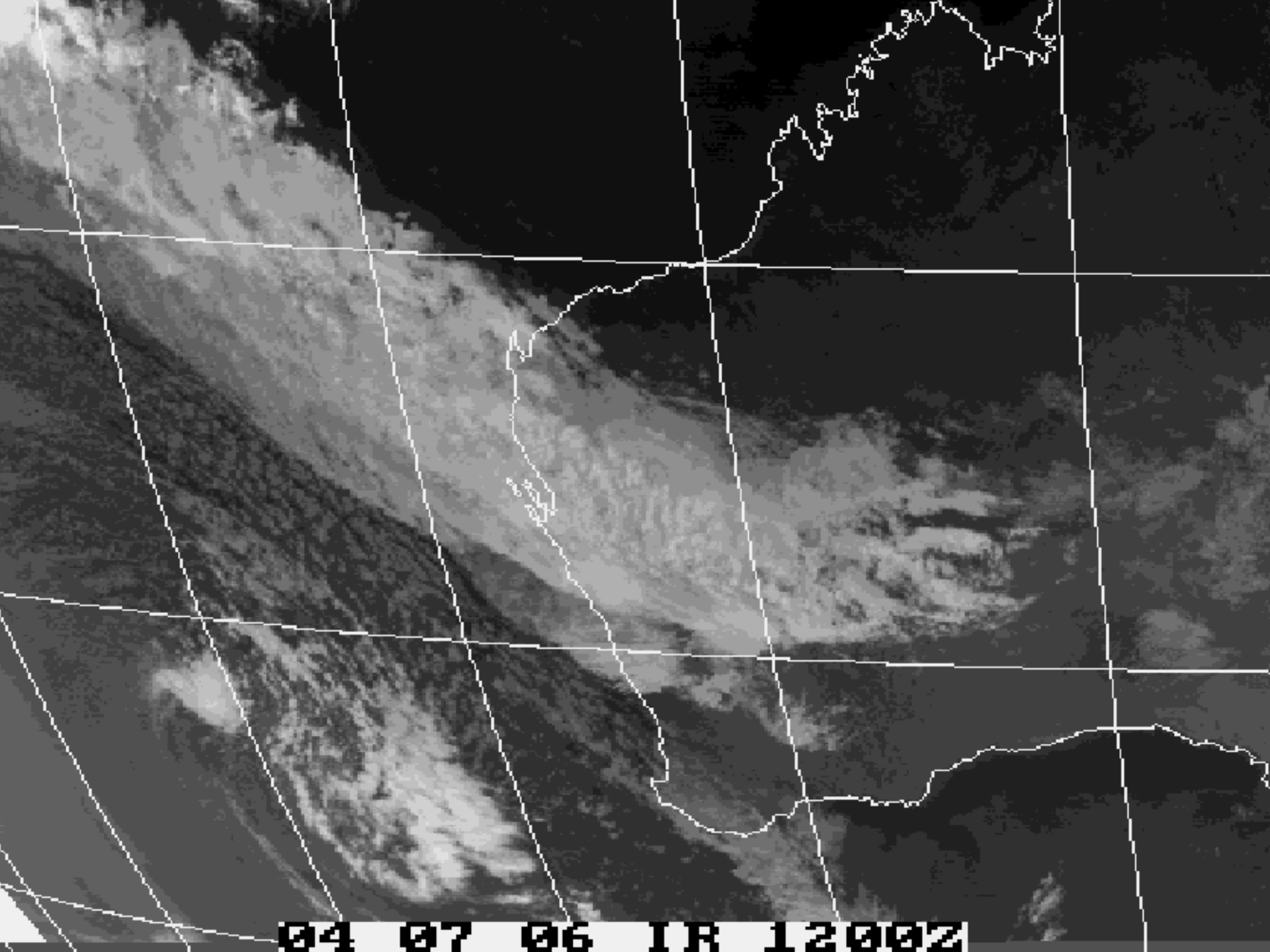


North-West Cloud Bands

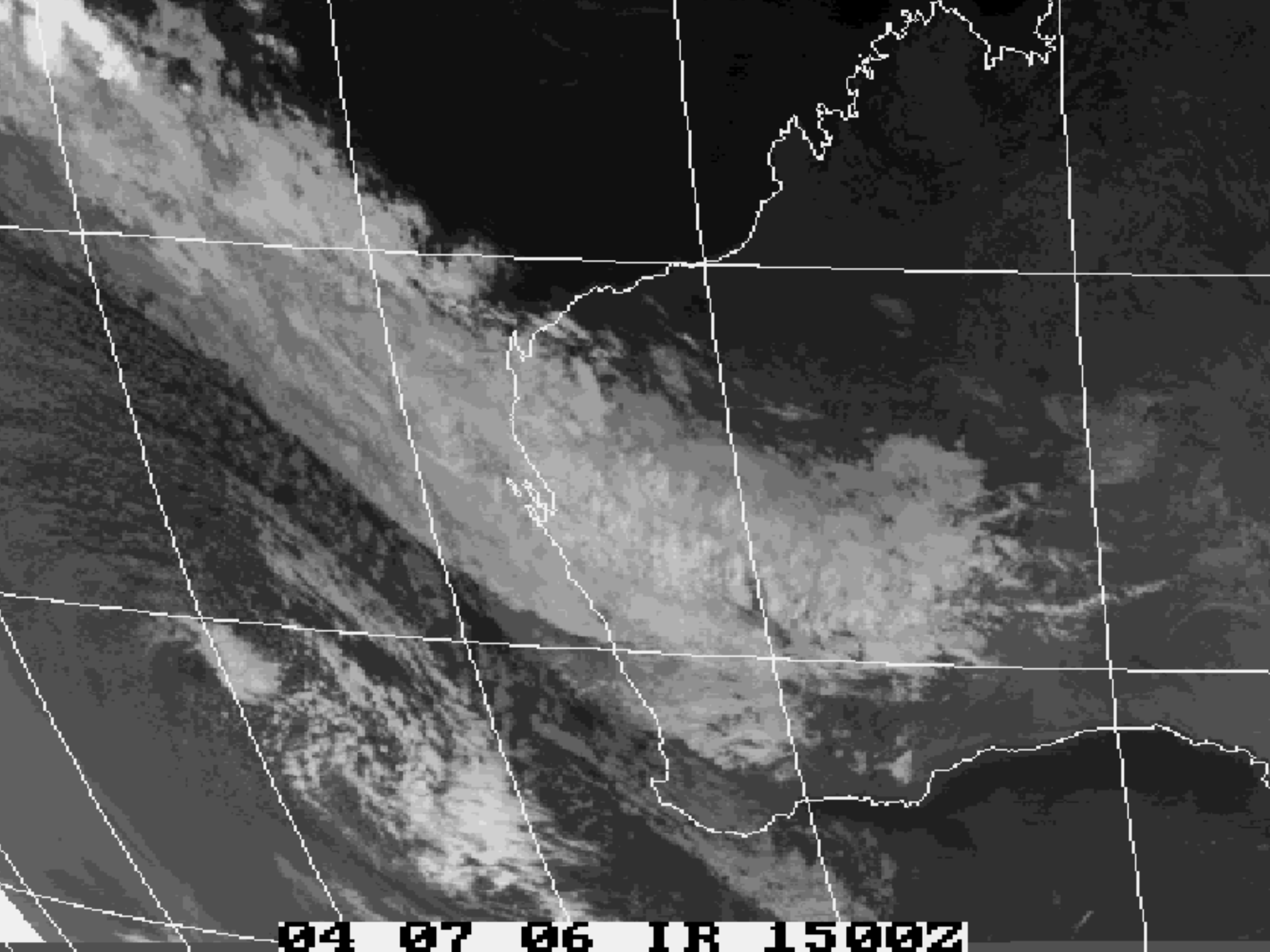




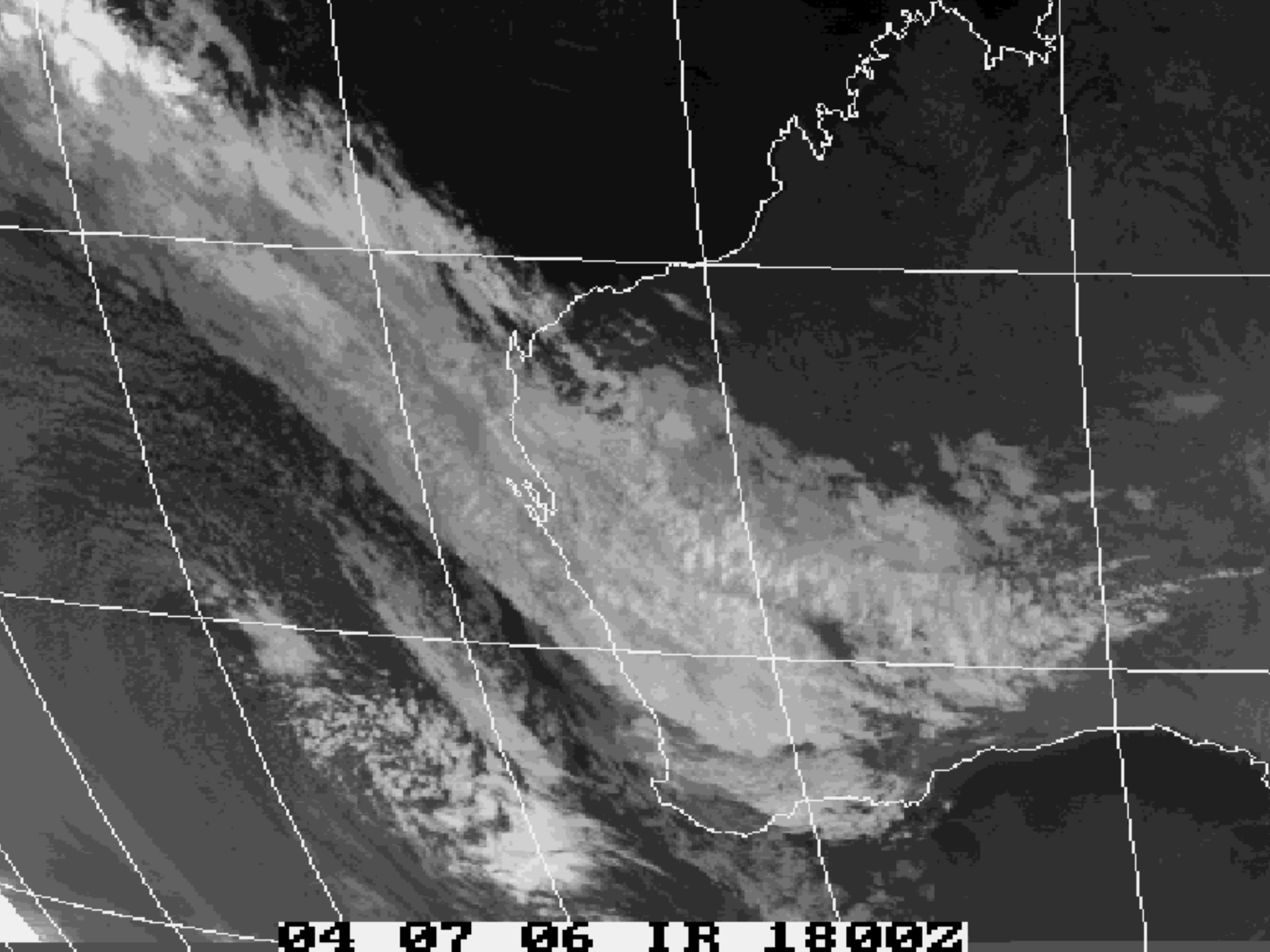
04 07 06 IR 0600Z



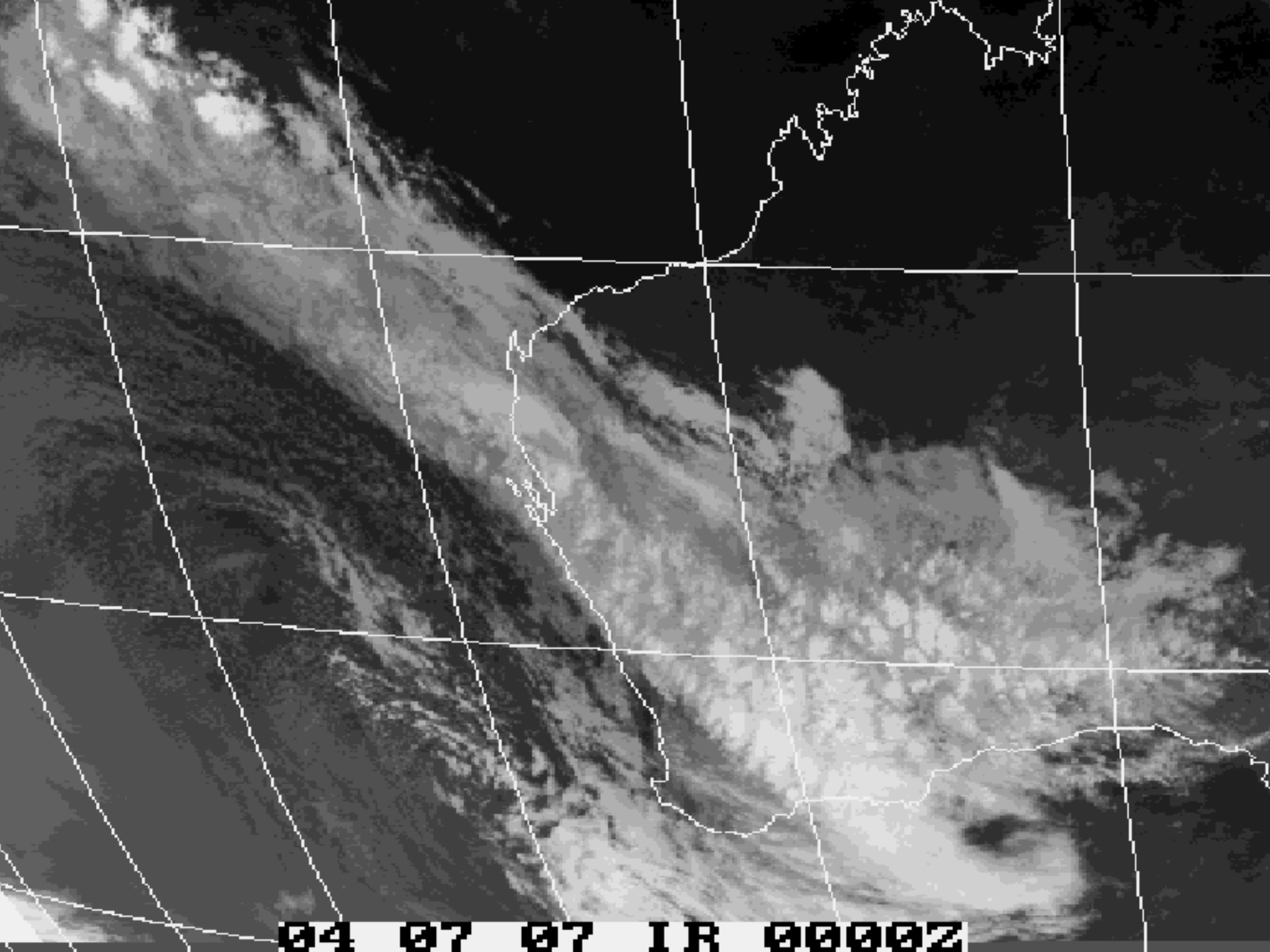
04 07 06 IR 1200Z



04 07 06 IR 1500Z



04 07 06 IR 1800Z



04 07 07 IR 00002

Central Interior Flying: YBAS – YBDV

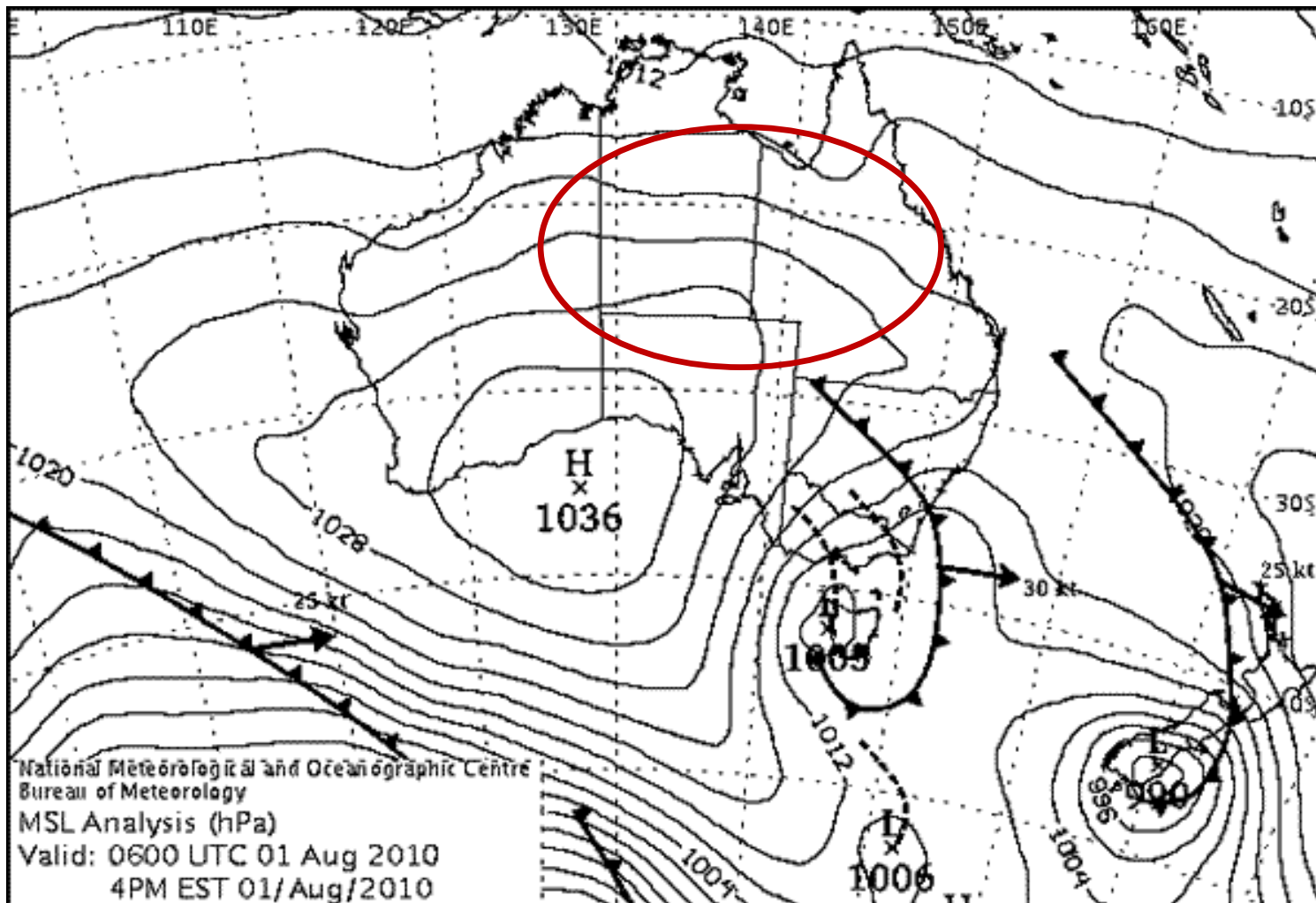


Low-level/ nocturnal jets:

- Surface winds de-couple from the low-levels as a nocturnal radiation inversion forms. This leads to enhancement of the wind just above inversion height (usually around 2000-3000ft AGL).
- Wind speeds are typically 25kt at 2000-3000ft, though may reach as high as 50kt. Stronger speeds usually occur with the strengthening of a new high in the Bight.
- Typically effects inland Tropical Areas, and is most prevalent for the few hours before and after dawn when the inversion is at its strongest/beginning to mix down



Central Interior Flying: YBAS – YBDV





Central Western Queensland Flying: YBDV - YWTN - Karumba



Weather

- Prevailing “dry season” conditions: warm, clear skies, fine weather!

“Glamour flying!”

- Occasional frontal changes though very limited weather

Hazards

- Convective turbulence (thermals)
- Smoke





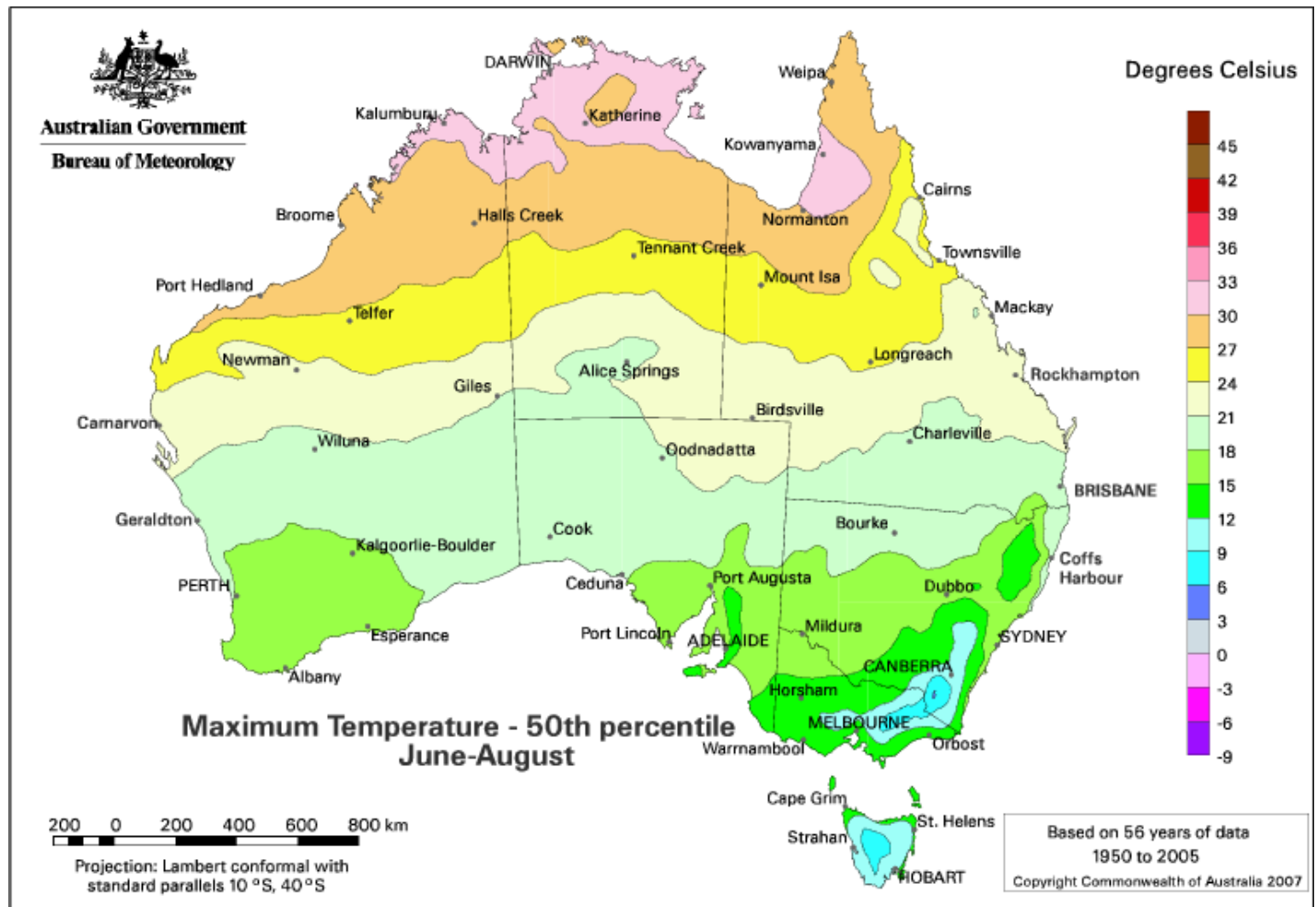
Central Western Queensland Flying: YBDV - YWTN - Karumba

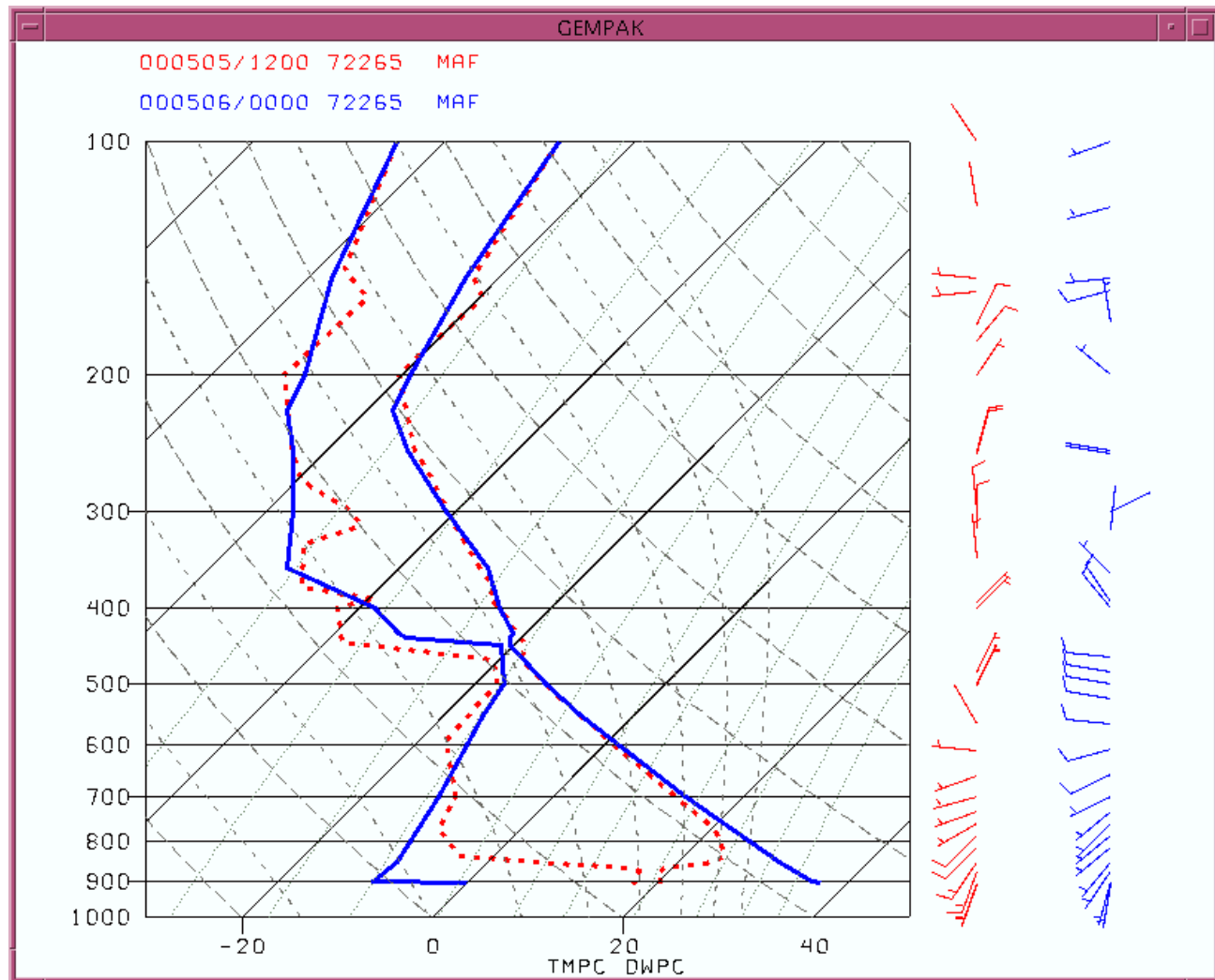


Thermals

- Occur in hot, dry conditions
- During August, the most susceptible regions will be the inland tropics.
- General rule of thumb: maximum daytime temperatures exceeding 30°C are conducive for thermals.
- Thermals extend throughout the well mixed layer (though weaken marginally with height)







- Very hot, very dry, and well mixed to around 25000ft!
- These conditions are also conducive for dust storms, particularly with a wind change (such as the passage of a trough or front)





Smoke Hazards

- Dry season = bushfire / burning off season about the tropics
- Visibility may be dramatically reduced in smoke, particularly if accompanied by a strong radiation inversion.
- Guidance of expected visibility, as well as altitudes and areas effected by smoke will be contained in the relevant ARFORs.
- Worth knowing and monitoring the Geo-Science Australia Sentinel website (infra-red derived fire locations) as well as local fire authorities' websites.



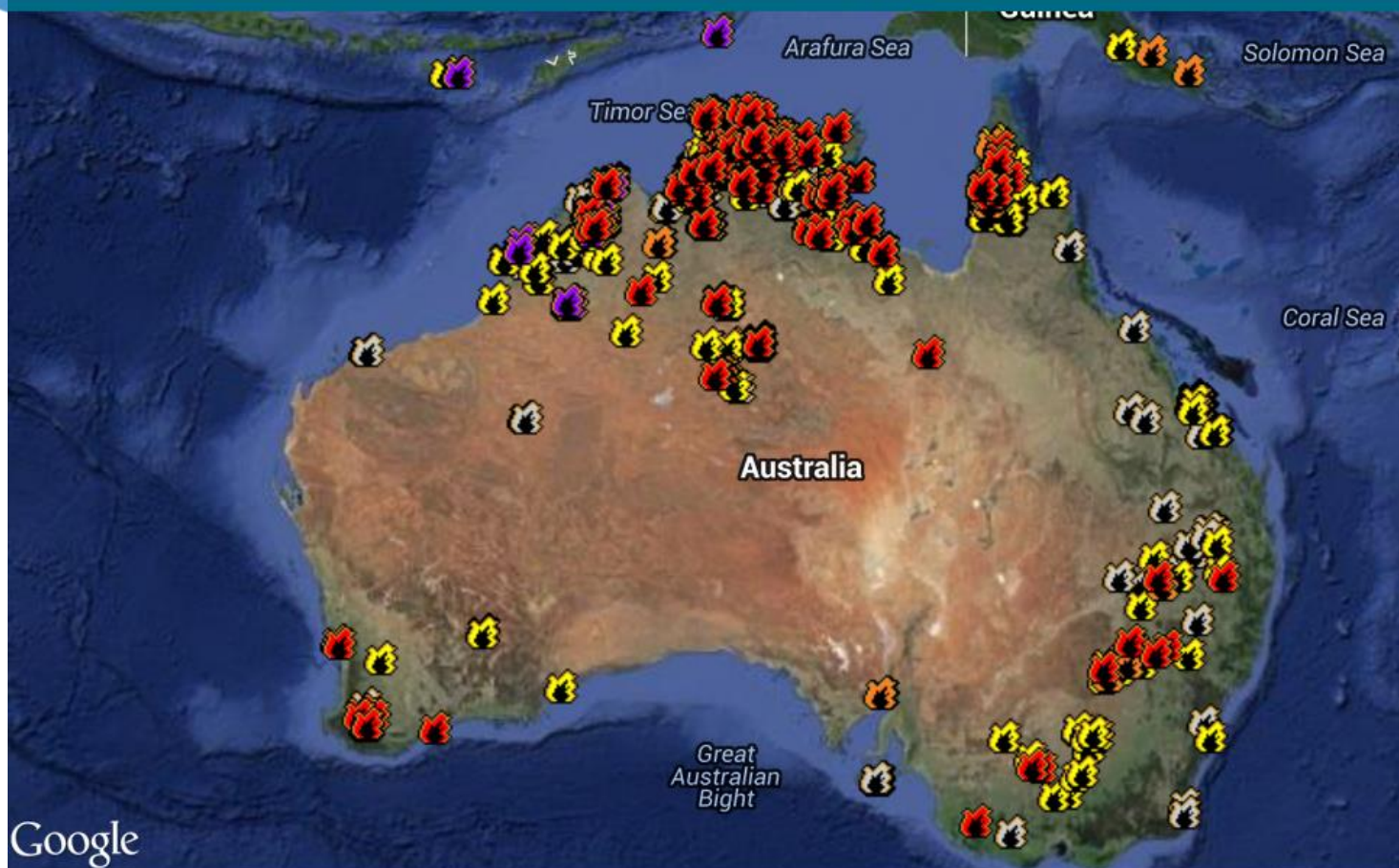


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Sentinel Hotspots

Hotspot Legends: Last 0 - 2 hours Last 2 - 6 hours Last 6 - 24 hours Last 24 - 48 hours Last 48 -



Hotspots Last Acquired: 2015-06-09 06:27 UTC Updated: 2015-06-09 07:19 UTC | MODIS Mosaic Last Acquired: 2015-06-09 07:19 UTC

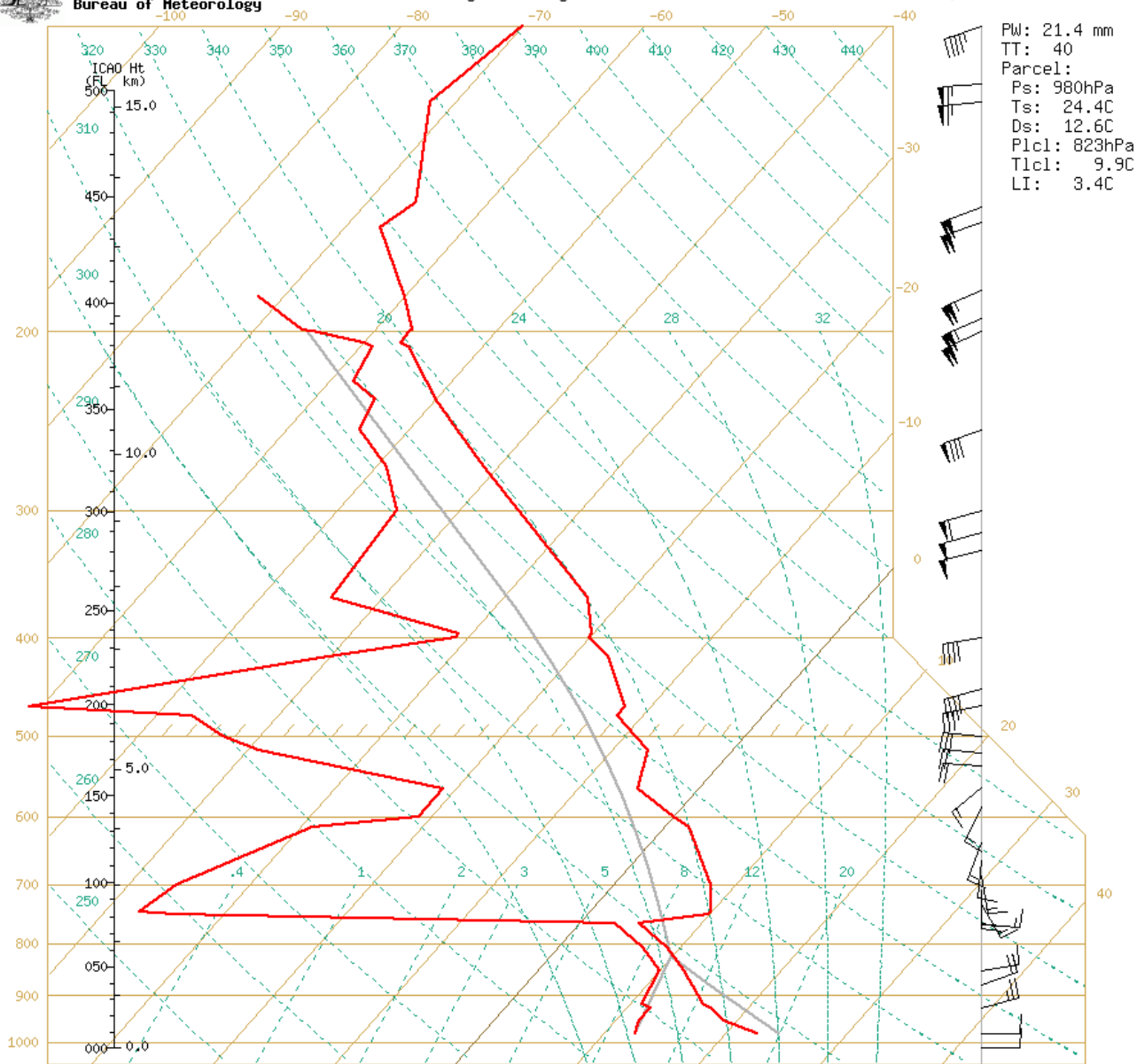




Australian Government
Bureau of Meteorology

Aerological Diagram

(wind speed in knots)

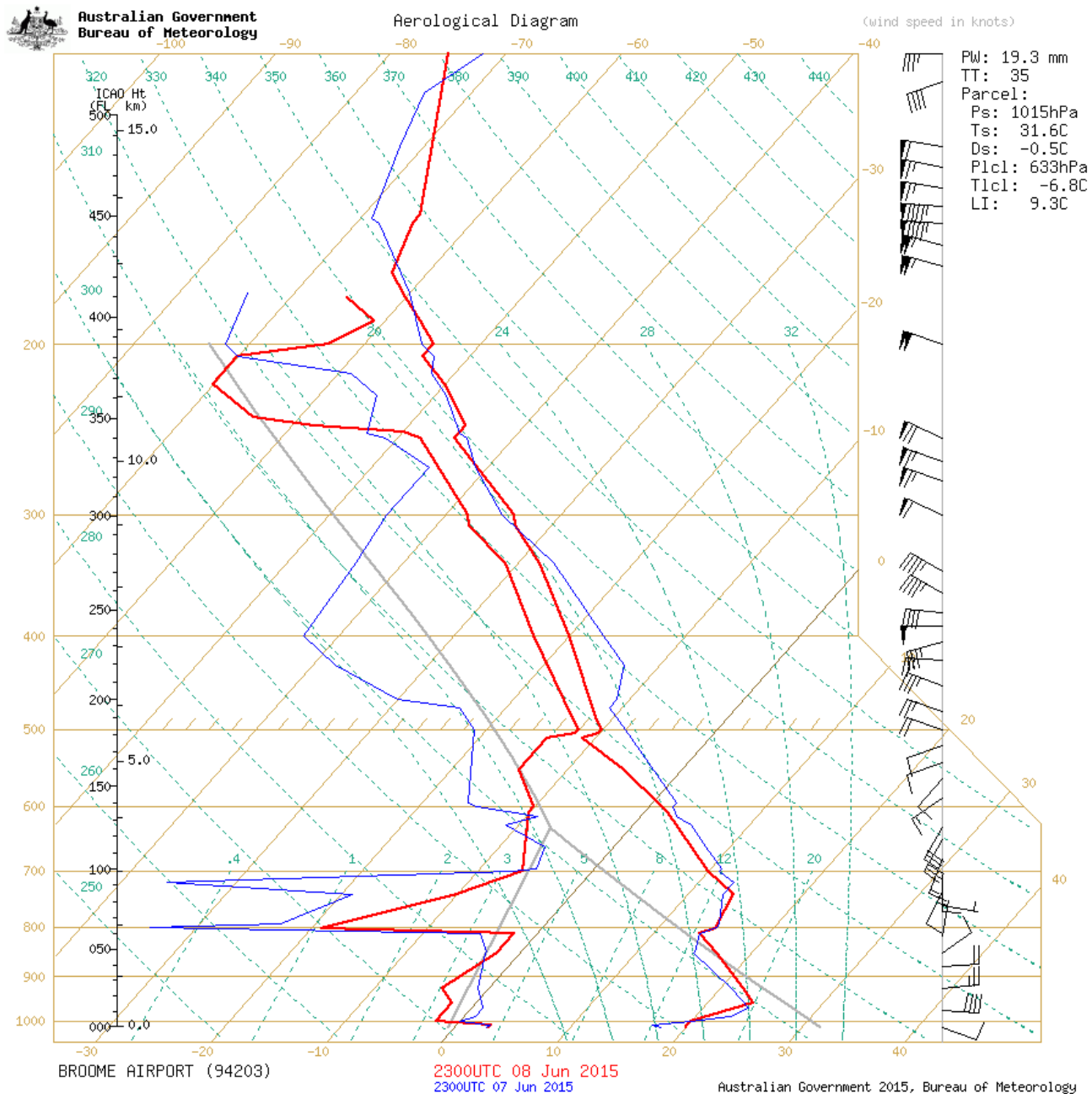


MT ISA (94332)

2300UTC 08 Jun 2015
0000UTC 00 Dec 0000

Australian Government 2015, Bureau of Meteorology







Gulf and Cape York Flying: Karumba - YCKN

Spectacular Phenomenon!



Morning Glory: a roll cloud, often as low as 100-200ft AGL and sometimes 1000km+ in length

Occur September to November

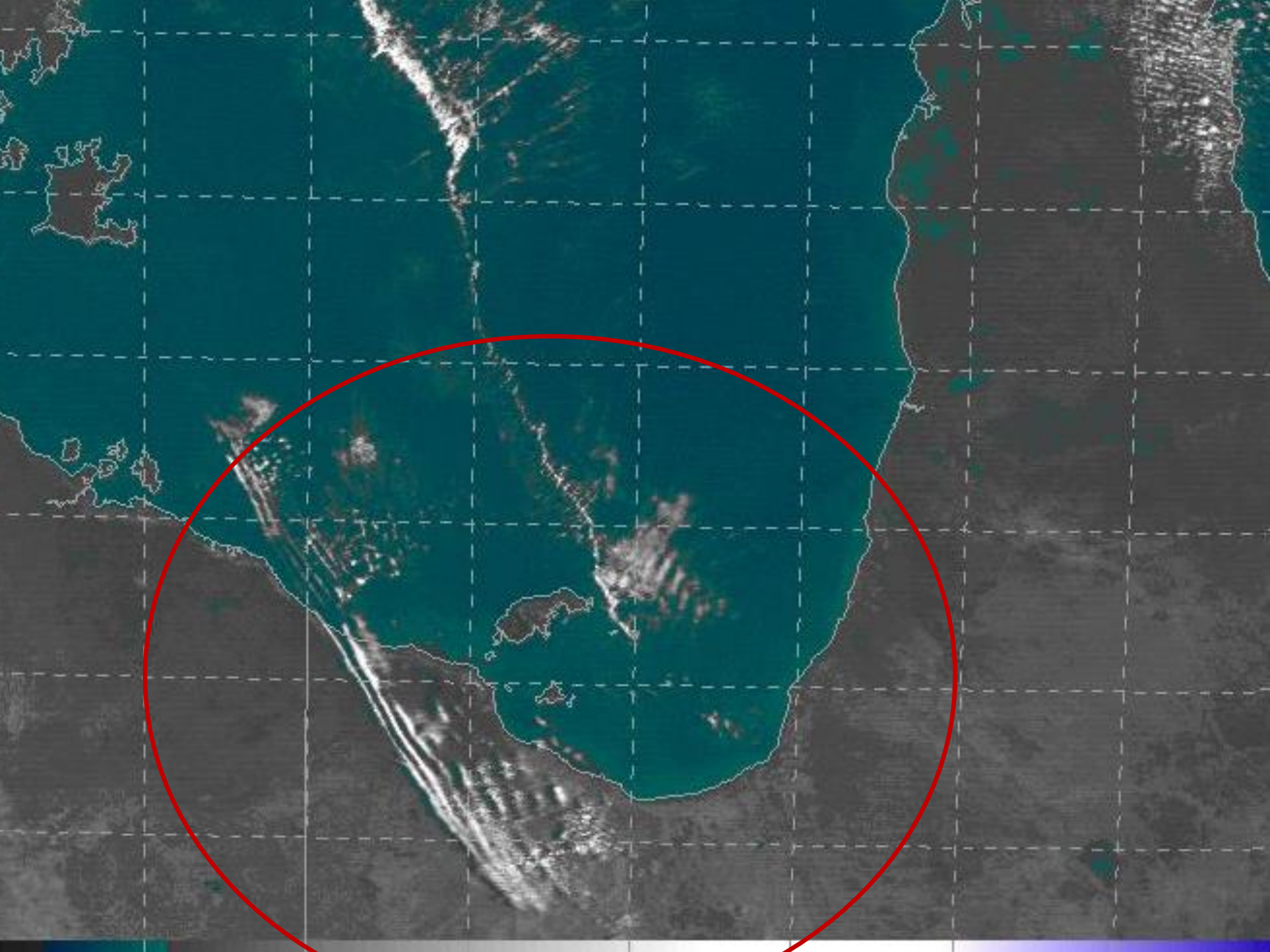
Very rare- only known place of formation is the Gulf of Carpentaria

Thought to be formed by mesoscale circulations overnight in environments where strong sea breeze result in high low level humidity. Also requires solid radiation inversion overnight.

Beware: May be accompanied by very strong low level wind shear, strong localised up and down drafts and squally conditions!









North Queensland Coastal Flying: YCKN - YBHM



Weather

- Prevailing trade wind flow, enhanced by orographic lift over the Great Dividing Range

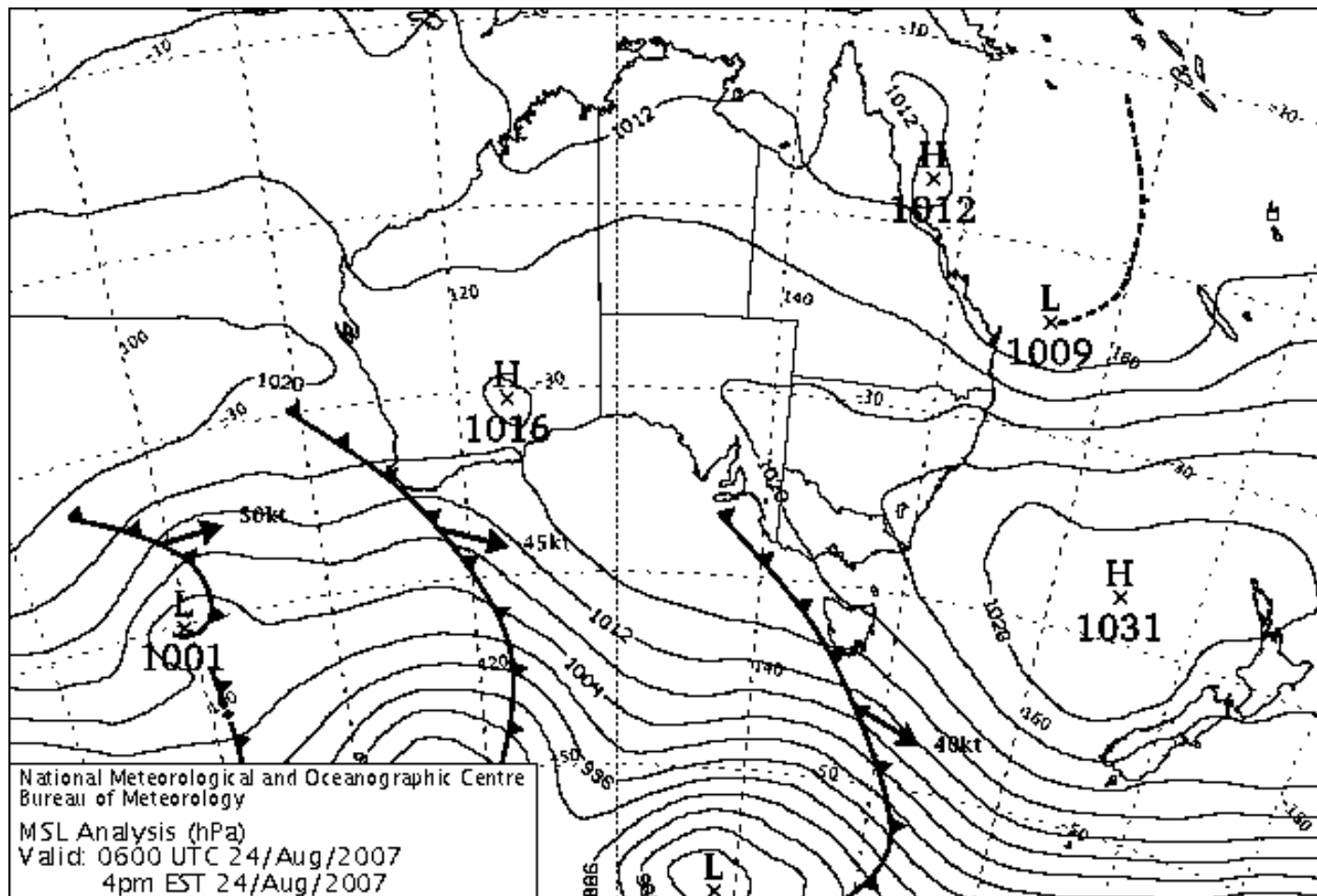
(Look out for blocking highs in the Tasman Sea and/ or East Coast Lows!)

Hazards

- Broken low cloud
- Drizzle
- Trade showers



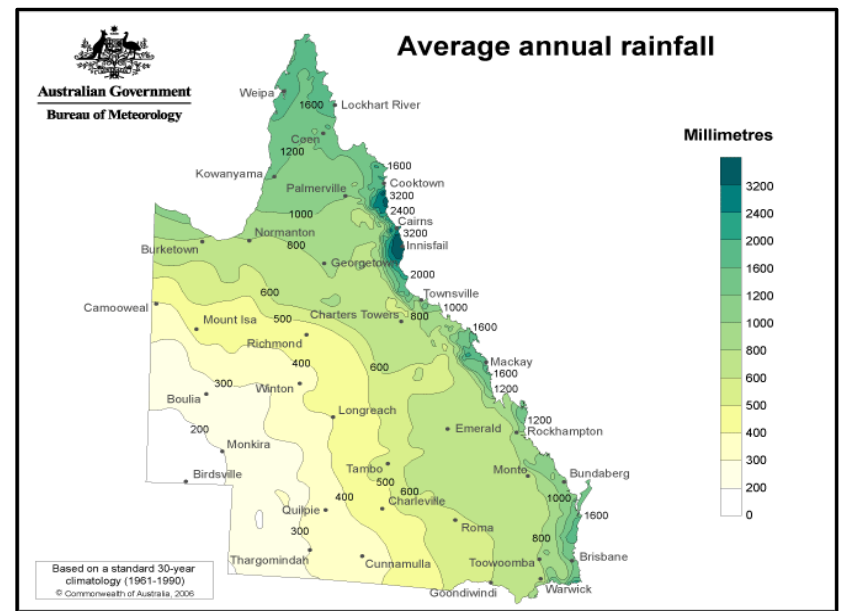
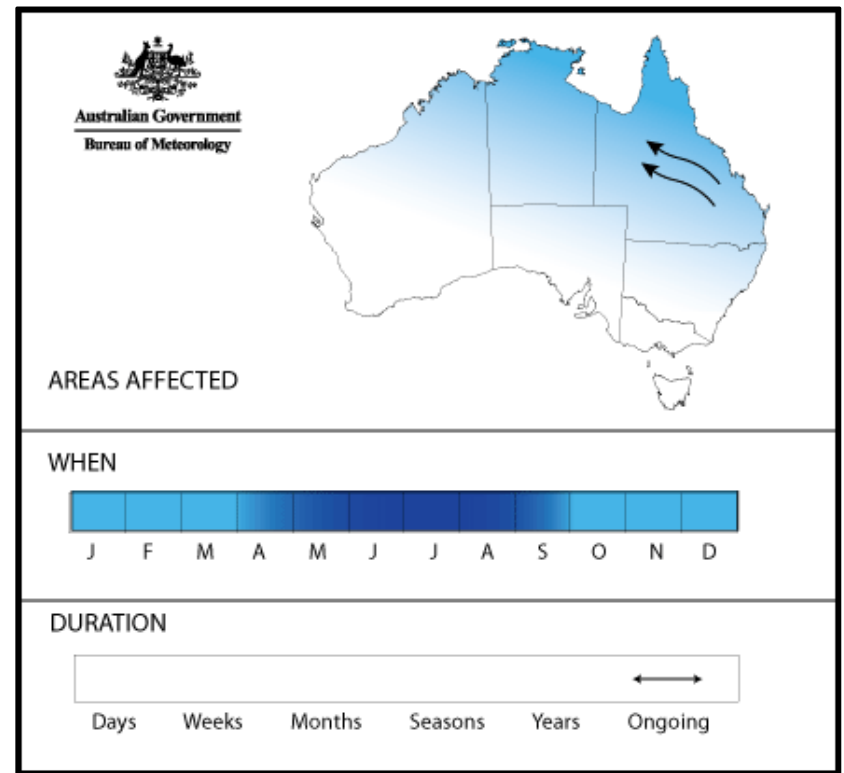
North Queensland Coastal Flying: YCKN - YBHM



Trade Flow

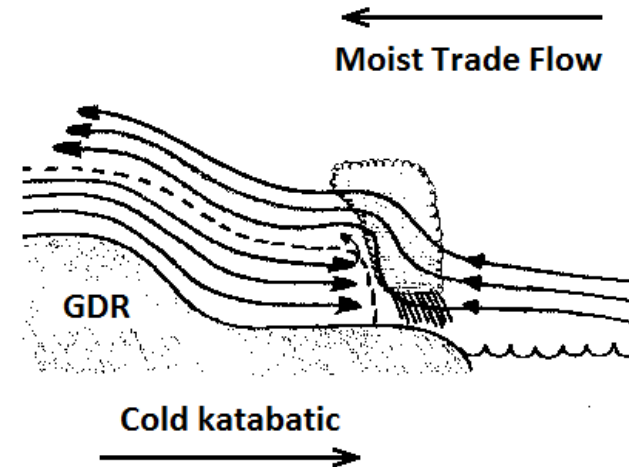
- Moist E/SE flow
- Strongest from April to September
- Surface winds commonly reach 25-30kt north of Cooktown during trade-wind surges.
- Locations such on the eastern side of the Ranges are amongst Australia's wettest places

Bellenden Ker: 8300mm
Perth 730mm



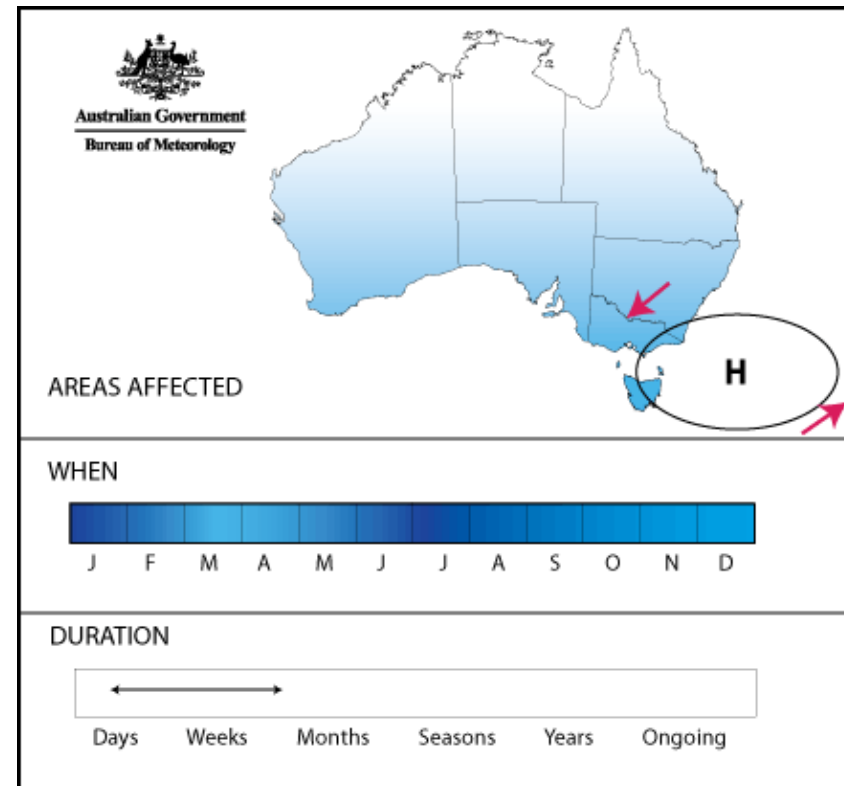
Coastal Convergence:

- The Great Dividing Range has peaks to around 5000ft
- Onshore flow is trapped by the Range, and must lift to pass over the Range, forming cloud.
- Moist air banks up behind the range.
- During the early mornings, this flow can combine with cool katabatics draining off the Ranges to produce low cloud (stratus) and drizzle.
- May result in prolonged tempo or alternate conditions
- This cloud contracts slowly inland and weakens throughout the morning as the katabatic weakens and mixing increases.



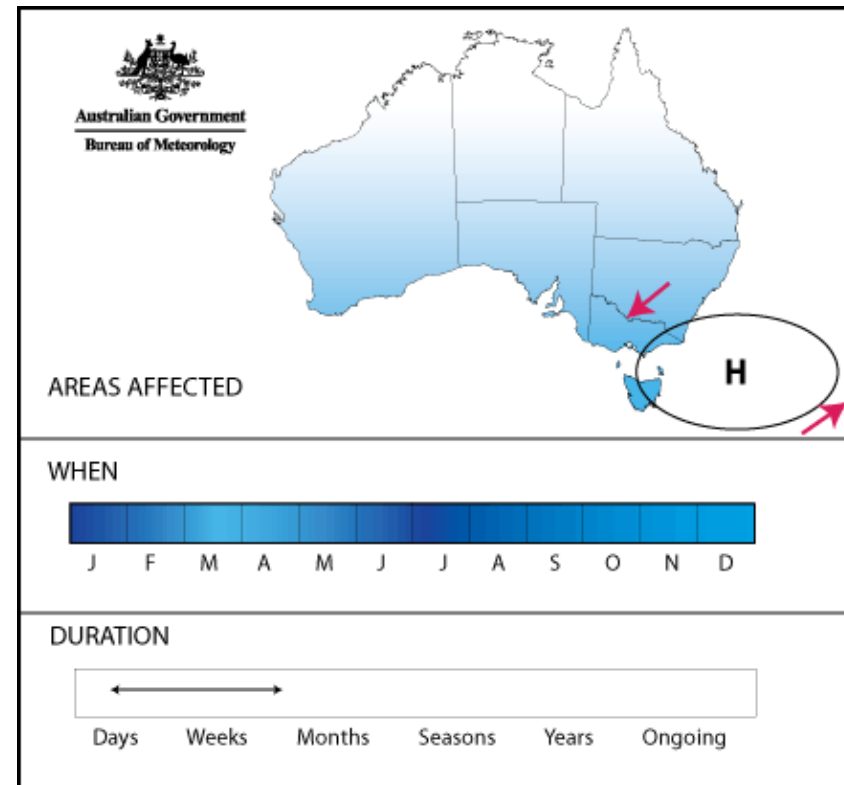
Blocking Highs & East Coast Lows:

- Blocking highs in the Tasman Sea contribute to increased low cloud/ showers along the Queensland coast
- The high dominates mid-latitude weather, blocking the usual progression of weather systems through southern parts of the continent
- In turn, the strengthening ridge up the Queensland Coast results in prolonged onshore flow, and so increases low level moisture, cloudiness and showery conditions.
- East coast lows may further enhance this moist onshore flow!



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Please ensure you...

- Obtain the latest aviation observations, forecasts, warnings and charts from the briefing system, Air-Services Australia and the Bureau. ***Be sure to monitor for updates***
 - SIGMETs, AIRMETS, Aerodrome Warnings
 - Routine TTFs, TAFs, ARFORs
- Telephone the Bureau for a more elaborative briefing when required
- Pay attention to media weather presentations and reports





Australian Government

Bureau of Meteorology

- > BUREAU OF METEOROLOGY
- > WEATHER SERVICES
- > AVIATION

... Thank-you and safe travels!

Karina Tarbath
Bureau of Meteorology

Royal Flying Doctors Service Outback Air Race 2015

Useful Aviation Information

Aerodrome Location Information

List of meteorological instrumentation, TAF and TTF availability at all aerodromes across the country, including AWIS numbers and frequencies.

<http://www.bom.gov.au/aviation/location-info/>

Aerodrome Climatological Summaries

Diurnal summaries of monthly climatological conditions (based on 15-20 years of data) showing the frequency of low cloud, reduced visibility, surface wind speed and direction, and temperature.

Available for YESP Esperance, YFRT Forrest, YAYE Ayers Rock, YBAS Alice Springs, YBDV Birdsville, YWTN Winton, YCKN Cooktown, YBHM Hamilton Island.

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

"Knowledge Centre": Aviation Reference and Educational Material

Information packages on

- forecast products and how to interpret them
- significant meteorological hazards to aviation
- general meteorology theory including atmospheric stability and using aerological diagrams (also known as F160/ Skew-T Log-P diagrams)

<http://www.bom.gov.au/aviation/knowledge-centre/>

Latest Aerological Diagrams

Latest aerological diagrams from around Australia

<http://www.bom.gov.au/aviation/observations/aerological-diagrams/>

Geo-Science Australia: Sentinel Hot-Spot

Website that uses computer algorithms and infra-red satellite imagery to give real-time guidance about the location of controlled burns and bushfires national wide.

<http://sentinel.ga.gov.au/#/main>

Karina Tarbath | WA RFC