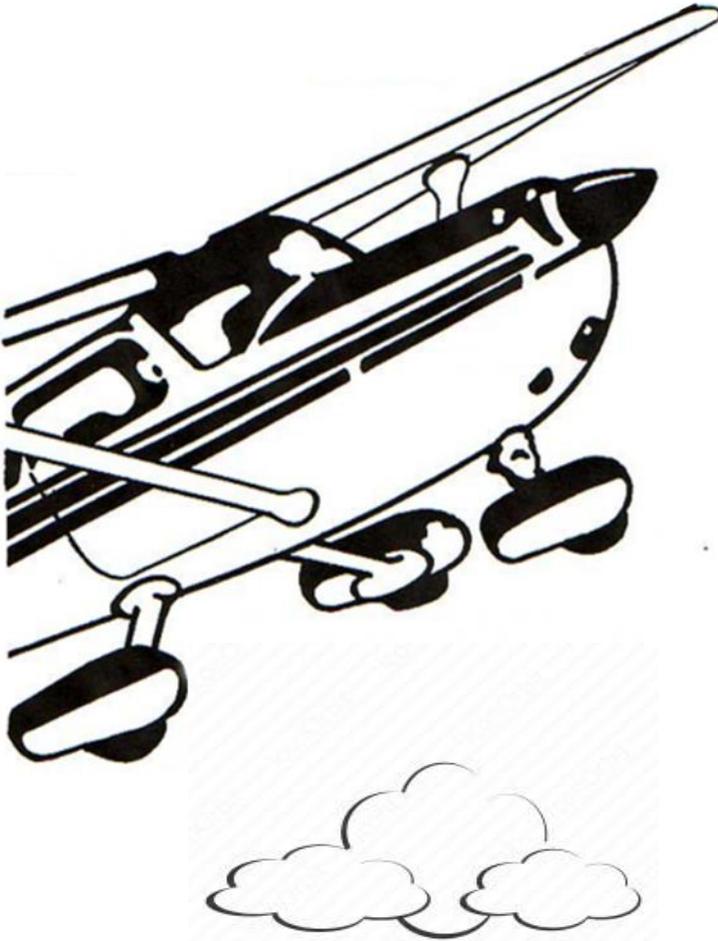


# *Fly About*

Northam Aero Club (Inc.) Newsletter

Vol. 55 Issue No.1

JANUARY 2024



## In This Issue

- A Message from the President
- Club Captain's Report
- Thunderstorms
- Membership Renewals
- Around the Web
- Aviation Humour
- Next Club Comp
- Classifieds
- Club Contact List

# Presidents Message

Welcome all to 2024.

I sincerely hope you had a Merry Christmas and a very Happy New Year.

The big event at the moment is the very hot and windy conditions and air streams. With the storms we have had extra long power outages. These have shown how we have many flaws in our modern way of living. As always, these issues will be reviewed and no doubt action will be implemented to improve these issues.

I believe our instructors have been kept busy and the damaged briefing room ceiling has been replaced and only needs painting. Thanks to Glenys and Michael.

No competition was held in January but will commence again in February.

Last year I took several Japanese balloonists up for a scenic flight around Northam. They were so appreciative that Sotoshi Kuwasako has sent a box of 2024 Ballooning Calendars to me. I will put these at the Aero Club. Anyone that would like me to keep one for them please let me know. With the severe weather around I hope you have managed to get some flying in.

Cheers for now,

Errol

# Club Captain's Report

## No Captain's Report this month

However I have included an image that Dave recently posted on Northam Aero Club Facebook page of the recent Wongan Hills fire.



## Membership Renewals

Its that time of year and club memberships are now due—a big thank you to all those member who have already paid.

Invoices were sent out to members just after Christmas, however if you haven't received a membership renewal invoice, please contact me so we can resolve any problems. If anyone has any questions, please feel free to either email me or give me a call.

Cheers

Paul

Email: [nactreasurer@bigpond.com](mailto:nactreasurer@bigpond.com) Telephone: 0427 909 412

# Thunderstorms

On November 20<sup>th</sup> 1953, test pilot Scott Crossfield, a contemporary of Chuck Yeager, became the first man to fly at Mach 2. On April 19, 2006, at the age of 84, he died in a Cessna 210. Even a possessor of what Tom Wolfe, in his superb book, called '*The Right Stuff*' was no match for one of the great hazards to aviation – a thunderstorm.

## HOW TO MAKE A THUNDERSTORM

Three requirements. Firstly, the atmosphere needs to be unstable, or at least conditionally stable, for a considerable depth, meaning the environmental lapse rate (ELR – the fall in temperature with height, which is typically about 2 ° per 1000 ft, but it varies) is greater than the saturated adiabatic lapse rate (SALR – the rate at which the rising air in a cloud cools as it rises – a fixed 1.5 ° per 1000 ft). Since most readers have no doubt auto-dumped that part of their Meteorology theory after passing the relevant exam, let's put all that in plain English. What that means is that with the right ELR, once warm air starts to rise and cool and form cloud, it will keep rising because it's only cooling at 1.5 ° per 1000 ft, and the surrounding atmosphere is getting colder at a faster rate with height, so the parcel of air that's forming a cloud is staying warmer than the air around it.

The next thing you need is lots of moisture through a considerable depth, so as the rising air cools, it continues to form cloud to a great height. The reason tropical thunderstorms are the biggest is because the air in colder latitudes is not warm enough to hold the mega quantities of moisture needed to form a good cumulonimbus (CB) cloud.

The other requirement is a trigger to get the air rising in the first place. The descriptions of thunderstorms by type are based on the trigger.

### Some triggers are:

- A cold front, with colder heavier air sliding in under warmer, less dense air and pushing it up;
- A mountain range causing air to rise (**orographic** thunderstorms);
- Strong heating of the air in contact with the ground, causing convection – the typical summer afternoon storms in the Wheatbelt are this type;

# Thunderstorms

**Some triggers are:** (cont...)

- Cooling of the tops of big cumulus clouds at night as their heat is radiated to space, causing the lower warmer air to rise and turning the big CU cloud into a CB. Tropical thunderstorms at night are often this type.

## THE LIFE CYCLE

### Cumulus stage

- The cumulus, or building, stage of a thunderstorm involves only updraughts, as the trigger causes the air to rise, the air rises and cools and moisture condenses, and a big cloud forms. CB's at this stage can grow faster than an aeroplane's ability to out climb them.

### Mature stage

- Eventually the updraughts near the top of the cloud get weaker, and the water droplets and hail get too big to be supported by the updraughts, and they start to fall. As the precipitation falls, it drags air down with it, which causes strong downdraughts. Rain and lightning start at this stage.
- In the mature stage there are still strong updraughts. If an 4000 ft per minute updraught is right next to a 4000 ft per minute downdraught, that kind of turbulence and windshear can rip an aeroplane apart, as it did to Scott Crossfield's 210.
- As the cold downdraughts flow out of the base of the cloud and hit the ground, they can spread out and flow horizontally, leading to very strong windshear. That's caused the demise of quite a few aircraft, big and small, and that's why you don't try to land under a thunderstorm.
- The mature stage typically lasts between 20 and 40 minutes, which is why thunderstorms generally appear on TAFs under the heading of an INTER or TEMPO.

# Thunderstorms

## Dissipating stage

- The cold downdraughts eventually cause the warm updraughts to weaken, which means the cloud will stop growing and will eventually collapse into something smaller and less life threatening.

## THE HAZARDS

The dangers to aviation can be present not just in the cloud and under it, but also for some distance around it, particularly downwind.

### Hazards include:

- Severe windshear, which can lead to loss of airspeed, stalling, and structural damage;
- Severe turbulence (Note here that according to the AIP, one of the criteria for rating turbulence as Moderate is “Difficulty in walking.” It’s hard to walk in PGL, Dave Mac’s Archer or Nathan Gudgeon’s Cirrus at the best of times, which suggests the criteria are based on airliners. If turbulence is “Severe” for a big jet, how will it feel in your 4-seater?)
- **Hail damage;**
  - Hailstones can grow in the clouds as they fall and collect more and more water;
  - Big hail is not common (on the ground at least) in the tropics because it melts before it reaches the ground. That’s why the reports of massive hail damage are more likely to be from Sydney than from Darwin.
- Severe icing;
- Lightning damage;
- Reduced visibility.

# Thunderstorms

## **DOWNBURSTS AND MICROBURSTS**

A microburst can form under a big CB, and typically is no bigger than about 4 km, with a lifespan of about 10 minutes, and horizontal wind shear of up to 50 kt.

Virga (rain that doesn't reach the ground) is a good indicator of a microburst. If the rain is evaporating, it's absorbing latent heat from the air to do so, which creates a very cold heavy parcel of air that can plummet towards the ground at a rate that you will not out climb. You won't overcome the associated windshear either, so avoid at all costs.

## **TORNADOES AND WATERSPOUTS**

In the growing (cumulus) stage, if the updraughts start close enough to the surface, they may suck up objects. Over the water that means waterspouts, and over land it means tornadoes which, if you take any notice of most media, only happen in the US, such as to Dorothy in Kansas, and not in Australia. We do get them once in a while in WA.

## **AVOIDING THEM**

As well as the forecasts, the anvil at the top of a good CB gives you a good indication of which way is downwind, and you should avoid the storm by even more in that direction than upwind.

Here's an easy one: don't fly anywhere near virga.

As an IFR pilot, if you saw "Embedded CB" on a forecast, you'd hope that if you flew into cloud, your weather radar would tell you if there's a CB embedded in the nice comfy stratus layer you're cruising in. But as a VFR pilot, that's just one more reason to avoid the clouds, but also to avoid flying under them. Who knows what's coming out of the bottom of that CB that you can't see?

A multi-cell thunderstorm – a group of ordinary, short-lived cells that combine, with cells at different stages of their life cycles – can mean a cluster or a long line of thunderstorms with a relatively long life. A squall line is one example. This is a long line of continuous thunderstorm activity, developing due to a lifting mechanism along a line, such as a cold front, and they may present a wall of severe weather that's too high, wide and long to get around. If that's what's ahead of you, it's the big 180 degree turn. Or better still, don't take off in the first place.

# Thunderstorms

## ON FORECASTS

On a TAF, most cloud types are not given. You only see, for example, *FEW030*, and you need to look out the window to see what type of cloud it is. But if it's CB or towering cumulus (TCU), the type will be included, as will any associated weather eg. *SCT030CB*. TSRA for thunderstorms with rain, or TSGR for thunderstorms with hail (GR is either the French word for hail – grele – or God-rocks, depending on your viewpoint.)

On a GAF, which generally includes only cloud with bases below 10,000 ft, CB or TCU will be included, even if the base is above 10,000 ft. For these cloud types, the amount is not given as FEW, SCT, BKN or OVC. It's ISOL, OCNL, FRQ or EMBD (I reckon you can make sense of those abbreviations without help!)

SIGMET are also issued for thunderstorms if they are obscured by smoke or haze, if they're a squall line, or if they're FRQ or EMBD.

For more information on thunderstorms and the ways they're included in forecasts, see the excellent information at [Knowledge Centre \(bom.gov.au\)](https://www.bom.gov.au/knowledge-centre/).

**Kevin**

# Around The Web

## CLASS 5 MEDICAL SELF DECLARATION

The [summary of consultation](#) and responses on the new Class 5 medical self-declaration scheme has been published.

CASA received 849 responses and contracted independent consultants to conduct the analysis.

Feedback from the aviation and medical community highlighted the need for ongoing consideration of the appropriateness of the operational limitations as well as the safety and risk mitigations proposed.

Dr Kate Manderson, Principal Medical Officer, said that the proposed policy will allow private and recreational pilots to self-assess and self-declare without requiring a medical assessment if they meet fitness and eligibility requirements, complete and pass an online test and operate in accordance with specified operational limitations.

CASA is now working to finalise the policy decision and implement through an exemption instrument to the *Civil Aviation Safety Regulations 1998*.

As soon as practical CASA will announce to pilots that they can start applying for the new Class 5 medical self-declaration scheme. This is expected to be in the next few weeks.

You can view the full summary of consultation here on the [CASA Consultation Hub](#).



# Aviation Humour

After an international flight of over twelve hours, everyone was eager 'to disembark' as soon as we landed.

However, we had a long taxi to the terminal and then a long wait for another plane to leave so we could taxi to the assigned gate.

In spite of the flight attendant's announcement asking everyone to stay seated until the captain gave the signal that we were stopped, several passengers unlatched their seat belts and stood up to retrieve baggage from the overhead bins.

At that point the captain's voice came over the loudspeakers.

*"Ladies and gentlemen, as you might imagine, after such a long flight with hundreds of passengers, the lavatories are in terrible shape. If you would like to help us out, please stand to indicate your willingness to help clean them."*

Everyone was seated immediately.

As a plane was flying it started shaking very badly and soon the pilot got on and announced...

*"I'm very sorry folks but we have just lost power to one of our engines, we are going to try and restart it please remain calm."*

A terrified man shouts out, *"Please tell us how far will one engine get us?"*

Pilot pauses then answers the man, *"All the way to the crash site."*

The pilot had really banged the plane onto the runway and was dreading having to stand at the door and thank the passengers as they exited.

He was certain someone would have a comment, but no one did. He started to relax when everyone had gotten off except a little old lady with a walker.

But when she finally made it up the aisle, she stopped and asked,

*"Did we land or were we shot down?"*

# Membership Renewal & Apparel

## Northam Aero Club Membership & Apparel Order Form

Name: \_\_\_\_\_

Not Renewing

Address \_\_\_\_\_

Phone: \_\_\_\_\_ Email \_\_\_\_\_

Type of Membership:  Adult \$55.00

Junior \$10.00

Club Bank Details: BSB 036-107 Acc Number: 69-2937

Apparel:  Club Polo Shirt \$35.00 – Size \_\_\_\_\_ Name on Shirt: \_\_\_\_\_

100% breathable polyester jersey knit, snag resistant. Knit collar with contrast tipping.

Mens sizes S M L XL 2XL 3XL or 5 XL (185gsm standard 3 button)

Womens sizes 8 10 12 14 16 18 20 22 or 24 (Ladies 215 gsm with open V with 2 press studs)

Club Cap \$25.00 plus \$8.00 postage

Caps also available from the Bar

Total enclosed \$ \_\_\_\_\_

If you would like to receive an invoice please tick

“Fly About” magazine Yes

No

Many thanks,

Northam Aero Club Committee

Northam Aero Club Cap \$25.00

Northam Aero Club Polo Shirt \$35.00 personalised



# Bar

The Bar will be open each Saturday evening from 17:00 — 19:00

## **LEARN TO FLY**

Recreational Aviation Capital of the West



Ph Errol 0428 880 149 or Kevin 0434 000 217

[www.northamaeroclub.com](http://www.northamaeroclub.com)

## Next Club Committee Meeting

Sunday 11th February 2024 at 13:00

### **Wanted - Aviation Memorabilia**

- Books
- Artefacts
- Photographs
- Old Aircraft Parts
- Signs

If it's old and historic—I'm interested

**Adam Price—0428 611 797**

### **NAC Club Aircraft Bookings**



Enquiries— Matt Bignell

**0407 873 700**

# Classifieds

## Northam Aero Club Merchandise

*Club Polo Shirts with name and club logo—\$35.00*

*Postage available—\$10.00 per order*

*Club Caps with logo—\$25.00*

*available at the bar*

*Stubbie Holders—\$7.00*

*available at the bar*

*Postage available—\$8.00*



Western  
Airmotive  
Pty Ltd

30 Eagle Drive Jandakot  
Western Australia 6164  
Ph: +61 8 9332 7655  
E: [airspares@westernair.com.au](mailto:airspares@westernair.com.au)  
[www.pilotshopwa.com.au](http://www.pilotshopwa.com.au)

**FOR ALL OF YOUR FABRIC COVERING NEEDS**

**POLY  
FIBER**  
Aircraft Coatings

**Randolph**  
Aircraft Products

**CECONITE**

Aircraft Spruce  
SINCE 1983  
& Specialty Co.  
Dealer

**"For all your aircraft parts  
and pilots' supplies"**



## **President**

Errol Croft

E: [dowref@bigpond.net.au](mailto:dowref@bigpond.net.au)

T: 0428 880 149

## **Aircraft Bookings Officer**

Matt Bignell

E: [big.matty@hotmail.com](mailto:big.matty@hotmail.com)

T: 0407 873 700

## **Secretary**

Susan Clements

E: [info@northamaeroclub.com](mailto:info@northamaeroclub.com)

T: 0488 441 274

## **Treasurer**

Paul Blain

E: [nactreasurer@bigpond.com](mailto:nactreasurer@bigpond.com)

T: 0427 909 412

## **Club Captain**

Dave McFarlane

E: [mcf888@bigpond.com](mailto:mcf888@bigpond.com)

T: 0428 743 031

## **House & Grounds**

Trevor Sangston

E: [trevorsangston@iinet.net.au](mailto:trevorsangston@iinet.net.au)

T: 0417 183 160

## **Aircraft**

Dave Beech

E: [dbeech@iinet.net.au](mailto:dbeech@iinet.net.au)

T: 0438 016 903

## **Flight Training**

Kevin Lathbury

E: [Kevinlouise62@gmail.com](mailto:Kevinlouise62@gmail.com)

T: 0434 000 217

## **Flight Training**

Ray Challen

E: [ray@challen.com.au](mailto:ray@challen.com.au)

T: 0408 321 262

## **Membership Officer**

Heather Deegan

E: [heatther1957@gmail.com](mailto:heatther1957@gmail.com)

T: 0428 738 808

## **Editor Fly About**

Paul Blain

E: [paul.blain@bigpond.com](mailto:paul.blain@bigpond.com)

T: 0427 909 412

# NAC Cessna 172—VH-PGL

## Hire Fee Structure

- Private Hire - \$260 per hour
- Dual Training - \$410 per hour
- TIF's - \$205 per 1/2 hour
- Briefing - as required
- Instructor (in owner's aircraft) - \$150 per hour

## Pre-paid Discounted Block Rates Available

- 5 hours - less 5%
- 10 hours - less 10%
- 20 hours - less 15%

*Student pilots may use the discounted block rate for aircraft hire costs only. Instructor fees remain as fixed price.*

For all further enquiries please contact:

NAC Treasurer - [nactreasurer@bigpond.com](mailto:nactreasurer@bigpond.com) T: 0427 909 412

Aircraft Bookings: **Matt Bignell - 0407 873 700**

## Next Club Competition

**Next Competition: 9:00am Sunday 11th February 2024**

**Cheers,**

**Dave McFarlane**

**Club Captain 0428 743 031**

