

# AGC Weekly News

The weekly newsletter of the Auckland Gliding Club at Drury, Auckland

*From the CFI*



## Medicals

Having a look at the GNZ data base of our members, I see there are two or three pilots whose medical will have expired by this weekend; there are also some pilots whose medical is not on file or have completely expired.

Your medical must be valid to fly solo in club gliders or your own glider. Please go to [Gliding.net.nz](http://Gliding.net.nz) click on Auckland gliding club / Membership list and then ratings next to your name to check the details are up to date.

Please let me know if you think the details are wrong or out of date and provide current documents as required. If you can't log in, try the register link in the top right-hand corner first. If that fails, let me know also.

## BFR's

Along with medicals you should be receiving reminders that your BFR is about to expire. Once again, you can't fly solo if you are not current. This also applies to pre XCP pilots who went solo over two years ago - you need to do a BFR also.

## ICR's

Instructors who need to do an ICR will be using the newer OPS09 form. Please download this prior to coming out and do your swat as per the notes for instructors and reviewers attached to the OPS09.

## HWDT

The Duty Pilot section has been updated with weak link colours for the various gliders added to the back page. Please check if there is any doubt.

The AGC Flying Rules HWDT has also had a small update to include "Competition Finish Approval" and "Landing Procedures", in particular the taxiing of gliders.

Please take the time to read the Flying Rules to keep up to date. This message will probably get reissued at the start of next season.

The forecast for Saturday is not looking good but Sunday might be OK, albeit with a lowish cloud base.

Anton Lawrence  
CFI Auckland Gliding Club  
021 280 188

## Model Based Weather Forecasting

Gerard Robertson



<https://youtu.be/pOnBVKvb9zY?si=ZoQcqCrfWAJ7y1pN>

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# Unraveling Thermal Formation

Adam Woolley  
Courtesy Wings & Wheels

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Photo by Sean Franke

Thermals, those invisible pillars of rising air that we as glider pilots rely on for sustenance in the sky, they are a fascinating meteorological phenomenon for us all. Understanding how thermals develop is essential, for a good flight and how long one might stay in the sport! Let's delve into the intricacies of thermal formation and explore the processes that give rise to these vital elements of flight.

Thermals owe their existence to the sun's radiant energy, which warms the Earth's surface unevenly throughout the day. As sunlight strikes the ground, different surfaces absorb and retain heat at varying rates. Dark surfaces such as asphalt or plowed fields absorb more solar radiation and heat up quickly, creating localised areas of warm air near the surface. Conversely, lighter surfaces like sand or grass reflect more sunlight and retain less heat.

As the warm air near the surface expands, it becomes less dense than the surrounding cooler air. This buoyant air begins to rise, forming a thermal updraft. The process is akin to boiling a pot of water on a stove, where warmer water at the bottom rises while cooler water sinks to replace it. In the atmosphere, this vertical

movement of air sets the stage for the development of thermals.

Topography also plays a crucial role in the formation of thermals. Mountainous terrain, for example, can enhance thermal development by acting as a natural barrier to airflow. As sunlight heats the slopes of mountains, pockets of warm air are generated, creating strong updrafts along the mountainsides. We as glider pilots often seek out these ridge thermals, to gain altitude, extend our flights & overall cross-country speed.

Additionally, wind patterns influence the behaviour and distribution of thermals. Light winds can allow thermals to form and persist over a given area, while stronger winds may disperse or distort a thermal's structure. Convergence zones, where air masses of different temperatures and moisture content meet, can also trigger the formation of thermals as warm air is forced to rise along the boundary between the converging air masses.

The timing of thermal development is closely tied to diurnal cycles, with thermals typically becoming stronger and more abundant during the middle of the day, as solar heating reaches its peak.

However, thermals can also form during the nighttime under certain conditions, such as when warm air trapped near the surface by an inversion layer begins to rise as the air above cools!

Once thermals break away from terra-firma, thermals can grow in size and strength as they ascend through the atmosphere. The rising air cools adiabatically with increasing altitude, causing moisture to condense and form clouds under the right conditions. Cumulus clouds, characterised by their fluffy appearance and cauliflower-like shape, often mark the presence of thermals in the sky, providing visual cues for us to locate and exploit.

The development of thermals is a dynamic interplay of solar heating, surface properties,

topography, and atmospheric conditions. These rising columns of warm air not only sustain our flights but also contribute to the complex dynamics of weather systems. By understanding the processes behind thermal formation, we can gain insight into the intricate workings of the Earth's atmosphere and the marvels of flight that it enables us to enjoy!

*Adam Woolley was born into the gliding world, being the 3rd generation in his family. Going solo at 15, his thirst for efficiency in soaring flight & quest for a world championship title to his name has never wavered. One big passion is sharing his experiences & joy with other glider pilots all around the world. Adam is an airline pilot in Japan on the B767 & spends his off time chasing summer around the globe. He has now won 7 national Championships & represented Australia at 5 WGC's & 1 EGC.*

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## ***New Member***

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We have a new youth B Scheme member. **Jack Beavis** has flown two flights of a five-flight

package and has now joined the club. Welcome to the club, Jack!



**Gerard sent in this picture of a Mollyhawk at Oban, Stewart Island, NZ**

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## ***Member's Ads***

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**H36 Dimona** ZK-GPH for sale or syndication. Julian Elder is interested in either creating a syndicate or selling his Dimona GPH. It recently has had significant restorative work carried out. For any technical stuff contact Ian Williams (021980194 [ian@agcon.co.nz](mailto:ian@agcon.co.nz)) or sales information contact Julian 0276924114 [julian@elder.net.nz](mailto:julian@elder.net.nz)

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