



Web Site www.ddsc.org.au OR www.gogliding.org.au
ddsc-chaotic.blogspot.com

Chaotic

Darling Downs Soaring Club

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A short edition at present, by the time I get to the end, who knows...

Well done Jo and Jenny. The full club class results are below.

In this edition:

Omarama wave flying

GUSS weekend Pictures

Cloud formation

Rosters

NEWS:

Easter Comp at Chinchilla.

Hopefully we might get a report about the comp soon, but for now I will just post the results:

Champions

Club class

- | | | |
|----------------------|----------|------|
| 1. Jo Davis | DDSC | 6264 |
| 2. Stephen O'Donnell | CQGC | 6164 |
| 3. Craig Tuit | Kingaroy | 6130 |

Sports Class

- | | | |
|-------------------|----------------|------|
| 1. Tom Claffey | Soar Narromine | 6808 |
| 2. Grae Harrison | Wellington NZ | 6509 |
| 3. Jenny Thompson | DDSC | 5653 |

#	CN	Pilot	Team	Glider	Total
1.	WL	Jo Davis	DDSC	ASW 19	6264
2.	GOT	Stephen O'Donnell	CQGC	Std. Cirrus	6164
3.	GCP	Craig Tuit	Kingaroy	Std. Libelle	6130
4.	GQD	Pearce Mitchell	DDSC	Mosquito	5990
5.	ZJC	Grant Harper	NQSC	DG 400/17	5941
6.	GCP	Brian Allerby	Kingaroy	Std. Libelle	5806
7.	ZXT	Ziggy Kusiak	Kingaroy	SZD 55	5464
8.	XJW	Bevan Lane	Kingaroy	Discus B	5344
9.	XOI	Geoff Pratt	DDSC	PIK 20 E	5131
10.	GKO	Richard Hoskings	DDSC	ASW 20	4682
11.	GOT	Luke O'Donnell	CQGC	Std. Cirrus	4571
12.	KYF	Fran Ning	DDSC	ASW 20	4543
13.	XQW	David Nash	DDSC	Discus B	4328
14.	XXD	Al Sim	Kingaroy	Discus T	4266
15.	MQN	Mike Rose	SDASC	PIK 20 E	4003
16.	XKE	Kim Houghton	Kingaroy	Discus CS	3999
17.	ZAI	Barry Cook	Boonah	HPH 304 Wasp	3652
18.	KYJ	Erich Wittstock	Warwick	Centrair 201B	2971
19.	ZAJ	Steve Thomas	Boonah	HPH 304 Wasp	2761
20.	WUZ	Bob Flood	DDSC	DG 200	2663
21.	IKW	Team Caboolture	Caboolture	Twin Astir	2386
22.	ZAI	Brian Gilby	Boonah	HPH 304 Wasp	1791
23.	GFB	Trevor Burke	Gympie	ASK 21	1413
24.	XJF	Don Brown	Kingaroy	Jantar3	1268
25.	WQX	David Olsen	NQSC	Puchacz	400
26.	ZAJ	Ron McLeay	Boonah	HPH 304 Wasp	0

Darling Downs Soaring Club



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The Sports Class overall results:

#	CN	Pilot	Team	Glider	Total
1.	YVW	Tom Claffey	Soar Narromine	ASG 29	6808
2.	CH	Grae Harrison	Wellington NZ	Ventus 2cxT	6509
3.	ULZ	Jenny Thompson	DDSC	Ventus 2	5653
4.	XGG	Greg Schmidt	Kingaroy	LS 8	5465
5.	GAG	Andrew Georgeson	Kingaroy	HPH304 Shark	5381
6.	KTC	Kerrie Claffey	Soar Narromine	ASW 28	5344
7.	OBH	Bill Hatfield	Kingaroy	LAK 17/15m	5331
8.	ZJT	Lars Zehnder	DDSC	ASW27	5320
9.	36	Shinzo Takizawa	Soar Narromine	Discus 2	5220
10.	ULZ	Jeremy Thompson	DDSC	Ventus 2	4877
11.	JSR	Ralph Henderson	DDSC	Duo Discus T	4753
12.	DYZ	Graeme McKenzie	Kingaroy	Discus 2	4712
13.	GXY	Robert Bradley	DDSC	Nimbus 4DM	4379
14.	ZDS	Dave Shorter	Lake Keepit	Discus 2	4164
15.	ZGR	Gary Ransby	Kingaroy	ASW20B	3800
16.	XOT	Bill Wilkinson	SDASC	Discus b	3775
17.	IZR	Peter Bell	DDSC	LS3Aa	3533
18.	YVW	Gerrit Kurstjens	DDSC	Nimbus 4T	2059
19.	XTK	Pam Kurstjens	DDSC	Nimbus 4t	811

I don't have any pictures for now from chinchilla I'm sure we'll get some soon!

One of our members has been spending time in NZ... (Koert-Jan Schonewille)

Windy greetings from Omarama!

It's 2:51pm on Saturday 27th March 2010.
Today's weather isn't that great for gliding. So a perfect opportunity to write down a few experiences for you. I wish you were all here to enjoy the gliding over the beautiful mountains and lakes.

A bit of background.

As a medical student in 2002 I did an elective in Anaesthetics, Pain



Management & Flying Doctor Service in Christchurch. After enjoying a local flight in a Janus with an instructor, I got the opportunity to participate in the regional gliding championships at Omarama with Kiwi pilot Peter Lyons in his ASH25M. We stayed in contact and in 2007 I could jump into his glider again, now for a competition on the North Island. A different scenic part of New Zealand. A Dutch fellow-glider pilot and I drove from gliding club to gliding club and we were able to fly gliders all over New Zealand during a 4 week period. It was nice to catch up with other DDSC pilots at Omarama at that time.

In January of this year I moved to Christchurch for a period of 7 months to work in the Intensive Care Unit of the large public hospital. Part of the job is doing patient retrievals in fixed wing aircraft and helicopters, picking up patients from smaller hospitals in New Zealand and bring them safely to the ICU for further management. In either a King Air, a Cessna Conquest (both twin engine turbo props) or a BK117 helicopter.

A gliding soulmate: Yvonne Loader.

The second, equally important, reason to move to New Zealand is gliding at Omarama! Falling in love with the place in 2002 & 2007, I was very eager to have a training job in Christchurch Hospital. Over the years I have stayed in contact with Yvonne Loader, a great person and also passionate glider pilot and tow pilot. Our friendship has led to about 30 hours of dual flying, exploring the Southern Alps in all directions. The advantage of flying dual

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with experienced mountain pilots is that I fly further away than I would be by myself. And flying together is so much fun, we always have a ball! When we're getting low, we focus on the job of finding lift again. Once we're climbing again, the jokes and chatting come back too!

Her world record gain of height of 10,212m where she flew to 11,312m (37,114ft) to achieve this has not been broken yet. Jo and Jenny, consider breaking that record. That could be your challenge and inspiration to come over!!

Flying in wave.

Flying in wave is one of life's best experiences in my humble opinion. It can take a while to connect with the wave. Sometimes it takes a few hours of patiently working thermals or the mountain ridges before the bottom layer of the wave is reached. Or the rotor pushes the glider around before granted access to the silk roads of the wave. I compare wave flying with moving over a silk road. It's so smooth. No turbulence, just quietness with the needle of the altimeter going crazy, spinning around like the needle of a stopwatch.

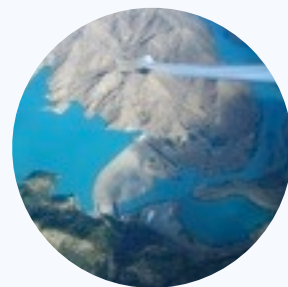
The acoustic variometer delivers high pitched tunes of pleasure. 10-17 knots lift for minutes on end.



At times I need to pinch myself to make sure I am not dreaming. The visibility and view is magnificent.



Coming from Europe, I was used to seeing cities or industrial (smog!) areas during cross-country flights. Flying over Queensland was a different ball game with paddock after paddock and silos as turn points. Gliding over uninhabited valleys, snow topped mountains and blue lakes with sometimes limited outland possibilities is challenging.



In the rare occasion, the only way to retrieve a glider after an outlanding is by... helicopter! I have paid plenty of attention to outlanding strips on the map, watching the pictures&drawings in a special outlanding book and by actually flying over them.



What surprises me most about the south island of New Zealand is that it is so sparsely inhabited. If the world population is nearly 7 billion people, where are they and why aren't more people living in Kiwi land? With the beautiful scenery, all the outdoor sports&hobbies, I expected more people to live in New Zealand. (Shsss keep it quiet - Ed)

Warm clothes shopping before you leave Australia.

When you come over to taste the gliding over here, bring warm socks, warm boots and a warm jacket with you. Two weeks ago we went to 24,000 feet and despite warm clothing, my toes were freezing cold. It's about -15 to -30 degrees Celcius at that altitude. My feet tucked away in the nose of the Duo Discus, a single layer of socks and my Ozzie R.M. Williams boots didn't do a good insulation job. The next flight I was wearing 2 pairs of socks and that was much better. It's funny how having cold toes can spoil the sheer joy of flying. Gloves aren't really necessary. The cockpit itself stays quite warm with the incoming sun. The canopy can ice up when you're going high, then it's time to come down again. I am not sure actually how to prevent this ice from forming and still maintain altitude. Mmm.

Backup plans.

From Christchurch it is about a 4 hours' drive to Omarama over good roads. Accommodation in all different price ranges: hotel, motel, chalets, and a large camp site with a large and well-equipped kitchen and showers&toilets block. The gliding season goes from September

to April. If the weather is no good for gliding, consider going for walks in the mountains, fishing, visiting Mount Cook, or bungee jumping and other adventurous stuff in Queenstown. I must admit, bungee jumping is not so spectacular as you think. I have done 2 bungee jumps. The first one was 43 meters from the Kawarau bridge, the second jump was from 134 meters from the Nevis Highwire. From a gondola. Another fun thing was doing the latest thrill-seeking thing: The Nevis Arc. It's a 300 meter swing over a canyon. My brother and I decided to do it being suspended upside-down. When released, the swing takes you close over terrain in a canyon. Of course there's no way you ever ever hit the ground, a buzz it is!

Gliding over Mount Cook

Mount Cook is the highest mountain in New Zealand, reaching a height of 12,316 ft (3754meters).

Of this year's flights, the flight to-and-from Mount Cook was the most memorable. Yvonne and I flew in the Duo Discus. The weather forecast was for a South-West gale with predictions for good wave.

I spare you the fine details of the first part of the flight. By the time we reached Mount Cook at 16,000ft a Canadian glider pilot in a LS4 joined the party. We did a photo shoot.

And boy, amazing pictures were taken from the two gliders. One of the Intensive Care consultants printed 10 of them out on quality

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A3 photo paper, I will bring them to DDSC when I'll be back in October. Also, I put some of them on Facebook, so if you are on Facebook you can have a look as well.



On the way back an altitude of 24,000 feet was reached. Then, we plummeted in 10 minutes to 12,000 feet. Unbelievable. The variometer was stuck to the bottom corner for a long period. High enough to glide back to Omarama, still a shocker of a drop. A Duo Discus has got a nice glide angle, I have got a lot of respects of the glider pilots who did similar flights in (now) "old timer" gliders. Before I forget, if you need nasal prongs for the oxygen system in your glider for flying over 10,000 feet, I can get them

easily from the hospitals I work at.

Terry Delore's 2500 km.

A few weeks ago, Terri Delore gave a presentation about his recent big flight. World open declared distance using up to three turnpoints - 2,499.2km (with John Kokshoorn) on 13th December, 2009 surpassing the previous world record held by Klaus Ohlmann by 93km. They took off from Omarama, flew to Ward in Marlborough, back to Clyde, near Alexandra, and then back up and level with Taihape in the North Island, before turning around and landing at Omarama - flying for just over 15 hours. Currently he flies an ASH25, previously owned by Steve Fossett. It is the same glider they used for their record breaking flights over the South American Andes a couple of years ago. He often takes club members up to share his cross country flying skills with them. (Together Mr Fossett and Mr Delore set 11 world records between 2002 and 2007 - source NZ Herald: Ed). Additional -Klaus Ohlmann beat the record the next day flying 2,511.1km and on the 28th December took the record to 2,643.2km.



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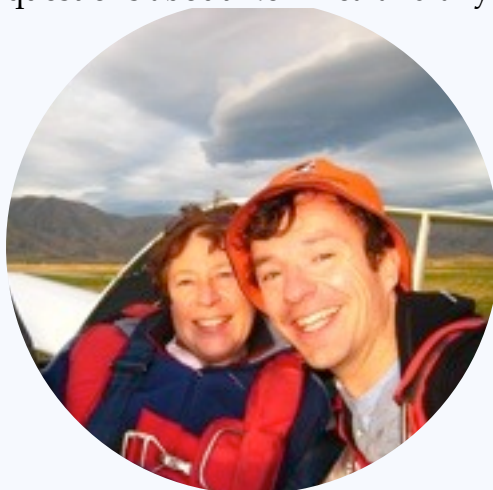
Invitation

Members of the Canterbury Gliding Club are keen to have more DDSC pilots glide here, since they enjoyed having us over in 2007. Flying with club rates is very attractive, compared to hiring gliders from the 2 commercial gliding operators at Omarama. I have fallen in love with Omarama 8 years ago. A love for life. I have enjoyed sharing this with you now.

In October I will work for CareFlight in Brisbane and will be back at the DDSC. I miss the LS7, the Ventus, beautiful "Alice" and flying friends around in the Grob 103. If all goes well, I will leave New Zealand with my PPL, which I have to convert to an Australian PPL. And then getting a tow rating, if the club still needs tow pilots.

Combining flying lessons with a full time ICU job is challenging, though achievable I reckon.

I'd love to hear from you and you can ask me questions about New Zealand any time!



Warm regards,
Koert-Jan Schonewille

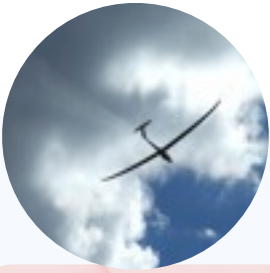
All pictures by Koert, except the ones with the Duo in them, taken by the Canadian pilot.

GUSS PICS:

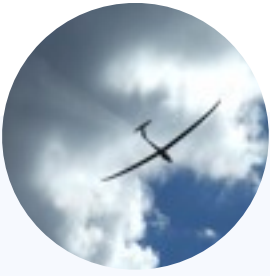
Libby took a few pics on the Griffith Uni Soaring Soc' weekend, I have put a few on the next page.

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Koert and Yvonne in the Duo near Omarama

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The Physics of thermals and cloud formation.

Robert Hart.

Warm air rises

Thermals form when the sun heats the ground and this heats the air in contact with it. This causes a bubble of air warmer than its surroundings to form.

When air is heated, its molecules become more energetic (speed up) and they collide more energetically. This causes the average distance between molecules to increase and so the air becomes less dense. This makes the 'bubble' of heated air lighter than the same volume of cooler air surrounding it. This difference in weight between the bubble of warm air and the equivalent bubble of cooler air results in a buoyancy force (the Archimedes principle you learned in school) and

the bubble of warmer air starts to rise.

As long as our bubble of air is warmer than the air around it, the bubble will continue to rise.

Air cools as it climbs in a thermal

The pressure of the atmosphere decreases with height. As our bubble of warm air is not contained in anything, it must be at the same pressure as the surrounding atmosphere. It turns out that the best way to model this bubble of rising air is to think of it as never mixing with the surrounding air: we can think of this bubble as isolated from the air that surrounds it. Science calls this sort of isolated process 'adiabatic'.

So as it climbs without mixing with the cooler surrounding air, the bubble's pressure drops and the bubble expands. This expansion spreads the heat energy in our bubble over a larger volume and this means



the temperature falls. The rate at which air cools adiabatically is called the *adiabatic lapse rate* – which for the lower atmosphere is 3oC per 1,000ft.

Our bubble will continue to rise as long as it is warmer than the surrounding air. Eventually, the bubble will rise and cool adiabatically until it is the same temperature as the surrounding air and it stops rising.

Moisture in the air and its energy

The lower atmosphere contains significant amounts of water in the form of vapour. We feel this moisture as humidity. When the atmosphere is dry, our bodies can cool efficiently by transpiring water through our skins to evaporate into the air using our body heat as the energy source (we lose heat energy and feel cooler as a result). When the atmosphere is humid, sweat builds up on our skin as the atmosphere already contains much water vapour and cannot

absorb more from us as fast as we produce it.

It takes energy to change water from liquid to vapour state – about 2.4 million Joules per kilogram at our summer temperatures of about 30oC. This is enough energy to heat about 8 litres of water to boiling point from tap temperature. So we have to put in a great deal of energy to turn liquid water into water vapour.

The important point in terms of clouds is that when the water vapour condenses back to liquid form as the water droplets that make a cloud, all that energy is released back into the cloud as heat.

It is this energy (the latent heat of condensation of water) that drives thunderstorms.

If this does not sound like much, think about this: if a thunderstorm

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drops 5mm of rain on 1 square kilometer, it has dropped $0.005 \times 1000 \times 1000 = 5,000 \text{ m}^3$ or 5,000,000 kg of water

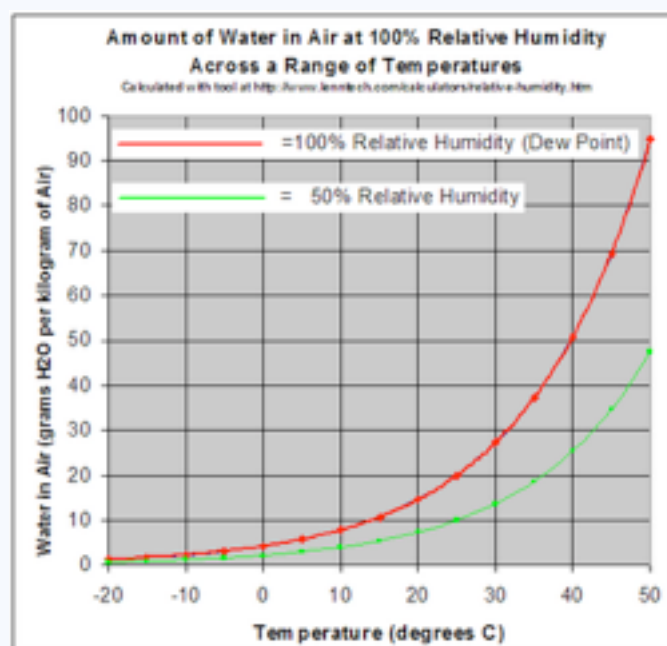
As all this water started off as water vapour. When that amount water vapour condensed into rain inside the clouds it released 12 million million Joules of energy. For comparison's sake, the Hiroshima nuclear bomb released 84 million million Joules, so it would only take a thunderstorm of about 7 square km (about $2.65\text{km} \times 2.65\text{km}$) dropping 5mm of rain (a small to medium thunderstorm) to equal the energy released by the Hiroshima bomb!

A sobering thought when you look at the next thunderstorm and I hope sufficiently sobering to deter you from ever going near one in a glider.

Cloud formation

Now, returning to our bubble of warm air; it contains water in the

form or vapour. The amount of water vapour air can hold depends on the air temperature as you can see from the chart below.



Water vapour in air at various temperatures

Source: Wikipedia © [Creative Commons Attribution-Share Alike 3.0 Unported](#)

The red line shows the maximum amount of water vapour that air can hold as temperature varies. This is also called the saturation line (on this line the air is *saturated* as it cannot

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hold any more water as vapour). If we track down the temperature line from any point on the 100% relative humidity line, we can read the *saturation temperature*, also known as the *dew point*.

So from this chart, we can see that at 35°C and 50% relative humidity (the green line on the chart), 1kg of air contains 20gm of water. We can also see that, by tracking leftwards along the 20gm line until we hit the red saturation line, 20gm/kg would be saturated at 25°C.

As our 35°C and 50% relative humidity bubble of air rises and cools, it can cool to the saturation (dew point) temperature of 25°C. We have cooled adiabatically 10°C (at 3°C / 1,000ft) and so have risen just over 3,000ft when we reach the dew point.

If our bubble of air cools any further, the air cannot hold all the water as

vapour and so some of the vapour condenses into tiny droplets of liquid water – and we see this as cloud.

The water vapour that condenses to liquid water releases the heat energy used to turn it into vapour and this release of energy results in our bubble of air cooling much slower than before – at about half the rate in the lower atmosphere (ie about 1.5°C / 1,000ft).

This results in our bubble of warm air rising higher than would have been possible if it was dry air. If the atmospheric conditions are right and the bubble contains enough moisture, the bubble can rise to 30,000ft or more and be part of a thunderstorm.

Thanks to Robert Hart for providing this; off his website
<http://the-white-knight-speaks.blogspot.com/>

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ROSTERS

Instructing:

DUTY ROSTER April 10	
Date	Coach/Instructor
Sat 3	Easter Comp
Sun 4	Easter Comp
Sat 10	Easter Comp
Sun 11	Peter Bell (L3/Coach) Tony Cavanna (L2)
Sat 17	Ralph Henderson (L2/Coach) Jo Davis (Coach/AE) Paul Bart (L1)
Sun 18	Richard Hoskings (L2) Barry Daniel (L1)
Sat 24	Jenny Thompson (L2) Mike Codling (Coach) Chad Nowak (L1)
Sun 25	Jeremy Thompson (L2/Coach) Pearce Mitchell (L1)

Duty Pilot:

DATE	DP
Sat 17th april	Andrew Kloss
Sun 18th april	Joan Daniel
Sat 24th april	Mark Leahy
Sun 25th april	Graham Hennesey
Sat 1st May	Richard Armstrong
Sun 2nd May	Sue Ennis
Sat 8th May	Allan Barnes
Sun 9th May	Bill Smith
Sat 15th May	John Hook
Sun 16th May	Keith Allen
Sat 22nd May	Peter Werda