100km Or Bust ☺

With the added difficulty that it's from the ~~Dales~~. Parlick

Forget 50k or Bust – that's just for Derbyshire southern pilots.

A Rational Approach

What's the scale of the task?
What Tools?
- The forecast
- Gaggles
- The Foxtrot
- Kit
- Getting Out of Holes
- Maintaining Orientation & Awareness
- Notes & Talking

What directions from the Dales & the gotchas?

Introduce my brains trust.
Joe – hangie turned to the dark side. Decided to become good and has been turning in some large flights.
Pete D – mountain leader and caver who saw the light and progressed quickly. Flying in Bir tends to bring that on.
Jake - learned when the Dales was all coral reefs and river deltas near the equator. Had a 100km plus flight as far as league records go back – 2005.
Break down into chunks - what tools are needed.
This is a no-frills approach to getting yourself there.
I'm not going to be telling you what angle to set your pod at or what apps you need.

100km is artificial, arbitrary. Flying XC also a bit pointless.
Ask audience
It's a mark of craft, competence.
You got as much out of the day as possible / used the conditions wisely.
It's exploration, novelty. That translates to learning & we're learning animals.
Most of all it's motivation. It will give a point spending 30 minutes in a half up climb.
Or going out the next day.

What are we taking on?

Chris Kay	Dales	BGD Tala	586.2	**150.8**	**118.8**	84.3	80.7	79.6	72
Chris Fountain	Dales	Ozone Zeno 2	551.3	**150.8**	**108.3**	87.3	81	65.3	58.6
Pete Darwood	Dales	Ozone Delta 4	509.1	**112.3**	**106.3**	95	88.1	64.5	42.9
Peter Logan	Dales	Advance X-Alps 3	470	**110.6**	**107.1**	80.1	58.5	58.4	55.3
Alistair Guthrie	Northumbria	Ozone Zeno 2	398.4	**158.3**	**137.6**	**102.5**			
Ed Cleasby	Dales	Ozone Photon	377.7	**97.6**	92.2	58.1	44.2	43.1	42.5
Geoff Crossley	Cumbria	Ozone Photon	344.1	**151.7**	82.3	56.5	28.4	14.9	10.3
Robin Cruickshank	Dales	Gin Leopard	328.4	**96.6**	87.2	66.8	49.1	14.4	14.3
Gary Stenhouse	Northumbria	Advance Omega ULS	324	**104.4**	91.1	40.4	36.6	33.5	18
Rob Urselmann	Dales	Skywalk Chili 5	272.3	79.5	49.5	44.8	41.9	30.6	26
Steven Gill	Northumbria	Skywalk Chili	252	82.9	57	45.5	42.5	24.1	
Joseph Edmonds	Dales	Ozone Delta 4	235.7	**109**	91	35.7			
David Smart	North Yorks	Ozone Photon	227.3	**118.6**	**108.7**				
Jake Herbert	Dales	Ozone Alpina 4	207.1	**109.9**	76.6	20.6			
Liam Toothill	Dales	Supair Savage	201.6	61.9	48.2	32.2	31.6	14.5	13.2
Ian Miskin	Northumbria	Niviuk Ikuma 3	201	89.2	58.7	53.1			
Andrew Austin	Cumbria	Advance Omega ULS	199.8	50.5	40.4	38	27.7	21.7	21.5
John Hamlett	Cumbria	Ozone Rush 4	196.5	47.4	35	30.5	29.6	27.9	26.1
Richard Meek	Dales	Ozone Enzo 3	194.1	**135.6**	58.5				

In 2024 – 20x 100km flights on 7 days:
30th March
11th May
20th June
8th July
28th July
11th August
13th September

In 2023 – 19x 100km flights on 5 days.

The days that 100km flights are possible are limited. The number who fly 100km on those days is NOT!

PSC addendum.
2023 128km Phil W Longtown
2024 Rich M to Durham & John O to Willington.

Let's do the numbers first.
See the scale of the task.
Explain table.
You have to be out on the right days.
You do not have to push one of the existing people out to get your 100km!
On each 100km day ~3 people make it. No reason it can't be more.

Is it hard?

No.

It's 4 hours in the air on with a 10km breeze.

Downwind 55kph 1/3 ~73km

Climbing 10kph 2/3 ~27km

Raptors do it with tiny brains. Insects by accident.

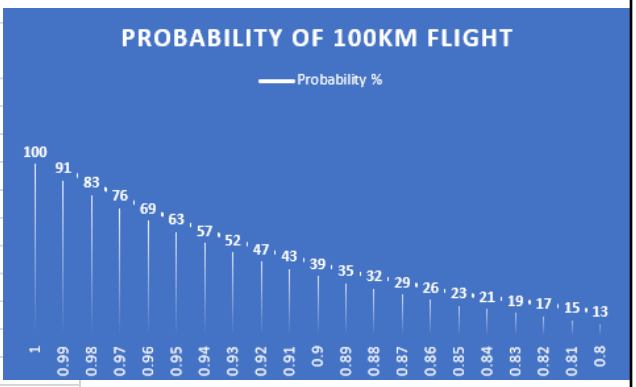
Ardupilot Soar software does it on hardware you might find in your microwave.

ARDUPILOT SOAR

Admittedly Buzzards have a slight better glide ration of 10 or 12 to 1.
Admittedly insects can't stop themselves getting blown out to sea.
Ardupilot runs on an Arduino.
But, of course it's hard, otherwise we'd all be doing it.
The difficulty is in getting the experience.
- We have to programme ourselves.
- We're not hard wired from birth like birds to fledge.

Yes – because sums…

Distance (km)	Probability	Success %	Factor
10	1	100%	0.9
20	0.90	90%	
30	0.81	81%	
40	0.73	73%	
50	0.66	66%	
60	0.59	59%	
70	0.53	53%	
80	0.48	48%	
90	0.43	43%	
100	0.39	39%	



… and the Geography

Every 10km you don't have a 100% chance of completing it.
Explain the table.
The numbers stack up cruelly. Jake's way of looking at things.
Reduce the factor and the chances drop quite rapidly.
Given 7 possible days of 100km XC in the year you have to be at least 80% sure of making the next 10km section to get one 100km flight out of the year.
At 0.7 for the next 10km, less than 1 in 20 flights is 100km.
By 0.55 you have no chance of ever making 100km.
The 1 for the first 10km section assumes you're at the top of your first climb and the initial distance is in the bag.
This leads to the tools – how do we get your expectation of making repeated 10km sections up into the 0.9s?

Plus the geography, low bases, windy conditions,
We used to have the Northern XC League when Geoff Crossley counted up all the northern flights.

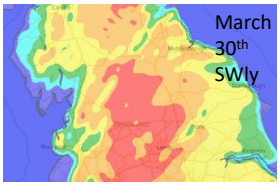
Yeah But, No But.

Get enough experience and you'll eventually fly the distance.

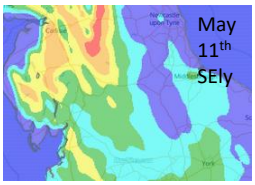
There's a lot of frustration on the way.

That's why the 10 to 100 group exists.
To pass on the experience, tips & oppos.

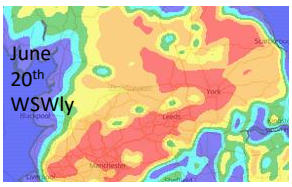
Tool 1 – Forecast (2024's 100km days)



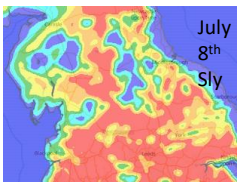
Hawkswick to S Shields



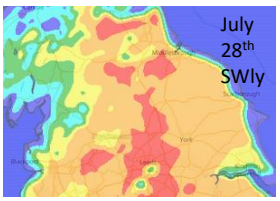
Semer/Cautley to Langholm



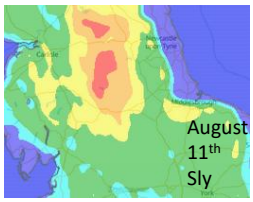
Hawkswick to Marske & Skeggy



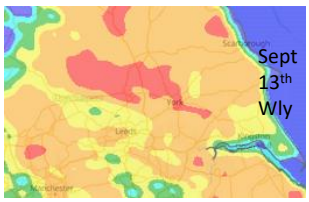
Barkin flat triangle !!



Hawkswick to Chester-le-Street



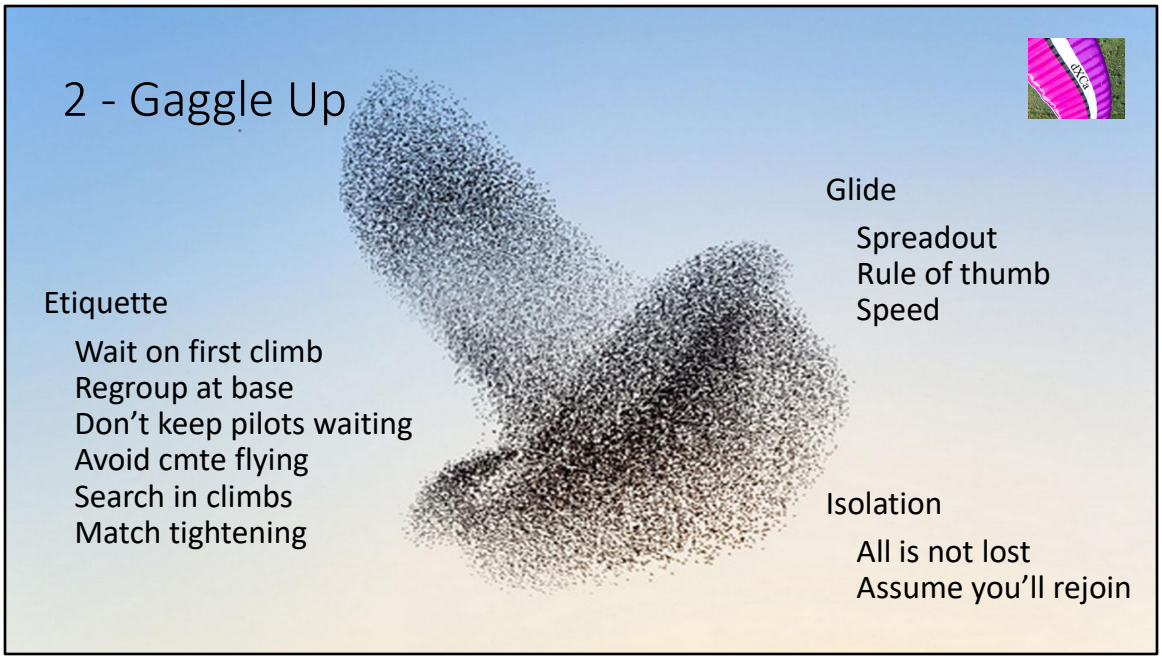
PyG to nr Carlisle



Dodd to Driffield & Beverley

Not all 5 star days are equal but the good days count!

2pm slots from historical RASP.
Explain the diagrams.
They're not all slam dunks. 8th July looked huge but the best flight was 48km out and rtn with a 2x multiplier.
11th May not great but the Dales was on the edge of good air to the north.
I'm going to encourage following the crowd – your forecasting skills don't need to be the best.
Your ability to be able to free up the right day is what you should work on.
Generally you can trust it'll be a decent day from about two days beforehand.



Wait at base when it's safe to do so and you're able.
Wait on first climb – common sense really. You're first and best chance to be in a gaggle.

Regroup at base – Wait at base when safe. Fly half in and half out of the lift.
If you're down to a pair it's worth putting some effort into this – Pete D and me at Fremington & Redmire.

Don't keep pilots waiting – If you lost the climb radio up, they can move on and find the next one for you.
Often you've fallen out the bottom of a climb so you're not going to get up. By pressing on you can be of use to your gaggle from below by locating the next climb.
Climb angle discussion.

Avoid cmte flying – if you feel there's a decision to be made, get on the radio. Someone might have a plan.

Search in climbs – If you're higher up, spend some of your advantage trying to get the better core.

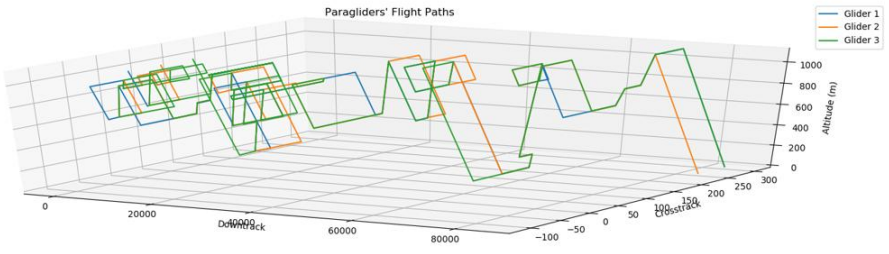
Spreadout is pretty much what gaggling is for. Swept area.
Simulation – multi gliders never go down compared to singles gliders tuned to ~30km.

How far – 200m the size of a glider covered by your outstretched thumb. Can't fit a thermal between you without noticing it. 500m apart is a minute of flying to get to a climb.

If left lower, press on
Fly the situation you have. Could 'a, Would 'a will not help you.
Lower climbs can often be stronger and get you back up to them.
If they're far ahead and you get height – full bar.

Gaggles work to your advantage both climbing and gliding.

Simulation visualisations



Geek time.
Explain graph.

3 – The Foxtrot

Change of landscape.

Change of sun on the ground / spreadout.

Inversions.

Has something changed and what do I need to do?

What on earth am I going on about here?
Anyone pickup the crossword clue?
Slow slow, quick quick slow.

Encourage situational awareness to alter their speed of flying.
Maybe less speed, more being conservative or liberal with height.
Ask around for suggestions of what to look for when changing flying style.

BTW anyone noticed the horrific AI generated malformation?

Slow Slow Quick Quick Slow

Sixish pilots in the gaggle to get across the Vale of York.

Blue and inverted, going down to TO height.

Good climb S of Masham – avoided depressing effect of descending land.

But wait, why is slowing down a help?
- More thorough search.
- Notice more.
- Time at min sink.
- Situation may improve.

Case in point
Remarkable day out with a good gaggle all the way into the N Yorks Moors.
It took that gaggle to get us across the VofY, mincing and searching was all we could do.

Coming down off the moors S of Masham we'd got low – to be expected as descending air is less likely to rise and those slopes no longer face the sun.
Knew the inversion was coming with a hazy blue Vale.
Plus we knew we needed to be south to avoid the MATZ that we couldn't climb over.
Nightmare.
Patience required.

Same goes for heading into shaded area.
Can I plan to avoid it? Can we wait upwind to see if it dissipates. Are there clound gaps showing on the ground?

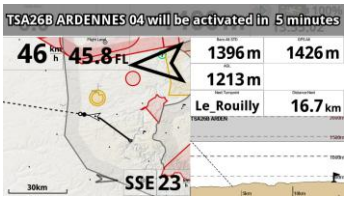
4 - Kit

Simple -

+

= 100km ?

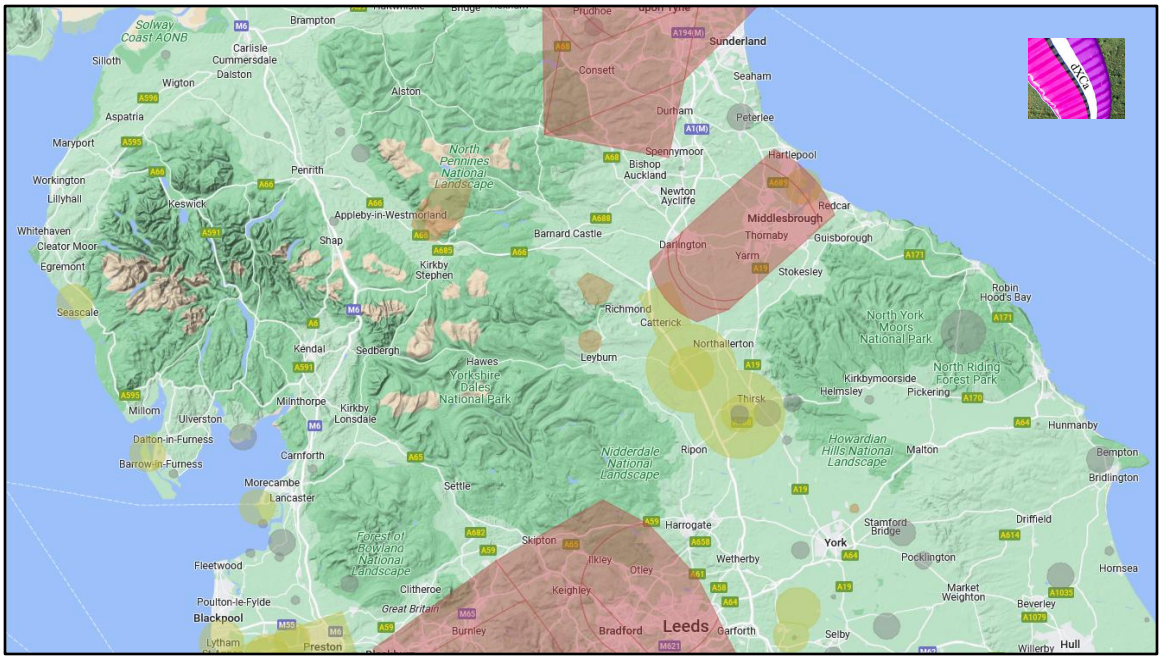
But -



Ideally the airspace is in your head. The screen is just the fine tuning.

Only the basics are necessary.
Comfort in the air for 4 hours and something to help you climb.
Don't get bogged down on glider, harness, tech. Whatever is right but….

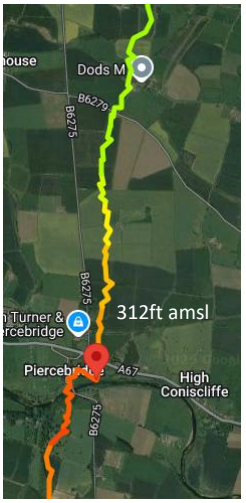
Airspace is always going to intrude in the UK.
XCTrack or whatever is great when you're next to the airspace and as a reminder.
You should have an idea of this in your head to plan around it earlier.
A preflight look down track will also help

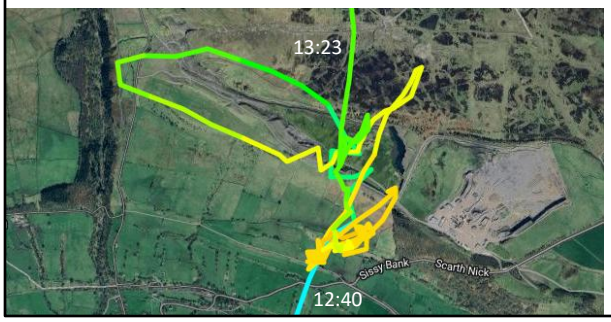


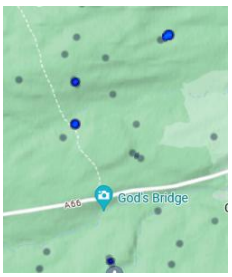
It’s quite busy.
Have this memorised.

5 – Foxholes!

A defensive fighting position – i.e. keep yourself in the air.
This is your day, your opportunity.
Do not go and think I could get back quick and…..
Reset to the same situation you had at TO. - Safely!
…Or Land – Take a Pit Stop.







You will get low, you will get left behind. You can still get to 100km.
In fact it might be a blessing. Early pilots could head off to a sky that's not developed yet and you get the easiest run in the end.
Embrace being scrabbler, bottom feeding.

On your glide down, move your ground track to be crossing as many sources and triggers as you can line up reasonably down wind.
Is everyone aware of the guidelines for picking up lift?
Top third clouds, mid third ground & cloud projected thermals, bottom third ground sources.

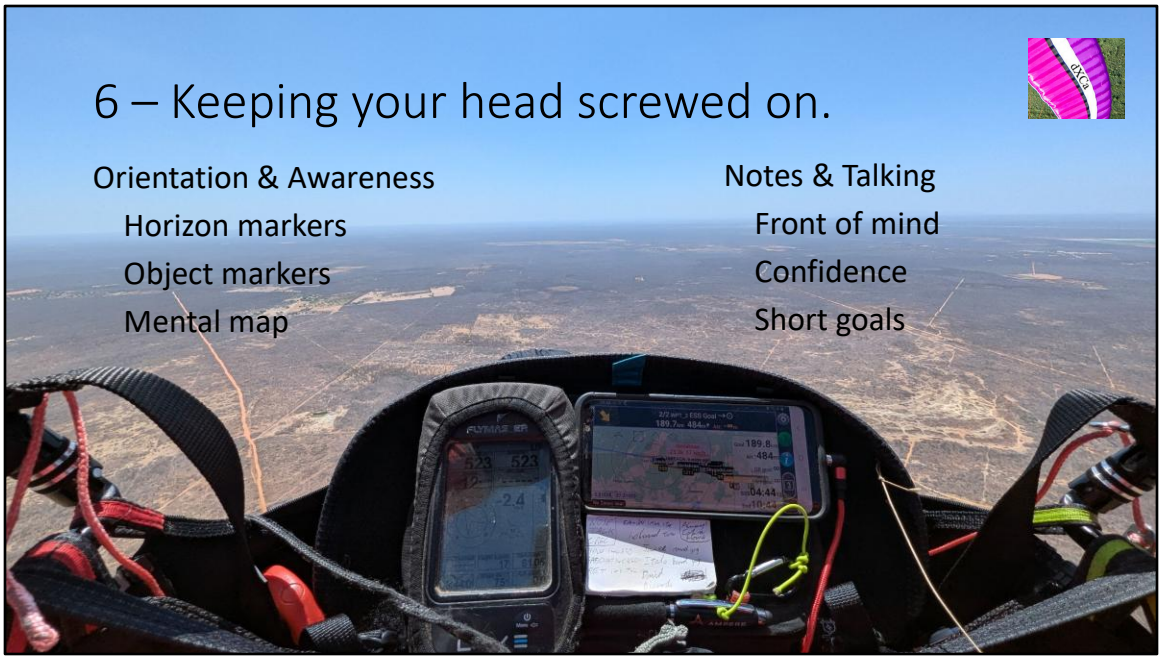
Reset to TO situation – already successfully climbed out once before.

Piercebridge 312ft – so low because the ground descended to the river valley. Bubble waiting to rise up the other side.

Sissy Bank – crossed the valley and hit massive sink. Survived in bubbles, left in zeroes that only developed at the peak of the moor.

Useful mental exercise. You're on a glide – be thinking about where you could climb back out of if super low. i.e. Bail out points.
Looking for more than trigger points – where is there going to be ridge lift, where is the wind concentrated?

Safety – turbulence, clearance, lines, wakes behind obstacles, ill formed thermals.
Do not be narrowing down your safe options to needing a climb out!



Assuming you can climb with a bit of skill, it's your brain that's going to get you to 100km.
All those short term goals, observations. It's a lot to keep track of.

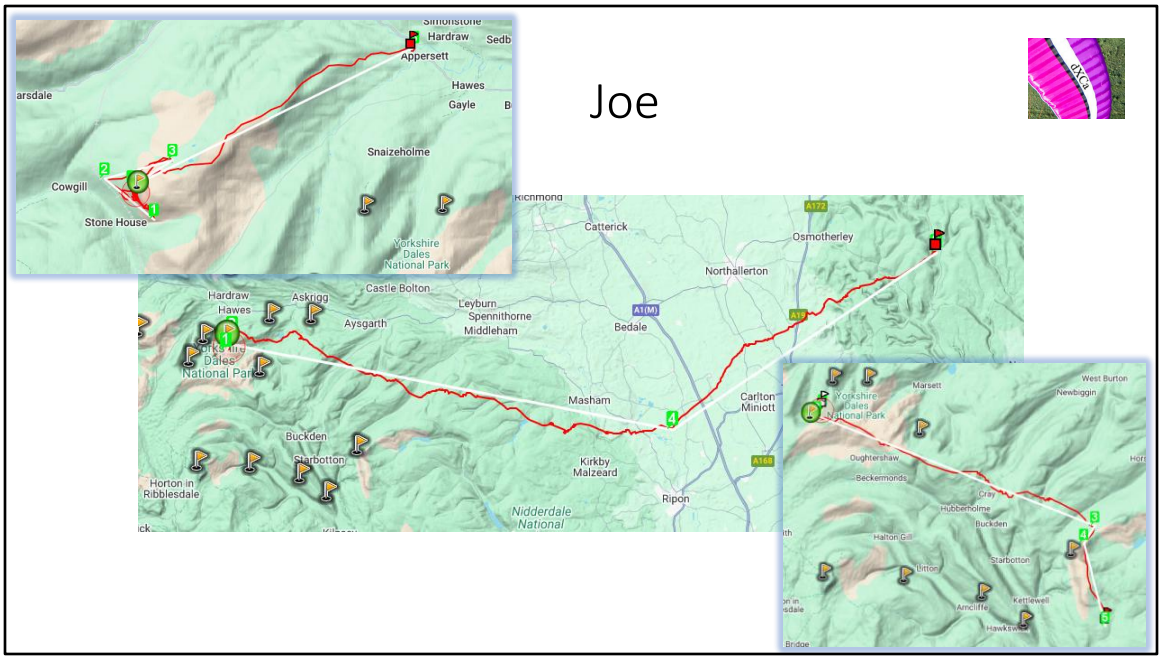
Better to fly visually so be clear once in the flats on your direction. A flight to goal really helps with an arrow but fix that direction with a recognisable object on the route for the next 30 min.
Really helps with repeated thermaling over hazy flatlands.
Awareness of other gliders as you start to split apart, birds, unseen gliders on the radio, airspace around you. 10 to 20 separate things that can help or harm you.
Visually when you re-aquire a glider or bird – what field, woods or building was against.
The quicker you can acquire every turn, the longer you can watch them for tell tale rock back of lift etc.

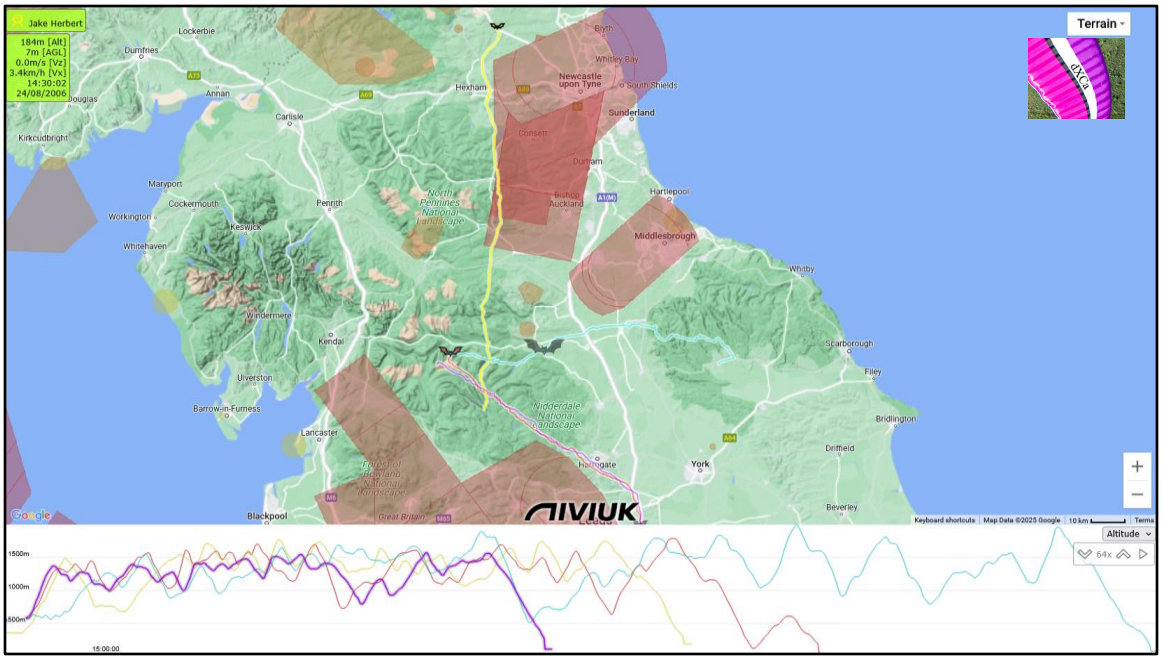
Notes – we've been going on more than an hour, some of it is valuable info hopefully.
How else are you going to remember?
Get some note paper on your deck tomorrow.

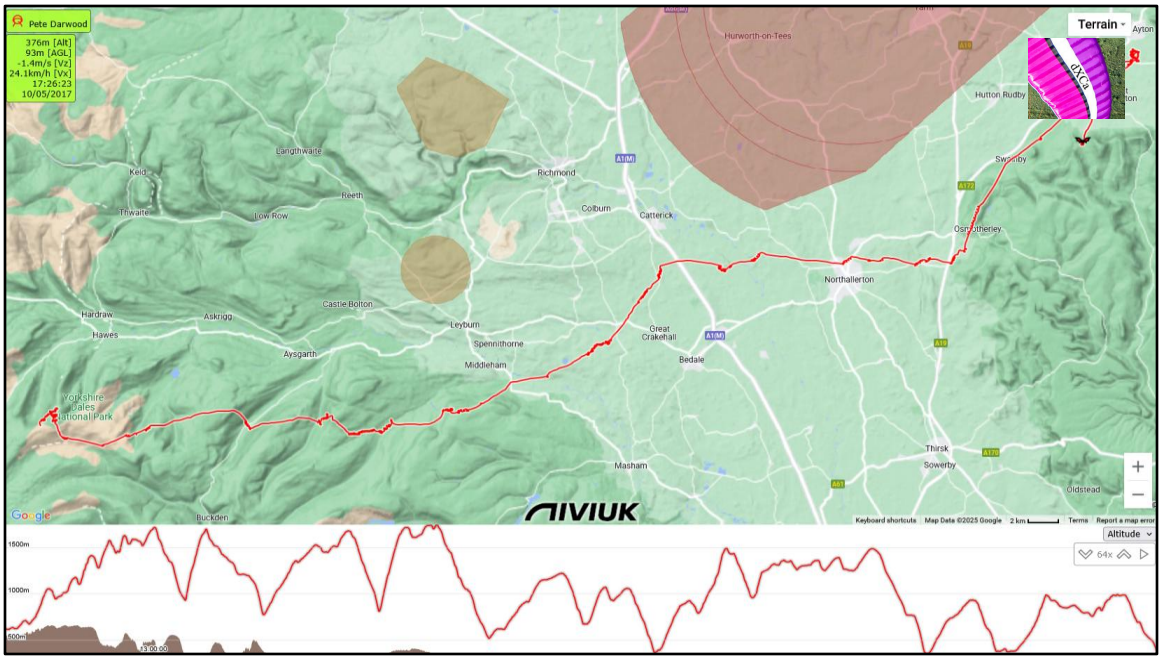
Talking – calm yourself down after a bit of a moment, ask yourself what the next move is.
Set yourself goals this way. Talking keeps it front of mind. Your brain doesn't care there's no one listening.

Beer break.

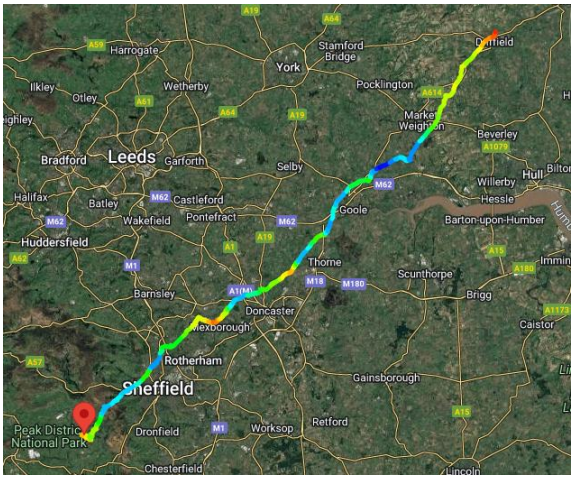
Joe


Hardraw
Sedb
Appersett
Hawes
Gayle
Snaizeholme
Cowgill
Stone House
Yorkshire Dales National Park
Catterick
Osmotherley
Northallerton
Castle Bolton
Askrigg
Leyburn
Spennithorne
Middleham
Aysgarth
Bedale
Masham
Carlton Miniott
Buckden
Starbotton
Kirkby Malzeard
Ripon
Horton in Ribblesdale
Nidderdale National
Marsett
West Burton
Newbiggin
Oughtershaw
Beckermonds
Hubberholme
Halton Gill
Litton
Arncliffe
Kettlewell
Hawkswick

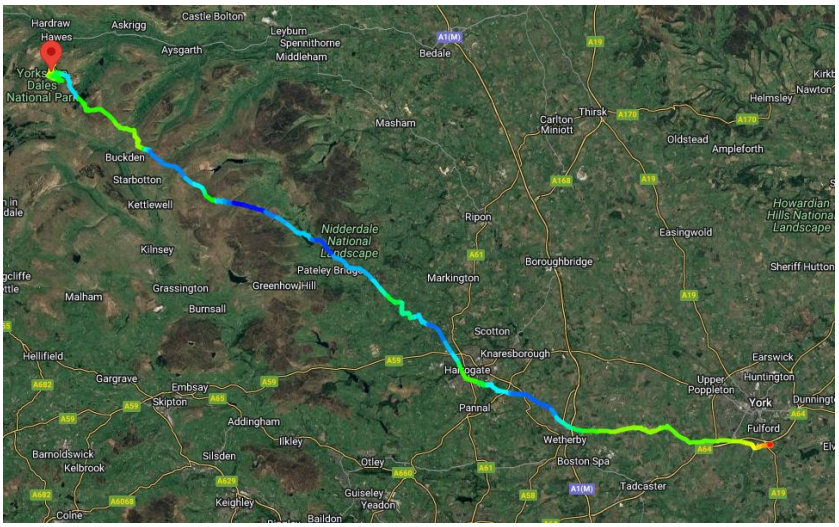

Jake Herbert
184m [Alt]
7m [AGL]
0.0m/s [Vz]
3.4km/h [Vx]
14:30:02
24/08/2006
Terrain
Lockerbie
Dumfries
Annan
Carlisle
Kirkcudbright
Maryport
Cockermouth
Workington
Keswick
Whitehaven
Penrith
Hexham
Blyth
Whitley Bay
Newcastle upon Tyne
South Shields
Sunderland
Consett
Durham
Bishop Auckland
Hartlepool
Middlesbrough
Whitby
Scarborough
Filey
Bridlington
Driffield
Beverley
York
Harrogate
Windermere
Kendal
Ulverston
Barrow-in-Furness
Lancaster
Blackpool
Leeds
North Pennines National Landscape
Nidderdale National Landscape
Forest of Bowland National Landscape
Great Britain
Keyboard shortcuts
Map Data ©2025 Google
10 km
Terms
Altitude
64x
1500m
1000m
500m
15:00:00


Pete Darwood
376m [Alt]
93m [AGL]
-1.4m/s [Vz]
24.1km/h [Vx]
17:26:23
10/05/2017
Terrain
Hurworth-on-Tees
Hutton Rudby
Swainby
Richmond
Colburn
Catterick
Osmotherley
Northallerton
Langthwaite
Reeth
Keld
Thwaite
Low Row
Castle Bolton
Hardraw
Askrigg
Hawes
Aysgarth
Leyburn
Spennithorne
Middleham
Great Crakehall
Bedale
Thirsk
Sowerby
Oldstead
Masham
Buckden
Yorkshire Dales National Park
A1(M)
A19
A172
A61
Google
Keyboard shortcuts
Map Data ©2025 Google
2 km
Terms
Report a map error
Altitude
64x
1500m
1000m
500m
13:00:00

Phil Wallbank



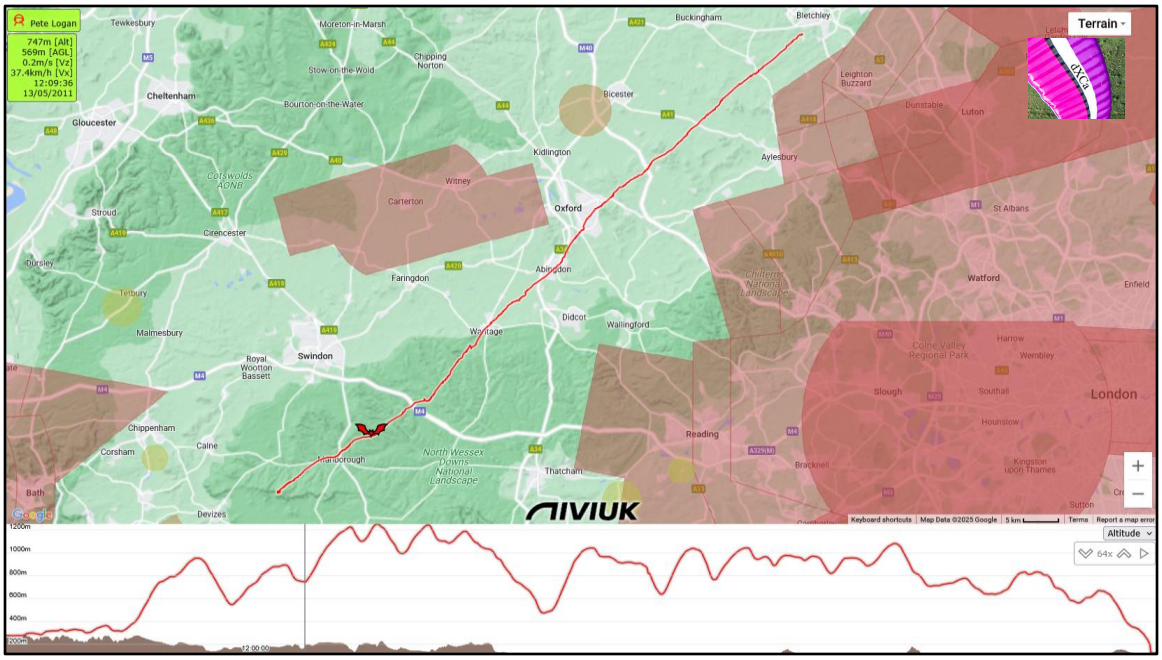
Chris Fountain



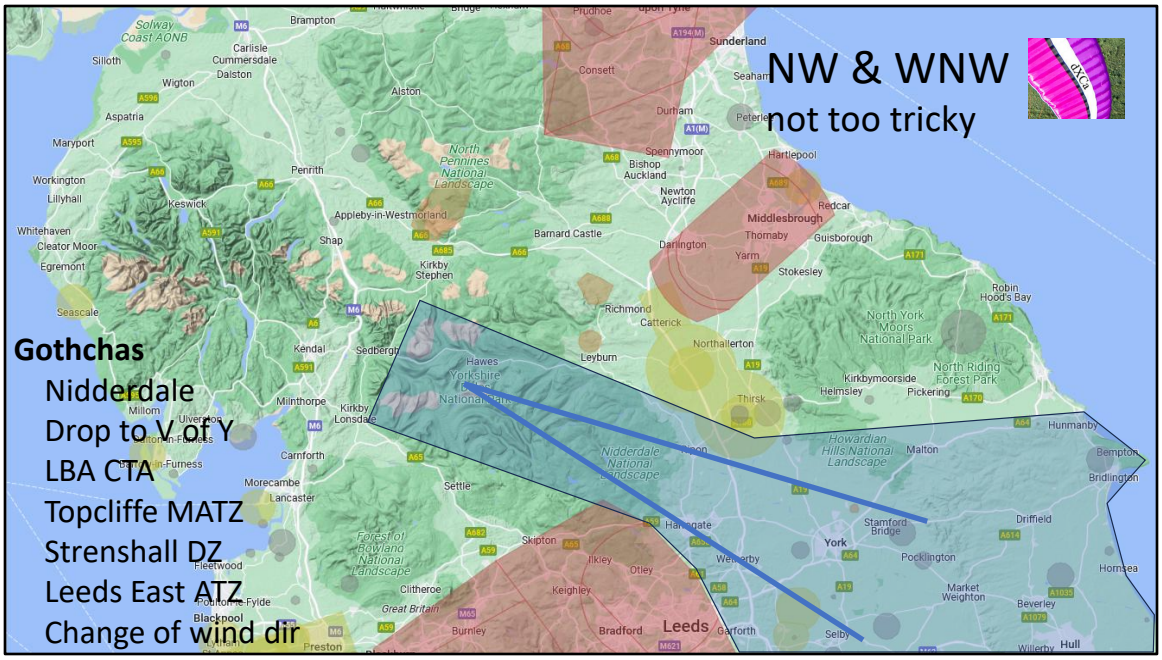
John Murphy


Kendal
Sedbergh
Hawes
Askrigg
Leyburn
Yorkshire Dales National Park
Northallerton
A1(M)
A19
Thirsk
A168
Kirkbymoorside
Helmsley
Pickering
North Riding Forest Park
Scarborough
Filey
Hunmanby
Kirkby Lonsdale
M6
A65
Nidderdale National Landscape
Ripon
Howardian Hills National Landscape
Malton
A64
Flamborough
Bridlington
Settle
Harrogate
A59
Stamford Bridge
Driffield
York
Skipton
Forest of Bowland National Landscape
Ilkley
Otley
Wetherby
A61
Pocklington
A614
Hornsea
Clitheroe
Keighley
Market Weighton
Beverley
A1079
Great Britain
M65
Burnley
Bradford
Leeds
Garforth
Selby
Hull
Bilton
Preston
Blackburn
A59
A646
Halifax
Batley
M62
Castleford
Willerby
Hessle
Goole
Wakefield
Pontefract
Barton-upon-Humber
Humber

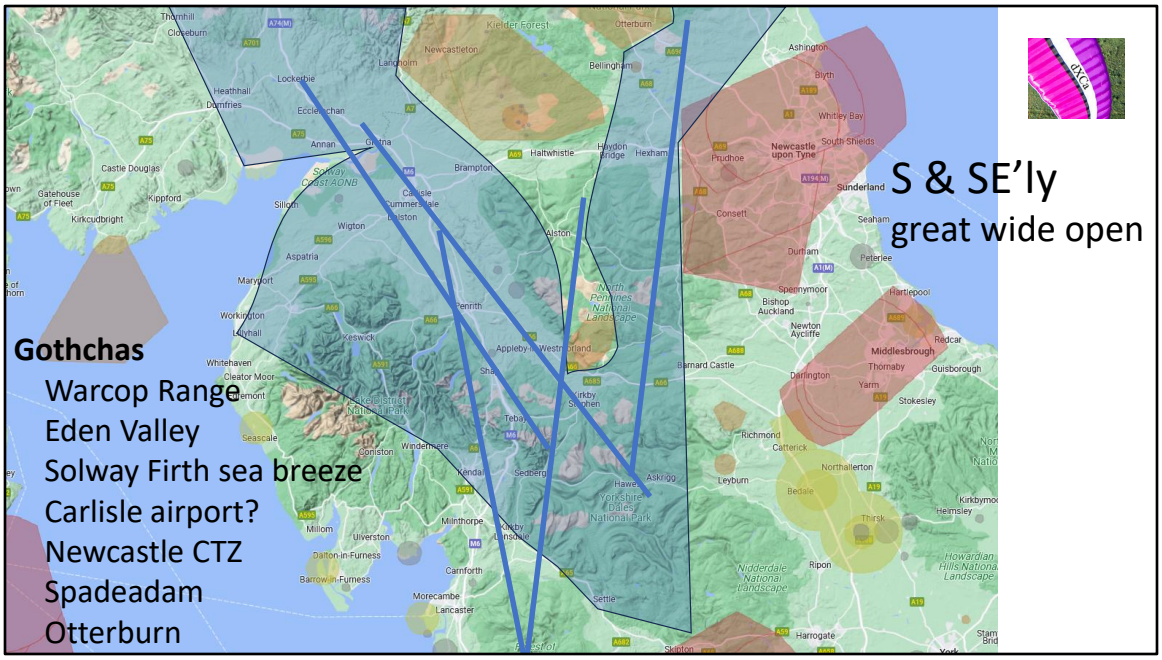
Pete Darwood's day – looking east to the A1.
Fairly high base.
Cloud streets.
Limited vertical development.
See how easy to get disorientated.
Lots of whispies developing – makes going for next difficult.
Big sink areas between the streets.
Could lead to spreadout – balance moving quickly with preserving height.
Whispies can indicate convergence. Dales convergence perhaps?



My section:
Get off early.
Forced to deal with being forced out TO.
Catch up to Gaggle.
Hang on & patience.



It’s quite busy.



Some lessons

Start your course corrections early to get around obstacles.

Whernside doesn't have the distance unless you go more northerly.

There's considerable advantage to sites that are further south.

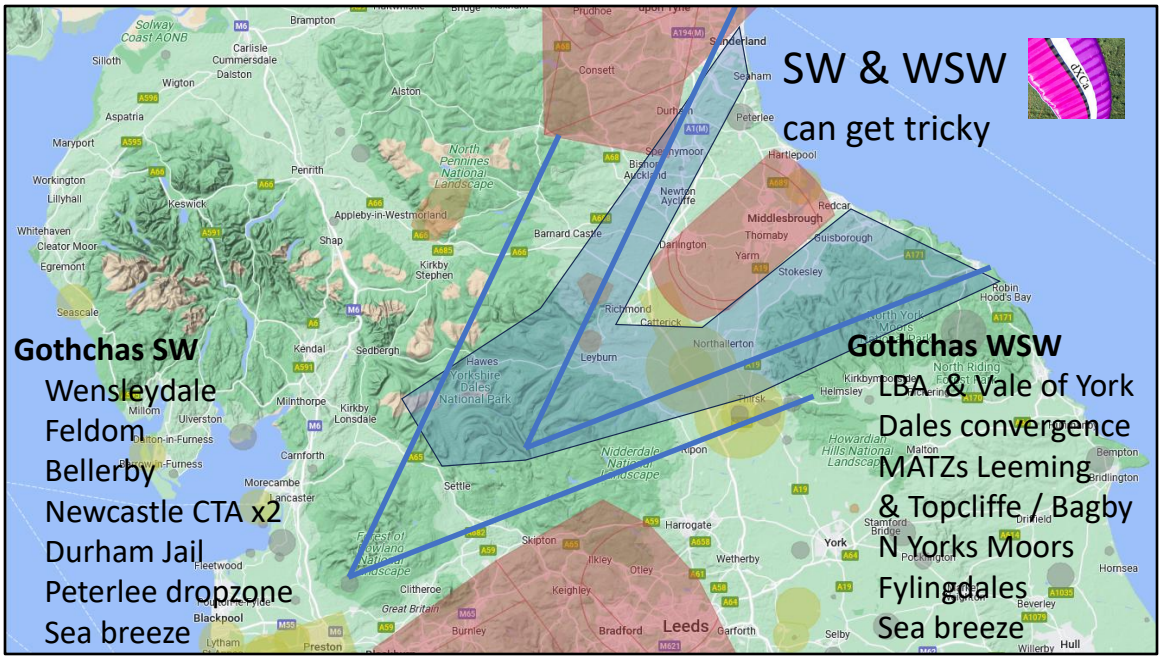
Jake and me past Hexham from Windbank.

Meek and me to Scotland from Semer.

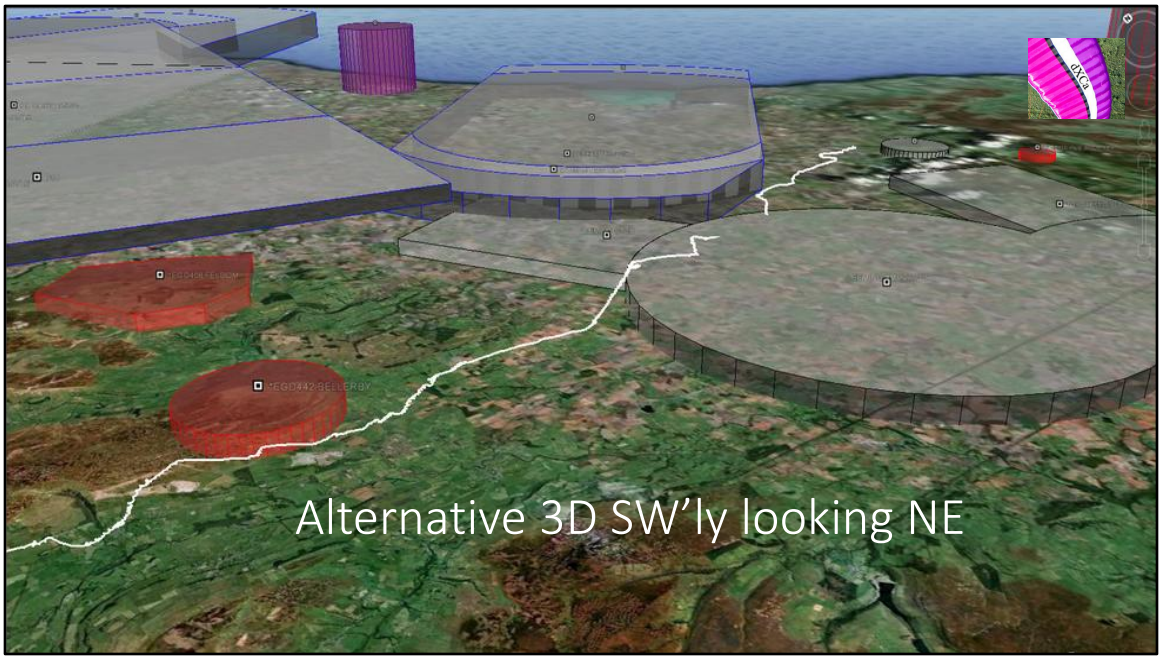
Pennines will pull on to become Swly. – advantage.

Don't be low through the Solway Firth sea breeze. Expect it on light wind days. Joe landed Solway.

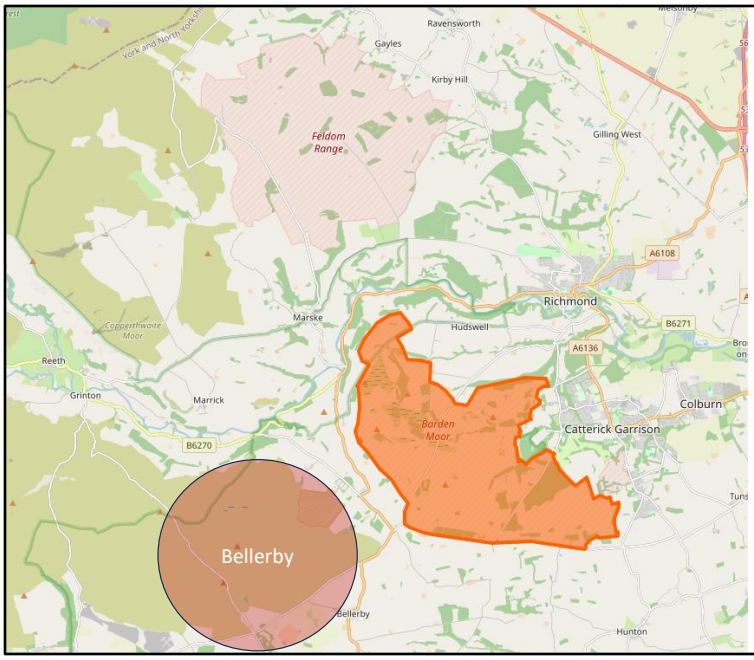
There's commercial traffic descending to Newcastle over Hexham.



SW & WSW
This is probably you're most likely 100km. Just the ease of the site, frequency of SW'lies.
But it's tight!



Again crucial to start deviating around Leeming ATZ and Teeside early.
Okay ish to go through a MATZ. However, don't hang about
Know your days for Feldom and Bellerby activity.



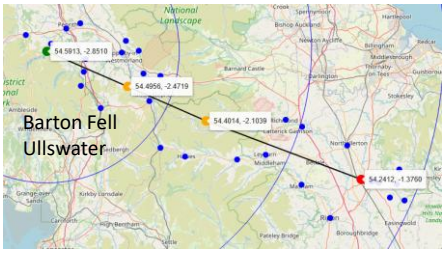
Bellerby extra

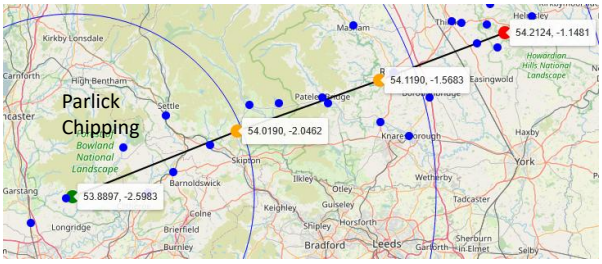
Military Dry Training Area

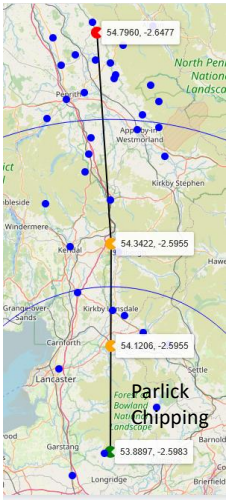
In addition to the actual danger areas. Fly over it but you might not want to land in it. There are footpaths.

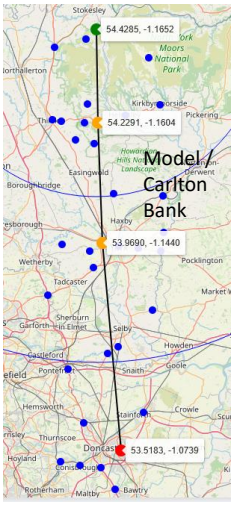
Untested!!

Nearby Alternatives





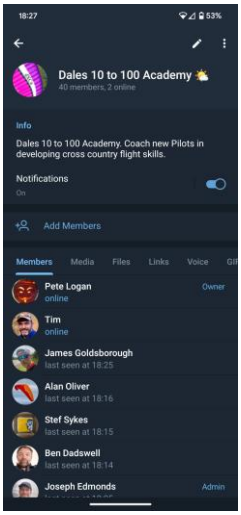




Explain the diagrams.
Carlton / Model to Doncaster in a northerly.
Parlick SW to Helmsley.
Parlick S to Cross Fell.
Barton Fell to Thirsk.
Missed any?

Final Tool – the 10 to 100 group

- Drum up some instant gaggle support.
- Pitch in with post flight analysis.
- Set a goal preflight and share!
  - If you throw enough people at a goal someone will get there.



What we haven't mentioned;

Flight logging, tracking, emergency location, speed to fly, retrieves, retrieve apps, comms, improving thermalling….

100km or Bust

A guide on getting your flying to the next level in or around The North

with Pete Logan
Lancastrian and
Dales Club Chief Coach