DEVELOPING A UNIQUE 1000KM ...AND BEYOND!

Who Am I?

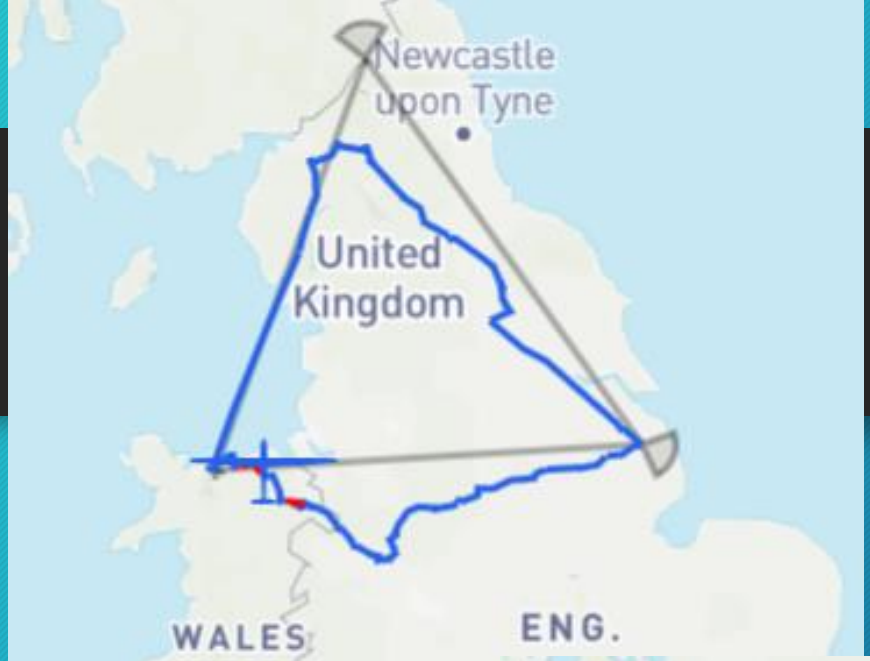
Chris Gill-

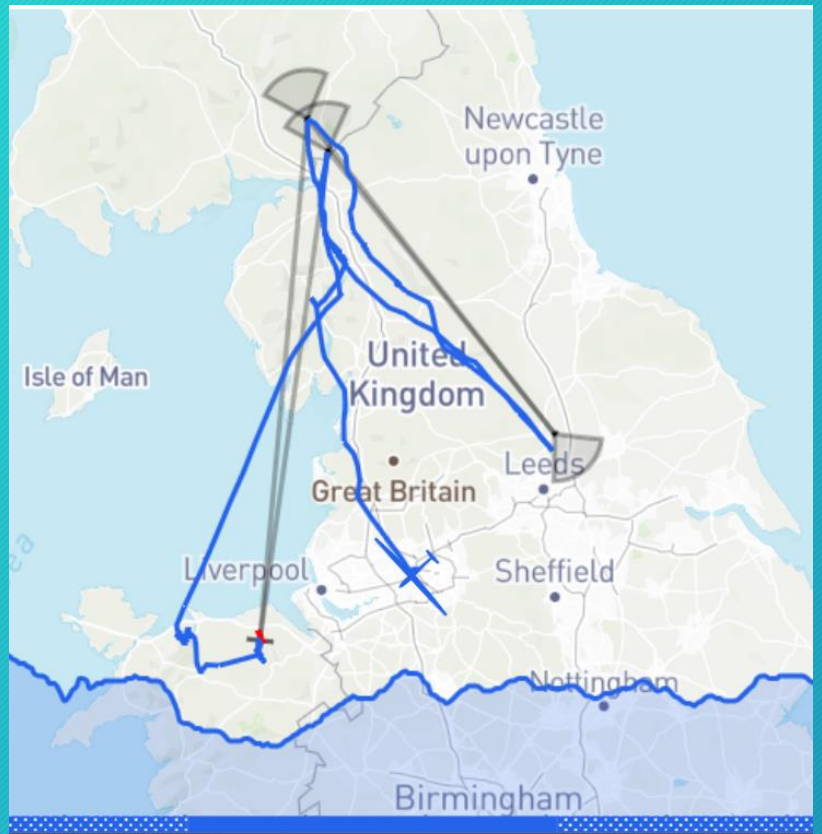
- Age- 30
- Chief Flying Instructor at Denbigh Gliding Club
- Based out of Denbigh for 6 years
- Around 2500-3000hrs ish
- I fly SEP + TMG + Gliders
- I enjoy adventurous gliding, all over the UK as well as all other aspects!

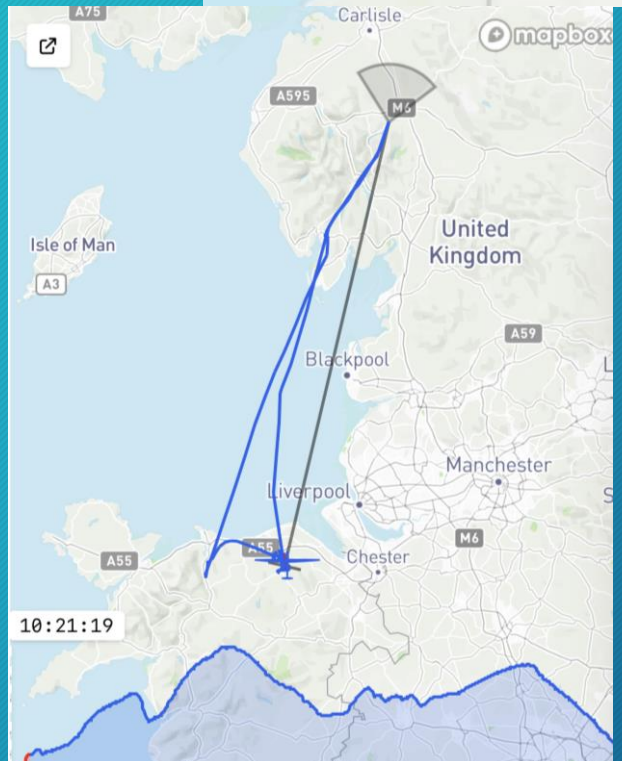
Coming up-

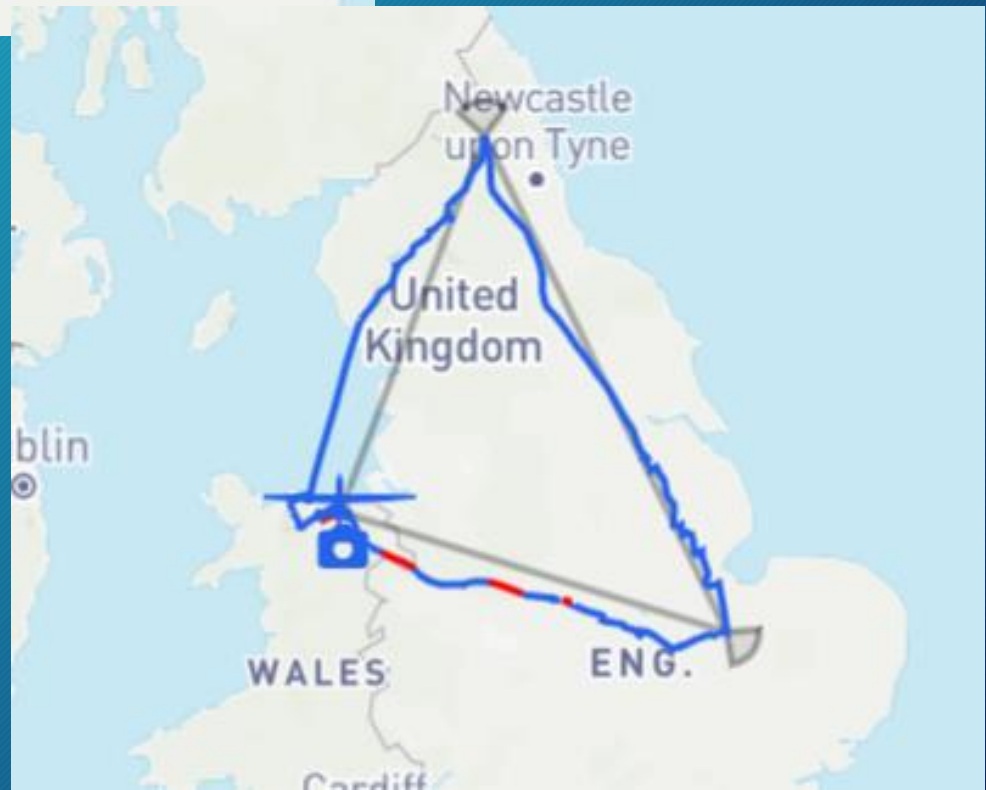
- Lots of pretty pictures..!
- The original idea for crazy tasks
- Development of the idea
- How to plan for this
- What weather we need for the various tasks
- How the attempts have gone
- Record breaking plans for the future

Todays topic..!









The Original Idea

It all started because of Mike Fox!
(many of my adventurous flights have started off with challenges/suggestions from others!)

In around 2020, the airway off the North Coast of Wales, changed its classification from Class A (as you can see on the right) to what it is now, Class C.
I've highlighted these areas with a red cross.

Mike spotted this change and suggested that now it may be possible to go from North Wales in wave, crossing in to the Lake District.

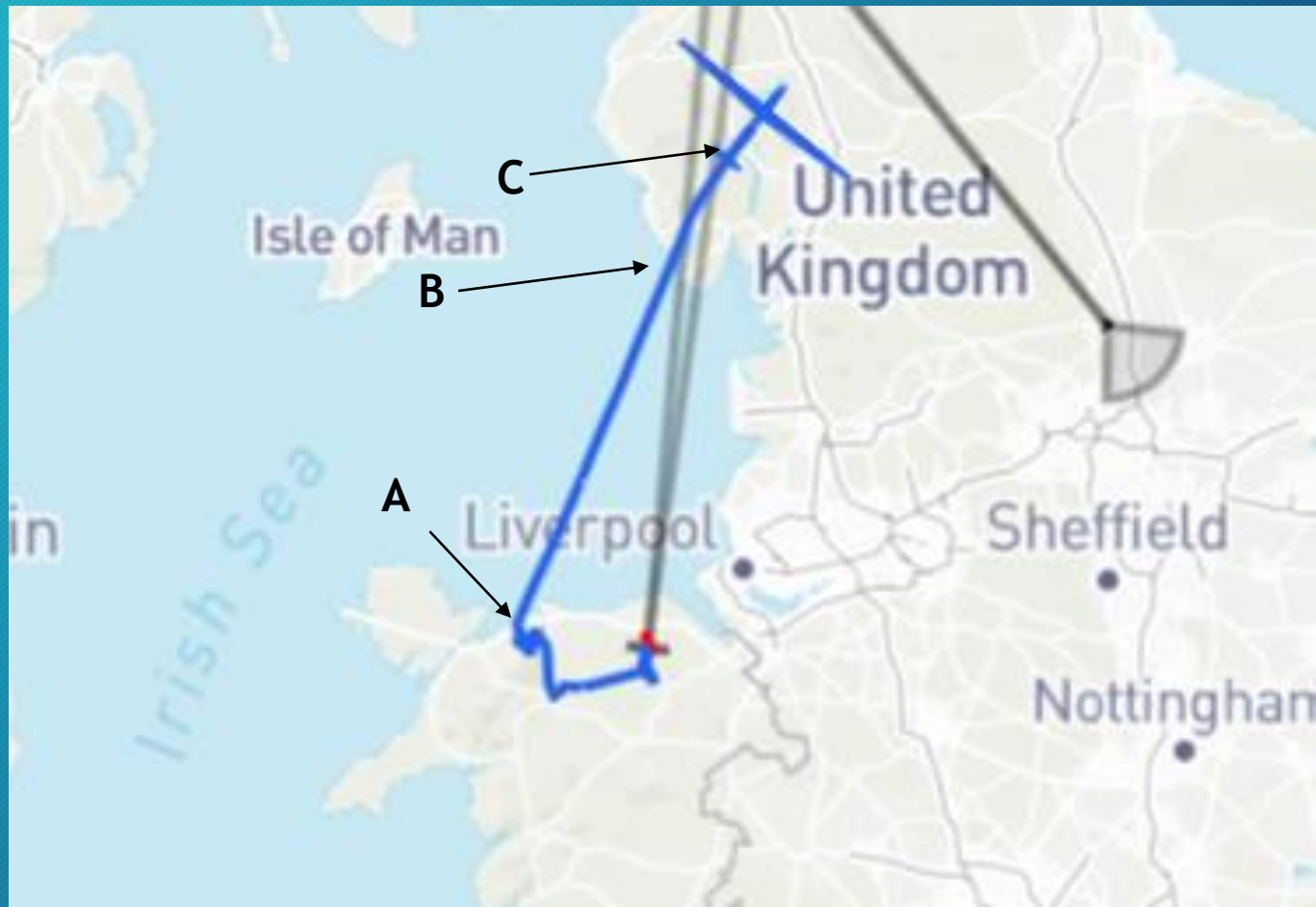
Is this even possible/safe?

Question 1 that I faced- Is this even possible?

- The distance between point A and B, ie (from coast to coast) is 110km, all across the water. So in theory, 11000ft + is needed to make it across safely- but is that actually the case?

2)- Where will the next climb come from?

Assuming a westerly/south westerly wind, the primary wave bar being formed from the lake district is actually at around point C. So we need to arrive high enough to contact that wave system.
So, point A to point C is 145km.
We need enough height to travel 145km, arriving at a sensible height above the 3000ft mountains and any cloud (what is the cloud forecast??)



So, is it even possible? (I asked myself)

145km glide, needing to arrive at a very minimum of 6000ft (but ideally 8000ft+).

If I were to set off at (let's say) 19,000ft in a Westerly/South westerly (easily achievable from Denbigh), we have two things in our favour-
-True airspeed is higher (around 20kts more) than IAS
-Tailwind component will boost our groundspeed.

I estimate around a 50% improvement on our glide angle over a 10km per 1000ft rule of thumb. (I suspected it would be better than that, but best to plan for worst case

So roughly a 10,000ft loss over that distance.
Setting off at 19,000ft, arriving at 9000ft, ideal.

Safety? What's that then?

What are the options if it goes wrong?

I ruled out any realistic possibility of ending up in the water. The only way that would happen is if we had some kind of catastrophic airframe failure. We spend the whole time with a traffic service from ATC, so it should be pretty unlikely of a mid air collision.

With a ~50kt tailwind, it's an easy dash to make it to the west coast of England if something went wrong, even with a huge rate of descent.

Safety? What's that then?

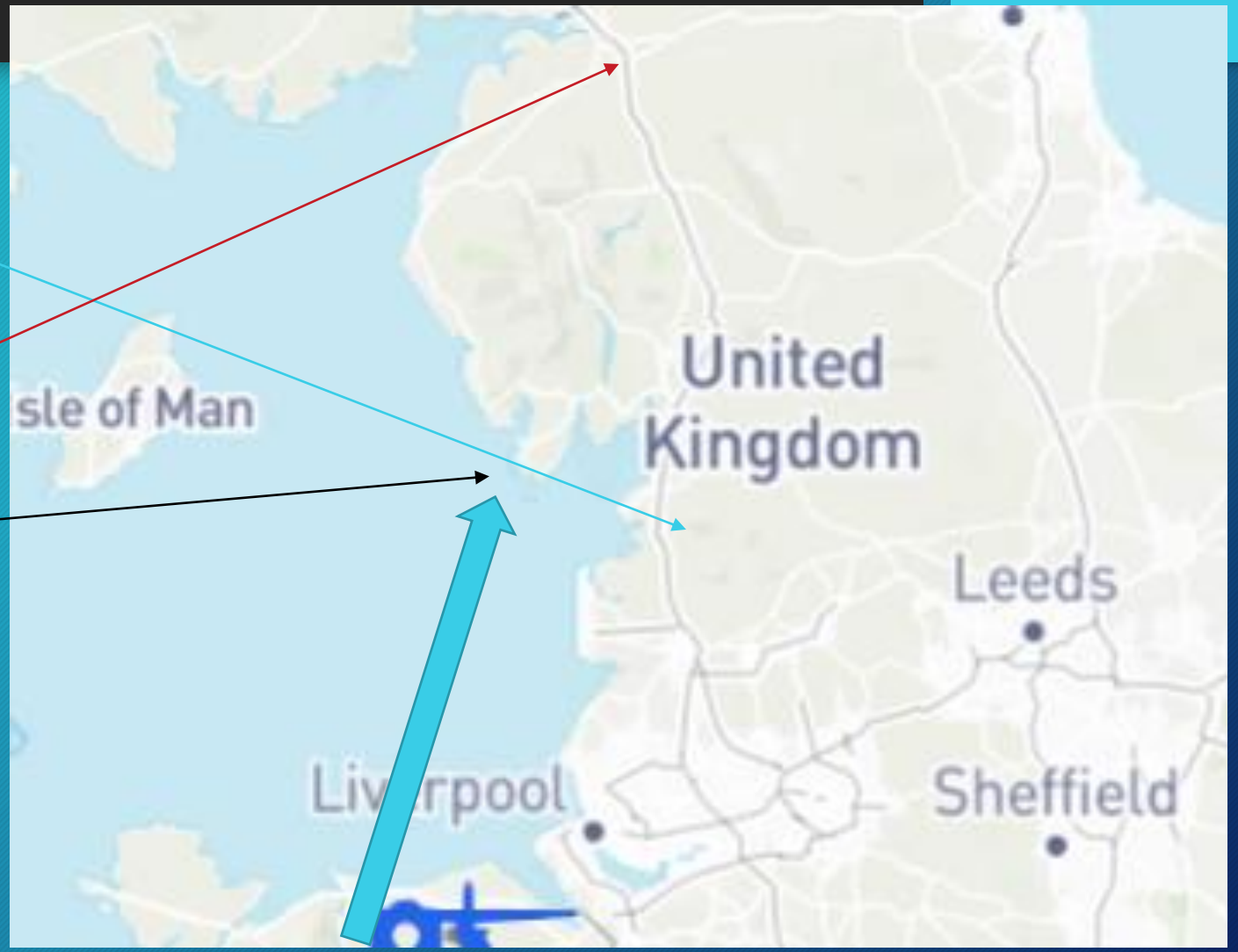
Land out options-

-Chipping (Bowland Forest) would be favourite if it all started going horribly wrong on route

-Carlisle Airport if we couldn't pick up any wave

-Barrow-in-furness, seems like an obvious best choice, but it's inconvenient for a retrieve..!

- Various other microlight strips



What next then?

The last thing (apart from the weather and task!) that needs consideration is the airspace.

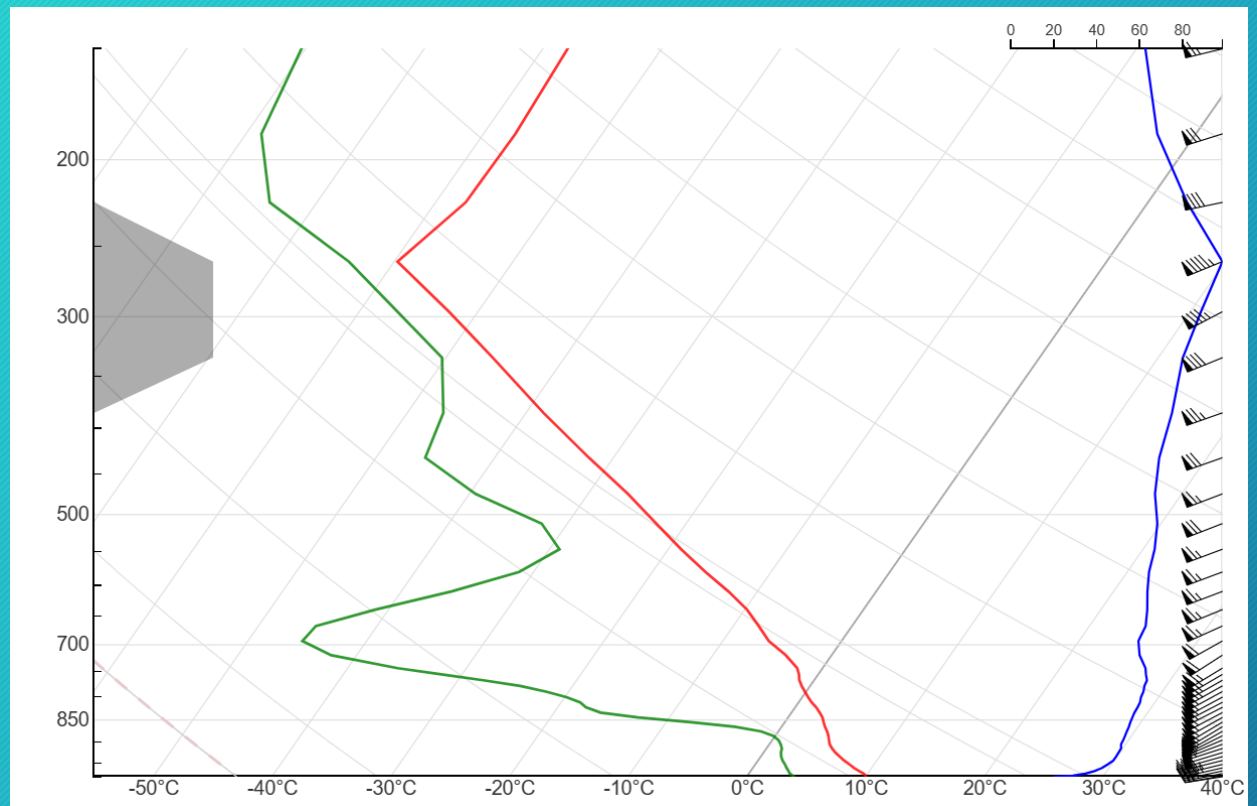
‘Scottish’ control the Holyhead CTA off the North Coast of Wales, they are the people who would need to give me clearance to cross the airway, enabling the sea crossing.
When I saw an opportunity in 2021 to have an attempt at something interesting, I gave Scottish a phone call.

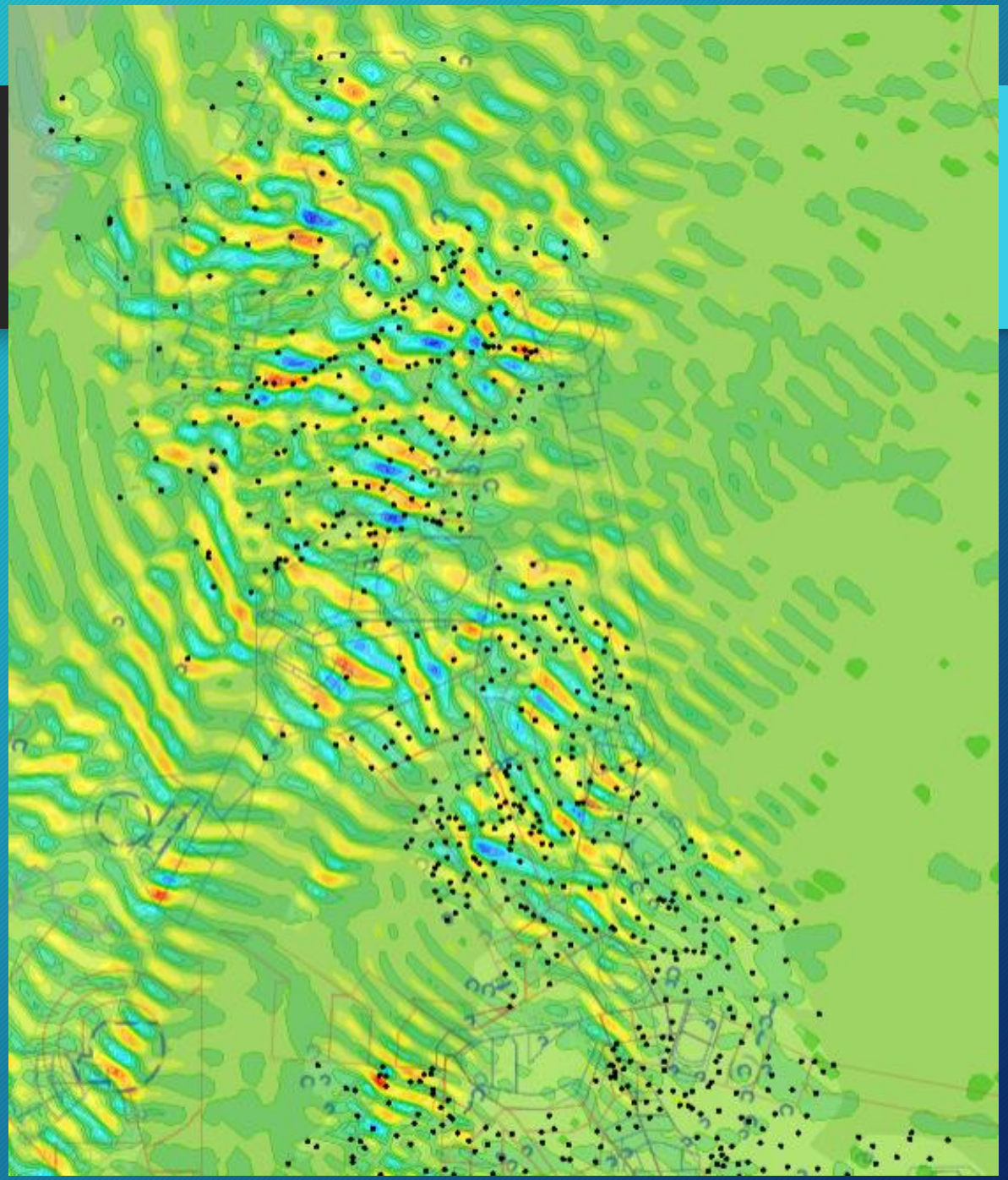
I spent quite some time chatting to their supervisor, explaining my intentions, where I would cross, at what heights, what times etc.

The airway there can be very busy, so the agreement is to let me cross in a sensible gap between airliners.

What weather do we need for a wave task?

We need some wave! Analysing the tephigrams in the areas you intend to fly in, throughout the day + using the RASP/Skysight forecast to make sure you put the task in the right bit of sky works well. Lots of info here!

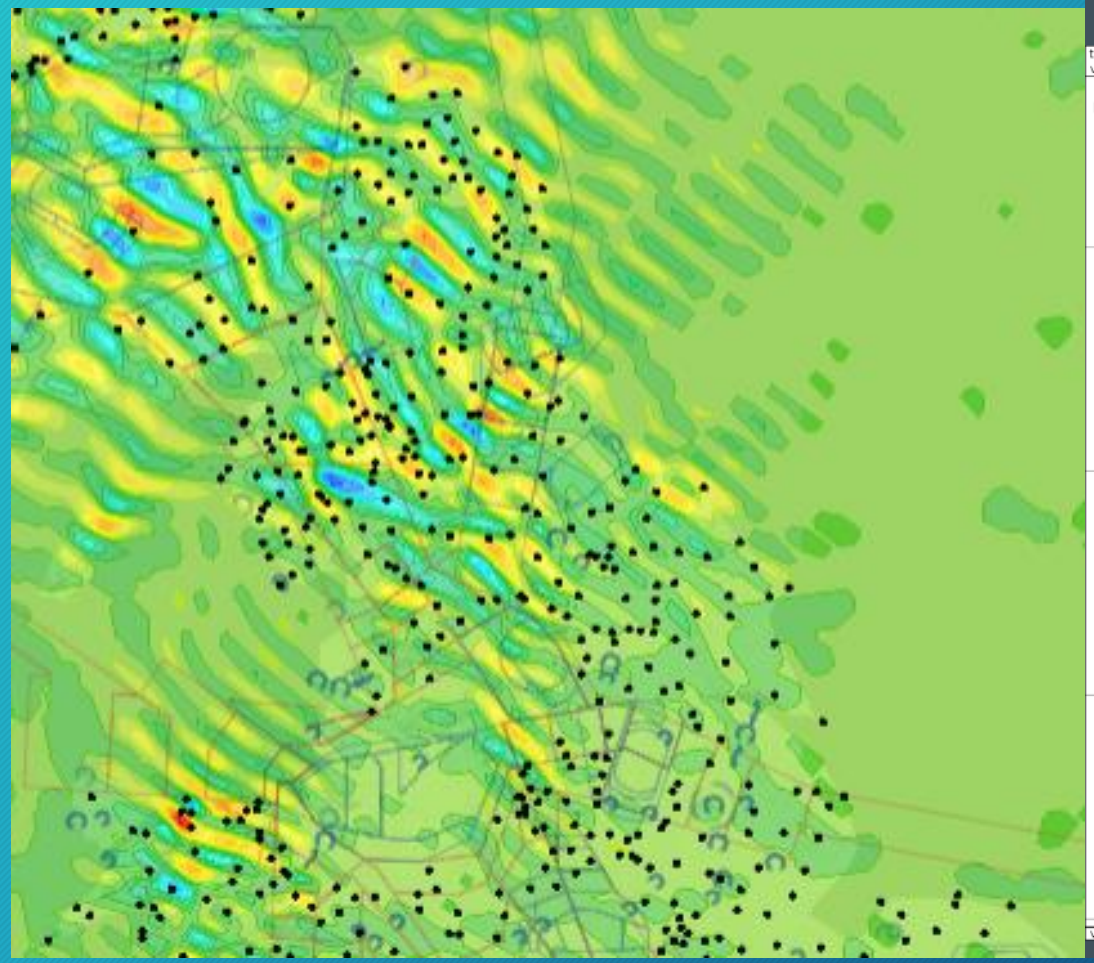


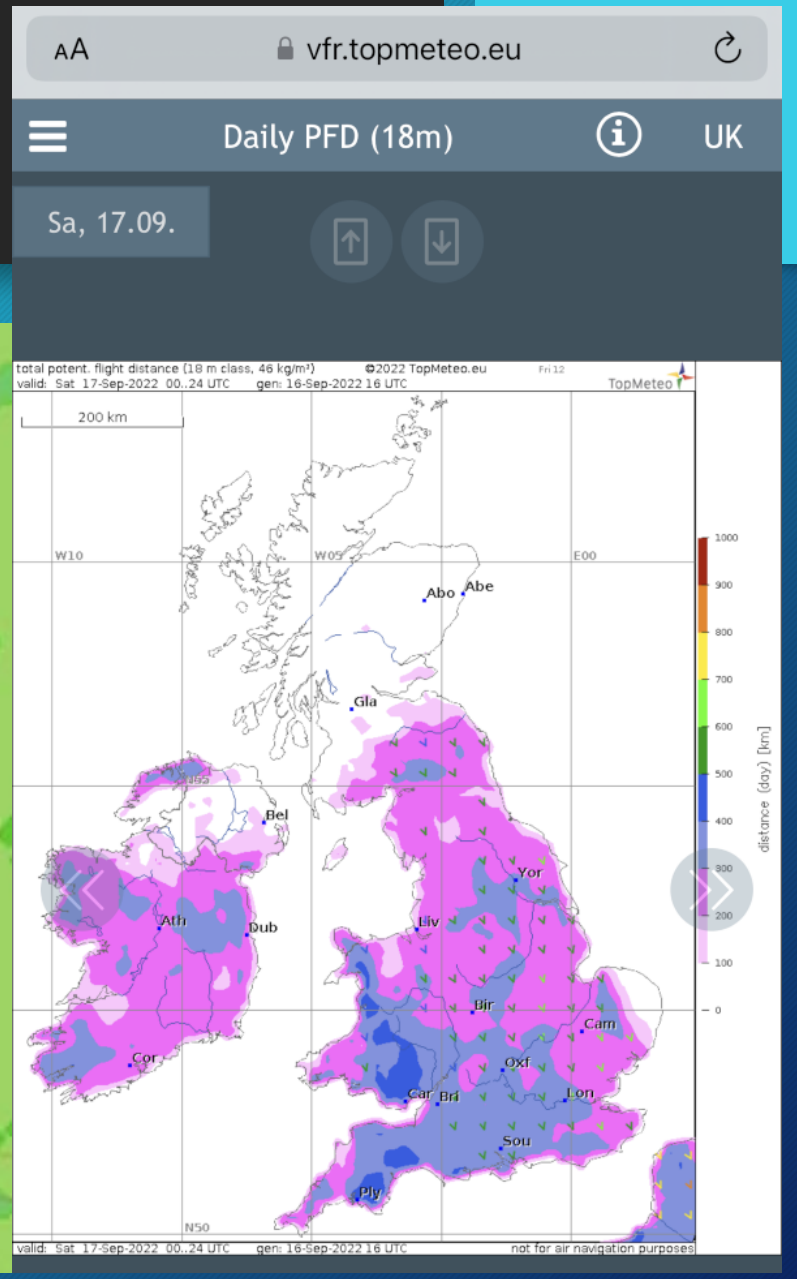


Planning a wave/thermal task?

We need wave that goes high, early in the morning to be able to get to the Lakes. We then need good enough wave to get to the northern TP (wherever that is) and to get down to southern England by midday ish.

We then need sensible thermal conditions, I start with the PFD (potential flight distance) forecast on topmeteo. You can go into more depths after this point, but initially I like to keep the forecasting very simple.





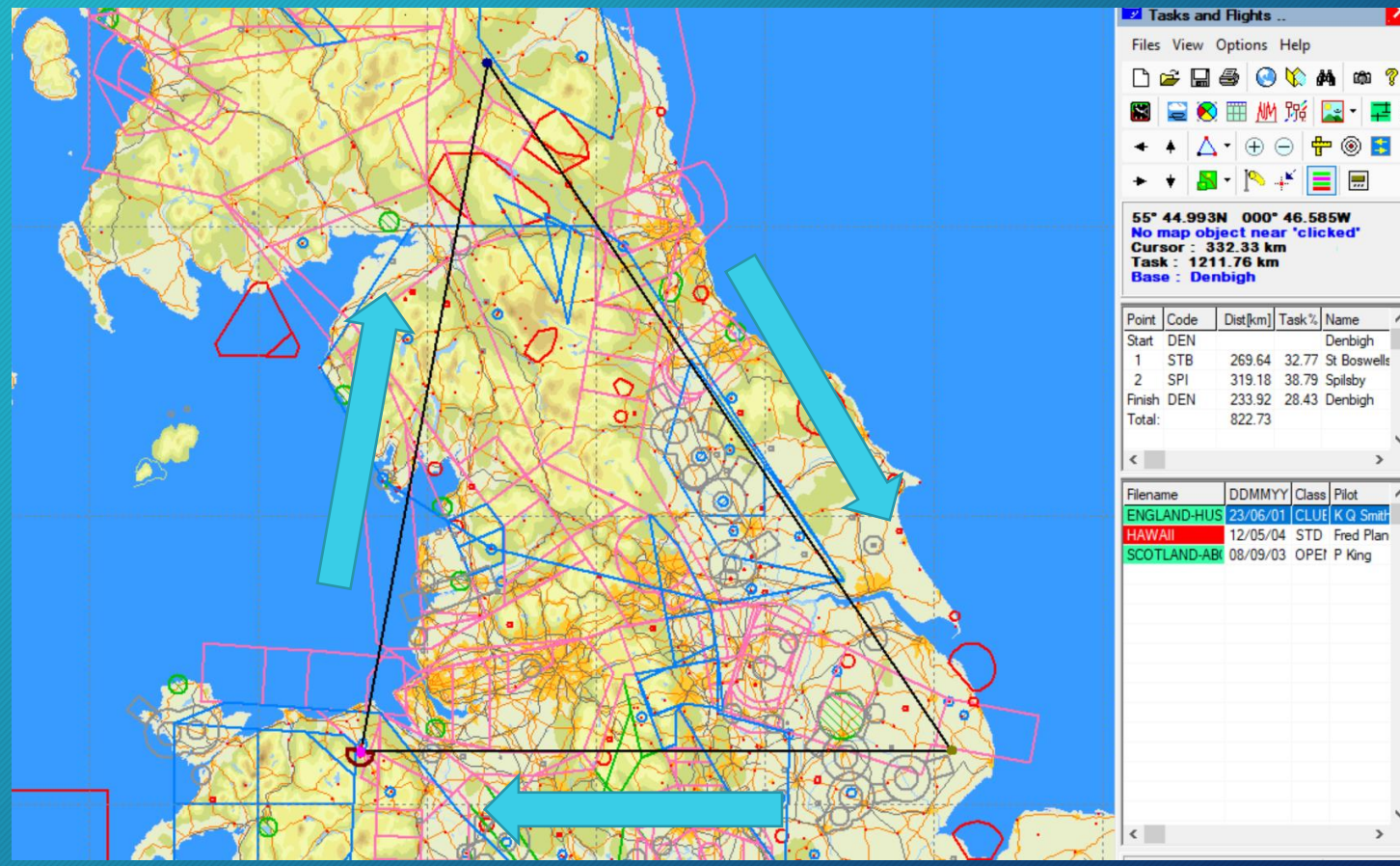
What new potential has now been unlocked?

This is now where my crazy imagination takes over!

The first thing that I thought of was to start in wave, then fly south and do the rest in thermal. It's perfectly possible to do a >800KM FAI triangle using this mentality. I'm familiar with most of this area, I used to fly from Sutton Bank.

I think we can do leg 1 and leg 2 all in wave, and then leg 3 (around 230km in this task) in thermal. If we were to time it well (ie, midday at TP2), we would only need to average 50kph, into a ~20kt headwind, to make it back home for 5pm or so.

BUT- Finding a good wave morning, followed by a decent thermal afternoon is rare. Plus, the likelihood is that the wave will mess up the thermals as we get closer to home.



What about pure wave tasks?

Something like this is a straight forward task that would collect you a 750km diploma.

It would also result in a land out (choose an airfield of your choice), so make sure you've got crew there ready and waiting with a beer in hand!

But why not finish at Denbigh? Explanation later

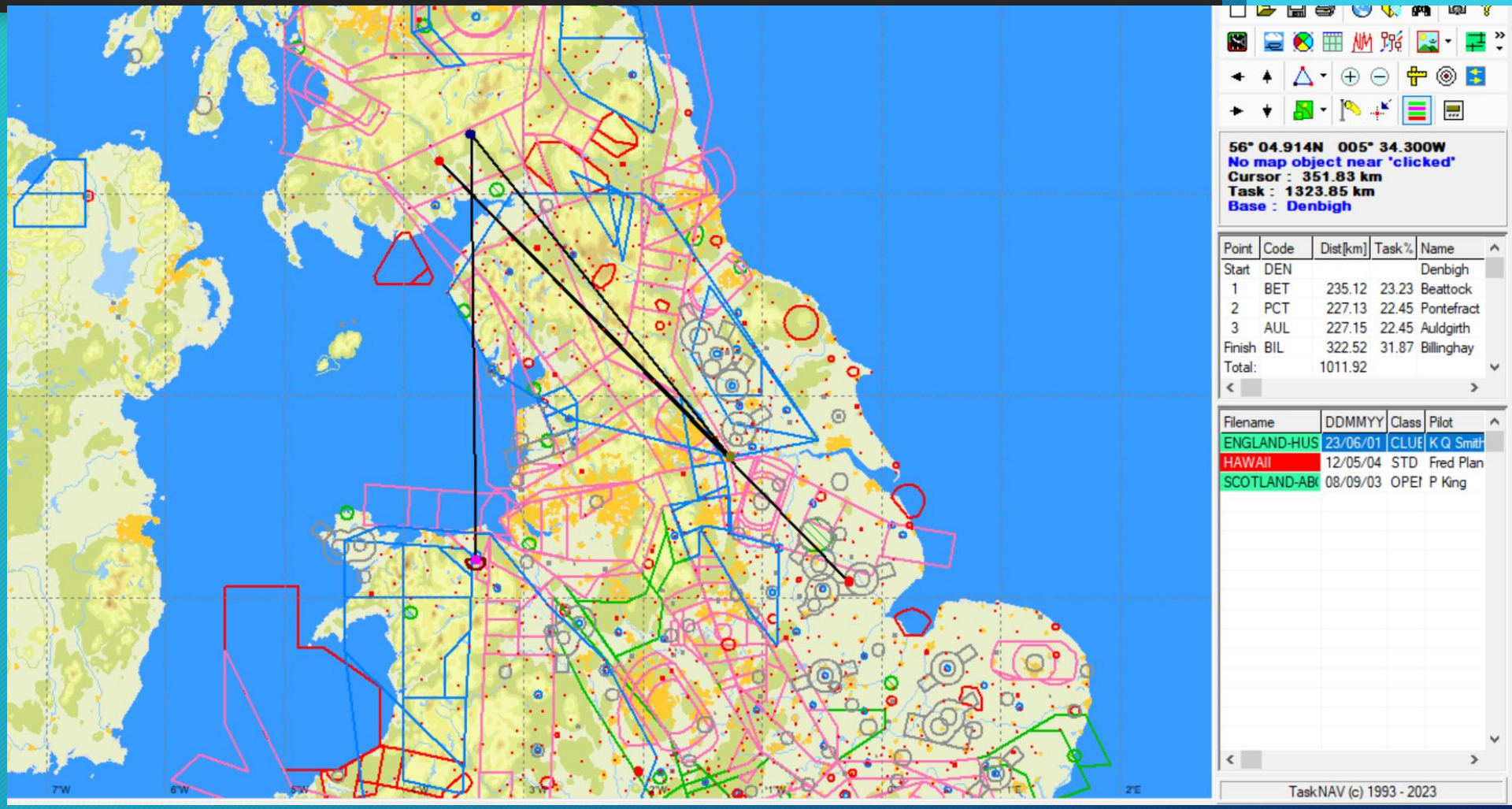
But, let's get a bit more adventurous now shall we?

A straightforward 1000km Diploma?

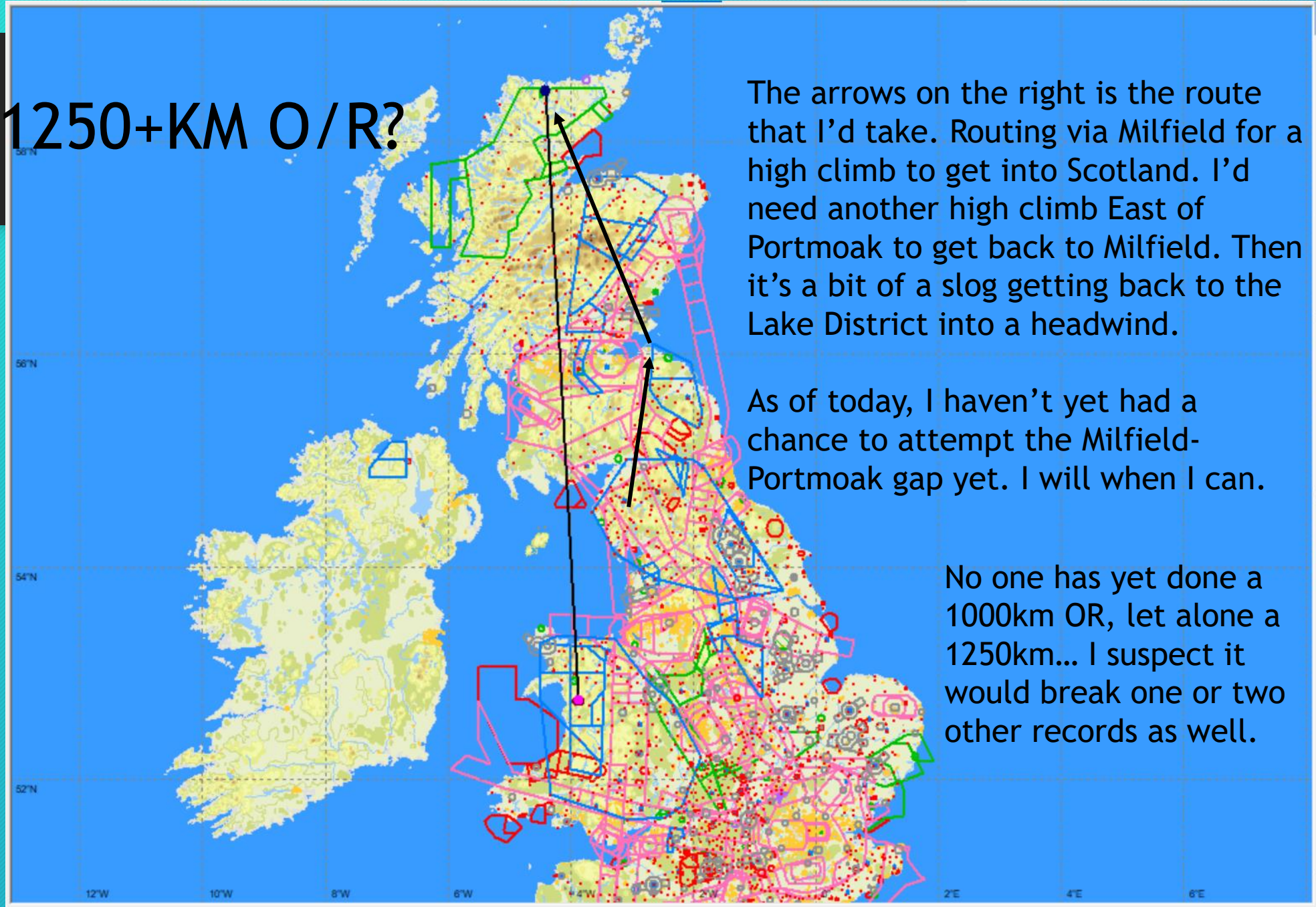
A very similar task to the previous one, but with longer legs to make 1000km, which would be good for a 1000km diploma.

I think this task should be pretty straight forward, with 2 trickier bits on the northern turnpoints under lower airspace.

Ok, time to get adventurous….



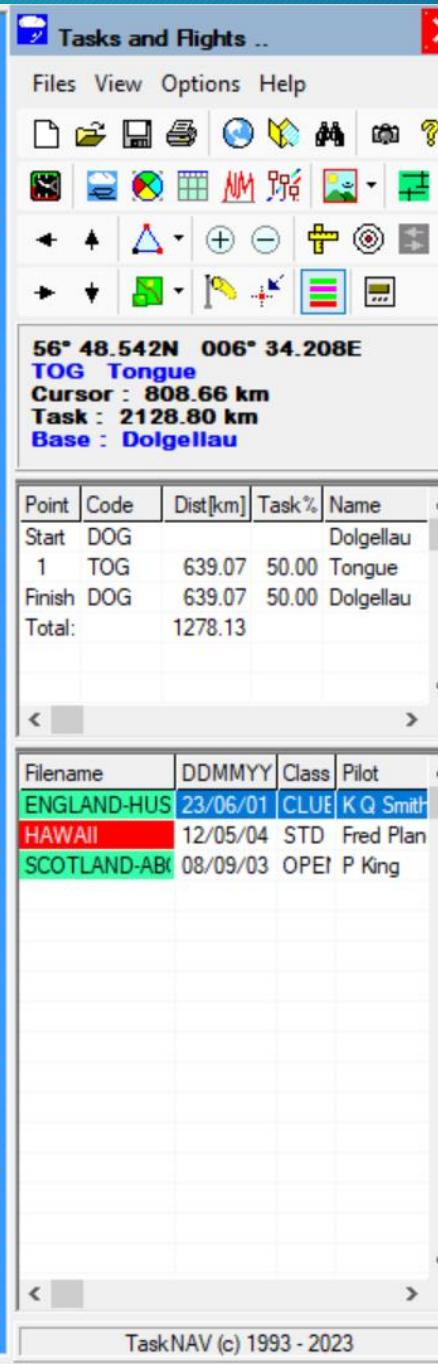
1250+KM O/R?

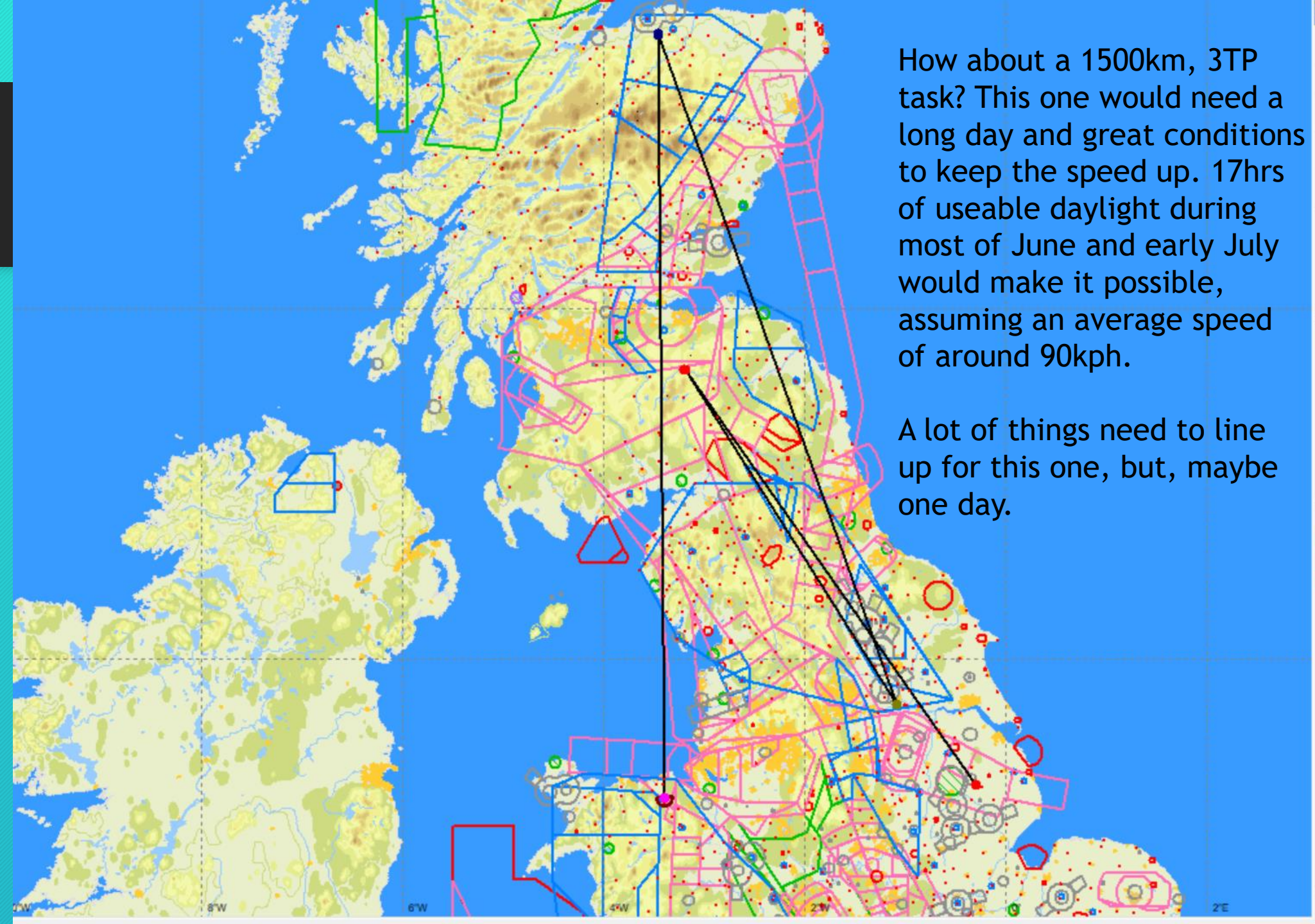


The arrows on the right is the route that I'd take. Routing via Milfield for a high climb to get into Scotland. I'd need another high climb East of Portmoak to get back to Milfield. Then it's a bit of a slog getting back to the Lake District into a headwind.

As of today, I haven't yet had a chance to attempt the Milfield-Portmoak gap yet. I will when I can.

No one has yet done a 1000km OR, let alone a 1250km… I suspect it would break one or two other records as well.





How about a 1500km, 3TP task? This one would need a long day and great conditions to keep the speed up. 17hrs of useable daylight during most of June and early July would make it possible, assuming an average speed of around 90kph.

A lot of things need to line up for this one, but, maybe one day.

Tasks and Flights ..

Files View Options Help

57° 42.583N 010° 03.035W
No map object near 'clicked'
Cursor : 653.80 km
Task : 2452.41 km
Base : Lleweni Parc

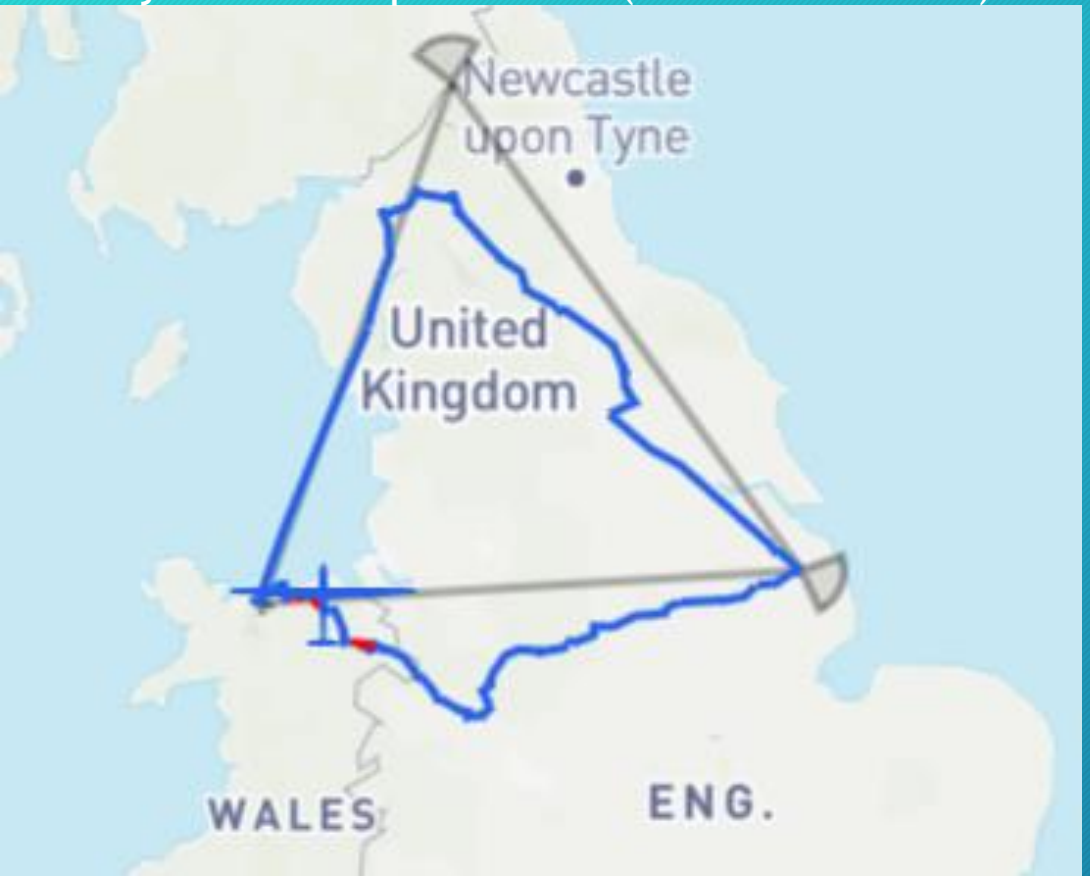
Point	Code	Dist[km]	Task%	Name
Start	LLE			Lleweni Pa
1	DLS	484.09	32.07	Dallas
2	BRN	450.35	29.83	Burn
3	PEE	252.12	16.70	Peebles
Finish	WRA	323.01	21.40	Wragby
Total:		1509.56		

Filename	DDMMYY	Class	Pilot
ENGLAND-HUS	23/06/01	CLUE	K Q Smith
HAWAII	12/05/04	STD	Fred Plan
SCOTLAND-AB(	08/09/03	OPEI	P King

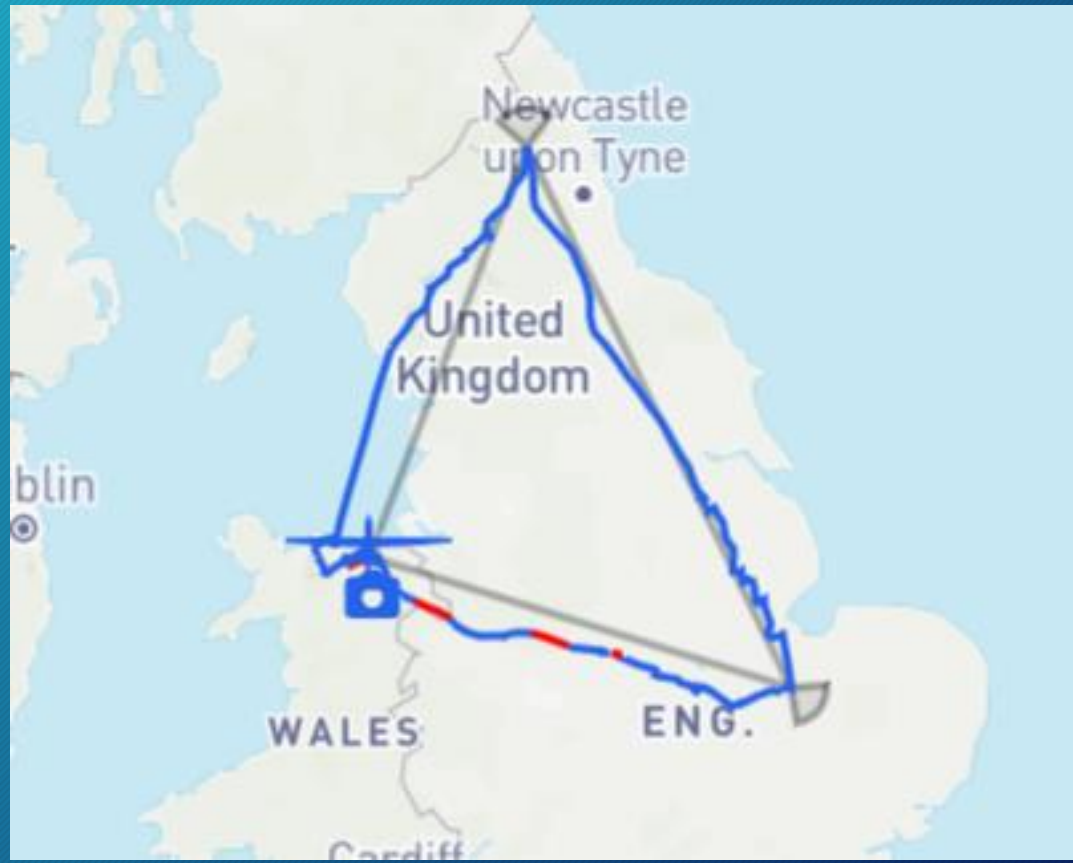
TaskNAV (c) 1993 - 2023

What have I achieved so far? (Thermal tasks)

August ’21, around 650km, rubbish at the Northern TP (hence the abandon), but it was mainly for the experiment. (With Liam Ward)



August ‘22 with Patrick Greer. Better Wave, rubbish thermal conditions. 730km OLC

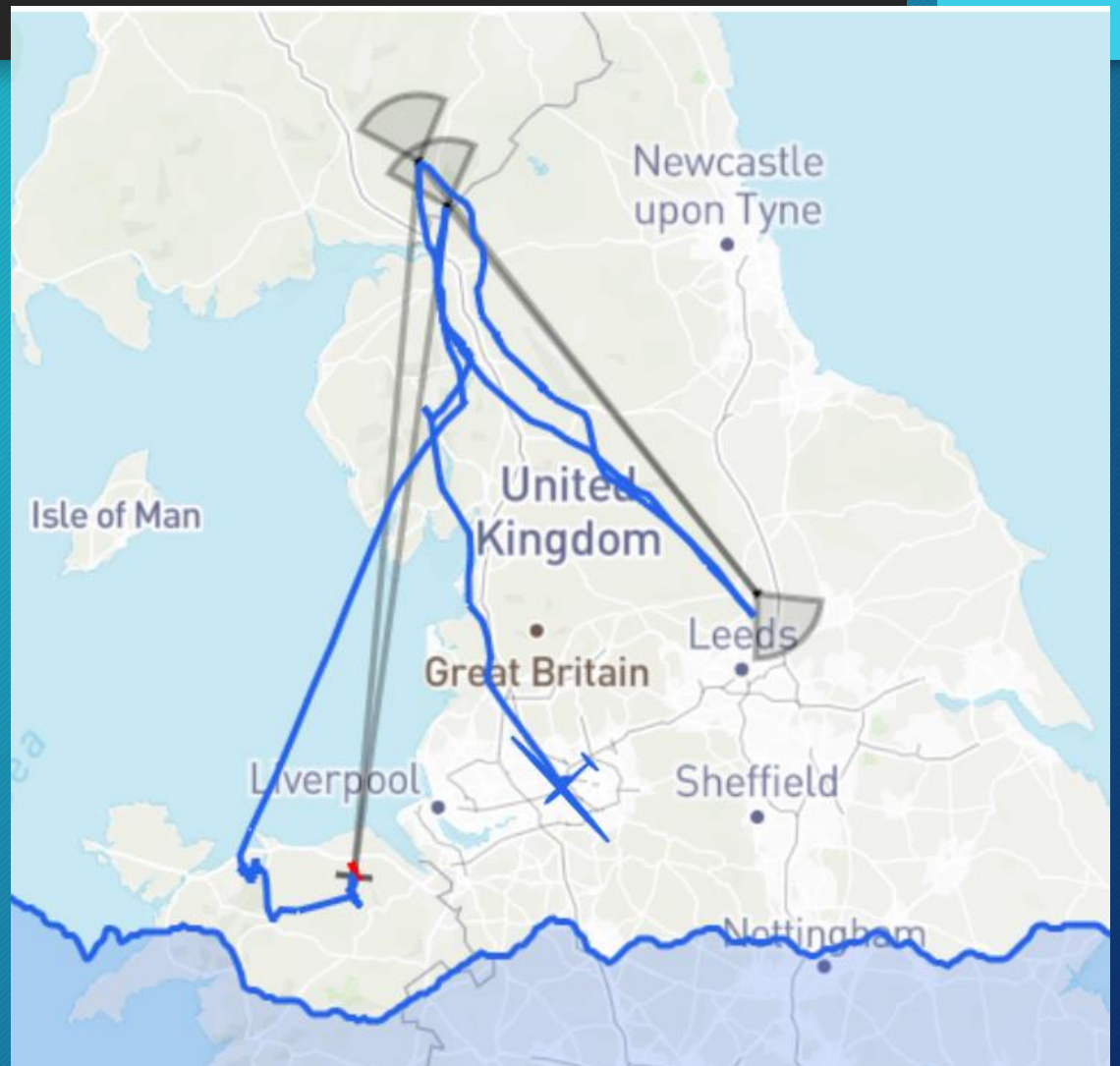


My latest attempt at something interesting…!

This was my most recent bigger one, covering around 700km out of the 750km task, using mountain waves.

Starting in North Wales at around 18,000ft, crossing into the lake district (110km across the water). Then crossing the Scottish Border north Of Carlisle to my first turning point, Bentpath. After that, I turned south east into the Vale of York, turning Knaresborough, then back to my last turning point, Canonbie, across the Scottish Border again.

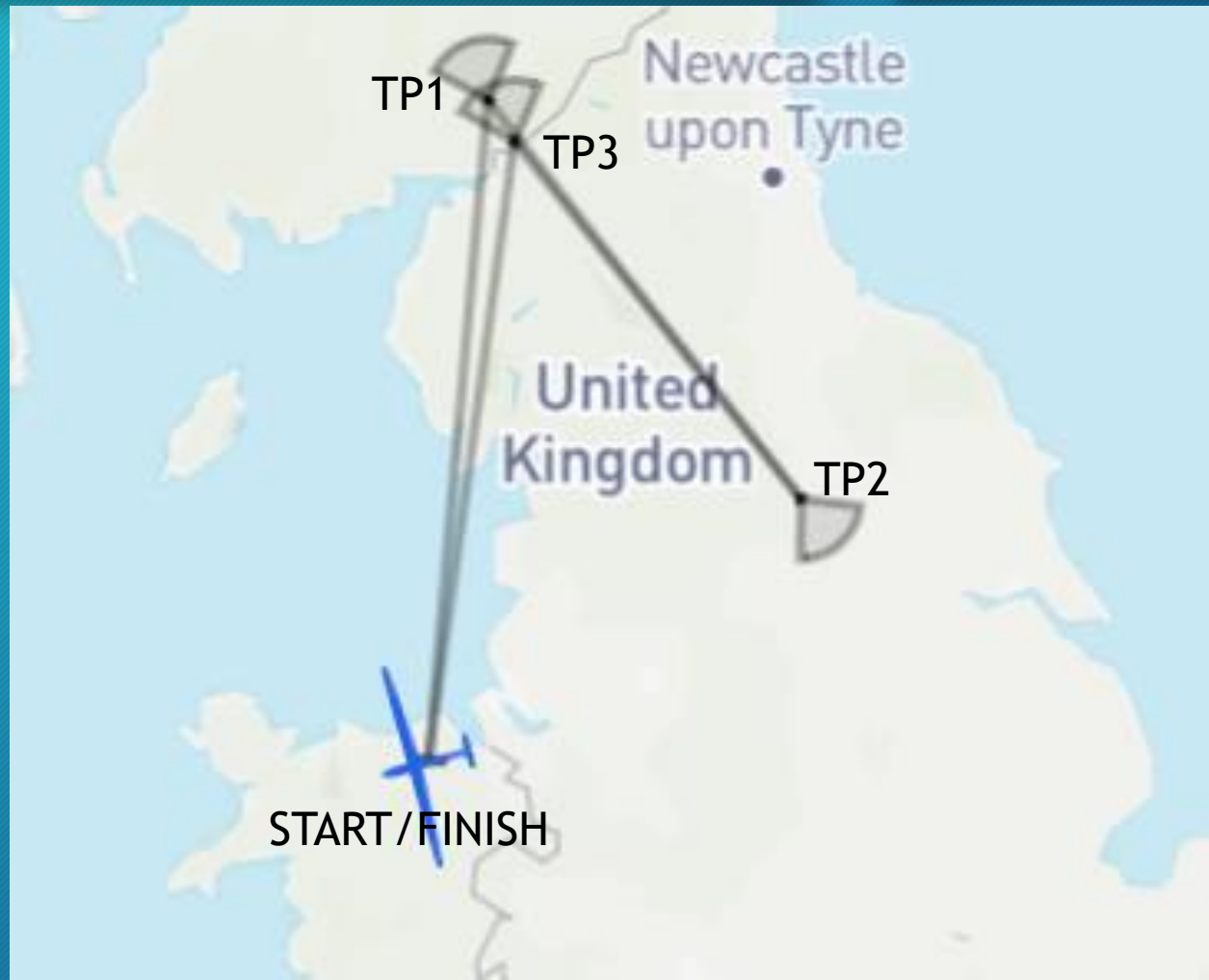
I then, due to a couple of reasons to come, followed the west coast of England and landed at Manchester Barton at Sunset.



My latest attempt at something interesting…!

Task Declaration-

Start:Lleweni Parc
TP1: Bentpath
TP2: Knaresborough
TP3: Canonbie
Finish: Lleweni Parc



My most recent adventure- how did it go?

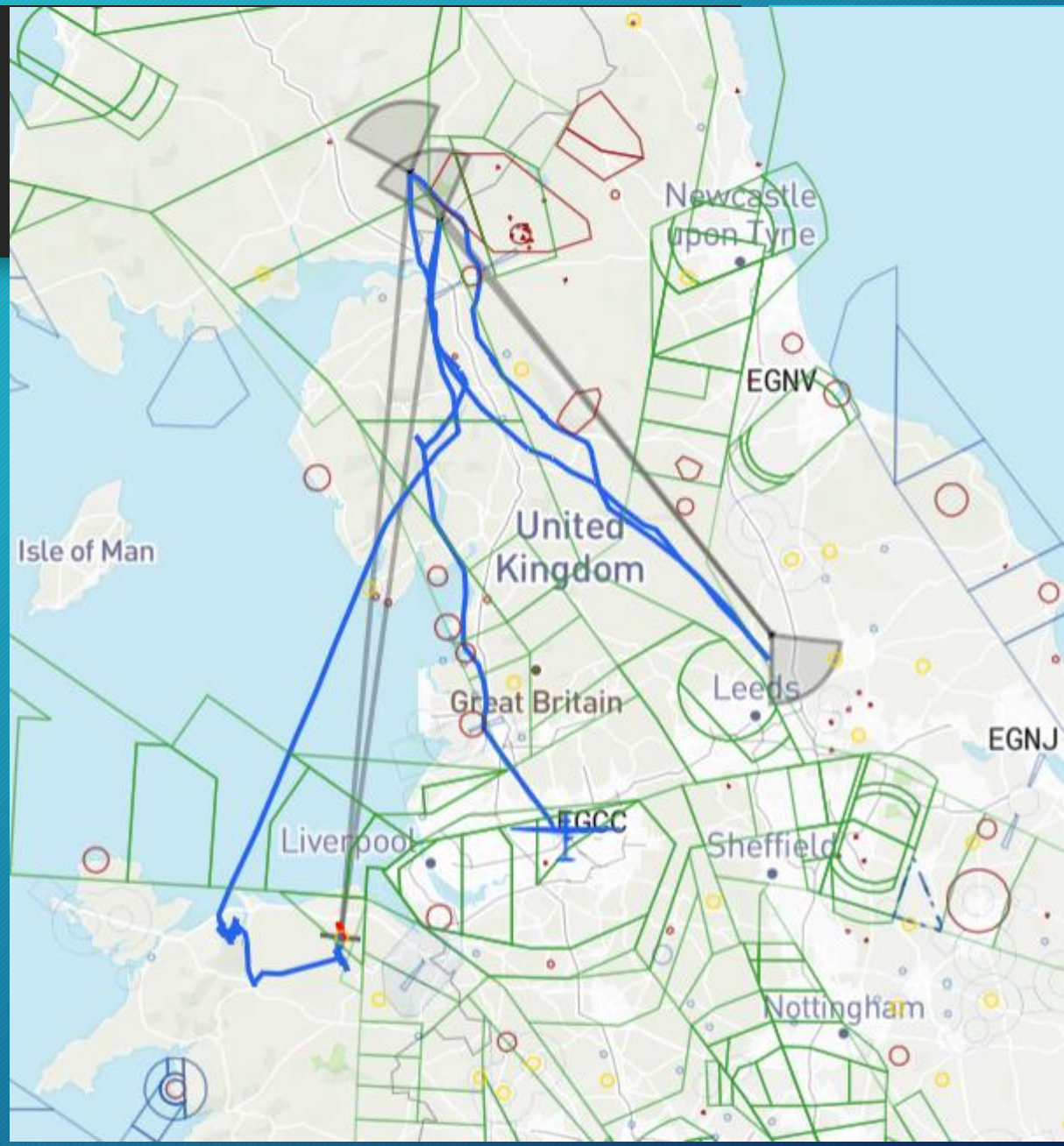
The task declaration is in grey on the map. 750kms.

We climbed up in North Wales slower than we hoped. It took almost 2 ¾ hrs to get high enough to cross the 110km sea crossing into the lake district.

On a good day it would take around 1hr to get to 19,000ft, which meant that we had 1 ¾ hrs less time to do the task than I'd hoped.

On this late October day, we also had to wait for rain to go through before taking off, around 09am.

Fortunately we only needed to wait around 10 mins for ATC to let us cross the airway.



Almost at the Lakes!

Pic taken at around 13,000ft with Barrow-in-Furness in view (bottom right of the pic).

Looking ahead in the gliders 2 O'Clock, there is cloud marking the wave lift, within easy reach.

Lake District

Here we are climbing in the lake district, good lift (for the day), climbing 4-500ft per minute.

Quite cloudy round here at this time, but reliable lift, giving us options to move on.

On route to TP2

After turning the 1st turning point and now heading south, near to Carlisle at this point.

As you can see, we have smooth lenticular clouds marking where the lift is.

Fortunately, there was a nice line of lift running in the direction we wanted.(Jammy task planning!)

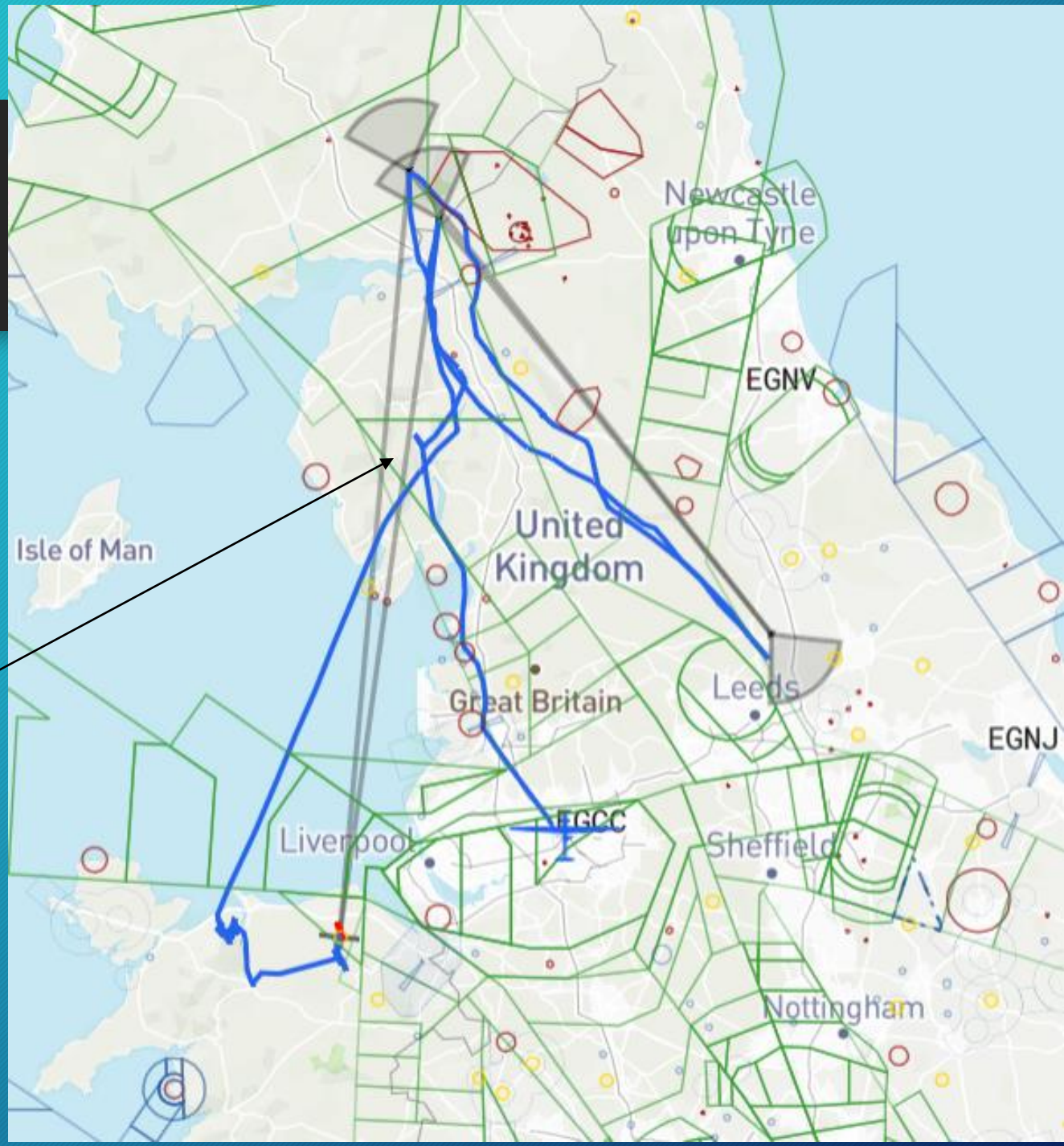
“Running out of time”

We had weak lift going in and out of the 2nd Turn point, but we were able to cruise at 60-85knots while climbing most of the time.

We then got back across the Scottish border with ease securing the 3rd TP.

By the time we got back to the Lake District, which Is where the best wave was, we then had to work out how to get home. However, it was now around 1 hour until sunset… we were running out of time!

The area that we were in had a limit of FL125, which was class A airspace. My plan was to beg for access and to be allowed in. (I have been allowed in to class A before, but sadly, not this time)



Looking at land out options…

After begging Scottish for access to a higher level (which could have meant we could glide back across the water), we then changed to London Info and started heading down the west coast of England. I had SkyDemon fired up and was eyeing up airfields that were within reach.
London then offered to call up some airfields and do the hard work for us….result!!

7700?!?

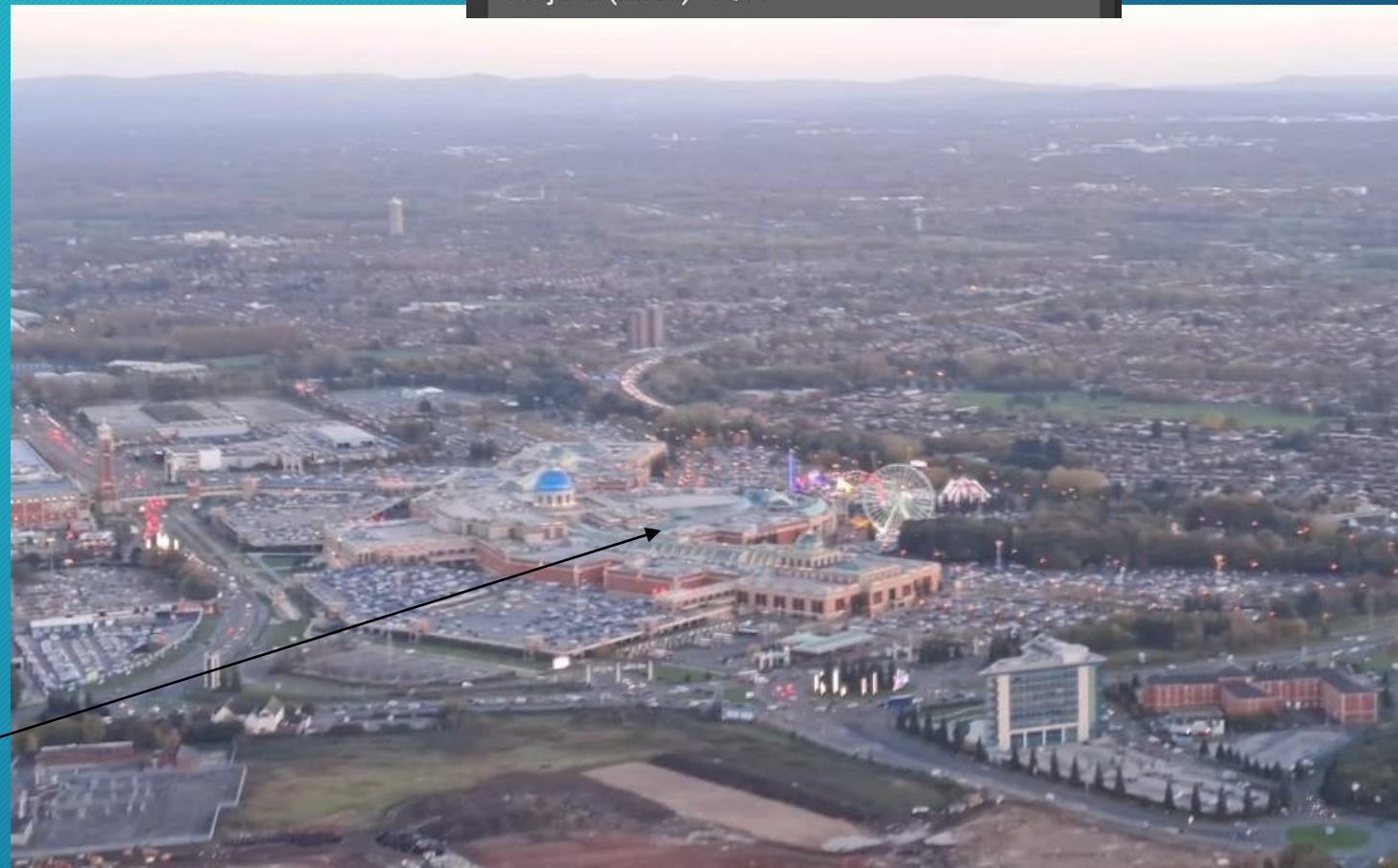
London had geared up Blackpool for us to landout at. However, I am very much a lazy human being, I know that Blackpool would be over 2hrs to drive to. Bugger that!
Bowland forest was less of a drive, which would be a better option for me.
I then considered Manchester Barton (only 1hr drive!), but it was probably out of reach, but it would be tight. But, with visible wave on route, I reckoned it may be on.
I then asked London if they could line us up for Manchester Barton, as I could now see wave clouds on the way, so I'm sure that I could now stretch my glide a lot further.
London then spoke to Manchester as well as Barton and it seemed like it would be tricky! They said Barton was closing at 17:45, can you make it before then? I checked SkyDemon and did some speed distance time calcs in my head, it would be very tight indeed.
"Easy, no problem"- I replied!
"Ok, squawk 7700 and change to Manchester"

Most tracked aircraft in the world!

I questioned why we should Squawk 7700. London explained it was much easier to get through to Barton in terms of accessing airspace with 7700 and I should now talk to Manchester.
I switched to Manchester and explained to them it wasn't actually an emergency, it was just an outlanding at another airfield.
They then gave us a normal squawk and let us continue to Barton

While we were squawking 7700 for those few minutes, it turned out we were the most tracked aircraft in the world…briefly- Hilarious!

Anyway, we arrived in circuit, with this view of a fair with bright lights on base leg.



And arrived at Barton safely!

I was in touch with my gliding club members and asked someone to get us from Barton. The trailer was on route before we even landed! Thanks Ian!!

We were then being watched during the de-rig on Bartons Webcam!

Can I get back home in wave?

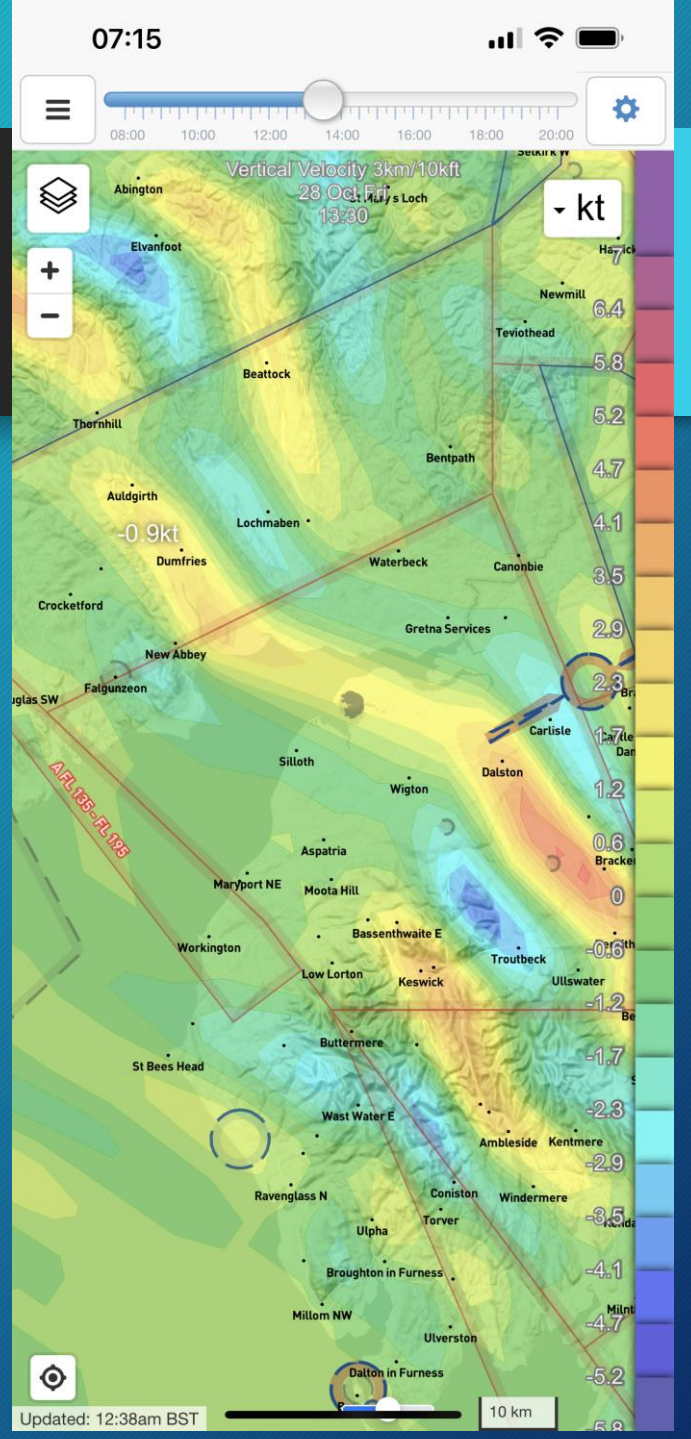
Here is the wave forecast for the Lake District/Scottish Border with the wind being South Westerly for the day.

As you can see here, the forecasted lift is under airspace.

Also, due to Manchester/Liverpool, it would be impossible to go much further south and cross controlled airspace back to North Wales

Coming back across the 110km stretch of water into a headwind will require much more than the FL125 I can actually achieve.
I'd need around 20,000ft here or so at a rough guess.

Accessing the airway off the north coast of Wales is much more challenging due to the length of time it takes me to get back there and me not knowing if I can even fit in amongst their airliner traffic.



How to get back home in wave?

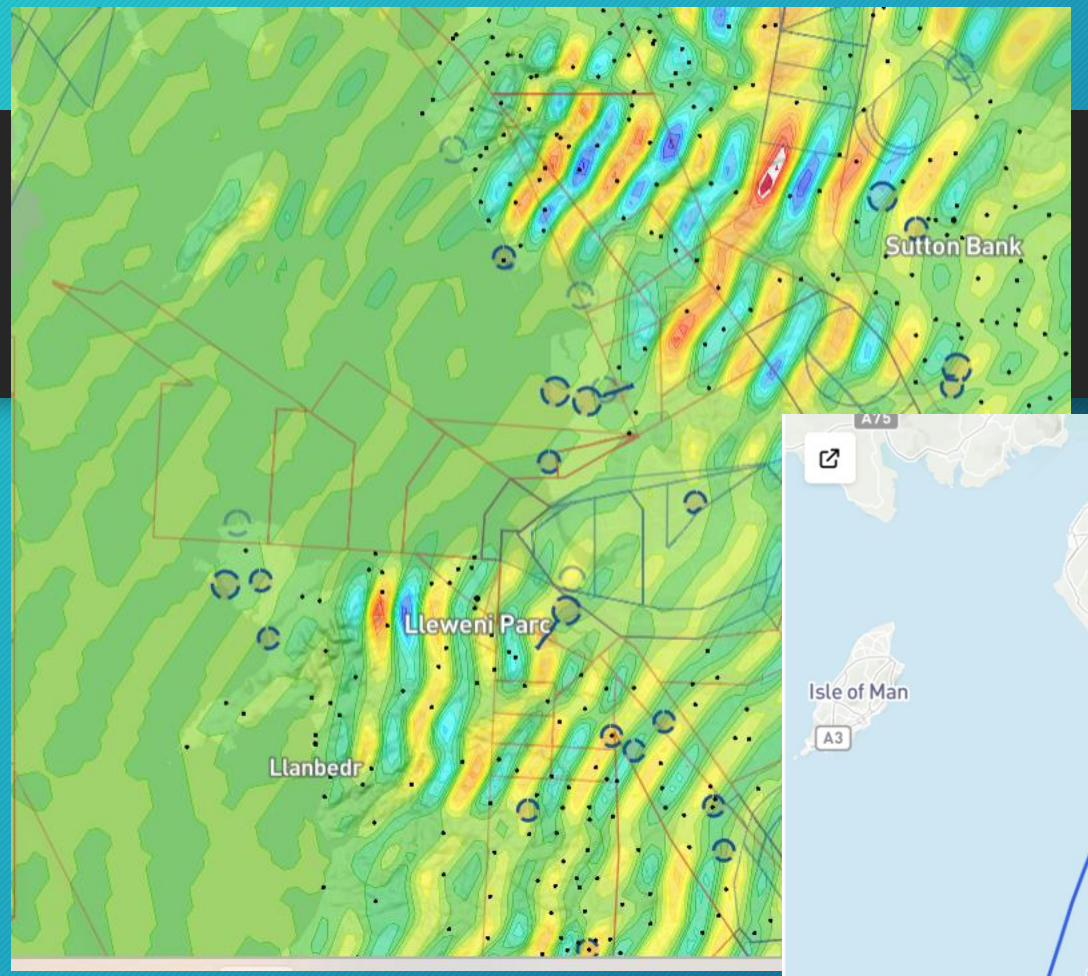
To be able to complete an O/R, I need to work out how to get home in the wave.

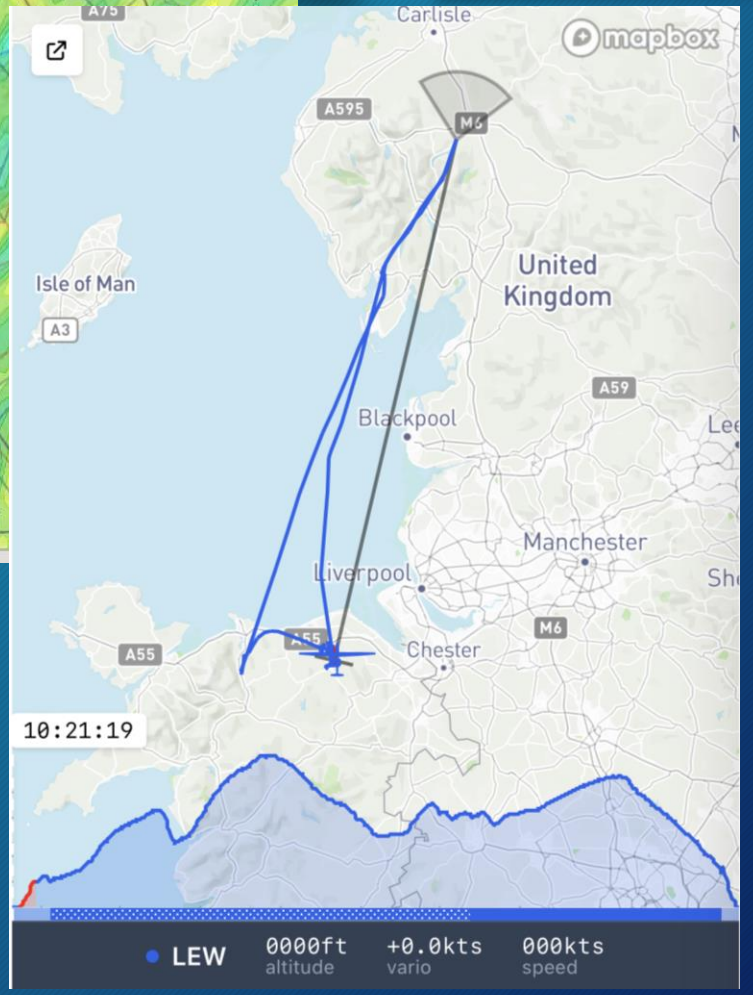
I think there's 2 potential ways-

Plan A would be to gain access to the Class A over the lake district, being able to get to FL195 instead of FL125 would be plenty of height to get home across the water. I've applied to the CAA for an 'ACN' (Airspace Co-ordination notice) which would allow me in a pre-planned area at an agreed height and time. I'm hopeful this will be approved.

Plan B- Utilise the Isle of Man wave, head west from the Lakes, climb higher, simples?

Last weeks effort…





This day gave us very strong WNW winds and I had an opportunity to try a little out and return. The challenging thing about this day was the ~70kt winds at flying heights. The task was 320kms.

I thought it was a fantastic opportunity to attempt to get back home from the Lake District in wave.

The main reason why I thought it was ideal was that there was good wave forecasted outside of controlled airspace. It was exactly as forecasted (thanks Skysight/RASP) and we climbed to around 16,500ft before setting off back home. I set off with around 4000ft above a 3kt Mcready (which seemed like a sensible margin considering the distance over the water!). I was making slightly harder work for Scottish due to timing, but they fit us in kindly.

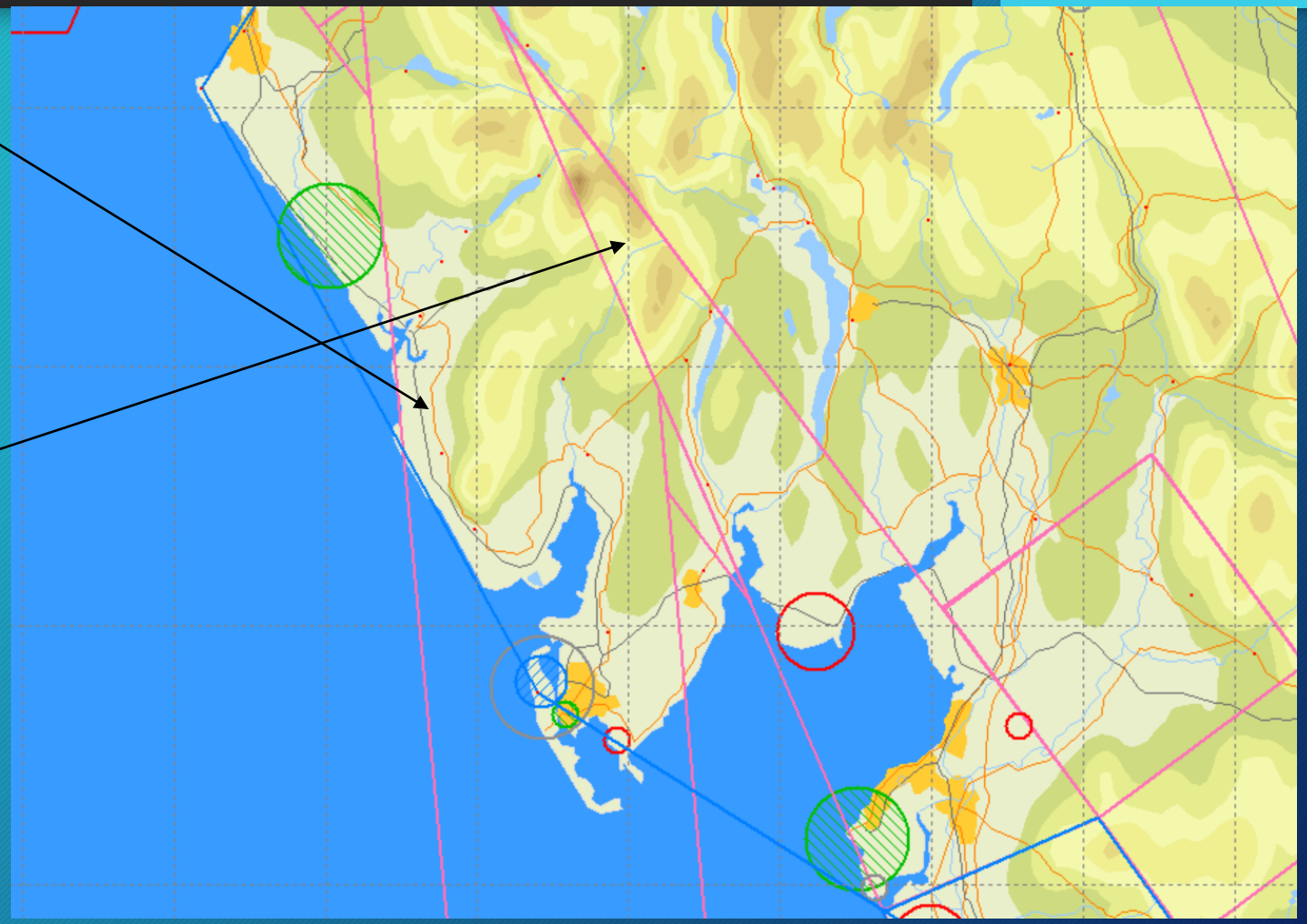
So why isn’t there lift in that spot all the time?

If the wind is from W-NW, you can see that this ridge will produce wave on the lee side.

The issue is that some of the bigger flights planned, will need a SWly wind and this won’t really produce good enough wave.

In a SWly we’d be picking up wave behind these bigger peaks, which, unfortunately, is under the FL125 Class A airspace.

Which then leads us back to the previous conundrum where we ideally need access to that Class A on those SWly wind days.

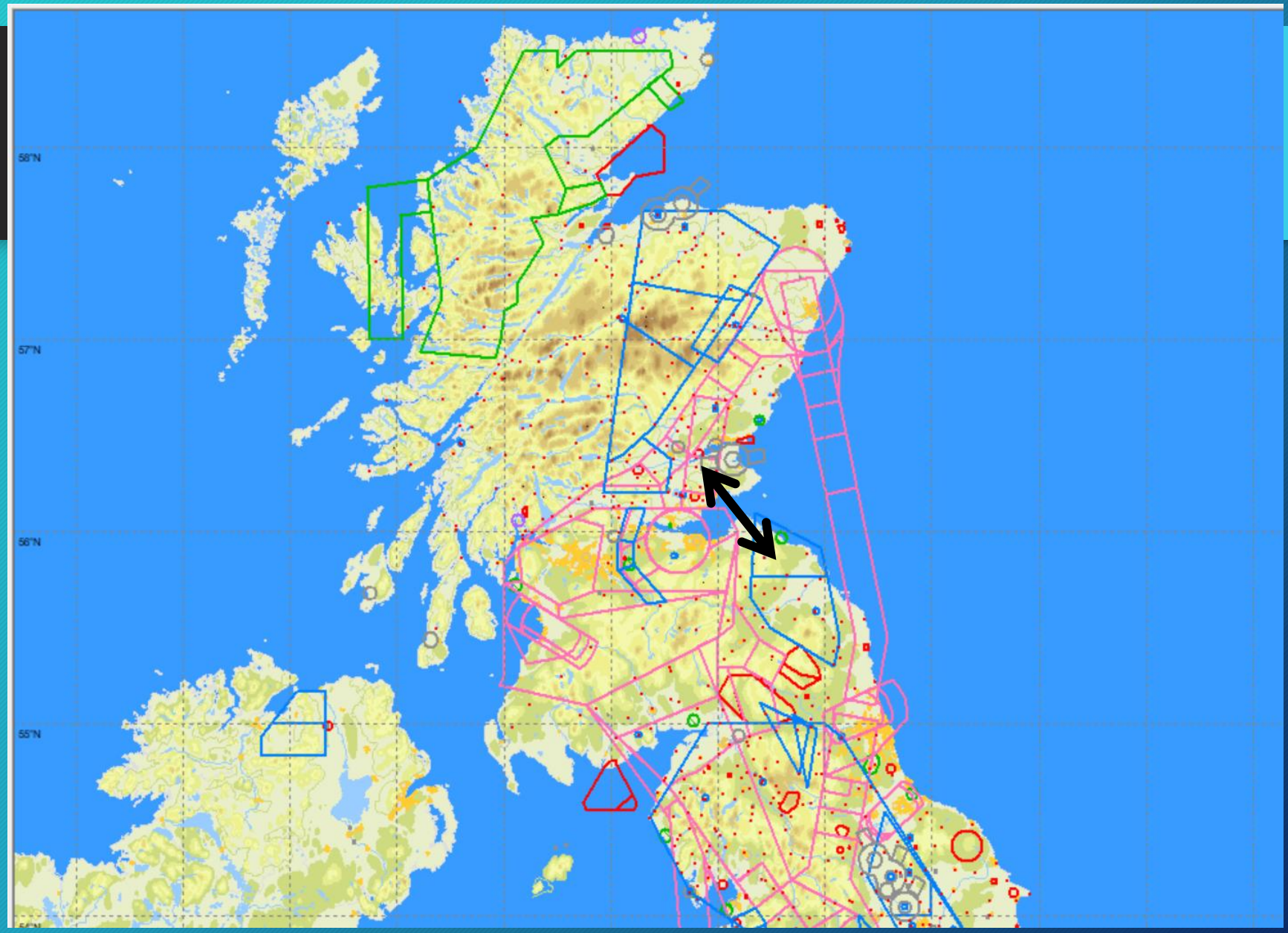


Whats Next?

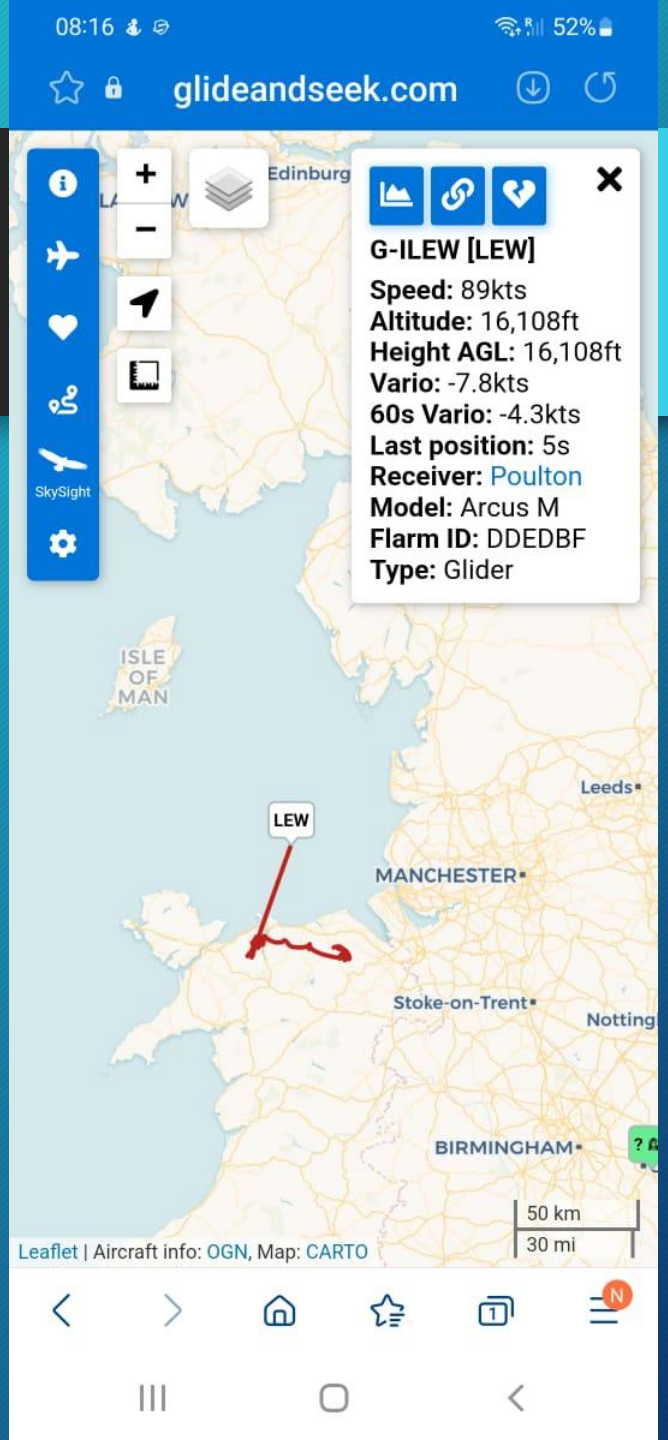
The missing piece of my puzzle is now to work out if it's even possible to make this gap from Milfield area into Scotland AND back again…

If it is possible, then assuming the right conditions on a long day, there are some huge distances up for grabs. 1500km?

As soon as there is an opportunity to try it, I will try it! (Any volunteers to crew?!)



I’ll leave you with this
Funny failed attempt in May ‘21..!



Thanks for listening!

Any Questions?