Cross Country Seminar

Weather Forecasting & Task Planning

CFI's Brief for this presentation

- How to read the weather sources
- How to set tasks depending on the weather forecasts
- How far to go, which direction to go, impact of wind on task setting etc

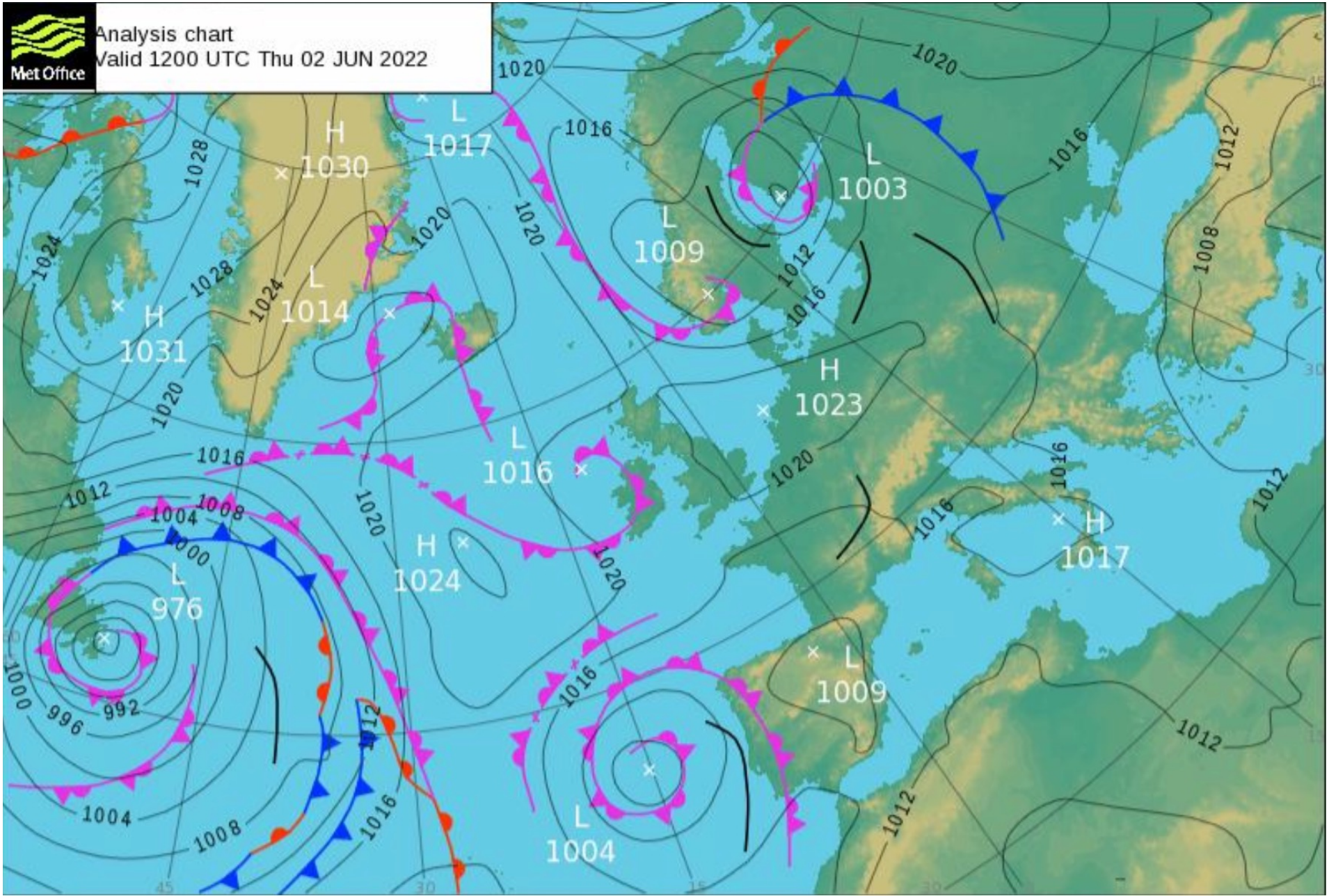
Looking at

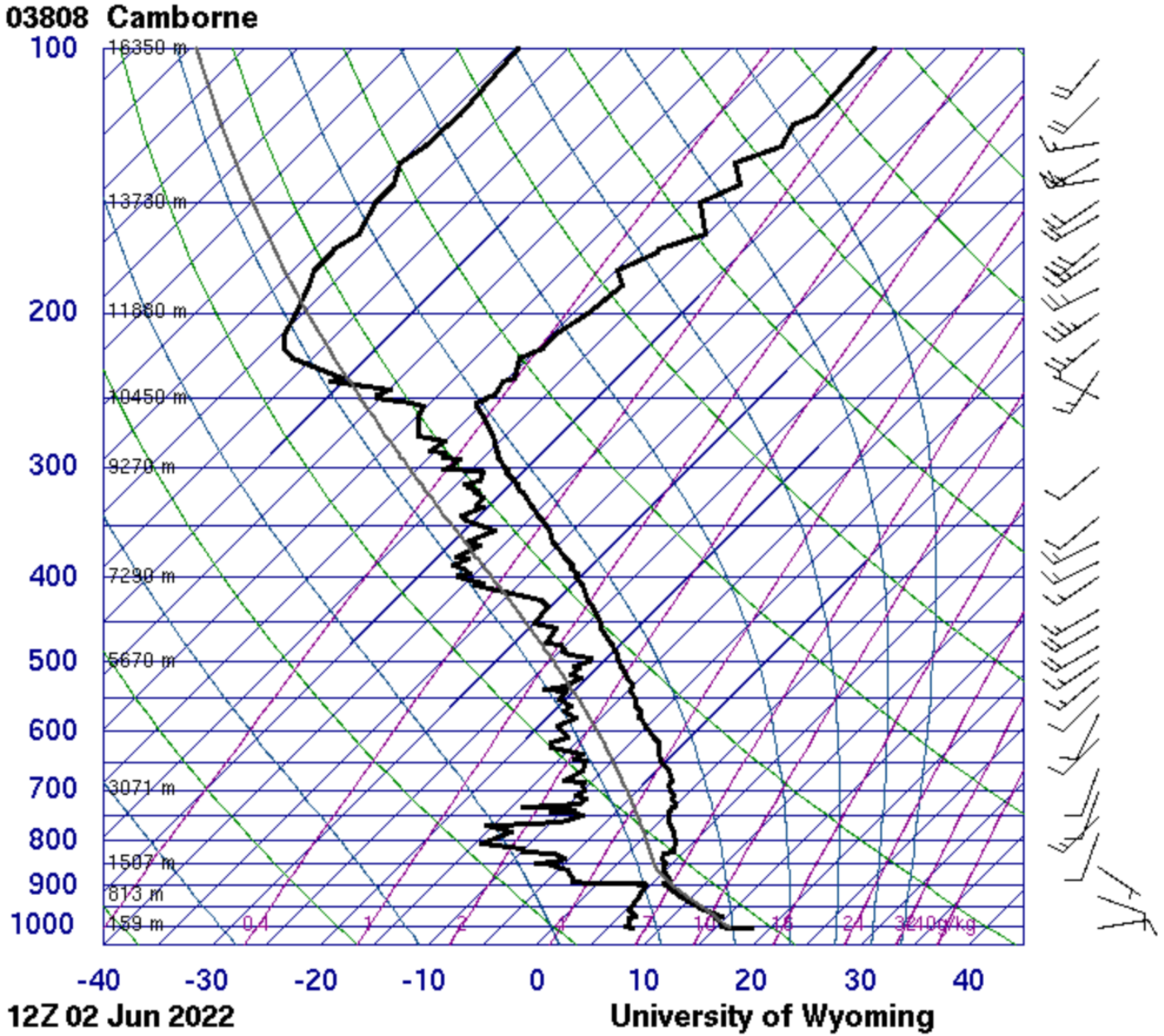
- What makes a good day
- What you need to understand
- How to spot a good day
- Where to look for information
- Working out where to set the task
- Analysis of actual XC days.

Why set tasks?

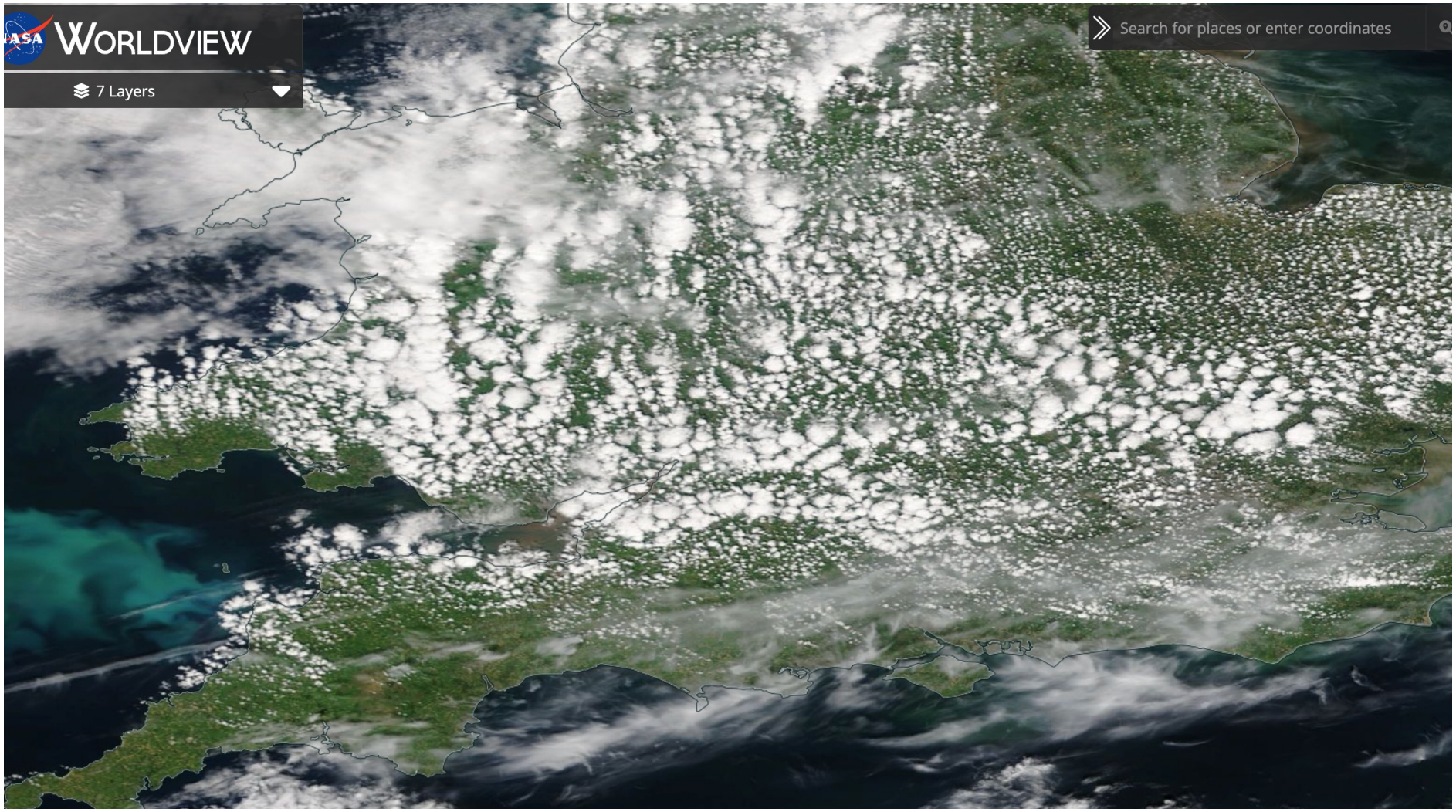
- More sense of achievement
- Become a better pilot
- Fun competition on ladders.

Was this a good day?

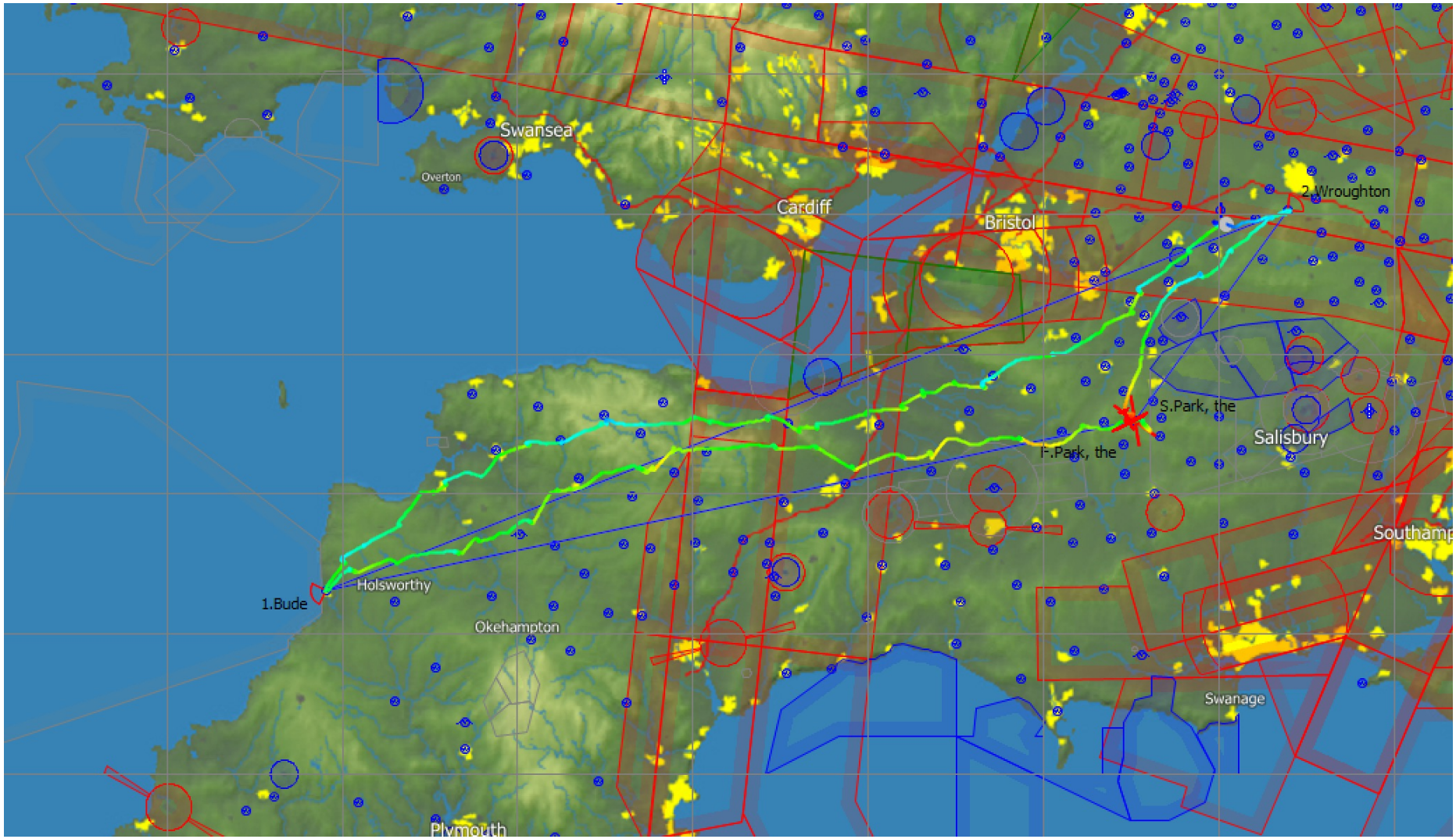



03808 Camborne
100
200
300
400
500
600
700
800
900
1000
16350 m
13780 m
11860 m
10450 m
9270 m
7290 m
5670 m
3071 m
1507 m
813 m
159 m
0.1
1
2
4
7
10
16
24
32
40g/kg
-40
-30
-20
-10
0
10
20
30
40
12Z 02 Jun 2022
University of Wyoming

Midday Satpic 2/6/22



Task flown


Swansea
Overton
Cardiff
Bristol
2.Wroughton
S.Park, the
Salisbury
Holsworthy
1.Bude
Okehampton
Swanage
Plymouth

Exmoor

Bude

What makes a good day?

- Plenty of sunshine
- High cloudbase
- 2/8 – 4/8 good looking Cu
- Light wind
- Long soaring day
- Good conditions over a big area.

What conditions produce that good day?

- Ridge of high pressure
- Airmass origin from NW to NE
- Unstable airmass
- Depth of convection deep enough to produce Cu, but not too deep
- Light winds, unless streeting likely
- No sea too close upwind
- Dry ground.

Forecast features to look at

- Anticyclonic or cyclonic conditions
- Atmospheric pressure
- Air mass origin
- Dew Points
- Cloud amounts
- Wind strength and direction
- Depth of convection & cloudbase.

What do we need to understand?

- Synoptic charts
- Soundings – a working knowledge is desirable for understanding what the airmass will do
- Conditions required for a good day.

Problem days

- Spreadout
- Showers
- Strong winds
- Fronts
- Conflicting models and forecasts.

Soaring Forecasts done for us

RASP

TopMeteo

Skysight

But more interestingly:

Work it out for yourself.

Where do forecasts come from?

- Forecasts are generated by computer models of the atmosphere
- All models start with data which is taken from air, land and sea observations and satellite data, but each has slightly different physics, so they come out with slightly different answer
- Looking at the data from the models yourself, allows you to make your own informed decisions
- Models: Met Office, GFS, RASP, ECMWF

How I plan a task

A. A few days ahead
B. On the day, first thing
C. At the airfield.

A few days ahead

1. Met Office synoptic charts
2. 10 day charts
3. RASP/Topmeteo/Skysight.

First thing, on the day

A. Study the weather online
B. Decide on the task size and direction
C. Use SeeYou with Skysight and Topmeteo to plan the actual task.

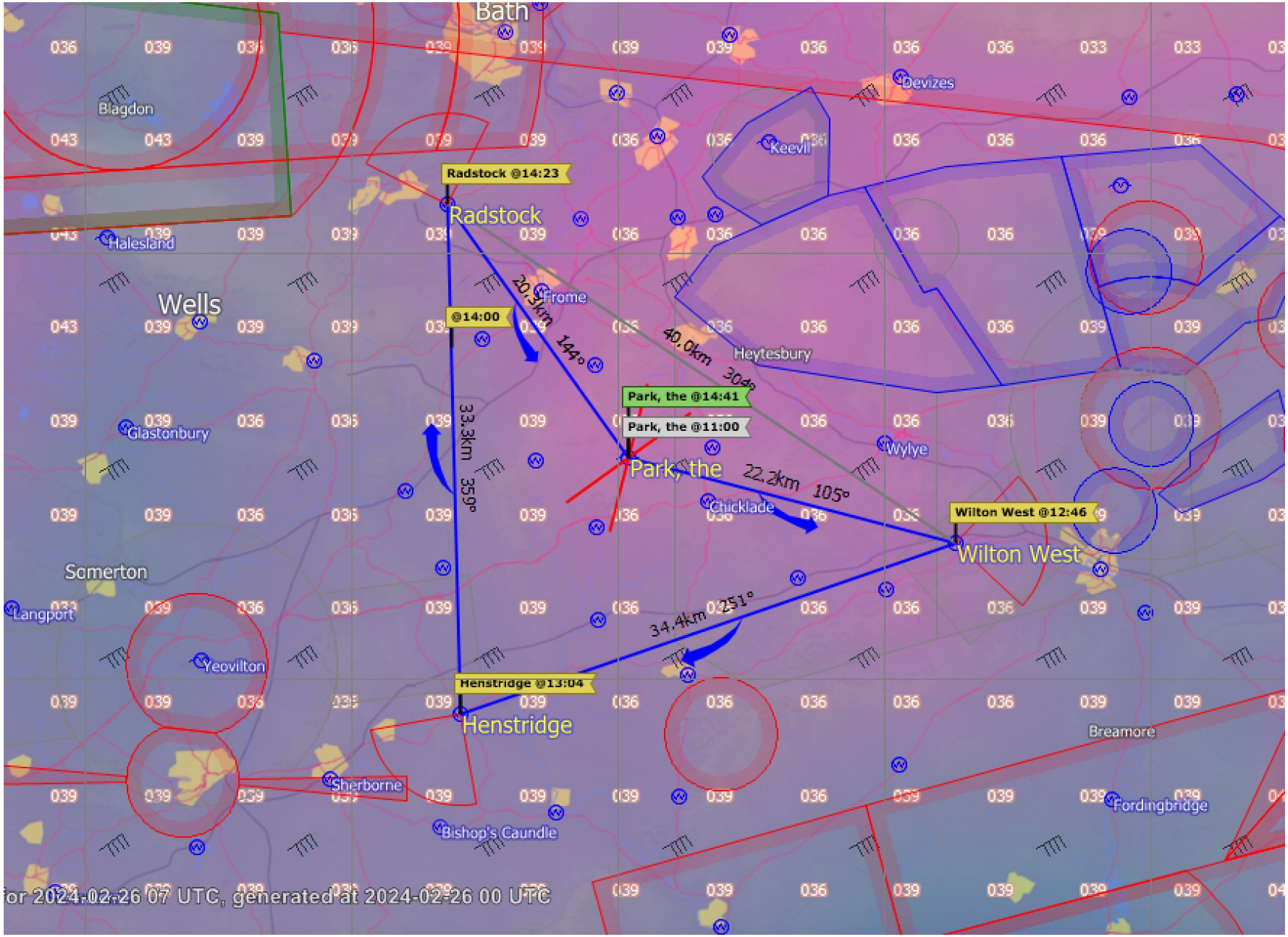
Online sources

1. Met Office synoptic charts
2. Met Office Briefing charts
3. Met office Weather forecast
4. BBC Weather forecast
5. Sat pics
6. Wind flow map
7. Soundings
8. Rain radar
9. RASP
10. Topmeteo
11. Skysight

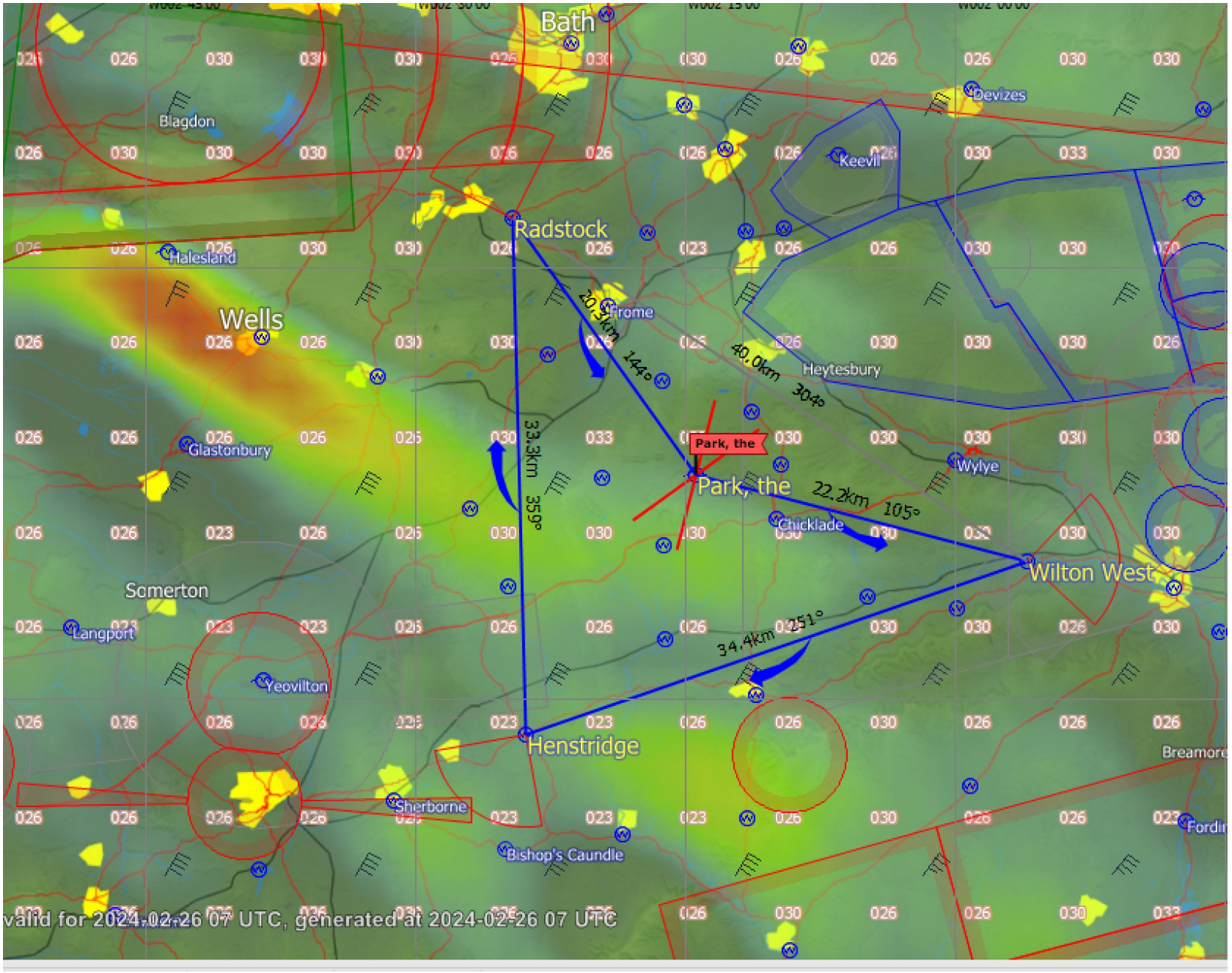
Decide on Task direction and size

1. Where is best area?
2. Which areas to avoid?
3. Check Notams
4. Size of task?
5. What likely speed around the task?
6. When to start?
7. Expected finish time?
8. Do I need water ballast?
   See Andy's presentation

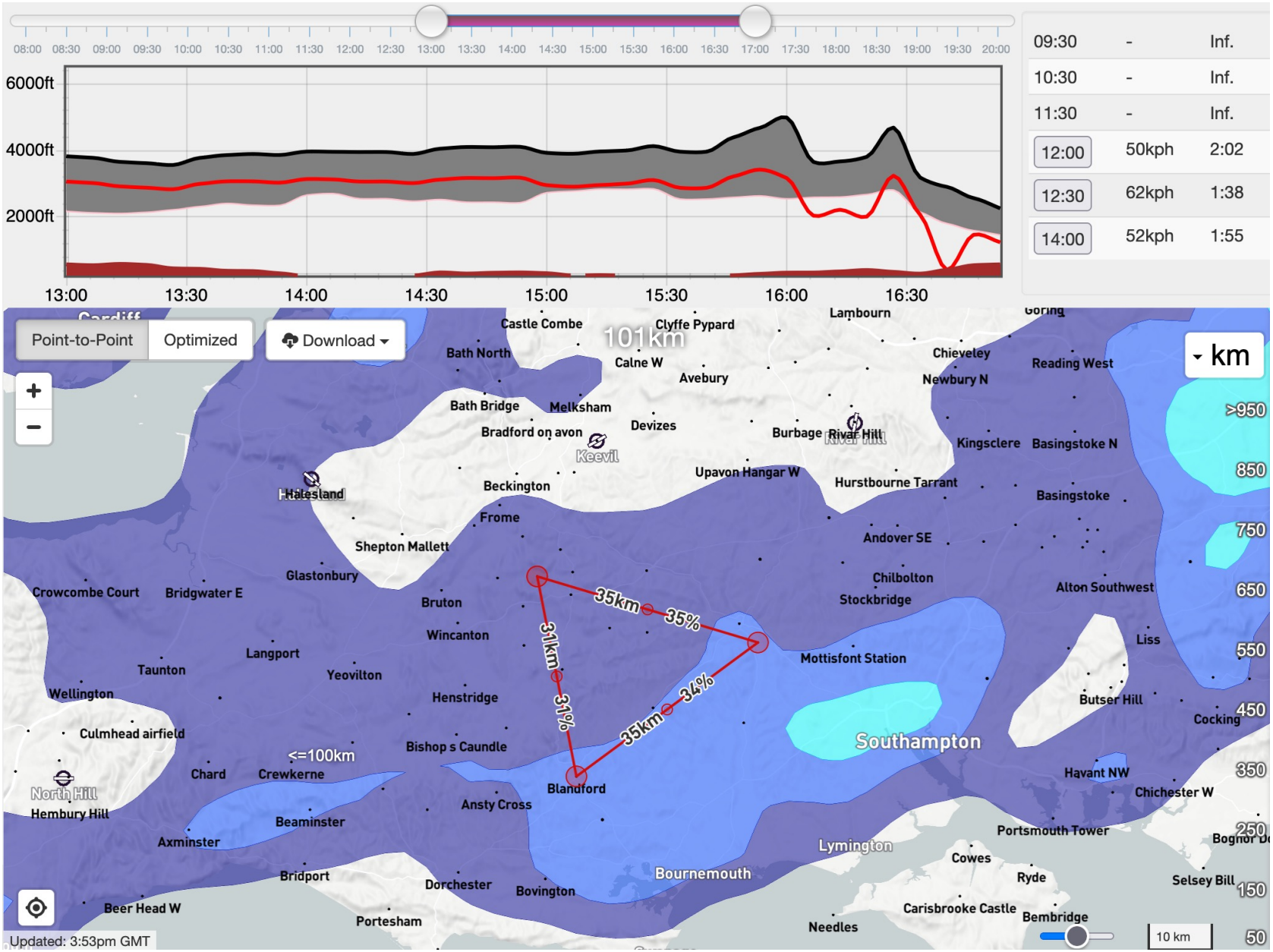
SeeYou with Topmeteo



SeeYou with Skysight



Using Skysight



At the airfield

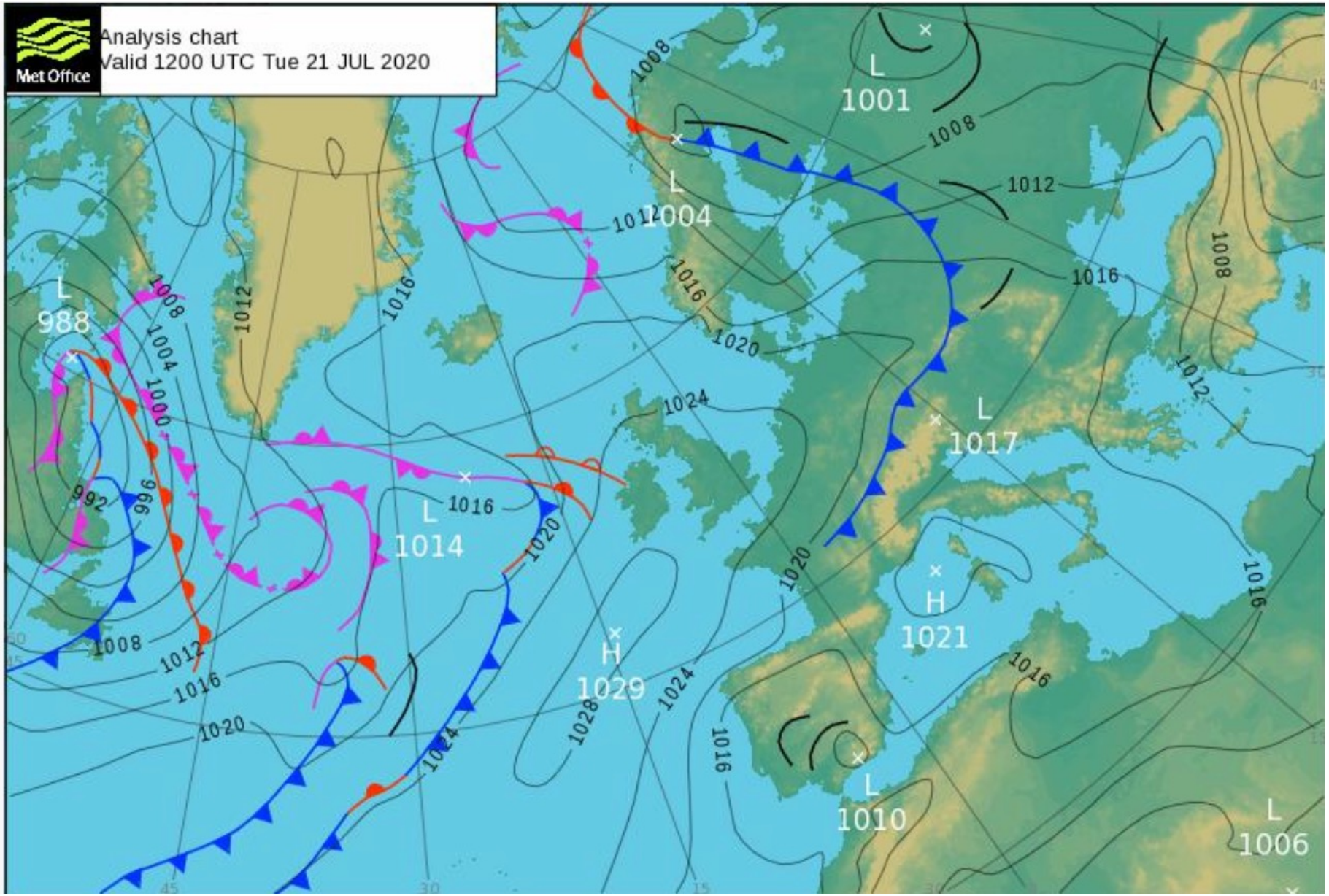
1. Confirm ideal and latest start time
2. Check satpics, METARS & other gliders for how the conditions are developing
3. Don’t be put off if the conditions are slow to develop
4. Only fall back if there is insufficient time to complete the task
5. Launch in plenty of time, preferably by aerotow.

Examples of days with tasks flown

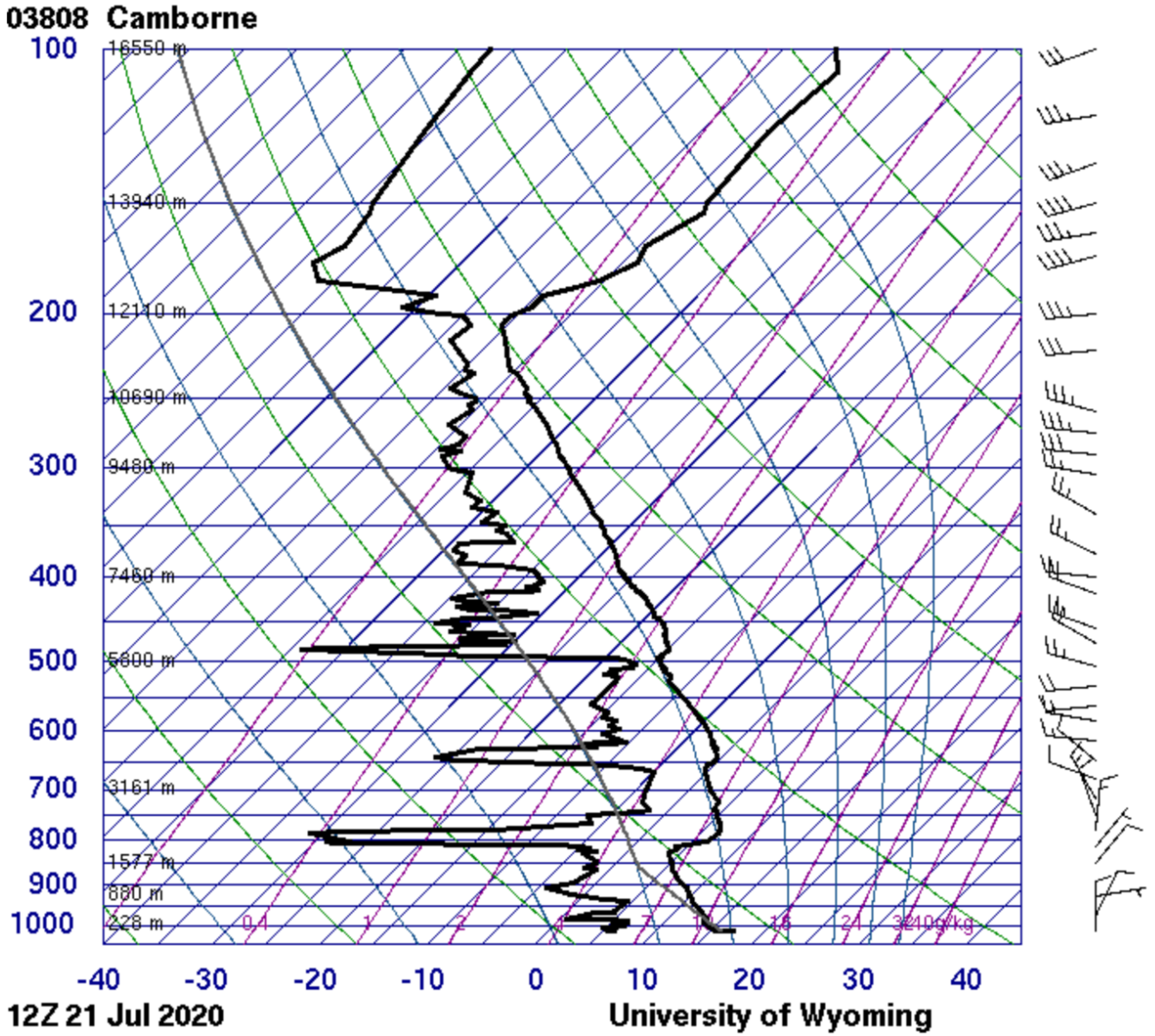
With charts, satpics, logger files and images

- 21/7/20
- 22/6/19
- 15/8/23
- 16/8/23
- 22/6/22
- 30/4/22
- 14/8/22

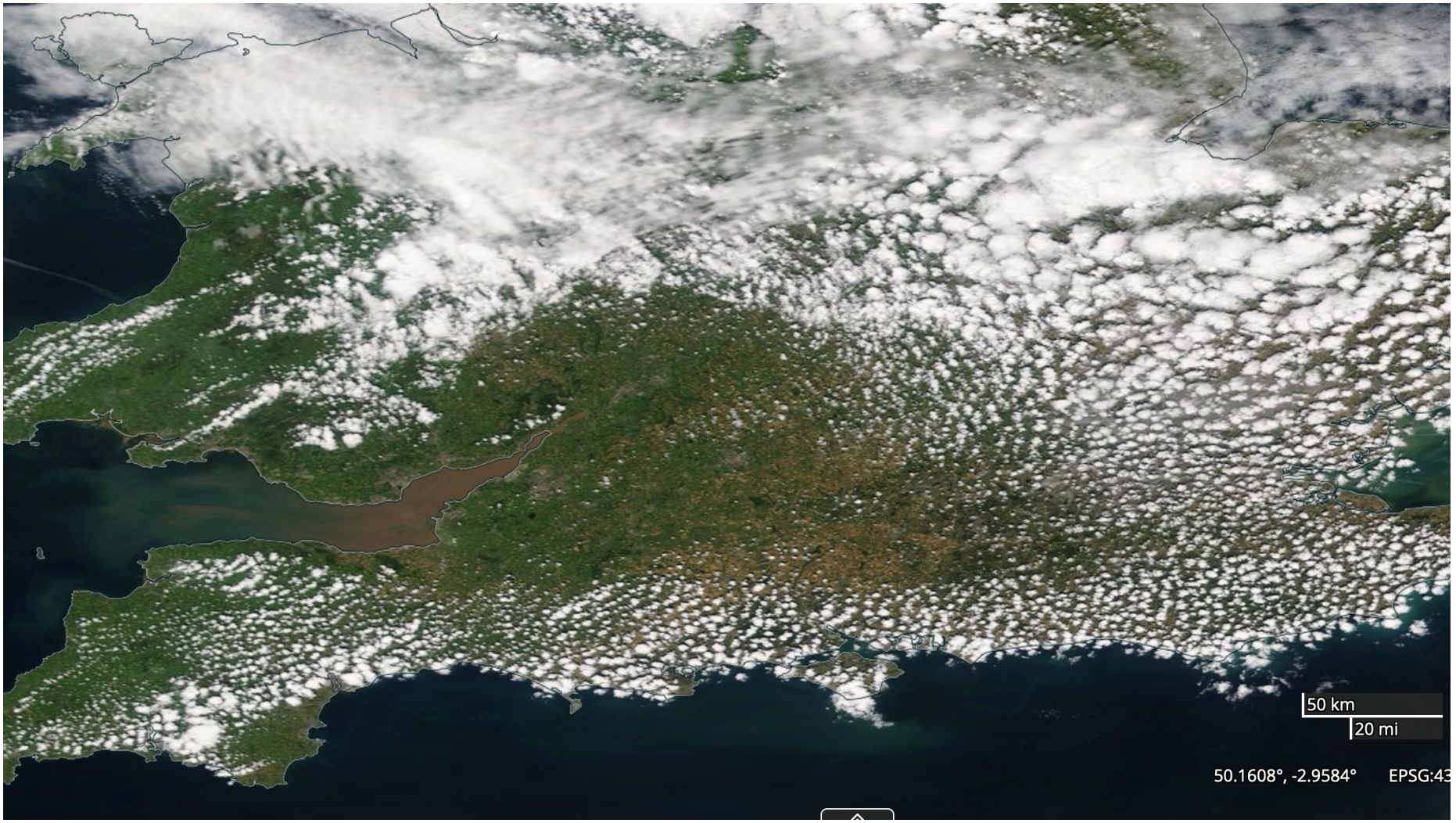
21st July 2020



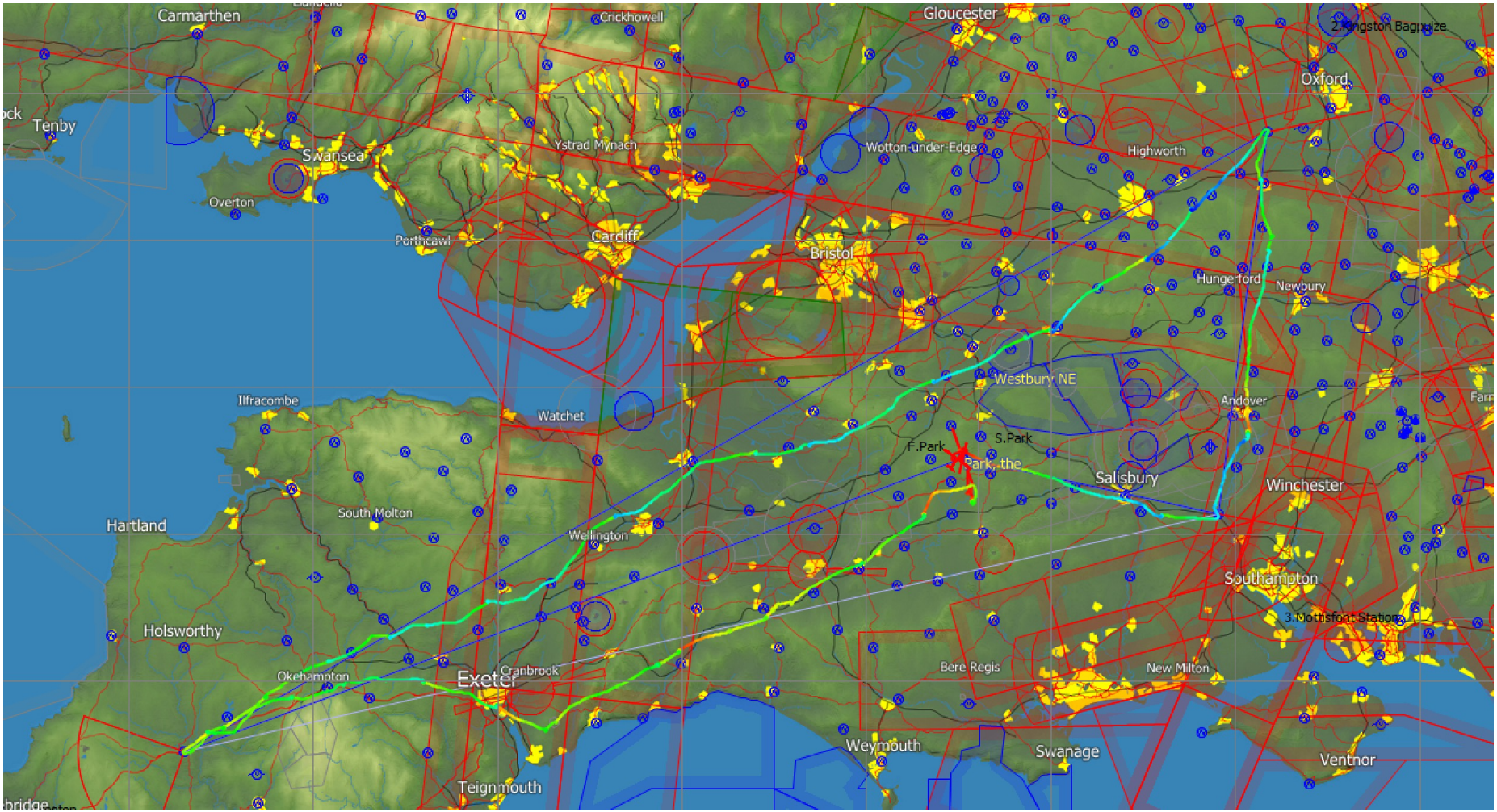
21st July 2020



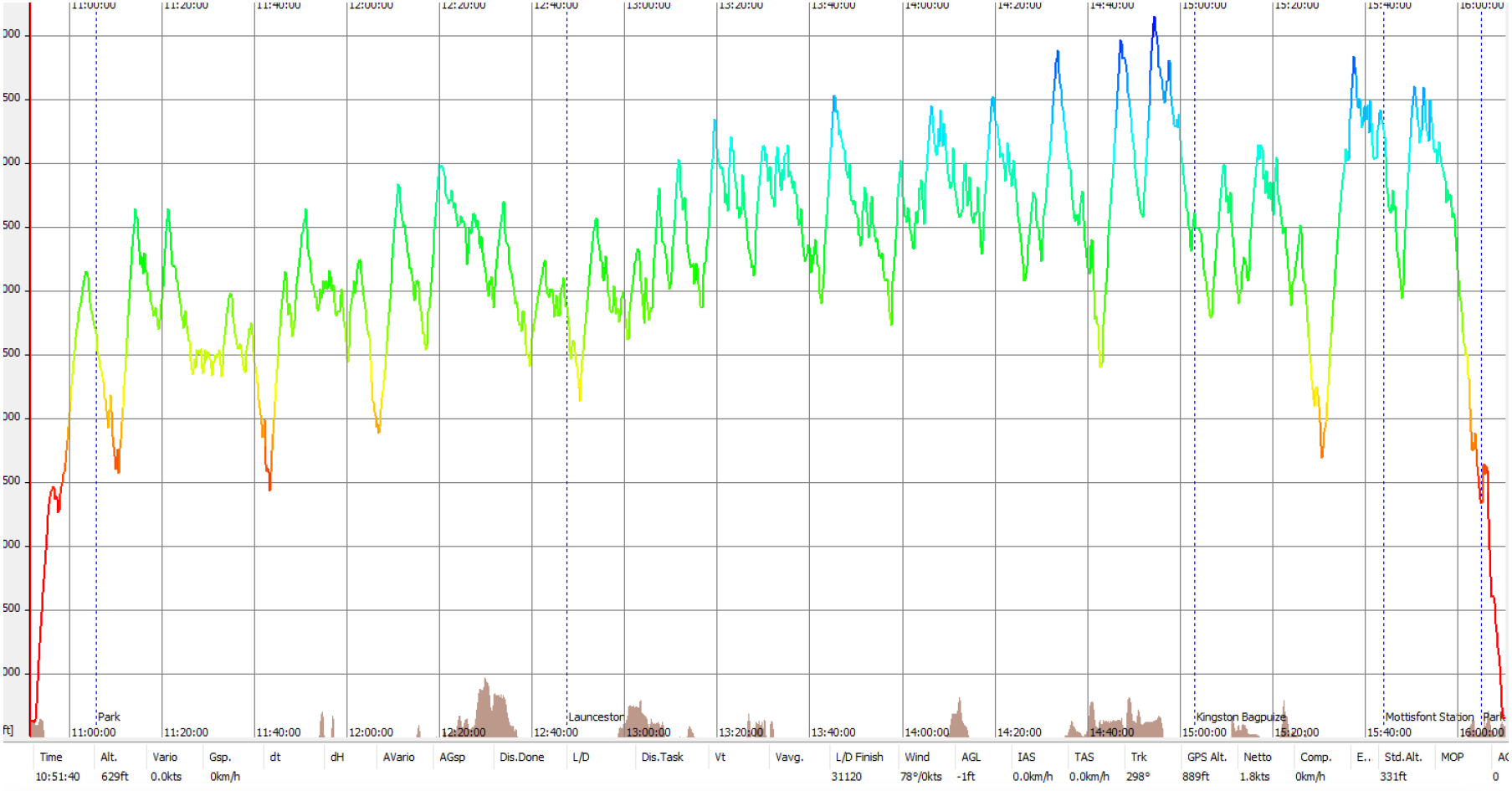
21st July 2020



21st July 2020

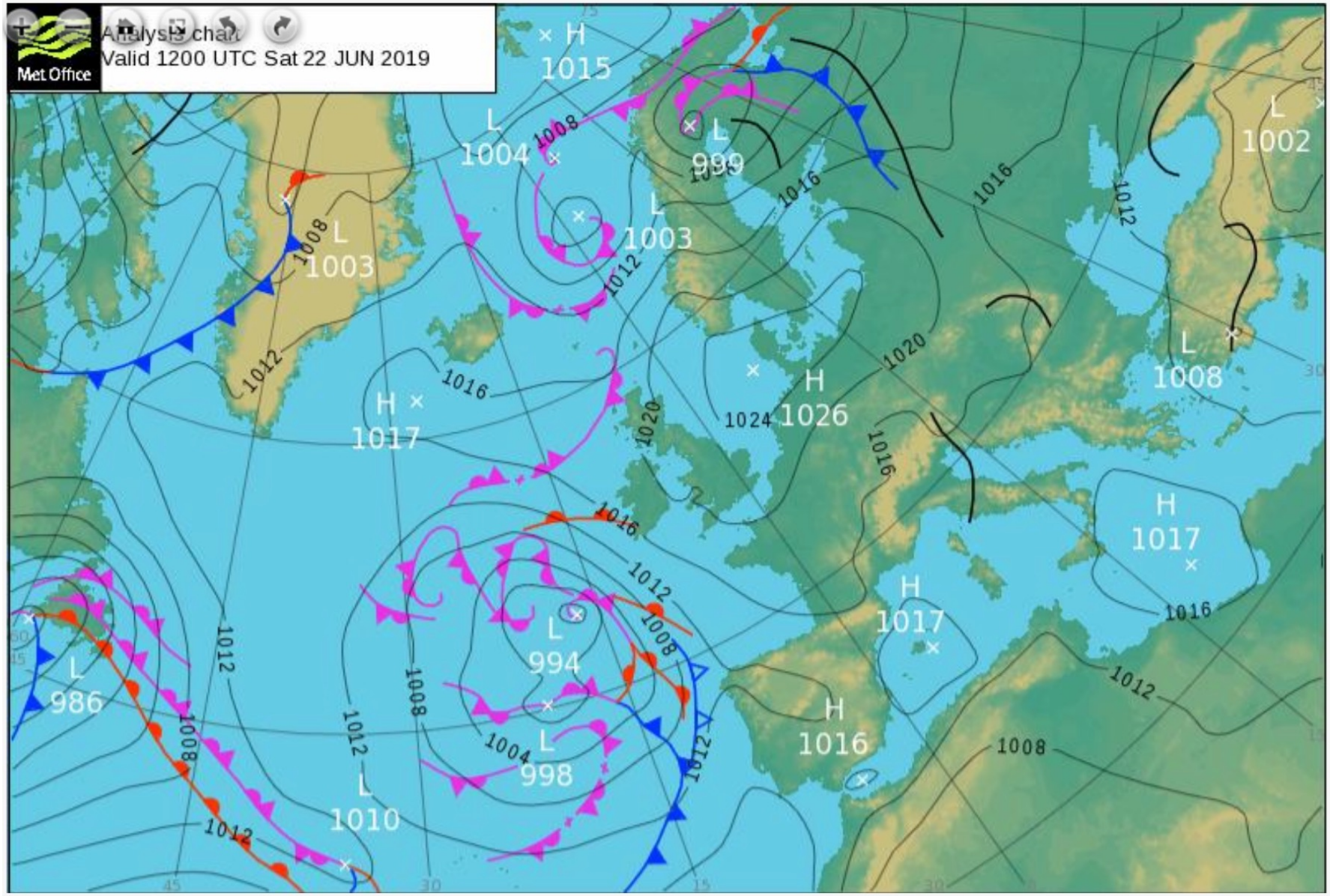


21st July 2020

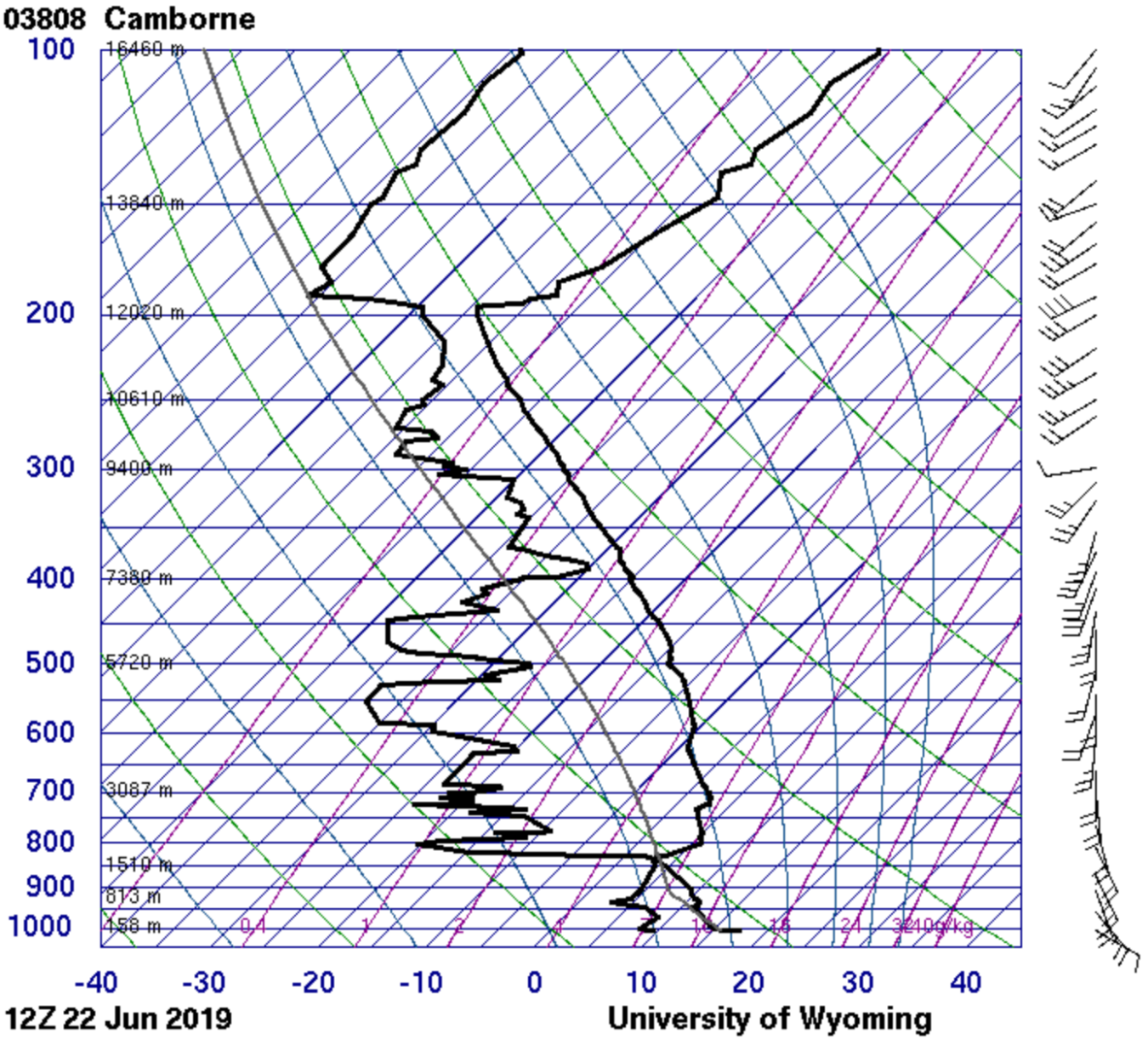


21st July 2020

22nd June 2019

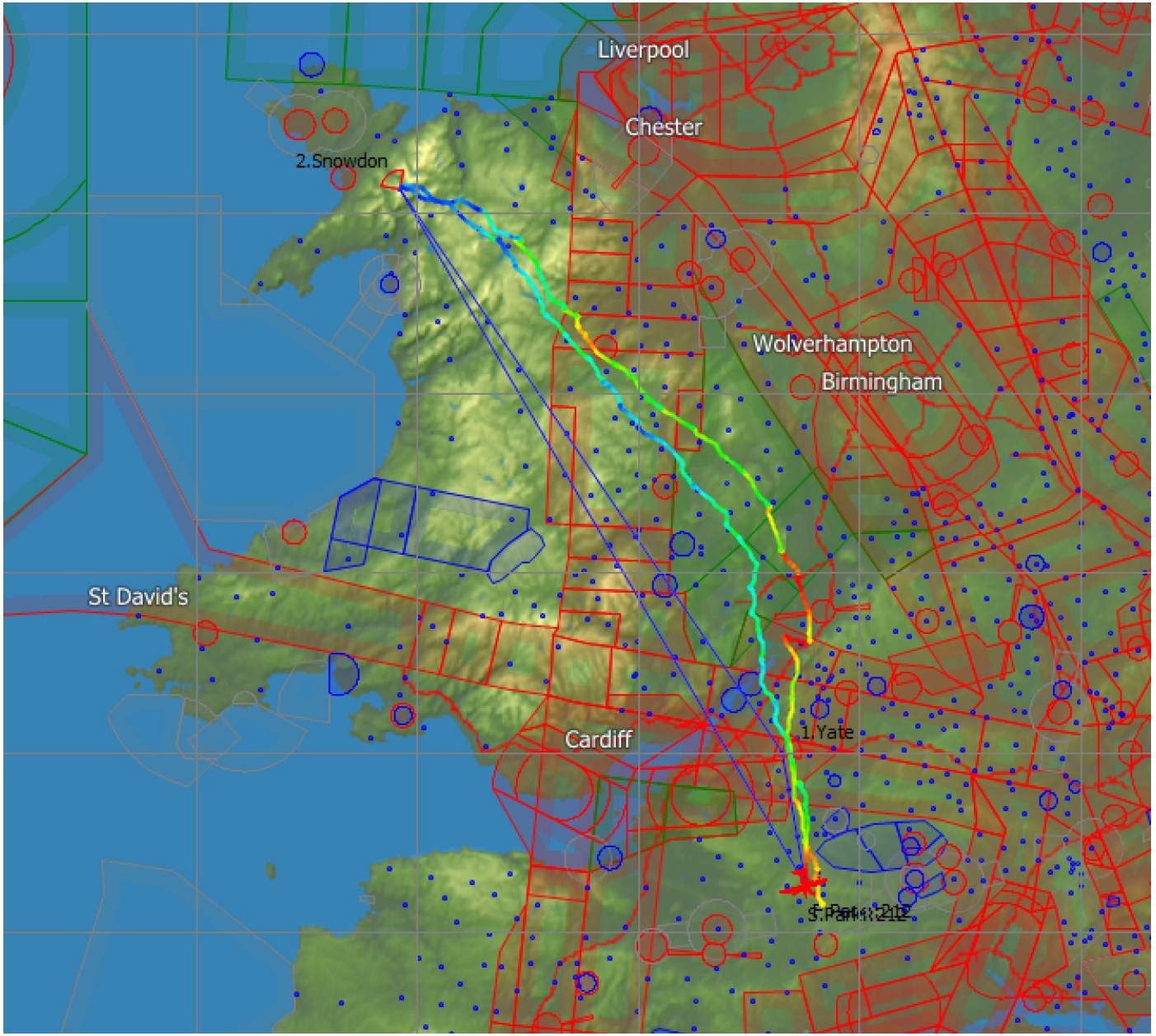


22nd June 2019

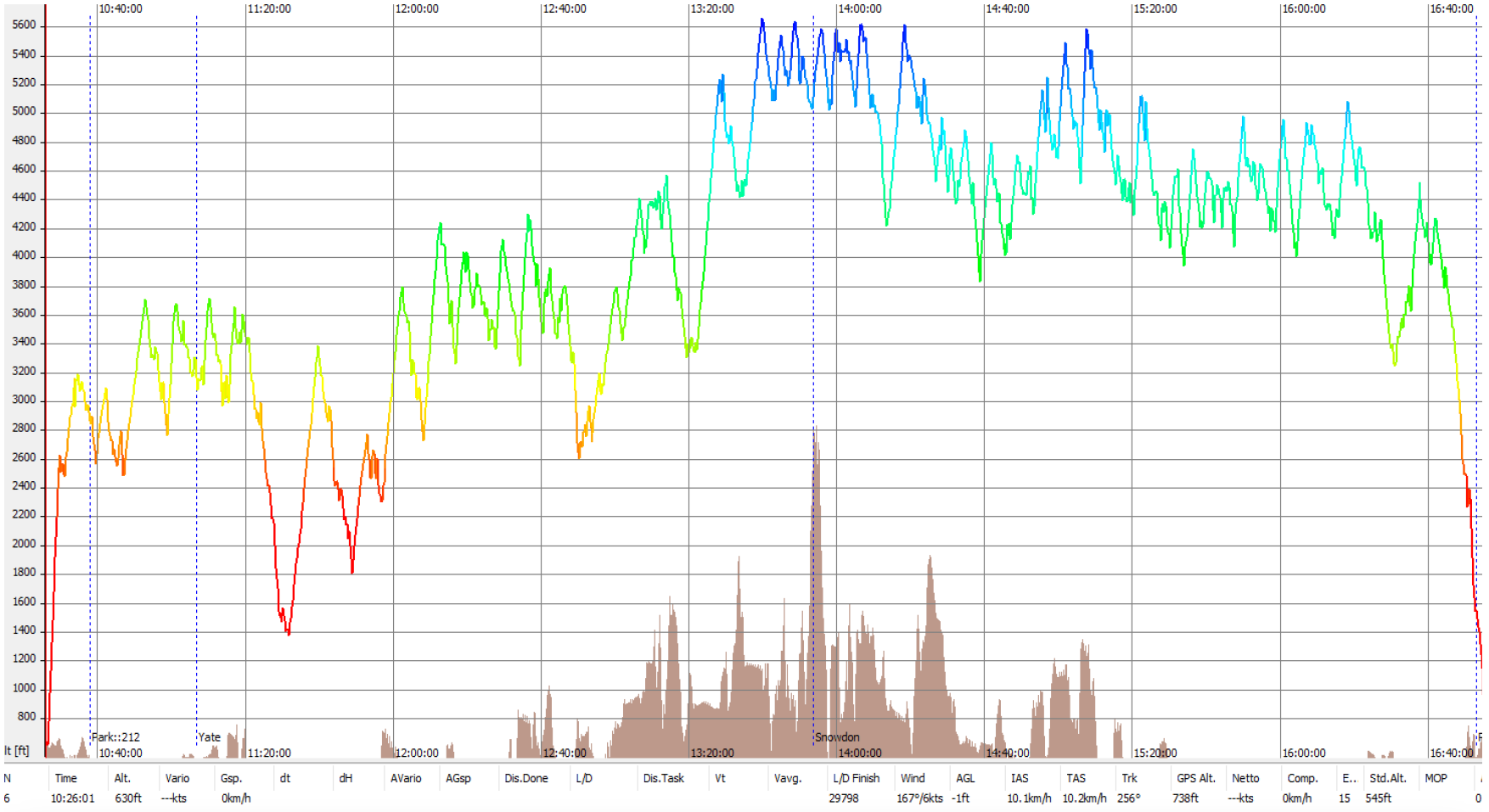


22nd June 2019

22nd June 2019



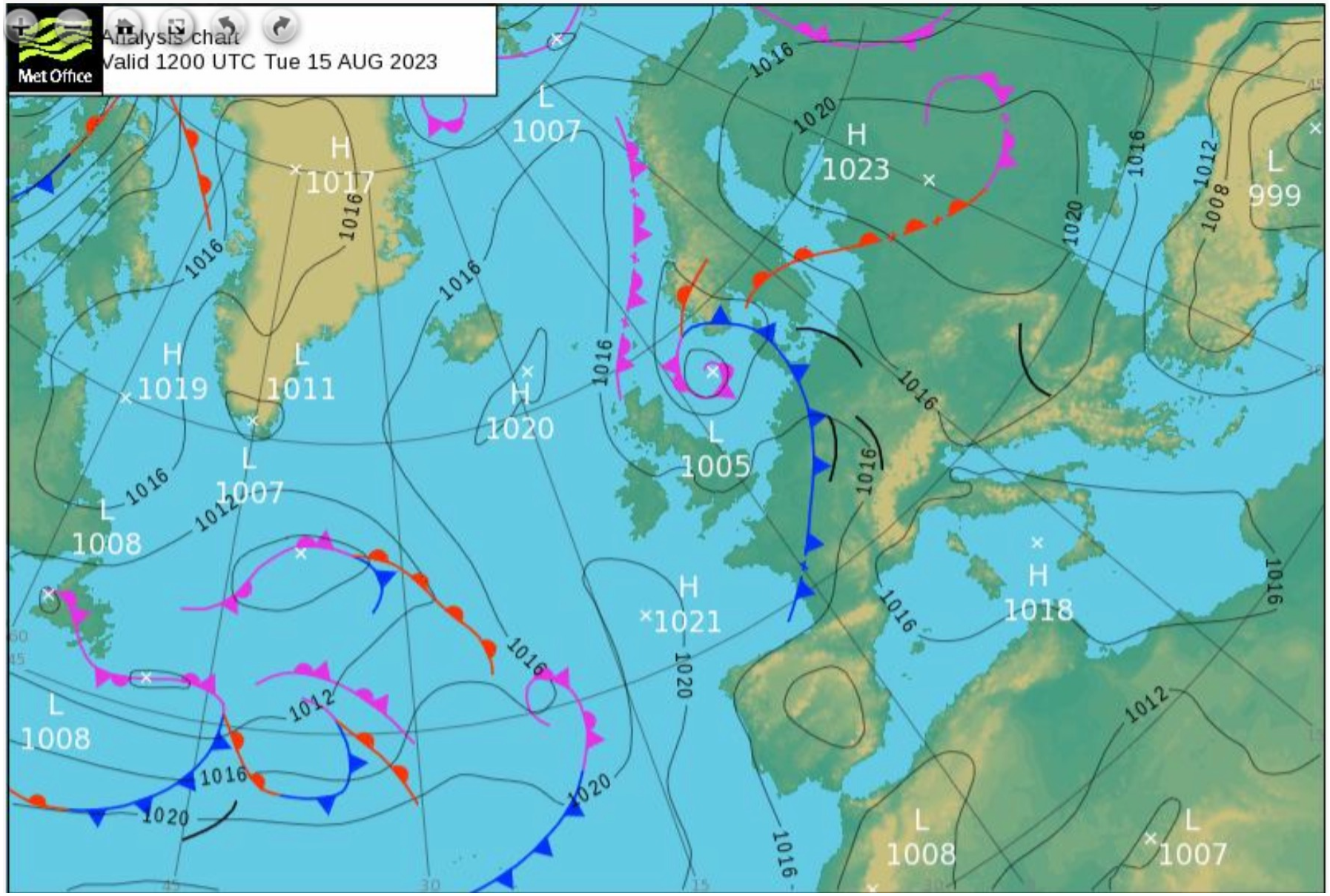
22nd June 2019



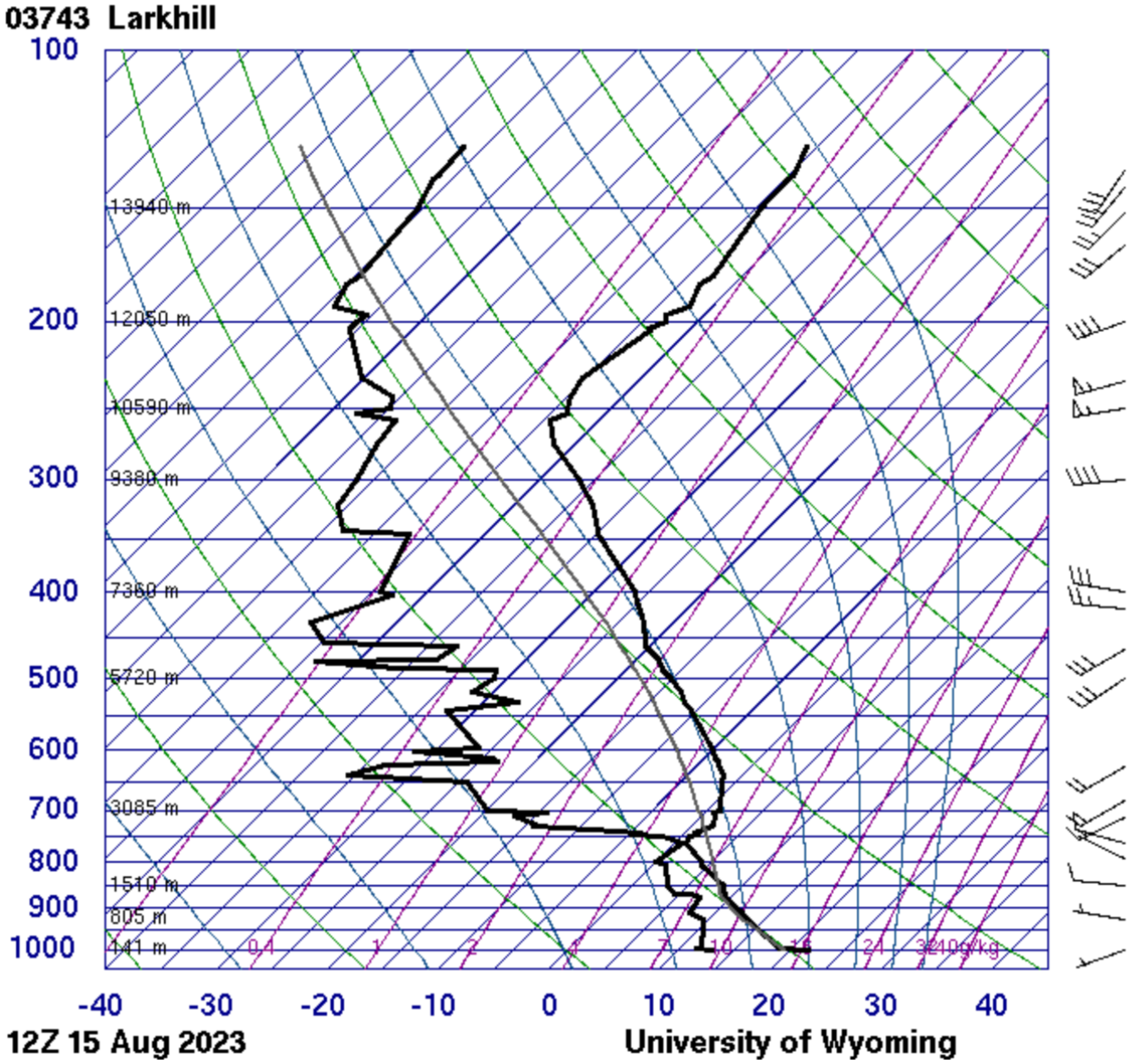
N	Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind	AGL	IAS	TAS	Trk	GPS Alt.	Netto	Comp.	E..	Std.Alt.	MOP
6	10:26:01	630ft	---kts	0km/h										29798	167°/6kts	-1ft	10.1km/h	10.2km/h	256°	738ft	---kts	0km/h	15	545ft	0


22nd June 2019

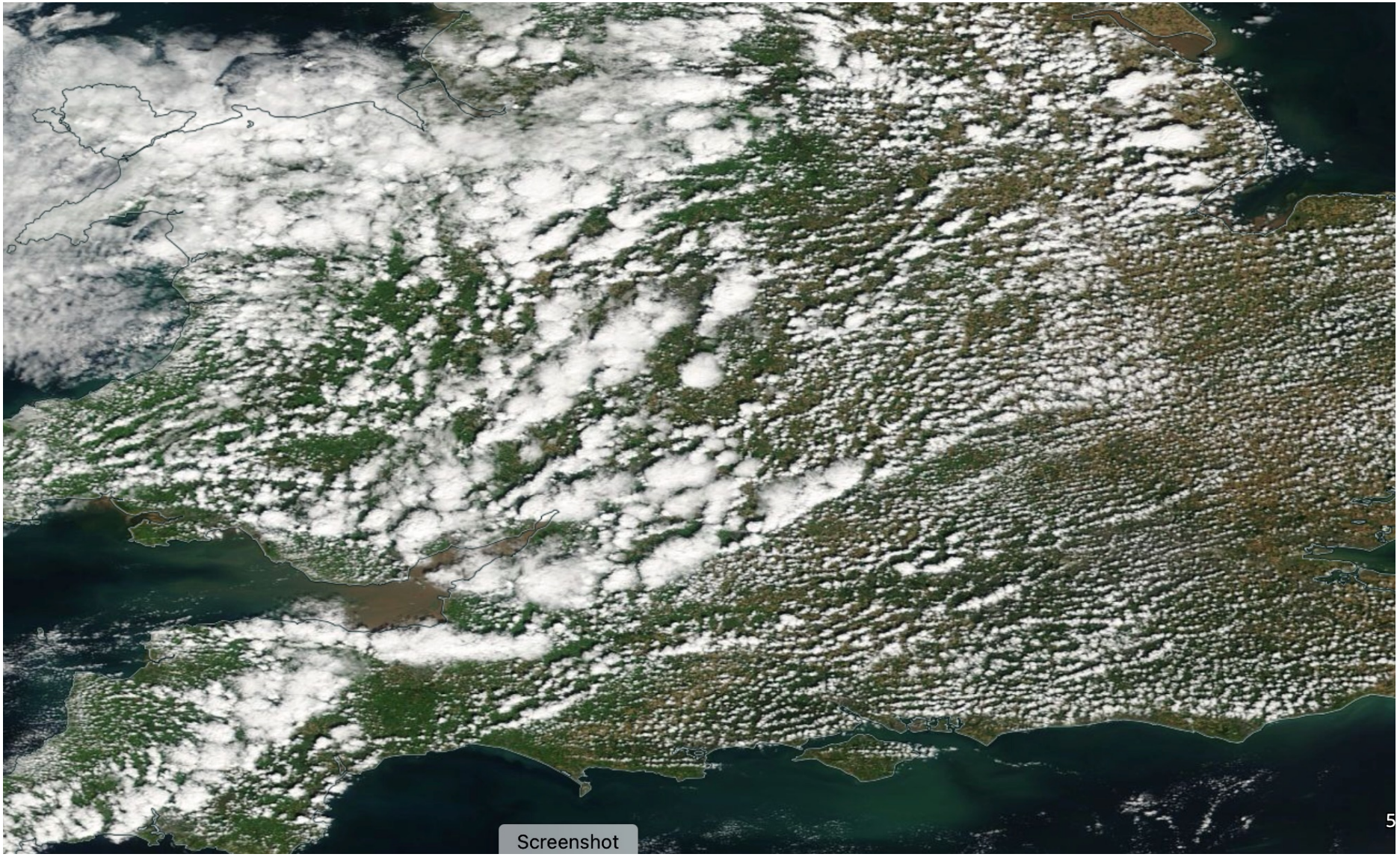
15th August 2023



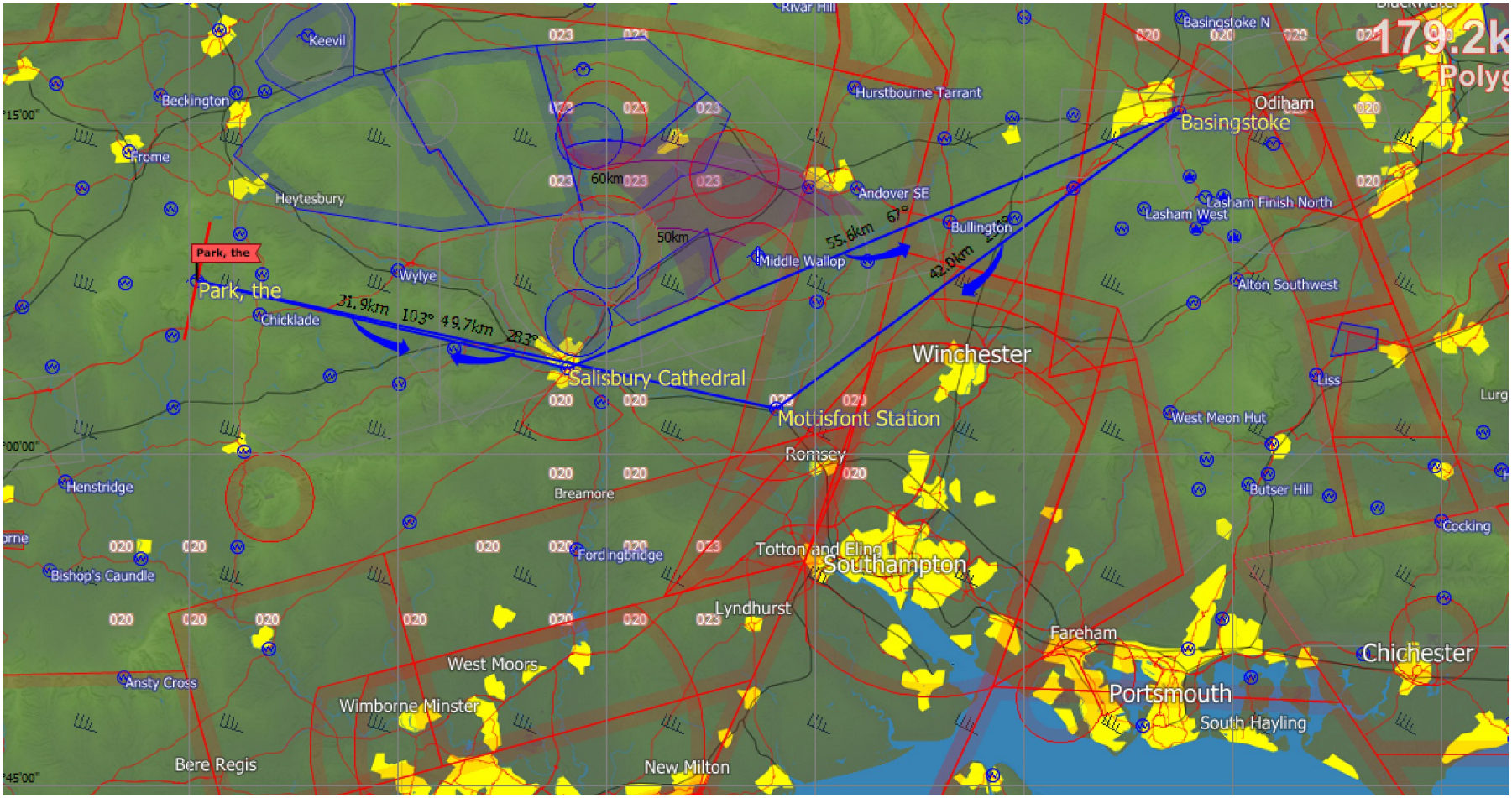
15th August 2023



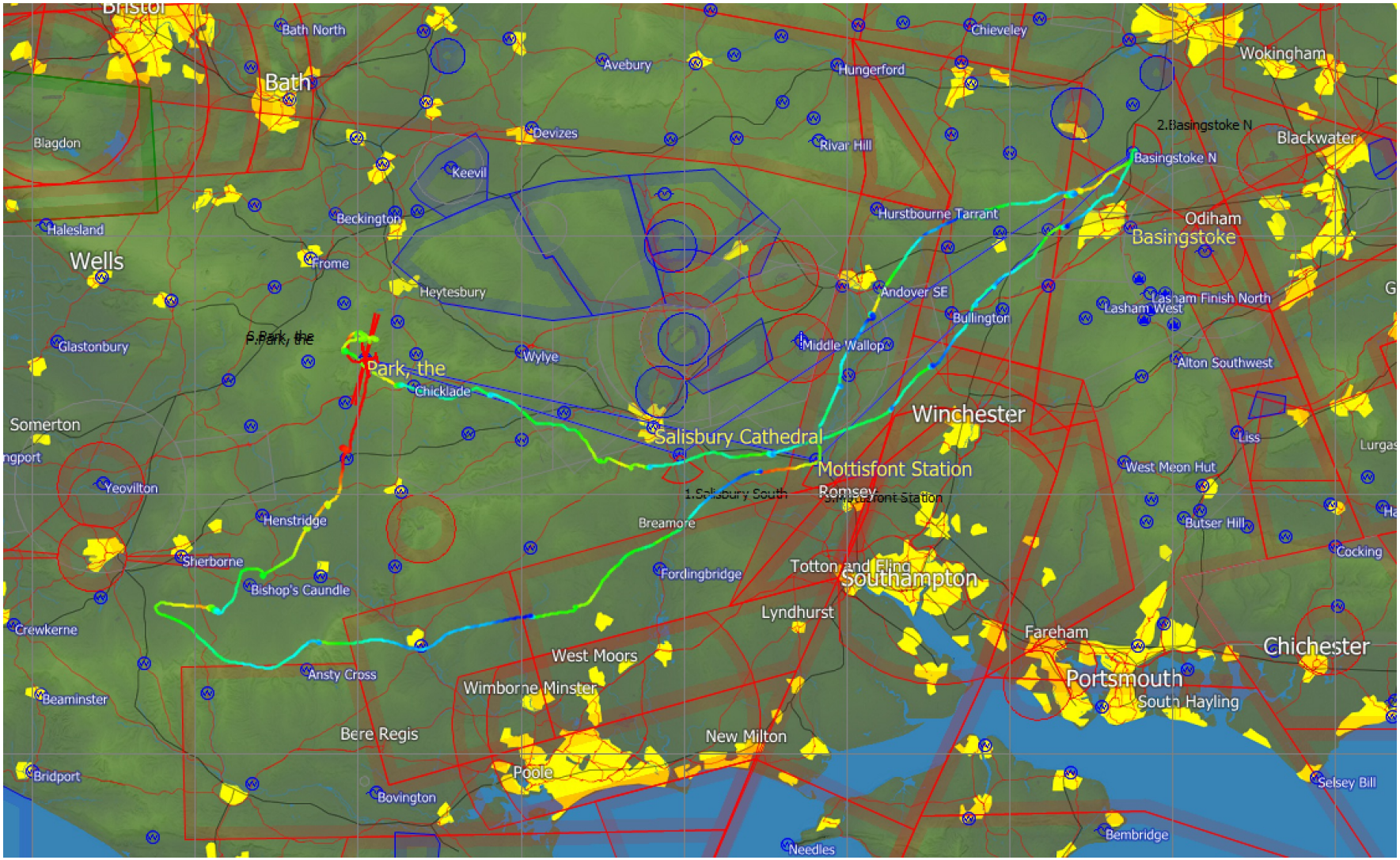
15th August 2023



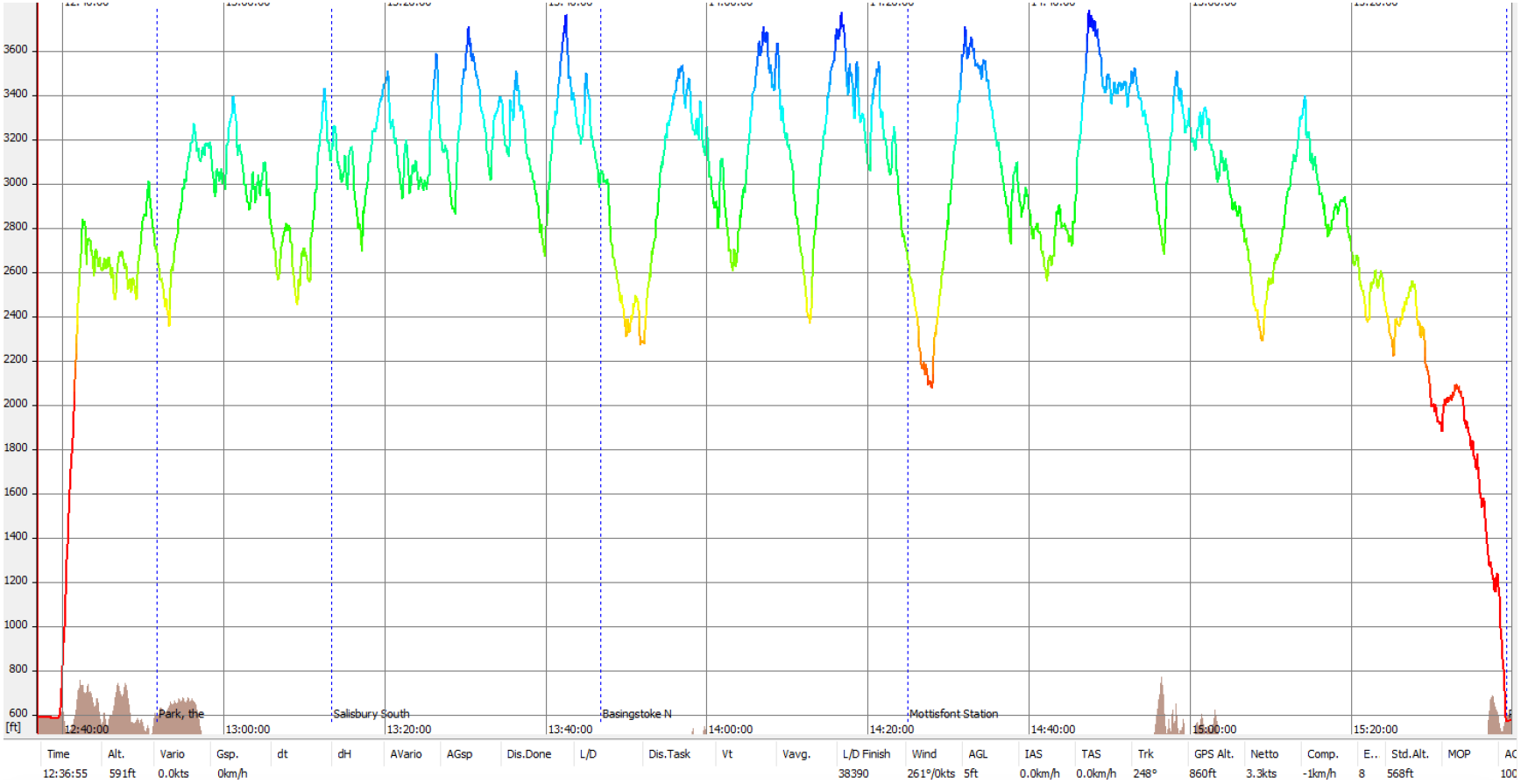
15th August 2023



15th August 2023



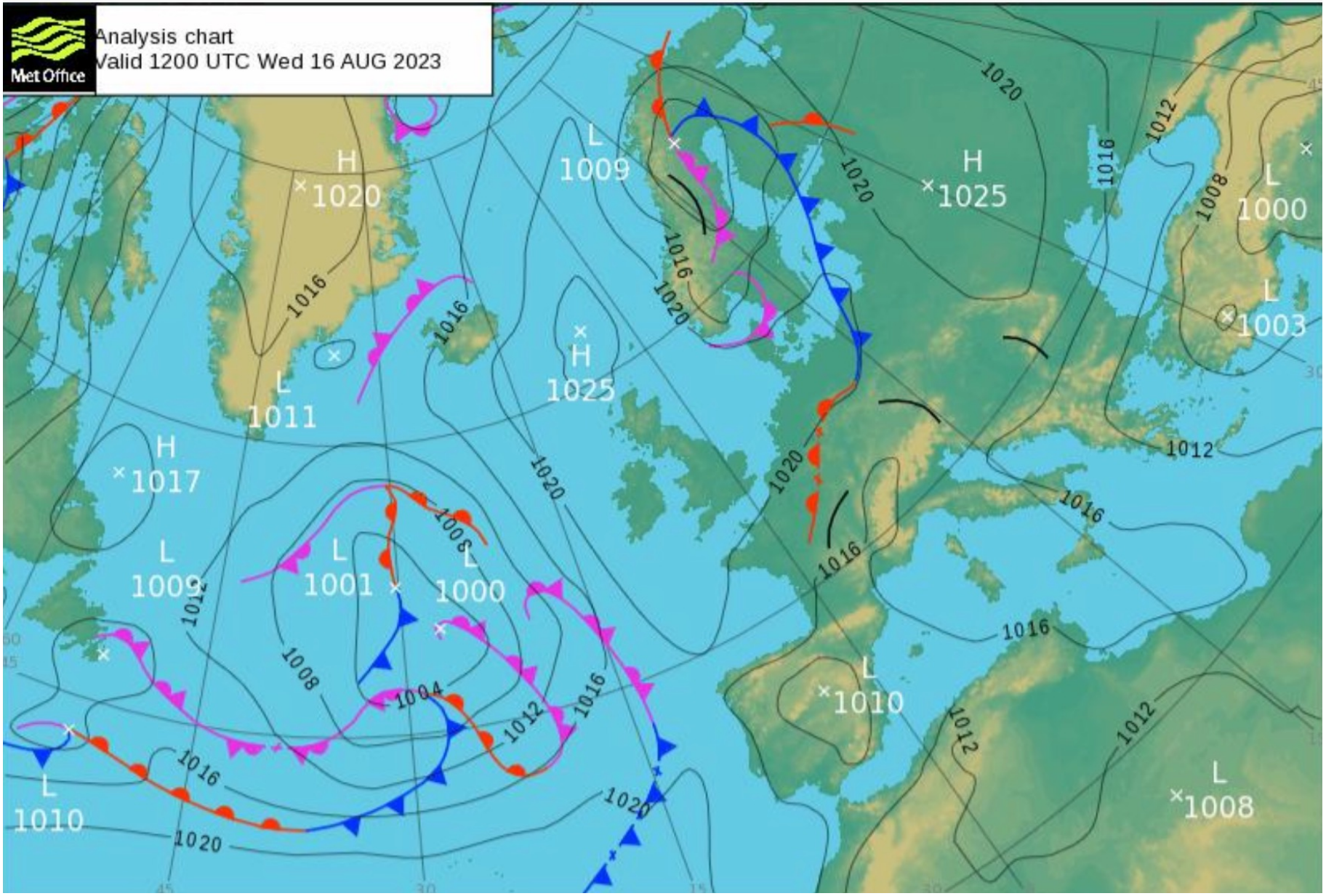
15th August 2023



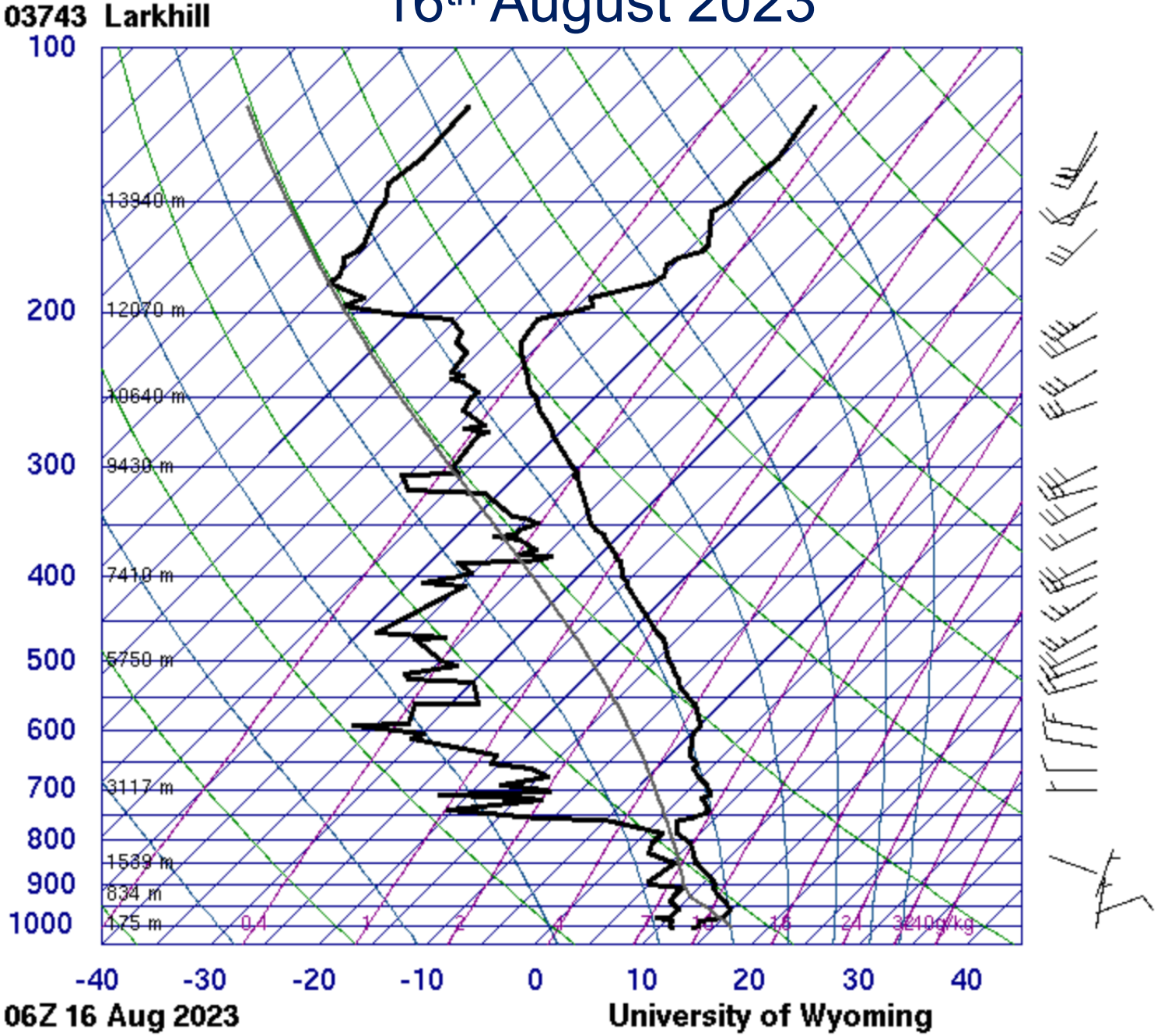
Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind	AGL	IAS	TAS	Trk	GPS Alt.	Netto	Comp.	E..	Std.Alt.	MOP	AC
12:36:55	591ft	0.0kts	0km/h										38390	261°/0kts	5ft	0.0km/h	0.0km/h	248°	860ft	3.3kts	-1km/h	8	568ft		100

15th August 2023
New Forest

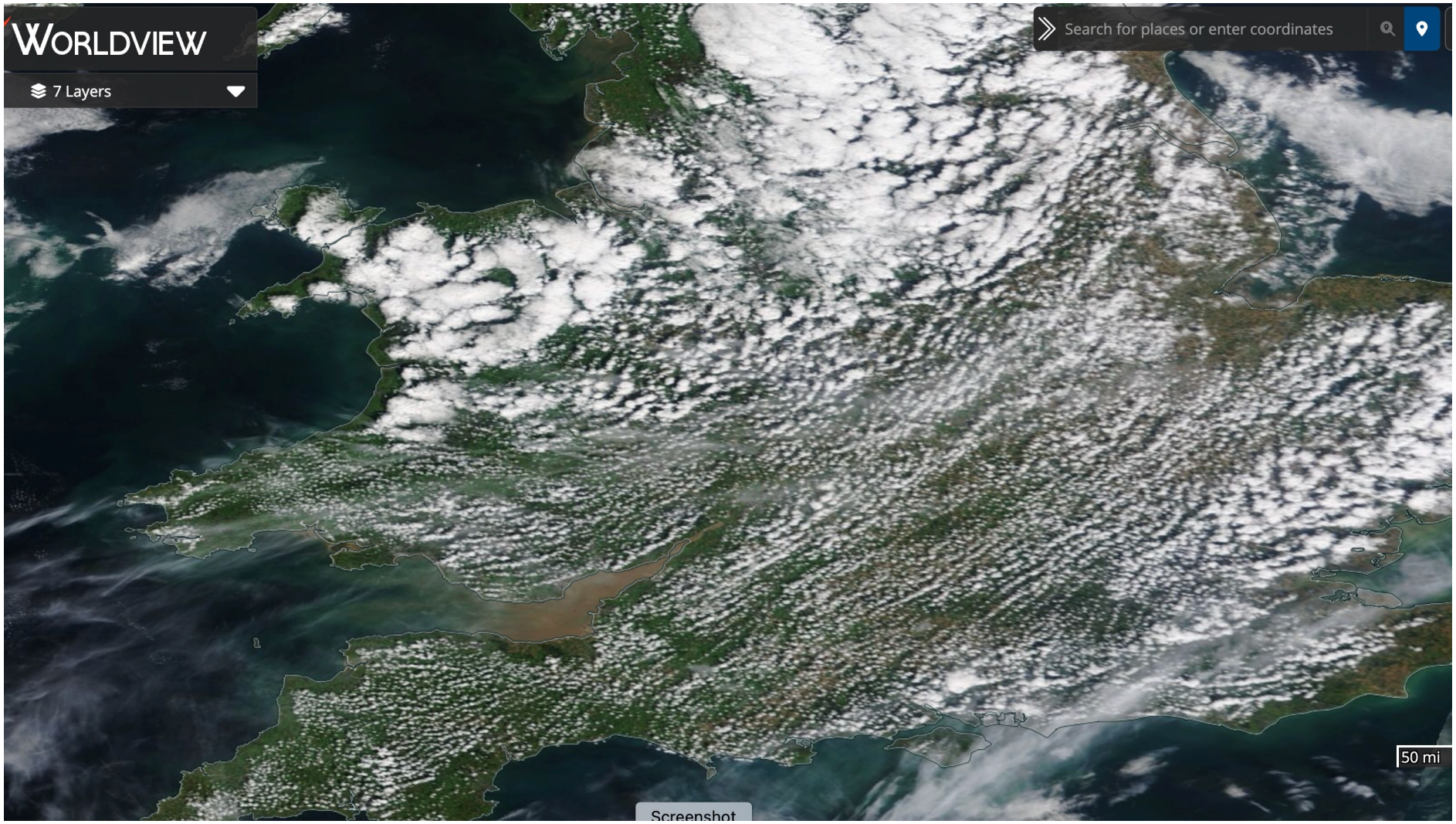
16th August 2023



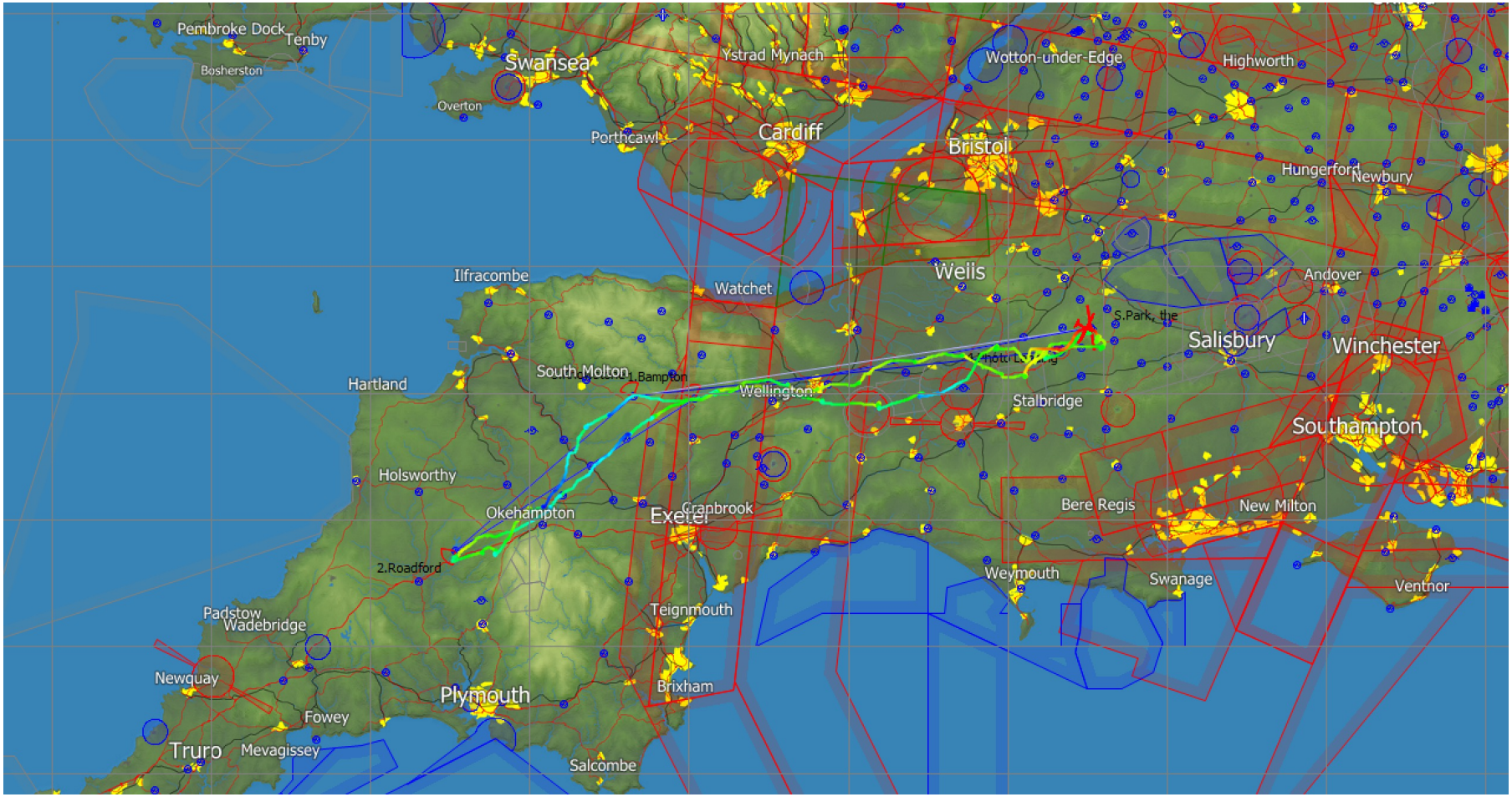
16th August 2023



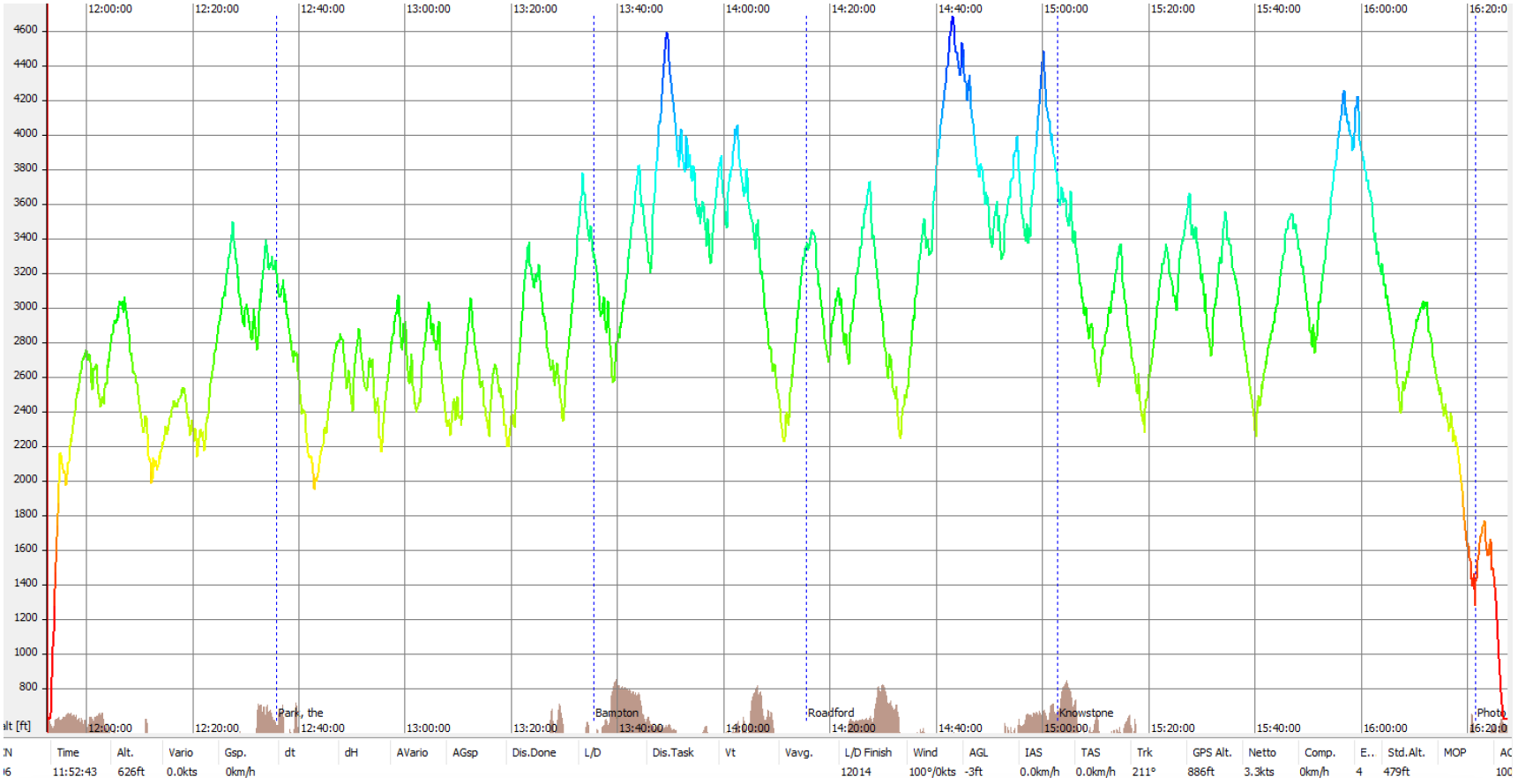
16th August 2023



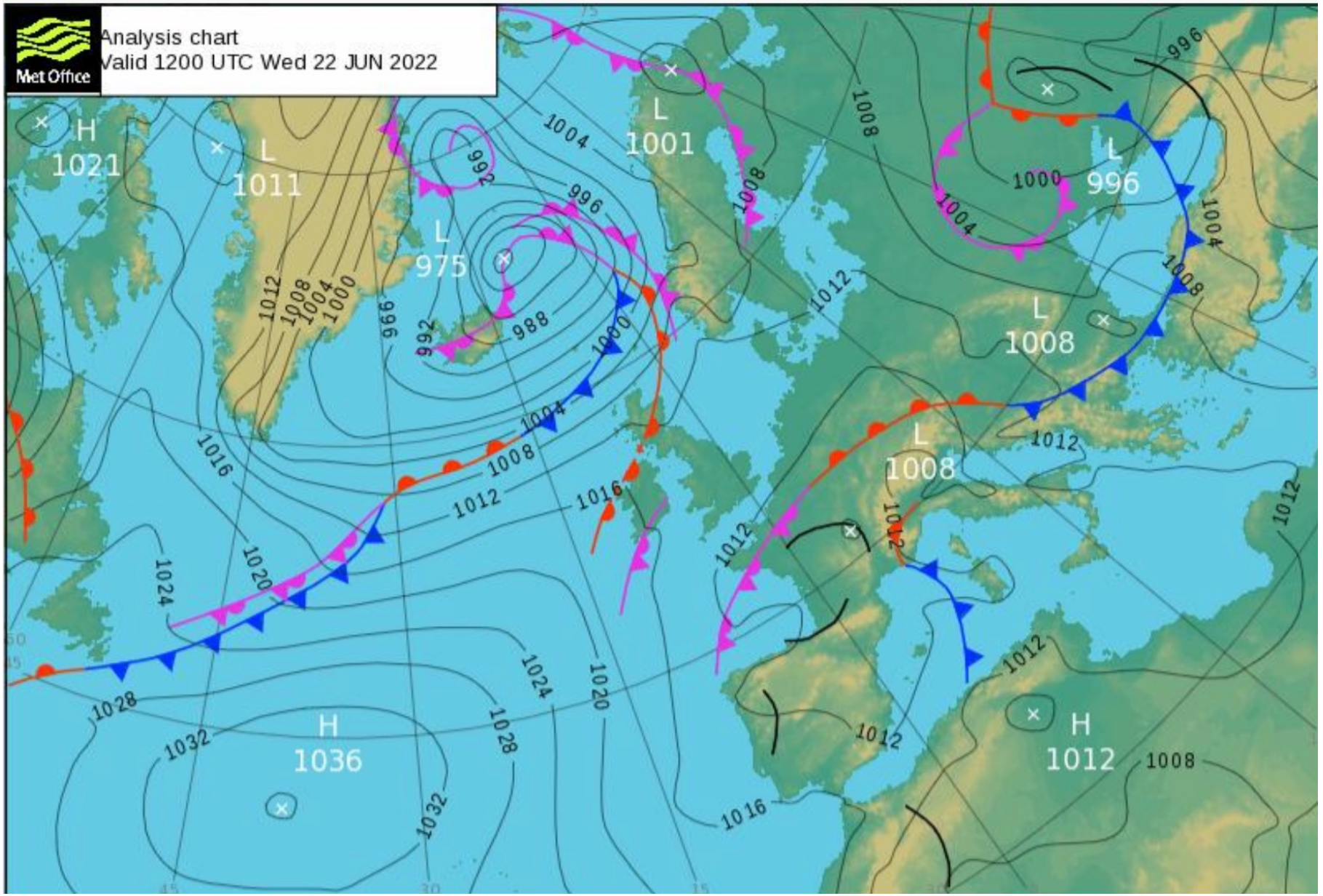
16th August 2023



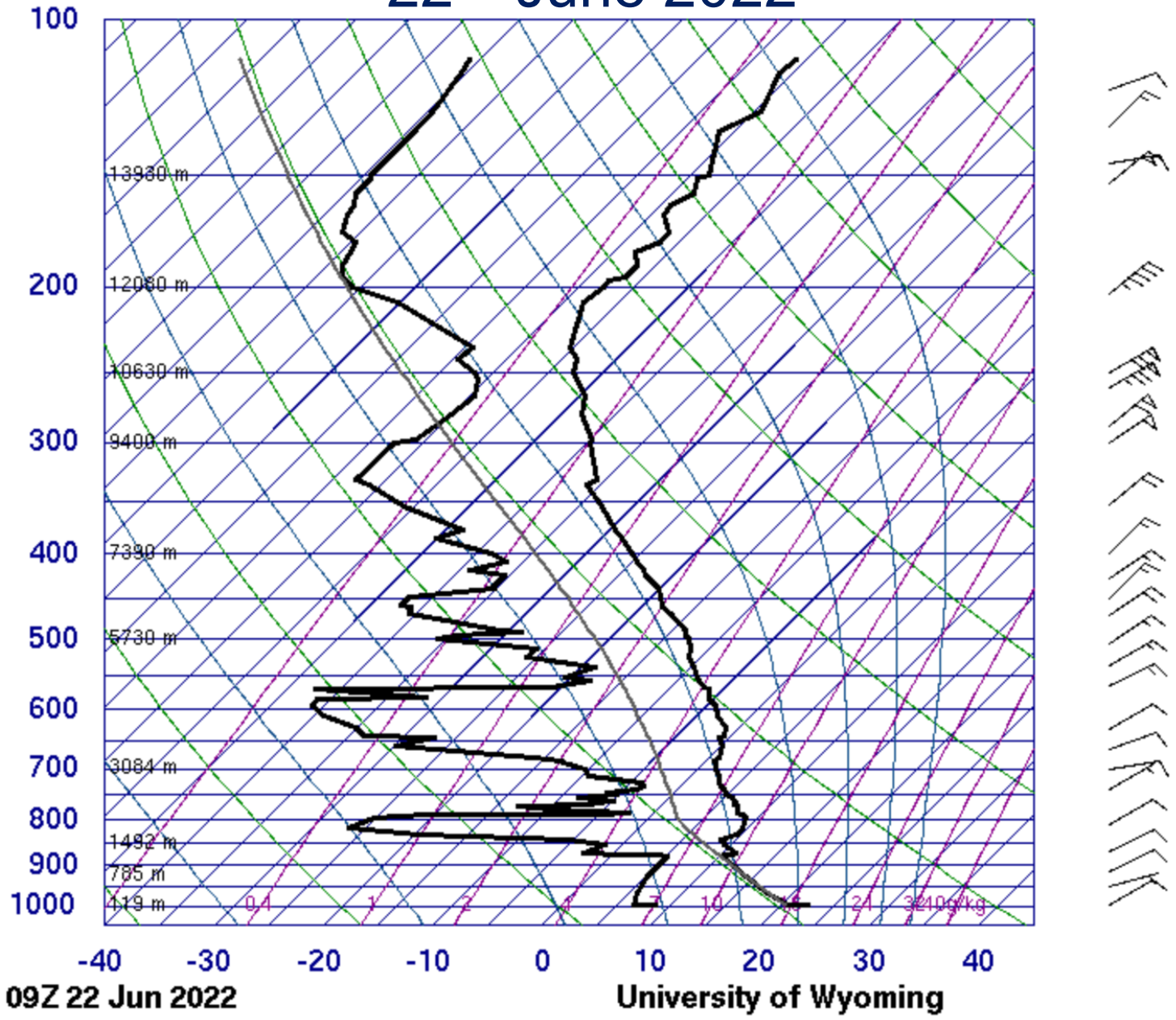
16th August 2023



22nd June 2022

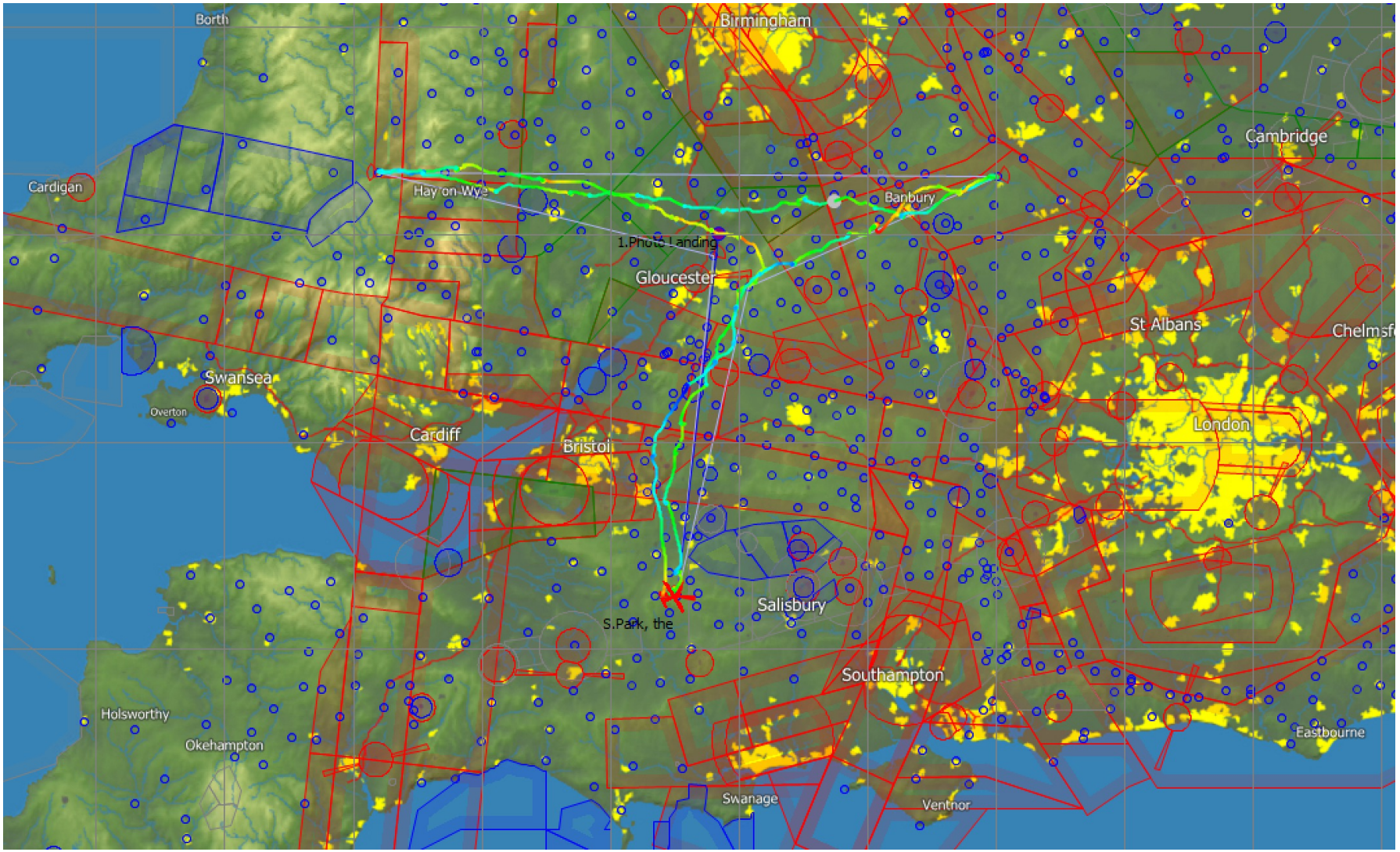


22nd June 2022

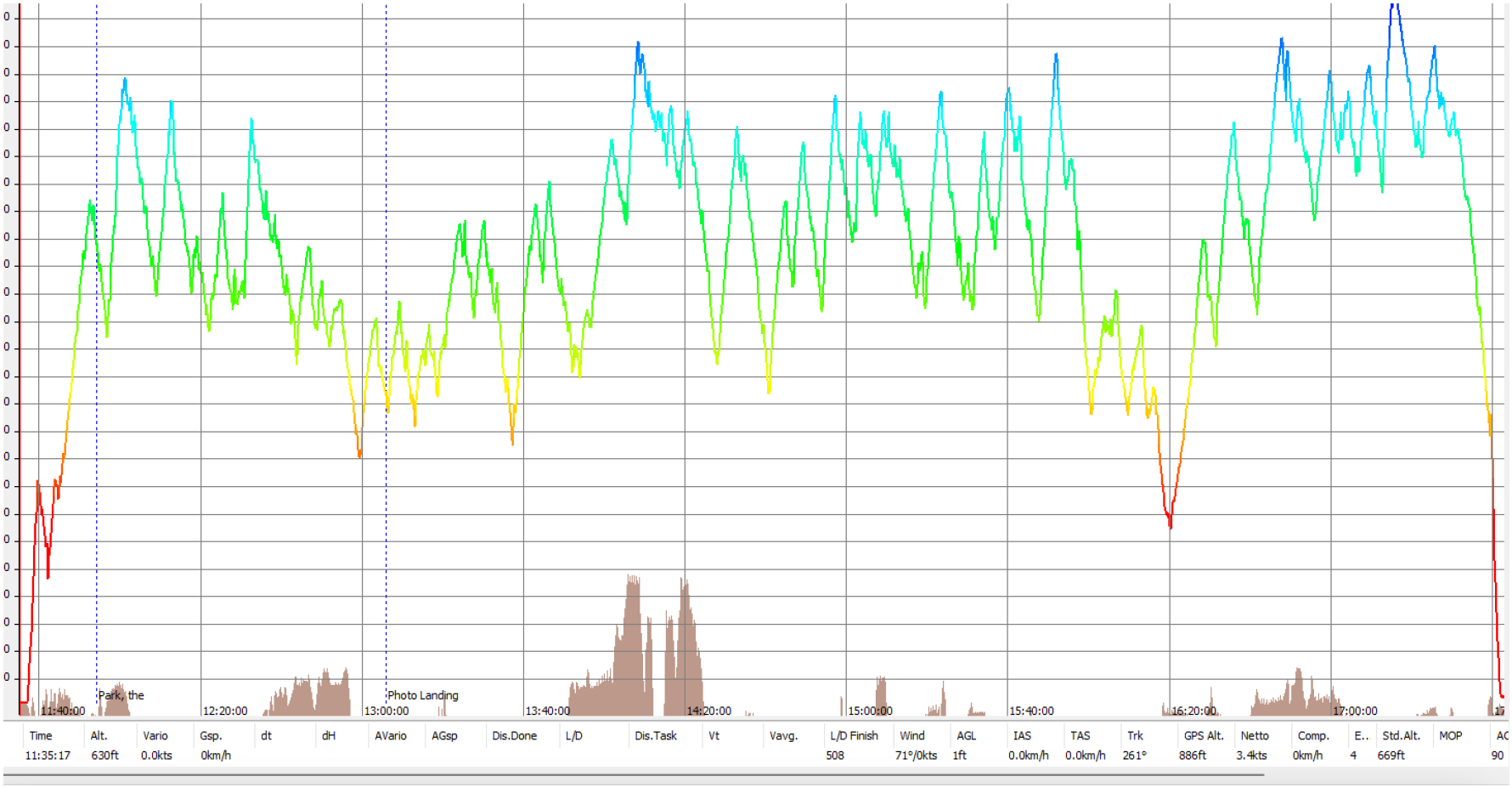


22nd June 2022

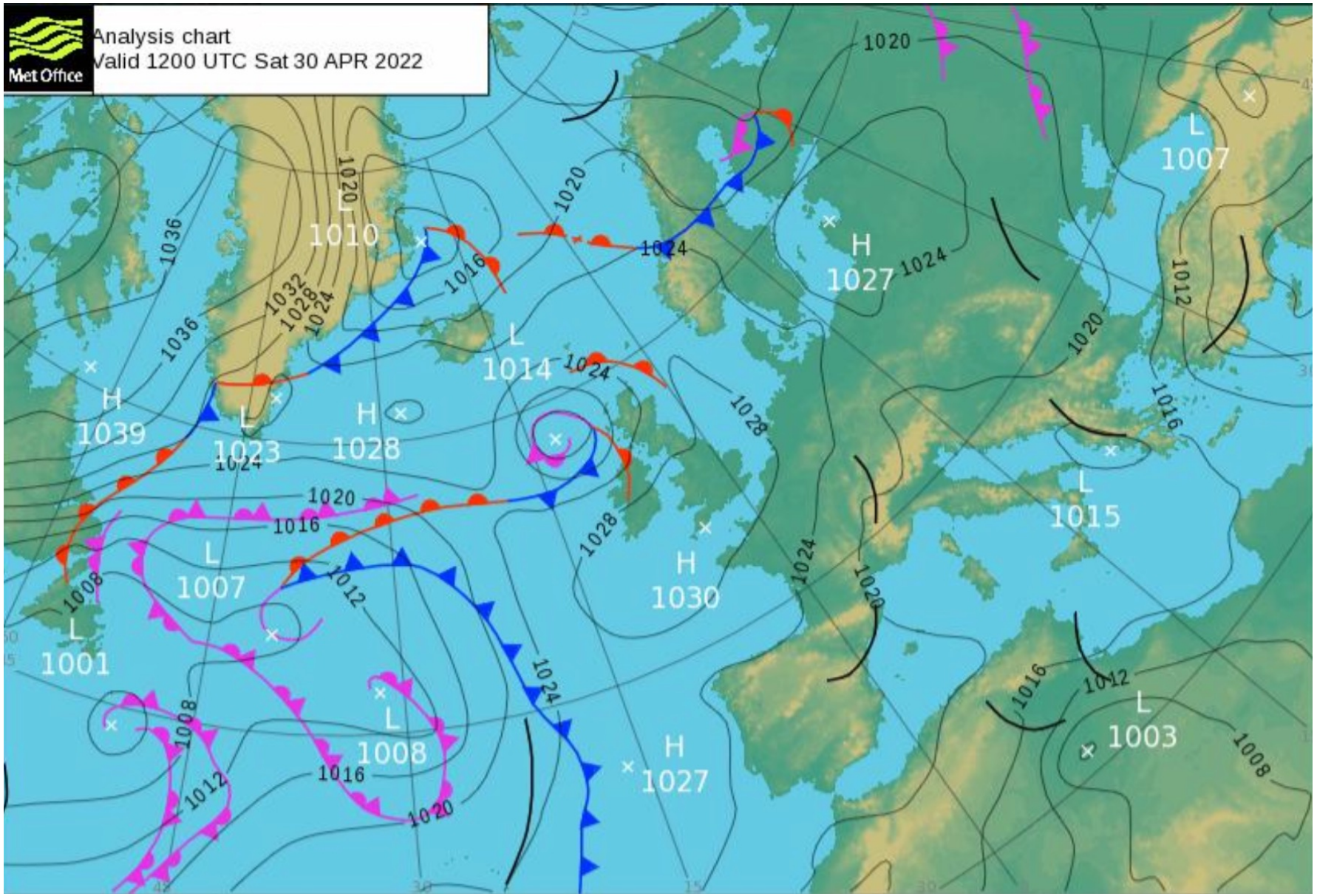
22nd June 2022



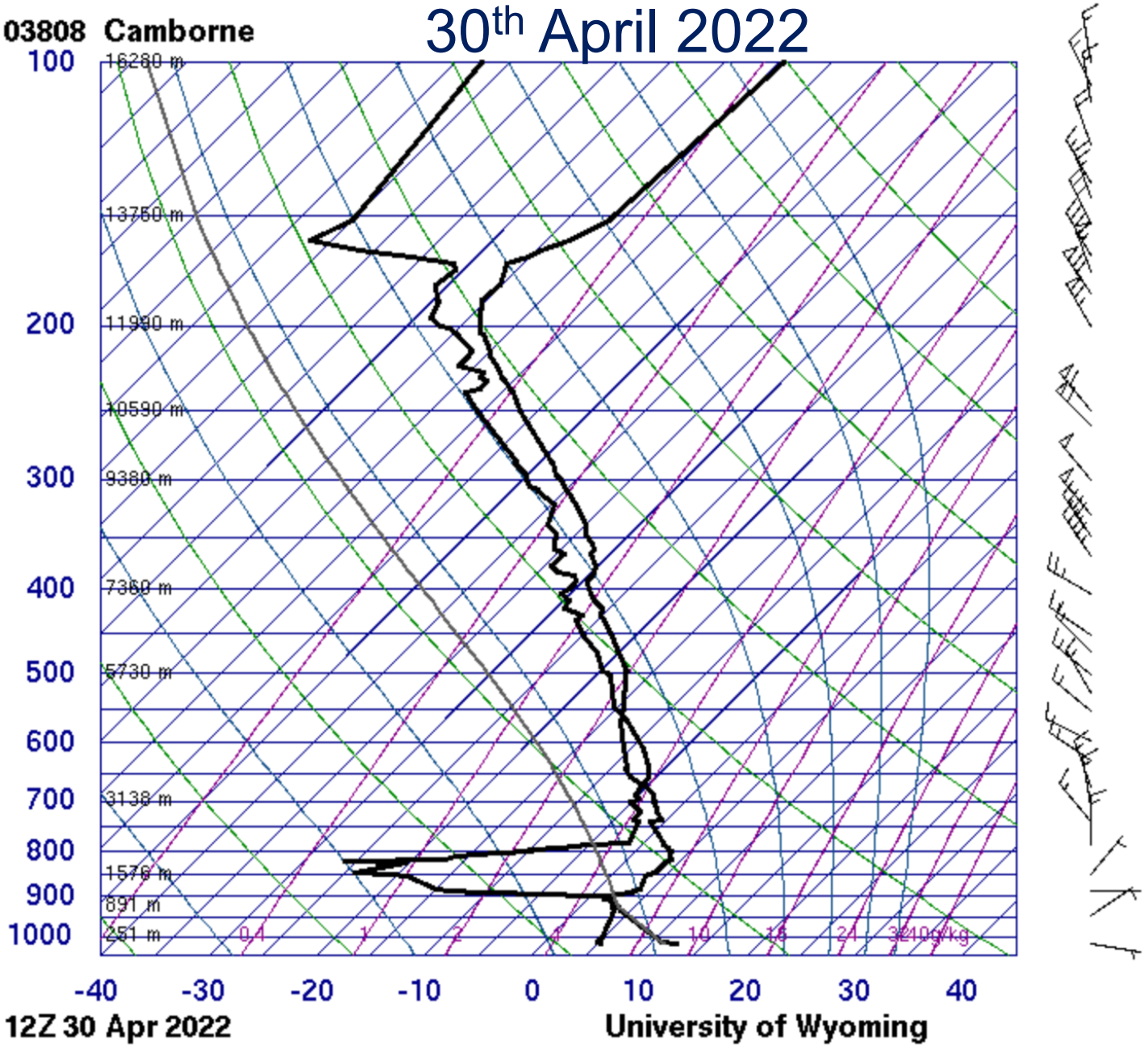
22nd June 2022



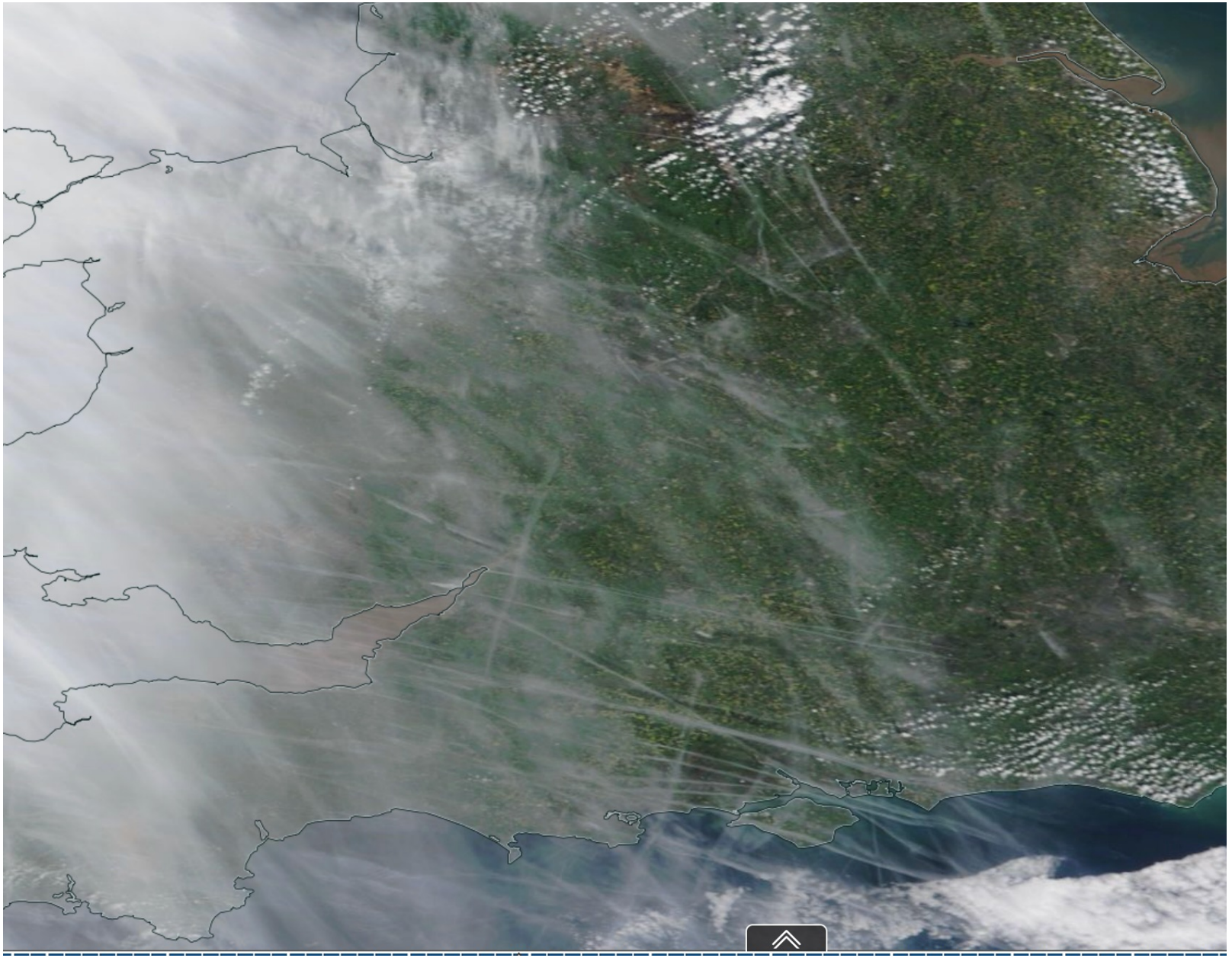
30th April 2022



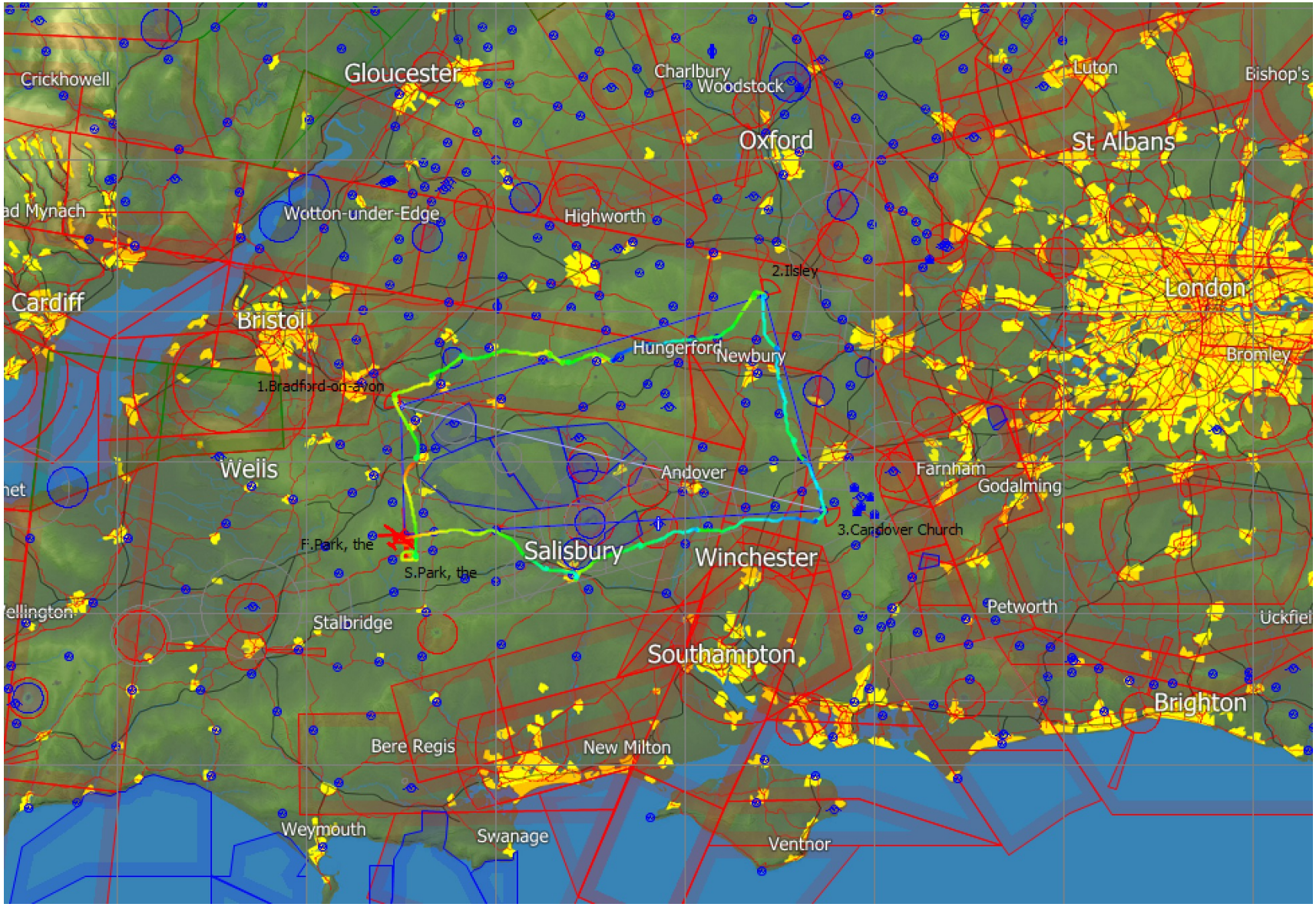
30th April 2022



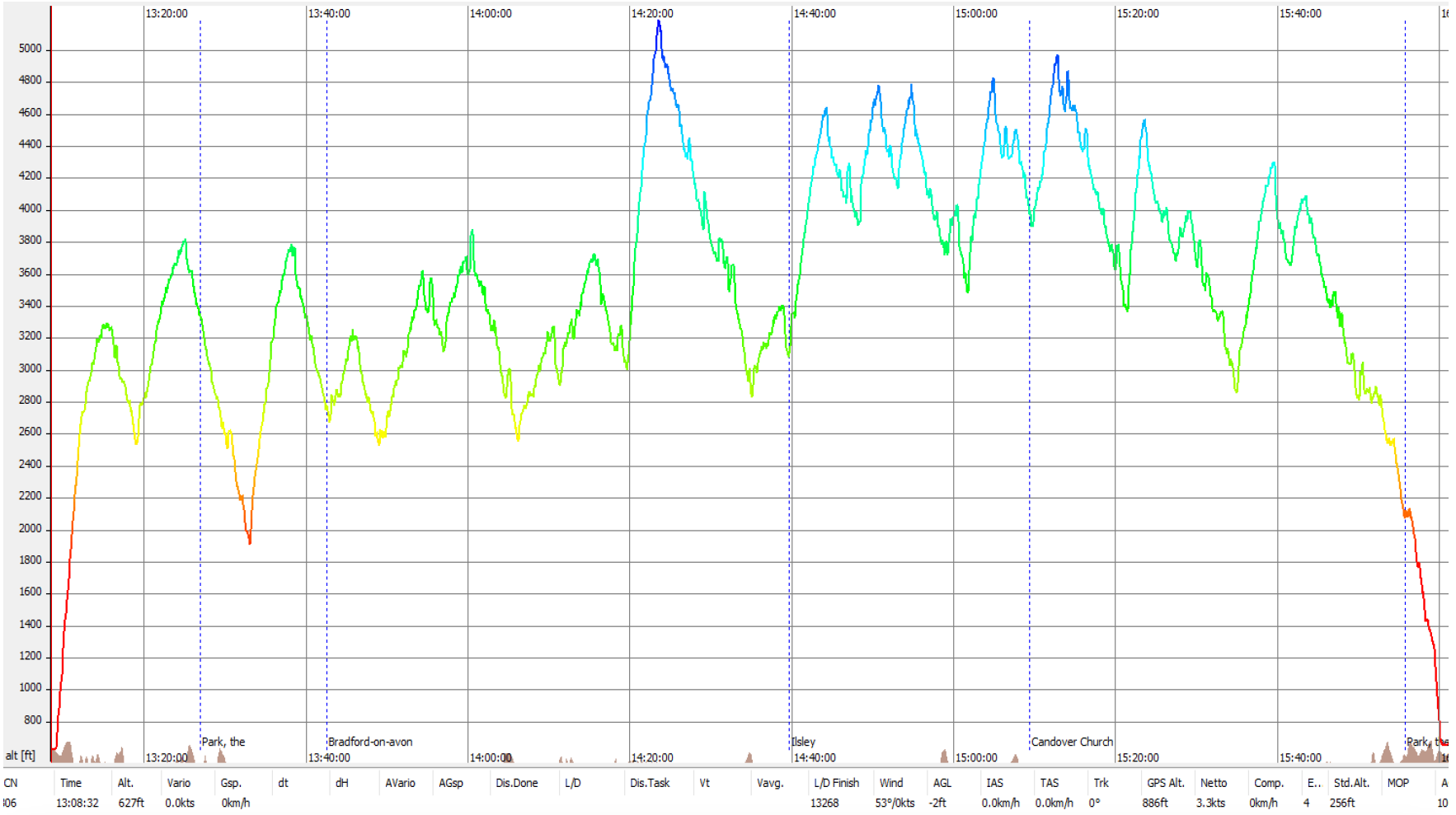
30th April 2022



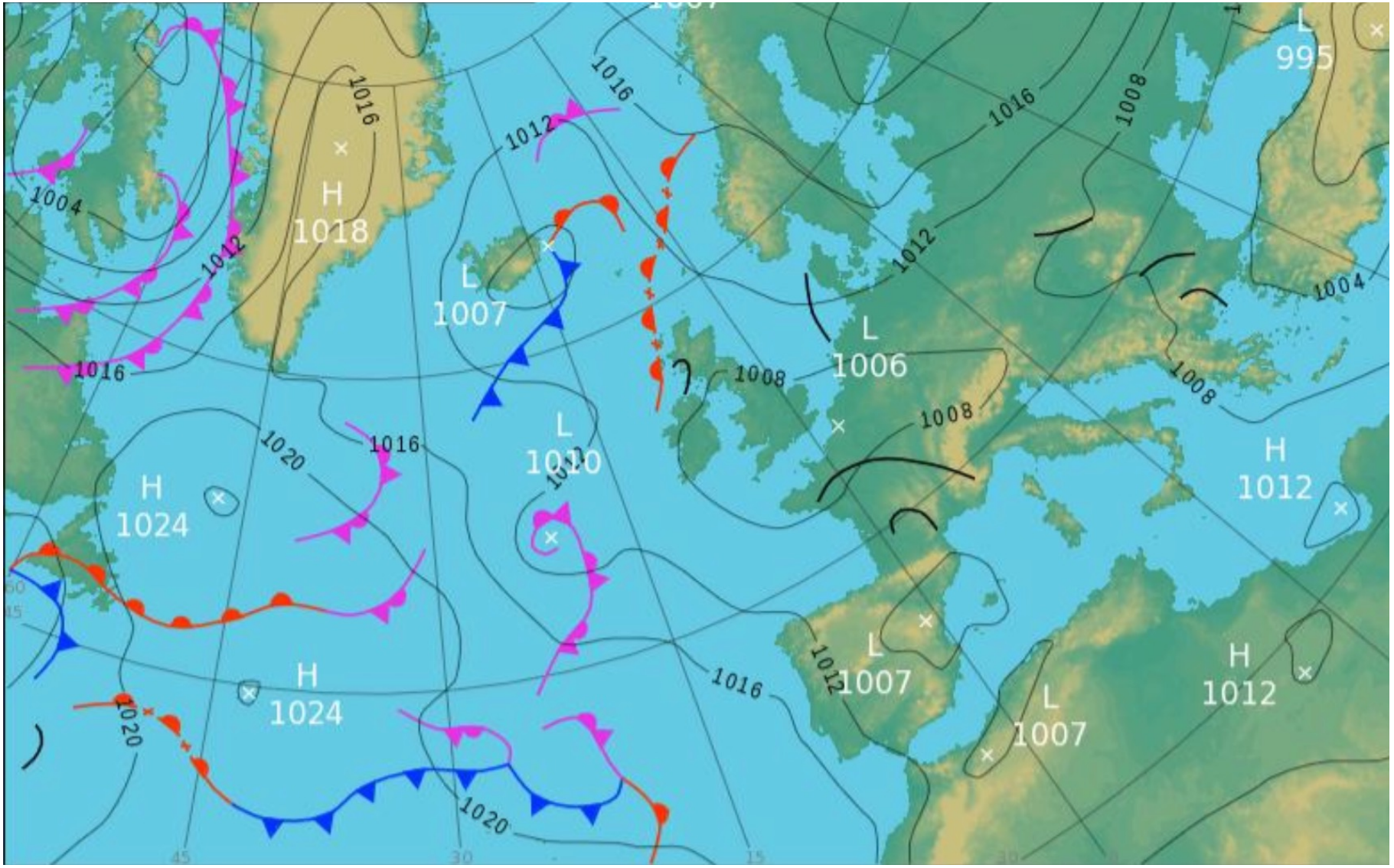
30th April 2022

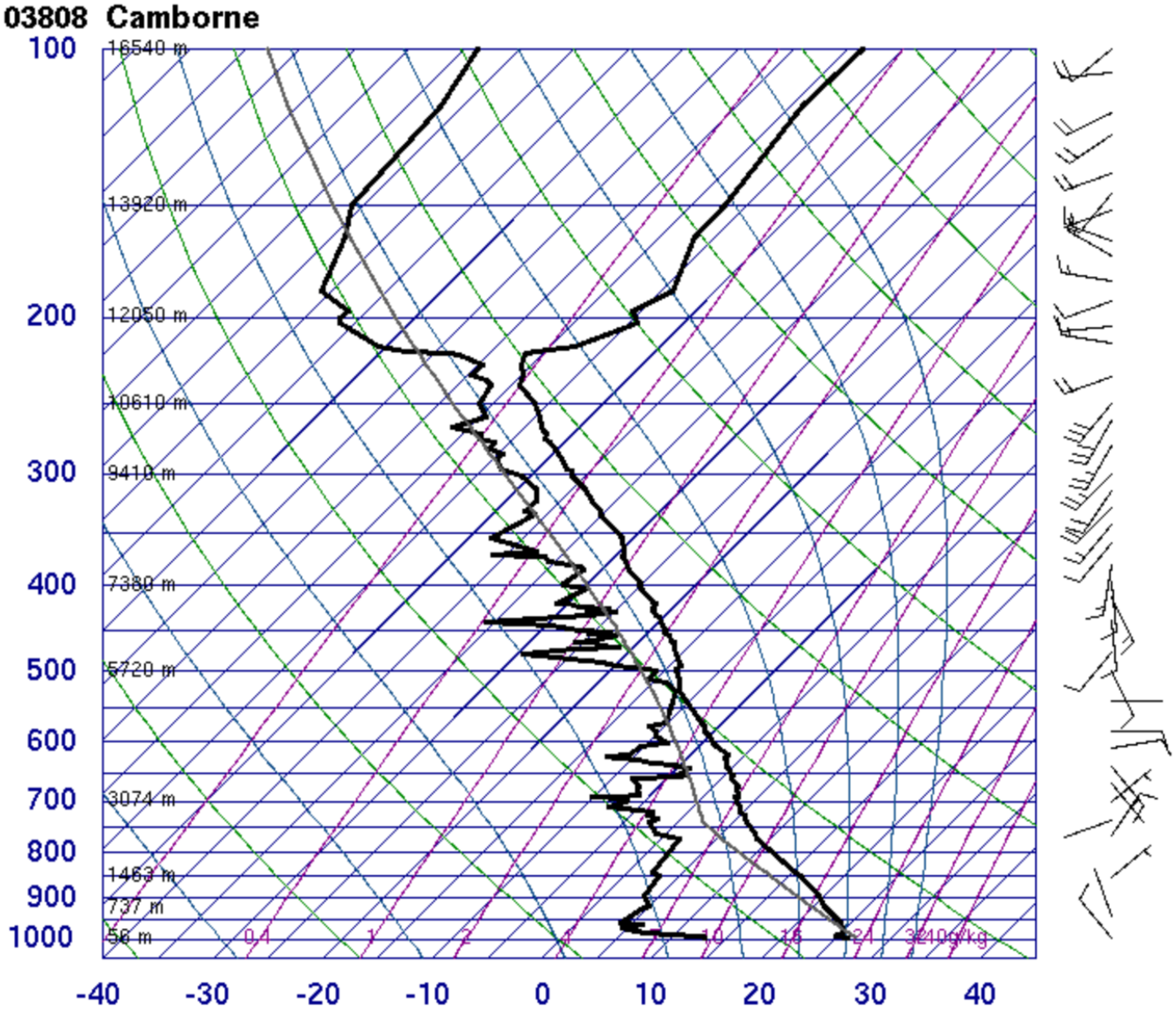


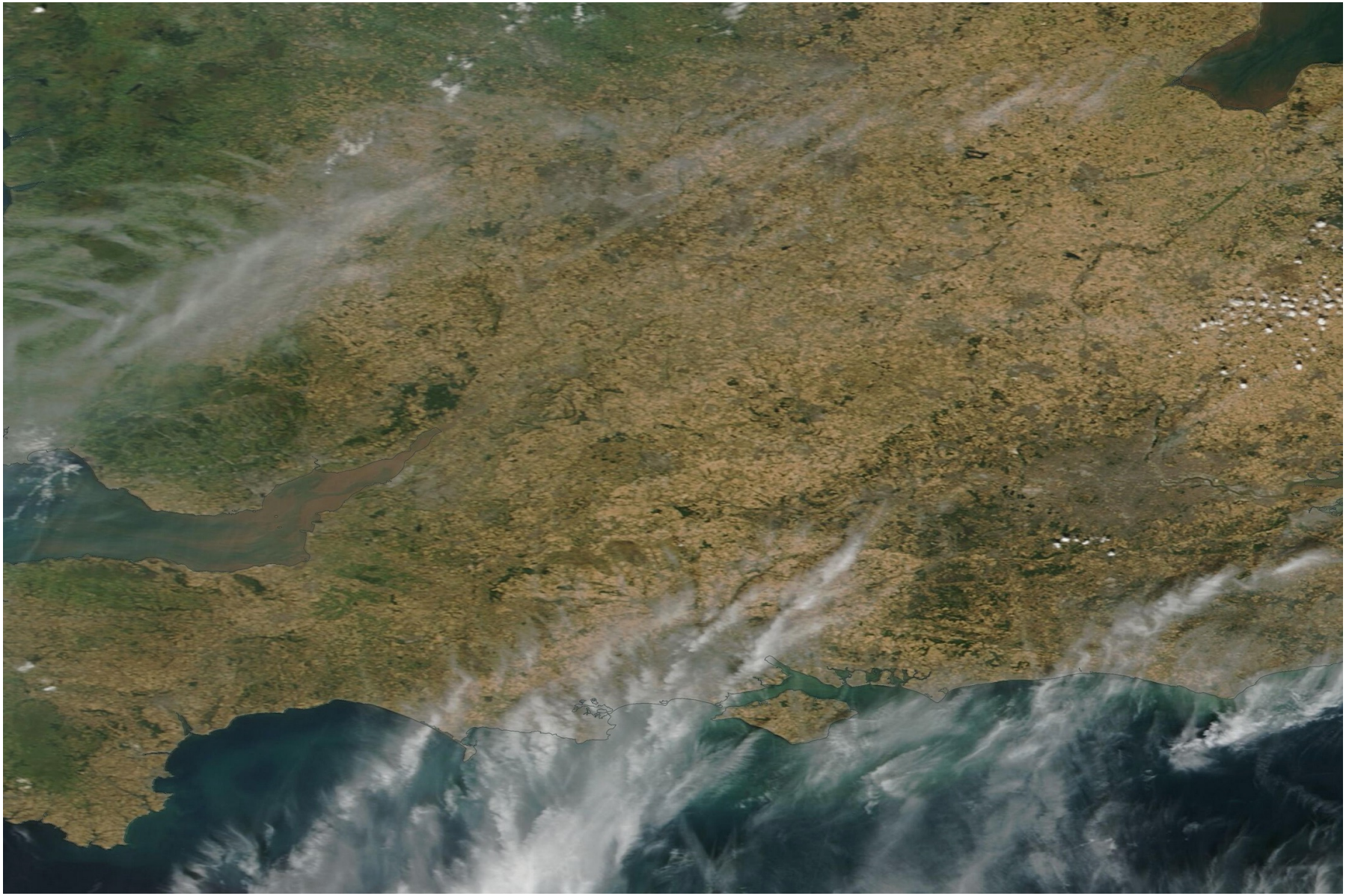
30th April 2022



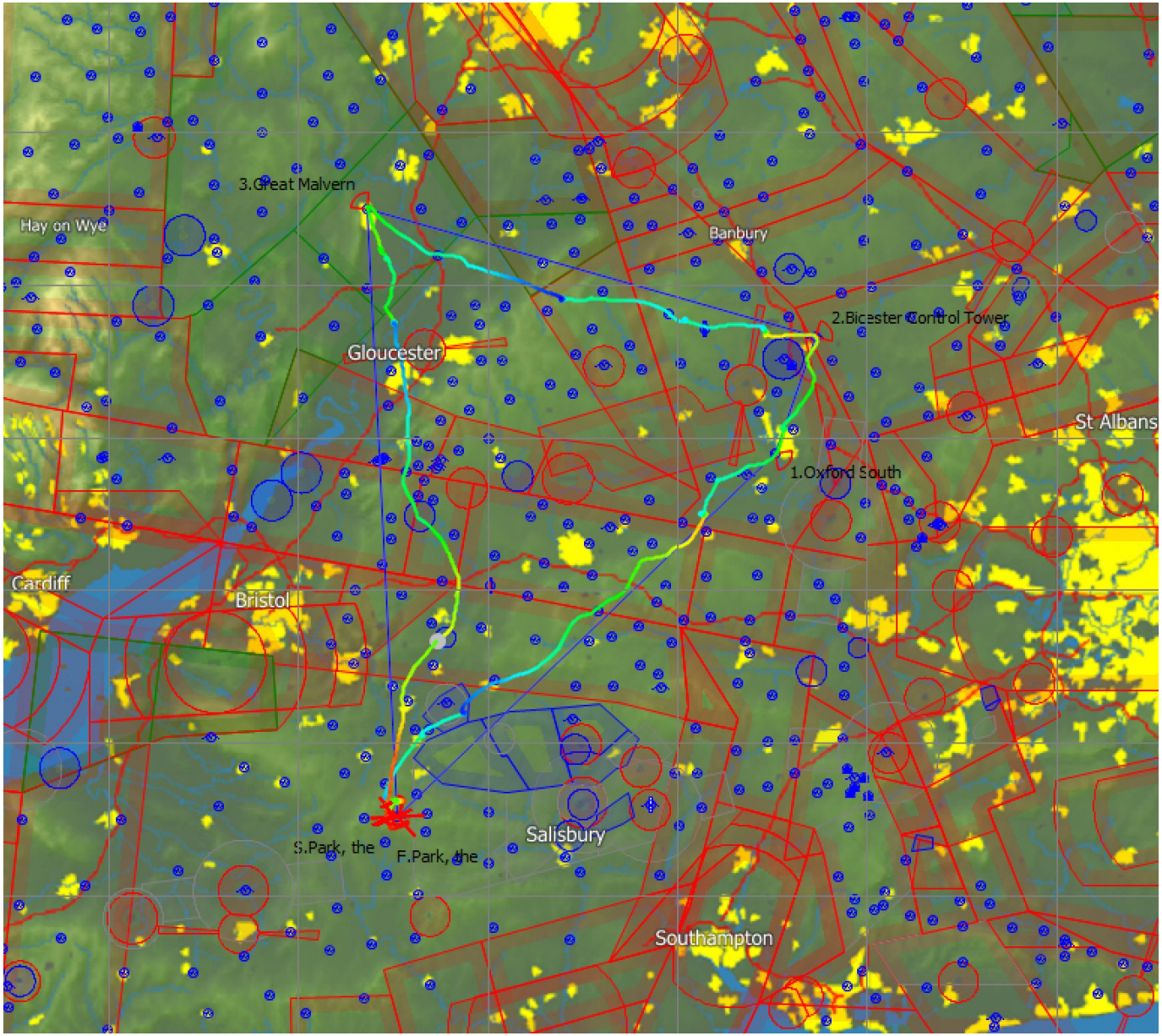
Was this day any good?



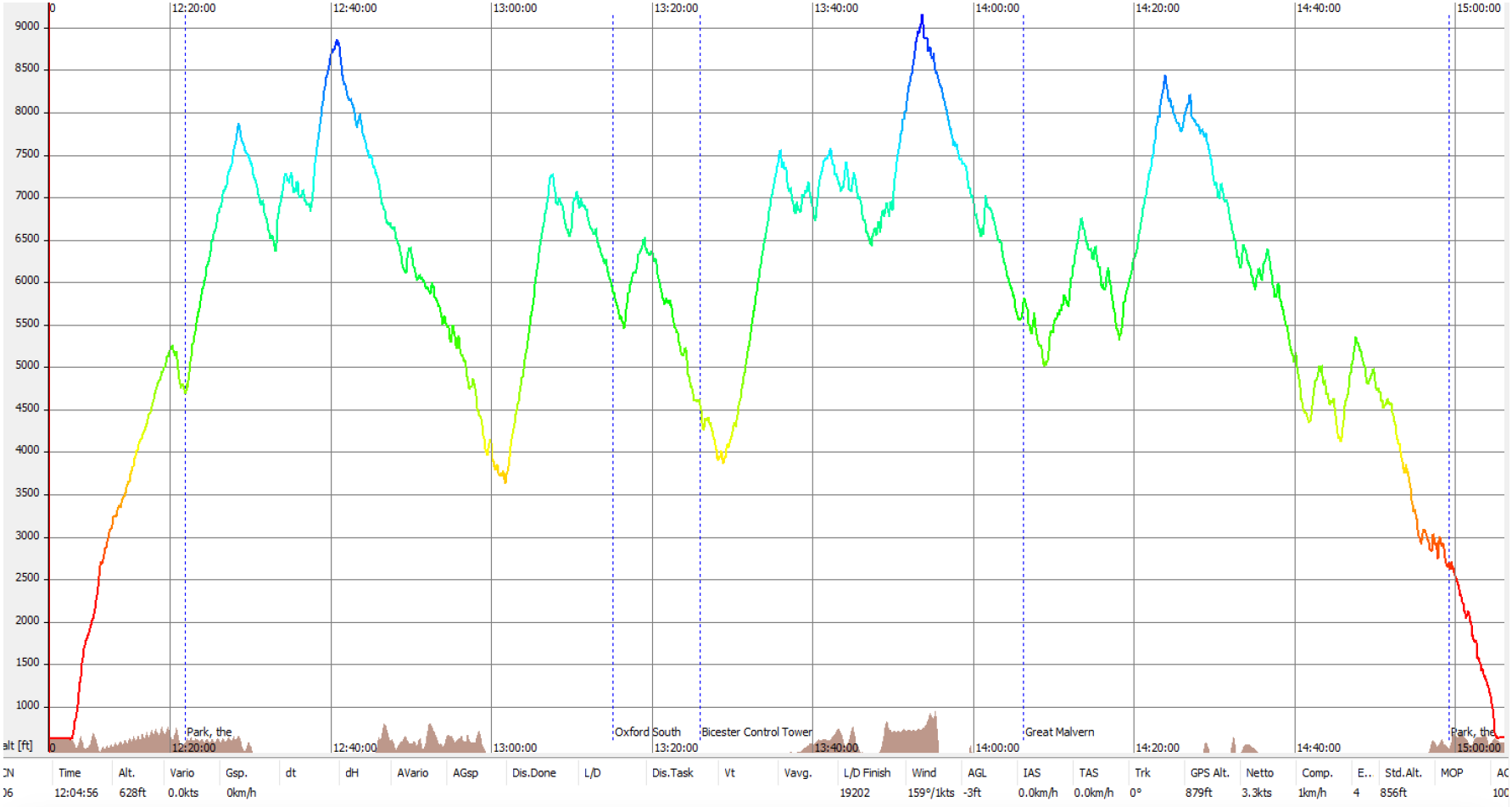

03808 Camborne
100
200
300
400
500
600
700
800
900
1000
16540 m
13920 m
12050 m
10610 m
9410 m
7380 m
5720 m
3074 m
1463 m
737 m
56 m
0.4
1
2
4
10
16
24
32
40g/kg
-40
-30
-20
-10
0
10
20
30
40



August 14th 2022



August 14th 2022



CN	Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind	AGL	IAS	TAS	Trk	GPS Alt.	Netto	Comp.	E..	Std.Alt.	MOP	AC
06	12:04:56	628ft	0.0kts	0km/h										19202	159°/1kts	-3ft	0.0km/h	0.0km/h	0°	879ft	3.3kts	1km/h	4	856ft		100


August 14th 2022 15:30
D-KIVG

Summary

- Synoptic chart will tell a large amount
- But we need to either study forecast soundings or use RASP/SS/TM for best/worst areas
- Don’t count on tomorrow!

Questions?

Cross Country Seminar

Weather Forecasting & Task Planning