Gliding HAWKE'S BAY & WAIPUKURAU

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The Weather

Gliding is a weather dependent sport and every day brings its own challenges. For local flying, looking out the window can give a reasonable idea of the flying conditions to be expected. For cross country flights and details of how the weather may change during the day, there are a number of forecasts available. One system that glider pilots use is the **R**egional **A**tmospheric **S**oaring **P**rediction Boundary Layer Information Prediction maps model (colloquially called *the **RASP***) which is a specialised weather analysis tool intended for glider pilots. The tool that generates the maps was written by "Dr Jack", a meteorologist and glider pilot. This site however, is produced completely independently from Dr Jack and can be found at https://rasp.nz/rasp/

RASP forecasts are available for the following regions in New Zealand:
1. North Island, north west of Hamilton
2. North Island, south east of Hamilton
3. South Island, north of the Rangitata river
4. South Island, south of the Rangitata river

For Hawkes Bay, this is Region 2, North Island, south east of Hamilton.

Typically, three forecasts are generated for each day with increasing forecast confidence as the actual day nears. The first forecast, generated about 48 hours prior, is given “Average” confidence, the one about 24 hours prior “Above average” confidence and the one generated on the day, “High” confidence. With the RASP model, once a forecast is generated, it does not change. As the web page states, “Please bear in mind these are just forecasts, and forecasts can be wrong.”

The forecasts include numerous weather features and are grouped into:

Thermal Forecasts
Cloud Forecasts
Wind and Lower Level Forecasts (these include ground winds and convergences)
Upper Level Forecasts (these can used to see wave)
Upper Air Soundings (SkewT-LogP) (these show all of the above in a less user-friendly way.)

Each forecast line has the options of:

Viewer 09 10 11 12 13 14 15 16 17 18 19 One big page

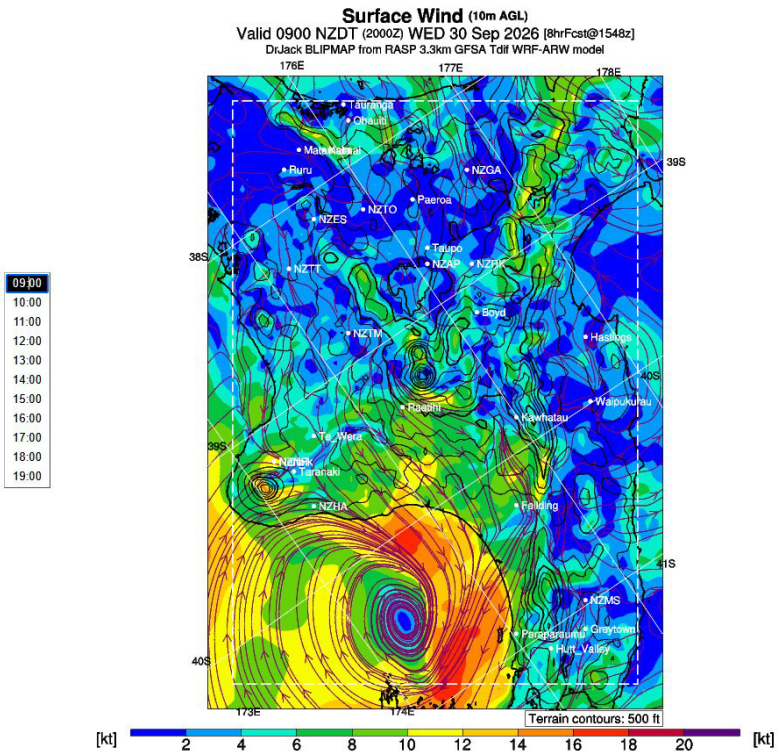
Using Viewer, you can scroll through each hour and see how conditions change.

If you chose a number, that is the forecast for that time e.g. 09 = 9am, 13 = 1pm etc.

One big page shows the forecast for each hour one under the other.

For power pilots, the most useful item under Wind and Lower Level Forecasts is probably Surface Wind. The page looks like this:

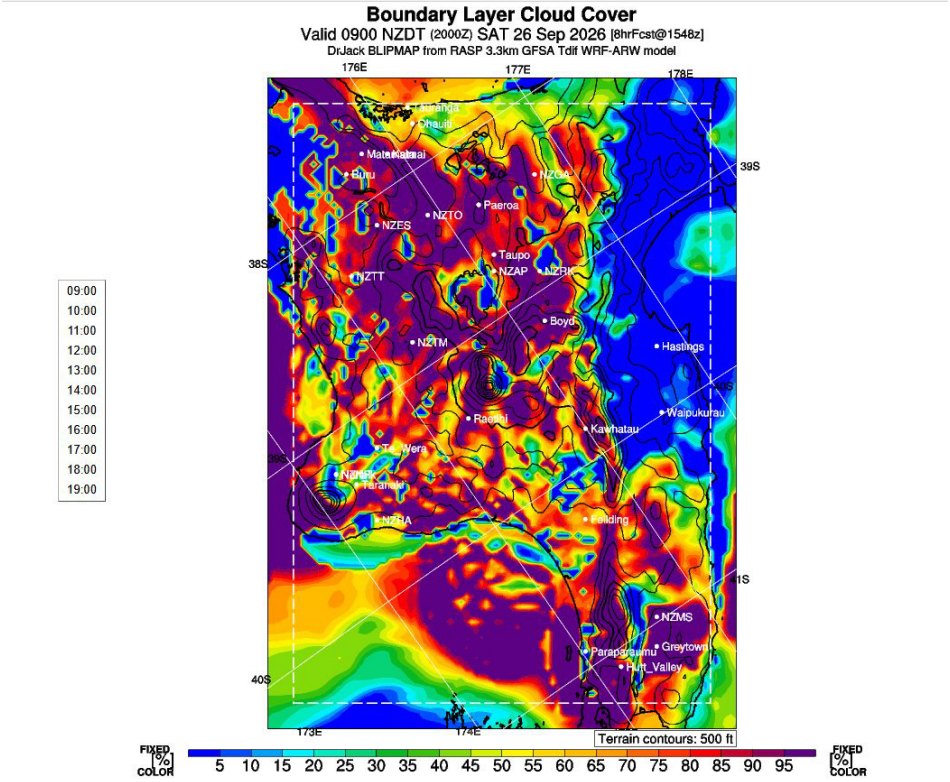
The wind speed and direction at 10m above ground. To get approximate wind at head height out in the open it usually works pretty well to just halve the speed, so 20 knots at 10m is often felt as 10 knots at head height. More ir



As stated at the top of the image, the wind speed and direction are at 10m above ground. To get an approximate wind at head height out in the open it usually works pretty well to just halve the speed, so 20 knots at 10m is often felt as 10 knots at head height.

The time of day are the numbers on the left and wind strength is as per the scale at the bottom. Note that the scale can change. This image shows very light winds (blue, 0-2kts) around Hastings Airfield at 9am.

Boundary layer cloud cover under Cloud Forecasts may also be useful and look like this:



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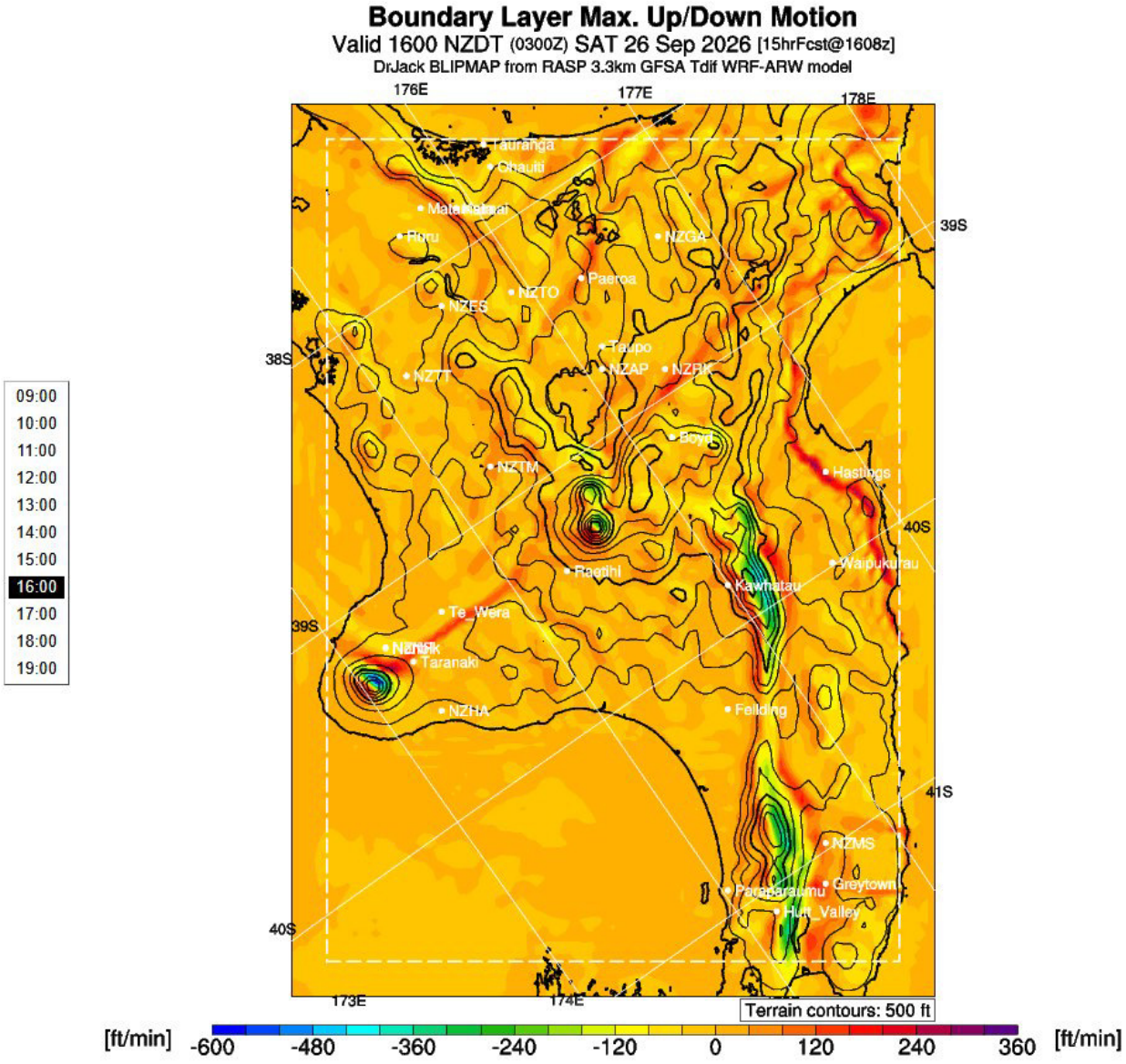
Note that the scale often changes between images, this can make the same colours actually show a different quantity from image to image.

Note that the scale can change. This image shows at 9am basically clear skies (blue, 0-5% cloud coverage) around Hastings and the local area. To the west and further south are large areas of cloud.

The Boundary Layer Max Up/Down (Convergence) under Wind and Lower Level Forecasts could also be useful.



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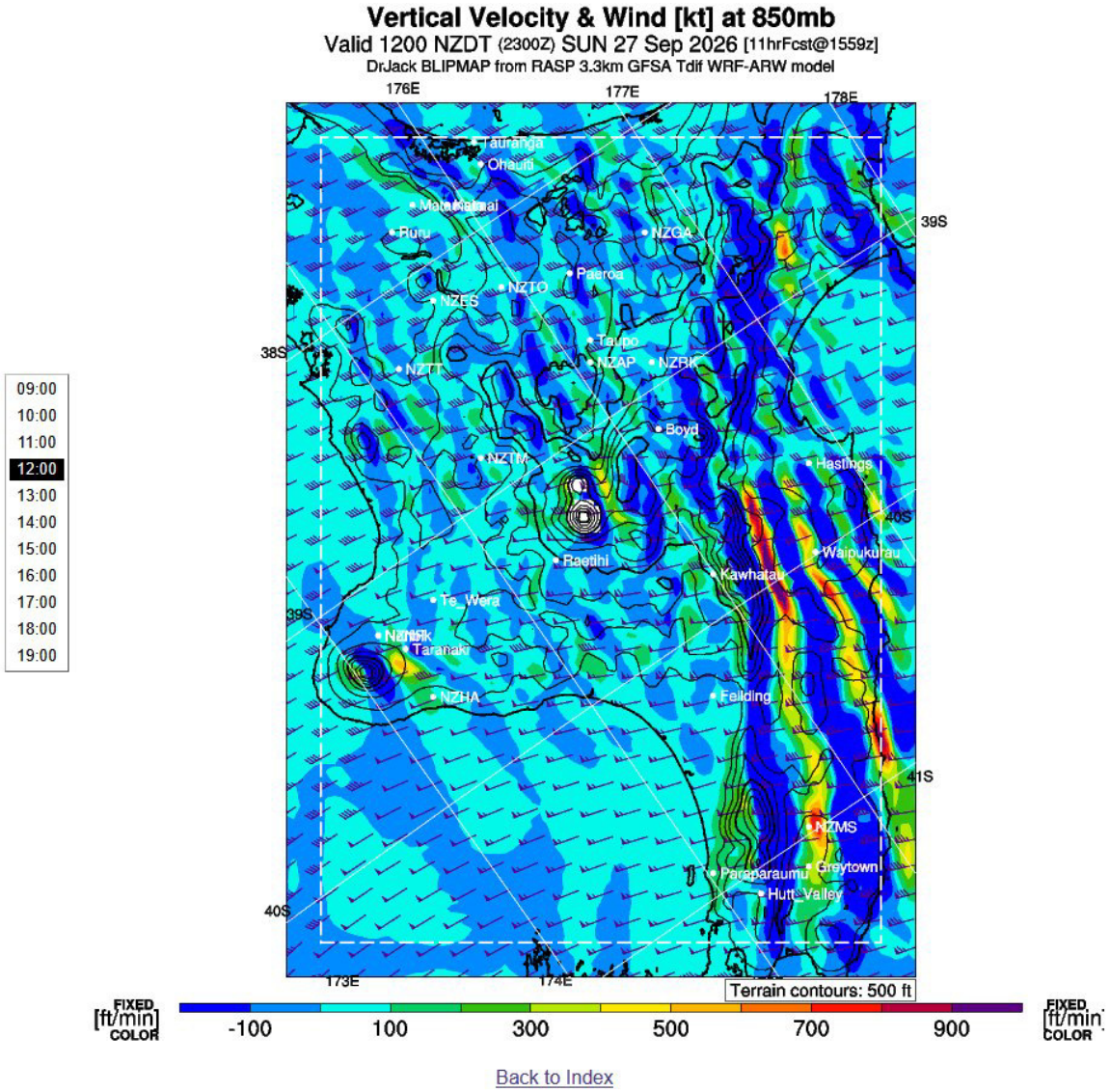
As shown above, note that the scale can often change between images. This image shows at 16:00, a reasonable strength convergence line (red and purple colour, 120-360ft/min lift) running over Hastings Aerodrome. Lift will be on the warmer side of the convergence, typically the western side in Hawkes Bay with sink on the cooler side. Given the nature of convergences, being the meeting of two winds, the timing, strength and exact location can vary quite materially from that predicted and they can move as the stronger wind prevails.

Wave can be seen in the above forecast but is better seen using Upper Level Forecasts and choosing the altitude you will be flying at e.g. Vertical Velocity and Wind at 850mb (~5,000 feet).



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Again, as shown above, note that the scale can often change between images. This image shows at 12pm some wave lines which vary in strength from 100ft/min to over 900ft/min. The lines will typically be marked by wave roll clouds and lift will be on the western side of the clouds with sink and turbulence on the eastern side. Sink, which may be very strong, is also likely on the downside of the waves and is not captured in the image. Cloud cover can also be up to 100% depending on the conditions.

As you can see, learning to fly a glider is just the beginning and a life time of challenges await.

If you are interested in trying soaring yourself, come and join us to learn more about gliding, the weather, the wave and the “air pockets” you fly through in powered aircraft and save fuel!

Aeroclub members can fly at gliding club member rates so what are you waiting for? Come and see us any club flying day.

Further details about the club and learning to glide are on the gliding club website at http://www.glidinghbw.co.nz/