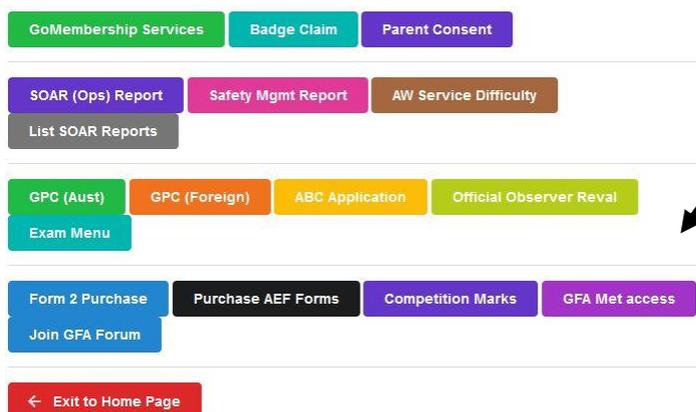


7. Gliding Weather and the GFA MET

Most of the time we can tell if the weather is going to be OK for gliding just by looking at the sky. How high is the cloud base, what do the clouds look like (flat and misty or bright and puffy), is the wind strong or weak? In your early days, this is probably enough to sense that there is to be a day when you have to stay close to the airfield or could you get away a bit.

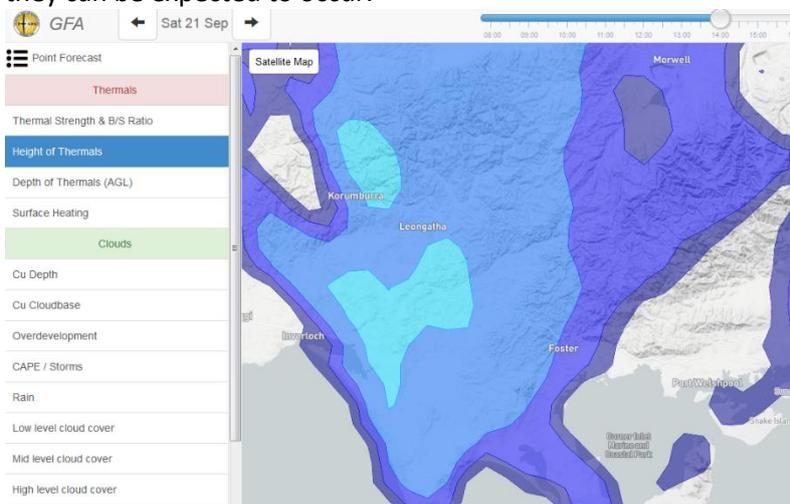
Nowadays, there are many web sites for just the weather of today and a few days ahead and the Bureau of Meteorology www.bom.gov.au is the place for that. Of the plethora of other sites you can find, mostly they all get their data from the Bureau and then apply their own spin to it. Some sites do a bit better and collate a range of predictions as does the BOM and places like US National Oceanic and Atmospheric Administration (NOAA) www.wpc.noaa.gov or Europe's European Centre for Medium Range Forecasts www.ecmwf.int/en/forecasts are good. Ventusky www.ventusky.com for example will give a four day animation of the predictions (wind, rain, storms, temperatures, cloud cover etc.) for anywhere and from my experience is quite accurate for our part of the world.

Then for specific gliding weather forecasts, we are fortunate to have the GFA Met site. To access it for the first time, you have to log on via the GFA <http://www.admin.glidingaustralia.org> and below the list of **MyGFA Services**, using your Member Number and DOB info (or a PIN which you can set up) you will then get access to those services, in this case **GFA Met access** on which you duly click.



From **GFA Met access** you get to another GFA page – when there, click on “**SEND**” and you will then have a map of the country with the prediction for the current day's thermal heights via a colour coded display and scale on the map's RHS. You can zoom to anywhere of interest and play the predictions for that day and two more ahead.

This is just a small part of the total picture for 21SEP19 showing the Thermal predictions and where they can be expected to occur.



At the bottom on the LHS, is a definition of what you are looking at and is a great aid to understanding.

In this case, the picture with its scale on the RHS tells all: dark blue **Bad**, light blue **Not as bad**, and the white areas, **Nothing for you to see here!**

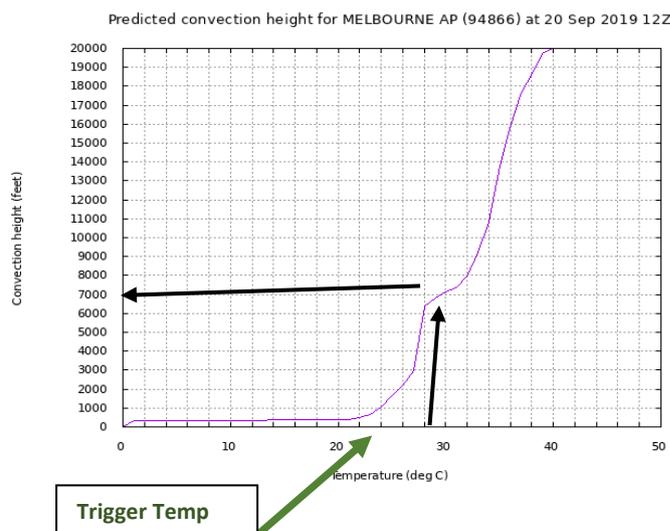
All this is relatively simple and a great aid to let you judge how the day might pan out. There can always be surprises and nothing beats being there on the day ready to fly.

But the Mk 1 Eyeball can't be beat for what is happening here and now – watch the sky and see how the first of the Cumulus clouds of the day begin to form from a clear sky around midday-ish generally some distance from our airfield to the North and the NE to the La Trobe Valley. Then as the air gets hotter, so they begin to form over and around our airfield. Just how quickly all this happens is a fair indication of the day. The hottest and best thermal formation time on any day is when the air has had the greatest insolation and this is about an hour or so after midday.

For good (say >3KTS) thermals the sun has to heat the ground sufficiently. Around 50% total cloud cover is a maximum. Elsewhere I have mentioned cloud streets. These form regularly and seem mostly to be lined up with the wind direction but the topography of the ground plays a part in their orientation a bit as well.

So how much heating is necessary for a good day? This is where the Atmospheric Soundings come into their own and were the first really significant technical advance for gliding weather. The theory behind the “soundings” (balloons sent aloft and reporting vast amounts of data these days) is complex but for our use, is simply explained off this web site: <http://slash.dotat.org/cgi-bin/atmos?loc=94866&latest=1> .

The soundings are made from major Australian airfields twice a day. Using the Melbourne “trace,” we can get a very good idea of the ground temperature required to start thermal activity and also



the height of the thermals on that day. There are two graphs to view, the easy one to interpret is the lower one on the site. This “trace” shows the actual air temps for heights on 21SEP19.

Very simply, it says once the ground temperature reaches about 23DEG, the “**Trigger Temp**”, thermal activity will begin. Then, **IF** the temp for the day can reach 29DEG C, you could have thermals going to nearly 7,000’.

It wouldn't happen on this particular September day as is shown in the GFA Met site (earlier above) but in summer it will! The GFA Met picture will go to nice bright shades from green to yellow and red; boomer days.

If you are really keen (and you have to be to read this), the following link to Gordon Dennis's paper on Tephigrams will give the background in how this made huge advances into weather analysis. It gets complicated but the first few pages are very useful reading:

<https://anla.gr/attachments/Tephigrams.pdf>

By the way, don't forget the BOM Radar easily available on your phone!