

# LOCAL REGULATIONS (Amended 4 October 2012)

## 19<sup>TH</sup> FAI World Hang Gliding Class 1 Championships, Forbes, Australia 2013



**Local Rules for the FAI Hang Gliding World Forbes, Australia 2013**

to be held at Forbes, NSW, Australia

From Thursday January 5<sup>th</sup> through to Saturday 18<sup>th</sup> January, 2013

Organised by The Sydney Hang Gliding Club

**ON BEHALF OF THE  
FÉDÉRATION AÉRONAUTIQUE  
INTERNATIONALE**

And the Australian Sports Aviation Confederation [auspavco@gmail.com](mailto:auspavco@gmail.com)

All correspondence of the event to: [fly@forbesflatlands.com](mailto:fly@forbesflatlands.com)

All information about the event can be found: <http://forbesflatlands.com>

These local regulations are to be used in conjunction with General Section and Section 7A of the FAI Sporting Code. Reference numbers for Section 7A used in this text should be cross checked with the latest edition of Section 7A. CIVL - Section 7A 1st May 2012

**Purpose**

The purpose of the championships is to provide safe, fair and satisfying contest flying in order to determine the champion and to reinforce friendship amongst pilots and nations. (2.2)

**Program**

Saturday, 5 <sup>th</sup> January	9 am-5pm	Registration at Forbes Recreation and Sport Center
	9 am-5pm	Sprog measuring
	10 am	Team Leader Briefing
	7:30 pm	Opening Ceremony
	8:30 pm	Forbes Biggest BBQ
Sunday, 6 <sup>th</sup> January	9:30 am	Morning briefing and official practice day
	9 am-5pm	Sprog measuring
Monday, 7 <sup>th</sup> January	9:30 am	Morning briefing 1 <sup>st</sup> Competition day
Thursday, 17 <sup>th</sup> January	9:30 am	Last competition day
Friday, 18 <sup>th</sup> January	11 am	Closing ceremony and presentation

**Officials**

Meet Director	Vicki Cain	0410 331 883
Safety Director	Bruce Wynne	0417 467 695
Scorer	Wesley Hill	0408 305 943
Goal Marshal	Rob Van Der Klooster	0407 158 548
Launch Marshals	Matthew Te Hira,	0410 375 066
	Greg Cain	0418 244 546
Weatherman	Davis Straub	0488 116 695
Steward	Flip Koetsier (NL)	
Jury President	John Aldridge (GBR)	
Jury Member 1	Brian Harris (GBR)	Remote
Jury Member 2	Kurt Meyer (GUA)	Remote

## 1. Entry

1. 1 The 19<sup>th</sup> FAI World Hang Gliding Class 1 Championships, Forbes, Australia 2013 is open to pilots from all Member and Associated Member countries of the FAI. On line registration will be open on March 1<sup>st</sup>.

1. 2 The maximum team size is six plus two female pilots.

1. 3 Team entries must be made on line at <http://forbesflatlands.com> using the provided team entry form.

1. 4 The first team entry deadline is September 30<sup>th</sup>, 2012. Unnamed pilots (not yet chosen for the country's team) may be registered and named later, but the team must have provided a \$300 AUD deposit for each pilot by the registration deadline.

Teams/countries that have fully registered and paid the deposit for teams (five pilots) will be notified of additional available slots (if any) on September 1<sup>st</sup>. If they wish to register and send in the \$300 deposit for each additional pilot they must do so by October 15<sup>th</sup>. This schedule will be rigidly adhered to, to allow all additional pilots a fair chance of entering the competition and arranging for travel to Australia.

Full payment is due October 30<sup>th</sup>. If full payment is not received by October 30<sup>th</sup>, the deposit will be forfeited.

Individual pilots should register using the individual pilot registration form <http://forbesflatlands.com> as soon as their names show up on the pilot list at the Forbes web site after they have been provided by their NAC's.

1. 5 The entry fee is A\$1,150 (includes A\$600 towing fee) per pilot. The fees are to be paid as follows:

Bank deposit: BSB: 633 000

Account number: 142624543

Account Name: Sydney Hang Gliding Club

PayPal: [fly@forbesflatlands.com](mailto:fly@forbesflatlands.com) Using your PayPal account or your credit card. There is an additional \$10 fee for each transaction paid through PayPal.

1.6 For the above mentioned fee the organiser will conduct 19<sup>th</sup> FAI World Hang Gliding Class 1 Championships. (2.5.1)

1.7 The following NAC's will pay their entry fee directly to the CIVL/FAI account:

Italy, Austria and Australia (7.1.3)

The FAI account details are:

Credit Suisse Private Banking

Rue du Lion d'Or 5-7

Casa postale 2468

CH-1002 Lausanne

Switzerland

Account name : Federation Aeronautique Internationale

Account number: (Euro) 0425-457968-32

IBAN code : CHF31 0483 5045 7968 3200 0

Swift code : CRES CHZZ 10A

2. Minimum Representation in each Class (Class I Women or Class I Men). For world championships a minimum of 4 countries with a total of 8 competitors available to fly during the championship is required for the title of Champion to be awarded. (2.4.3)

### 3. General Competition Rules

#### 3.1 Registration

On arrival the competitors shall report to the Forbes Recreation and Sport Club (bowling club) to have their documents checked and to receive supplementary regulations and information. The end of the official registration period is considered to be the official start of the Forbes Flatlands. (2.13)

#### 3.2 The following are required:

- Payment of entry fees by the deadlines given above.
  - Temporary membership in the HGFA (available at registration or before hand on-line)
  - GPS
  - Valid FAI Sporting License
  - Evidence of competitor's nationality
  - Pilot's and driver's mobile telephone numbers
  - Pilot's UHF band or VHF frequency
  - Satisfactory evidence of glider airworthiness in accordance with S7A 12.2.2.
- This is an aerotow launch competition, therefore it is absolutely necessary that all pilots are thoroughly skilled at aerotowing and capable of aerotowing the glider they plan to fly in the competition in possibly turbulent, windy competition conditions. If any pilot is unknown to the organizer/meet director, or has not flown at the Forbes Flatlands competition before, he or she will be required to provide a result sheet with his or her name in the results from a Category 2 aerotow competition. During the competition, the meet director/safety director reserves the right to remove (without refund) any pilot who does not demonstrate appropriate aerotowing skills. Each pilot must certify that he/she has aerotowed in competition conditions and that he/she has an aerotow rating, and is a skilled aerotow pilot and has towed the glider he/she will be flying in the competition in competition conditions at least five times.

-Written sprog measurements for each pilot's glider for comparison with figures produced by the sprog measuring team (measuring tools and assistance will be available to teams during the times designated in the official Program)

-All pilots will be provided with pilot numbers that must be affixed to the top of each upright prior to the start of the competition.

Note: Prototype gliders will NOT be allowed in any Category 1 event, which is the case for this World Championship. Pilots with certified gliders will sign the form from Section 7 Appendix (12.2.3.1) and those with "uncertified gliders" will be responsible of providing the proper evidence as mentioned (12.2.3.2).

3.3 The registration office will be open from 9 AM to 5 PM on January 5<sup>th</sup>.

3.4, Safety committee and task advisory committee will be chosen at the team leader briefing on January 5<sup>th</sup>. (2.6.3 and 2.6.4)

3.5 Briefing and airport procedures

There will be a daily briefing at the headquarters at the Forbes Sport and Recreation Club (bowling club) each morning of the competition at 9.30 am. Team leader briefings will be held on an as-needed basis if at least five team leaders request a meeting.

Pilots should arrive at the airport at a time advised during the morning briefing.

When arriving at the airport, do not drive beyond the car park until advised.

When advised, you can drive your car to your setup area. All cars must be returned to the car park when the horn is sounded. Towing will not commence until all cars have been removed from the setup area.

4. Wind Speed (2.17.13)

The maximum average wind speed in which a task shall be flown is 25 mph/40 kph. This shall be measured at the front of the launch line with a Skywatch wind gauge. Gust factor shall be less than 10mph/16 kph.

5. Equipment

## 5.1 Radios

Radio transceivers are required. Radios are for communication between competitors, team leaders, drivers and the organiser. All pilots and crews are required to submit their team frequencies and mobile telephone numbers, including drivers cell phone number to the competition director. Drivers are required to maintain radio communication with their pilots for safety purposes. This information will be used by the competition director for safety purposes. (2.19.2)

Transceivers that may be used in Australia are 477 MHz Australian UHF CB band units, Airband (108-137Mz) radios or Amateur 2m band (144-148MHz) units (see below).

- UHF CB radios must be approved for use on Australian UHF CB bands. This means that the radios need to be approved to A/NZS 4365 and carry the "C" tick.
- 2 Meter Amateur band radios may be used only by qualified Amateur operators on authorised amateur band frequencies only . Operators should bring a copy of their qualification to be shown on demand.
- All users of Air Band radios must hold the appropriate Air Radio Operator qualification.

## 5.2 Appropriate aerotow bridles

Competitors must use appropriate aerotow bridles as determined by the Meet Director and Safety Director and their designated officials. Bridles must be able to be connected to the tow line carabineer within thirty seconds. Weak links can't be connected directly to the carabineer at the end of the tow line. Steel rings must be connected to both ends of a weaklink that connects to the tow line carabineer. Some appropriate bridles can be found here:

<http://OzReport.com/9.039#0> and <http://ozreport.com/9.041#2>.

## 5.3 Weaklinks

Pilots must use weaklinks provided by the meet organizers and in a manner approved by the meet organizers. All weaklinks will be checked and use of inappropriate weaklinks will require the pilot to go to the end of the line to change the weaklink.



Weaklinks will consist of a single loop of Cortland 130 lb Greenspot braided Dacron Trolling line <http://www.cortlandline.com/catalog/braid.html> and should be placed at one end of a shoulder bridle. The tow forces on the weaklink will be roughly divided in half by this placement. Pilots will be shown how to tie the weaklink so that it more likely breaks at its rating breaking strength. Four strands (two loops) if connecting directly to the tow line through two rings.

Pilots may use a leader to connect to the tow line carabineer. Pilots are to supply their own leaders.

Pilots must be completely ready to go when they are at the front of the launch box ready to be hooked up. To not be ready is a disservice to your fellow competitors and to the meet organizers.

## 6. Launch

### 6.1 (Aero) Towing

Forbes airfield

Forbes Airport address:       Corner Dr. Young Drive & North Condobolin Road,  
Forbes NSW 2871

Forbes Airport GPS coordinates: -33.361037, 147.933204

### 6.2 Airport Rules

When the airport is open in general aviation traffic you must not cross the airport tarmac runway below 460m (1500ft) above ground. The height of the airport is 240m (800ft) ASL. Do not drive around the inside perimeter of the airport. If you want to go to the club house, use the outside perimeter road. **Do not use the internal perimeter road.**

No hang gliders are to be stored in the hanger at the airport. This includes packed up gliders.

- Number of tugs – 11
- Tow rope length – 60 m
- Weak link strength – Cortland GREEN SPOT DACRON 130LB

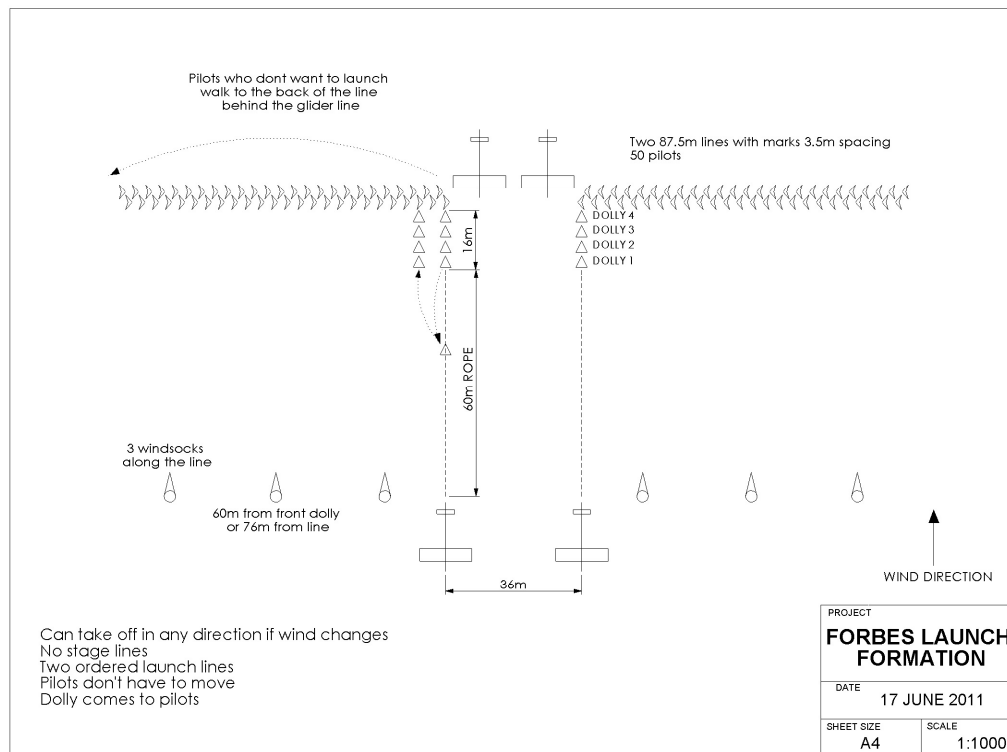
- Aero tow release height Max 610m (2000ft) AGL (exact value may be determined daily)
- **Pilots will be released in a designated area**

There is an implied push and all pilots are to launch in their staging/launch order as soon as the launch opens and as soon as the pilot has been moved to the launch position and conditions are determined to be safe for launching by the launch director. Pilots declining to launch in order will be moved to the back of the launch/staging line.

### 6.3 Staging/launch line order

On the first day pilots will be staged randomly in the launch lines. On the following days, launch order will be based on their current overall competition result. Pilots will setup outside the two launch lines, and then move into their assigned position. Pilots will launch in setup/staging order.

After the first day, there will be an open launch for twenty pilots outside the top third of the field. Pilots have to register their intention to launch during the open launch before 8:30am prior to the morning pilot briefing and will be chosen by lottery for the number of available slots.



The top thirty pilots will stage in reverse order with the last pilot in this first grouping in the number one position, etc., behind the open launch pilots.

The launch marshal shall use an air horn 30 mins prior to the specified launch open time to announce that all cars are to be removed from the airport and that all pilots should move onto the launch line in their assigned position.

The launch marshal shall use an air horn to announce when the window opens or if there has been a change in the task so that all pilots can be made aware of any changes. It is each pilot's responsibility to be alert for any changes.

The launch line marshal shall signal using an air horn 15 mins prior to launch open signalling that the first four pilots in the launch lines may move onto a dolly. Before any pilot can move onto a dolly the pilot needs to be ready. Ready is defined as: pilot is completely suited up with helmet on, hooked in with vario, GPS and other instruments turned on, and indicates that he is mentally ready to launch.

All pilots must stay in the launch lines and not move forward or back or side ways, the dollies will be brought to the next pilot in lines unless ordered to by the launch marshals.

Pilots who choose not to fly in their ordered launch position may move to the back of the line by carrying their glider and equipment around the launch lines away from the tug landing area.

### 6.5 Reflying

Pilots in the open launch who require a re-fly must go to the end of either queue. Pilots who were in the ordered launch and require a re-fly will be directed by the launch steward in position behind the 10th pilot in line or after the last person in line (in harness ready to go), whichever is least. The position includes pilots already on dollies. Pilots must rejoin their original launch queue.

The re-fly zone (you must land in this zone to be entitled to a reflight) shall be the area within 1 km centered around the Forbes airfield turnpoint. You must verify your landing position with a valid GPS tracklog if you need it to re-fly. This means that the pilot should not delete his/her tracklog after his/her 1st flight. If a pilot has a reflight and does not have a valid GPS tracklog verifying his 1st landing position, he will be scored zero.

6.6 In the event of dangerous overcrowding in the air around launch the competition director or safety director may close the launch temporarily until congestion has eased.

6.7 There may be an announced height limit that pilots must be below when they cross the start cylinder for the last time. The penalty for start height infringements will be a percentage of the pilot's total score for the day using the following formula:

$$P = ((H-H_s)*(H-H_s)/10000) \%$$

*It starts at 0% but increases quicker so 500m is 25%*

## 7. Waypoints and goal

7.1 Cylinder starts will be used and these may be either entry or exit. The type of start and the dimensions may vary from task to task and will be specified at each task briefing (1.6.7.9)

7.2 Turnpoints will be cylinders of 400 meter radius unless otherwise specified at the task briefing (1.6.8)

7.3 Goals will be either a physical line or a virtual cylinder. Goal type, size and co-ordinates will be specified at the task briefing (2.28.3).

#### 8. Tasks

Times of window open for take-off and time for the closing of the window, turn points and last landing will be displayed in writing. Any window extension policy will also be displayed in writing at the front of the line. The minimum period of time that the launch window will remain open for the day to be considered valid is (2.24.1): one minute times the number of pilots wishing to launch on a given day.

The meet director with advice from the task advisory committee determines the task each day. Start window times and intervals will be displayed. They may also set a height limit that must be met before pilots start their task (see 6.7 above).

#### 9. Scoring and Flight Verification

9.1 Scoring will be done using the latest version of the FS scoring program using the GAP 2002 scoring formula. (5.2.1). (GAP 2011 is the current designator for the GAP 2002 formula). The GPS map datum is WGS 84, the format to be used is hddd°mm.mmm', UTC Offset +11 hours.

The GAP parameters, which will be decided at the first pilot's meeting, will likely be:

Nominal distance: 80km  
Minimum distance: 5km  
Nominal time: 120 minutes  
Percent in goal: 20%

The likely FS Parameters are:

Use distance points - yes

Use time points - yes

Use departure points – no

Use leading points – yes

Use arrival position points - yes

Use arrival time points - no

Jump the gun factor – 3 but variable.

Time points given if reached ES but not goal - 80%

No pilots in goal day quality factor - 100%

Stopped task day quality factor - 100%

Stopped task bonus glide ratio - 0

Speed rank used to calculate time validity - 1

1000 points for winner in case of open distance or no one reaches ES before DQ is applied - no

1000 points for winner before DQ is applied - no

Day Quality – 0

Early starts will be penalized as per Section 7A 15.5.7. Meet director with Task Advisory Committee Assistance determined. Default is a factor of three times the time started early with a five minute limit but this can be greatly extended at the task briefing.

Where a track log shows that the pilot started before the first permitted start time he shall be given a points penalty equal to 1 penalty point per X seconds between his actual start time and the first permitted start time; X shall be 3 seconds but can be changed at the task briefing. Any pilot starting earlier than Y seconds before the first permitted start time shall be scored to minimum distance only. Y shall be 300 seconds but can be changed at the task briefing.

The first start time shall at be least one hour after the launch window opens (2.25.2)

9.2 Team scoring. The top three pilots each day will count for team scoring (5.6.2)

9.3 A pilot who lands (or limits his flight) to assist another pilot in distress shall be scored for the day. This score shall be the average day-weighted of what he scored in the previous rounds,

or the average pilot score if this happens on the first task. However, as the meet progresses that score will change to take into account his average day-weighted scores of the whole meet so the score will be adjusted after each task. The competition director may also award extra points.

(5.5.1)

9.4 Pilots may use any model of GPS unit that is compatible with the flight verification software to be used at this event but must, as a minimum, fly with one 3D GPS. (15.6.1) only 3D tracklogs accepted for scoring.

10. Penalties.

Early start penalty as per 15.5.7.3

Penalties will be applied to CTAF violations as per section 10.3 below.

Restricted airspace penalties as per 2.29.2

10.1 Airspace

Pilots are expected to familiarise themselves with all specified controlled airspace in the vicinity of course lines from the maps and information supplied. The responsibility is on the pilot at all times to prove that he/she has not infringed airspace or competition altitude limits.

10.2 Altitude verification

It is the pilot's responsibility to understand whether his instruments record and/or display pressure or GPS altitude, or both. He must ensure his instrument is set correctly before he flies.

For the purposes of altitude verification, the scorer keeper will group GPS instruments into three broad categories:

Group 1: Instruments incorporating a pressure sensor to be able to record and/or display pressure altitude, eg Flytec 5030/6030/Brauniger Compeo/Compeo+. (Some other instruments may also display GPS altitude).

These instruments should be set to the altitude of the airfield shortly before launch. Your instrument then displays and records the pressure altitude that will be used for scoring purposes. The airfield altitude is 232 meters or 761 feet.

One way to set the main large altitude display on Flytec 6030 or Brauniger Compeo+ is to set it to the GPS determined altitude of the airfield after your internal GPS has acquired the satellites at the airfield. (Press the left hand soft (menu) button, then the right hand soft (menu) button.) Pilots can also use the up and down arrows to set their altitude displays.

Group 2: Instruments recording only GPS altitude, eg Garmins that do not have an internal pressure sensor.

Pilots flying with GPS-only altitude units should be aware that there can be a difference between pressure and GPS altitude of up to 200 to 300 m and therefore if they wish to be assured that they will not violate airspace should not get closer than 300 meters to the bottom of an airspace.

Each day the difference between the GPS altitude and the pressure altitude will be derived by the score keeper by referencing track(s) from an instrument used on that task that gives both measures (eg Compeo+/6030). For those pilots using GPS altitude only instruments, their GPS altitude will be adjusted using this difference.

For example, if pressure altitude is found to be 200 meters higher than GPS altitude, 200 meters will be added to the altitudes found on the altitude field in the pilot's track log to determine if the pilot entered into airspace.

Group 3: Instruments that incorporate a pressure sensor, such that the recorded altitude is normally a continuous updated combination of GPS height and pressure altitude, eg those Garmin GPSes that have a pressure sensor.

The auto-calibrate function must be switched off. And the unit must be calibrated to the altitude of the airfield.

While Garmin menus may vary for different models, this is the normal method to set these instruments:

Main menu -> Setup -> Altimeter -> Auto Calibration: Off Main menu -> Setup -> Altimeter -> Calibrate Altimeter -> Do you know the correct elevation: Yes

These instruments will display and record pressure altitude.



Auto-calibrate is the default setting. If the instrument is turned off and then on again auto-calibrate will be turned back on, and must be turned off. If the pilot is already flying they won't be able to set the altitude correctly.

### 10.3 CAR 166 airfields

The task advisory committee is required to set tasks that keep us outside of the ten nautical mile wide (18.52 km radius) cylinder around airfields (CTAF's) designated by CAR 166 (other than Parkes CTAF) or other CTAF where we have permission. All turnpoints and goals (other than at the Forbes and Parkes airfield) are outside these cylinders except where we have obtained permission. You can see the cylinders here: <http://vhpa.org.au/siteguidemap.html>.

Pilots will receive penalties for any infringement of CTAF's.

Penalty points for CTAF violations:

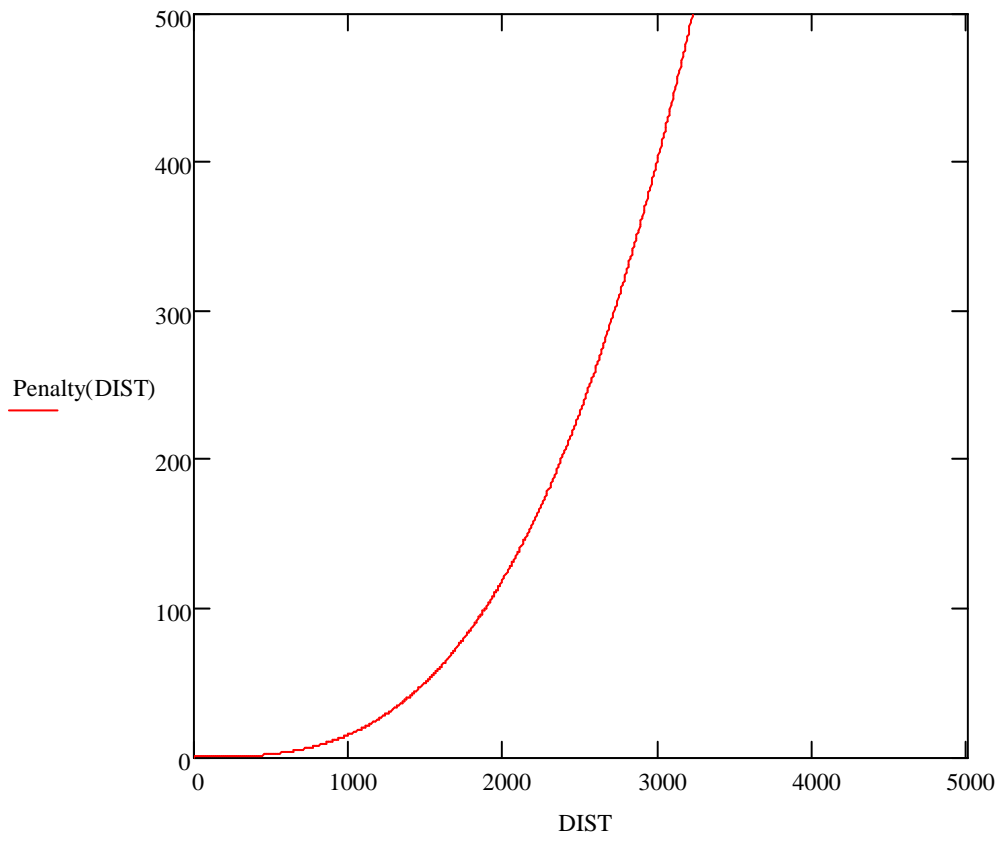
$$((\text{distance in meters})/400) \times ((\text{distance in meters})/400) \times ((\text{distance in meters})/400)$$

The parameter DIST (in meters) is the max distance the pilot intrudes into the CTAF, determined from pilot's tracklog. The formula is strongly progressive so as to discourage pilots playing tactics with the CTAF issue (but with a minor penalty for inadvertent intrusions). If a pilot infringes several CTAFs on a given day, the penalty is cumulative.

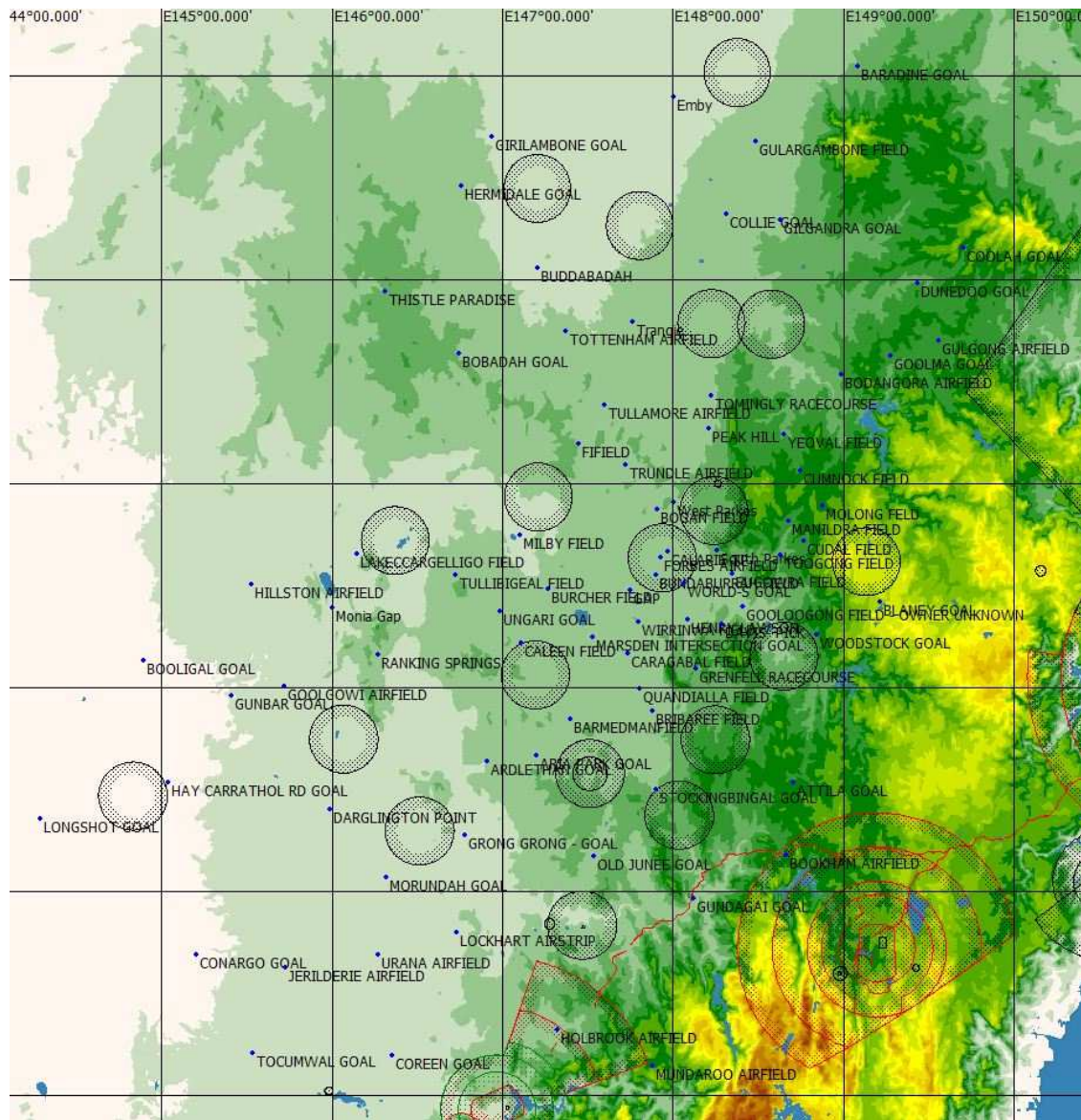
Example: DayWinnerScore = 950

The graph shows that intruding 400m you will lose less than 1 point, but at 3000m the penalty is around 400 points.

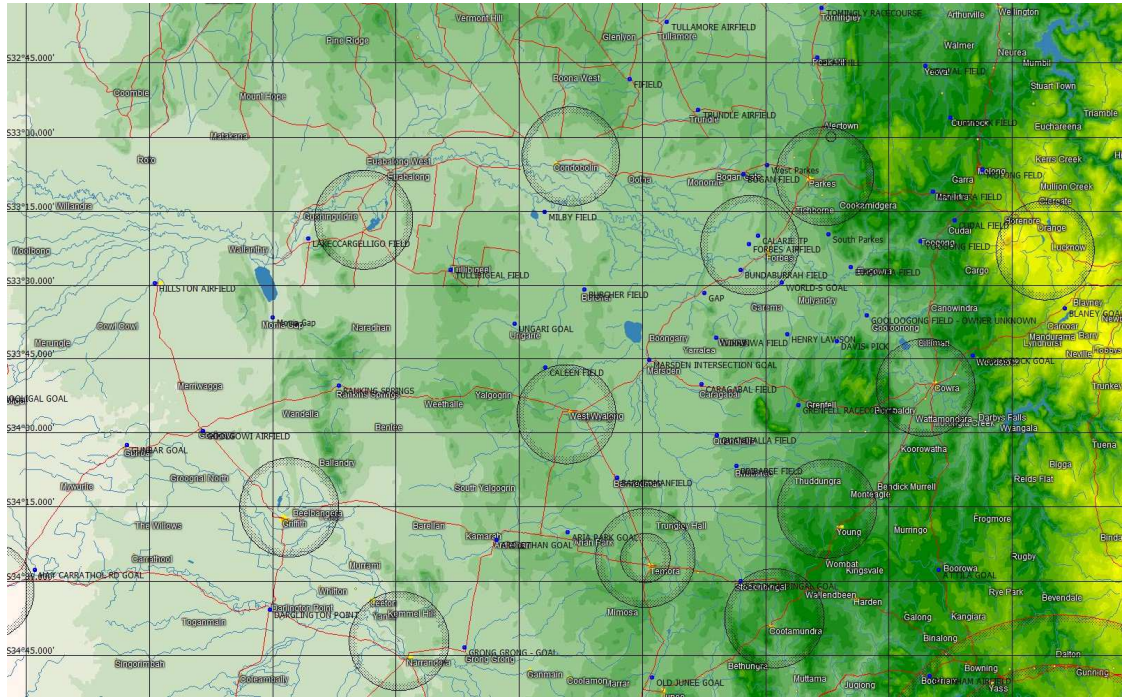
Penalty (400m) = .95, Penalty (1000m) = 14.844, Penalty (2000m) = 118.75



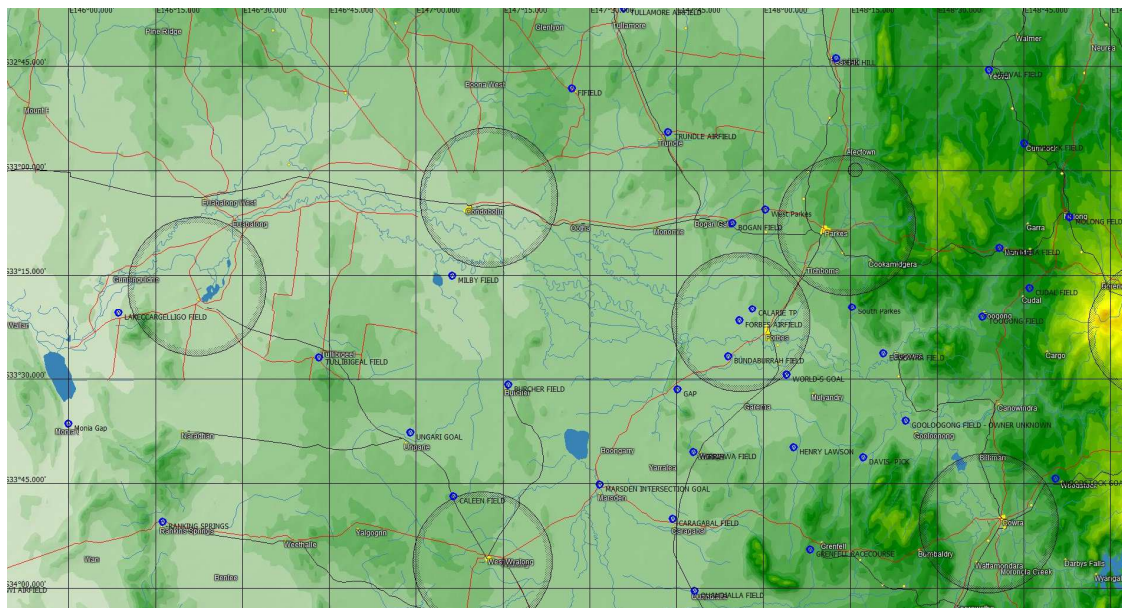
These are our maps of the relevant airfields at three different distances:



1000 km



500 km



300 km

#### 11. Rest Days (2.21)

The competition management reserves the right after six days of competition to call a rest day in accordance with 2.21 based on advise from both the safety committee and safety director and weatherman.

#### 12. Complaints and Protests

The organiser shall publish provisional task results in the evening of the day the task was flown. When this is not possible (late retrievals), they will be published at 10 AM the next day. Competitors are recommended to request correction of mistakes as soon as possible. A complaint in writing may be made to the Organiser to request a correction. The time limit for complaints is twelve hours after provisional scores are published.

On the day following the day when the task in question was flown, if the complainant is not satisfied with the outcome, the team leader or pilot may make a protest in writing to the Competition Director or his deputy (See General Section, Chapter 5). The time limit for protests is twelve hours after publication of the provisional results or the results of the complaint, except that after the last competition task it is one hour after publication of the provisional scores. The protest fee is 50 AUD. It will be returned if the protest is upheld. (2.4.7)

#### 13. Landing Forms

All pilots must submit a landing form for each task. This includes those who did not launch and those who flew but landed back in the paddock. It includes all pilots. If you don't submit a landing form, we can not finish the scoring and we cannot confirm your safety.