WIOSENNY PUCHAR POLSKI

2009

(POLISH SPRING CUP)

Dear Colleagues, Pilots!

About one year ago I conceived an idea of organising a virtual cup slightly different than most of all competitions organised before. The time when it was played and the time set in the simulator was spring, so the natural choice of the name was Wiosenny Puchar Polski (WPP), which means Polish Spring Cup. The competition had to be arranged quickly, however the requirements of the level of the organization were set high. WPP consisted of four demanding tasks, with tough and well arranged routes, prepared in details briefings and all other tiny details which had to make the competition more attractive – as an example you can take the absence of a full weather information which was substituted by METAR reports given in the briefing. WPP was the first competition organised by me (and in fact it was the only one which I have done until now), so I did not want to try to undertake the weight of keeping the international cup. That is why there was no international advertisement about WPP. A several pilots, mostly from Poland, have competed in the cup. We had also a few abroad guests. The fastest pilot and the winner of WPP was Marek Svozil from Czech Republic.

This year I would like to invite you to the 2^{nd} Polish Spring Cup (WPP 2). Unfortunately, because my lack of time, slightly delayed – the spring is at its end. This time we decided that we are going to visit Colombia and make the cup outgoing. The reason is that the weather in Poland during spring is not always enough warm, and from the other competitions we all know very well the wonderful Cadfael's Slovakia scenery. So we are going to use maybe not the newest scenery, a bit forgotten, but for sure surprising: Central Colombia 2.1a. I hope that your participation in the Wiosenny Puchar Polski 2 will be rewarded with a lot of fun and exciting gliding. I wish it to you!

Good luck!
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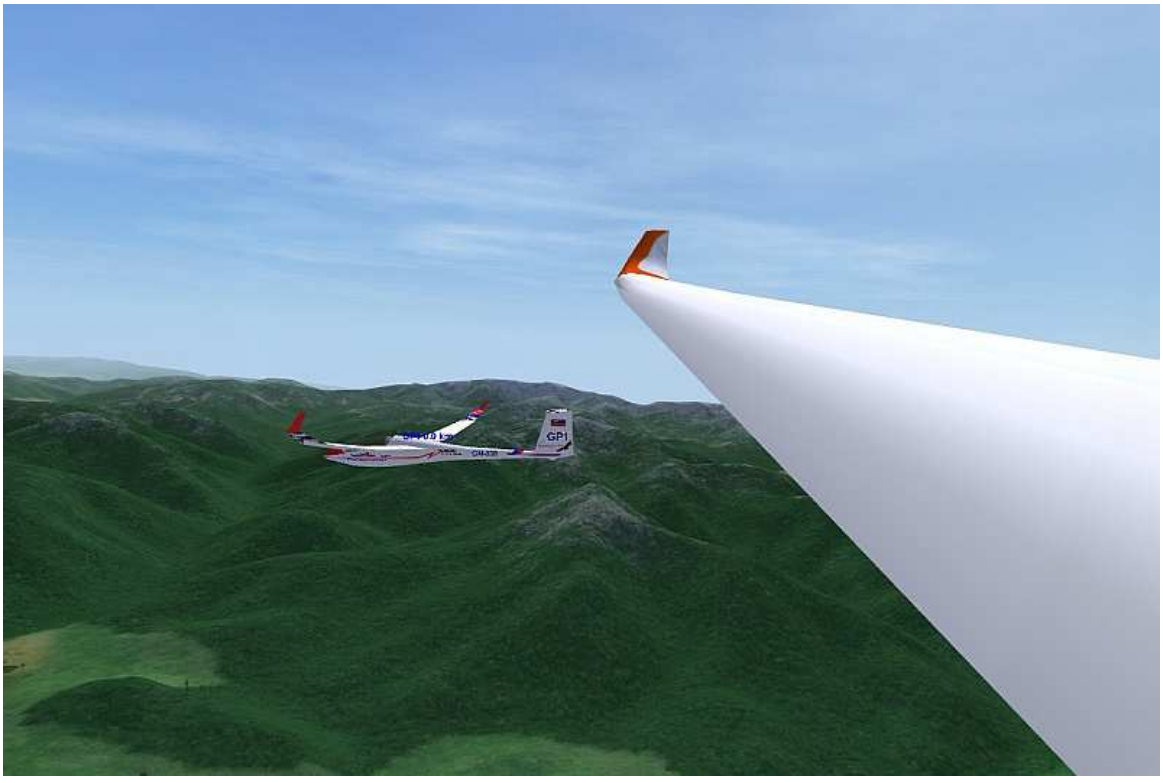


Patrick Gach (GP1) during Wiosenny Puchar Polski. The photo taken from the glider of Piotr Raczyński (PIT).

The most important information

Time: each Monday, start on 22.06.2009, 5 races, 20.07.2009 last.
Scenery: Central-Colombia 2.1a.
Server start time: 17:30 UTC (19:30 CEST), join-time: 30 minutes, time to race start: 20 minutes, regatta.
Class: 18 m without flaps.
Briefings sent by e-mail at least 12 hours before the server start.
Number of participants limited to 32. Registration required (by e-mail). After each flight .igc and .ftr files have to be sent.
Double classification: the general and for the most active pilot. At least 4 flights needed to be taken in account in the general classification. All races counted. Results for absence estimated with a dedicated method.

Central Colombia

Although the name of the competition is the same as an year ago, this time WPP (Polish Spring Cup) is not going to be played on the territory of Poland but is going to be an outgoing cup. We are going to leave well known neighbourhood of Bielsko-Biala and Nowy Targ, and we move to the area visited more rarely, but very pretty, with interesting weather and landscape conditions favourable by gliding. The races are going to be played in various terrain types: from vast plateaus, through dense ever-green tropical hills, ending in dangerous wild Andes mountains. For sure this configuration linked with a specific climate will make the competition very exciting.

The Cauca river which separates chains of Cordillera Occidental and Cordillera Central.

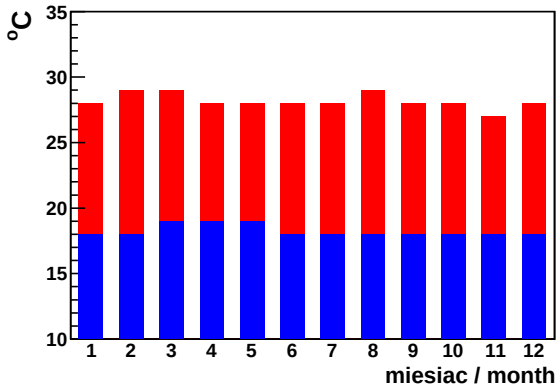
Relief

The relief of Colombia is very diverse – from Caribbean coast on the north of the state, through covered with glaciers massifs of the Ands, up to tropical jungles of the Orinoco and the Amazon rivers. The authors of the scenery *Central Colombia 2.1a* decided to focus on a some part of Colombia only, from the point of view of a glider-pilot the most exciting one - on the Colombian part of the North Andes and their nearest neighbourhood. We can find here the Cordillera Occidental, adjacent to the Pacific Ocean part of the Andes; as well as the Cordillera Central well known of high volcanic tops such as Nevado del Ruiz and Nevado del Tolima; and the wonderful valley of the Cauca river which separates these two mountain chains, where you can find a lot of coffee, tobacco, cocoa and sugar cane plantations. On the east from the Cordillera Central there are located flat, agricultural terrains of the Tolima department, with the most significant Colombian river: Magdalena. When you go further you find the last part of the Colombia modelled in Condor: part of the Cordillera Oriental. Even more far from there, there is a capitol of Colombia - Bogotá (2600 m AMSL), but unfortunately we can not reach it in the simulator.

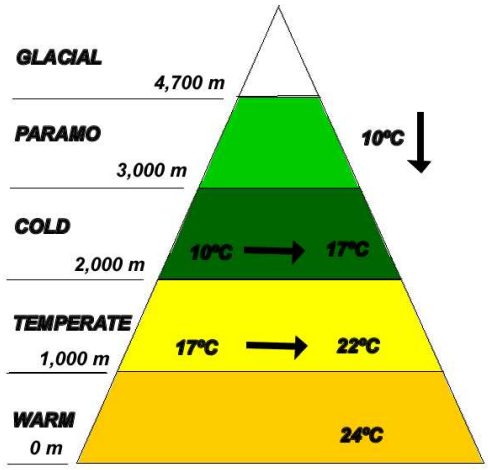
Nevado del Tolima - one of the highest volcanos in the Colombian Andes.

Climate

Colombia is one of the eleven countries all over the world which is crossed by the Equator. The majority of the state is located on the north from the Equator, in it the area covered by the scenery *Central-Colombia 2.1a*. This location, also the nearness of the Andes and the influence of the two oceans shape the climate of Colombia. Average temperatures during an year for a given location are almost equal and depend mostly on the absolute elevation of the terrain. There are more significant differences in the humidity which are linked to the location. The most rainy areas lay near to the Pacific Ocean and on the south-west part of the country, while the most dry are on the north. There are present also characteristic to tropical areas winds: trade winds. You can also observe plentiful of rain winds from the west, which are blocked by the Andes.



Average temperatures in Santiago de Cali. In red maximal temperatures, in blue minimal.



Thermal levels characteristic to mountain climate of Colombia.

The competition

During the organization of the WPP 2 we decided to combine well proven methods from other competitions which succeed in the virtual soaring world with the new possibilities such as clear points system based on time differences between pilots or like a dedicated method of an estimation of results for absences. The details are described below.

Important dates

The competition is held each Monday, beginning from 22.06.2009 up to 20.07.2009 – which results in five flying days. The server starts at 17:30 UTC (19:30 CEST). The join-time is 30 minutes, so after 18:00 UTC (20:00 CEST) it is not possible to connect to the server. Start is opened 20 minutes after the start of the towing procedure of the last glider. Regatta start. It is advised to connect to the server early enough, which can help checking weather and getting a convenient altitude before start.

Unofficial results are published at:

$$http://may.net.pl/forum$$

within 24 hours from race end. Official results are published after 72 hours – during this time pilots are obliged to send their files, this is also time when all complaints are considered.

Registration

To register one need to send an e-mail with following information included:

- firs and last name,
- nationality,
- competition number,
- type and the registration number of the glider.

to **wppcondor@gmail.com**

Qualification

In case when the number of registered participants is greater than 32, a qualification race is going to be set. The date of the qualification is 22.06.2009 and additionally the competition is expanded by one week. The fastest 32 pilots from qualification get the possibility to start in the cup.

Gliders

Available gliders are the 18 meters gliders without flaps, so there are available the following three gliders:

- Schleicher ASW28-18

- Schempp-Hirth Discus2c

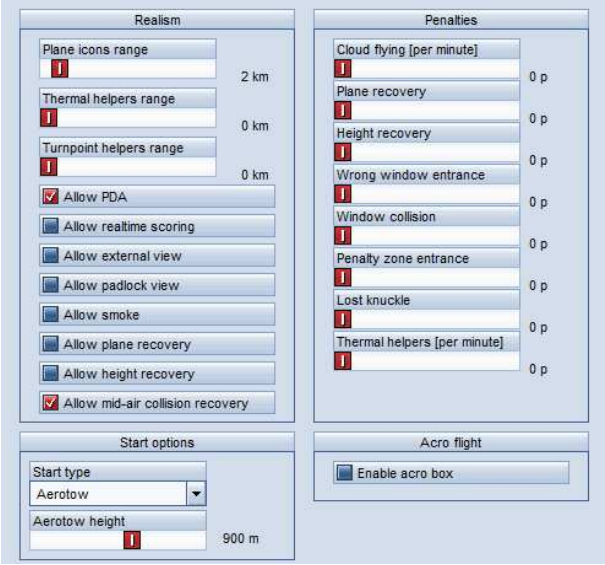
- Rolladen-Schneider LS8s

During the registration process the participant should choose one glider type for the whole competition. It is not allowed to change the type during the competition.

Briefings

Briefings are sent at least 12 hours before the server start time as e-mails at the addresses used during the registration process. In each briefing the following information is included: an information about the task route, a password to the server, basic weather forecasts (as real forecasts, the one given in briefings may not fully appear on the route or may be different) and all additional information as well as other regulations applied to individual tasks.

Tasks



The simulator settings.

A task start is different each day and it is given in the briefing. The hour is chosen the way in which it is possible to finish the task before thermal dies. Gliders are towed by planes, the tow height is 900 m above the airport elevation. Tasks are casual racing tasks, the length should be about $200-300$ km. The starting line is a 10 km length line perpendicular to the first leg. Unless it is given in the briefing, there is no maximal starting height. The start is opened 20 minutes after the join-time end. Each time it is a regatta start. Turning points are cylinders of radius equal to 500m. The finish line is a line of 1 km, perpendicular to the last leg.

Server has a limitation on the visibility of icons set to 2 km, as well as a disabled possibility of padlock and external views. There is no penalty for cloud flying (however the setting in the simulator can be set other way, just to show when a pilot is entering and leaving a cloud). No cloud flying penalty does not mean that it is allowed to fly through all clouds in all circumstances. Dangerous flying is going to be penalised, including daily and totally disqualifications. Weather settings are not visible to players and the server do not respond to the *taskinfo* command. The detailed information of the NOTAM are presented on the figure.

Task completion

A task can be completed in different conditions:

- pilot has crossed the finish line after reaching all turning points of the task,
- pilot has landed in a field,
- competitor has disconnected from the server and has finished the task (either by crossing the finish line or landing in a field) and has sent valid files with recorded flight.

In case of crash (no matter when: before start time, during the race or after finishing) the task is completed conditionally if the crash is the first one for the competitor. The result of that day is counted as a penalty crash result. If the pilot crashed a second time, he is disqualified from the cup.

Independently from the method of completion the task, each competitor is obliged to send two files *.igc* and *.ftr* with a valid flight recorded within the 24 hours from the finish time at: **wppcondor@gmail.com**.
Files should be named according to the following naming scheme:
$FlyingDay - CN.xxx$,
for example for the second flying day, for a pilot with a competitor number *KS* the files should have names: *D2-KS.igc* & *D2-KS.ftr*. Not sending the files is treated like a crash-result for the day.

In case of a simulator fatal crash, it is necessary to send a valid crash-log from the program. The day is treated as day in which the pilot didn't start. In case of a Condor fatal crash and a lack of crash-log, the day is considered like a start with a glider crash.

Scoring system

In the cup two scoring systems are applied: a general classification and a additional classification. The general classification is based on the sum of completion times of all tasks. The winner of the general classification is awarded with a title of the winner of the cup and the champion of the Wiosenny Puchar Polski (Polish Spring Cup Champion). The additional classification is based on the scores awarded for the positions achieved at successive turning points. The winner of the additional classification is awarded with a title: The Most Active Pilot.

General classification

The general classification is based on the sum of times of completion of tasks achieved by pilots in all flying days. The lower the sum is the higher the place in the classification.

The result of the individual task is represented as a time of completion of the task after applying additional modifiers. The representation is chosen this way to exhibit in the most intuitive way differences between competitors, to make it easy to estimate relative positions on the route and to regulate automatically the influence of the task difficulty on the race results. To avoid to big stretch of results, which cancels any chances of rivalry for competitors from the end of the table and this way which makes their flying less interesting, it was decided to introduce modifiers, which role is to make the table more flat at the end – this is something similar to a group time in cycling. The final result of the competitor (his final time after applying the modifiers) is calculated this way:

- for the fastest pilot it is his time in which he complete the task. This time (t_{min}) is a reference time used to calculate results for other competitors,
- for pilots who cross the finish after a time t, within a range $t_{min} \leq t \leq 1.17\ t_{min}$ – it is his time t,
- for pilots who finish in a time t which is grater then $t > 1.17\ t_{min}$, it is a time calculated with a formula:

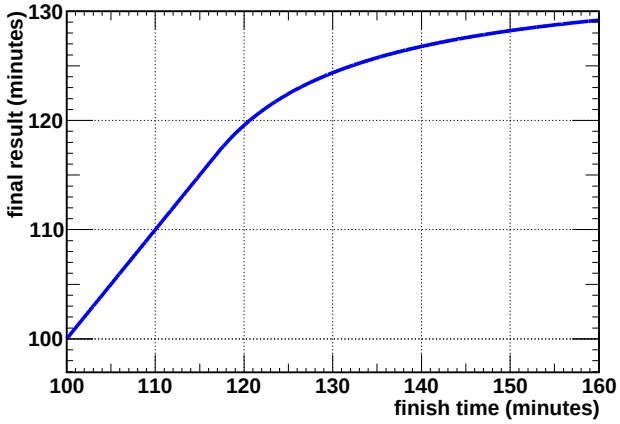
$$1.17\, t_{min} + 0.17\, t_{min} \left(1 - 0.17 \left(\frac{1}{\frac{t}{t_{min}} - 1}\right)\right),$$

- for pilots who do not reach the finish line and land in a field, after flying n kilometres on a task of total length l it is a time given by:

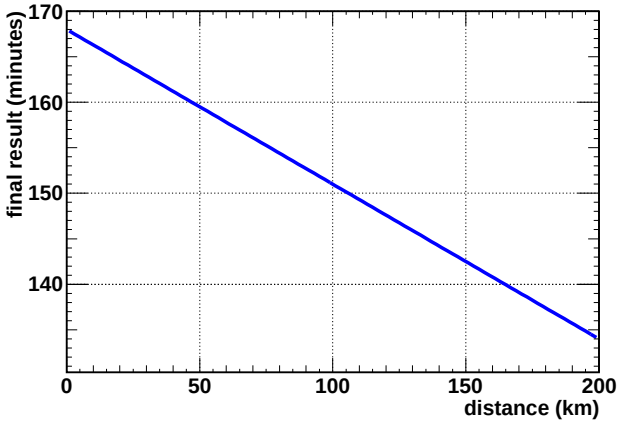
$$t_{min}\left(1.34 + 0.34\frac{n}{l}\right),$$

- for pilots who crash, in case this is a first crash during the competition, the result is a penalty result equal to 1.68 t_{min}.

Scoring example As an example which illustrates the method of using the scoring system lets take a task of a total length equal to 200 km. Let it be that the fastest competitor finishes after 100 minutes. Then the results of all other pilots can be read from the figures.



The final result of a competitor as a function of the task finish time in case given in the example.



The final result of a competitor who landed in a field as a function of distance flown in case given in the example.

Additional classification

The additional classification is a ranking for the most active pilot during the competition. The place in the classification is given as a sum of points assigned after each turning point. The higher the sum is the higher place in the classification. Points are awarded respect to the order in which competitors reach a turning point – the number depends on the position and is given in the table:

Position	Points
1	10
2	6
3	4
4	3
5	2
6	1
7+	0

Results for absence

During the whole competition it is allowed to not to fly one out of five tasks – this absence do not disqualify from the general classification. The result for the absence is estimated with a dedicated method. The method is applied in two steps. In the first one, a table of coefficients is calculated. The coefficients describe what are the typical results of the given pilot with respect to the other pilots. Lets take the given pilot as a pilot i, then the coefficients is given by this formula:

$$\alpha_j = \frac{1}{l} \sum_{days\ where\ i,j\ fly\ together} \frac{w_{i,n}}{w_{j,n}},$$

where l is the number of the tasks in which i and j have flown together, $w_{i,n}$ and $w_{j,n}$ are the results of i and j of the day number n. Additionally later we will use an estimator of the variance of the α_j coefficient:

$$\sigma_j = \sqrt{\frac{\sum \left(\alpha_j - \frac{w_{i,n}}{w_{j,n}}\right)^2}{l-1}}$$

In the second step we try to estimate the most probable result of the pilot i using as "a hint" results of the other pilots who have flown that day, and considering the relative results of i and the other pilots from all other days. Now, lets take only these pilots j, who have flown the day number m – the one missed by i – and who have flown together with i at least two other tasks. From their results we build a result of i for the day m:

$$w_{i,m} = \frac{\sum_j \frac{\alpha_j w_{j,m}}{\sigma_j^2}}{\sum_j \frac{1}{\sigma_j^2}}$$

This way the most significant in the estimation of the result of i are the results of these pilots who were the most regular with their results respect to the results of i. The construction of this estimation was based on two assumes: The pilot, who's results were usually about 103% of time in which j ended it's tasks, probably would have finished the missed day m with a result of about 103% of j's time if he had flown that day. But to be not to sensible to random effects, we average the result over the whole number of participants, each with a weight $\frac{1}{\sigma_j^2}$ – this way the results of pilots who were the most comparable to i participate the most significantly in the construction of the result of i.

Fair-play

We try to treat our virtual flying seriously so from a natural respect to rivals, who also want to get fun from racing together, comes the requirement of compliance wit fair-play rules. This means also a requirement of safe flying, and avoiding all actions which can interfere with other pilots flying. It is also prohibited to use any kind of unfair help and exploit in a software to get an advantage. All offences in this matter may lead to immediate disqualification from the cup.

Finally

I hope that yours participation in Wiosenny Puchar Polski 2 will be an interesting challenge, the flying will be a pleasure and it will give a lot of satisfaction. Additionally I hope that you will accept the new solutions used in the cup, as well as I believe that they are going to work well.

Krzysztof Sobczak