Proposal to use accumulated task quality for Ta calculation in cross country competitions

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Problem

Due to the current use of Ta in WPRS, organizers are making comps shorter and shorter, which increases the desire of the organizers to have a task in marginal or rather unsafe conditions. This is an undesired effect.

This happens because

- Ta is 80% for a 2 task comp and 100% for a 3 task comp, so you can already reach a serious Ta with only 2 tasks
- **Ta does not take into account the quality of the day: a 20 point task results in the same increase in Ta as a 1000 point task.**

In an extreme case, a comp with a decent pilot number and pilot quality could have serious impact on the world ranking even if only 50 points have been scored in total during the comp. This does not make sense.

A third negative effect of the trend to shorter competitions is that people living further away from comp hotspots are getting handicapped in the world ranking because they can't visit all these short competitions.

Scope

The world ranking for hang gliding XC competitions, classes 1, 2 & 5.

Goal

In order of importance:

1. Avoid the possibility that comps without real competitive flying get serious WPRS points. We do not want to award points based on luck, we want WPRS to ensure that the best pilots get ranked higher.
2. Make it pointless for organizers to push for tasks in unfavourable conditions
3. Make comps with 4 or 5 tasks more meaningful for the world ranking. 80% Ta for 2 tasks and 100 % for 3 tasks is too much.

Proposal

**Use accumulated task quality for Ta calculation instead of task count.**

We have a very good system to determine task quality: it's the days available task points in the GAP formula. So the suggested proposal is to calculate Ta as a continuous function of the sum of all available task points.

A suggestion is:

AP = SUM(available task points)

Ta = 1 - 0,00000000013844770 * (4000 - AP^{2,736966}) for AP <= 4000 and 100% for AP > 4000

which results in the following Ta values:
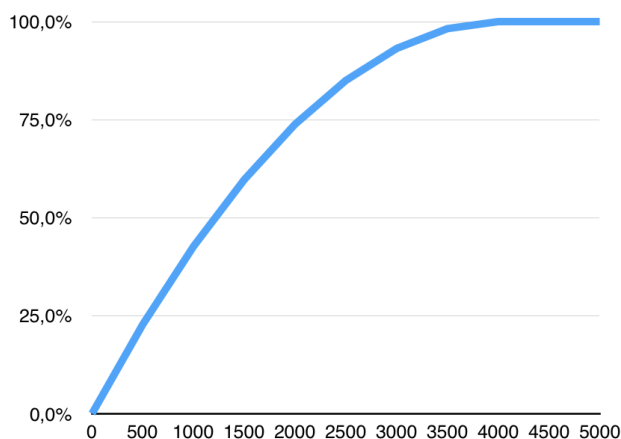
0	0,0%
500	22,8%
1000	42,7%
1500	59,7%
2000	73,8%
2500	85,0%
3000	93,2%
3500	98,2%
4000	100,0%
4500	100,0%

Here we have 85% Ta at 2500 possible task points, with 100% Ta reached at 4000 available points. Of course, the parameters in the Ta calculation can be tweaked to get a curve we all can agree on.

However, this system can only work if 2 preconditions are met:

1. all comps which want to appear in the WPRS ranking, must use the GAP formula
2. the GAP parameters should be set somewhat correctly to give decent day quality values

Requiring GAP for WPRS Cat 2 comps

This is a prerequisite for the system to work. The vast majority of comps is using GAP, but there might be exceptions to that rule.

But we should ask ourselves: does it make sense to have non-GAP-scored comps in the world ranking? Shouldn't the world ranking use the same rules everywhere?

Ensuring reasonable GAP parameters

With such a system (WPRS points influenced by available task points), organizers will be motivated to use ridiculously low GAP parameters, which would render the Ta calculation useless.

Therefore, **the proposal requests a minimum nominal task time of 2 hours**. Comps using a lesser value will not show up in the world ranking.

This will ensure that the available task points used for Ta calculation are meaningful, while still allowing the organizer to set the GAP parameters as desired for the local conditions in the comp (short or long distances, goal percentage, possibly longer task times).

Conclusion

By calculating Ta based on available task points, as already calculated by the GAP formula, we can value the quality of a competition much better than we are doing now. This would be a significant improvement to the WPRS system.

It also would improve safety, because organizers would have less motivation to push for tasks in unfavourable conditions.

There is no added complexity to the system, nor would the WPRS system become more difficult to understand (no changes to GAP, just a different Ta calculation).

The downside is that we would require all WPRS competitions to use GAP. But isn't this already the case?