

# Golden Cheetah FAQ

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# 1 MOST COMMON QUESTIONS OF ALL

## 1.1 How do I override / manually enter TSS for a ride?

The details chart on the analysis view allows you to override metrics on the metrics tab. By default the most common metrics are listed, including average HR, distance and so on. From v3.0 the default setup will also include TSS as a metric you can override here.

If the metric is not there you will need to configure GoldenCheetah to allow it to be shown. This is simple to do and described in 3.9 below.

## 1.2 Can I enter my weight and track/plot it?

Weight can be maintained in 3 ways;

- i. Every athlete is setup with a weight value – this is the fallback value should no other weight measure be available. It can be found under preferences and athlete.
- ii. The 'Weight' field can be maintained in the details screen. This is found on the 'Workout' tab in the details screen by default. Any entry here will be used for this ride ONLY.
- iii. You can download weight from a withings scale. This is performed manually via the menu option Tools->Get Withings Data. This is then used to update the local measures database.

When calculating W/KG the Activity value is used if present, if not we then fall back to the last Withing measure that was collected, and if that is not available we then fall back to the default value for the athlete.

The weight from withings and weight from the activity can both be plotted separately in the LTM plots.

## 1.3 How do I plot x sec power best?

As of v3.0 it is still not possible to plot custom durations for power bests. We are looking to add this in version 3.1, but for now you can only plot 1s, 5s, 10s, 15s, 20s, 30s, 1min, 2min, 5min, 10min, 20min, 30min and 60min bests.

## 1.4 I can't find Aerolab / Performance Manager?

By default we do not add these charts to the layout. Aerolab can be added to the Analysis view via the '+' menu found to the right hand side of the GoldenCheetah scope bar.

Similarly, the Performance manager can be added to the Home layout via the '+' menu. We may deprecate this chart in the near future since the LTM charts can be used to plot a PMC and we expect to implement an interactive PMC for planning in v3.1.

## 1.5 What happened to weekly summary?

It has been deprecated since the Diary view allows you to summarise by day, week and month and add charts to the view that summarise for the selection. As the weekly summary was fixed on specific charts and did not handle other selections (e.g. monthly) it has been deprecated in view of the diary view.

At present you can treat the Diary view as you would have the weekly summary – they offer the same functionality. We expect the diary view to extend to planned workouts when we implement planning functionality in v3.1.

## **1.6 Where are all the chart settings?**

All chart settings can be found under the drop down menu that appears in the top left hand corner of a chart when you mouse over it. They will appear as a popup dialog box.

Additionally, when you move the cursor towards the title of a chart in a view that is tabbed (not tiled) then a small selection of the most important settings for the chart will appear for convenience.

## **1.7 How do I change the colour of the rides on the calendar/list?**

Activities are coloured according to keywords embedded in their details (metadata) you can configure the field that is used and the values that are matched and the colours they are shown in from the preferences pane via the 'Data Fields' toolbar option then select Notes Processing. The keywords and related words are scanned for to determine if the associated colour should be used for this ride.

They are processed in the order they are defined with the first match being returned. Take care when using values such as 'TT' and 'race' since these can also be part of an English word (e.g. ATTEMPT contains 'TT' and graceful contains 'race').

## 2 GENERAL

### 2.1 What is GoldenCheetah?

GoldenCheetah is primarily a program for cyclists that own a power meter. It allows them to record, track and review their performance against recorded data. It also allows you to ride your turbo and collect data as you ride.

If you do not have a power meter then some of the functionality will not be of use to you as a cyclist. But you can still record and track progress. We support HR based TRIMP metrics for a HR based PMC for example.

### 2.2 What is a good book or resource on training with power?

Unquestionably the bible for working with a power meter is Training and Racing with a Power Meter by Hunter Allan and Andy Coggan. Make sure you look at the 2nd edition since it is revised quite dramatically. Whilst it is heavily biased towards WKO+ as a software package most of the functions of note are also available in GoldenCheetah.

### 2.3 Where can I download the installer for GoldenCheetah ?

Stable releases are available from [www.goldencheetah.org](http://www.goldencheetah.org) whilst the latest and greatest code build is available from [goldencheetah.stand2surf.net](http://goldencheetah.stand2surf.net). Development builds are for the brave, since they may contain bugs. In reality the development builds are a changing feast and often contain latest fixes too.

### 2.4 Where can I get the source code?

The GoldenCheetah source code is hosted on github here: [www.github.com/GoldenCheetah/GoldenCheetah](https://www.github.com/GoldenCheetah/GoldenCheetah). It can be cloned locally using 'git clone git://github.com/GoldenCheetah/GoldenCheetah.git'.

### 2.5 I am a triathlete is GoldenCheetah appropriate for me?

GoldenCheetah is not a multi-sport program. For tracking cycling performance it is a good choice. But if you are looking for running and swimming metrics and tracking then these features are not available at present. It is an excellent choice for analysing cycling aspects of triathlon, or working on the trainer.

### 2.6 Is there a mailing list?

The mailing list for GoldenCheetah users is maintained via Google Groups at <http://groups.google.com/forum/?fromgroups=#forum/golden-cheetah-uers> the first post you make is moderated and may take a while to appear. Once your first post is made you can make future posts without moderation.

### 2.7 How do I report a bug or request a new feature?

We use Github issues to record bugs and feature requests. You will need to create an account on github and then post a new request or bug at [www.github.com/GoldenCheetah/GoldenCheetah/issues](https://www.github.com/GoldenCheetah/GoldenCheetah/issues)

## 2.8 How can I contribute?

Patches are most welcome via the mailing list or a pull request in github. Of equal importance is the timely reporting of bugs and help in testing fixes. We also desperately need volunteers to translate into non-English languages and help with writing documentation including the maintenance of this FAQ.

If you want to help, post a note on the golden-cheetah-users mailing list.

## 2.9 Can I donate to the project?

We are an open source project. Our software is developed by a community. We do not have any facility to collect funding or spend it! We would rather you spread the word if you think our software is good, and maybe help out with documentation, tutorials or translations if you can.



## 3 METRICS

### 3.1 What is the difference between xPower, NP and Daniels EqP?

They all serve the same purpose – to express the variable power you have generated over a given period of time as a single value. This is so you can quantify the intensity of the ride and therefore the training stress of the ride.

In practice, NP and xPower are largely the same, whilst Daniels EqP place much higher emphasise on upper intensity work. For more info on xPower see Dr Skiba's paper on BikeScore <http://www.physfarm.com/bikescore.pdf>

### 3.2 What is the difference between CP and FTP?

CP is a shorthand for CP60 in GoldenCheetah, and is computed using the Scherer/Monod protocol using 3 and 20 minutes. Functional Threshold Power (FTP) is an actual measure of the power an athlete sustains for 60 minutes.

Since it is very difficult for an athlete to maintain the desired intensity FTP 'reality' tends to result in a number that is much lower than CP 'theory'. Often users will consider the two as the same.

In GC we compute TSS and BikeScore using your 'CP' value. If you set it to your FTP value TSS will be accurate, BikeScore is likely to be lower. And if you set it to your CP value BikeScore will be accurate, but TSS will be overstated.

### 3.3 Why does my CP chart show higher watts for a longer duration?

A higher power average for a longer time is possible if an effort has been "book ended". If, for example, you did a massive 30 second effort, followed by freewheeling for 29:30 then another massive 30 second effort, then your best average for a continuous 30 minutes would in fact be lower than your best average for a continuous 30 minutes and 30 seconds. (Thanks for Jon Hill from the Golden Cheetah Users mailing list for this example).

### 3.4 Can I set a different CP/FTP for different reasons e.g. CP/FTP on a trainer?

We allow you to override the CP value for a specific ride by setting the "CP" field to the value you wish to use for the ride in question. We do not have a concept of 'separate' Cps for different purposes – you will need to specify the CP when the data is imported into GC. But this allows you to make manual adjustments.

We provide this functionality at user request – we do not endorse the concept of multiple CP values. But we do recognise the ongoing debate regarding physiological stress from working on a trainer vs on the road.

### 3.5 How do I seed the CTL for my PMC?

You can seed the starting CTL (we call it LTS, for long term stress) when you define a season. That way it is re-usable in a number of places. To do this you edit the season (date range) in the Home View and can set the Starting LTS.

### 3.6 Why is elevation different in GoldenCheetah to my other training software / website?

Different programs will use different hysteresis values to smooth the small changes in altitude. In GC we use a hysteresis value of 3m.

If this is of great concern you can adjust the hysteresis value in preferences under the general tab.

### 3.7 Why is a metric e.g. TSS or average power different in GoldenCheetah to Garmin Connect?

The algorithms for calculating TSS, AP etc are static. They are implemented exactly the same way in GoldenCheetah, Garmin Connect, TrainingPeaks etc. The algorithms are extremely simple and not prone to difficulty in implementation.

However, how each application treats pauses and stops or loss of data accounts for most differences. In GoldenCheetah we always calculate AP,TSS etc including stop time. Other applications choose to ignore or smooth segments of short duration.

In addition, if there are anomalies in your data, with large gaps or even time going backwards, this will drastically affect GoldenCheetah's calculations.

We NEVER attempt to interpret data anomalies – if the results are not as you would expect you will need to correct the data. We do not 'silently' fix the data for you. There is no secret sauce in GoldenCheetah, we are open and transparent with your data.

### 3.8 How do I set the metrics shown for intervals in the various summaries?

In the GoldenCheetah preference pane under the Metrics tab you can choose the metrics that will be shown in the ride summary charts and the metrics that will be shown in the interval summary in the analysis sidebar.

### 3.9 How do I add a metric to the details screen (so I can override it) ?

If the metric you want (e.g. TSS) is not shown then you will need to add it via the GoldenCheetah preferences pane. On Mac this is from the menu option GoldenCheetah->Preferences whilst on Windows and Linux it is under Tools->Options.

You will need to select 'Data Fields' option from preferences toolbar and then the 'fields' tab. You will see a list of fields that are associated with a particular screen tab. If you scroll down you should find entries for the 'Metrics' screen tab, you can insert a new entry here with the '+' button. You should make sure the new entry is called exactly the same thing as the metric in question.

For 'TSS' this is relatively straight forward. For others, e.g. 'Average Heart Rate' you must make sure that the name includes spaces etc. Once your metric has been added to the configuration you should save that and return to the details screen where you can now maintain it.

If you are creating a manual entry then there is no 'details' tab in the dialog. Once you have created the entry (and again in this case TSS can be entered in the dialog) you should go to the details tab to maintain any other specific fields. The manual entry dialog is designed to be simple and accept only the most common of entries.

### **3.10 Can you calculate gradient, virtual power or other derived series from the ride data?**

Not in 3.0. We may introduce derived data series in the future.

### **3.11 Can I export metrics or access the metric database GC uses?**

The metrics are stored within a Sqlite 3 Database called 'metricDBv3' that can be found in the athlete directory. You can use any Sqlite 3 tools to query and work with the db.

Alternatively you can export the db in its entirety using the Activity->Export Metrics as CSV to export to a format you can use in a spreadsheet program.

## 4 DATA

### 4.1 How do I split, merge or join files?

You can split a file by time using the activity->split ride menu item (or toolbar button).

To join two rides together (making one longer ride from two rides) you can copy rows in the activity editor and paste special in the ride editor (right click) and then select append mode.

If you wish to merge rides, that is much harder and would need to be performed outside of GC or by cutting and pasting columns in the activity editor.

### 4.2 How can I find 'spikes' or specific values in activity data?

The activity editor has a function to find data on its toolbar. You can specify a range or upper or lower limit and find values less than, greater than or between a range of values.

Additionally, the editor will scan the file looking for anomalies – where the data appears to be out of normal ranges. These are shown with a wiggly red line in the editor and can also be listed by clicking on the anomalies icon on the editor toolbar.

If the anomalies icon is not enabled on the toolbar then there are no anomalies in the currently selected ride.

### 4.3 How can I fix 'spikes' or 'anomalies' in activity data?

You can either manually edit the values in the activity editor (there is full undo and redo in the editor). Or you can use the fix tools that are listed under the tool menu option (fix power spikes, fix gaps in recording, fix gps errors, fix torque).

Each of the fix tools opens a dialog that displays texts to explain what the fix tool does.

### 4.4 How can I add/remove a field to edit on the details screen?

The fields (metadata) that is editable can be configured in the preferences pane under the data fields tab. Where no screen is specified (its left blank) it will not be made available.

GoldenCheetah ships with a number of fields defined in the config but with no screen set. If you wish to use them simply set the screen tab to the tab you would like it to be shown on. To remove a field set the field tab to blank.

### 4.5 What are 'special fields' ?

There are a number of fields that when maintained in the details screen will be used elsewhere in the code to calculate metrics or for other purposes.

Some examples include;

Weight - used in W/KG calculations, Sport and Workout code are used when exporting to other file formats, Identifier is used to assign a UUID to the activity when it is uploaded to online services and so on.

There is a full list of special fields and their meaning in the Golden Cheetah user guide appendices.

## **4.6 How do I find/add/sort/delete/edit intervals ?**

The context menu (on the right hand side of the splitter handle) for the interval sidebar in Analysis view contains a number of options for working with intervals.

Additionally, you can click and drag on the performance (aka ride) plot to visually define an interval.

## **4.7 How can I export to a specific file format?**

Activity->Export allows you to export the activity to csv, fitlog, gc (xml), json, Training Peaks PWT or Garmin TCX format.

## **4.8 Can I use GC to convert data from one format to another on the command line?**

No. It is something we may add in v3.1

## **4.9 Can I delete an athlete and all his/her data?**

No. It must be done manually by removing the athlete directory via the operating system. Please ensure you do this when GoldenCheetah is not running.

## 5 UPLOADING AND DOWNLOADING

### 5.1 Why does upload to TrainingPeaks keep failing?

The Sport field in TrainingPeaks must have very specific values, although this is not documented in the XML Schema. We recommend using a sport of "Bike" if you plan on uploading rides to training peaks.

### 5.2 Why does download from TrainingPeaks say I need a premium account?

Training Peaks only allow paid up members to get access to their data. If you are using a free service they do not let you retrieve your data.

### 5.3 Why is data uploaded to Strava all wrong?

In general Strava will only use GPS data. If your ride does not contain GPS data then Strava is not likely to play nice. In addition many of the other data series will be ignored. This is related to Strava data processing in V2.0 of their API.

We always upload as TCX since the JSON flavour of their API appears to have less functionality.

### 5.4 What settings do I need to get GoldenCheetah to upload to my Google Calendar?

The upload to Google Calendar uses their CalDAV API, and as such needs to specify a collection. This means when entering the details in the passwords pane of preferences you should use the following for the caldav url:

`https://www.google.com/calendar/dav/xxxx@gmail.com/events/`

Where xxxx is your username. The username will need to be repeated in the username field and obviously set the password too.

## 6 SEASONS AND EVENTS

### 6.1 Why are there different types of seasons?

This is to help with planning functions. As of v3 there is no real distinction made. Adhoc seasons are expected to be used solely as date ranges and have no associated plan. Whilst other season types may contain plans. This is only relevant for planning functions that are not available yet.

### 6.2 What is event used for?

It is only used to annotate a LTM chart – so you can show an 'event' that happened at a particular date. There are no rules about what constitutes an event. It could be a race, a training camp or just a day that was particularly meaningful e.g. illness, crash.

## 7 CHARTS

### 7.1 I want to plot month -1,-2 and -3 how do I do that?

Assuming the chart allows you to specify a date range you can select 'This' 'month' and select prior '3' to specify a month 3 years prior, similarly 'This' 'month' and prior '2' is a month 2 months ago, whilst 'This' 'month' and prior '1' is last month.

'This' 'month' prior and 0 is just this month.

### 7.2 How does the mean max chart calculate CP when showing power?

The CP algorithm searches your best power for two durations; for anaerobic efforts it looks between 15s and 1min, for aerobic it looks for best efforts between 10mins and an hour.

Once it has found these two best values it will curve fit the two to enable the 60min value to be extracted. Bear in mind this is a theoretical number and as described above is applicable to the BikeScore algorithm. The value for FTP that the TSS algorithm requires is simply the highest value for 60mins for the time period, assuming you have performed a 60minute test recently.

### 7.3 How should I use Aerolab?

The following is a brief piece of advice from Robert Chung, from a discussion on the Golden Cheetah Users mailing list:

Ideally, you'll want calm conditions (both in terms of wind and traffic) but here's a quickie test you can do just to get a handle on what to do. Try to find a loop without stop signs, or an out-and-back with maybe a little dip or something in the middle. Make sure you won't get hit by a car and have good sight lines. I just go around my block a few times. Do a loop in the drops, then another loop faster, then a loop slower; then repeat with your hands on the hoods.

Weigh yourself and the bike and ballpark the air density.

See whether you can come close to modeling the "true" elevation profile by sliding the CdA slider around. Even with this informal test, as long as the wind isn't blowing too hard, you ought to be able to see a difference between the loops where you were in the drops and the loops where you on the hoods, and to spot little bumps and dips in the road.

There is also an overview of Virtual Elevation to measure aerodynamics in this YouTube video from the power seminar at Interbike 2011 given by Jim Meyer the founder of Quarq:

[http://www.youtube.com/watch?v=b8tJnFE\\_BFg&feature=youtu.be&t=27m58s](http://www.youtube.com/watch?v=b8tJnFE_BFg&feature=youtu.be&t=27m58s)

Finally, Robert Chung's original paper is included in the docs section of the GoldenCheetah repository, you can it up here (click on 'View Raw' to download):

<https://github.com/GoldenCheetah/GoldenCheetah/blob/master/doc/contrib/ChungVE.pdf>

### 7.4 My map doesn't show?

This is most likely because you have a proxy that requires authentication or session details. We do not have sophisticated support for internet proxy servers. We will re-use the operating system settings where they are configured.



## 7.5 What is the treemap plot used for?

Typically it is used to visualise where you spend your time or where you get best results. It is not particularly useful if you do not maintain details for each ride e.g. workout code, sport et al.

## 7.6 Can I change the colors in plot x ?

With the exception of the Long Term Metric plots the colours on the charts are configured in the GoldenCheetah preferences pane.

We want to use the same colours to plot each data series across the charts, so you can change them globally.

The only colours you cannot change are the colours assigned to intervals when plotting them on scatterplot or PfPv. These colours are assigned according to their sequence.

## 7.7 How do you zoom in on a chart?

You can zoom in on the distribution, scatterplot and PfPv charts by selecting the zoom area with the left click of the mouse.

On the performance (ride) plot you can zoom with the span slider at the bottom of the chart (if you select the full plot in the chart settings).

There are no other zoom options for the other charts.

## 7.8 I zoomed in but can't zoom out?

Right click will zoom back out to the previous zoom level (in the case of zooming multiple times). If you select another activity the chart will return to fully zoomed out.

## 7.9 GoldenCheetah is saying there is no data for a chart, but I'm sure there is?

You should check in the editor if the data series is present. if the activity is a manual activity entry it will contain no data.

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