

Training Guidelines for the Marmotte Alps

Revised and updated November 2021

The [Marmotte Alps](#) is the best known, the oldest and the toughest of the mass-participation French sportives. Because of its difficulty, the iconic reputation of the climbs, and the prestigious finish in Alpe d'Huez, all sportive riders dream of tackling it at least once. To finish the Marmotte is an exploit to be proud of: many hundreds of riders abandon every year, more if the weather is bad.

The Marmotte is limited to 7,500 participants and always sells out quickly. The event attracts the best sportive and GranFondo riders from the world over, and competition is fierce. Only the most dedicated and best-trained cyclists can hope to achieve a "Gold" certificate, let alone to finish anywhere near the podium.

What does it take to do well at this event?

Depending on your level, it will take you between 6h30 and 14 hours to complete the 175km and 5,000m of climbing from Bourg d'Oisans to Alpe d'Huez. This is a challenging ride by any standards, and such an event should be prepared over several years. If you are relatively new to cycling, we recommend you accumulate experience riding shorter and less challenging events before tackling the Marmotte. Plan to ride a minimum of 5,000km with at least 50,000m+ of climbing in the year before: the majority of participants have many years of experience and ride more than twice these amounts.

So how best to prepare for the Marmotte?

To answer this let's take a look at the demands of the event. The Marmotte includes four major climbs, two long descents (the first untimed) and two long valleys, the first a false flat climb and the second a false flat descent. Read here for more details [Course analysis for the Marmotte Alps](#).

The weather is a major imponderable, and can turn a tough event into a terrible ordeal if you are unprepared or lack the right clothes. Extremes of heat can be as challenging for some as heavy rain, sleet or even snow and the resulting risk of hypothermia for others. Even if it doesn't rain, you may experience temperatures varying from ~0°C to 30°C throughout the day.

Assuming you intend to ride as hard as you can, the Marmotte makes the following demands of you:

Physiological

- A high power-to-weight ratio for the climbs
- Excellent aerobic endurance (6h30-14h total cycling; multiple long climbs)
- Good short-term muscular endurance (short, hard efforts to stay with groups)
- The ability to recover quickly between efforts

Psychological

- Able to maintain focus and motivation on long climbs
- Able to concentrate and stay lucid when severely fatigued
- The mental ability to descend and corner at speeds above 60 km/hr
- Able to stay positive and deal with inevitable tiredness, setbacks and negative thoughts

Technical

- Excellent climbing skills, on long climbs and varied gradients
- Excellent descending and cornering skills
- Very good bunch riding skills
- The ability to eat and drink while climbing and while riding in a peloton
- The ability to change clothing or at least adjust for temperature while riding

Tactical

- The ability to stick to the optimum pace on long climbs
- The ability to identify when to push harder and when to conserve energy

It is certainly possible to reach the finish line of the Marmotte without being “excellent” on all these criteria. It will, however, take longer and feel harder... Each criterion is important and your particular combination will determine your overall performance, or indeed whether or not you finish.

Before working on your personal training plan, take the time to analyse your current abilities against this list to identify your strengths and limiters.

To obtain your best performance you should not only continue to develop your strengths, but also to work on your limiters, at least to the point where they no longer handicap you. As an example, if descending is a limiter for you, you might easily lose 2-3 minutes on each descent. The cumulative effect however will be much worse because you will lose the people you were riding with and drop back at least one group each time. The result could easily add up to a 20 or 30 minute deficit by the end. This is a shame, because descending faster is a skill that has almost no extra energy cost!

Developing Your Training Plan

Principles

The best training plan for you is one that has been designed with your unique strengths, limiters, objectives, context and constraints in mind, and is constantly adapted for you when things change (as they inevitably do).

Someone likely to finish in the top 500 or in less than 7h15 needs a very different plan to someone who will take 10-12h to finish. The closer to the front, the more like a race; the closer to the back, the more it becomes a pure endurance ride. The training is not the same.

A generic plan will thus be sub-optimum at best and potentially damaging. This is why we are not providing a generic plan. The “plan” we propose below is in fact a framework and a set of guidelines for you to adopt and adapt as appropriate. Our goal is to give you the means to think carefully about the process and take responsibility for your own preparation.

The key principles are:

- **Build a strong aerobic base**, so you can ride hard for several hours without having to ease off. To do this, we recommend training predominantly at low intensity, in Zones 1 & 2, below the point at which lactates start to increase in your blood (65-75% of FTP or 65-75% of HRmax). Training at this low intensity provides the endurance adaptations you need without adding unnecessary fatigue.
- **Do as much climbing as possible**, mostly at low intensity. If you attack every climb in your training as hard as you can, you will build more fatigue than fitness.

- **Build short-term muscular endurance**, to close gaps, stay with a group and power up short climbs. The faster you are, the more important this is.
- **Increase the load progressively, then recover, in 4 week cycles** (3 hard weeks followed by 1 week of active recovery). Consider adopting a 3 week cycle (2 hard weeks followed by 1 week of active recovery) if you are 50+ and find it's taking longer to recover.
- **The recovery weeks are essential** to allow your body time to adapt and get stronger. Remember, hard training actually breaks you down and makes you weaker! You only get stronger when you give your body time to recover, adapt and rebuild. There should be a big difference between your hardest and your easiest training weeks.
- **Work on both strengths and limiters**, so you don't get dropped unnecessarily.
- **Include exercises to develop technical skills**, and not only physiological capacity, because bike racing is not only about FTP and VO2max.

Our framework begins in the second week of January, six months before the Marmotte, and assumes your ability to continue to ride regularly on the roads throughout the period. If this is not the case, you will have to compensate by doing long rides on the turbo and ideally by joining a training camp in the early part of the year in a convenient warm-weather location such as southern Spain or Portugal, Mallorca or Tenerife.

To finalise your preparations, plan a training camp in the mountains in June and ride as much as possible in hot weather to acclimatise. Alpine Cols is running training camps in Tenerife (29/01 to 05/02), in the Mont Ventoux area (08/05 to 14/05) and in the Alps (11 to 18 June): all of these are targeted at preparation for sportives and GranFondos such as the Marmotte.

[Alpine Cols coaching camps in 2022 \(Tenerife, Ventoux, Alps\)](#)

TRAINING PLAN STRUCTURE

Our suggested framework includes three phases: **Preparation, Pre-Competition and Competition**. Each phase is then broken down into 4-week cycles including 3 load weeks and 1 recovery week, with a target training load for each week. If you are over 50, consider adopting a 3-week cycle of 2 load weeks and 1 recovery week.

[Download the training plan and details of the Training Zones.](#)

PREPARATION PHASE: JANUARY TO MID-MARCH

This covers the period from January through mid-March. The key objectives here are to accustom your body to training 8-12 hours per week, to build a strong aerobic base, and to use a limited number of HIT interval sessions to develop short-term muscular endurance.

ON THE BIKE, JANUARY TO MID-MARCH

1. **Aerobic endurance**: progressing to 5h rides in Zone1/Zone2 (less than 65-75% of your HRmax or FTP; if in doubt, err on the cautious side. The rides should FEEL slow). Aerobic endurance is by far the most important quality you need to build and you should spend ~80% of your training on this. Include as much low-intensity climbing as possible.
2. **Short-term muscular endurance**: multiple 4'-8' efforts, initially in Zone3 then increasing progressively to Zone5; and/or 1'-2' efforts initially in Zone4 increasing progressively to Zone6. High short-term muscular endurance is essential for staying with the other riders at your level during the first hour and staying in a peloton in the valleys. Do some of these efforts at low cadence. No more than one per week, and none during the recovery weeks.

3. **Technical limiters:** e.g. bunch riding, descending, cornering, etc. Take every opportunity on your long rides to practice technical skills. If you are not a confident descender, consider joining a training camp in the mountains with a coaching team qualified to teach you to do this.

OFF THE BIKE, JANUARY TO MID-MARCH

You may not be used to off-the-bike training. Nevertheless, it can have a significant impact on your performance. To cycle faster, you need to push harder on the pedals, which means you need not only stronger leg muscles but also greater core strength to stabilise and channel the extra force. The best way to strengthen your muscles is off the bike, using appropriate exercises and good technique.

1. **Strength and conditioning:** one or two sessions per week, ideally guided by a Strength & Conditioning coach with experience in cycling. The goal at this time of year is to increase the strength of your leg and core muscles. If you are new to this, err on the side of caution to limit the risk of injury.
2. **Flexibility and stretching:** two to three 20' sessions per week. Pilates or Yoga can be extremely beneficial. Learning correct technique is vital so choose a practitioner who knows cycling and only takes small groups (or better still individuals).
3. **Complement** occasionally with other sports: running, swimming, etc. If cycling is your only sport you risk building up imbalances and soft tissue problems over time.

PRE-COMPETITION PHASE: MID-MARCH TO MID-JUNE

This covers the period from mid-March to mid-June. The key objectives during this phase are to increase the training load to up to 15 hours per week or more, to reinforce your aerobic base, to improve your climbing at threshold and to improve your general race fitness.

ON THE BIKE, MID-MARCH TO MID-JUNE

1. **Aerobic endurance:** continuing long rides in Zone1/Zone2, progressing to an 8h ride by mid-June, with as much climbing as possible. Either do these long rides alone or with an understanding training mate willing to stick to the low intensity.
2. **Threshold:** multiple 10'-30' efforts, first in Zone3, then in Zone4 to develop your ability to climb at pace. No need to structure too much: just make all the climbs in Zone3 or Zone4 on a 2-4h ride. No more than one per week, less if overly fatigued.
3. **Sportive or club ride:** twice per month in May or June, either ride a sportive or join a fast club ride in order to sharpen your reflexes and (re-)accustom yourself to race pace.
4. **Recovery:** short rides, 60-90 minutes, strictly in Zone 1. Make the easy weeks EASY. If the hardest weeks have pushed you close to your limit, then the easy weeks will need to be easier than normal, otherwise you will overtrain and lose the benefit.
5. **Test different nutritional and equipment choices** so that come race day you know exactly what works – and what doesn't work. Practice changing clothing and adapting to different temperatures while riding. Get used to carrying two spare inner tubes and canisters or a pump.

OFF THE BIKE, MID-MARCH TO MID-JUNE

1. **Strength and conditioning:** one or two sessions per week, ideally guided by a Strength & Conditioning coach with experience in cycling. The goal during this period is to maintain the strength of your leg and core muscles. Cycling does not do this adequately.
2. **Flexibility and stretching:** as in the previous phase it is vital to maintain these sessions to keep your body flexible. Do two to three 20' sessions per week.
3. **Other activities:** optional, as desired. We recommend an occasional swim or perhaps a 1-2h walk.

GENERAL, MID-MARCH TO MID-JUNE

1. **Maximise your sleep.** This is essential for recovery and adaptation. You should aim at a minimum of 8h per night, and try to wake up naturally (without an alarm-clock). Banish all screens from the bedroom.
2. **Ensure high quality nutrition.** This is even more important than usual, due to the high training load. This is not the place for extensive advice on nutrition, but the key principles are to avoid industrial food and supplements (except under medical advice) and eat the widest possible variety of fresh, top-quality natural foods.
3. **Minimum travel, minimum stress:** the more you can avoid adding to the stress on your body, the better off you will be. Look for psychological coping strategies to reduce the impact of the most stressful events that can't be avoided.

TAPER: LAST 2-3 WEEKS

This covers the final two to three weeks before the event. The key objective is to eliminate fatigue without losing fitness. The goal is to arrive on the start line the fittest you have ever been, but also super-fresh and thus able to go the distance. The longer the event, the longer the taper: if you would normally taper 7 days prior to a typical event, taper 10-14 days for the Marmotte.

ON THE BIKE, LAST 2-3 WEEKS

Progressively reduce your training volume by at least 50%. For example, if you attend the Alpine Cols training camp 11-18 June, you might do two 1h recovery rides on 21/06 and 23/06, followed by riding 6-8h in two rides over the weekend of 18-19 June and a further two recovery rides during the week before the Marmotte on July 3rd.

Ideally, you should arrive in Alpe d'Huez at least 2-3 days before the start. The earlier, the better. Do a couple of short rides to spin the legs but nothing strenuous. Some people find it beneficial to do a few short efforts at high intensity on the day before a race, e.g. 5'-10' in Zone4, 1'-2' in Zone5, but this doesn't work for everybody.

OFF THE BIKE, LAST 2-3 WEEKS

The need for sleep, good quality nutrition and minimum stress are even more acute during the taper. The advice is the same as for the Pre-Competition Phase. The better you can plan to sleep well, eat well and avoid stress, the better off you will be...

[Download the training plan](#). Remember, it is up to you to adapt it depending on your personal situation.

SUPPORT FROM ALPINE COLS

All of our coaches have ridden the Marmotte multiple times and know the challenge extremely well. We can help you prepare in two complementary ways:

1. Sign up for a six-month [coaching agreement](#) to receive individual day-to-day coaching and one-on-one advice;
2. Join a one-week [coaching camp](#) to benefit from a big block of training as well as one-on-one coaching on your technical skills and of course plenty of advice and tips for your preparation and the event itself.

[Contact Alpine Cols](#) if you would like a **professional coach** to help you prepare for the Marmotte.

Do you want to perform at your best during the Marmotte? Join an [Alpine Cols coaching camp](#) to improve your skills and learn how to tackle this challenging event from our expert coaches.