

TRAIL RUNNING LABEL

difficulty and exposition



Trail running is a sport that involves running or walk in a outdoor natural environment, taking advantage of the geographical features offered by each region (usually mountains, deserts, forests...) and following a logical path that allows us to discover the region (although some organizations or federations wanting to impose more loops or turns with the only purpose of add km). Trail running it encompasses very different practices, depending on where we run, the distance and the characteristics of each region.

It's important to know that it is a sport played outdoors, in the nature. That implies a difficulty of classifying competitions as each race will have its peculiarities. We will never find an identical race to another and even the same race may well change from one edition to the next, as specificity and difficulty of the game is given because the mountain is a living being, that is changing and it is different at each place and at all times of the year.

Two races with the same elevation and distance can be very different from each other, either by the type of terrain, the climatic conditions or the conditions of the mountain at the time, or the different surfaces, such as snow, mud or a dry floor.

And although each mountain race, by elevation, weather, terrain, technicality, kilometers and more factors is almost impossible to establish a classification, but this is our goal.



Trail runners mostly think about physical capacities (“I can run 20km, 80km or 200km” or “I can make 4000m elevation...”) but rarely they think about the difficulty (“it demands some climbing, it demands to know how to put the feet, rocks, snow...”) the experience (“need to navigate out of trails, need to use and know to use extra gear to protect myself because is a storm, need to stay on the middle of a mountain for some hours waiting for a rescue....”) and the exposition (be injured here is difficult to evacuate, “if I fall from here I can die...”)

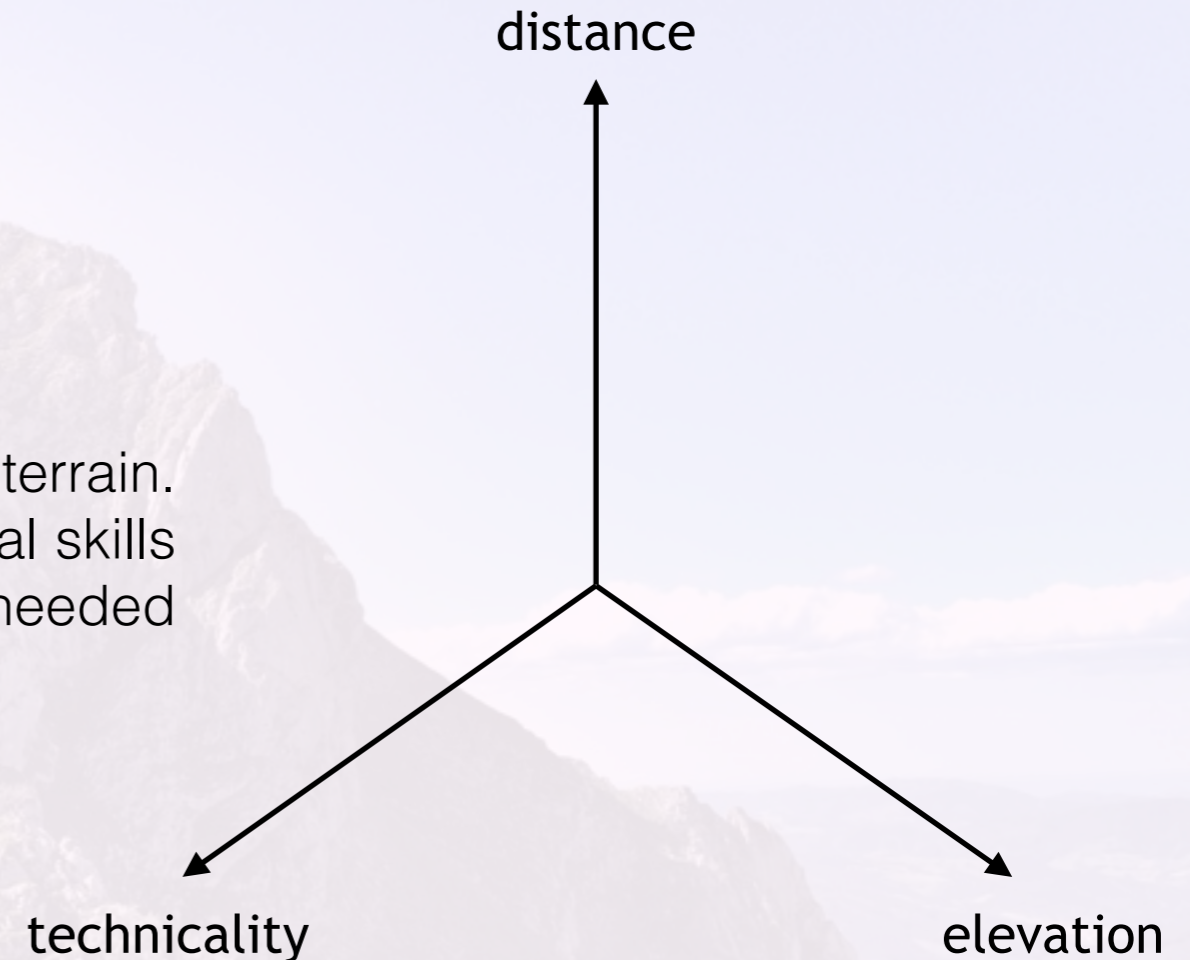
We think is very important all the trail runners to understand that *Trail Running* is not just about km and meters, but about technical skills and experience. That is not because you run easy UTMB that you can do Hardrock 100 or KIMA.

We was thinking on a label of races on difficulty/exposition. As in mountaineering exist a system that can guide yourself if you're experimented to do a route (PD, AD, D, MD, ED) we design a label system for trails races, to don't see in adapted people on technical trails and to have a prevention of what they will find. And the most important, to start to introduce on the spirit of trail runners that trail running in mountains is not athletics.



The facts that differ every trail race can be grouped on 3 axes:

- 1) **Distance**: kilometers of the race
- 2) **elevation**: ascent meters and downhill meters
- 3) **Technicality**: Exposure and technicality of the terrain. Considering the risk of injury or die, the technical skills to progress on every terrain, the self-reliance needed to be on safety by oneself.



T label: Technicality and exposition

| Level | Technical skills | Exposition | Examples |
|-------|--|---|---|
| I | easy terrain, not need to use the hands. Clean trails, on outdoors or low mountain. | no risk or small injuries | Sierre Zinal, Pikes Peak, Western States |
| II | easy terrain, not need to use the hands. Some rocky or mountain trail parts, need to have a "randonnée" or low mountain knowledge. | Risk of injuries and need to be self-relianced on low mountain (wait to be evacuate in case of accident, not get lost on non visibility, know to follow trails, know about storms...) | UTMB, Zermatt Ultraks, Giir di Mont, Zegama |
| III | difficult terrain, rocks, snow, go out trails. Need to use the hands. Need to have a middle - middle - high mountain knowledge. | Risk to get injured or seriously injured. Need to be in autonomy in hard mountain conditions. | Diagonale Des Fous, 80 Chamonix, Dolomites Skyrace, Hardrock 100, The Rutt |
| IV | difficult terrain, steep rocks, hard snow, small scrambling and ropes use. high mountain knowledge. Use of | Risk to get injured or seriously injured. Need to be in autonomy in hard mountain conditions. | <i>As graduation "F" in alpinism.</i> Sentiero delle Grigne, Elbrus race |
| V | Dificult terrain, glacier, rock scrambling, up to III climbing grade. Need a high mountain knowledge. Use of crampons or technical gear. | Risk to get seriously injured or die in case to fall. Need to have knowleges on hight mountain and be independent to make himself safe in all conditions. | <i>As graduation "PD" in alpinism.</i> KIMA, Lenin race, els 2900, Tromso SkyRace |



T label: Technicality and exposition

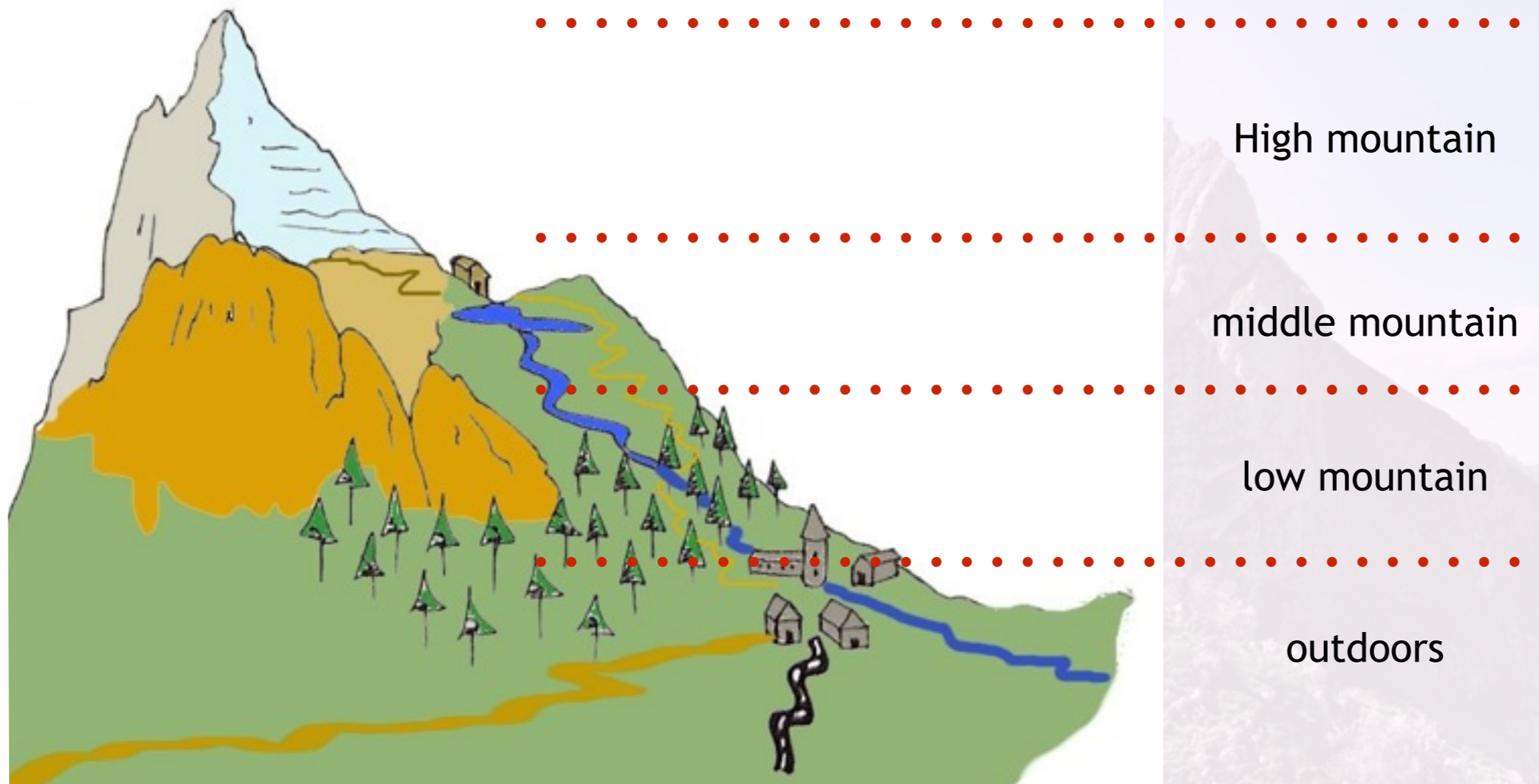
other factors can influence on the T label:

- * Distance on exposed terrain, the fatality in case of fall.
- * A long way or difficult access to evacuate in case of DNF or accident.
- * A low number of aid stations or controls, the needed of navigate and be autonomy during long periods on the mountains.
- * the quality of the terrain, as lose rocks, ice snow...
- * Weather conditions on the race spot, as average on the dates and area.



T label: Technicality and exposition

Mountain knowledges are not just about the altitude: High mountain (glacier) can be at 1000m on Scandinavia, 3500m on the alps or 5000m on Himalayas or US.



T label: Altitude

Trail running is a mountain sport, Altitude should be considered starting from the classification proposed by Bartsch and accepted by the UIAA:

| Altitude | From m | To m | AMS | label |
|----------|-----------|------|-------------------|-----------------------------------|
| Light | Sea level | 500 | No | no |
| Low | 501 | 2000 | Usually no | no |
| Medium | 2001 | 3000 | Possible | no |
| High | 3001 | 5500 | Possible/probable | specify <i>“High altitude”</i> |
| Extreme | 5501 | 8848 | Probable | specify <i>“extreme altitude”</i> |

AMS: Acute Mountain Sickness Acute mountain sickness can progress to [high altitude pulmonary edema](#) (HAPE) or [high altitude cerebral edema](#) (HACE), which are potentially fatal.

Also in high altitude the recovery time it decreases, the decisions taken is less lucid and we have less precision on the movements.



ALPINISM

TRAIL RUNNING

ATLETICS

ED

TD /MD

D

AD

| Level | Technical skills | Exposition | Examples |
|------------|---|--|--|
| <i>V</i> | Difficult terrain, glacier, rock scrambling, up to III climbing grade. Need a high mountain knowledge. | Risk to get seriously injured or die in case to fall. Need to have knowleges on high mountain and be independent to make himself safe in all conditions. | KIMA, Lenin race, els 2900, Tromso SkyRace |
| <i>IV</i> | dificult terrain, steep rocks, hard snow, small scrambling and ropes use. high mountain knowledge. | Risk to get injured or seriously injured. Need to be in autonomy in hard mountain conditions. | Sentiero delle Grigne, Elbrus race |
| <i>III</i> | dificult terrain, rocks, snow, go out trails. Need to use the hands. Need to have a middle - middle - high mountain knowledge. | Risk to get injured or seriously injured. Need to be in autonomy in hard mountain conditions. | Diagonale Des Fous, 80 Chamonix, Dolomites Skyrace, Hardrock |
| <i>II</i> | easy terrain, not need to use the hands. Some rocky or mountain trail parts, need to have a "randonée" or low mountain knowledge. | Risk of injuries and need to be self-relianced on low mountain (wait to be evacuate in case of accident, not get lost on non visibility,know to follow trails, know about storms...) | UTMB, Zermatt Ultraks, Giir di Mont, Zegama |
| <i>I</i> | easy terrain, not need to use the hands. Clean trails, on outdoors or low mountain. | no risk or small injuries. Easy evacuation. | Sierre Zinal, Pikes Peak, Western States |



D label: Distance

Short: need of a strong contribution of the anaerobic metabolism (mainly lactic, but also alactic), the intensity is above and not lower than the anaerobic threshold. Maximum time: from few seconds to one hour.

Medium: need of a mixture of aerobic and anaerobic metabolism, up, but not higher than the anaerobic threshold, or between the aerobic and the anaerobic thresholds. Time: between one hour and few (3-4) hours (we have to decide considering the aerobic power/time relationship).

Long: need only the aerobic metabolism, always under the aerobic threshold. Time from 4 hours, but less than 18 hours.

Ultra-long: mean intensity always under the aerobic threshold, but race long enough to reach a minimum level of sleep deprivation (that affects brain and cognitive functions). So, considering a mean of 6 hours of daily sleep, we can define “sleep deprivation” when the performance lasts more than $24-6=18$ hours.



D label: Distance

| Level | distance | time | Examples |
|---------------------|-----------------|---------------|---|
| short | 1-15km | 20' - 1h | Vertical Kilometers, Mount Marathon, Tjon Dixence |
| middle | 20-42km | 2-5h | Dolomites SkyRace, Zegama, Ultraks, Sierre Zinal |
| long | 50-100km | 5-12h | 80 Chamonix, Transvulcania, The Rutt |
| ultra | more than 100km | more than 15h | UTMB, Hardrock 100, Diagonale des Fous |
| Stages races | multy day race | | Transalpine run, transrockies, 4 trails |



E label: Elevation

| Level | | Examples |
|-------------------------|---|---|
| <i>uphill race</i> | only positive elevation | Vertical Km, Opp races, Pikes peak ascent |
| <i>downhill race</i> | only negative elevation | |
| <i>from A to b race</i> | start and finish line not at the same point, so different + and - elevation | WS100, Valmalenco Valspochiavo, |
| <i>loop race</i> | start and finish on the same point, so same + and - elevation | UTMB, Zegama, KIMA... |



examples classification

| | | | | |
|------------|--|--|---|---------------------------------|
| T | | | | |
| V | | Lennin Race, Tromso SkyRace | Trofeo KIMA | Els 2900 |
| IV | Elbrus Race, Idiatrod Trail invitational | sentiero delle Grigne | | Echappée Belle, Ronda dels Cims |
| III | | Dolomites Skyrace, Climbathon, Sentiero 4 luglio | 80k Chamonix, Carros de Foc, Ice Trail Tarantaise | Tor des Geants, Hardrock 100 |
| II | KV Canazei, KV Manigod, Mount Marathon, Feel races | Giir di Mont, Zegama, Valmalenco, Limone Skyrace | Ultraks, Cavalls del Vent, CCC, TDS | UTMB, Diagonale des Fous, |
| I | KV Chamonix, Mountain running, Tjon Dixence, Grand Ballon, Stralivigno, Scaala Opp | Sierre Zinal, Mont Blanc Marathon, Pikes Peak, Mont Fuji Race, Jungfrau Marathon | Les Templiers, SF 100, Transvulcania, Speedgoat, UROC | Leadville 100, WS100 |
| D | <i>short</i> | <i>middle</i> | <i>long</i> | <i>ultra</i> |



How to describe a race?

Race name, distance, elevation, technicality, altitude

elevation

- if uphill race: **m+**
- if downhill race: **m-**
- if loop: **m**
- if A to b **m+ m-**

Technicality

- label from I to V

Zegama 42km 2600m II

UTMB 160km 9800m II

WS100 160km 4000m+ 6000- I

Trofeo KIMA 49km 4000m V

Zermatt Ultraks 46km 3600m II

KV Chamonix 4km 1000m+ I

Sierre Zinal 32km 2000m+ 800m- I

80K Chamonix 90km 7000m III

Pikes Peak M 42km 2200m I High altitude

Hardrock100 160km 11000m III High altitude

Lenin Race 20km 3000m+ V extreme altitude



The organizers must be the ones who decide the label of the race, in function of the technical and exposed facts of the track.

The athletes must understand which are their technical capacities and experience to take part on a more or less technical race. And to train and improve this capacities on training before taking part on a more technical race (without counting the distance and elevation facts)

Federations must control that the races under his calendar are well labeled. A over-label can make misunderstanding and confusion and affect the safety of the racers.



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