



## **Clothing for Ojos del Salado Expedition**

One of the determining factors to be successful and reach the summit in an expedition in the Andes or the Himalayas is to have the appropriate clothing.

The only way to know which way to dress in the mountains that suits us best is through personal experience climbing mountains.

But each mountain and each expedition has its own requirements. It is convenient to take into account the experience of those who already know them.

This post's goal is to help those who venture on this type of expedition for the first time to orient themselves in the enormous amount of information, brands, and garments that are available in the market today.

The information and suggestions in this post result from my personal experience and that of the ChileMontana guides. An experience acquired on expeditions in the Andes and the Himalayas, focusing on what we advise for the Ojos del Salado Expedition.

### **The fundamentals**

The system widely used and universally accepted today by mountaineers around the world is that of layers.

It is based on the concept of using the first layer of underwear, which keeps moisture out of the skin, a second layer whose mission is to provide heat, and a third layer that protects from the wind, rain, and cold from outside.

This concept was developed by the Norwegian company Helly Hansen in 1986 when polypropylene and fleece garments had already been invented. And it was also the birth of a material that was both waterproof and capable of breathing: the Goretex membrane.

We will use this concept to recommend a list of foolproof equipment for mountaineering expeditions such as Ojos del Salado, Lullailaco, Parinacota, among others. Before detailing the garments that you should include in your luggage, we will review the subject of layers a little more deeply.



### **The First Layer**

Is our underwear, and its fundamental function is to prevent our skin from getting wet with the sweat that we generate with exercise. The materials used for the first layer garments are synthetic: polypropylene and Capilene. We will never take cotton underwear on an expedition; however, Merino wool underwear has been developed recently. This is a giant step in the history of clothing for mountaineering. The reason is that this material has not only the ability to keep the skin dry from sweat but also a high ability to maintain the heat generated by exercise. Merino wool garments are much more expensive, and the propylene and Capilene alternative is still an excellent option.

### **The Second Layer**

Is the garment responsible for keeping you warm. Today there are many material alternatives, such as fleece, lightweight fiber or down-filled jackets, and softshell, to name the most important. Today, all the specialized brands offer a wide variety of garments that fall into this category, with different levels of built-in technology.

### **The Third Layer**

Is responsible for providing us with isolation from external conditions, such as wind, rain, snow. This category includes waterproof and breathable membranes, such as Gore-tex Pro, Futurelight, eVent. To participate in our expeditions, you will need both a good jacket with a hood and good pants made of these materials.

## **UPPER BODY**

### Long underwear top

In the Ojos del Salado expedition, a long-underwear top will be worn all along, including the acclimatizing hikes and climbs. Also, on summit days, so it's essential to pick one that works well for you. A top with a zip-neck is nice for venting during warm days lower on the mountain. A lightweight or midweight wool or synthetic top is usually the right choice. Those will be your first layer. Bring 3 or 4 of them, from light to midweight. Choose them extremely comfortable, not too tight. This is also the garment for sleeping in, together with the underwear bottoms.



### Some examples

- HH TECK CREW from Helly Hansen
  - LIFA MERINO LIGHTWEIGHT 1/2 ZIP from Helly Hansen
  - LIFA ACTIVE 1/2 ZIP from Helly Hansen
  - Capilene® Air Crew from Patagonia
  - Capilene® Thermal Weight Crew from Patagonia
  - Capilene® Thermal Weight Zip-Neck from Patagonia
  - NATURAL + KINSHIP WARM Long-Sleeve Baselayer from Odlo
  - NATURAL 100% MERINO WARM Long-Sleeve Base Layer Top from Odlo
  - ACTIVE WARM ECO Half-Zip Turtleneck Baselayer Top from Odlo
- 

### Fleece tops for layering

Worn over your base layers, the micro-fleece and fleece tops will provide warmth, abrasion resistance, water-resistance, and wind resistance. There are many mid-layers options, but some of the classic choices for mountaineering include fleece jackets and soft-shell jackets.

### Some examples

- R1® Air Crew from Patagonia
  - R1® Air Zip-Neck from Patagonia
  - R2® TechFace Jacket from Patagonia
  - HAVEN X-WARM Midlayer Hoody from Odlo
  - MILLENNIUM YAKWARM MIDLAYER TOP from Odlo
  - DAYBREAKER HOODED FLEECE JACKET from Helly Hansen
  - VARDE HOODED FLEECE JACKET from Helly Hansen
- 

### Down or Synthetic insulated Jacket ( Puffa jacket)

This garment is a recommended, nice, warm down, or synthetic jacket, so versatile that you will use it probably in all your next adventures and even in your everyday life. In the Ojos del Salado expedition, you may decide to wear it over your underwear top and fleece. Choose one with a hood, with a couple of zipped- outside pockets. The technical ones will also have at least one extra inner-pocket.

### Some examples

- ODIN LIFALOFT DOWN HYBRID from Helly Hansen
  - VERGLAS DOWN INSULATOR JACKET from Helly Hansen
  - LIFALOFT HOODED INSULATOR JACKET from Helly Hansen
  - COCOON N-THERMIC Light Jacket Insulated from Odlo
  - Down Sweater Hoody from Patagonia
  - Nano Puff® Jacket from Patagonia
- 

### Goretex or breathable expedition jacket with a hood

It needs to be a real expedition jacket, made with technical, breathable materials. Choose one that is not too heavy, no more than 400 g, with external and inner pockets. It should have a helmet-compatible hood. High-end jackets have taped seams and waterproof zippers, which ensure that water doesn't leak through them. Must fit over a fleece or puffa jacket. The most advanced jackets at the moment are built-in with Goretex Pro. They are also the most expensive, but for the Ojos del Salado expedition, you can choose one in Gore-Tex and Gore-Tex Active as well.

### Some examples

- Calcite Jacket from Patagonia
  - Ascensionist Jacket from Patagonia
  - FREETHINKER FUTURELIGHT™ JACKET from The North Face
  - ALPHA SV JACKET from Arcteryx
- 

### Expedition Down Parka

An essential garment that will keep you warm every evening in camps and on the summit day, when temperatures may reach -25°C / -13°F, often worsened by the wind. Having the right Down Parka on summit day may have a crucial role in the success and for your safety. Its primary purpose is to keep the body temperature in extreme conditions.

At almost 7000 meters over sea level, on a cold and windy day, not only the cold plays a role. Your body will be in a fragile balance in terms of oxygenation. Hypoxia and dehydration increase the risk of hypothermia and frostbite. Therefore, the right choice for this item is crucial. This parka needs to have a hood and hooks to hang the mittens.



We recommend:

- MXP TRILOGY DOWN JKT expedition down jacket from Millet
  - Absolute Zero Down Parka from Mountain Hardwear
  - Belay Parka Summit Series L6 Futurelight from The North Face
- 

## BOTTOMS

### Light to mid-weight wicking long/thermal underwear/bottoms

Those will be your first layer. Bring 2 or 3 of them, from light to heavyweight, with thicker fabrics laying down a little extra warmth. Choose them extremely comfortable, not too tight. Comfort in the outdoors starts with the layer that touches your skin.

#### **Some examples**

- LIFA ACTIVE PANTS from Helly Hansen
  - LIFA PANTS from Helly Hansen
  - LIFA MERINO MIDWEIGHT PANTS from Helly Hansen
  - Capilene Air bottoms from Patagonia
  - Capilene® Thermal Weight Bottoms from Patagonia
  - BLACKCOMB BASELAYER BOTTOMS from Odlo
  - WINTER SPECIALS PERFORMANCE EVOLUTION WARM BASELAYER SET from Odlo
- 

### Mountaineering pants

You will probably use your mountaineering pants since the second day of the Ojos del Salado expedition. As the days go by and the expedition continues to climb towards the heights of the altiplano and the Andes, we will see the temperatures decrease, and the wind will be stronger and colder. We will be adding one more layer to our mountain pants—first, the first layer of Capilene or merino wool under these. Later, for the 6000-meter summits and especially for Ojos del Salado's summit day, we will use a third layer over these: our Goretex over trousers.



### **Some examples**

- Galvanized Pants from Patagonia
  - Nano-Air® Pants from Patagonia
  - VANIR HYBRID PANT from Helly Hansen
  - Outdoor Research Cirque II Pants - Men's
- 

### **Goretex or breathable waterproof over-trousers**

This garment is your bottoms third layer. A suitable, technical, built-in Goretex or similar material should include a three-layer waterproof membrane as well as two-way zippered thigh vents. They need to have long zips that allow the over-trousers to be put on and taken off without taking off the hiking/mountaineering boots. They need to fit over the other two layers: underwear and mountaineering pants.

### **Some examples**

- Triolet Pants from Patagonia
  - Calcite Pants from Patagonia
  - L5 GORE-TEX® PANT from The North Face
- 

## **HEAD**

### **Warm fleecy hat / Mountaineering hat**

In the mountains, a beanie is an essential item of equipment to protect from wind and cold. It helps to prevent hypothermia because it significantly reduces body heat loss. A technical hat should be made of a material that is quick-drying, moisture-wicking, and breathable. Furthermore, the material should provide good insulation by trapping the body-warmed air. Modern hats are made either of synthetic materials, such as polyester fleece. Or natural materials like Merino wool. Merino wool is becoming increasingly popular for mountaineering apparel because it is soft to the touch, moisture-wicking, and odor-resistant. Bring a light one, such as the Merino Helmet Beanie, that fits easily under the helmet. Also, a heavier one, like the classic Brodeo Beanie or similar.



### Some examples

- Brodeo Beanie from Patagonia
  - Beanie Hat from Patagonia
  - ANTELAO 2 REVERSIBLE WOOL BEANIE from Patagonia
  - MAMMUT NORDWAND BEANIE
  - Merino Helmet Beanie from Mammut
- 

### Buff / Balaclava and Neck Gaiter

These humble items are an essential part of your clothing for a 6000 m expedition in the Andes. A creative and multifunctional item, it protects against wind and cold. Choose a couple of them: a lightweight and a midweight, preferably built-in technical materials that optimize moisture management and next-to-skin comfort.

- Eiswand Neck Gaiter from Mammut
  - Capilene™ Air Gaiter from Patagonia
  - Capilene® Air Balaclava from Patagonia
- 

## HANDS

### Light and Midweight Liners Gloves

Those will be your first layer for the hands, protect against cold and abrasion. On summit days, when you need to take off your outer gloves, the thin inner gloves will prevent your hands from freezing and even frostbite. They allow for excellent maneuverability and precision, needed to open and close zips, clips, put on crampons, and similar tasks. Bring two of them, a lightweight and a midweight, built-in polypropylene, Capilene, or merino wool.

### Some examples

- Unisex Merino 200 Oasis Glove Liners from Icebreaker ( Lightweight)
- Unisex Merino Quantum Gloves from Icebreaker (Midweight)
- Capilene® Midweight Liner
- HH WARM GLOVE LINER from Helly Hansen ( Lightweight)

### **Mountaineering Gloves**

The fingers are one of the body parts most prone to frostbites, and therefore, you must wear a good pair of gloves when you are in the mountains with low temperatures. Winter gloves are typically made of three layers (think of the [layered clothing system](#)); the liner is next to your skin and wicks moisture away while the insulation layer traps the body-warmed air to keep your hands warm. Lastly, the shell (outer layer) offers protection against rain, wind, and snow and is usually made of waterproof/breathable fabric. Gloves should provide good dexterity so that you don't have to take them off when, for example, putting on crampons or taking items out of your backpack.

#### **Some examples**

- Unisex MerinoLoft™ Collingwood Gloves from Icebreaker
  - ENFORCER GLOVES from Black Diamond
  - OUTDOOR RESEARCH - Extravert Gloves
- 

### **Down Mittens**

An essential garment that will protect your hands from frostbite on the summit day, when temperatures may reach -25°C / -13°F, often worsened by the wind. Having the right Down Mittens on summit day may have a crucial role in the success and for your safety.

At almost 7000 meters over sea level, on a cold and windy day, not only the cold plays a role. Your body will be in a fragile balance in terms of oxygenation. Hypoxia and dehydration increase the risk of hypothermia and frostbite. Therefore, the right choice for this item is crucial.

#### ***We recommend:***

- Himalayan Mitt from The North Face
  - Outdoor Research Alti Mittens
  - High Exposure™ Gore-Tex® Mitt from Mountain Hardwear
  - Black Diamond Absolute Mitt
-



## SOCKS & FOOTWEAR

### Tennis shoes or approach shoes

You will use them for the plane trip, for the transfers in 4x4 vehicles and probably for the first camp. There are a wide variety of alternatives. Choose a versatile model oriented toward hiking and lifestyle. The requirement is that they be comfortable and relatively light. In some expeditions, such as Aconcagua, you can use them for the approach walk to Base Camp. In Ojos del Salado, we do not have an approach walk because we arrive at the base camps by 4x4 vehicle. Therefore, a pair of tennis shoes may be enough in this case.

#### Some examples

- TX2 from La Sportiva
  - WILDFIRE MEN'S SHOES
  - Five Ten Guide Tennie Approach Shoes from FiveTen Adidas
- 

### Hiking boots

You will use them for the first acclimatization climbs, up to 5000 meters / 16,400 feet approximately. Also, for high camps, where due to low temperatures, tennis shoes or approach shoes will no longer be enough. The main requirement is that they can protect the foot and ankle in very aggressive volcanic rock terrain. Choose them with good ankle support. Get yours from a recognized brand: Scarpa, La Sportiva, Salomon, Salewa, Mammut, among others.

#### Some examples

- TX5 Gtx from La Sportiva
  - TxS Gtx from La Sportiva
  - Trovat Advanced High GTX from Mammut
  - Asolo Fugitive GTX from Asolo
- 

### Double mountaineering boots for summit day

For the 6000 of the Andes, such as Ojos del Salado, Aconcagua, Lullillaco, and Tupungato, among others, double boots are mandatory. We strongly recommend choosing one of the alternatives our guides have extensively tested in our expeditions and listed here. Ideally fully broken before the expedition. Please keep in mind that any no double boot won't be warm enough for the Ojos del Salado summit day.



Very often, our guests ask if the boots for the 8000 would be fine. Regretfully those are not at all suitable for Ojos del Salado climb. They have been designed for a totally different kind of terrain and for even lower temperatures. Generally speaking, they are also heavier than the boots we recommend for Ojos del Salado or any other 6000 in the Andes.

**We recommend:**

- First option: Spantik or Baruntse from Lasportiva
  - Second option: Phantom 6000 from Scarpa
  - Third option: G2 Evo from Lasportiva
  - Fourth option: Phantom Tech from Scarpa
  - Fifth option: Mont Blanc GV from Asolo
- 

**Thin liner socks**

This is an ultralight and thin sock to be used under the mountaineering socks. Its purpose is to keep your feet dry and act as your second skin to minimize friction and avoid blisters. They may be built-in Merino wool or synthetic fabrics, Capilene and Polypropylene.

**Some examples**

- Merino Hike Liner Crew Socks from Icebreaker
  - Hiking Liner Crew Socks from Smartwool
- 

**Over calf mountaineering socks**

Bring a couple of technical, specialized mountaineering/ski socks. They will contribute to keeping your feet warm. Choose them with a heel, toe, and shin padding for protection and warmth. It is essential that they are long enough and flexible so there is no slipping or bunching up. These socks need to stay up in your boots all day long.

**Some examples**

- T3 SKI MOUNTAINEERING SOCK from Lorpen
  - Inferno Expedition Socks from Lorpen (heavyweight)
  - Unisex COMFORT from Salomon (midweight)
-



### **Mountaineering gaiters**

All gaiters have the same primary purpose: to keep scree, mud, or snow out of your boots. You may not need them if your mountaineering pants or over trousers already have gaiters included. But still, sometimes, a pair of hiking or mountaineering gaiters may be useful in the Ojos del Salado expedition.

#### **Some examples**

- FrontPoint Gaiter from Black Diamond
  - Crocodile GORE-TEX® Gaiters from Outdoor Research
- 

## **SKIN PROTECTION**

### **Sunscreen face protection (factor 50+)**

At high altitude, ultraviolet (UV) radiation is much less filtered by the atmosphere and are thus much more harmful. Even in cloudy weather, up to 90% of UV is not filtered! If you find snow in the high altitude, the risk is even higher: On the snow, sunlight is reflected up to 85%, compared to just 15% for sand. Therefore, a good sunscreen is essential for Ojos del Salado expedition and any other expedition in the Andes.

#### **We recommend**

- La Roche Posay Anthelios 60 Melt-In Sunscreen Milk
  - Vichy Capital Soleil SPF 60 Soft Sheer Sunscreen Lotion
- 

### **Sunscreen lip UV protection (factor 50+)**

At high altitude, ultraviolet (UV) radiation is much less filtered by the atmosphere and are thus much more harmful. Even in cloudy weather, up to 90% of UV is not filtered! If you find snow in the high altitude, the risk is even higher: On the snow, sunlight is reflected up to 85%, compared to just 15% for sand. Therefore, a specialized sunscreen for lips and nose is essential for Ojos del Salado expedition and any other expedition in the Andes.

#### **We recommend**

- La Roche Posay 50+ UVB+UVA stick
- Five Star Lip Protection from Blistex SPF 30

### **Lip balm**

Bring lip balm and use it very often. Combining a good sunscreen for your lips and a specialized lip balm will prevent pain, itching, and discomfort of lip sores and blisters.

### **We recommend**

- Medicated Lip Ointment from Blistex

---

Check also our *Equipment List for Ojos del Salado Expedition*

Written by Vivianne Cuq January 14 2021