



Biophysics and Physiology of High-Altitude Mountaineering

Makalu Basecamp Trek Personal Gear Checklist

CLOTHING

- Down or synthetic down jacket (bring your own, or one can be bought or rented in Kathmandu)
- Waterproof shell jacket and pants (Gore-Tex or similar material preferred)
- Long sleeved synthetic fleece jacket
- 2 pairs of thermal underwear (tops and bottoms)
- Baseball cap/sunhat
- Wool or fleece hat
- 2 - 3 pairs of comfortable hiking trousers (nylon/polyester)
- 1 – 2 pairs shorts or skirts
- 3 pairs of warm wool-blend socks
- 3 pairs of running socks or liner socks
- Waterproof, lightweight hiking shoes/boots (MOST IMPORTANT ITEM)
- Lightweight sandals or flip-flops (these serve as Nepali house shoes)
- 2-3 synthetic t-shirts or trekking shirts

EQUIPMENT

- Pair of sun-glasses (to be comfortable and to avoid potential snow-blindness)
- Small backpack (waterproof or with rain cover)
- Headlamp or small flashlight, plus spare batteries
- Lightweight sleeping bag rated to 20 deg F or better (Bring your own, or buy/rent in Kathmandu)
- Silk/synthetic sleeping bag liner (optional)
- 2-3 reusable water bottles (must have a total capacity of at least 2 liters)
- Pair of collapsible trekking poles (important for safe travel over snow and steep, slippery terrain)
- Large, waterproof duffle bag (North Face Basecamp Duffle, or similar) for porter to carry your sleeping bag, extra clothing, and anything not going in your day pack. (Can be rented or purchased in Kathmandu)

MISCELLANEOUS

- Toiletries (travel size: tooth brush, toothpaste, dental floss, lip balm (with SPF 15), soap, hand sanitizer)
- Personal medications (Consider using acetazolamide (Diamox) to prevent altitude sickness)
- A small light-weight, quick-drying towel (optional)



- Sunscreen (avoid larger than 4oz tube in carry-on)
- Water purification tablets or a water filter (boiled water will be available at lodges)

- 1-2 rolls of toilet paper (toilet paper is not widely available in the Makalu region)
- Small roll of duct tape (can fix just about anything in a pinch)
- Smart phone to collect altitude data and photos
- 1-2 lightweight paperback books (reading material is nice if waiting out bad weather)
- 1-2 large plastic lawn trash bags (these can serve as emergency ponchos and to keep your gear dry if your pack or duffle bag gets damaged)

PEARLS for Trekking Gear

- 1) FOOTWEAR is the most important piece of equipment. We will be in extremely warm and wet environments as well as very cold and snowy ones. The terrain in Nepal is steep, muddy, rocky, and slippery. We may need to cross snowfields depending on weather conditions. It is imperative that your feet stay warm and dry as much as possible. We recommend lightweight, Gore-Tex hiking shoes or mid-high boots with Vibram™ soles. Heavy hiking or mountaineering boots may be cumbersome during much of the trek and are generally not necessary. Lightweight shoes are also appropriate for touring/walking in Kathmandu and eliminate the need to bring multiple pairs of shoes. Be sure to have hiked in your shoes/boots prior to our trek. Make sure there is enough room in the toes so that you don't injure them going down steep hills and that you don't get problems with blisters.

- 2) DOWN JACKETS and SLEEPING BAGS are widely available in Kathmandu and can be bought or rented. Feel free to bring your own equipment, but many people choose to use the local gear due to size, bulk, and cost. You will likely keep your down jacket in your pack through lower elevations and even while walking at higher elevations. Nevertheless, it becomes essential through cold evenings and mornings at high altitude.

- 3) SHELL JACKETS and PANTS are essential to protect you from wind and water throughout the trek. We begin in lush cloud forest in the foothills of the Himalaya prior to ascending to exposed alpine tundra and the windswept glacial moraines above. Gore-Tex and similar waterproof breathable materials are lightweight and should be kept in your day pack for quick use, as weather changes rapidly and unpredictably in the Makalu region. Feel free to bring your own or they can be bought or rented in Kathmandu.

- 4) DAILY TREKKING ATTIRE consists of underwear, a long or short sleeve synthetic t-shirt or trekking shirt, and nylon/polyester trekking pants/shorts. Additional layers such as fleece and/or shells can be worn as appropriate. You will likely be sweaty, and your clothing will be wet upon completing the day's walk. Many people prefer to change clothing and hang wet clothing to dry upon reaching the next lodge.



- 5) MANAGING YOUR PERSONAL GEAR will help add to your comfort and enjoyment of the trek. Due to the remoteness and wilderness aspects of this journey, it is important to recognize there are limitations to the amount of clothing and gear that can be brought along. You will carry a small amount in your daypack, and your porter will need to carry the rest. Consequently, you will likely wear the same garments for multiple days. There are very limited resources for hand washing your clothes, so be prepared to feel a little grungier than usual. You can keep relatively clean by rotating through a few changes of underwear, socks, pants, and shirts by washing or hanging them each afternoon when we arrive at the next lodge. There are few things more annoying than waking on a cold morning only to find all your trekking clothes too wet and rank to wear. Likewise, you should hang and dry wet Gore-Tex and down before packing them away.
- 6) WATER is critical to your health and safety for this adventure. Trekking at high altitude poses a serious risk for dehydration, which can lead to an increased incidence of altitude sickness and other serious health problems. You should be drinking at least 2 liters of water during each leg of the trek and carrying your water in your daypack. Waterborne disease risk can be minimized by drinking water that has been boiled, filtered, and/or treated with chemicals. Lodges will provide boiled water. I recommend filling your bottles prior to bedtime so the water will be cold and enjoyable on the morning hike. Feel free to bring a lightweight filter or tablets if you prefer. There are many rivers and streams throughout the trek from which water can be collected and treated in addition to what is provided at the lodges.
- 7) TREKKING POLES are an important part of your daily trekking gear that are also safety equipment in the event we must cross snowfields on the high passes. Poles should be two to three pieces and collapsible. These can be bought or rented in Kathmandu.
- 8) HYGIENE is a challenge in the wilderness and rustic lodges in the largely undeveloped Makalu Region. After leaving Khandbari, there are only squat toilets and limited cold-water taps (usually siphoned directly from streams). Toilet paper is not common and the few showers at lodges are likely to be chilly at best. It is a different way of life than most westerners are accustomed to experiencing. We recommend bringing 1-2 rolls of toilet paper with the cardboard removed and flattened into a zip-lock bag unless you are comfortable wiping with the left hand as is the local custom. Regardless of your toileting choices, I recommend bringing a small container of soap and/or hand sanitizer to reduce the risk of diarrheal disease. Although this topic may be a turnoff to some folks, most trekkers find it is easy to adapt to Himalayan customs and accommodations while embracing this aspect of their adventure.
- 9) SMART PHONES and ELECTRICITY are concerns of many trekkers. We recommend bringing a smart phone as a personal camera and to record data from physiology experiments. There is little to no electricity beyond Khandbari and virtually no cell coverage for the duration of the trek. A few lodges have limited electricity from solar panels, but it is dependent on weather. We recommend bringing one to two small supplemental batteries and/or a solar charger if you wish to power your device for the entirety of the trek

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