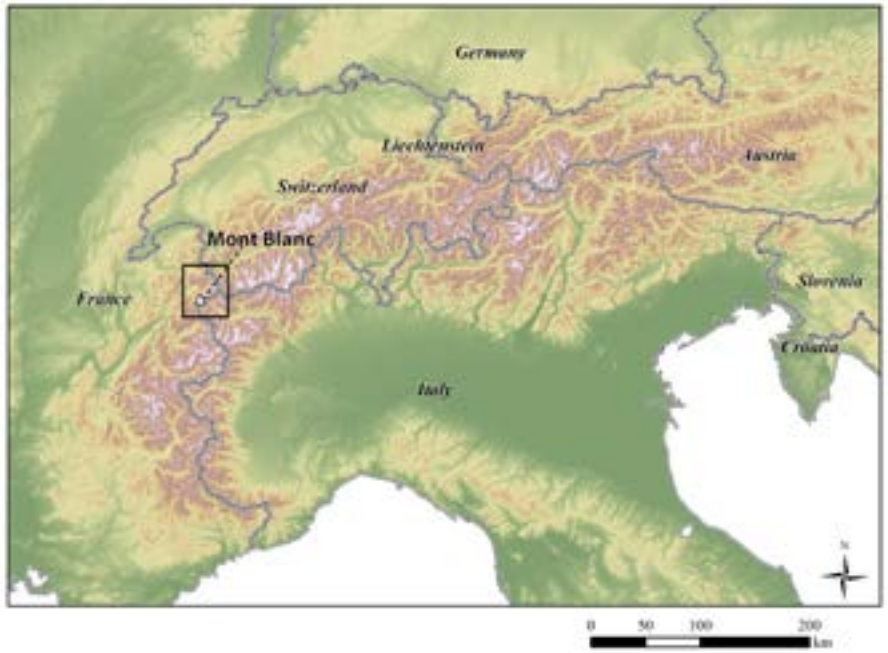
Monitoring sites

Mont-Blanc massif:

The Mont-Blanc massif is not only an emblematic landscape steeped in history, it is also a truly unique study area. With an exeptional elevation gradient of 14,000ft from the Arve Valley to the summit of Mont Blanc, and the possibility to explore all aspects, the massif allows for an incredibly rich and diverse study zone in a remarkably small area.
CREA Mont-blanc has been collecting data around the Mont-Blanc massif for over 20 years and continues to develop new collaborations and field sites.



Monitoring sites - Loriaz (4,250-7,500ft)

Loriaz is CREA Mont-Blanc's **longest-running and most equipped field monitoring site**. The Loriaz site features several permanent **long-term monitoring plots** located across elevation gradients on a south-facing slope in the Aiguilles Rouges massif. An **accessible and safe area**, it is home to intermittent pasturing and a comfortable mountain hut with excellent views of the Mont-Blanc massif.

Access

- To reach the hut: **2.5 hours hiking** (2,600ft vertical gain) on well-maintained trails
- Field sites located **between 15 minutes and 2 hours from the hut,** accessible by a combination of trails and off-trail terrain

Lodging

Loriaz Mountain Hut: bunkrooms with blankets and pillows (sleeping bag liners are required and available for rent at the hut). Toilets and hot water availabile, but no showers. **Dinner and breakfast included**, possible to pre-order picnics or eat lunch at the hut.

Periods of access

Mid-May or June through late September (depending on snow conditions); hut open from mid-June to mid-October

Monitoring equipment in place

- Temperature monitoring stations (base of conifer forest, treeline, alpine pasture)
- 100 Coal tit nest boxes at 4,400ft and 6,200ft
- Frog monitoring sites (alpine wetlands) at 4,400ft and 6,200ft
- NDVI sensors
- Camera traps, time-lapse vegetation cameras
- Long-term vegetation monitoring plots
- Plant-snowpack interaction monitoring equipment

Monitoring sites - Loriaz (4,250-7,500ft)

Protocols

- ORCHAMP protocols
- Ecotone monitoring
- Birdsong listening (spring)
- Fauna abundance index by camera trap and scat field transects
- Bird abundance monitoring (birdsong listening transects in spring) as part of an Alpine network
- Species distribution model validation (flora and fauna)
- Phytosociological relevés
- Marmot habitat mapping
- Phenology of vegetation, birds and amphibians
- Analysis of satellite imagery

Map

Photos

One of Loriaz's temperature monitoring stations

CREA Mont-Blanc monitors common frog populations at the site's alpine wetlands

A safe and accessible site for field work

Monitoring sites - Plan de l'Aiguille (7,240ft)

Despite its **easy access by cable car**, the north-facing Plan de l'Aiguille site has a distinctly high-mountain ambiance thanks to its proximity to glaciers and moraines. Plan de l'Aiguille is home to a wide variety of habitats, from forest to post-glacial terrain in a short distance. A visit to CREA Mont-Blanc's **newly established long-term monitoring sites** or to the Blatière pasture can be linked with a visit to the Aiguille du Midi or a half-day hike across the Grand Balcon Nord to the Montenvers station. The **hut is extraordinarily comfortable** with excellent food, showers and Wifi.

Access

- To reach the hut: **15-min hike** from Plan de l'Aiguille lift station
- Well-maintained trails along the Grand Balcon
- Monitoring sites accessible by secondary trails or steep off-trail moraine hike (30min - 1hr)

Periods of access

- Cable car access year round (except November)
- Monitoring sites accessible from **May to September** depending on snowpack
- Hut open from early May through the end of October

Lodging

Very comfortable mountain hut with small rooms and bunkrooms. Blankets and pillows (sleeping bag liners are required and available for rent at the hut). **Dinner and breakfast included**, possible to pre-order picnics or eat lunch at the hut

Monitoring equipment in place

- Soil temperature loggers at ecotone monitoring sites
- Webcam from Aiguille Rouges covering entirety of the Plan de l'Aiguille gradient

Monitoring sites - Plan de l'Aiguille (7,240ft)

Protocols

- ORCHAMP protocols
- Ecotone monitoring
- Species distribution model validation (flora and fauna)
- Bird abundance monitoring (birdsong listening transects in spring) as part of an Alpine network
- Marmot habitat mapping
- Hyperspectral habitat mapping validation
- Monitoring of banded alpine chough (bird) population

Map

Photos

Quick-access alpine setting with glacial morraines

Dining terrace at the Plan de l'Aiguille Hut

Plan de l'Aiguille site and Lac Bleu seen from the Aiguille du Midi cable car

Monitoring sites - Péclerey (4,600-7,900ft)

In the context of the ORCHAMP Project, CREA Mont-Blanc has been working with the French National Center for Scientific Research (CNRS) to establish this **new 5-plot long-term monitoring gradient**. This rugged and **low-traffic** site is west-facing and has fantastic views of the Argentière glacier. There is no mountain hut on the route and no source of water, so visits to this site must be done as a **day trip or with an overnight bivouac.**

Access

- Lower 3 plots accessible by hiking trail
- 2 high-elevation plots are off trail in steep terrain (3+ hours of hiking; 3,300 ft vertical gain)
- students must be comfortable with **uneven footing and steep slopes**

Periods of access

- **Mid-June through September**
- Special equipment required to access upper plots when wet

Lodging

No lodging opportunities are available at this site. Any field trips to Péclerey will be day trips or involve a rustic, but beautiful bivouac.

Monitoring equipment in place

- Soil temperature loggers

Monitoring sites - Péclerey (4,600-7,900ft)

Protocols:

- ORCHAMP protocols
- Ecotone monitoring
- Species distribution model validation
- Hyperspectral habitat mapping validation

Map

Photos

The panoramic view from the upper Péclerey monitoring gradients

Monitoring plot above the Argentière Glacier

A variety of plots have been established at different elevations

Monitoring sites - Montenvers (6,250ft)

Overlooking the France's longest glacier, the Mer de Glace, Montenvers is the **world's oldest site for mountain tourism**. It is easily accessible by train and is an excellent **study zone for glacial retreat and plant colonization** as well as tourist visitation. Thanks to historic photographs, Montenvers presents **great potential for studying landscape change and dynamics, infrastructure development and response to climate change.**

Access:

Montenvers cog railway from Chamonix
Study sites accessible by trail
Possibility to include glacier hiking with certified guides
Leave from here to visit Couvercle study site

Periods of access:

Montenvers train runs year round with punctual closings for maintenance
Potential for snow from November through May

Lodging

Due to its proximity to Chamonix and access via train, we recommend staying in the valley when working at this site.

Monitoring equipment in place:

- Webcam data from Compagnie du Mont-Blanc

Monitoring sites - Montenvers (6,250ft)

Protocols:

- Hyperspectral habitat mapping
- Species distribution model validation
- Ecotone monitoring

We can also facilitate additional possibilities outside of CREA Mont-Blanc expertise:

- Interviewing tourists
- Field seminars with glaciologists
- Examination of historical photographs, 19th century landscape paintings and historical literature

Map:

Photos

History presentation at the Mer de Glace

Ecotone monitoring

Historical photos document infrastructure development and landscape evolution

Monitoring sites - Couvercle (8,900ft)

CREA Mont-Blanc founder, Anne Delestrade has been doing field work near the Couvercle hut since the late 1980s and describes this field site in **the heart of the Mont-Blanc massif** as one of the most beautiful places in the area. **Wild and isolated**, the tough access (glacier travel and vertiginous ladders) makes for very low visitation rates among hikers and low disturbance rates. It is an ideal spot to study high-elevation adaptations at various sites including the **Jardin de Talefre**, a rock and vegetation island surrounded by glacier, about 1.5 hours from the hut.

Access

- From Chamonix, take the Montenvers cog railway to the Mer de Glace
- Hut access is 5 hours from Montenvers/Mer de Glace station
- Requires **glacier travel, steep ladders and accompaniment by certified High Mountain Guides**
- Time required for access makes this a **3-day minimum** excursion
- Steep off-trail moraine access to Jardin de Talèfre

Lodging

Couvercle Mountain Hut: bunkrooms equipped with blankets and pillows (sleeping bag liners are required and available for rent at the hut). No shower available. **Dinner and breakfast included,** possible to pre-order picnics or eat lunch at the hut

Periods of access

Late June/early July through mid-September, depending on snow conditions

Monitoring equipment in place

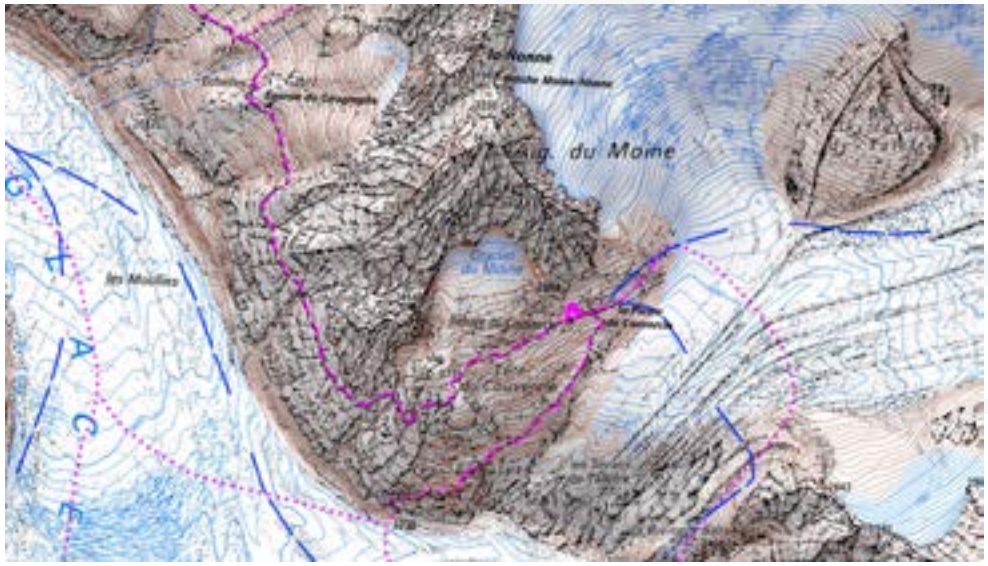
- Temperature monitoring station

Monitoring sites - Couvercle (8,900ft)

Protocols

- Ecotone monitoring
- Species distribution model validation (flora and fauna)
- Phytosociological relevés
- Marmot habitat mapping
- Mapping of cliff-dwelling high-alpine plants (with mountain guides)
- Snow vole monitoring
- Monitoring of banded alpine chough (bird) population

Map



Photos

Not for the faint of heart: access to the Couvercle hut and the Jardin de Talèfre require glacier travel and climbing up steep ladders. We only do this trip accompanied by certified guides.

Temperature monitoring station in the heart of the Mont-Blanc massif

Monitoring sites - Val Ferret and Val Veny, Italy

Only **30-minutes from Chamonix** via the Mont Blanc Tunnel, the Italian side of Mont Blanc offers an entirely different perspective of the massif with stunning views of some of the most spectacular faces in the Alps. Val Ferret and Val Veny are **less visited, less urbaized and much more wild** than the Chamonix Valley. In these verdant green vallies, you can find amazing cuisine and italian charm and encounter **distinct flora** and environment due to a warmer and drier climate.

Access

The best way to travel to Italy from Chamonix will be in tour buses through the MontBlanc Tunnel. Once there, there are multiple options for field work and lodging.

Boccalatte (7,500ft): 2 hours hiking (2,000 ft vertical gain) on well-maintained trails. Field work off trail in alpine meadows.

Brenva (5,500ft): 1-1.5 hours of hiking, mostly off-trail in talus, scree and on steep moraines

Monzino Hut (8,530ft): hut access requires basic via ferrata gear and a guide. From the hut, field site acess is via hiking trails at an elevation of 9,000 and 9,500 ft.

Periods of access

Mid-May or Early June through September, according to snowmelt and elevation of desired study sites.

Lodging

Lavachey Hotel/Restaurant is a very comfortable hostel accessible by road. Lodging options include dorm rooms and 2-4 person private rooms.

Monzino mountain hut bunkrooms with blankets and pillows (sleeping bag liners are required and available for rent at the hut).

For both: Dinner and breakfast included, possible to pre-order picnics or eat lunch at the hut

Monitoring equipment in place

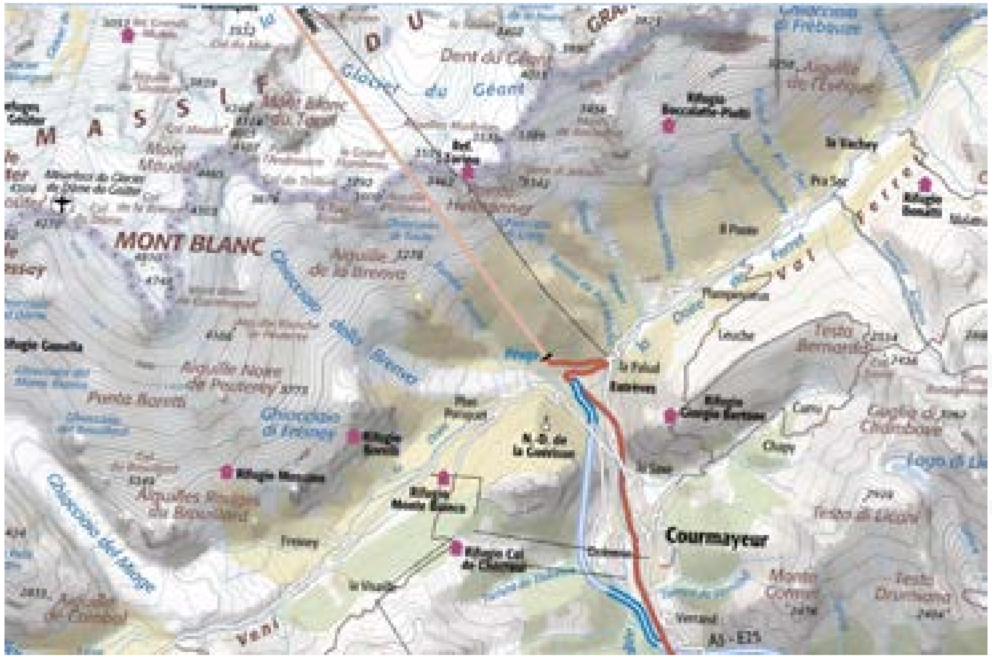
- Soil temperature loggers

Monitoring sites - Val Ferret and Val Veny, Italy

Protocols

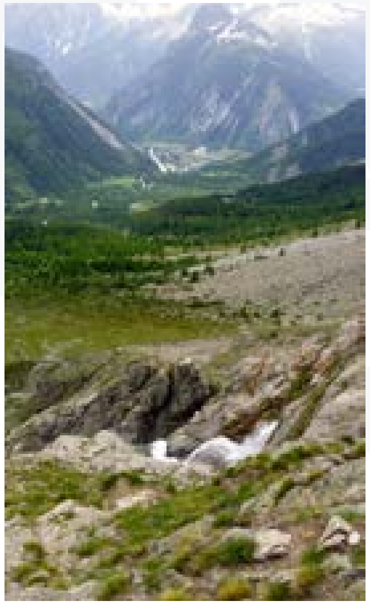
- ecotone monitoring
- species distribution model validation (flora and fauna)
- phytosociological relevés
- marmot habitat mapping
- mapping of cliff-dwelling high-alpine plants (with guides near the Monzino hut)
- possibility to study ongoing agricultural practices

Map



Photos

Phytosociological relevés being done at the Boccalatte site



Left: Glacial retreat makes this area a prime location for studying succession

Below: Situation of the Monzino hut

CREA MONT-BLANC