



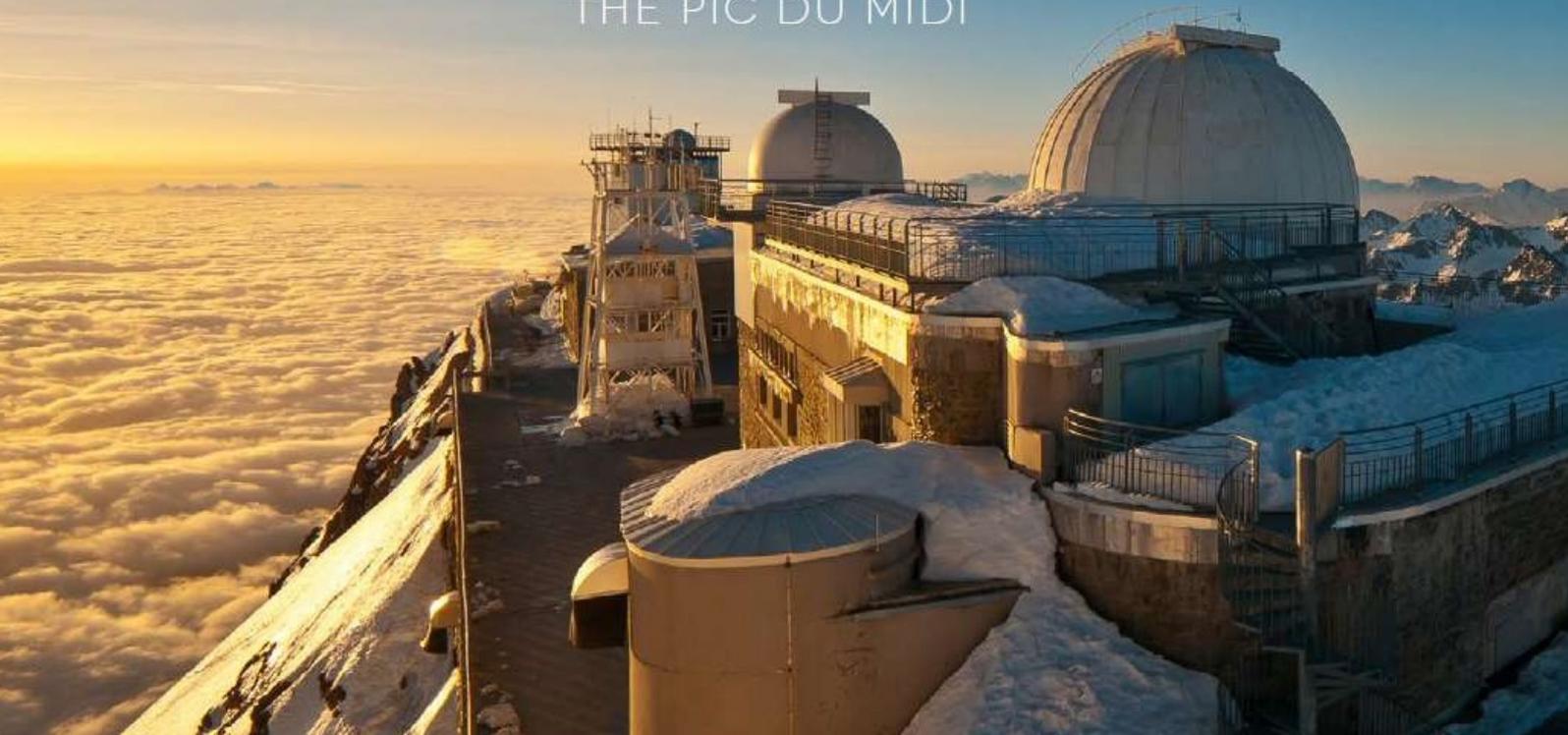
Pic du Midi  
PYRÉNÉES FRANCE

communauté

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# *Bienvenue* AU PIC DU MIDI

WELCOME TO  
THE PIC DU MIDI



## PIC DU MIDI PRESS RELEASE

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# A REAL TOURIST ATTRACTION

Le Pic du Midi was opened to the general public in the year 2000. In 2003, it was classified as a **National Nature Site** because of the beauty of its surroundings. On 19 December 2013, it received the **International Dark Sky Reserve** accreditation - the 1<sup>st</sup> place of its kind to do so in France. Space scientists and engineers have been observing, analysing and photographing the sky, its planets and far-distant galaxies in this breathtaking location for over 140 years. As a result, astronomy (the study of celestial objects) is this Pyrenean site's area of expertise, together with the study of the sun and the planets.



The scientists' daily wonderment at this panorama and the secrets they discovered - previously the preserve of just a handful of privileged people - is now available for all to enjoy.

Visitors set off in a cable car from the centre of La Mongie, a ski resort in le Grand Tourmalet. It takes 15 minutes to reach the summit, which rises to 2,877 metres. This is how the great adventure that is the le Pic experience begins...

## A MOUNTAIN SUMMIT WITH FAR-REACHING VIEWS

### *The prominent Pyrenean lookout point*

Le Pic du Midi's location 3,000 m up and with an open view across the Pyrenees makes it a simply stunning viewpoint for tourists. The whole Pyrenean mountain range from Catalonia to the Basque country can be enjoyed from the summit. Stretching east to west, the panorama encompasses over 300 km of mountains.

The view to the north from the large 750 m<sup>2</sup> terrace overlooks the lowlands in the south-west as far as the foothills of the Massif Central. Viewpoint indicators point out the main peaks that can be picked out in this vast panoramic view.



However, what makes le Pic du Midi so remarkable and unique is the special light and atmospheric stability that results from its geographic position. The purity of the air creates unique conditions for observing the sky and enjoying the panoramic view.

## THE PIC DU MIDI, a unique **EXPERIENCE** TO LIVE

In 2015, the Pic du Midi launched a study to define a synopsis of visit and a strategy of ambiance on which to rely to modernize its course of visit. Implicite Design Office, which has worked on the renovation of the Aiguille du Midi, has made an ambitious project. Its vocation is to make visitors live an unforgettable experience, create a real emotion, initiate the process of loyalty and trigger revisiting. The project has been made. It requires € 7 millions of work that will be spread over 3 years.



This project will make the places of visit the supports of an unprecedented experiment of discovery of the Pic du Midi. The atmosphere of the site will be made of empathy, simplicity and modernity. Clear, fluid, colorful lines will create the setting for an extraordinary adventure where the visitor is accompanied in his approach. It will be immersed in an interactive journey through a modernization of the interpretation area, terraces, shop, restaurants and galleries, which will become the chapters of a fun course.

Specifically, this project sees the installation of new animation tools such as a planetarium, augmented reality experiences, unique experiences to live in the image of "Pas dans le vide" proposed at the Aiguille du Midi and the realization of a mood strategy

## **VISITS : FROM MORNING AND ON INTO THE NIGHT**

Le Pic du Midi is open all year in order to share its wonder and secrets throughout the day, the evening and even on into the night. A range of options have been developed to suit all tastes and type of customer.

### ***A discovery day at the summit***

Beyond the simple discovery of the panorama, the sky is now revealed to all thanks to major animations.

## **All aboard for the planetarium !**

Europe's highest planetarium has been launched into orbit at the Pic du Midi. At the heart of the one hundred year old Baillaud Dome an 8-metre wide hemispheric screen covers the dome in its entirety. The gigantic cinema projects a film which recounts the history of the Pic du Midi since it was built. No need to fasten your seatbelts on one of the 48 reclining chairs to journey to the centre of the solar system, nebulae or even galaxies. This spectacular show peers into the secrets of the universe within the celestial vault or out into deep space. It is guided live by a specialist who adapts their descriptions to the specifics of the differing intergalactic voyages. An adventure into outer space with special attention paid to the moon and Venus.

Daily, upon reservation.



## The pontoon in the sky : a journey across the landscape

Suspended over nothing but thin air a 12m metal walkway brushes up against the clouds and provides a unique and dizzying view. Visitors undertake an adventure with the feeling that they are flying. They focus on the horizon to brave vertigo and avoid getting dizzy...



## Room for interpretation : science within everyone's reach

As of June 2018 the 'Experience' area has made a visit to the Pic du Midi even more unforgettable, whilst in the scientific area the night-time ambience gives the impression that the furniture is floating between two dimensions! The circuit, which is dotted with interactive screens and projected books, integrates different colours and shapes. Optical illusions dazzle the eyes and fill the adventure with surprises. Stars, planets, artwork and an astronomer's explanations substantiate the research and studies carried out at the Pic du Midi.

Thanks to the interactive area the International Dark Sky Reserve really comes into its own. The voyager experiences a new unit of space and merges with it. Perceptions change. Better than virtual, reality is the poetry of the infinite. The last area showcases the Pic du Midi's natural and built cultural heritage...



## The cupola of the Observatory getting even closer to the stars.

For the summer 2019 day-time visitors can discover all the secrets of how the cupola functions. At the very centre of the ancient installation is the Siderostat (an instrument used for keeping the image of a celestial object in a fixed position), and the latest generation of telescope which allows one to observe the sun in real time. For the show 27 spectators install themselves to enjoy a visual spectacle with soundtrack. The show alternates between animated images in 3D/Mapping which are projected before them and the live view from the telescope, all is accompanied by a fabulous son et lumière, where the images are projected on to the dome above the heads of the audience.

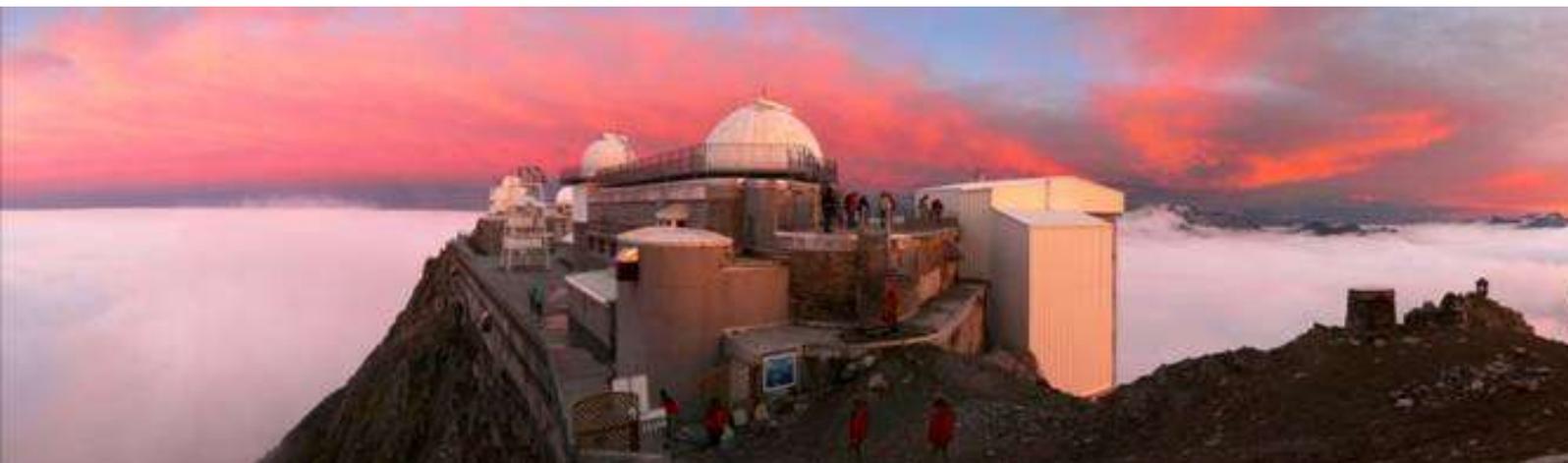
Visitors can listen to the many secrets emanating from the constellations and rediscover their place in the universe. They will learn all the fundamentals of astronomical observation (how, why and where to observe the night sky and the stars), and learn how a cupola and its instrumentation function. The possibility of observing the sun 'live' is a once in a lifetime experience.

If weather conditions do not allow live observation there will be a film showing all the different means of observation at the Pic du Midi - the T60, the Coronographs, the one metre telescope (T1M) and the Bernard Lyot telescope.

### ***An evening under the stars***

To share the splendid magic of the Pic du Midi as the sun sets, and also to discover the sky at night, the Pic du Midi organises private evenings for groups. The evening can include a range of activities ; seminars, dinner or a specific programme of activities upon demand.

The program covers four highlights : a tour of the space museum and the equipment at le Pic, watching the sun set from the panoramic viewpoint of the terrace and astronomy workshops (to include an introduction to the top-of-range instruments, observation of the sky and the constellations with the naked eye and a slide show of the actual sky followed by a question and answer session with astronomers). This all takes place in a friendly, unhurried atmosphere and is complemented by a traditional evening meal of regional delights made with quality local produce.



### ***A night a the roof of the Pyrénées***

Le Pic du Midi opened at night in summer 2006. It was such a success that this move has been continued. After all, the significance of the location really becomes clear at night...and this is when the magic unfolds.

A group of a maximum of 27 people, accompanied by an expert in astronomy, spend an unforgettable night observing and studying the stars with both the naked eye and a 500 mm telescope in the heart of the Charvin dome. An evening meal using local produce certified with the official AOC quality mark is served in the restaurant.

The bedrooms are those which were traditionally used by the scientists. All the bedrooms have spectacular views across the Pyrenees. The accommodation's slightly Spartan feel has been deliberately preserved during the refurbishment in testament to the incredible human venture of le Pic du Midi. The furniture is signed by Starck.

To round off this tête à tête with the stars, and after enjoying the sunrise the following morning, these lucky people can find out about the science domes and share in a few moments of the scientist's lives (this is only available to people who have spent the night at le Pic du Midi). 'Nights at the Summit' are available to book throughout the year.

## A VIRTUAL REALITY VISIT USING THE HISTOPAD

Since December 2018 visitors can travel back in time for 100 years and relive the magnificent human and scientific adventure of the creation of the Pic du Midi. Visitors can truly immerse themselves in this fabulous story by using the Histopad, a tactile tablet developed by the French start-up Histoverly.

The Histopad leads the public on an immersive voyage through the past, following in the steps of the first scientific pioneers of the Pic du Midi. With 3D images and the use of Rich Media, many areas of the Pic are reconstructed in 3D, exactly as they would have been in the first half of the twentieth century. For instance the Baillaud cupola (nowadays the Planetarium), the gallery, the library, the kitchens and the bedrooms. To be able to see the living spaces of these pioneers is to understand their formidable quest to conquer the skies and the stars, it shows just why the Pic du Midi gained its international reputation.



Throughout the interactive visit one can manipulate numerous meteorological measuring instruments, used as part of daily life at the start of the twentieth century. The visitor can also gain an insight from an archive of photographs and newspaper articles of the time. Visitors equally can take part in a treasure hunt, in search of the Coronograph invented by Bernard Lyot, now reconstructed for the first time in 3D.

By using the Histopad the visitor can admire and interrogate the magnificent 360 degree panorama, in all weathers, day or night. It also measures the importance of the International Clear Sky Reserve at the Pic du Midi, it protects the sky from unnecessary light pollution. One can also discover the flora and fauna of the Pyrenees. The adventurous can even set off on an extreme off-piste descent on skis!

And finally an interactive 3D model allows one to construct or deconstruct the Pic, to really feel involved with the building project from the time the very first stone was laid in 1876 through to the works taking place today.

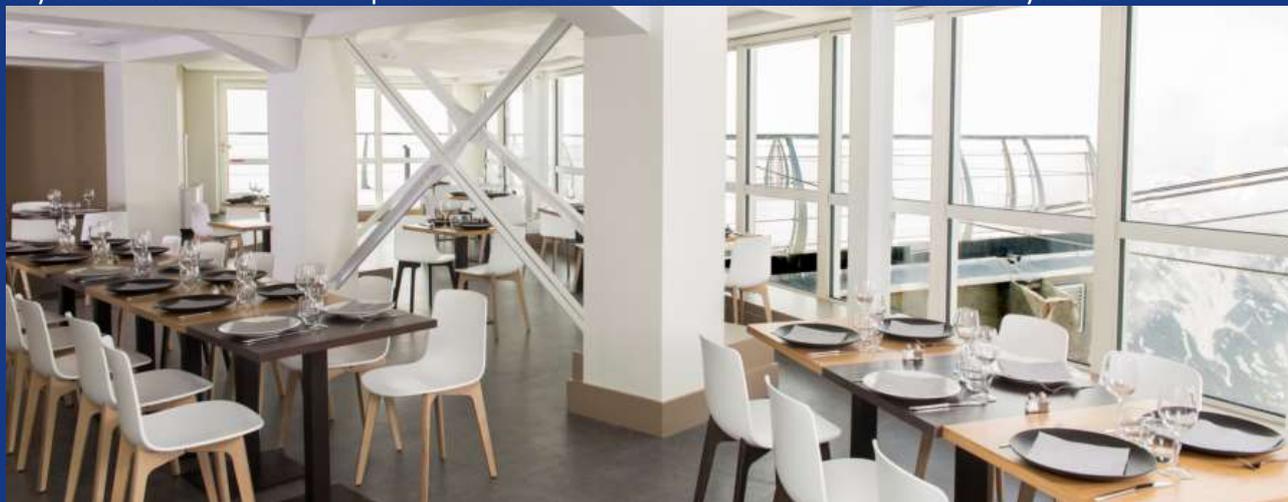
For the moment the Histopad is available in three languages- French, English and Spanish, soon also in German and Japanese...

## A VARIED RANGE OF SERVICES

Whether for companies or individuals the Pic du Midi offers an unforgettable experience.

### In 2018, the new panoramic restaurant opened...

As part of the major transformation plan a new restaurant with a contemporary design has opened, it can now welcome 80 diners simultaneously. The menu, from starters to desserts, is all home-made using the very best locally sourced produce. The large bay windows offer a magnificent panorama over the Pyrenees. The bay windows offer access to a private terrace. The name of the restaurant is obviously... Le 2877!



The Pic du Midi restaurant has set itself a real challenge showcasing the expertise of the chefs with a traditional cuisine using exclusively local produce. Each day the team work miracles to propose an original menu using solely top quality local ingredients. Appellation Controlee and guaranteed regional produce are to the fore in all the dishes served.

For example one can enjoy Porc Noir de Bigorre, Duroc Pork, Tarbes haricot beans, Pyrenean trout, profiteroles from Philippe Uraca (award winning patissier)... and a selection of regional wines. There are also vegetarian dishes on offer. The menus of both the restaurant and the bistro/bar are within everyone's budget. A number of daily formulas are offered.

A big plus... When the weather is fine the visitors can eat outdoors on the terrace!

#### ***The souvenirs shop***

The shop stocks only exclusive and original quality items, scientific publications and educational games. Unique items suitable for all ages and all budgets are also available at the cable car station, in La Mongie, and include postcards, posters, textile items and souvenirs, etc. all in the colours of le Pic du Midi.

#### ***The conference rooms***

Facilities are available at le Pic du Midi for businesses wishing to organise work meetings, seminars and business lunches at the summit.

Le Pic has available:

- Two meeting rooms to accommodate up to 100 people with UHF microphones, projector, WiFi internet access, flip chart and business pack.
- An individual catering service for breaks, aperitifs, buffets, etc.
- A private dining area offering traditional cuisine using local produce.

# LE PIC FOR SPORT ENTHUSIASTS

Le Pic du Midi mountain offers many sporting delights for experienced skiers and snowboarders as well as mountain bikers.

## A 100% FREERIDING ZONE HAS BEEN CREATED FOR THE 1<sup>ST</sup> TIME IN THE PYRENEES

In December 2013, le Pic du Midi opened a unique skiing area in the Pyrenees similar to those at Aiguille du Midi in Chamonix and La Grave in the Alps. As a result, the 1<sup>st</sup> and 2<sup>nd</sup> sections of the cable car, La Mongie-Le Taoulet and Le Taoulet-Pic du Midi, were opened to advanced skiers. These two cable car sections are the gateway to a superb high mountain skiing area that stretches over the slopes of the Pic du Midi.



**TO KNOW :** the Pic du Midi ranked among the 50 most beautiful freeride sites in the world

Patrick Thorne, journalist reporter nicknamed "the snowhunter" has retained the Pic du Midi in his guide on the most beautiful spots freeride of the world. It qualifies it as unique: "With a view of the peaks and the valley more than 300 km, it is imperative to enjoy this 360 ° panorama. In addition, in clear weather, the night sky is tapering. The off-pistes of the Pic du Midi are lost in the beauty of the winter horizons and offer a descent to incredible sensations. All above an important layer of powder snow for the greatest pleasure of the skiers. "

4 fabulous off-piste descents are available for skiers from le Pic du Midi :

- La Coume du Pic. A long descent on the La Mongie side down to Artigues-Campan, 10km in length with 1700m of height loss. A free transport service is available to bring skiers back to La Mongie.
- La Classique. On the south face, 45 minutes of descent with 1000m of height loss down to join the ski runs of the Grand Tourmalet on the Bareges side of the Col.
- La Roche Noir. Strictly for expert skiers, the route passes underneath the cable-car to arrive in La Mongie.
- La Jardin Botanique. This route runs close to the preceding Roche Noir route but it is much easier, the skier will feel like they are on a regular ski run, the slope is only 45 degrees and faces due south.

The 'Yellow', 'Green' and 'Purple' routes can be reached via the mid station at le Taoulet at 2,341 m.

Skiers therefore have access to a superb high mountain area at about 3,000 metres in altitude. Good knowledge of high mountain regions and suitable equipment are a must as these areas are not monitored, managed or signposted. Consequently, it is strongly recommended that you are accompanied by a mountain guide so that you can benefit from the sound advice available and enjoy these magnificent slopes to the full.

A new type of pass is now available. The Pic du Midi Unlimited pass gives unlimited access during the day to the two ski lifts on le Pic du Midi (€44). Please note that the Grand Tourmalet seasonal pass includes unlimited access to le Pic du Midi as well as the pass for 6 days or more.

### **Freeride nights at the Pic du Midi**

The Pic du Midi offers freeriders the opportunity to enjoy a number of fabulous off-piste descents, such total freedom ! And to make things easy... an all-in package of 2 days/2 nights half-board in a 2 stars hotel, 2 day lift pass, unlimited access to the Pic du Midi freeride area and the cable-car. Cost is €211 per person based on two sharing.

### **Strong partnerships**

The Freeride Map company in partnership with the Pic du Midi has created a topographic map dedicated to the representation of the different routes and off-piste areas of the sector. We can also mention various partnerships with brands recognized in the freeride business such as Dynastar, Julbo, Sidas, Sweet Protection.

## **MOUNTAIN BIKE DESCENT FROM LE PIC DU MIDI**

Mountain bike enthusiasts can enjoy their favourite sport to the full during the summer and make the most of a superb descent in equally spectacular high mountain surroundings. From 1<sup>st</sup> July to 30 September, cyclists can set off from le Pic du Midi and descend more than a 1,700 m drop in altitude. Two cable cars a day are reserved for thirty cycling enthusiasts so that they can enjoy this descent. One cable car leaves at 8.50 am for 15 bikes and another leaves at 4.45 pm for the other 15 bikes (even more if need be).

You don't have to be a great rider to enjoy cycling on le Pic du Midi. Nevertheless, it is important to follow safety guidelines and to have suitable equipment (helmet, knee pads, gloves and a mountain bike with suspension, etc.). Minors unaccompanied by a legal guardian are not allowed to do the descent.

In 2008, le Pic du Midi received the 'Les Etoiles du Tourisme' award in the sport and adventure category (organised by La Maison de la France and Le Point magazine) as the jury liked the innovative nature of the mountain bike descent from le Pic du Midi.

TO BE KNOWN : In 2008, le Pic du Midi received the 'Les Etoiles du Tourisme' award in the sport and adventure category (organised by La Maison de la France and Le Point magazine) as the jury liked the innovative nature of the mountain bike descent from le Pic du Midi.



# LE PIC DU MIDI

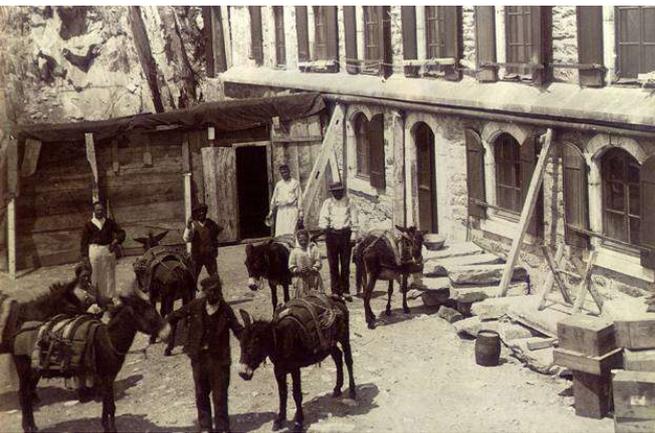
## A HUMAN VENTURE

Before being associated with astronomy, the scientific history of le Pic du Midi was based in meteorology. However, the history is mainly one of men who fought to build and protect a great heritage for more than 150 years.

### LE PIC'S PIONEERS

The Observatory at le Pic du Midi was created from a combination of men filled with a thirst for knowledge and a mountain. These men include 18<sup>th</sup> century pioneers, designers from the end of the 19<sup>th</sup> century and a whole series of scholars, astronomers, physicists and botanists who built its reputation.

In 1774, Monge and Darcet climbed le Pic du Midi to study the atmospheric pressure there. Général de Nansouty set up a temporary weather station on le Pic du Midi in 1873 where he measured pressure, temperature, humidity and other kinds of meteorological values of interest. The engineer, Xavier Vaussenat was attracted by the venture and was interested in all aspects of the region's science and history.



In 1908, Benjamin Baillaud, the director of the Observatory in Toulouse, had a dome built on le Pic du Midi that was 8m in diameter. The transportation of this would prove to be a real achievement. The Col de Sencours could be reached on foot via a single dirt track. The Col du Tourmalet could then be reached from there. Scientists reached the summit on a rough, stony path by foot.

In 1929, Bernard Lyot, a young astronomer from the Meudon Observatory began the bold undertaking of observing the solar corona when the sun was not in eclipse. He was able to achieve this in 1931 with the development of a machine called a coronagraph. Scientists could now study the smallest details of the sun. The discovery that the lunar surface was covered in a layer of dust was largely due to the images obtained from le Pic du Midi during the 1940s. This crucial detail made the Observatory on le Pic du Midi the centre for the detailed mapping of the lunar surface for NASA's Apollo missions.

In 1952, a second cable car was built which linked la Mongie to the summit via the mid station at le Taoulet. The site had some difficult years during the 1980s due to problems with equipment and finances, as well as the extreme living conditions resulting from the altitude. The high costs only allowed 120 nights of observation on average per year. There was talk of shutting the site down...



### THE THREAT OF CLOSURE FOR LE PIC AND ITS RESCUE

In 1995, the Ministry for Higher Education and Research announced the closure of le Pic at the end of 1998 due to budget cuts. However, they had not made allowances for the determination of people to put their all into saving the site.

First and foremost, the scientific community fought hard to keep le Pic du Midi open, pointing out the recent success of the TBL instruments (2m Bernard Lyot telescope) in particular.

In addition to this, a whole range of local bodies, such as local and regional groups, universities, manufacturers and journalists, etc. joined forces to find an alternative solution. After a period of consultation and consideration, the General Council for the Hautes-Pyrénées, the Regional Council for the Midi-Pyrénées and communes neighbouring le Pic du Midi, met and decided to create a Joint Association for the Touristic Value of le Pic du Midi. It was to take responsibility for investigating what was necessary to maintain scientific activity at the site and to develop its tourism potential, as well as realising investments to achieve this.

### ***The investments made to save le Pic du Midi***

On July 23 1996, the Joint Association was awarded a works and public service concession by the State (who owns the facilities) for the development and operation of some of the premises at the summit and its access by cable car. Work at the le Pic du Midi site itself began soon after. The observatory continued to operate throughout all the development work.

The changes required to prevent the site from closing represented a total investment of €38, 979, 703. This comprised the complete renovation of areas used for science (accommodation, eating facilities, domes, laboratories and technical installations), the development of a tourist area (eating facilities, shop, terrace and space museum) and the completion of up to date infrastructures (cable cars, water treatment plant, etc.).

As regards access, the route enabling le Pic du Midi to be reached was strengthened. In addition, two cable cars and the departure and mid station were built to transport tourists in complete safety to the summit. This represented almost half of the investments. The ascent is at the speed of 12m per second and each gondola can accommodate 45 people.

The first summer visitors arrived at the summit in June 2000. The site was finally open all year round after the summer of 2011. 700 people can be welcomed at one time in the summer and 300 people during the winter months. On busiest days, le Pic du Midi can welcome 2, 800 people.

All the hard work was rewarded in 2003 when le Pic du Midi was classified as a National Nature Site because of the beauty of its surroundings. 10 years later, it became the 1<sup>st</sup> International Dark Sky Reserve in France.

## **LE PIC DU MIDI TODAY**

Tourists who come up to le Pic du Midi see only the tip of the iceberg. The site actually houses several facilities and activities which share the same space on a daily basis. There are 3 principal uses :

### ***The Interministerial Building***

This building, classified as militarily sensitive, is completely self-sufficient. It is basically a telecommunications base. Télédiffusion de France (TDF) is located on the western ridge and has a 101m high mast which is the regional radio and TV transmitter. It has a transmission radius of over 400 km, which is equal to 1/10th of France.





The main building houses a strategic telecommunications base for the army and air force, the Directorate General for Civil Aviation (DGAC) and operators for France Telecom's terrestrial telecommunications. Météo France also has an automatic weather station there.

### ***The buildings reserved for science***

Of particular note is the 2m telescope (TBL), the Robley Dome housing a 55cm telescope, the coronagraph (for studying the solar corona every day of the year), the Tourelle Dome (for studying the surface of the sun), the Gentili Dome and its 1m telescope financed by NASA and the Bernard Lyot telescope. 5 to 30 people work around the clock at le Pic du Midi Observatory.

They are part of the Midi-Pyrénées Observatory (OMP) which employs over 400 people, of which about half are scientists. The OMP comprises 4 facilities:

- The head office in Toulouse which is made up of 6 laboratories and 17 research and administration observation services.
- Le Pic du Midi Observatory
- A back office in Tarbes with the night activity team, aerology, technicians and astronomers
- The atmospheric instrumentation centre in Lannemezan

### ***Areas that are open to the public***

These areas include the cable car station, the Baillaud terrace (which has free access for hikers), the interpretive center, the shop, the restaurants and the charvin Dome (an area dedicated to stargazing devices).

To sum up, today le Pic du Midi covers a built area of 10, 000m<sup>2</sup> which comprises 6 levels and 5km of corridors linking all the buildings and allowing people to move about whatever the weather, two 1,200 KWA transformers, one 850 KWA power generator and one water treatment plant.



Since the arrival of tourism to the site, a genuine dialogue between scientists and tourists has taken place and astronomers hope that it will make their scientific work more well known among the general public.

# AN ENTERPRISE

## WHICH BOOSTS ITS LOCAL AREA

The management of le Pic du Midi is directly covered by 'La Régie du Syndicat Mixte pour la Valorisation Touristique du Pic du Midi' (the Joint Association for the Touristic Value of le Pic du Midi Group) which is made up of the Midi-Pyrénées region, the Hautes-Pyrénées département and local groups in the area (the Community of Communes in La Haute Bigorre, the Communes of Bagnères de Bigorre, Campan and Sers, the Management Committee of La Vallée de Barèges and the Inter-communal Group of Le Tourmalet).

Daniel Soucaze des Soucaze, Director of 'La Régie du Syndicat Mixte pour la Valorisation du Pic du Midi', is assisted by a team of 50 to ensure the management and marketing of this unusual site. Le Pic du Midi has been a member of the N'PY network since 2007 which has assisted in its development.



Due to its distance from La Mongie, le Pic du Midi has to maintain its operation by preserving the natural surroundings and taking the appropriate steps to avoid any pollution risks. In March 2007, le Pic du Midi undertook voluntary environmental steps to reduce the impact on the natural surroundings. The site was awarded the international certification 'quality, safety, environment' via the ISO standard 14001.

Within this framework, le Pic du Midi complies with the following regulations: to respect the requirements to which the organisation subscribes (regulations, standards or similar), to control energy use and use of water as a raw material, to ensure the proper treatment of waste and management of hazardous material.

In June 2013, le Pic du Midi decided to commit to efficient energy use in line with the other N'PY skiing areas. An assessment of its energy performance during the previous winter allowed sources for energy saving to be identified and cost-effective measures to control energy use to be deployed. In view of the results, it was decided to create an energy management system based on the ISO 50 001 standard in order to reduce energy use and GHG emissions (greenhouse gas) and to optimise the costs of energy in the process (ski lifts in particular).

## PROTECTING THE ENVIRONMENT AS A PRIORITY

### *The Pic du Midi International Dark Sky Reserve*

Le Pic du Midi is well known for its superb panoramic view across the Pyrenees and its world-famous astronomical observatory. It is the ideal place for observing both the sun and the night sky as the air is very pure and the atmosphere very stable.



The application was started in 2009 by the PIRENE association (Pic Reserve de Nuits Etoilées) and then taken up by two universities in Pau in 2011, who drafted the application for certification on behalf of the le Pic du Midi Governing Body. Bruno Charlier, a geographer at the Société, Environnement, Territoire laboratory (UMR CNRS-UPPA 5603) was responsible for scientific aspects, and Nicolas Bourgeois, a PhD student in Geography and

Planning was in charge of the project.

Envisaged to cover an area of 50km<sup>2</sup> at first, the core zone now covers 612 km<sup>2</sup> and includes some of the Néouvielle Natural Park and the certified le Pic du Midi site.

It comprises :

- The core zone, encompassing the certified le Pic du Midi site, the Néouvielle Natural Park and some of the Pyrenees National Park. It stretches across the Hautes-Pyrénées (the high valleys of Azun, Cauterets, Gavarnie, Aure and Louron). This core zone has to be completely dark with no light pollution. Based on the boundaries of already existing classified and protected areas, 72% of this zone is located at over 2,000 metres in altitude.
- A tiered buffer zone (rural, suburban and urban) of over 3,000km<sup>2</sup> grouped in two regions (Pays des Vallées des Gaves, Pays des Nestes) and a community of communes (Communauté de communes de Haute Bigorre). An active raising of awareness and transformation to lighting has taken place here.



The RICE accreditation of le Pic du Midi by the International Dark Sky Association (IDA) on 19 December 2013 has the principal aim of protecting the night sky from light pollution in the vicinity of le Pic du Midi Observatory and in the natural areas of the Haut-Pyrénées. In addition to this main objective is the desire to protect the environment, as well as to implement new methods of non-polluting and economic lighting so that a new type of natural and science-based tourism can be developed.

Everything is consequently in place to successfully manage the change in collaboration with specialists, elected representatives, economic players and residents by:

- Leading a discussion with the Pyrenees National Park and local universities on the impact of lighting at night on the environment and on biotopes.
- Helping communities to improve their lighting so that they can enjoy the resulting energy savings in the future. This collective approach should lead to a significant reduction in light pollution in the area surrounding le Pic du Midi.
- The implementation of and adherence to laws, regulations and decrees concerning light pollution.

The RICE accreditation for le Pic du Midi is a fantastic asset to the whole region.

**TO KNOW: the Pic du Midi is in the TOP 10 of the best places in the world to observe the stars**

The British journalist Jamie Carter of the Telegraph has placed the Pic du Midi in 6th position as part of its ranking of the 10 best places in the world to observe the sky ... A real consecration for the Pyrenean site which is found alongside Fuerteventura in the Canary Islands From the Atacama Desert in Chile to the planetarium of Cuzco in Peru ... Jamie Carter was seduced by the site of the Pic du Midi and its history when he came in September 2014.

### ***A completely secure site***

Le Pic du Midi which operates as an independent town is the only tourist site at altitude to independently reach the level of safety required to receive the public. This includes internal firefighting procedures (5 firefighters available around the clock), the capacity to accommodate 600 people over 5 days during the summer and to provide them with somewhere to eat and sleep or for 300 people over 10 days in the winter, a fully-stocked pharmacy, a hospital equipped with a hyperbaric decompression chamber, a semiautomatic defibrillator and a direct link with SAMU 65 (emergency medical assistance service) and the Fire and Emergency Service for the Département.

Le Pic du Midi has been certified since 2002 with ISO 9001 Version 2000 concerning safety, infrastructure maintenance and the management of hospitality of the public. In addition, le Pic du Midi has OHSAS 18001 Certification for the implementation of a management system for health and safety at work.

## TWO MAJOR PROJECTS

### ***World Heritage Status***

In 2013 the Pic du Midi and the Midi-Pyrenees Observatory decided to apply for UNESCO World Heritage status. The two entities, helped by the Cabinet MCC Heritage, aim with their application to emphasise the patrimonial values of the site. It will highlight the exceptional value of the Observatory particularly as the first and oldest high-altitude astronomical observatory still in activity. Its continuous occupation and scientific development, and its crucial contribution to the history of the sciences and particularly astronomy.

The Pic du Midi today offers a constantly evolving range of scientific study and activity, its reputation stands with the very best in the world. It has also become equally important as a driving force for local development through its tourist activities. However, despite its longevity, embodied by the century old buildings and the intensive activity at the summit, one must not forget the difficulties of conserving such a site. It is not just conserving the buildings but also its memories and identity. The actions to preserve its memories and history form the base from which the values to guide future development come. These are the 'Exceptional Universal Values' articulated by those who are piloting the project and those recognized by UNESCO, they form the principal theme of the application.

Achieving UNESCO World Heritage Site status would :

- Give a new dimension to the site and enhance its reputation internationally
- Open up interesting development possibilities
- Allow a maximum protection for the site and a conservation policy of the highest quality
- Enable the passing down of an authentic patrimony to future generations
- Establish a management system that brings together all those involved in the site for a sustainable and durable development

As part of the thematic study in process from UNESCO via ICOMOS (Vol. 2), the Pic du Midi is now listed (since September 2017) on their internet site as 'A Gateway to Astronomical Heritage' - (<http://www2.astronomicalheritage.net>). This inscription is a first step, the sites accepted must possess an important astronomical value and an individual identity sufficiently strong to be further accompanied by UNESCO in the presentation of their candidature for World Heritage status.

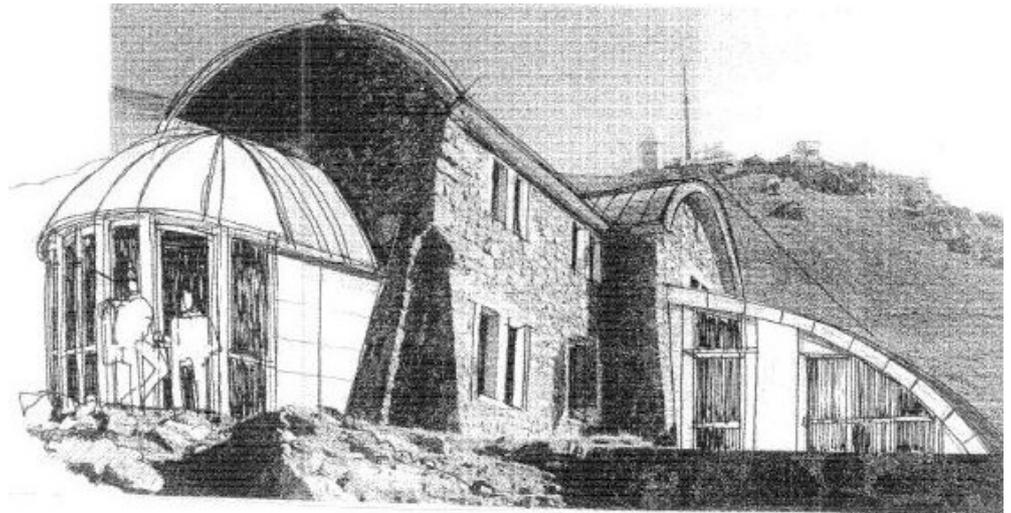
### ***Renovation of the Hôtellerie des Laquets***

In March 2014, the le Pic du Midi Management Committee agreed the financing and positioning of the Hôtellerie des Laquets. The idea is to create quality accommodation in the high mountains linked to le Pic du Midi by a cable car. With the annual number of overnight stays at le Pic du Midi at 92%, it would allow the site to meet the strong demand which currently cannot be met during certain periods. The aim is to offer an accommodation portfolio that differs from le Pic du Midi so no direct competition is created (quality accommodation with a warm, mountain-chalet style décor)

The opening times for the Hôtellerie des Laquets would be modelled on those for le Pic du Midi. Around fifteen rooms are envisaged (with one reserved for people with disabilities). Each room will have its own bathroom.

32 people in total could be accommodated each evening. A cosy lounge with a fireplace and bar will be created. This will open onto a heated conservatory, allowing people to gaze at the stars and panoramic view whilst keeping nice and warm.

The hospitality facilities will only be open at night during the winter. In the summer, the bar and snack facilities (open sandwiches, mixed salads and prepared sandwiches) will be available during the day. An 80m<sup>2</sup> terrace will allow people to relax whilst enjoying the view of the Pyrenees laid out before them.

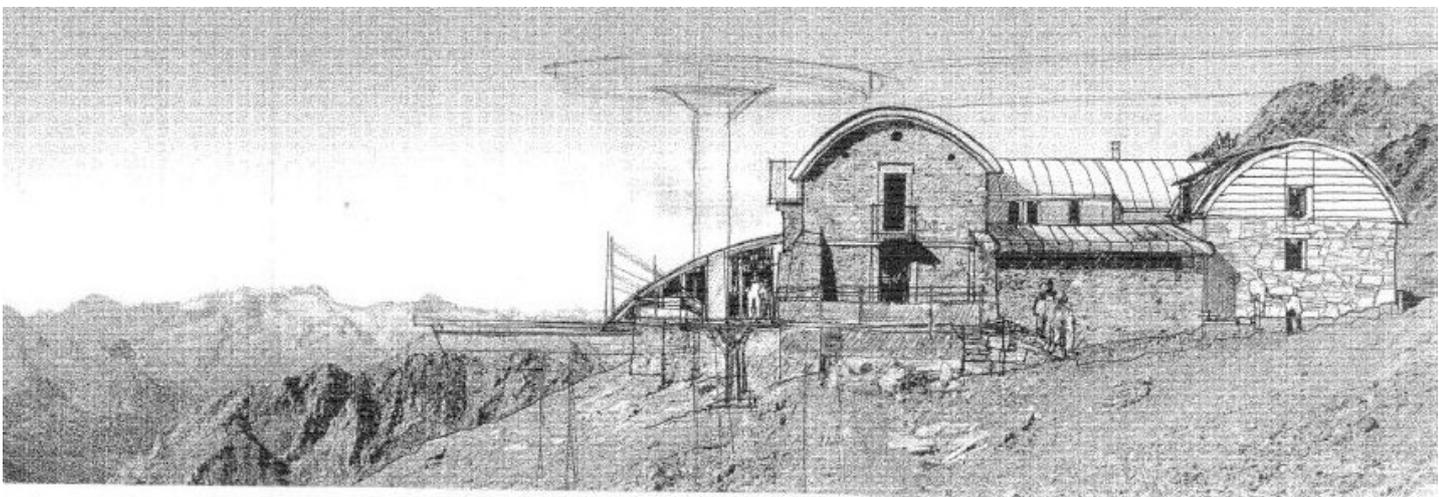


Vue Sud- ouest

A cable car moving in both directions will link the Hôtelierie des Laquets with le Pic du Midi. It will only be accessible to customers staying overnight. Hikers and skiers will not be able to use it.

While funding is being sought, The Midi-Pyrénées region has suggested approaching Atout France (Agence de Développement Touristique de la France) to conduct an additional survey.

Based on this new evidence, the le Pic du Midi Management Committee and its partners will be able to confirm renovation work on the Hôtelierie des Laquets.



Vue Nord- est

## DATA SHEET

<b>Address</b>	Régie du Pic du Midi Rue Lamy Chapelle - 65200 La Mongie
<b>Website</b>	<a href="http://www.picdumidi.com">www.picdumidi.com</a>
<b>Président</b>	Jacques Brune, Mayor of Baudéan, General Councillor for Campan
<b>Director</b>	Daniel Soucaze des Soucaze, Director General Nicolas Bourgeois, Assistant Director
<b>Some figures</b>	143155 visitors en 2018 (120 321 visitors in 2017, + 19 % compared to 2017) Turnover 2018 : more than 6M€ taxes included (+ 21 % compared to 2017) 6180 clients in 2018 for overnight stays (5546 in 2017) The occupation rate of the rooms is 93,62 % for the year and 98,99 % for the months of July and August
<b>Prices</b>	Children from 3 to 5 years : free From -12 years : €27 Adult : €45 Concessions : Disabled, student, job seeker: €40 Family package (2 adults + 2 children under 18) : €108 Group of 20 people or more  Pic du Midi Unlimited package (freeride) : €45 Planetarium : €6  Night under the stars : €379 per person for a single room and €439 for two people sharing a double room. From 1st July to 15 September : €439 per single room and €469 per double room
<b>Dates for overnighys satys 2019</b>	All days when the Pic du Midi is open
<b>Practical information</b>	The cable car from la Mongie - duration of journey : 15 mins La Mongie-Toulouse : 170 km - La Mongie-Biarritz : 200 km La Mongie-Pau : 90 km - La Mongie-Tarbes : 50 km Shuttle buses operate between Argelès-Gazost, Lourdes, Bagnères-de-Bigorre and la Mongie
<b>Dates closed 2019</b>	8 April tp 1 June 4 November to 1 december

## 145 YEARS OF EXPLORATION

Since the 18th century, le Pic du Midi has been the perfect place for observing the sky because of its exceptionally clear atmosphere.

<b>1873</b>	General Champion de Nansouty organised the first assault on le Pic du Midi for the observation of the weather. The 'Plantade' weather station was created in the Col de Sencours
<b>1874</b>	The road from Col du Tourmalet to reach Barèges from Bagnères was built
<b>1878</b>	The first 1st stone for the Observatory was laid at the summit of le Pic du Midi by Nansouty and Vaussenat
<b>1908</b>	The first dome was completed (the Baillaud Dome)
<b>1930</b>	Bernard Lyot invented the coronagraph. Observation began
<b>1933</b>	A road was constructed between le Col du Tourmalet and les Laquets, where a hostel was built
<b>1952</b>	The 1st cable car was built between la Mongie/Taoulet and le Pic du Midi
<b>1957</b>	Installation of the TDF Radio/ TV mast at the summit of le Pic du Midi
<b>1963</b>	The TDF mast began operation. Installation of the 106 cm telescope in the Gentili dome. Collaboration with NASA for the Apollo missions: mapping of the moon and planetology
<b>1980</b>	The 2m Bernard Lyot telescope began operation, the largest telescope in France
<b>1996</b>	The Joint Association for the Touristic Value of le Pic du Midi was set up
<b>1998</b>	Opening of the new science laboratories
<b>June 2000</b>	Inauguration by Prime Minister Lionel Jospin and the opening of the site to the public. A memorandum of understanding was signed with STPM as a Public Service Concession
<b>January 2001</b>	Creation of the 'Régie du Pic' (le Pic du Midi Governing Body) and the direct control of the commercial management
<b>April 2002</b>	The launch of the application for quality
<b>November 2007</b>	Membership of the N'PY network
<b>December 2013</b>	Accreditation of the le Pic du Midi International Dark Sky Reserve
<b>2016/2019</b>	The Pic du Midi is undergoing a revolution that requires a €7M investment

## LE PIC DU MIDI OBSERVATORY

Men have been studying the stars at le Pic du Midi Observatory since 1873. Astronomy (the study of celestial objects) is this Pyrenean site's area of expertise, together with the study of the sun and the planets. Since 1931, the Bernard Lyot telescope has allowed further knowledge to be gained about the stars and galaxies. Many research programs have been carried out at le Pic du Midi, such as the study of the moon's surface for NASA in preparation for the Apollo missions. Today, the Midi-Pyrénées Observatory directs its work in three main areas.

### **Astrophysics and the night sky**

Two domes at le Pic du Midi are dedicated to the professional study of the night sky. These include the dome which houses the Bernard Lyot Telescope (TBL) and the Gentili Dome which houses a 1m telescope specialising in planetary astrology (T1m).

#### ***The Bernard Lyot Telescope***

Built in 1980, the Bernard Lyot Telescope is sited at an altitude of 2,877 m. With a primary mirror measuring 2m in diameter, it is the principal telescope sited on national soil. Used at first for research in all areas of astrophysics, since autumn 2006 (with the installation of the Narval device) it has been entirely devoted to research into stellar magnetic fields. Consequently, the TBL has become **the first observatory in the world devoted to researching stellar magnetic fields.**

Why study the magnetic field of stars? Magnetic fields plot both a star's history and play a part in their evolution. They are the essential ingredient in a star's life. It is thought, for example, that the sun's magnetic field could have been behind the Little Ice Age - a period of intense cold that hit Europe during the reign of Louis XIV. What is even more impressive is that magnetic fields are capable of interfering with the birth of stars by changing the quantity of matter from which they are formed. However, today there is still relatively little known about magnetic fields and even those of the sun still remain a mystery. In order to solve the enigmas posed by the sun's magnetic field, it has been decided to study the magnetic fields of other stars - just like a doctor examining several patients in order to unlock the secrets of an illness.

The 1st key results: the magnetic fields resemble those of simple magnets, except that on the sun they turn round regularly, flipping their polarity approximately every 11 years. For the first time, a team of astrophysicists have discovered another star -tau Bootis A- turning magnetic somersaults. The magnetic switchover of tau Bootis A appears to be more frequent than that of the sun. Is all this activity caused by the giant planet closely orbiting this star? This discovery should help the scientific community to better understand how magnetic cycles work on stars such as the sun.

Narval was developed and built by the research team in the Astrophysics Laboratory in Toulouse/Tarbes. It was financed by the Midi Pyrénées Region, the Ministry of Research, the European Union, the General Council for the Hautes-Pyrénées and the CNRS (National Centre for Scientific Research).

Website : <http://bagn.obs-mip.fr/tbl/>

Contact: remi.cabanac@ast.obs-mip.fr

### ***The 1m telescope***

Observations using the T1m benefit from the excellent image quality available at the site. The best of the CCD images taken are comparable to those shown by the Hubble Space Telescope.

The research programme is split between the detailed observation of the meteorology of the giant planets (Jupiter and Saturn), monitoring the surface of Mars with a view to any space missions there and more opportunistic courses of action such as studying comets that come our way or any other small bodies in our solar system (asteroids).

Website: <http://www.imcce.fr/page.php?nav=fr/observateur/s2p/index.php/>

Contact: Francois.Colas@imcce.fr

### **Solar activity**

Observing the sun takes place from two domes at le Pic du Midi: the Jean Rösch Lens (<http://ljr.bagn.obs-mip.fr/>) and the coronagraph (<http://astrosurf.com/oa/>) located on the eastern side of le Pic du Midi Research carried out with the Jean Rösch lens today concerns the study of the dynamics of surface movement and magnetic fields of the photosphere using a CALAS camera with a wide field of view (4000 x 4000 pixels) and a spectropolarimeter which allows the upper layers of the sun to be analysed, such as the chromosphere. Coordinated ground-to-space observations (JOP 178) also take place between the Jean Rösch Lens and the SOHO, TRACE and HINODE solar satellites (<http://gaia.bagn.obs-mip.fr/jop178/index.html>). Research is also carried out on the sun's geometry to try and discover if its flattening is directly linked with the physical conditions present in the interior of the sun itself.

The new CLIMSO device has just very recently been installed in the dome housing the coronagraph. CLIMSO is an observational instrument used for studying dynamic phenomena in the sun's atmosphere, taking into account the huge diversity in temperature, density and magnetic and electronic properties in these areas. Consequently, it acts as a diagnostic tool for solar activity (the simultaneously hot and cold coronas and surface activity, etc.).

The data collected from the instruments studying the sun at le du Pic du Midi are stored and disseminated via the French Solar Survey Archive BASS2000 (<http://bass2000.bagn.obs-mip.fr/>).

### **Atmospheric activity**

The station at le Pic du Midi has supplied 2 sets of results since the end of the 19th century which have had a real impact internationally. They are changes in the concentration of ozone in the atmosphere and changes in temperature. These observations illustrate how human activity influence the atmosphere and climate. The Aerology Laboratory also manages the Centre for Atmospheric Research (CRA) which is located close to Lannemezan, just 30 km from le Pic du Midi. The aim is to consolidate the position of this joint CRA/Pic du Midi site as the atmospheric observatory for the Midi-Pyrénées region.

The areas of action associated with the two observation facilities and accredited by the Institute of Sciences and the Universe already taking place at these sites include:

- PAES: Pollution Atmosphérique à l'Échelle Synoptique (Air Pollution on the Synoptic Scale),
- An observation network on the chemical composition of the troposphere.
- NDACC: Network for the Detection of Atmospheric
- Composition Change, contributing to a world-wide network that
- observes changes in the chemical composition of the atmosphere.

The coordinated overview of these observation facilities is one feature in a long-term study of the dynamic, chemical and microphysical properties of the column of atmosphere above the site, and of the surface up to the stratosphere.