

Pic du Midi International Dark Sky Reserve

2017 annual report

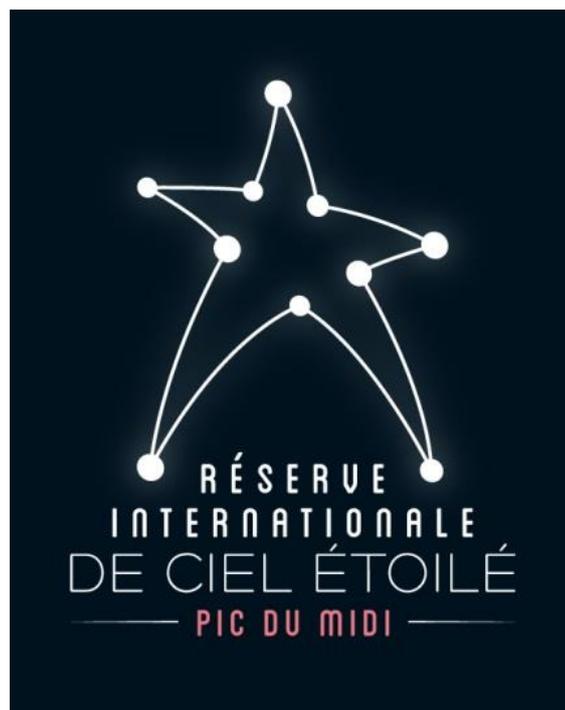


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Summary

Four years ago, on December 2013, the Pic du Midi International Dark Sky Reserve (IDSR) was created. It's about 65% of the Hautes-Pyrénées department, 3000km² and now 247 municipalities engaged to improve the quality of the night these last years. Many actions, awareness, and light renovations were made and, for most of all, a local appropriation appeared.

In this fourth year, the Pic du Midi IDSR submits a total reorganization. Actually, the governance changed six months ago. An association, Science en Bigorre, is now the project manager of the Pic du Midi IDSR. Because the way to work is new, 2017 is a hinge year for the Reserve.

This report synthesis 2017 actions and project that promoted dark night/sky and expose the new organization and plan ahead for next years.

IDA contact

Since April 2017, the Pic du Midi IDSR contacts change. Actually, a full time coordinator has been employed for the Reserve.

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1 Actions and results within the Pic du Midi IDSR

At the end of four post-label years, the actions and objectives that are the basis for the activity and specificity of the Reserve continue to be implemented and reinforced.

1.1 Lightings

The Dark Sky Program, supported by the “Syndicat Départemental d’Energie (SDE)”, has still extended in 2017, renovating municipalities’ street lamps.

Guidelines updated

In October last year, the decision was taken to modify the Lighting Guidelines. Actually, in the Pic du Midi IDSR, Diode Electroluminescent Lights are authorized in as much as the color temperature doesn’t exceed 3000 K and that these lamps are subject to programming. Thus, 2700 K and 3000 K programming DEL are equipped in the IDSR territory.

The SDE DEL programming is declined in three actions:

- DEL intensity is reduced by 60% during the middle night part. This programming type is the most common in the IDSR.
- DEL are connected to a computer which manage lighting, considering weather conditions, situations, frequentation site etc. This smart-grid adapts lighting day by day and month by month. This programming will be installed in “la Mongie”, at the bottom of the Pic du Midi, from October 2017 to 2018.
- DEL switch on when movement is detected. During the non-frequentation period, lighting intensity is at 20% and rise to 80% when a car or a pedestrian is detected. In a Juillan road, this programming was installed and tested.

New funding

First financed by IDSR partners, then by the region and the Environment and Energy Control Agency, it is now “Territoires à Energie Positive pour la Croissance Verte (TEPCV)”, a national program which encourage sustainable development actions, that permit the street lamp IDSR conversion. Six districts are TEPCV in the Pic du Midi IDSR, that means that 60% of light renovation are financially supported. It concerns the Pays de Lourdes et des Vallées des Gaves, the Communauté d’Agglomération Grand Tarbes, the Pays du Val d’Adour, the Communauté de Communes du Plateau de Lannemezan et des Baïses, the Communauté

de Communes des Baronnie, Bagnères and Gerde. All these districts planed a light renovation for 2018, that's why next year it will have a large light conversion.

Current situation

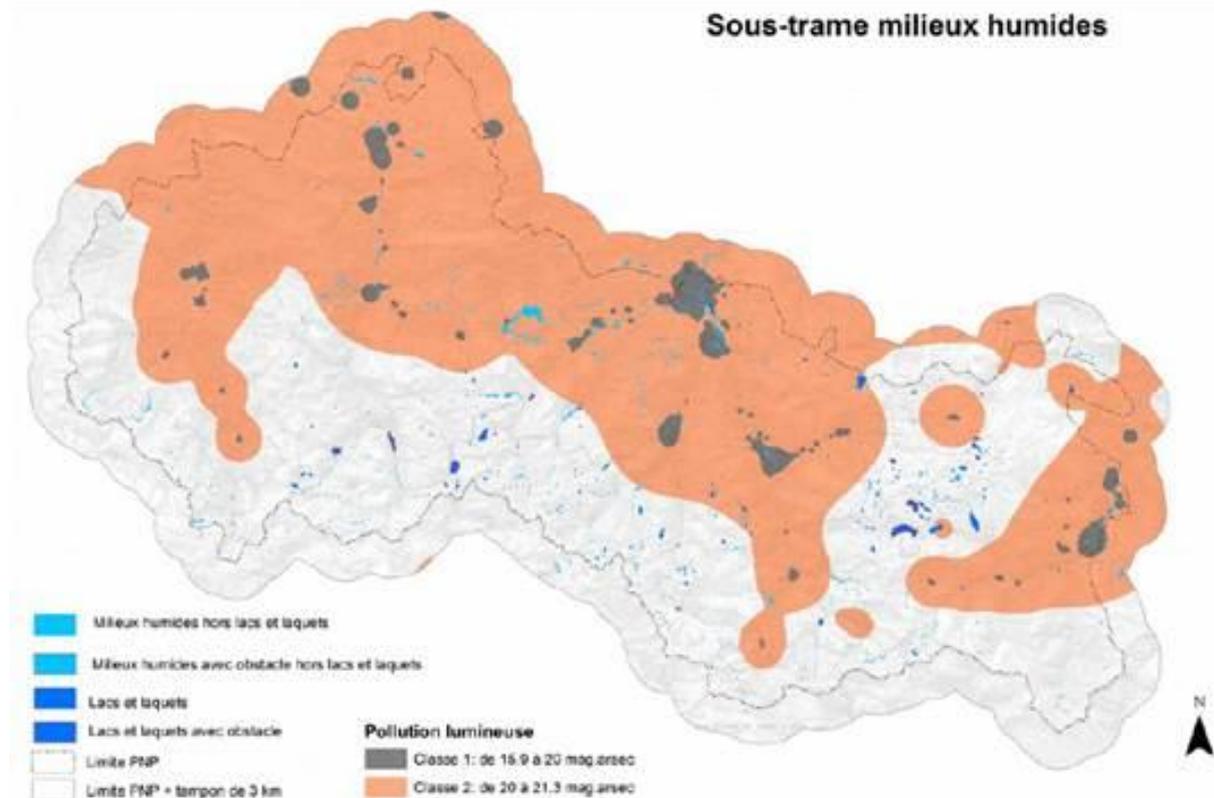
Until now, the SDE has focused its renovation actions on fluorescent light eradication and powerful intensity reduction. These works have allowed a significant increase in lighting improvement across the reserve. The renewal rate of public lighting in the IDSR is now about 13%. In September 2017, all the renovation projects of the year aren't financially closed. Thus in the figure bellow appeared only ended projects for 2017. These numbers will improve these next months.

| Year | Number of towns where public lighting has been improved (totally or partially) | Annual investment amount in euros | Number of light points improved by the IDSR Pic du Midi | Percentage of public lighting improved on light points managed by the SDE 65 (Departmental Energy Federation) |
|------|--|-----------------------------------|---|---|
| 2013 | 43 | 674 102,55 € | 195 | 0,72% |
| 2014 | 74 | 1 733 660,88 € | 731 | 2,68% |
| 2015 | 101 | 1 567 597,47 € | 754 | 2,77% |
| 2016 | 89 | 1 172 664,50 € | 1165 | 4,27% |
| 2017 | 63 | 896 359,49 € | 587 | 2,15% |

Light renovation assessment established by the SDE.

is now considered in order to identify the ecological corridor efficiency. Actually, an enlightened corridor is considered as usefulness as an urban road. Three classes were defined; neutral-, low- or high- supposed light impacts, to readjust ecological corridors potentiality.

I. Réservoirs de biodiversité



Map-making showing the three light impact degrees on ecological corridors.

© Pyrenees national Park

Moreover, because the sensibility line was proposed based on an unregularly database, in 2018, the Pyrenees national Park will apply and collect measures which will strengthen and extend the first database. It proposes to identify bat light sensibility in nature, observing their behavior and presence.

“Trame noire” formation

Organized by the « Agence Française pour la Biodiversité (AFB) », a new formation called « Intégrer l'enjeu de la trame noire dans son projet Trame Verte et Bleue » took place in Grenoble during four days. The goal for participants was to find out about light pollution impacts and learn solutions to limit consequences, particularly by ecological corridors.

The Pic du Midi IDSR was mobilized to give a talk on the nocturnal biodiversity project and also on the IDSR missions and light pollution answers.

The screenshot shows the website **ledauphine.com** with the following content:

- Navigation bar: Ma commune... Recherche sur le site
- Menu: Suivez-nous, Boutique, Salons, Marchés publics, Petites annonces, Avis de décès, Abonnements
- Header: **ledauphine.com** and "Votre journal en version PDF Télécharger l'édition du jour + 28 jours d'archives"
- Categories: ACTUALITÉS DÉPARTEMENTS FRANCE / MONDE FAITS DIVERS SPORTS MONTAGNE
- Sub-categories: AIN | ALPES DE HAUTE-PROVENCE | HAUTES-ALPES | ARDÈCHE | DRÔME | SUD ISÈRE | NORD ISÈRE | SAVOIE | HAUTE-SAVOIE | VAUCLUSE | COMMUNES
- Breadcrumb: > ledauphine.com > isère-sud
- Date: Dimanche 9 juillet 2017
- Article Title: **LALLEY Les impacts de la pollution lumineuse à l'étude**
- Image: A group of people standing outdoors in a grassy area.
- Caption: "La pollution lumineuse, dont le Trièves est pour l'instant préservé, était au cœur d'une formation dispensée cette semaine à Lalley, par l'Agence française de la biodiversité."
- Navigation: préc. 1 / 3 suiv.
- Related Content:
 - "CLIQUEZ ICI l'Ain, créateur d'instant le dauphiné"
 - "Découvrez tous les résultats... BAC 2017 CAP BTS BAC PRO BEP BREVET DES COLLEGES ...en cliquant ici"
 - "LA QUESTION DU JOUR Tour de France : allez-vous voir passer les coureurs sur les routes de nos régions? Oui Non"

1.3 Sky quality measures: the « Gardiens des étoiles » program

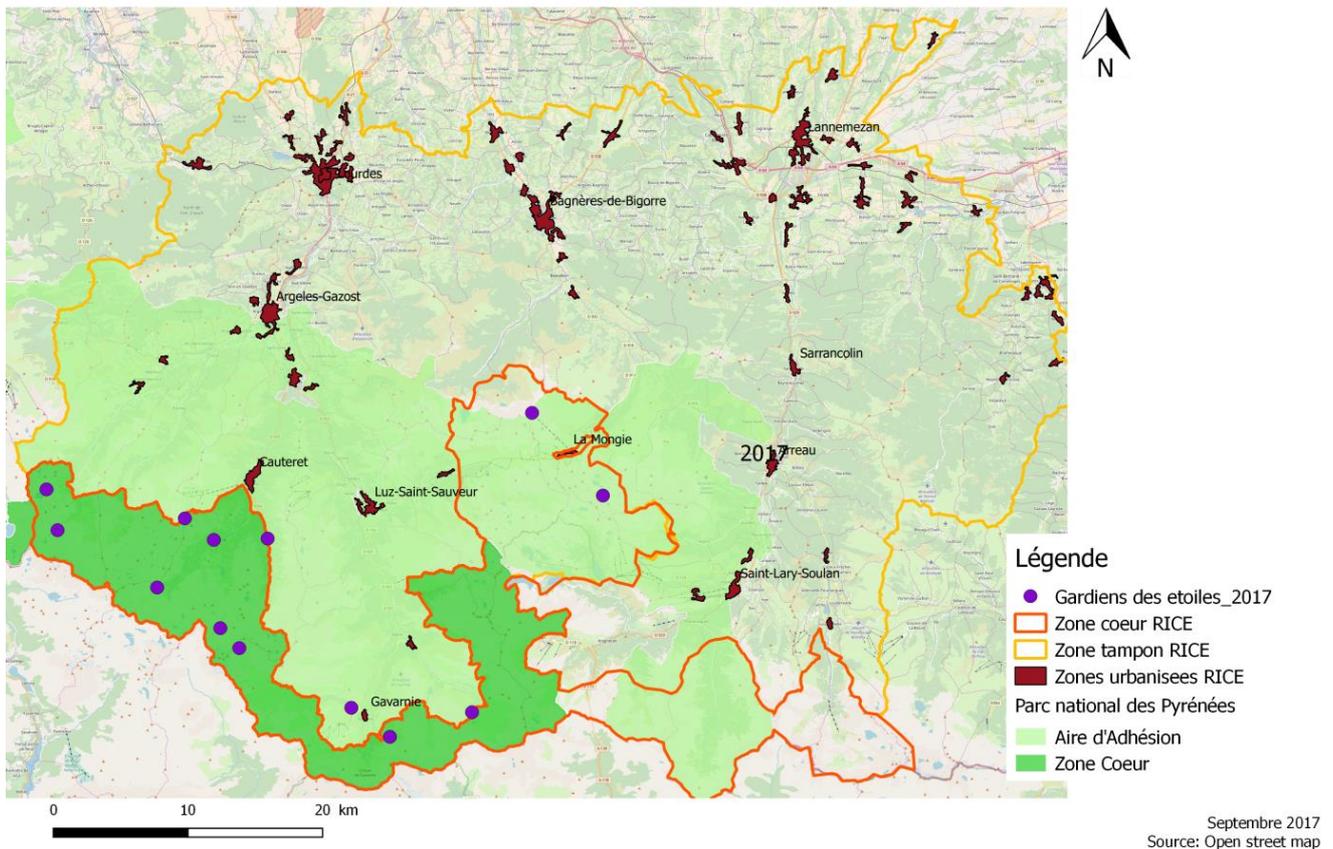
« Gardiens des étoiles » program aims to ensure the light pollution monitoring. Mobilizing local actors, sky measures and observations are made and report to evaluate the benefits of the light conversion plan. Moreover, this program aims also to aware citizens, inviting them to participate to the measure nights.

Begun in 2012 for the first edition, the « Gardiens des étoiles » program starts its second edition in 2017. Measurement of the Pic du Midi IDSR night quality continues and is now developed by different local actors. Intended first for the mountain refuges' guardians and the Pic du Midi animators, the program is extended to astronomical associations, socio professional actors and students.

Mountain refuges guardians

As it was the case in 2012, several guardians in the Pic du Midi IDSR were equipped at the beginning of July. Each guardian is engaged to measure the sky quality, applying a specific protocol we'll see below. During their opening days, twelve refuges guardians located in the IDSR core zone, and in the Pyrenees national Park, follow the night quality.

Participation des refuges au programme Gardiens des Etoiles



Guardians participation to the « Gardiens des étoiles 2017 » program.

Method

Using a Sky Quality Meter with Lens, the guardians take measures of the sky lighting and note weather conditions and temperature. At the end of their summer season, in October, guardians bring the note book to Science en Bigorre to update the IDSR light pollution map.



Didier Moreilhon, Pyrenees national Park guard, participating to the « Gardiens des étoiles » program. © Delphine Pelletier

Tools

In July, guardians were equipped with different materials useful for the « Gardiens des étoiles » program. Both Science en Bigorre and the Pyrenees national Park deliver the equipment in the refuges:

- ✓ An attractive notice. This poster is putting up in a visible place inside the refuges to puzzle them by the program and the wish to protect the night, here, in the IDSR.



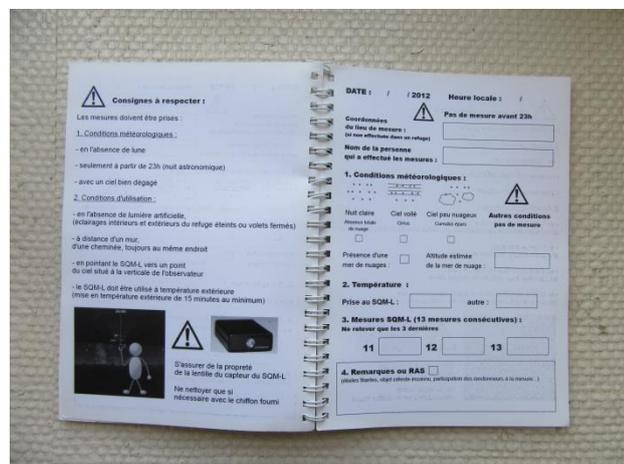
- ✓ A « Gardiens des étoiles » presentation booklet. This book is available in the different refuges, to inform, in a detailed way, walkers about the program and its goal but also to invite them to participate.



- ✓ A sky Quality Meter with Lens (SQM-L). This device is a meter for measuring sky brightness in magnitudes per square arcsecond.



- ✓ A note book. It is the measures report book for the guardians. The method for using the sky quality meter with lens is reminded on it and there are index cards for each night of reading.



Results

Unfortunately, we can't expose now the results because the different « Gardiens des étoiles » packs don't get back yet. We will analyze the measures on autumn or winter this year.

Futur

The mountain refugee guardians will be mobilized each year to measure night brightness in the IDSR core zone during summer. The equipment will be given out annually before the guardians leave into mountain and given back at the end of their season. In this way, IDSR light pollution map will evaluate each year and the IDSR night quality will be known.

Astronomical associations and socio-professional actors

For this second edition, we extend the « Gardiens des étoiles » program to astronomical associations and socio-professional actors. Some are directly impacted by light pollution and demonstrate a large motivation to act on minimize it. Because they usually work during the night with citizens, the « Gardiens des étoiles » program could effectively be applied. The others are integrated because they could use this program to develop night animations and propose a specific and unique entertainment that doesn't exist anywhere else.

Method

In contrast to the guardians we saw above, these two actors applied a different brightness monitoring. Actually, because we aim citizen to do their own measurement and because we can't equip them all with SQM-L, we use the international citizen-science campaign, Globe at Night. It invites citizen-scientists to measure and submit their night sky brightness observations, looking constellation brightness.

Tools

Because these actors were non-initiated, a formation was organized. The IDSR project, its goal and the « Gardiens des étoiles » program were tackled. Then, the method and how can it be done were exposed.

Forty structures were contacted during summer, and twenty-five answered that they are interested both by the training and the program. Unfortunately, because the « Gardiens des étoiles » program begun this year during their active period, many of them couldn't leave

work to participate to the training. Fifteen people were present on the 10th of July to whom the material was given:

- ✓ A « Gardiens des étoiles » presentation booklet. This book is available in the different structures, to inform, in a detailed way, citizens about the program and its goal but also to invite them to participate through Globe At Night.



- ✓ A note binder. It is the measures report book for the guardians. The method for using the sky quality meter with lens is reminded on it and there are index cards for each night of reading.



Results

At the end of the year, binders will be brought back and measures which weren't keyed in the website will be. Finally, the globe at night maps will demonstrate the citizens and professionals IDSR appropriation.

Futur

Globe at night campaign, in part, will be used to aware citizen about light pollution but also to explain them the importance to ensure a night monitoring. The application of this program will be supported in the Pic du Midi IDSR zone and further.

Students

Awareness people is important but moreover young people. Because light pollution is unknown and not studied, it is an urgent need to inform young generation. In that way, the problem will be considered in future project.

The « Gardiens des étoiles » program will concerned students because a pedagogic file destined to professors will be written. This document will guide professors in tackling the light pollution problem, using art, mathematics etc. but also « Gardiens des étoiles » program. The first meeting which starts this document redaction is planned in October.

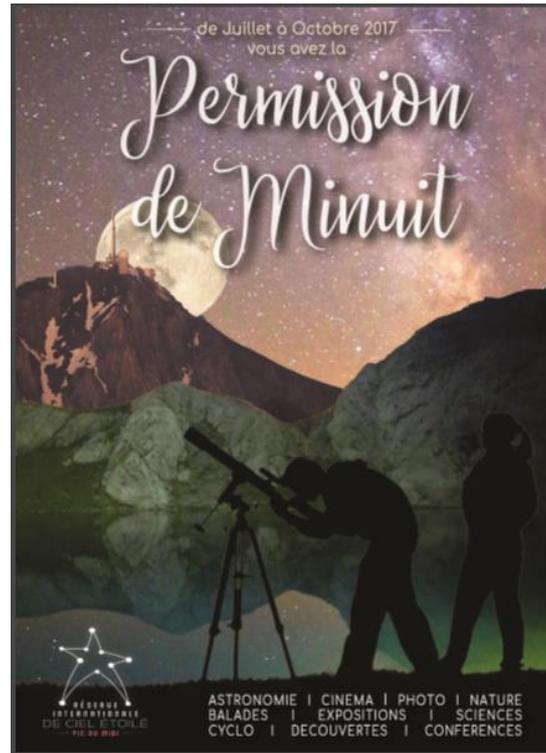
1.4 Animations and awareness

On the Pic du Midi ISDR, many animations and activities are proposed to discover and appreciate the night world.

“Permissions de minuit” or midnight permissions

The “Permission de Minuit” program is a summer animations program developed by the “Pays de Lourdes et des Vallées des Gaves (PLVG)”, one of the four ISDR territories. It proposes activities to raise general public awareness of the challenges faced by the Pic du Midi IDSR but it permits also to develop local tourism.

Each summer since 2014, the PLVG listed all the touristic offers in connection with the IDSR in a pamphlet which is widely distributed and transmitted in the local and national press - a document which also presents the IDSR and light pollution challenges. From July to October, fifty or so evening events are organized to offer, for locals and the visitors, the opportunity to experience the magic of the Pyrenees by night.



The "Permission de minuit" program for summer 2017. © PLVG

A drawing of lots was also created. Each person was invited to complete a participation bulletin and agree to receive IDSR and PLVG newsletter, failing which gifts should be win at the end of October. It's about 400-500 contacts added each year to the database.

Tentez votre chance!

Pour participer c'est très simple. Il vous suffit de compléter ou recopier ce bulletin sur papier libre et de le renvoyer à :

PETR Pays de Lourdes et des Vallées des Gaves
Jeu Concours Ciel Étoilé 2017
4, rue Michelet 65100 LOURDES ou par courriel à :
contact@plvg.fr (objet du courriel: "Jeu concours Ciel Étoilé")
Participation limitée à un bulletin par personne
Le tirage au sort sera effectué le 31 octobre 2017 à Lourdes. Les lots seront attribués du 1^{er} au dernier par ordre de tirage. Les gagnants seront avertis sous 48 jours par courrier postal et courriel.

Jeu-Concours Ciel Étoilé

NOM : Prénom :

Adresse :

Code postal : Ville :

Pays :

Courriel :@.....

J'y participe au jeu concours "Ciel Étoilé" et j'accepte de recevoir l'actualité de la Réserve Internationale de Ciel Étoilé du Pic du Midi et du Pays de Lourdes et des Vallées des Gaves.

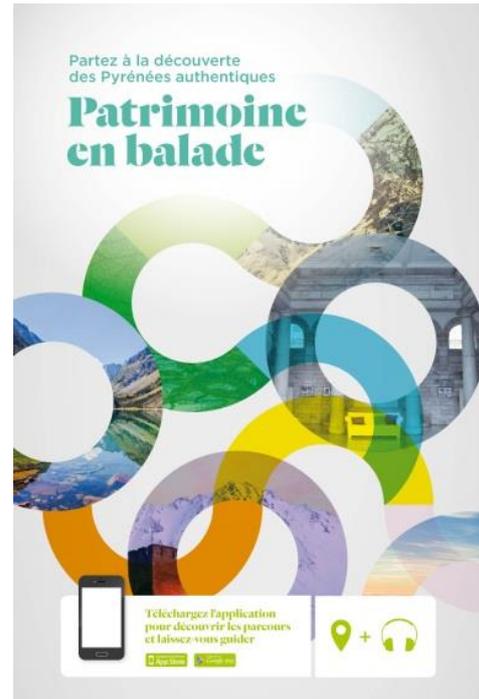
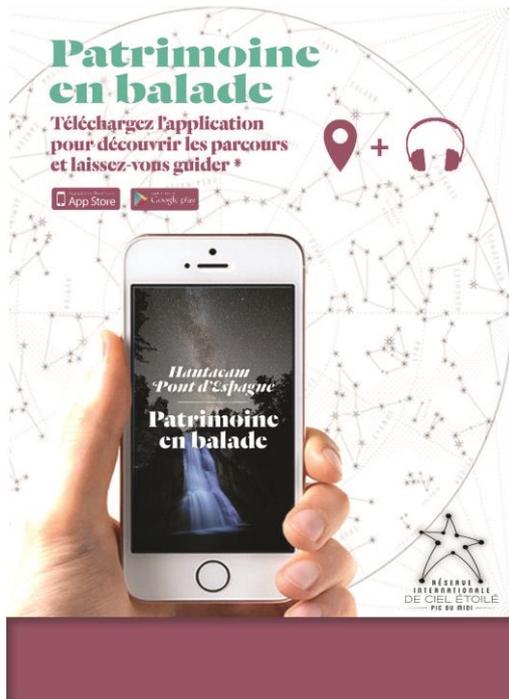
De nombreux lots à gagner !

Lot n°1 : un vol biplace en parapente avec le club Vol Libre Pays des Gaves (valeur 70 €)
Lots n°2 à 7 : une montée au Pic du Midi de Bigorre (valeur 36 €)
Lot n° 8 à 11 : une mémoire de La Clef des Étoiles (valeur 20 €)
Lots n° 12 et 14 : un roman des Éditions Privat "Le Soleil ne se couchera pas pour mourir" (valeur 18,50 €)
Lots n° 15 à 17 : un album "Myrtille à la tête dans les étoiles" (valeur 12 €)
Lots n° 19 à 20 : une carte tournante de la Clef des Étoiles (valeur 10 €)

The drawing of lots bulletin created by the PLVG.

The application “Patrimoine en balade”

The interactive mobile application “Patrimoine en Balade”, created by the PLVG in 2015, was completed this summer with two new guided walks, on pictures and sounds, dedicated to the night-world and the IDSR (www.culture.valleesdesgaves.com). They are located in Pont d’Espagne and in Hautacam, two night preserved sites, and invite citizen to discover mountain secrets when sun is going to sleep and stars appear.



The new walks of « Patrimoine en balade ». © PLVG

Photography exposition « Paysages célestes nocturnes »

The exposition « Vous connaissez les Pyrénées le jour, Découvrez-les la nuit ! » (Have you visited the Pyrenees by day? Discover them by night) is an exhibition which was created in 2012 and which is enhanced each year by new local amateur photographers. In 2017, ten new photographs were developed and works of two new photographers (Christophe Cieslar and Ronan Roger) have completed the exposition. It is now made up of forty shots which highlight the local celestial landscapes, their purity adding to the natural beauty and richness. Nine structures presented the exposition from one day to one month.

EXPO
PO

RÉSERVE INTERNATIONALE DE CIEL ÉTOILE
PIC DU MIDI

**Vous connaissez les Pyrénées le jour
Découvrez-les la Nuit !**

Photographies de paysages célestes nocturnes
H. Aurignac | N. Bourgeois | C. Cieslar | P. Comper | J.F. Graffand | P. Meyer | T. Pereira | R. Roger

Dans le cadre de la Fête de la Science
Du Lundi 9 au Samedi 14 Octobre 2017
Médiathèque Louis Aragon
31, rue André Fourcade - TARBES

Entrée gratuite
Programme d'animation complet sur www.scienceenbigorre.fr

fête de la Science | tarbes lourdes pyrénées | Science en Bigorre

Exposition flyer example.



« Paysage célestes nocturnes » exposition in Lourdes. © Pouzet

Barèges initiative

Barèges is one of the 247 municipalities of the Pic du Midi IDSR. Active in reducing light pollution, in particular with its street lamp renovation, Barèges inaugurated a new project on December last year. Metamorphosed by the new lighting, Barèges revealed also art lighting put up in the street and visible all the year: projected constellation. A new way to raise people awareness of sky and night importance.



25/09/2017

Les pieds et la tête dans les étoiles - 29/12/2016 - NRPYrenees.fr



Actualité > Hautes-Pyrénées > Barèges

Publié le 29/12/2016 à 03:49, Mis à jour le 29/12/2016 à 08:02

Les pieds et la tête dans les étoiles

Actu



Les étoiles se posent sur Barèges. Photo Les Sorbiers.

Depuis des mois, Barèges évolue dans le cadre du projet communal de rénovation et d'embellissement.

La rue est relookée : les trottoirs ont disparu, la partie piétonne étant juste délimitée par des rangées de pavés. Le revêtement de la zone de circulation a différentes nuances de gris.

Le parking devant la mairie a fait place à une esplanade dégagée et aérée, l'accès à l'église est agrémenté de pierres apparentes. De nombreux points végétalisés présentent des murets du même style.

Le petit parc à l'entrée du village descend doucement en une volée de marches vers le cinéma, rendant l'ensemble plus accueillant.

En haut du village, face aux thermes, le virage a été végétalisé et adouci pour faciliter la circulation.

Sans compter les travaux gigantesques après la crue de 2013, Barèges est complètement métamorphosé.

Depuis quelques jours, les passants remarquent une autre nouveauté, la nuit, dans la rue. Il faut savoir que le village a toujours eu une vocation pour l'astronomie. Hubert Reeves a même donné son nom à l'école.

Barèges fait partie de la Réserve internationale de ciel étoilé du pic du Midi, cinquième réserve mondiale, première en Europe continentale et la plus grande au monde. La commune a changé quasiment tout son éclairage public pour contrer la pollution lumineuse qui non seulement gêne

Light installations in Barèges. © Quartiers lumières

Astronomy week

For the third year, the astro-club of Lourdes, which is composed by 117 enthusiast students, organized an astronomy week in July. Sun observations and comet expositions were proposed in the castle museum.

20/09/2017 La première semaine de l'Astronomie est lancée - 20/07/2017 - ladepeche.fr



Actualité > Grand Sud > Hautes-Pyrénées > Lourdes > Sites

Publié le 20/07/2017 à 07:08

La première semaine de l'Astronomie est lancée

Fêtes et festivals

Auteur: 20/07/2017



Les jeunes de l'astro-club Lourdes ont rendez-vous à partager à cette semaine exceptionnelle. Photo A.C.C.

Depuis leur création, les clubs de l'astro-club Lourdes proposent annuellement des semaines de l'Astronomie, organisée par l'astro-club Lourdes, en partenariat avec le site de Lourdes. Une semaine de fêtes en histoire, avec le Nuit des Etoiles.

Il y avait déjà beaucoup de monde pour le lancement de la semaine de l'Astronomie, hier après-midi, au château fort Musée pyrénéen. Pour la première année consécutive, l'astro-club Lourdes met en place cette semaine en amont de la Nuit des Etoiles, depuis le samedi soir, le 16 juillet, jusqu'au dimanche soir, le 20 juillet.

Le club Lourdes organise des observations du Soleil, de 14 heures à 16 heures, ainsi qu'une exposition sur les comètes, présentée par les membres du club, de 17 heures à 19 heures, de la 16 au 19 juillet, ainsi qu'une exposition de la comète NEOWISE, de 17 heures à 19 heures, de la 16 au 19 juillet, ainsi qu'une exposition de la comète NEOWISE, de 17 heures à 19 heures, de la 16 au 19 juillet.

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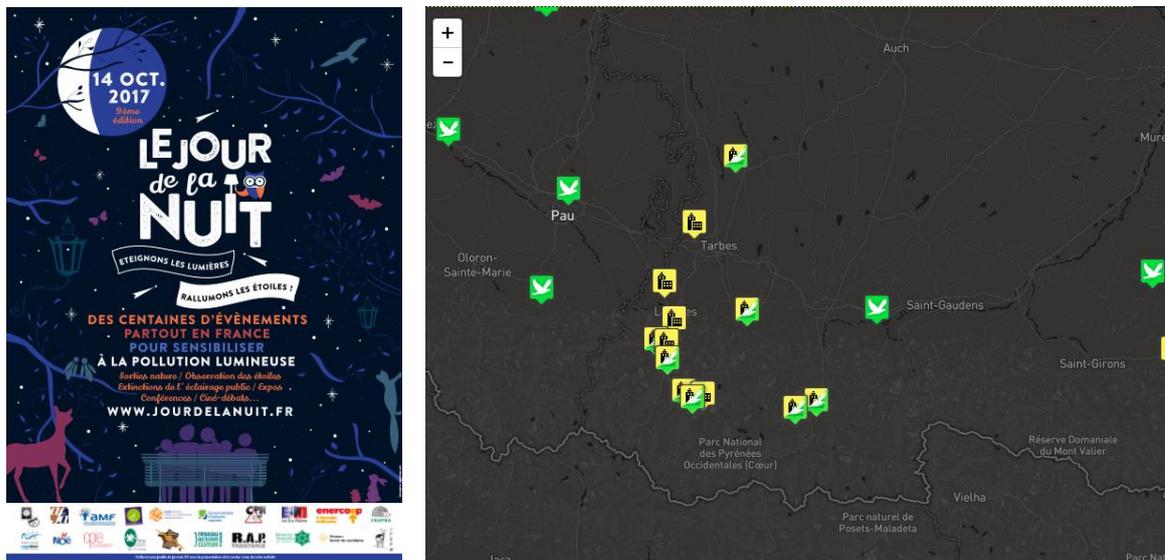
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Le jour de la Nuit

« Le Jour de la Nuit » is a national event that raises citizen awareness of light pollution and consequences. In 2017, this day is the 14th of October. Because this manifestation is particularly interesting in an IDSR territory, a large solicitation is made to partners. Municipalities were contacted to switch off street lamps for the symbol but also to organized animations concerning night world. It's about twenty animations recorded for now in the IDSR territory. A conference to present the IDSR project will be driven in the depth of the Reserve. Supported by the PLVG, the “Pays des Nestes” and the Pyrenees national Park, night world and life importance will be passed on to citizens.



“Jour de la nuit” flyer and IDSR mapped animations.

Furthermore, with the Pic du Midi IDSR, « Noé Conservation » and « Agir pour l’environnement », a special collaboration is engaged to carry a politic message. Actually, because of the legislation gap concerning light pollution, extinctions etc., the “Jour de la nuit” will be used to call upon general public and politicians. The ministry for the environment will be supposed to speak about that.

Citizen meeting

Because, Pic du Midi IDSR communication is essential to inject dynamism, knowledges and actions into the territory, conferences and events participation through pedagogic stands were made. During summer but also for autumn and winter, the IDSR mobilization, and so Science en Bigorre’s one, is big. The “fête de la nature”, the “fête de la science”, the Pyrenees national Park 50th birthday animations etc. are few examples. Moreover, local

radios interviewed Science en Bigorre, IDSR coordinator, during manifestations and podcasts are listening here :

- <http://62.210.215.26/podcasts/TER/biodiversite/1718/cieleteoilelea.mp3>
- <http://62.210.215.26/podcasts/TER/patrimoine/50science.mp3>




Examples of the Pic du Midi IDSR summer participations.

Pic du Midi events

Since 2016, the Pic du Midi has taken on an ambitious investment program in order to modernize its visiting spaces. It develops more ways to raise awareness of the protection of the sky and nocturnal environment like the astronomy evenings and nights do. Over 120 000 visitors each year access this mediation space, which serves to increase the visibility of our Reserve.

In 2016, the new Pic du Midi Planetarium was inaugurated. Since June 2017, a new film is shown in this space, telling the Pic du Midi epic: “L’épopée du Pic, chroniques du vaisseau des étoiles” and in which there is a chapter concerning the Pic du Midi IDSR. It proposed 7 showings per day and since its inauguration, it’s about 25 000 visitors from June to August who participated. Another tool which is deemed to be as efficient as it is original in raising awareness of the challenges of protecting the dark sky.

The Pic du Midi continues its night discovering and astronomy workshops during 2017 with the “starry evenings”. It’s about 3 000 visitors divided into 40 events, from June to August, who are raised awareness of night protection importance and the IDSR existence. Almost 20 “nights on submit” per month with 27 persons each were organized in 2017. During these nights, public participates to the “Gardiens des étoiles” program and is raised awareness of the Pic du Midi IDSR throughout the visit.

Moreover, an astronomy observatory focused on general public took place in the Pic du Midi to discover dome observation and night sky problematics.

At last, an IDSR specific zone called “Skybox” was installed in the Pic du Midi. It simulates a preserved night that declined when switching on or off the street lamp. Visitors can modulate the light intensity and directly show the night environment impacts.

In progress

NightScapade festival

The Pic du Midi IDSR was contacted on spring by the “Chasseurs de nuit” association because they want to develop the NightScapade festival on the territory and in partnership with the Reserve. This manifestation which will establish on the 31st of May to the 3rd of June in Lourdes, gives access for all to astrophotography and arts related to night universe. The program is in finalization.

Poctefa project

Poctefa is a cross-border European cooperation program created to promote sustainable development between France, Spain and Andorra. The Poctefa is a financial support and co-financed project managed by actors situated to each side of the Pyrenees. In association with Spanish partners, the Pic du Midi and A Ciel Ouvert / Science en Bigorre wrote a review exposing the Pyrenean strategy for night quality protection and improvement, called “Les Pyrénées la nuit”. These six partners presented an action plan composed with animations, studies, measures, mediation etc., making the Pyrenees an international referent of night preservation.

Working during several months, the project was deposited during the spring 2017. The contribution validation should be in October. In case the project is accepted, the Pic du Midi IDSR will take a fresh start. In particular, the first establishment totally dedicated to IDSR management and valorization should be created: “La Maison de la Nuit”, house of night. This house should be in Bagnères and should play host to permanent and temporary expositions, a “urban star park” but also the IDSR coordinators’ offices.

2 The Pic du Midi IDSR strengthening strategy

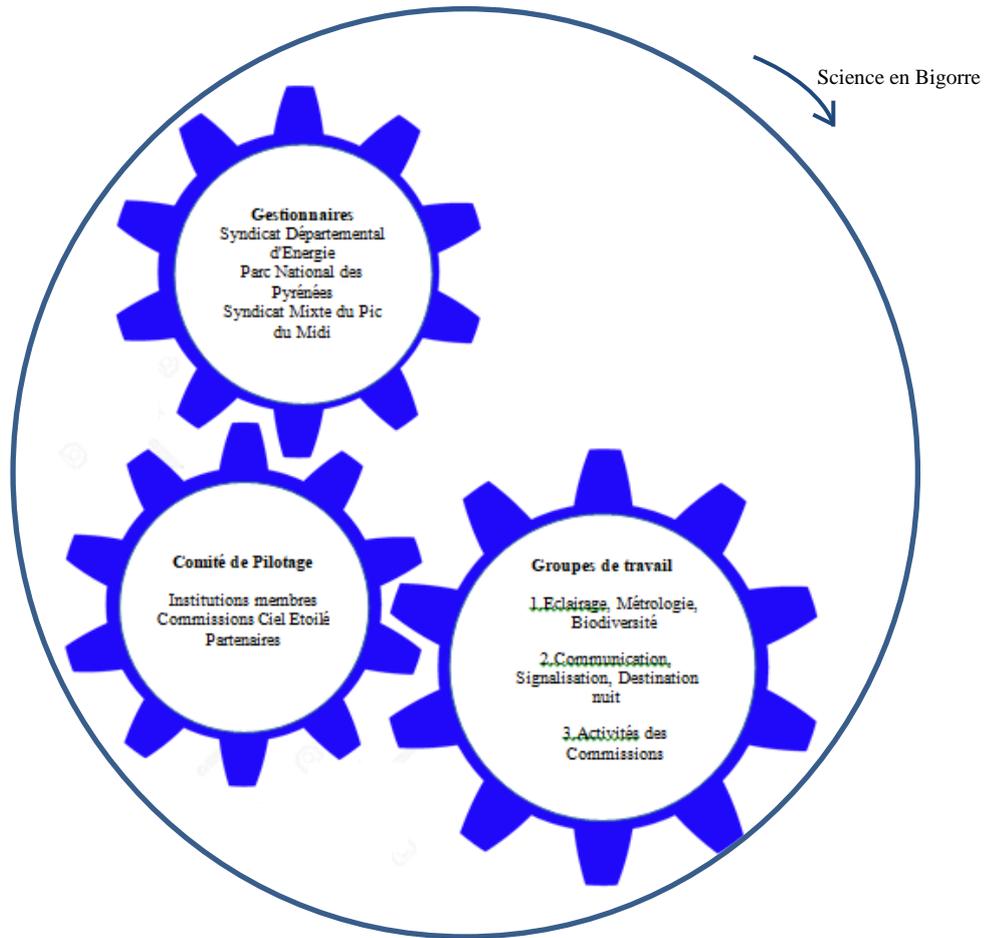
The Pic du Midi IDRS project begun concretely with the redaction of the admission review. A PhD student was in charge of this writing and then on the IDSR start up. A governance took place for IDSR missions, but since 2016, since the thesis end, this governance was not appropriated anymore.

2.1 Governance

Because the governance was not as efficient as when the PhD student was full time on the project, decision was taken to employ a project manager. Six months ago, the association Science en Bigorre began its functions per se, for three years.

Actually, The Pic du Midi IDSR operates with three administrators, one manager project and a steering committee. On the 26th October, the annual steering committee reunion will occur and, among other things, the new way of working will be presented and then agreed-upon. The Pic du Midi IDSR will begin its action plan through working group activation. The new governance will be composed of four entities each one having specific roles (see annex 1).

- A steering committee composed by members' institutions, partners and Starry Sky Commissions. It fixes action orientations and makes sure that they are well established and in accordance with objectives.
- Three administrators composed by the "Syndicat Mixte pour la valorization touristique du Pic du Midi", the Pyrenees national Park and the SDE. They implement the steering committee strategic orientations and assure the IDSR project ownership.
- A project manager represented by Science en Bigorre. It fulfils management and animation IDSR missions entrusted by the "Syndicat Mixte pour la valorization touristique du Pic du Midi" as a project owner.
- Three working groups composed by different partners depending on the subject and missions. The first one refers to Lighting, Biodiversity and Metrology, the second one on Communication, Signalization and Night tourism destination and the third one on IDSR territories activities.



Governance figure.

2.2 Strategic approaches and objectives

Three objectives were listed for the Pic du Midi IDSR and which shall be managed by Science en Bigorre :

Institutional strengthening

- Setting up active management of the IDSR via a governance of partners facilitated by a full-time assignment manager.
- Official and national recognition of the IDSR status (project area; protected spaces like the National Park; specific regulations regarding lighting and the nocturnal environment).

Strengthening the IDSR scope of activities

- Improving lighting
- Monitoring and conserving the night-environment
- Setting up an IDSR observatory
- IDSR activity specific to each area/ person involved
- Raising awareness working on public relations and education

Implementing a dark sky tourist destination in the Hautes-Pyrénées

- Implementing the « Windows on the Universe » project
- Developing and promoting a dark sky tourist offer

2.3 Science en Bigorre's missions

Since April 2017, Science en Bigorre is the Pic du Midi IDSR project manager. The project owners listed its missions for the three next years.

| Missions linked to the functioning of the Pic du Midi IDSR |
|--|
| <p>IDSR governance activities:</p> <ul style="list-style-type: none"> • Formalising regulations and functioning of the IDSR governance; • Hosting and monitoring the Pic du Midi IDSR Management Committee meetings; • Activating an operational dynamic for governance: spreading and promoting ownership of the action plan, activating the thematic working groups, monitoring activities; • Supporting and coordinating the activities and actions of the workers and partners of the Pic du Midi IDSR; • Researching financing opportunities; <p>Maintaining exchanges with the IDA and drafting the annual review of IDSR activity.</p> |
| <p>Institutional strengthening:</p> <ul style="list-style-type: none"> • Engaging the IDSR governance in the exploration and selection of possibilities for institutional strengthening of the Pic du Midi IDSR: official and national status recognition for the Pic du Midi (regional nature park, project area, etc); specific regulations on public and private lighting, protection of the nocturnal environment; • At the end of the mission, the process of institutionalising the Pic du Midi IDSR must have been enriched, at the very least by a well-established and ongoing strategy, and at best by concrete results in terms of specific regulations, or even status recognition; <p>An IDSR audit entity, "observatory" style, must be set up to monitor, record and evaluate the reserve's activity. The results of these audits should support the process of institutionalising the project area.</p> |

Missions linked to the scope of the Pic du Midi IDSR activities

Supporting the workers and partners of the Pic du Midi IDSR:

- SDE 65 : implementing the DARK SKY programme (lighting improvements)
- Pyrenees National Park: study and protection of the nocturnal environment, monitoring the quality of the dark sky
- Community: local activities which enhance the Pic du Midi IDSR

Remote action areas (Greater Tarbes)

Reinforcing the communications and promotion of the Pic du Midi IDSR

- Implementing a public relations campaign in order to promote the IDSR and its activities (website, flyers, press conferences, events, and so on...)

Developing territorial marketing for the IDSR: creating gateways to the valleys, indicating the core zone, clearly marking the towns and villages within the IDSR

Promoting the Hautes-Pyrenees in "Destination Dark Sky"

- Promoting the nocturnal and celestial dimension of the Hautes Pyrenees, the quality of the landscape and environment

Encouraging and promoting local touristic offers and initiatives centred on the night and the quality of the nocturnal landscapes and environment.

The Pic du Midi IDSR makes a fresh start with its new way of work. Let's see next year results...

Annexes

Annex 1 : Governance document