



# ASTRO-TOURISM

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PROMOTION OF INNOVATIVE PRODUCTS  
OF ASTRO-TOURISM IN THE V4 COUNTRIES

## THE DARK SKY PARKS IN V4 COUNTRIES

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• Visegrad Fund PROJECT CO-FINANCED BY THE INTERNATIONAL VISEGRAD FUND

# FOREWORD

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Astrotourism it's travelling to Dark-Sky sites for astronomical observation activity using specialized equipment. Dark-Sky sites are located in areas with less or non light pollution. Dark/ Starry Sky Park is an area of land protected from contamination by artificial light with unique environment that is darkness of the night.

Such areas are the equivalent of refuges extremely valuable natural space. Meet the protective functions of the darkest corners of the planet where the environment is not disturbed by artificial light. Areas such as the classical nature reserves have not only ecological functions but also educational and touristic.

In presented brochure you can find short informations about Astro-Tourism centers in V4 countries - Poland, Slovakia, Hungary and Czechia. Astro-Tourism project is the answer to conclusion Secretaries of State V4 countries (17-18.02.2015 in Strbske Pleso): "We need to establish close cooperation to attract more tourists to Central Europe from more distant and exotic countries".

Kazimierz Tuszyński  
Project coordinator

## Partners

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## STARRY-SKY PARKS IN V4 COUNTRIES



## HORTOBÁGY STARRY-SKY PARK / HORTOBÁGYI CSILLAGOSÉGBOLT-PARK

### OWNER

Hortobágy National Park Directorate in partnership with Rónaórző Society for Nature Protection



### HOW LONG DOES IT WORK?

It was officially designated by the International Dark-sky Association in 2011.

### AREA

Hortobágy National Park's area is 82000 hectares, core zone of the starry-sky park is 10000 hectares.

### THE BRIGHTNESS OF THE NIGHT SKY (THE QUALITY OF THE PARK)

The average SQM value is 21,4 magnitude/arcsecond<sup>2</sup>, the park got „silver tier” from the IDA

### INFORMATION ABOUT PROTECTED AREAS

The Hortobágy National Park is situated on the former floodplain of the Tisza River. The park is the first proclaimed and biggest Hungarian national park, also a World Heritage site, Ramsar site, Nature 2000 site and UNESCO Biosphere reserve.



*The first slogan of the park expresses the main feature of the landscape: the endless flat grassland area is like the sea: Hortobágy, where the Earth and Sky meet.*

Hortobágy is an almost flat plain landscape, great and continuous grassland area with wetland mosaics, the most extended in its category in Europe. It is occupied by alkaline marshes, meadows, dry alkaline pastures and remnant loess-steppe vegetation. In fact, if one does not take into account the Volga-delta region, Hortobágy is the largest alkaline area in Europe. Similarly speaking this is the largest continuous remnant native grassland area of the continent with traditional grazing and shepherd life.

Hortobágy is also one of the biggest unpopulated and darkest areas in Hungary. Its significance is mostly related to the high biodiversity, especially the great number of migrating bird species and special nocturnal insect species.



*Hortobágy from above. You can see the Hortobágy River and the typical steppe with wetland mosaics*

Pastures of Hortobágy are scattered with traditional buildings of ancient pastoral activity. Hortobágy got its WH Diploma in the cultural category – as it is related to traditional land use and ancient shepherd culture, however Hortobágy's biodiversity is also very high and the park's significance is very important in preserving nature.

Hortobágy is most famous for its rich avi-fauna. The number of nesting species is 159 and there are additional 178 species which are regular or irregular visitors. Hortobágy is generally the best birding place in Hungary (possibly in the whole Carpathian Basin) and the most important IBA (Important Bird Area) too. Migration is particularly significant.

The masses of migration are remarkable too: for instance 100,000-300,000 of grey geese species (Anser sp.), app. 100,000 cranes (grus), or 50,000-200,000 Ruffs stop at Hortobágy (the last one basically while shallow-water covered conditions occur on grasslands). 10-20 years ago hundreds of thousands of different duck species stopped here too, but their mass has been less significant recently. It is notable that many of the important breeding and nesting bird species (geese, crane, cranes etc.) and other species especially many rare insect species are light-pollution sensitive.



*The obtrusive light-free environment is essential for the wildlife as e.g. insects at night and the protection of migratory birds.*



*The „Nine-hole Bridge” is one of the symbols of the WH site, with the Milky Way can be the symbol of the Dark-sky Park.*



*Traditional shepherd building with the Milky Way*

Hortobágy is one of the last guardians of living shepherd tradition. Shepherd culture has deep interrelation and interdependence with the natural environment. There are many evidences in ethnographical works of the starry-sky knowledge of the shepherds.

„...Regarding the Great Plains in today's Hungary, the knowledge of stars of Hortobágy people, folk traditions associated with the stars is richer, more colorful than anywhere else in Hungary...” (Győző Zsigmond ethnographer)

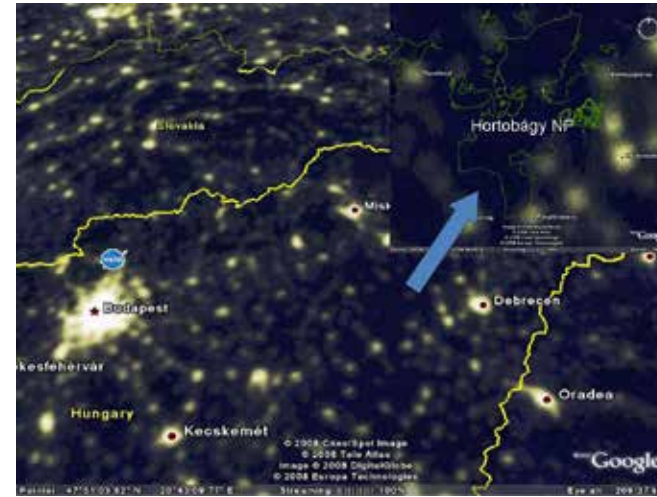
„The shepherds knew the hours from the procession of stars. The Big Dipper, the Pleiades, the Kaszáscsillag (Sirius) and the Milky Way all turn and indicate where we are in the night.” (local ethnographic collection)

Sándor Szűcs famous ethnographer writes in the Puszta Chronicle that „they only informed about the world in „pastoral style” observing the stars and the ground and grasses.” As we can see from the citations above, shepherds had very good knowledge of the stars, the phenomena related to the sky. Their mythology and also their daily life have got many connections with the starry sky. So the protection of dark sky is important in preserving folk traditions too. Shepherd culture was an important part of the World Heritage nomination. Now Hortobágy could be part of UNESCO Astronomy and WH program too as an arched-astronomy or ethno-astronomy site.

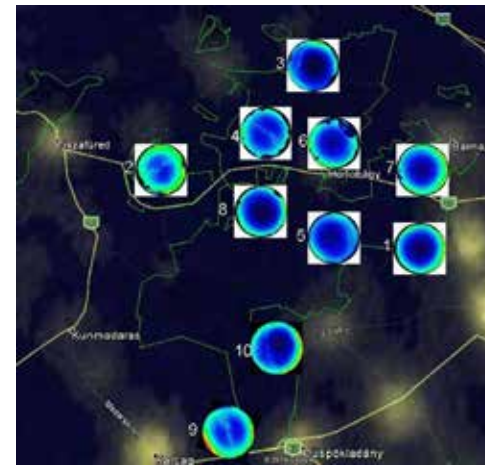


Star-gazing horse herds - old postcard from the early 1900s

Hortobágy got its „dark-sky park” diploma from the International Dark Sky Association in 2011 according to the nomination submitted in 2010. To be a dark sky park is an important tool to protect the nocturnal wildlife habitats and also the landscape values of Hortobágy as an outstanding and unaltered wilderness area in the Great Hungarian Plain, in the middle of Europe which is also an important tourist destination. Now the dark-sky values provide new attraction to the area.



The park on the Google Earth night-time satellite map



The night-time satellite map shows: the area is as intact and undisturbed nighttime as daytime. The lack of light-pollution can be one of the measures of naturalness.

The sky brightness measurements prove the good quality of the undisturbed night sky.

The night-time satellite map shows that the area is as intact and undisturbed nighttime as daytime. The lack of light-pollution can be one of the measures of naturalness. The sky brightness measurements prove the good quality of the undisturbed night sky.

The park has cooperation agreement with local and national conservation and astronomy NGOs to protect the area's dark sky values as well as with the local stakeholders. The park included the articles of the Lighting Plan of the Starry-sky Park to its Management Plan to protect the natural and scenic values of the undisturbed nighttime environment. The lighting regulation and zoning gives possibility to control artificial lights within the park. The park also organizes nighttime walks, special interpretation programs related to the Starry-sky Park values and good lighting practices. There is a high interest by the general public to attend these night adventures. The Park has different programs designed to show the values of the park, and is planning a new visitor center with exhibition dedicated to the dark-sky park



Group of astro-tourists into the park



Stargazing program in the park's observatory



Astronomy became part of the park's Field Study Center's curriculum. The park has recently established a public astronomical observatory as part of the development of the Center. It is equipped also by all-sky camera and permanent SQM too.

#### ADDITIONAL INFORMATION ABOUT CURIOSITIES IN THE SURROUNDINGS

Debrecen is the nearest city to Hortobágy with historic buildings, thermal bath and many other attractions. Among them is the „Agóra” Science Center with planetarium and public observatory. Hajdúszoboszló is the other well known city by the tourist as it's thermal bath is famous all over Europe.

#### HOW TO GET TO THE PLACE?

Hortobágy is situated between Debrecen and Tiszafüred. The area easiest to reach on the road No33 but you can also visit it by public transport (train and bus). The main settlement is village Hortobágy.

A Tejút a Négygémű kút felett. - Milky Way above a typical Hortobágy well

#### AUTHOR

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# POLONINY DARK-SKY PARK SLOVAKIA / PARK TMAVEJ OBLOHY POLONINY

## OWNER

Poloniny National Park

## HOW LONG DOES IT WORK?

It was officially proclaimed on the occasion of the International Year of Biodiversity on December the 3rd, 2010 based on the Memorandum of the following partnership organisations:

- Astronomical Institute, Slovak Academy of Sciences
- Slovak Union of Amateur Astronomers
- Poloniny National Park
- Faculty of Sciences, Pavol Jozef Šafárik University in Košice
- Slovak Astronomical Society
- Vihorlat Observatory Humenné.

## AREA

The Poloniny Dark-Sky Park (48 519 ha) is demarcated by Poloniny National Park (29 805 ha), its protection zone (10 973 ha) and a select area in the cadastral territory of the villages of Kolonica, Ladoširov, Klenová, Kalná Roztoka and Ruská Volová (7 740 ha).

## THE BRIGHTNESS OF THE NIGHT SKY (THE QUALITY OF THE PARK)

The park is Slovakia's darkest site, where the night sky is preserved in its natural appearance. There are only a few such sites in the civilized world. The average sky brightness\* in the park is 21,5 mag/arcsec<sup>2</sup>. Depending on place and atmospheric conditions, it varies between 21.3 and 21.7 mag/arcsec<sup>2</sup>. The appearance of the sky corresponds to degree 2 or 3 on the Bortle Dark-Sky Scale. All the objects and phenomena typical for a natural sky are visible in good weather, such as zodiacal light\*\*, zodiacal band and counterblow). The naked-eye limiting magnitude is usually 7.4 mag.

\* measured with the Unihedron Sky Quality Meter.

\*\* depicted in the photograph, as crosses the Milky Way at upper right, near the horizon.





### INFORMATION'S ABOUT PROTECTED AREAS

Location of the Dark-Sky Park The Poloniny Dark-Sky Park is located on the territory of the Poloniny National Park, which has exceptionally low density of habitation. As it is also the less frequently visited national park in Slovakia, the human influence to its environment is minimal. The Park rests on the borders with Poland and Ukraine. There are two neighboring parks: the Bieszczadzki National Park in Poland and the Uzhanskij National Natural Park in Ukraine. Concerning the light pollution, the Poloniny National Park is the darkest area in Slovakia. The natural night darkness and the night biorhythms of all the living species are not disturbed. Thanks to this, there is an exceptionally high concentration of endemic and endangered species of plants and animals. The 49<sup>th</sup> parallel passes through the Park. The view point and the information board describing the Poloniny Dark-Sky Park is located near the Starina reservoir. Poloniny National Park is the easternmost Slovak national park with vast indigenous fir and beech forests and the primeval forests Stužica, Rožok and Havešová, which have been enlisted in the UNESCO's World Heritage List since 2007. There have been sites of European importance NATURA 2000 in the park since 2004. The park is part of the International Biosphere Reservation the East Carpathians declared by UNESCO in 1998, the only one in the world which contains the joined territories of three countries (213 211 ha). Wooden temples (tserkov) of the Byzantine Rite – national cultural monuments – are part of the protected area. The oldest are from the 17<sup>th</sup> century. Some of them still hold Divine Liturgy to this day. The highest hill Kremeneč (1208 m) is the easternmost point of Slovakia, where the borders of Ukraine, Poland and Slovakia have their common point.

### ADDITIONAL INFORMATION ABOUT CURIOSITIES IN THE SURROUNDINGS

1. **INFORMATION POINT DSP Poloniny** in the Astronomical Observatory and Planetarium at Kolonica



2. **Beskydský Pantheon**, Jalová.

In Beskydsky pantheon is installed pillar with direction signs on different areas of dark skies in the world.

3. **Starina reservoir**, Starina.

The view point and the information board describing the Poloniny Dark-Sky Park is located near the Starina reservoir.



4. **Door to the Poloniny**, Ulič.

The asteroid (22469) Poloniny was named after Poloniny Dark-Sky Park. Its three-dimensional model is located in the village of Ulič. In the village by the fishpond you can visit the „Door to the Poloniny“.





#### 5. The 49<sup>th</sup> parallel north, Uličské Krivé

The 49<sup>th</sup> parallel north passes through Poloniny Dark-Sky Park. In the vicinity of the village of Uličské Krivé, there is an information board.

6. **The memorial to the Victims of Light Pollution.** Zboj is located in the village of Zboj. There are six information boards providing information on the adverse effects of light pollution on humans, animals and plants.



*On the photo above group of project executors are standing on the line of 49 parallel.*

7. **The educational path „Under the Dark Sky“** is located in the vicinity of the village of Nová Sedlica. The educational path informs about the issues of light pollution and the necessity to protect the night environment.



#### 8. Knyahinya meteorite, Ukraine

Knyahinya meteorite: a large meteorite exploded over this area in 1866. An impact point of the largest piece of the meteorite (~278 kg) is located in the territory of present-day Ukraine, about 200 m from the state border of Slovakia above the village Zboj. About 1,200 fragments fell to the ground, most of them are hitherto located in the given area.

#### HOW TO GET TO THE PLACE?

Astronomical observatory at the Kolonica saddle is situated on the territory of the Poloniny Dark-Sky Park between Kolonica and Lodomirov villages. It is a branch of the Vihorlat Observatory Humenné. The main instrument is VNT – the Vihorlat National Telescope with the primary mirror of 1 m in diameter. The quality of the night sky predestines this observatory for mining of quality scientific data as well as for dissemination actions and the development of astro-tourism. There are accommodation opportunities on the premises of the observatory and a planetarium, built in the frame of the project “Carpathian Sky – development of tourist products based on astronomy in the area of the Polish-Slovak border”.

#### AUTHOR

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## STARRY-SKY PARK „BIESZCZADY” / PARK GWIEZDNEGO NIEBA „BIESZCZADY”

### OWNER

The coordinator of the activities of the Park is Municipality Lutowiska. It was founded by 12 partners: Municipality Lutowiska, Municipality of Komańcza, Bieszczady National Park, State Forest – State Forest District Lutowiska and Stuposiany, Group of Carpathian Landscape Parks in Krosno, The Kraków Technical University Faculty of Environmental Engineering, The Kraków Pedagogical University - Astronomical Observatory in - Suhora The Bieszczady Foundation, The Bieszczady Regional Development Agency, Foundation „Nature of the Carpathians” and Complex of Schools in Lutowiska. Media partner of the Park is Portal Bieszczady.pl.



**Official webpage of the „Bieszczady” Starry-Sky Park:** [www.gwiezdnebieszczady.pl](http://www.gwiezdnebieszczady.pl)

The symbol of the Starry-Sky Park „Bieszczady” was chosen silhouette of the Lynx at background of the constellation Lynx.

### THE INFORMATION CENTRE OF THE STARRY-SKY PARK

The park has its own Information Centre located in the Stuposiany, in a youth hostel. The centre is equipped with materials of astronomical telescopes and multimedia equipment and thematic presentations - on astronomy and the problem of light pollution.

**Address:** Szkolne Schronisko Młodzieżowe PTSM

Stuposiany 9, 38-713 Lutowska

**Phone:** +48 13 461 00 48, e-mail: stuposianyschroniskoptsm@wp.pl

Youth Hostel in Stuposiany is the object of providing tourist services all the year. It has 48 beds.

### HOW LONG DOES IT WORK?

The park was created 8 March 2013.

### AREA

Park was appointed to exist as an area extending protection of dark skies in the International Biosphere Reserve „Eastern Carpathians” in Poland.

The total area of the park is 113 846,41 hectares, including:

- Bieszczady National Park-29 200,48 ha,
- San Valey Landscape Park-33 480,24 ha
- Cisna – Wetlina Landscape Park-51 165,69 ha

Dark Sky Park „Bieszczady” is the second largest protected area of the dark sky in Europe. However, together with the Dark Sky Park „Poloniny” in Slovakia and established in 2016 Dark Sky Park in Transcarpathian Region of Ukraine, as the area including Polish, Slovak and Ukrainian part of the International Biosphere Reserve „Eastern Carpathians” constitute the biggest in Europe. It is also the area with the best quality of the dark sky, with the least pollution of artificial light.



The existence of the park has a significant impact on changing the perception of the inhabitants of the Bieszczady problem unnecessary, artificial light. It also affects a change stereotypes regarding the lighting of tourists visiting Bieszczady. The starry sky, as a unique tourist attractions speak tour guides and owners of tourist facilities.

### THE BRIGHTNESS OF THE NIGHT SKY (THE QUALITY OF THE PARK)

Level Bortle 2 / Gold\* (gold by IDSP classification)  $\varnothing$  21.65 mag/arcsec<sup>2</sup> (21.45 – 21.85 mag/arcsec<sup>2</sup>). Gold level means natural or almost natural night-sky levels under cloudy sky are always higher. Usually 22.5 mag/arcsec<sup>2</sup> and more, during fog above 23 mag/arcsec<sup>2</sup>.

„The existence of a comprehensive impact of the brightness of the night sky on the behavior of animals in their natural environment indicates the need to investigate the incidence of artificially induced the night sky glow (light pollution) in protected areas. It was found that only the southern part of Bieszczady mountain can be regarded as an area free of light pollution.“

- Light Pollution in the mountain areas in Poland (Dr Ścieżor Tomasz, Politechnika Krakowska - University, Faculty of Environmental Engineering, 2013).

Almost all the lights (all public) are switched off after 10 pm.

In the park were installed three monitoring stations of the state of light pollution. Each station consists of a weather station, a device for measuring the light pollution of the night sky (SQM) and the camera.

### INFORMATION ABOUT PROTECTED AREAS

The objectives of the park:

- To promote the protection of the night environment with an emphasis on dark, starry sky thus providing a basis for the protection of the environment against light pollution.
- Inform the public and the scientific community about well-preserved the night time environment.
- Promote possibilities of the protection against light pollution and promote using good lighting.
- Promote sustainable development of the region, including the business, which serves to the protected areas and local communities.

In the park set up information boards, sundials and built three observation terraces with sundials.



Offered astro-tourism products are mainly observations of the Sun, observations of the night sky and workshops of nature photography and astrophotography. They are guided in agro-tourism, the Information Centre of the park in Stuposiany, and on the observation terraces. During the year several dozens astronomical demonstrations occurred and several astronomical photographic workshops and several camps for astronomical astronomy enthusiasts. Thanks to the growth of interest in the stars and the dark sky by the shelter „Cottage Sociologist” on Otryt was created the first Bieszczady, „permanent” observatory equipped with a telescope with a diameter of 40 cm.



#### BEST OBSERVATION PLACES AT PARK

- astro-tourism farm Dolistowie - equipped with few different kinds of telescopes, space for observation for approx. 20 people.
- Observatory Ursa Mayor on Otryt (-40 cm Newton telescope assembly on Dobson with GOTO).
- Stuposiany (telescopes 30 cm Dobson, 30 cm Smidt z GOTO, sunny Lundt).
- Wyzna Saddle (872 m n.p.m.).

#### ADDITIONAL INFORMATION ABOUT CURIOSITIES IN THE SURROUNDINGS

The most important attractions in the park are:

- pastures and unspoilt nature



- relic wooden churches and churches



- numerous hiking, horseback, bike,
- bison farm in Stuposiany.



#### ACCESS

- from the Slovakia side - best way to get through the border crossing Radoszyce-Palota and continue to Komancza, Cisna and Lutowiska. You can also use the transition Vyšný Komarník-Barwinek and further direction to Sanok, Lesko and Bieszczady.
- from central part of Poland - the best Polish A4 motorway and then by Tarnow, Krosno, Sanok or by S19 to Rzeszów through Sanok Lesko and further in the Bieszczady.

## BESKYDY DARK SKY PARK / BESKYDSKÁ OBLAST TMAVÉ OBLOHY

Official website: [www.boto.cz](http://www.boto.cz)

About astro-tourism in the park: [www.hvezdarna-beskydy.cz](http://www.hvezdarna-beskydy.cz)



Park was founded by the following institutions:

- Czech Astronomical Society
- Slovak Astronomical Society at the Slovak Academy of Sciences
- PLA Beskydy (Protected Landscape Area „Beskydy“)
- State Nature Conservancy Slovak Republic
- Headquarters Protected Landscape Area “Kysuce”
- Czech Republic Forests

The Town and villages located in the area of the park are the partners of the park but didn't sign a memorandum of its creation.



### HOW LONG DOES IT WORK?

The official creation of the park took place on 4 March 2013, at a press conference. The basis of the existence of the park is the memorandum signed by representatives of all partners setting up the park. All partners have signed it voluntarily.

One of the reasons for the creation of the park was a meteorite Morávka on 6 May 2000 at the area of Morávka village. The search for the meteorite and the dark sky in the area resulted in increased interest of astronomers. In 2012, it hosted the first public demonstrations of astronomical, scientific seminars and the idea of the this park was born.

### AREA

Park Dark Sky Beskydy is situated in the Czech-Slovak borderland with the center near Staré Hamry and Bílá. It covers an area of approx. 308 km<sup>2</sup>. It includes the following areas of town: Staré Hamry, Bílá, Čeladná, Morávka, Krásná, Horní Bečva, Ostravice - on the Czech side and Makov, Korňa, Turzovka, Vysoká above Kysucou and Klokočov - on the Slovak side.

Large part of the area of the park coincides with areas of outstanding natural beauty Beskydy and Kysuce. The highest point of the park is the peak Lysa hora (1323 m above the sea level).



### THE BRIGHTNESS OF THE NIGHT SKY (THE QUALITY OF THE PARK)

Continuous measurements the brightness of the night sky at the measuring station Bílý Kříž are made with an automatic sensor SQM-LU. It is planned that the data will be accessible on an ongoing basis in the Internet databases. The brightness of the sky depends on weather conditions and ranges from 21.2 to 21.3 MSA.

On the whole area of the park measured values exceed 21 MSA, which means that the Milky Way is easily visible and you can also see the zodiacal light. The quality of the night sky in the park using a nine-point Bortle's scale can be estimated at 4 and under good weather conditions at 3.

### INFORMATION ABOUT PROTECTED AREAS

The purpose of the park is to show people the beauty of the night nature, for what they arrive in Beskydy. The main activities carried out for the visitors are:

1. Public astronomical demonstrations organized twice a year, combined with lectures and workshops. During the springtime it is Spring Day of Astronomy and the fall Researchers' Night. Seminars and workshops combined with observations day and night sky.



2. Exhibitions on astronomy and light pollution, photographic exhibitions - photos of the sky and photos of the animals and plants at night and landscapes. The observations of astronomical phenomena - solar and lunar eclipses, transits.

3. Shows during various astronomical workshops, meetings and academic conferences, during which the participants can become familiar with the problem of pollution of artificial light, the nature of the Beskydy Mountains.



4. Individual astronomical shows which any eager tourist can order in the desired location. Screenings for schools and youth groups with activities workshops.

5. On the hiking trails in the park there were set signs pointing tourists to its limits.



6. The Fireball station was installed, Edmond's network.

7. In the Gruň band placed meteorite Moravka, model which is a reminder of the fall of the meteorite in April 2000 near the village Moravka. Park is the only one in which the lineage meteorite fell.



8. The park is also at the center of media interest. It was filmed in several short films, for example „If the lights went out” (Kdyby zhasnul svět).

9. In the park area was installed an outdoor exhibition „Too bright darkness”. Graphics have been placed in five locations in the park: the hotel Visalaje, Sulov, Švarná Hank Charbulák and near arbor close to the church next to the dam in Stare Hamry. The length of the entire route of the exhibition measures 13 km.

#### ADDITIONAL INFORMATION ABOUT THE CURIOSITIES IN THE AREA

Near the park there are two astronomical observatories: the Kysuckim New Town and Valaskym Medzirici. Among other tourist attractions the most interesting is dam and lake Sance, Beskid mountain trails, points and observation towers on the tops.

#### HOW TO GET TO THE PLACE?

Visitors should get to Stare Hamre (northern part of the Gruň) near the dam Šance (by Frydek-Mistek from the Czech Republic or by the city Bytca or Turzovka from the Slovak side).

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*Scientific correction text in English:*  
**Henryk Brancewicz**  
Polish Enthusiasts of Astronomy Society

## Project partners Starry Sky (Dark Sky) Parks

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POLAND



STARRY SKY PARK „BIESZCZADY”  
[gwiezdnebieszczady.pl](http://gwiezdnebieszczady.pl)  
FOUNDED IN 2013

SLOVAKIA



DARK-SKY PARK „POŁONINY”  
[poloniny.svetelneznecistenie.sk](http://poloniny.svetelneznecistenie.sk)  
FOUNDED IN 2010

CZECHIA/SLOVAKIA



BESKYDY DARK-SKY PARK  
[boto.cz](http://boto.cz)  
FOUNDED IN 2013

HUNGARY



STARRY SKY PARK „HORTOBÁGY”  
[hnp.hu/csillagpark](http://hnp.hu/csillagpark)  
FOUNDED IN 2011

## Other Starry Sky (Dark Sky) Parks in the Visegrad Countries

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CZECHIA/POLAND



IZERA DARK-SKY PARK  
[izera-darksky.eu](http://izera-darksky.eu)  
FOUNDED IN 2013

CZECHIA



MANĚTÍN DARK-SKY PARK  
[manetinskatma.cz](http://manetinskatma.cz)  
FOUNDED IN 2014

SLOVAKIA



PARK CIEMNEGO NIEBA „VELKÁ FATRA”  
[fatranskatma.sk](http://fatranskatma.sk)  
FOUNDED IN 2015

HUNGARY



PARK OF STARS IN ZSELIC  
[zseliccsillagpark.hu](http://zseliccsillagpark.hu)  
FOUNDED IN 2009



