

Astrotourism in Namibia

Astronomy Group at UNAM

Executive Summary

Namibia is one of the best-suited countries in the world for astrotourism, due to its extremely dark skies and dry conditions. Astrotourism is a growing market and is sustainable, low-cost to implement, and offers numerous benefits to both tourists and rural communities, especially in countries like Namibia.

Defining astrotourism

Since time immemorial, humanity has been inspired by the night skies. Indigenous cultures across the world have been influenced by the stars and their arrangements on the sky, and have used the positions of the stars for agriculture and navigation. Yet, in modern times, the majority of celestial objects are no longer visible to more than 50% of the world's population who live in cities, obscured by light pollution. In Northern America and Europe, for example, 82% and 74% of the population live in urban areas, respectively¹. This has led to the global rise of a new branch of sustainable (rural) tourism, namely astrotourism.



Credit: NASA/Goddard Space Flight Center Scientific Visualization Studio

Astrotourism makes use of unpolluted nightscapes as a natural and infinite resource. As dark skies become more scarce, many countries in the Global South have a unique opportunity to

¹ Population Division of the UN Department of Economic and Social Affairs (UN DESA), *2018 Revision of World Urbanization Prospects*

offer their dark skies to travellers who seek to reconnect with the heavens. Astrotourism offers a sustainable and meaningful tourism experience, while keeping in line with the conservation of natural resources and cultural heritage. It can be implemented at minimal cost, requiring minimal infrastructure (stargazing can be done with the naked eye for free, or with binoculars which are not too costly). Astrotourism also presents an opportunity for science education, sharing indigenous knowledge, and active participation – enriching the tourist as well as benefiting the host communities^{2,3}. For these reasons, astrotourism fulfils several of the [UN's Sustainable Development Goals](#).

Additionally, astronomy appeals to everyone. A wide array of people already take part in astrotourism, from scientists and amateur astronomers who knowingly plan a visit to dark sky areas, to members of the general public who encounter an astrotourism experience serendipitously on their journey. Such activities may include stargazing, eclipse chasing or astrophotography courses, and visits to observatories, International Dark Sky Places (IDSPs) or archaeoastronomical sites.

The [IDSP conservation program](#) was founded in 2001 “to encourage communities, parks and protected areas around the world to preserve and protect dark sites through responsible lighting policies and public education”. Dark sky status is difficult to attain and maintain, but can enhance visibility and foster increased tourism and local economic activity. There are currently more than 130 certified IDSPs in the world. In March 2020, the Pacific island of Niue became the world’s first country to reach IDSP status. In contrast, some places are marketed as astrotourist destinations, offering numerous packages (including astronomy, gastronomy, accommodation etc.) without IDSP accreditation. For example, [Dark Sky Alqueva](#) in Portugal, and [AstronomicTourism.com](#) in Chile.

Astrotourism in Southern Africa

On smaller scales, astrotourism is also existent in Southern Africa. Sutherland is a town in South Africa’s Karoo region, known as the country’s ‘Stargazing Capital’. The town is situated close to the [Southern African Large Telescope \(SALT\)](#), the largest optical telescope in the southern hemisphere. Tour operators successfully anticipated the opportunity for astrotourism in the region and the local tourism and hospitality industry are now successfully offering many astro-related services throughout the year. The demand for SALT tours during the peak season exceeds the capacity of the observatory, so that local communities initiated star parties with the use of smaller telescopes. These are popular with the public and amateur astronomers alike⁴.

² Ana Cláudia Campos et al. (2015), *Co-creation of tourist experiences: a literature review*, Current Issues in Tourism, 21:4

³ Tsung-Chiung Wu, et al. (2020), *A spectrum of indigenous tourism experiences as revealed through means-end chain analysis*, Tourism Management, 76

⁴ Laetitia Jacobs, Elizabeth A. Du Preez & Felicité Fairer-Wessels (2020) *To wish upon a star: Exploring Astro Tourism as vehicle for sustainable rural development*, Development Southern Africa, 37:1, 87-104, DOI: 10.1080/0376835X.2019.1609908

Namibia is also ideal for astronomy-related activities. Inhabited by many national parks/reserves and a low population density, there is little-to-no light pollution in most of the country. The weather is an additional advantage – dry conditions make for fewer clouds and clearer conditions to observe celestial objects. Alongside the amazing skies, there is ample indigenous astronomy knowledge, as well as many exciting astronomical sites, including the Hoba meteorite near Grootfontein (the largest meteorite in the world); the [NamibRand Nature Reserve](#) (Africa's first International Dark Sky Reserve); and the [High Energy Spectroscopic System \(H.E.S.S.\)](#) observatory near the Gamsberg. There is also the [Africa Millimetre Telescope \(AMT\)](#) which is planned to be installed on the Gamsberg within the next five years.



Credit: Hoba meteorite, Petr Horálek (left); H.E.S.S. observatory, Sabine Gloaguen (right)

Many tourists who visit Namibia come from the northern hemisphere. They are unfamiliar with the night skies, containing many constellations that they have never seen before – the indigenous stories behind the Milky Way objects could be especially empowering (culturally) for Namibian tour guides. However, only a small proportion of tourists currently visit Namibia for astronomical reasons. There is a community of (mostly German) amateur astronomers who have been visiting Namibia's astrofarms over the past few decades to do astrophotography. The NamibRand Nature Reserve advertises its position as Namibia's only International Dark Sky Reserve, but beyond this there is little mention of the country as a prime astrotourist destination (see the appendix for a short list). Thus, there is great scope for Namibia to expand its tourist demographic via astrotourism, and with little cost.

In order to develop astrotourism in Namibia, the main hurdle to address is the training of tour guides in astronomy and stargazing, which requires minimal equipment to pursue. A tour guide

qualification on this topic already exists (Unit ID 190, Level 3), however, it is unobtainable to most tour guides since there is no easily accessible training. The astronomy group at UNAM is currently devising a course which will allow tour guides to receive the training they need to pass the test. Looking further to the future, as astrotourist sites grow in popularity, it is important to conserve locations by keeping light pollution to a minimum. Adopting intelligent lighting options not only preserves the starry skies, but brings energy savings along with health benefits both for people and the local wildlife⁵.

In summary, astronomy provides a unique opportunity to welcome a new demographic of tourists to Namibia and build human capacity in remote areas. Equally, astrotourism is well aligned with the 21st century ethos that tourism needs to be ecofriendly and sustainable, for which it is estimated that the global sustainable tourism market size will grow by USD 338.06 billion during 2019-2023⁶. Astrotourism comes with many other additional benefits e.g. an increased awareness and understanding of science, environmental conservation (e.g. light pollution), and indigenous knowledge. These can all help to open up new avenues toward more meaningful and sustainable tourism practices. In anticipation of the revision of the three Coastal Parks Tourism Development Plans, it is a prime moment to see how astrotourism can be implemented within these regions. Namibia is already a world leader in ecotourism, let it be a world leader in astrotourism as well.

Key points

- Astronomy and stargazing is becoming increasingly popular, sought out by a wide array of tourists worldwide.
- The night sky is a limitless resource and astronomy can be done simply (with the naked eye), and thus astrotourism is relatively easy to implement with minimal negative impact on the land.
- Namibia has the ideal conditions (lack of light pollution and dry weather) needed for integrating astrotourism in the country.
- There already exists a tour guide qualification in astronomy and stargazing, all that is needed is the development of a training programme which is already in progress.
- Alongside the current tourist destinations which typically focus on wildlife, astrotourism can easily be advertised to attract further visitors.
- Astrotourism offers the opportunity to upskill local communities, bring indigenous culture to the fore, and stimulate further socio-economic growth in remote areas. This aligns with the UN's Sustainable Development Goals.
- Astrotourism has already been found to benefit developing countries, across the world and in nearby countries such as South Africa.
- Astrotourism will greatly complement the cutting edge science already carried out in Namibia, particularly by H.E.S.S. In the long term this will generate further awareness for astronomy in Namibia and help secure funding for future astronomy-related projects.

⁵ A. C. S. Owens et al. (2020), *Light pollution is a driver of insect declines*, Biological Conservation, 241

⁶ Global Sustainable Tourism Market 2019-2023, Technavio (2019)

Further reading

- C. Cooper, et al. (2019), *Astrotourism: No Requiem for Meaningful Travel*; in: Case Studies in Technological Innovation, Fayos-Solà E., Cooper C. (eds) The Future of Tourism. Springer, Cham, DOI: 10.1007/978-3-319-89941-1_6
- L. Jacobs, et al. (2020), *To wish upon a star: Exploring Astro Tourism as vehicle for sustainable rural development*, Development Southern Africa, 37:1, 87-104, DOI: 10.1080/0376835X.2019.1609908
- D. Kulvinder, et al. (2020), *Astrotourism in The Mara*, CAPjournal, https://www.capjournal.org/issues/27/27_20.php

Mentions of astrotourism activities in Namibia

- <https://www.namibiatourism.com.na/blog/Exploring-Namibia-s-Starry-Skies>
- <https://www.gondwana-collection.com/fr/news/article/2020/04/17/stargazing-in-namibia-a-growing-tourist-attraction/>
- <https://www.gondwana-collection.com/blog/southern-africas-most-sensational-star-beds/>
- <https://www.discoverafrica.com/blog/the-rise-of-astro-tourism-in-africa/>
- <https://www.gogravel.africa/pages/why-namibia>