Myth and meaning: Discovering New Zealand's newest dark sky reserve

The stars have long held a special resonance within Maori culture. Now, the plight of a small seabird has triggered a New Zealand community to seek dark sky status – and the results are awe-inspiring, finds **Joanna Whitehead**

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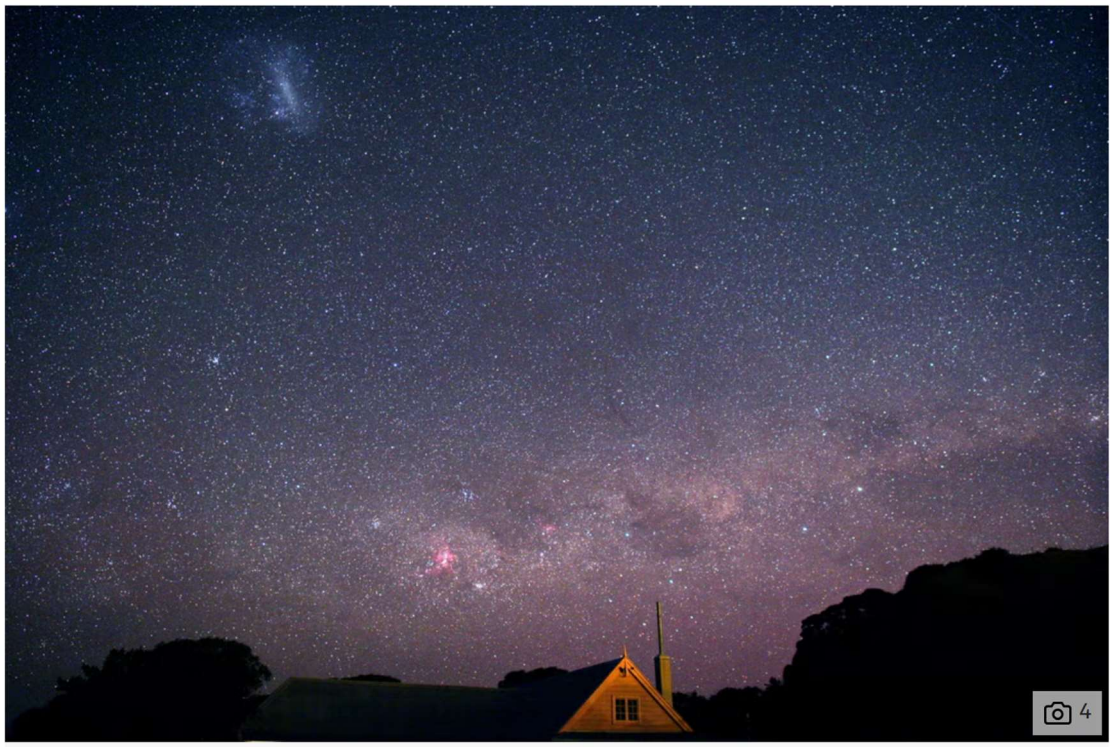
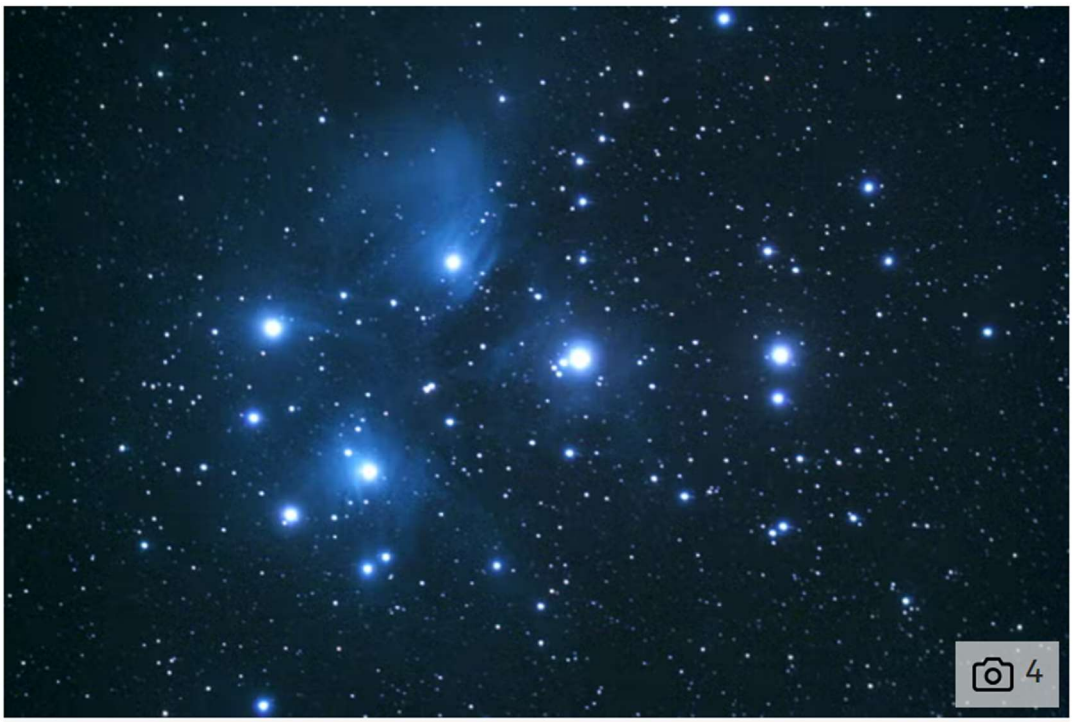


The Milky Way in the sky over South Island
(LH Fields)

It's a crisp, clear night in Kaikoura, a coastal town on the east coast of New Zealand's South Island, when astronomer Dr Larry Fields announces that he's spotted *Matariki* in the vast, bright night sky. There's a collective intake of breath among my companions, an indication of the significance of this special star cluster. Peering through a telescope situated in the garden of a 19th-century whaling station, with the South Pacific waves gently breaking just metres away, I spot a collection of nine bright stars amid a snow-globe-sky of twinkling lights, blazing meteors and distant planets. In a dazzling night sky, it's a special moment.

The stars have long held a special resonance within Maori culture, with an intimate astronomical knowledge proving essential in sailing vast distances across the Pacific, planting crops and calculating time. Each year, the rising of *Matariki* in late June or early July signifies the beginning of the new year in the Maori lunar calendar. It's a time of reflection, of thinking about the people who have passed away during the year, and of planning for the future. As part of a growing awareness of and respect for indigenous traditions and beliefs, the New Zealand government created a new public holiday in 2022 to mark this special day.



The Matariki Pleiades star cluster
(LH Fields)

"New Zealand was founded on astronomy," Nayalini Brito, president of the Royal Astronomical Society of New Zealand tells me. "The Polynesians who found their way to be the first people to occupy New Zealand needed to have very strong astronomical knowledge, as celestial navigation was crucial to this endeavour. This has resulted in strong knowledge and practice of astronomy by the Maori even today.

"As for Captain Cook, who put New Zealand on the world map, the main reason for his journey to the South Pacific was to observe an astronomical event, the Transit of Venus, from Tahiti. Upon completion, he was asked to look for the great southern continent, which led to his visit and western discovery of New Zealand. He too used celestial navigation to get to New Zealand and to get about – albeit he had the benefit of a compass, sextant and some almanacks, unlike the Polynesians."

> *New Zealand was founded on astronomy*
>
> *Nayalini Brito, Royal Astronomical Society*

"Even today, the smallest constellation, the Southern Cross, is on the New Zealand flag," she adds.

Renewed appreciation and respect for *kaitiakitanga*, a Maori word meaning the guardianship and protection of the land, sea and sky, is particularly pertinent when it comes to Aotearoa's natural world right now. In Kaikoura, the plight of a small brown and white bird, known as the Hutton Shearwater, has prompted the local community to mobilise in a way that not only protects endangered wildlife but promotes interest in and awareness of the safeguarding of the night sky. This threatened seabird is endemic to New Zealand, and the country is home to its last two wild breeding colonies on earth. Through conservation efforts, local naturalists realised that artificial light was threatening the survival of the birds, with fledglings disorientated on their maiden flight to the sea. As a consequence, a movement was established that not only focused on the welfare of the birds, but which has inspired an interest in and appreciation of the night skies.

Kaikoura is now well on its way to achieving dark sky sanctuary status
(Getty Images/iStockphoto)

Thanks to the commitment of a small group of individuals, Kaikōura is now well on its way to achieving dark sky sanctuary status, a designation bestowed by the Arizona-based Dark Sky International (DSI), the global authority on dark sky regions around the globe. As well as benefiting local wildlife and communities, visitors to the region can also look forward to enjoying these spectacular skies for themselves, with a host of astrotourism initiatives in the pipeline, including a self-guided dark sky walking tour around Kaikōura, and furnishing local accommodations with binoculars and star charts so guests can simply step outside their door to soak up and savour the night skies. "It's a whole lot of wins", Destination Kaikoura lead Lisa Bond tells me. "We want people to look up and be wowed."

And it's not difficult. I've enjoyed dark sky experiences in the UK and Europe, but southern hemisphere skies are hard to beat. Dr Fields agrees. "What's interesting about the southern hemisphere is that you can see all the stuff that the northern hemisphere people can't see – and it's far better," he laughs. "We have things that you can see from anywhere on earth, like the planets that revolve around the sun – there's Jupiter over there, Saturn…" he says pointing. "The Milky Way contains some of the most beautiful big nebulae, fantastic star clusters, the biggest globular clusters – it's just the most delicious, luscious thing for deep sky astronomers." He continues: "But if you live in the northern hemisphere, you can only see the sky up in this area, you can't see what's down in the south – we get to see all the goodies."

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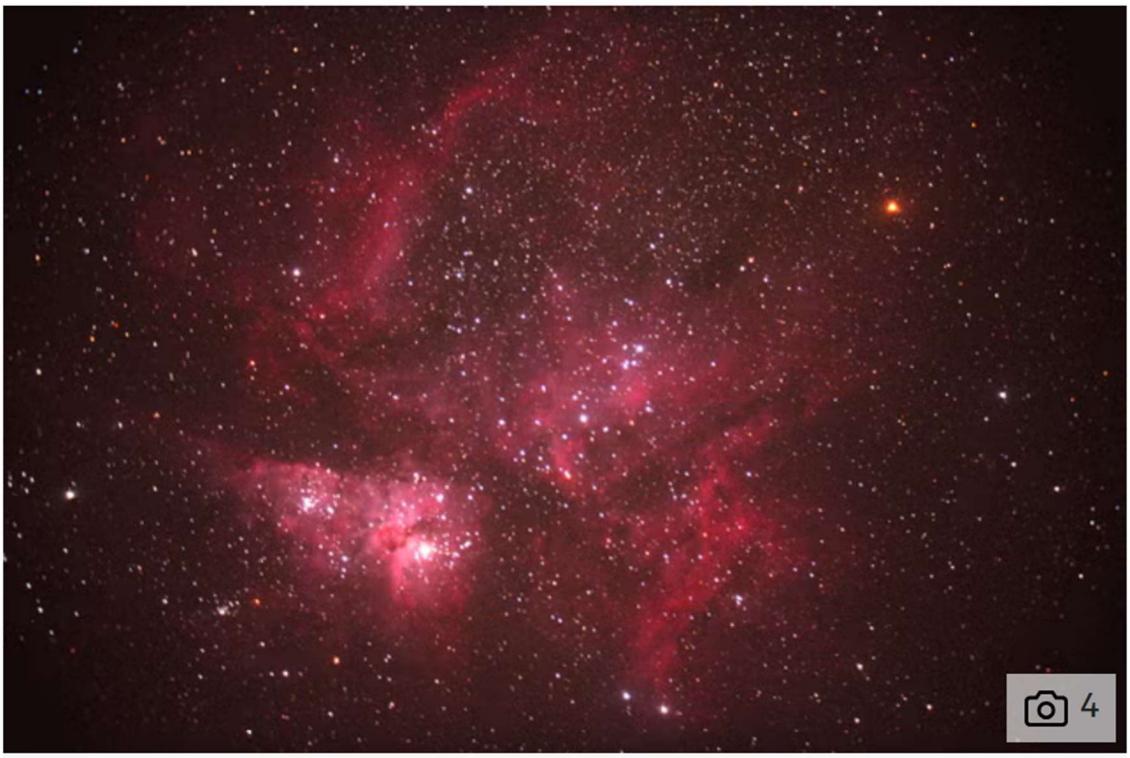
>
> *Dr Larry Fields, astronomer*

It's hard to argue with him. We're blessed with a clear night and no moon and the night sky is studded with bright stars, meteors, satellites and planets. The Southern Cross, long a celestial landmark for travellers in the southern hemisphere, blazes. We whoop as a meteor so bright it looks like a firework whizzes through the sky. Despite the creeping cold, it's an unforgettable evening, not least because it's so rare to see such a well-lit night sky: a groundbreaking 2016 study found that 83 per cent of the world's population live under light-polluted skies, a figure that increases to a whopping 99 per cent for people in Europe and North America.



The Eta Carinae Nebula, seen in the Milky Way
(LH Fields)

Thankfully, New Zealand is doing things differently, with Kaikōura marking one more step towards a broader campaign to certify the entire country as a Dark Sky Nation. If successful, it would make the country only the second in the world, after the tiny South Pacific island nation of Niue, to receive the designation from DSI.

Ms Brito tells me discussions with the governing body are "progressing very well". She says: "To become a Dark Sky Nation, New Zealand needs to have more international dark sky places (IDSPs) and the progress with this was delayed by Covid, but things are gathering good momentum once again." The current plan is for DSI to formally announce its criteria for this in 2024.

"Looking at the sky and connecting to it sits at the heart of humanity," Rangi Mātāmua, an astronomer and professor of Matauranga Maori (Maori knowledge) at Massey University tells *National Geographic*. "When we start to sever that bond, we change who we are as a people. We're changing the way we understand our world and the things that are important to us. We need to try and put together better ways of using lights and caring for our night sky."

https://www.independent.co.uk/travel/australasia/new-zealand/new-zealand-new-dark-sky-sanctuary-b2464237.html