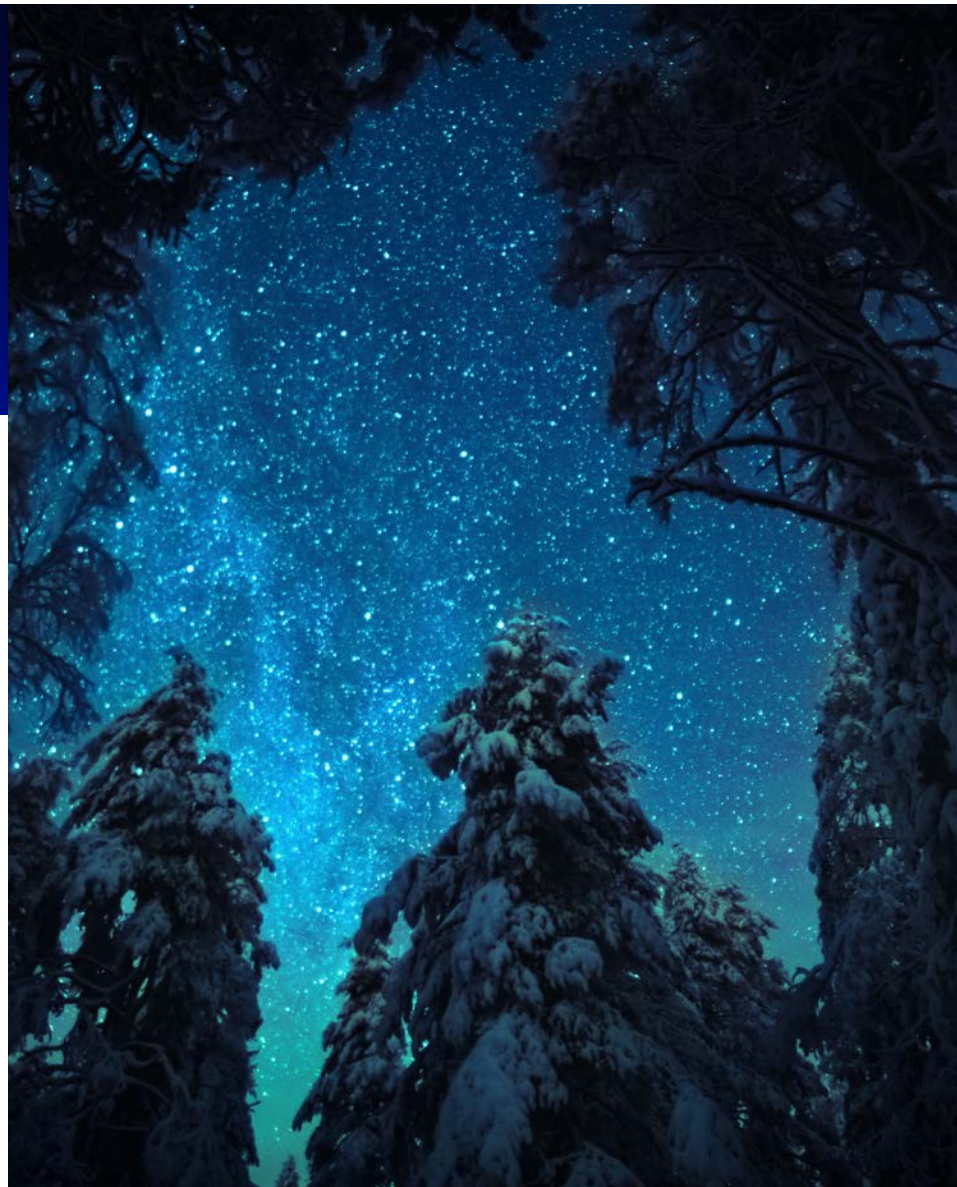


Shot in the dark – how Dolby technologies helped a production team bring nocturnal nature to life

Natural history television tells stories of a world without technology, using the most advanced technology available. From the first hand-held film cameras through colour TV and high definition, landmark series have showcased ever more detailed and revealing natural worlds.

Plimsoll Productions, natural history specialists from Bristol, saw the advent of low and ultra-low light cameras as a chance to once again push the boundaries – this time with colour photography at night. They sold the idea to Netflix for the streaming giant's second original nature series, *Night on Earth*, which meant using Dolby Vision HDR and Dolby Atmos.

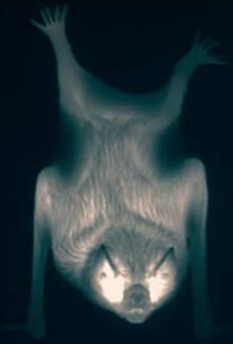
We talked to Bill Markham, Plimsoll's series producer for *Night on Earth*, and director of the series finale episode 'Dusk Till Dawn', and Chris Domaille, dubbing mixer at post-production house Films@59.



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Bill Markham, Plimsoll's series producer for *Night on Earth*





On new possibilities: “Dolby Vision HDR let us get the imagery of those bats lit by a shaft of light from the entrance, then Dolby Atmos let us build the surround sound of actually being in the cave. They flocked towards [our cameraman], he let them go overhead and kept the cut long. It was breathtaking.”

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Why do you think Netflix was excited about this project?

Bill Markham: Netflix had done one natural history series and was open to ideas for the next. We had realised that the new generation of low and ultra-low light cameras gave us the opportunity to create a whole new natural history aesthetic – shooting colour at night by moonlight. We could capture the entire landscape, with animals behaving totally naturally, things no human had seen.

And the range of dynamics that Dolby Vision and Dolby Atmos could give, with all the extra headroom of HDR and precision soundscaping for the audio, meant we could have huge yet natural contrasts – from night ambience to the clatter of cities, or full sunsets to dark, detailed forest floors to colourful night long shots of African plains.

Chris Domaille: We got the team in as early as we could, showed them what Dolby Atmos would bring to the series, and encouraged editorially those moments of volume contrast and surround contrast. We discussed timing as well, so after a surround moment you don't just cut to the next scene, you can

hear things disappearing. Having those editorial inputs early on pushed the sound further, made it more heady.

What were the immediate challenges and excitements of natural history at night?

BM: We realised straight away that sound was going to be up there with vision in importance. When we started to talk about making *Night on Earth* and how we'd be able to see full colour at night, people would pause for a second then say, 'Oh, the sound!', because at night our sense of hearing is heightened. So we get not only to see through the darkness but to enter this atmospheric world of sound, which is something special. Of course, some of the animals use sound much more because once vision's gone, they rely on their other senses, so it's essential for the storytelling.

We were going to reveal a whole new world, one that often even scientists hadn't seen, and the capabilities of Dolby Vision and Dolby Atmos to make the absolute maximum use of what we recorded would, we thought, be essential. And they were.



"That's the thing about Netflix. (...) People expect to see a semi-cinematic experience. So that's what we made, allowing things to play longer with fewer words over the top. It's night, it's atmospheric, there's natural tension and interest, and Dolby Vision and Dolby Atmos let us realise that near-cinematic experience."

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As for filming, the first thing you have to do is become a moon expert. Even the best ultra-low light cameras need some light. You're restricted to four days or so either side of the full moon, and then only if it's not obscured by clouds.

Bringing it all together

How did the new technologies contribute to the editorial approach?

BM: There were a lot of different technologies which had to sit together in the cut and grade. For 'Dusk Till Dawn', which covered night around the world with lots of different stories, we thought we'd use the different technologies to tell each story differently. The sunset we'd do in glorious HDR, then elephants in Zimbabwe in very low light colour, then a jungle scene lit with a white light - rare, but we did it - then thermal imaging with bears in a deep glacial valley where moonlight couldn't penetrate. It's an engaging concept, but I worried that it felt like a magazine instead of a flowing visual style. It turned out people liked it. They liked the challenge and revelation of thinking more about light levels. People watched *Night on Earth* for the normal natural history storytelling,

the emotional journey, but they also enjoyed the technological breakthroughs and the magnificence of being able to see stuff you couldn't see before.

How did you prepare for creating the soundscapes in Dolby Atmos? Was there a lot to learn?

CD: We kept things as simple as possible, not trying to get sounds precisely placed in stereo during the recording in the field but capturing as much as possible on mono with rifle mikes and the like. Then we could position them in the three-dimensional sound space during post. The Plimsoll teams were really good about audio, really enthused and thinking in terms of soundscapes and what they could provide.

BM: You're immersed in a magical 3D soundscape. Each episode had its own aesthetic - underwater, polar ice, a city, African plains and so on - but you're really there. It's completely engaging.

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Chris Domaille, dubbing mixer at Films@59





Breathtaking results

What sort of thing happened in making *Night on Earth* that just wouldn't have been possible before?

BM: We had 20 million bats in Texas that were going to come out of a cave at dusk. The team went into the cave with hazmat suits wading through dead bats and guano. Dolby Vision HDR let us get the imagery of those bats lit by a shaft of light from the entrance, then Dolby Atmos let us build the surround sound of actually being in the cave. When they swirled out of the cave, we had a crane with our cameraman in it. They flocked towards him, he let them go overhead and kept the cut long. It was breathtaking.

One of the challenges of natural history production is that so many stories have been told. So many animals have been so well documented. What new technologies bring us is the chance to tell a new story, because it can capture details – sometimes whole behaviours – that haven't been seen.

How much did the new technologies change the balance of those decisions?

BM: Normally on a shoot you can be there for weeks or months, building up a lot you can edit together later. Because we could really only shoot for six days or so around the full moon, we didn't have that luxury, so much more of *Night on Earth* is really just what the camera captured. It worked out very well. And when it was right for the story to build up a sequence from lots of different components in post, we had all the tools needed for handling the production flow without compromising the source quality.

Natural, natural history

How did the experience of using Dolby Atmos and Dolby Vision change your approach to documentary making?

BM: For 'Jungle Nights' we went to film jaguars in Brazil and see what they did at night. For a month, our crew was filming sleeping jaguars. On the second to last night they pointed the camera up into the canopy where there



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was a glowing thermal dot... it was an ocelot, and it was creeping through the treetops stalking a snake bird. What we got was a very long cut with very few words. We let the audience work out what was happening and it told an incredible story.

That's the thing about Netflix. Unlike the broadcast TV many of us grew up with, it's only been around in the age of widescreen. People expect to see a semi-cinematic experience. So that's what we made, allowing things to play longer with fewer words over the top. It's night, it's atmospheric, there's natural tension and interest, and Dolby Vision and Dolby Atmos let us realise that near-cinematic experience.

Did Dolby Atmos fit in well with existing audio workflow and resources?

CD: Working with Dolby Atmos meant that we could use a huge library built up over 30 years including some Ambisonics effects - which have their own spatial aesthetics - which translate directly into the 3D immersive soundscape without need for panning. The library has become a huge asset over the past two

years because of that. And it was also a joy working closely with Edmund Butt, who composed the music. We could take the stems and weave them into the soundscape in much more expansive and effective ways. He was delighted to be a part of that, as it heightened the emotional impact and power of his work.

How did Dolby Atmos help differentiate the episodes?

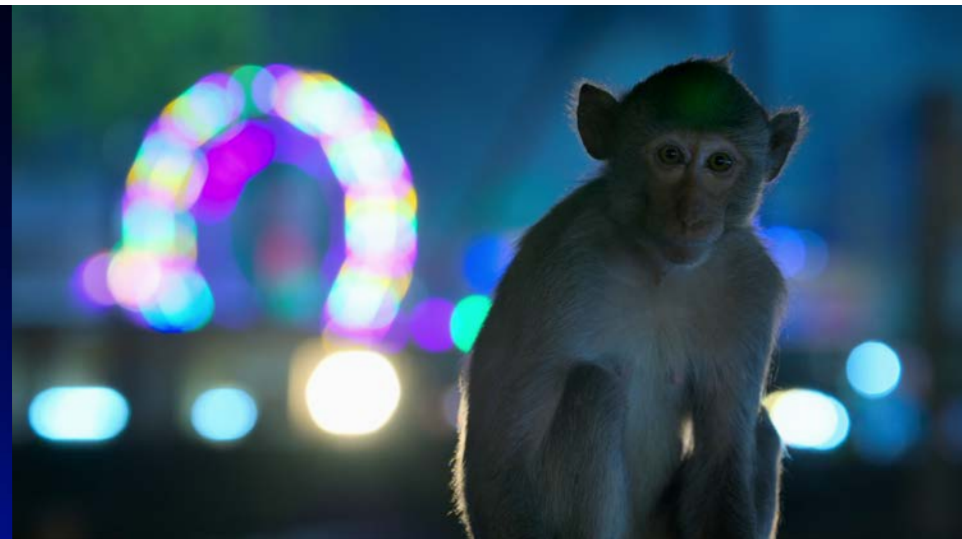
CD: Each episode was in a different landscape - jungles, seas, ice - each had a different soundscape. We gave each sound designer two episodes and the freedom to build those soundscapes, but they also listened to each others' shows to maintain some consistency and share discoveries.

For example, underwater is such a joy in Dolby Atmos. You can go from a nice shot looking down at the sea surface, all very mono, and as soon as you get immersed you get boom! Every speaker opens up and that's a true Dolby Atmos moment. The point at which you hear the throb of the boat in 'Dark Seas' is one of the high points of the series for me. Compare that with the polar

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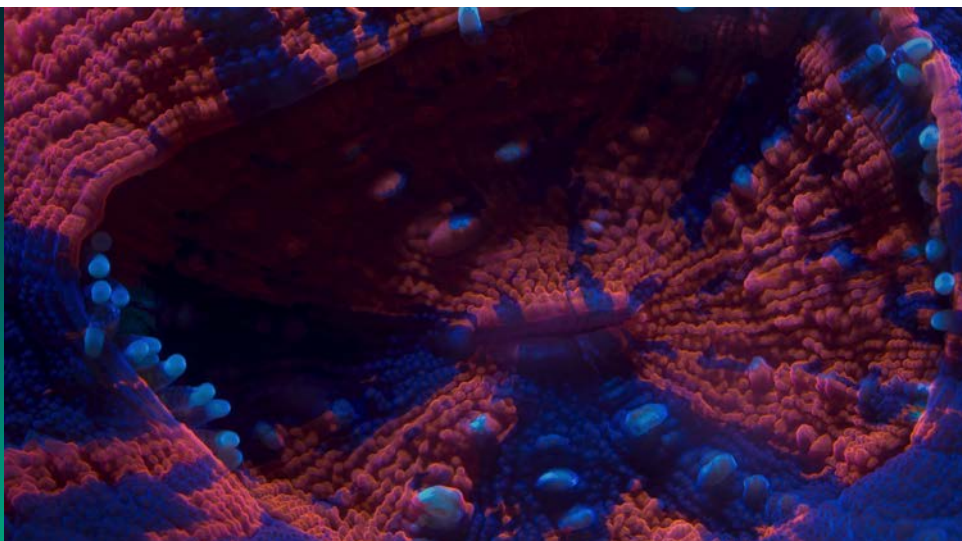
bears and the Arctic quietness lifted by winds and storms. It's a very different sonic palette, as was 'Sleeping Cities'.

Dolby Atmos is a new tool, all about new palettes, and it scales so well. We've mixed in 5.1 for a long time, making decisions like if there's a bird tweeting away, what speaker to put it in. Now I want this bird to carry on moving through the soundscape. You can do that in 5.1 but it's very hard to make the whole soundscape immersive. With Dolby Atmos, when you're in the jungle and it starts to rain, you start off hearing this high frequency noise from far above, then you hear clatter in the leaves, then it envelops the whole room. That's just astonishing in a full set-up, but it still has to work on regular televisions without Dolby Atmos. We've found the downmix algorithm works so well at preserving a much more cinematic experience across devices than we'd been used to.

How was the experience of creating audio in Dolby Atmos and going to the final mix?

CD: Delivering on Dolby Atmos was fantastic for us because of the scalability. We mixed in our lovely big lined up theatre, checking all the time what downmixes were like, stereo compatibility and so on. We knew that the audience would get everything they could. If you're lucky enough to have invested in a home Dolby Atmos sound system, you get to enjoy absolutely everything we mixed. If you're on 5.1 surround, it scales beautifully. On headphones, you get the whole experience, that's the joy of the downmix algorithm in Dolby Atmos, the big selling point for us. Whatever people are listening to, the mix is tailored for their environment, and nothing has really been thrown away. We check it all, of course, but have great faith in it.

This was a big project with a large team. We had a concerted delivery, so we had three dubbing mixers, a Foley recordist & seven sound designers. We all had our parts to play in this, and were all very delighted with the end results.



No going back

Now the show's delivered, what has the overall experience been of working with Dolby Atmos and Dolby Vision?

BM: We're fans of the new technologies. It's another step forward, like colour and HD. It'd feel retrogressive not to use them in the future. Fortunately, everyone's expecting it now for their more prominent projects. And we're so confident in it now. We know that we can deliver the Dolby Vision and Dolby Atmos version, and the algorithmic downscaling to different audio and video mixes will produce results that are effectively as good as if they'd been mastered by hand. There's always a few tweaks, but they're simple. We know it fits perfectly with our production pipeline. We know we can precisely engineer our aesthetics to match any content, from mono to hyper-realistic. It's a huge new palette of options. We wouldn't go back. We couldn't.

