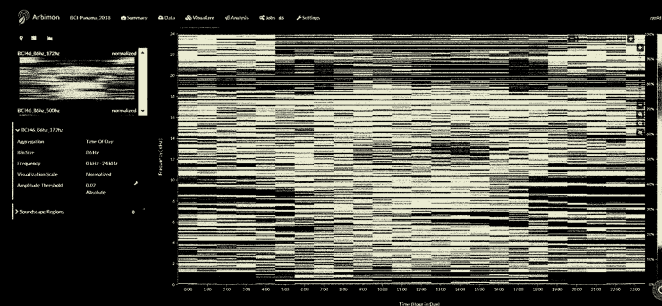






WHAT IS THE BIO/VERSE? DEEP The BIO/VERSE is a platform that we co-created with PAM and Puma. It's a space for creative and ecological discovery where we can explore cultural narratives while innovating for real-world environmental impact. MISHA The BIO/VERSE is ALIVE! WHERE DID THE IDEA FOR THE BIO/VERSE COME FROM, AND CAN YOU TELL ME ABOUT HOW THE IDEA WAS DEVELOPED?

MISHA We only wanted to work with Puma if we could do something meaningful and act on a more ambitious project than just a sneaker collab. We saw an opportunity with a major sportswear

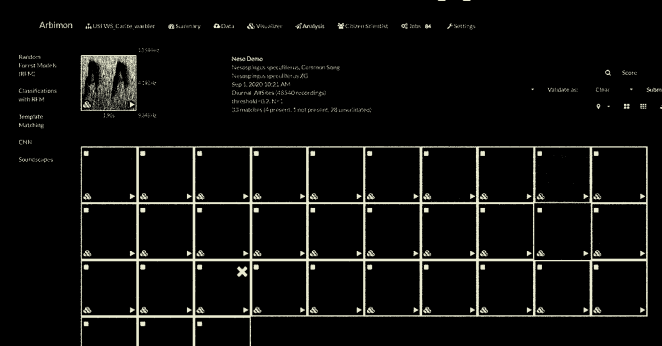


company, not just to make a colourway for a shoe, but use their power to amplify and support a much bigger idea. To their credit Puma immediately supported the idea and their team has given the project a lot of attention and energy. The BIO/VERSE emerged

as an extension of the idea of symbiosis, cooperation, connection, and something that would be created through (not as 'a') collaboration. DEEP It's great to expand the possibility of what a collaboration can be, what its output can be. When Misha and Shauna first called us, their desire was to reimagine what a "sneaker collab" could mean for this time and to explore the notion of delivering real-world impact through a product's communications function. We took the core tenants of the collection, of PAM's nuanced approach to diversity, of the two-year commitment Puma and PAM made to each other, and developed a project which is an ongoing commitment to global biodiversity. Care is always a tonne of work!

SOME PEOPLE WILL LOOK AT PUMA'S INVOLVEMENT AND THINK THAT THEY'RE STILL PART OF THE PROBLEM; SOME WOULD SAY THAT BRANDS AND ENVIRONMENTALISM ARE AT ODDS WITH EACH OTHER, IN TERMS OF ACTUALLY HELPING THE ENVIRONMENT. HOW DO YOU RESPOND TO THAT?

DEEP Without the vision and commitment from Puma to support the BIO/VERSE with their cultural and financial capital, this project



would not exist. Sustainability is not binary; the transition of individuals, companies, governments, and society to a circular model is major. The sustainability credentials of this collection reflect Puma's advances in supply-chain process; all the apparel

in this collection contains at least 20% recycled material and some materials, like the polar fleece and down jacket filling, are 100% recycled. Puma ranked at the top of the BoF Sustainability index 2022. So it's something. No brand is 'sustainable' in the real sense of the word, we know this. This is not a sustainability project. Sustainability is an internal function of a business and in 10 years time it will be very clear which brands have undertaken a serious project of inter-

nal transformation and which have been peddling optics in a green-hot market. We like brands who are prepared to ask the right questions. DEEP projects can act in a radical and nimble way, outside of a brand's supply-chain (which can operate like a slow-moving ship). We create real-time environmental action, allowing brands to sow the seeds of change within their organisation and inspire their influential global communities.

SHAUNA It's natural to want to boil the world down into good and bad – reality is much more complex and dynamic. We try to consider opportunities on their merits: can we do something useful together, at this time, on this issue, with these resources and with these people, or not? The perfect should never become the enemy of the good. Where we see opportunities to collaborate in a way that can be meaningful – even incrementally – we tend to be open to that.

MISHA It's through cooperation that we humans have been able to function and evolve (arguable in which direction!). We are all part of the problem, and we must also all work together to help a solution. In this project we have been able to use the huge power, funds and infrastructure of Puma, and steer this stream into a channel much deeper and stronger, towards an idea that is much larger than we could tackle just with PAM. The impact we can have with this collaboration is more effective and immediate than through an independent system. We are so happy that Puma has agreed to support this project.

PAM IS KNOWN AS A FASHION BRAND, BUT THE PROJECT INVOLVES DESIGN, SPORT, FASHION, ENVIRONMENTALISM, ART, COMMUNITY; IS THERE A HIERARCHY OF THESE ELEMENTS?

SHAUNA We don't see PAM as a fashion brand – it's always been about following our interests, which are very broad. PAM's output has included music, furniture design, film, publishing, happenings, interiors, carpets, food...

MISHA These are all mediums for the same goal and are all interchangeable. And we don't live one without any of the others. The language and the message stay the same. Community is the most joyous and using art or food or music or activity to come together is a universal hope and goal. We have always wanted to do everything with others, it's way more fun and has greater organic and open potential than a singular vision. PAM was/is a starting point for an ever-expanding universe. About fashion, I've always said we make clothes and also all these other things, NOT fashion, or art for that matter, or whatever 'categories' people like/need to use. The clothes are a medium for a message, a souvenir of a project, a concept, a way of being and feeling.

WHY ARE THESE TYPES OF PROJECTS IMPORTANT FOR BRANDS LIKE PUMA TO ENGAGE IN?

DEEP Ten years ago, very few brands had public facing social, political, or environmental positions. Today it's basically mandatory. We believe these types of projects allow brands to dimensionalize their activities and expand brand territory into direct environmental action in the correct way. It allows them to build authentic connections to the environment from which they can understand and expand their long-term environmental positions. These are apex projects, operating within the frontier of brand storytelling, aligning vision into reality. In parallel with the



impact side of the project, DEEP also builds creative campaigns and activations so brands can embed these environmental narratives within their commercial activities, building a culture and energy around environmental representation and action. DEEP projects allow brands to elevate the conversation around the environment in a real and ethical way while producing a hybrid creativity which connects people to nature.

YOUR APPROACH TO THE ENVIRONMENT IS CLEAR, BUT HOW CAN BRANDS MOVE BEYOND MEANINGLESS SIGNALING, AND TRULY DEVELOP SUSTAINABLE PRACTICES? AND WHAT ROLE CAN BRANDS HAVE IN AN ENVIRONMENTALLY STABLE FUTURE?

SHAUNA It's up to every brand and every person to determine their contribution and approach - there's no template. It just has to be meaningful for that particular business. For PAM, we have made a conscious decision to stay small over our 20+ years. We never sought any external funding, despite a lot of pressure to 'scale'. We stick to our guns in practical ways, for example making small collections, making clothes that are not cheap, celebrating the archive rather than fetishizing the 'latest collection' and constantly looking for ways to re-work old stock into new applications. These are the things that work for us, but it will be different for others.

MISHA To reiterate DEEP's comment: this is not a sustainable project. What does 'sustainable' mean? To sustain what? Sustain the shit fight we have created? This project is an attempt to engage, connect and support the environment. On a 'biodiversity species' level we are animals in this ecosystem, we are part of it. We will continue to take, but we must offset the take with a give. And right now it seems we need to give a lot more than we take. Of course there is huge contradiction always, but really anything that we can do no matter how small or big is important right now. We shouldn't be judging each other, competing, definitely not just talking, but acting. The collection we designed pushed for sustainable materials and practises to make the product, but we have realised that with PUMA we can have an even greater impact with the project by diverting funds and energy to act and have impact with partners such as DEEP, Instituto Jurua, etc... The product acts as a messenger, as a souvenir.

IS IT IMPERATIVE TO HAVE THE SUPPORT OF LARGER BRANDS?

DEEP It's not imperative, but brands can be a great ally in the mission to leverage culture to support the environment. A brand like Puma with 12m IG followers saying to their community that 'biodiversity is important' is not nothing! In addition to cultural brands, we work with private offices, institutions, and brands from the lifestyle and utility space. All have their benefits and challenges.

SHAUNA It depends on what you're trying to achieve. We don't need support from anyone in particular - we've deliberately stayed small and totally independent. But we welcome chances to work with others, where we feel we can do something positive together.

HOW DOES THE CLOTHING SPECIFICALLY REPRESENT THE ECOLOGICAL NARRATIVE?

MISHA There have been great advances in the technology as such. The clothing is designed to function both in the elements and in the club This is not a ground-breaking

concept, but one that we (PAM) use in our daily life. We are both in the club and on a ridgeline, and on a good day in both environments. We want to have clothing that functions in both. I always believe in function over fashion, but there's no reason not have both. We want to feel good, look good, and move good!

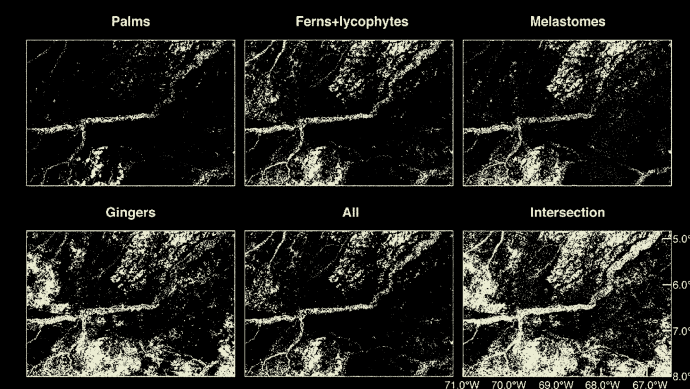
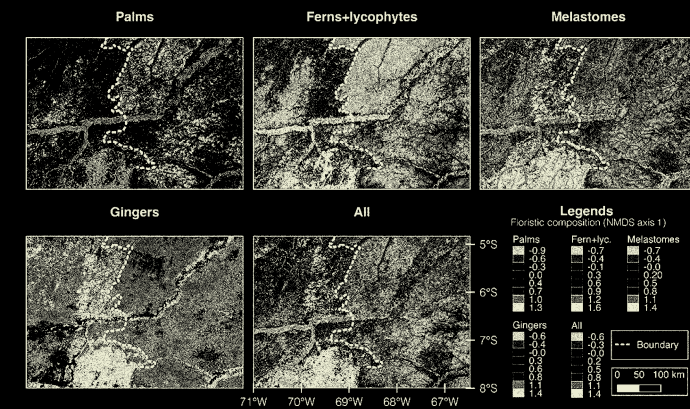
WHAT EXACTLY IS THE 'IMPACT' THIS PLATFORM IS CREATING FOR THIS FIRST SEASON OF THE BIO/VERSE?

DEEP Through the BIO/VERSE platform DEEP deploys direct impact funding into global biodiversity hotspots. We have deployed a network of real-time, remote, cloud-based audio sensors in the Amazon rainforest with our impact and technology partners Instituto Jurua and RFCx. These sensors operate remotely via data networks and the cloud to process the complex sonics of the rainforest. Using machine learning in real-time, this sonic data gives never-before seen insights into keystone species, endangered species presence, animal groups and movements, insect density, primate community dynamics, migration patterns, ecosystem change over time and much more. This data is fed into the scientific community to enhance research, understand ecosystem dynamics, propel and direct protection efforts and stop illegal activity in the world's most vulnerable ecosystems. This is intimate visionary environmental impact practice.

MISHA I'd like to point out that this AW22 project is part one of a four season mission. Each collection, although aesthetically and conceptually different, supports and adds to the BIO/VERSE platform. The four seasons will gather momentum and impact as they're roll out and connect, culminating in an entire project that will have a deep and powerful impact. The first season deployed in the Amazon is the first instalment, or chapter. The Rainforest/Jungle is not only a geographical, but a metaphorical point of view for this BIO/VERSE project.

WHY WAS THE BRAZILIAN AMAZON CHOSEN FOR THIS PROJECT AND COULD YOU DESCRIBE HOW THE RESEARCH FROM THE AMAZON WILL BE USED?

DEEP When we think of biodiversity, the overwhelming design and fecundity of the Amazon comes to mind immediately. The PAM universe has such an evolved potentiality that it seemed aligned with such a wild place. When we began to conceptualise this project it was a very natural fit. As a result of its remote location and a recent history of community organisation - led in a major way by Instituto Jurua - the Jurua River region of the Western Brazilian Am-







amazon's biodiversity remains intact. It's amazing. Through BioDATA we aim to establish a 'biodiversity baseline' – a uniquely full profile of what intact biodiversity in the Amazon looks like. We have deployed live BioDATA sensors at two sites on the Jurua. One in a Várzea forest, a seasonal floodplain forest inundated by whitewater rivers that occurs in the Amazon biome. The other in a dry forest above the high-water line. Having live data of the seasonal transformation of these contrasting ecosystems and pairing these data sets with real-time water-level data provides a unique snapshot into functioning biodiversity. In addition to these live-data sites we are also building much more widespread views of ecosystems using off-line acoustic monitoring sensors, they give us a much greater sample range, but are for short-term deployments and lack the immediacy of real-time data.

WHY WHAT ARE SOME WAYS IN WHICH YOU SUPPORT THOSE LOCAL COMMUNITIES IN THE AMAZON?

DEEP The impact platform we designed in this region has been developed in collaboration with Instituto Jurua – our partner in delivering the field-work, research, and community aspects of this project. Instituto Jurua are an environmental organisation working in the Amazonian biome, focusing on the core tenants of social, environmental, and economic development projects specifically along the Jurua River. We worked with Instituto Jurua to deploy DEEP BioDATA sensors, while providing ongoing financial and technical support for their operation and also the integration of data findings into global research communities and local development practices.

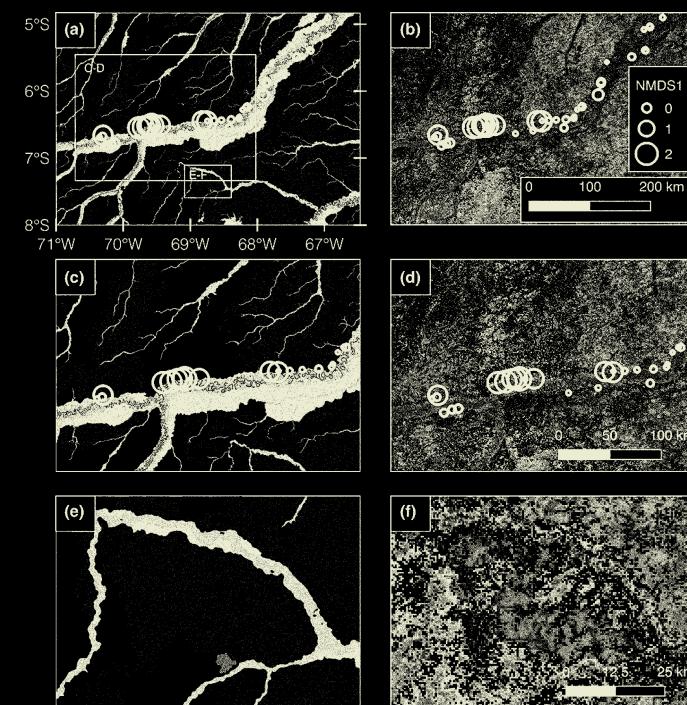
FOR THE PROJECT YOU'RE BRINGING IN PEOPLE FROM A WIDE ARRAY OF CULTURES AND PLACES. DO YOU THINK THAT THIS KIND OF GLOBAL CULTURAL APPROACH IS AT ODDS WITH ENVIRONMENTALISM, AS GLOBALIZATION HAS LED TO ITS DESTRUCTION?

SHAUNA No. Understanding among people and building up links across cultures is positive. Education and empathy can be an antidote to a lot of the threats we face.

DEEP A global cultural approach might be at odds with a conservation-led view of environmentalism—a view which aims to conserve nature as something 'over there', separate from us, as something which isn't already entirely affected by and affecting the contemporary condition of globalisation. A global cultural approach is in line with the cultural and ecological reality we find ourselves in. This approach is important to creating a new way of engaging ecology, one which is relevant for our time and our communities. DEEP platforms bring together an insanely diverse group of stakeholders to achieve something which would not otherwise have been possible. In the case of the BIO/VERSE we are talking about punk creatives, data analysts, solar engineers, global sports-wear innovators, creative storytelling teams, CGI artists, audio producers, indigenous communities, writers, curators, conservation organisations, wildlife photographers, scientists. This is what we mean when we talk about expanding the intersection of culture and ecology. Bringing diverse groups of people together to create a deeper understanding of what is important and how we relate to the contemporary condition. What is the alternative? To work on a program

which rejects globalisation? Which seeks a return to nature? Our brand of eco-terrorism is not that didactic! We develop out tactics within the context we exist, even if our context is at odds with our primordial yearnings for the swamp. The BIO/VERSE is the new swamp!

MISHA We are all about connection and connecting. Food and art, music and sport; it's amazing to be connecting science and technology with someone like Varg 2™! Varg himself has sent me a WhatsApp picture of him gathering moss in northern Sweden to feed wild deer. Here we see a techno emo punk graffiti writer connecting with the local hoofed beasts. This is a beautiful picture in my mind (and phone!), but also as a symbol for a co-existence. Furthermore, Varg has taken the sounds of the rainforest that were recorded by the sensors to make a breakbeat track forming the soundtrack to



Vegetation classes

- Aac - open forest with lianas
- Aap - open floodplain forest with palms
- Abb - open lowland forest with bamboo
- Abc - open lowland forest with lianas
- Abp - open lowland forest with palms
- Dae - dense terrace forest with emergent canopy
- Dau - dense terrace forest with uniform canopy
- Dbe - dense lowland forest with emergent canopy
- Dou - dense lowland forest with uniform canopy

Predicted composition (NMDS axis values)

- 0.70
- 0.13
- 0.45
- 1.02
- 1.59

the first engagement/instalment the BIO/VERSE

WHAT TYPES OF TECHNOLOGY CAN BE USED TO HELP THE ENVIRONMENT. YOU SPEAK OF RADICAL TECHNOLOGY, WHAT TECH ARE YOU TALKING ABOUT?

DEEP DEEP develops environmental monitoring platforms; physical sensors, and digital platforms to create intimacy with ecology through data insights and creative storytelling. AirDATA sensors which measure localised ambient air quality in real time; BioDATA being interpreted in real time by machine learning pattern recognition to drive research and policy implementation whilst also being used to make techno; Soil-DATA being used for supply-chain monitoring and regeneration, and soil testing at bespoke wineries in the Veneto.

This approach is radical as it is from the root, hacking frontier technologies and cultural systems in order to better understand our environments at the source, through data, through packets of information which come together to tell stories and reveal the operation of our environments to inform specific outcomes in service of the environment and in service of dissolving the barriers humans have created to the environment.

WHAT ARE SOME WAYS IN WHICH YOU CAN EXPAND ON THE INTERSECTION OF CULTURE AND ECOLOGY?

SHAUNA We're not interested in definitions or defining anything for others. There's no one answer or interpretation, and we don't insist that people see things the way we do. At the end of the day, we're just trying to bring something positive into the world. If PAM can reach a broader community through this project, and if

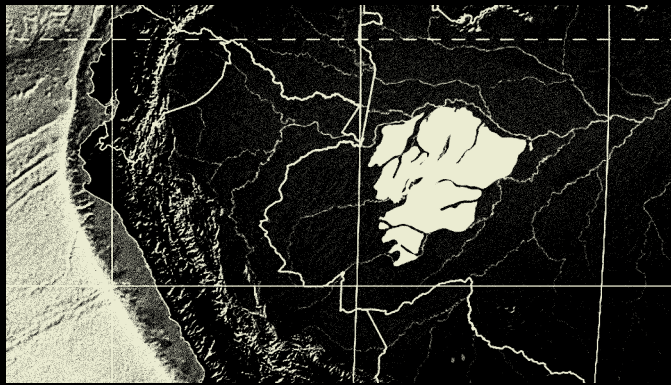




RFCx and Institute Jurua can attract new supporters and deliver more benefits to the community in the Jurua and help an incredibly fragile environment, we're happy. If others can also see the benefits of working with companies like DEEP we are happy. Big changes come through lots of little ones. We do our work, and how it all develops and where global culture and consciousness goes is something we can only dream about.

DEEP Misha, can you tell us about your thinking when you called one of your collections NATURE/CULTURE?

MISHA So the Nature/Culture thing is directly referencing an article from AA Bronson's FILE magazine from the late 70's early 80's. It makes so much sense to revisit now, as we have 'culture' bursting at the seams. The idea is that in CULTURE you see what you like, and in NATURE you like what you see. Obviously! Nature is wonderful, and Culture is so controlled and programmed for 'liking'. Right now and probably in the 1960/70s there was a great inspiration and yearning for a connection to nature. Great for aspiration. Great for projection. Great for inspiration. Great for colourways and GORP'ing. Great for images of good-looking people that have been



flown onto peaks by helicopter or dropped into intrepid situations. But it feels like we need to actually use 'culture' to act with, and for, 'Nature'. We as a species have successfully distanced ourselves from the animal kingdom and severed a connection with the rest of nature. Through any human means, culture being one,

we need to truly connect back with the idea that we are part of nature. And it is incredible when we do!

DEEP Yes! Using culture for nature is a great concept. We often thought in a big-time way, that in 500,000,000 years the dominant species on earth will use the materials we are generating through the Anthropocene as 'natural' resources. Like there will be mega-plastic deposits which will form the basis for manufacturing or energy production for an evolved cephalopod civilization.

IT SEEMS THAT AS WE PROGRESS INTO THIS CENTURY, WE'RE GOING TO HAVE TO CHANGE THE WAY WE THINK ABOUT THE ENVIRONMENT, BRANDS, CULTURE, AND ECOLOGY IN GENERAL, AND ONE WAY OF DOING THAT (AND ONE OF THE GOALS OF THE PROJECT) IS TO EXPAND THE DEFINITION OF THESE THINGS; TO EXPAND WHAT A BRAND IS, OR WHAT ECOLOGY IS, OR WHAT CULTURE IS. HOW DO YOU GO ABOUT DOING THAT?

MISHA We can expand, and/or we can simplify. I feel like that if we think more about the connection to others, to the environment, and we think less about ourselves and our individual goals, we expand and contract at the same time. Yes, we need to expand our views to a very simple one: that we are all in this together. How can we work and live and cooperate and connect with one another and with our environment? The common good, and how to contribute to these questions, should be a simple way forward.

DO YOU FEEL BE-

ING 'ENVIRONMENTALLY CONSCIOUS' IS A NEW FORM OF BEING SUBCULTURAL AND SUBVERSIVE?

DEEP When H&M places a 'Conscious' line on billboards it becomes hard to say that being 'environmentally conscious' is subcultural or subversive act. However what DEEP aims to do—and what the BIO/VERSE actions—is a new form of radical ecological engagement which leverages diverse spaces to build meaningful outcomes for the world's wildest places, for the data scientists using frontier technology and for diverse communities who want to explore the amazing complexities of 'being ecological'. There is a long history of subversion through ecological connection. The War of the Maidens, Guerre des demoiselles, was a rebellion that took place in the French department of Ariège from 1829 to 1832. This rebellion was due to the passing, on 27 May 1827, of a new forestry code restricting individual access to the forests. The name guerre des demoiselles comes from the fact that the countrymen disguised themselves as women, with long white shirts or sheep skins, scarves or wigs, and blacked or concealed faces. This disguise was for attacking—mostly at night—large property owners and forest guards. In 1992 environmental organisation Earth First! produced a radical splinter cell, Earth Liberation Front (ELF). Movements radicalised. I think today we see a de-radicalization of the ecological space. Take the example of Captain Paul Watson's resignation from Sea Shepherd Conservation Society on 27th July, 2022. Environmental appropriation is a prevalent reality in marketing. If brands are using images of 'the environment' in campaigns to tease our reptilian impulse, a greater commitment to action feels mandatory.

MISHA PROVO a Dutch counterculture movement from the 1960's staged antismoking happenings, and after they won a seat on the Amsterdam city council, initiated the White Bicycle Plan which basically (after burning countless cars) made Amsterdam the bicycle friendly city that it is. They also disarmed the police! Here we see Subculture being 'environmentally conscious' and through subversion and action, gaining impactful and environmentally positive developments.

HOW HOPEFUL ARE YOU ABOUT THE FUTURE, AND THE PROSPECTS ABOUT SUCH PROJECTS AS BIO/VERSE?

DEEP Extreme optimism behind a resting bitch face.

MISHA Haha! Extreme Optimism again, with crazy emoji face. And a fire emoji under our butts. Seriously though, we support any 'positive' action, (and not just marketing slogans), for a more connected and engaged society, with love and care and energy for nature and this planet.



Starting with sounds of the Amazon Rainforest recorded via real-time, remote, cloud-based audio sensors, Swedish producer VARG2TM remixed the sounds into a "Jungle Sonics" soundtrack. Scan to listen.



