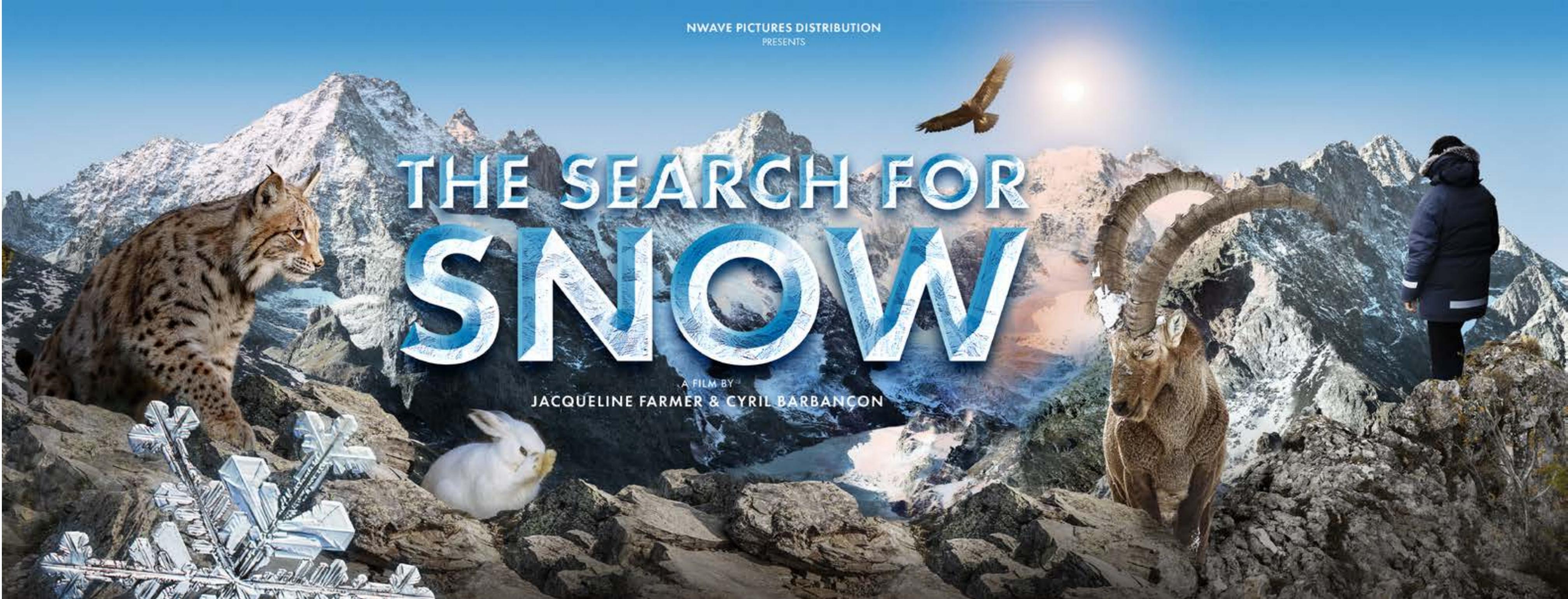


NWAVE PICTURES DISTRIBUTION
PRESENTS

THE SEARCH FOR SNOW

A FILM BY
JACQUELINE FARMER & CYRIL BARBANÇON



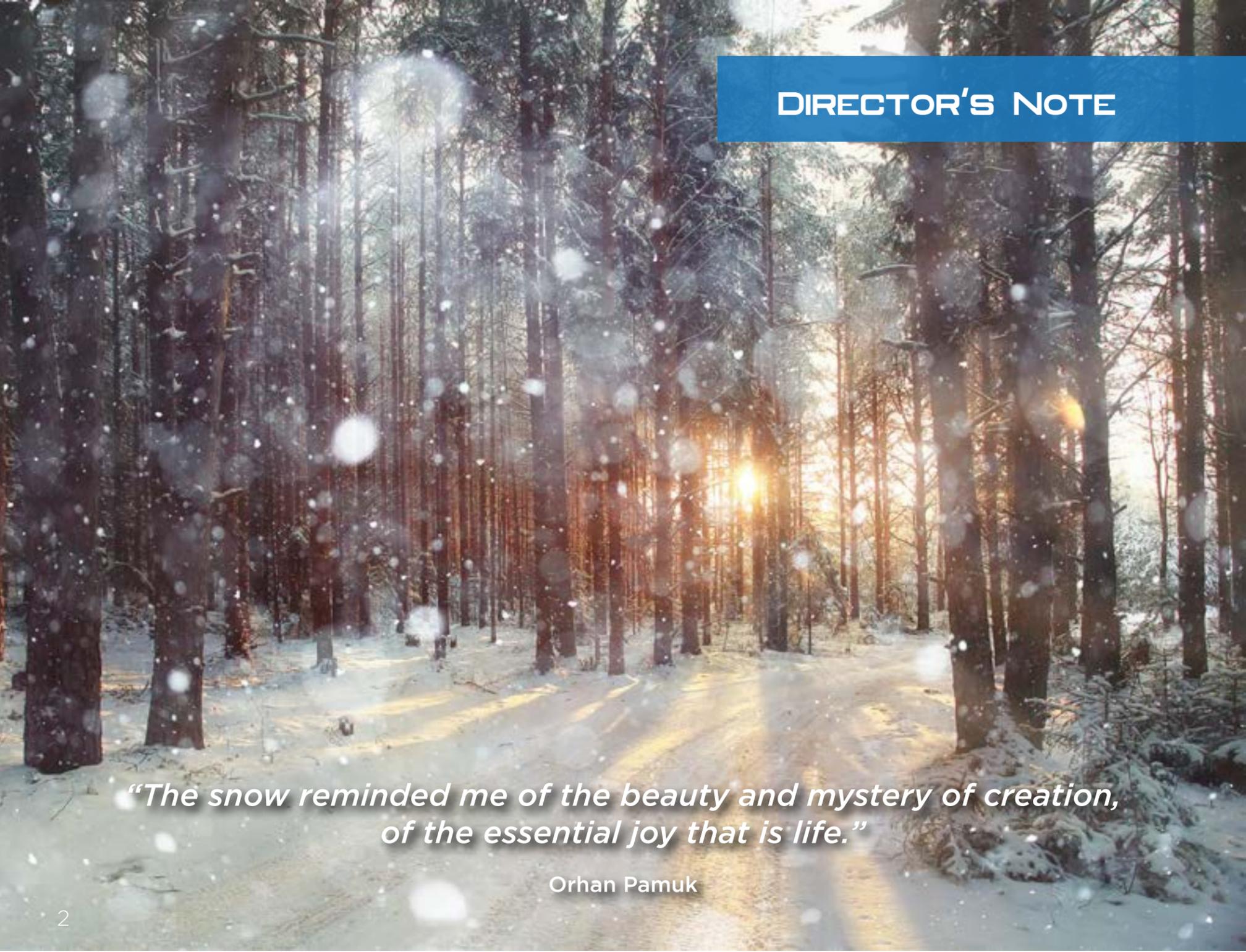
SYNOPSIS

The Northern hemisphere is preparing for winter and its customary blanket of snow. Late at night, Sigurd Haraldson criss-crosses the mountains of his Alpine home at the controls of his snowplough. On his radar screens, he tracks a snowstorm that is gaining ground in North America and about to make its way East. He hopes it's going to head his way...

In the US, the first flakes are already falling on the cities of New York State. Further to the East, in Iceland, a group of cross-country skiers sets off on an adventure. In Poland, bison, elk and wild boar are picking at the last blades of grass before the snow sets in. In France's ski resorts, hoteliers are impatient. Everyone is waiting for the arrival of snow and everything it will bring.

Beneath the stars in his snowplough in the Alps, Sigurd talks to himself and jokes with his colleagues over the radio. Their conversations break the solitude of their work, preparing the slopes for tomorrow's skiers. Sigurd wonders about snow, its structure and what happens to it when it reaches the ground. But he also wonders how much longer the magical snow spectacle will last.



A vertical photograph of a winter forest. The scene is filled with tall, thin evergreen trees. The ground is covered in a layer of snow, and a path or road is visible, partially covered in snow. Sunlight filters through the trees, creating a warm, golden glow. Snowflakes are falling from the sky, creating a soft, hazy atmosphere. The overall mood is serene and peaceful.

DIRECTOR'S NOTE

Snow. What is better than waking up in the morning to discover that snow has fallen overnight and the world has been transformed... to run outside, watch it fall from the sky through blinking eyes, and feel it settle and melt on your cheek.

Snow holds a unique place in our imagination, evoking enchantment, nostalgia, and mystery. It is the source of a constellation of images and narratives that have profoundly shaped Western mythology. But this is not the only power of snow. It is also a time machine, not only in the form of ice cores drilled in Antarctica to discover our planet's past weather patterns, but also in the form of memories that many of us associate with it.

We want to film snow as both an element that transforms nature and modifies our perception of it.

The shape of each snowflake can be explained by the laws of nature - snow, in its formation and structure, combines all the fundamental forces of contemporary physics: fractals, symmetry, quantum mechanics... This structure creates the insulating capacity of snow that saves the lives of plants and animals in winter and also allows us to fulfil our desire to slide down the beautiful rounded landscapes snow creates. The study of snowflakes was used to establish the mathematics of fractal symmetry. This infinite repetition is the mathematical structure underlying the natural world.

Snow is an important environmental factor in alpine ecosystems, influencing plant growth, species composition, the life cycle of animals, and even our water supply (one-sixth of the global population depends on snowmelt for their water).

But while the powerful imagery that snow provokes can make us believe it is eternal, the haunting spectre of climate change requires more realism. Our childhood winters of entire days of sledging, snowballs and snowmen may soon become an experience from times past. Snow could completely disappear from our latitudes.

*"The snow reminded me of the beauty and mystery of creation,
of the essential joy that is life."*

Orhan Pamuk

The film opens in the Alps with Sigurd Haraldson, snowplough driver and amateur meteorologist. Snow is part of his life, not just because he lives in the mountains, but also because he sees the mystery of the universe and its origins reflected in the shape of snowflakes.

The 16th Century astronomer Johannes Kepler, shared a similar fascination with the shape of snowflakes and tried to discover how they were formed. In his famous treatise on the matter, Kepler expressed his belief that by understanding snowflakes he would understand the Universe, but lacking a microscope (they had not yet been invented), he was unable to penetrate their secret. Scientists had to wait a hundred years more to take a closer look at snowflakes and work out how they were formed - the temperatures they were exposed to, the humidity and wind conditions present when they were formed. No two flakes are alike, because no path through time is identical.

Sigurd follows the movement of a winter weather front across his satellite maps. He hopes the low will bring the snow that the Alps desperately needs. As the front moves it takes us through a variety of different landscapes: New York State snowy city landscapes; the wilds of Iceland, where the depression becomes a blizzard trapping hikers; Poland's primeval forest where the snow creates a magical landscape and finally to France, to Sigurd's home, in an Alpine ski resort during the school holidays.

The voices of Sigurd and his snowplough driver colleagues will guide us on this journey, through all the dimensions of this spectacular film. Different places, countries and relationships with snow will alternate, opposing amongst other things, vast snow-covered landscapes with the molecular structure of single snowflakes.



“Our question is why snowflakes when they first fall...always come down with six corners and with six radii tufted like feathers...there must be a particular cause: for if it happened by chance, why would they always fall with six corners and not with five, or seven...”

Johannes Kepler , Astronomer



PRODUCTION NOTE

Cyril Barbançon's, (a filmmaker from the Alps) questions about the place of snow in our future began this film project. The nostalgic "White Christmas" of the past may no longer be part of our future. With climate change, we've seen films about melting glaciers and global warming but very little about snow itself.

As children, many of us spent Christmas or our mid-term holidays on the ski slopes, and as adults we want our own children to experience the same pleasures: sledging, snowmen, snowball fights and the magical silence of snowflakes falling in a pine forest ...

But according to researchers, by 2050 half of all France's ski resorts will be closed. And snow not only brings us winter sports, it also provides tens of thousands of homes with water from snowmelt. In Spring 2017, the Serre Ponçon reservoir in France was so low that local politicians were seriously concerned. The question is no longer, "Will there be a White Christmas?" but "Will we ever have another White Christmas?" In this period of climatic upheaval, the time is right to bring Cyril's questions to the big screen.

With the experience and interest that our previous film garnered, we have decided to work on the same model of exploitation, i.e. a theatrical release around Christmas, with a Giant screen/IMAX release in parallel. The IMAX format has a strong export potential and a long lifespan abroad ("Hurricane" is currently on release in the United States) and is particularly well adapted to this genre of film.

We are convinced that 3D is the best format to immerse spectators in the natural world. Over the last few years we have developed a real expertise in 3D, not only for filming in the field but equally concerning post-production. The film will nevertheless be delivered in both 3D and 2D formats, allowing theatres that are not equipped with 3D to exploit it.

Our made-to-measure filming and sound gear is unique in the world and has already proven itself in extreme weather conditions. Our film crews have been shooting raw 5K footage for the past five years already essentially future-proofing our films.

In terms of post-production, we are proud of our reputation for being one step ahead of technology and we were among the first in France to release the dual stream 4K DCP in 3D. In association with the film, we are also producing a 360° virtual reality project in 3D, the subject of the film being particularly well adapted to this new technology.

We are accustomed to working in close collaboration with scientists and researchers on our films to advise us in terms of content but also to help our teams in the field with meteorology and the logistics of filming. For 'Snow' we are working in partnership with researchers from the Institute of Alpine and Arctic Research, Boulder, Colorado, the Centre for Snow Studies (CEN) in France and the Swiss Institute for Snow and Avalanche Research.



FILMING SNOW

Saint Thomas Productions, based in Marseilles, has over 20 years of experience making wildlife and science films. Established in 1995 by Bertrand Loyer, Saint Thomas Productions has always oriented its editorial choices towards innovative, high quality documentaries. In 2003, American industry magazine, Realscreen, listed the company in the top 100 production companies worldwide. Saint Thomas Productions has won more than 85 awards in international festivals including several at the International Underwater Film Festival as well as Wildscreen and Jackson Hole Wildlife Film Festival.

nWave Pictures is a diversified producer of 3D/4D entertainment for the worldwide market. Established in 1994, and based in Brussels, Belgium, nWave Pictures quickly became one of the pioneers of modern 3D filmmaking. nWave has produced eight 3D giant-screen films and five full-length 3D feature films. nWave also distributes specialised films for IMAX theatres, theme parks and institutional sites mainly to the USA thanks to its subsidiary based in Los Angeles. nWave and its teams have more than 20 years experience making 3D animation and computer graphics. They have their own studio with a team of 120 experts using the latest materials and software.

The formation of snow crystals, snow falling from the sky, a blizzard in a forest, an avalanche crashing down a slope...the challenge is to recreate the magic of snow and give the cinema audience the same sense of wonder they would feel in a snowscape.

But filming snow creates a number of technical problems: the cold causes electronic equipment to malfunction and it can be difficult to create dynamic images with good depth of field in the low contrast lighting conditions created by snow. Through our work on the feature film, "Hurricane", our technical crew has a great deal of experience working in extreme weather conditions: following weather developments, dealing with depressions and the logistics of organising rapidly changing schedules with a large amount of technical equipment.

We have built our own unique gear to cope with these conditions. Two different 3D camera systems - side-by-side and mirror systems - have been specifically adapted to be both watertight and portable. They allow us to film 3D images in the field in falling snow and storms. Snow is removed from camera lenses using a spintek system (a rotating lens that turns at high speed) so the audience can be completely immersed in the scene without being aware of the camera.

One of the many technical challenges of the project will be shooting avalanches using 3D drones filming in 8K. We will work in collaboration with specialists from the Institute of Arctic and Alpine Research in Colorado for natural avalanches and with the Swiss Institute for Snow and Avalanche Research to show a variety of shots in a controlled setting. (The Swiss institute uses helicopters to deliver 30-pound explosive charges in one of three research zones.)

We also want to film aerial shots of mountain and forest landscapes while snow is falling and covering everything - a magical moment that has never been shot in 3D. Thanks to the Soulcam helium airship, we will be able to capture these moments and film them unobtrusively.



To film snow crystals, we will use photogrammetry (a technique that allows us to reconstruct an image from a series of photos taken from different angles). This is a labour-intensive process requiring a great deal of attention to detail.

These images will allow us to visualise the snowflakes and their different shapes but also to travel amongst them. Thanks to this technology, snow will have a size and presence unequalled in 3D. To see details at an atomic level, we will use Computer Generated Imagery based on x-ray crystallography. These x-rays produce 3D imagery showing electrons present in snow crystals allowing us to see the molecular structure.

Snow also requires special attention to be paid to sound recording. Along with our camera equipment, we have developed a system of microphones and waterproof housings adapted to recording sound in extreme weather conditions.



But snow is not just blizzards and storms - there is also silence. A forest covered in snow creates a hushed atmosphere that is completely unique. Sound editing will be very important to the narrative and will allow us to feel the transformative quality of snow in each location.

In the theatre, Dolby Atmos/IMAX 12 track audio is tailor-made for representing the vast spectrum of sound from an avalanche echoing in the cliffs to a herd of bison in the forest under the weight of snow-covered branches.

The virtual reality revolution is particularly interesting for this project to get close to snow as an element. Thanks to this technology we can “teleport” the audience to the heart of the subject giving them an emotional experience of snow as it becomes increasingly rare.





“The Avalanche Hazard Report estimated the risk at low level 2, and wind speeds at 10 000 ft were less than 12 mph that day, but you just never know what is going to set it off and why.”

Alain Duclos, Mountain guide and avalanche specialist



Cyril Barbançon
Director/cinematographer:

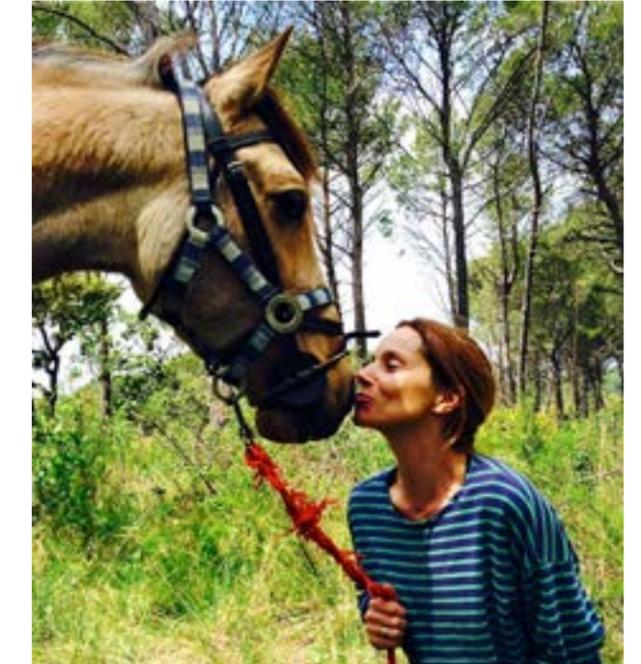
Born in the Haute Savoie region of the French Alps, snow was a large part of Cyril's youth. He has directed and shot a dozen or so natural history documentaries for Arte, France 3 and Canal+ as well as shooting commercials and music clips. In his constant quest for innovation, Cyril developed a number of projects including "Soulcam" - a 14 metre long remote-controlled airship that provides exceptionally fluid, poetic images of landscape and its subjects. In 2009, a meeting with Alain Derobe (a pioneer of 3D in France) offered Cyril a new challenge in the technicality of 3D imagery.



BIOGRAPHIES

Jacqueline Farmer
Producer/director:

An upbringing in a family close to the land and nature began Jacqueline Farmer's lifelong interest in attempting to understand the natural world and our place in it. Following post graduate studies in biology and broadcast journalism, she went on to work for the BBC World Service, Radio France International, and various press outlets before joining Saint Thomas Productions in 2002, where she has helmed award winning science and natural history projects as a director and producer for the past 13 years, working with National Geographic, Discovery Channel, France 2, Arte, Channel Four, NHK, TVE, SVT etc. on numerous films and series.



Philippe Chapuis
Screen Writer:

Having studied English and Film Studies at Reading University and screenwriting at the famous FEMIS film school in Paris, France, Philippe Chapuis works as a screenwriter and script analyst for a number of different production companies and television channels. He directed the award-winning films, "Antoine travaille" and "La Trêve" as well as a number of documentaries for the cinema and television.



TECHNICAL SPECIFICATIONS:

Filming locations:

Ski Station at various locations in the Hautes Alpes region of France; Rochester, Syracuse, New York State, Landmannalaugar, Iceland.

Filming:

Winter 2018-2019 and Winter end 2019-2020.

Post-Production:

Spring -Autumn 2020 and Spring 2021,
Delivery: Summer 2021.

Formats:

- 2D, 3D 4K, 2K 24 fps 40 minutes VF, VA, VI
- IMAX 3D 4K, 2K 24 fps 40 minutes VA, VI
- IMAX 2D 4K, 2K 24 fps 40 minutes VA, VI
- 4K UHD 25 fps 40 minutes VI, VF
- 4K UHD 23.976 Fps 40 minutes VA





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