



GREAT
EXPANDING
DESERTS

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SCIENCE ADVENTURE DOC SERIES.

8 X 60 MIN.

As deserts expand every year, the Earth is losing 30 million acres of life-giving land.

That's 2,000 football fields per hour turning to desert. Explorer Max Calderan and his team of adventurers investigate the world's growing deserts and punch back against the planet's advancing sands.



OVERVIEW

Along the edges of the world's deserts, lush life is giving way to dust and sand. The United Nations predicts that within the next 10 years, 50 million people will be displaced due to desertification.

It's a problem so big. The world needs fighters who are the right kind of crazy. Mad Max Calderan dedicated his life decades ago to exploring and understanding deserts. He benefits from a biological inability to produce normal doses of cortisol, a stress hormone. In extreme desert environments, where human instincts normally trigger physiological alarms—sweating, extreme thirst, panic—Max's body remains calm.

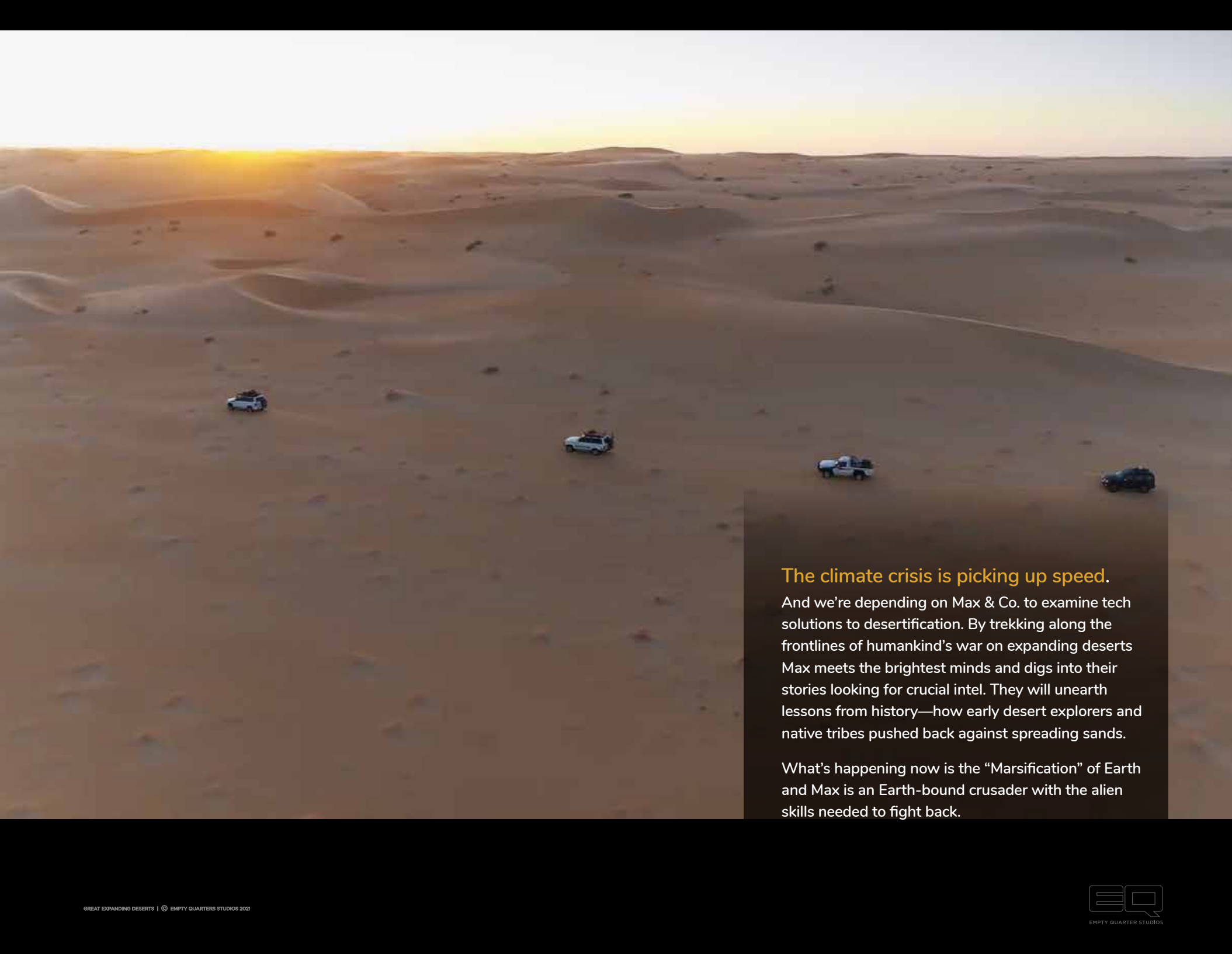
ITALY'S MAX CALDERAN HOLDS 11 WORLD RECORDS IN DESERT EXPLORATION.



This makes Max a human 4x4. He propels himself across all kinds of deserts—sometimes going 90 hours straight without food... or water.

Max's genetic edge and insane focus make him uniquely suited to confront this issue. With his team of explorers he will cross important expanses of desert in order to acquire first hand knowledge from the history and current lifestyles of desert dwellers. Together they will use age-old ingenuity and advanced technology to collect pivotal details in order to deliver it to those most in need: The frontline workers confronting desertification head-on.





The climate crisis is picking up speed.

And we're depending on Max & Co. to examine tech solutions to desertification. By trekking along the frontlines of humankind's war on expanding deserts Max meets the brightest minds and digs into their stories looking for crucial intel. They will unearth lessons from history—how early desert explorers and native tribes pushed back against spreading sands.

What's happening now is the "Marsification" of Earth and Max is an Earth-bound crusader with the alien skills needed to fight back.

MAX'S CREW



Raha Moharrak, Outfitter

The first Saudi woman to climb Mt. Everest and she's summited several of the world's other towering peaks—Kilimanjaro in Kenya and Aconcagua in the Andes. As part of Max's team, Raha applies her expedition and outfitting skills to make sure Max is geared up and briefed before every desert jaunt. As a young woman, Raha was not allowed to explore the deserts outside her home city of Jeddah. Now she's making up for lost time by immersing herself into Max's world.



Ian Huggins

Ian is a former Royal Marines Commando in the elite infantry unit and is Max's first mate and close confidant. He heads up logistics and commands all terrain vehicles and other transportation for their desert expeditions.

The vehicles are Max's mobile basecamp, where Ian records map coordinates and other useful data gathered by the team.

“ When late season “shamals” blow in, these wind storms off the Persian Gulf could stop Max in his tracks ”

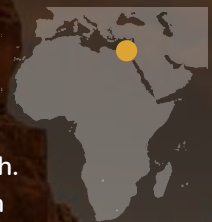
THE DESERT SPECTRUM

Across the world, all kinds of communities are applying old and new tools to successfully turn back the sands.



THE SINAI

Most Mars-like desert found on Earth. A waterless, barren moonscape with tiny remnants of vegetation. Egypt's Sinai Peninsula is divided into Bedouin fiefdoms, like the Tarabin territory, known for smuggling and the people's genetically adapted ability to digest camel's milk.



THE RUB AL-KHALI

Where Max recently established “the Calderan Line,” an unprecedented 1,100 km route across what’s also known as the Empty Quarter Desert. Now, in another area of the Rub Al-Khali, Max goes in search of “the Atlantis of the Sands.”





THE NEFUD

Where violent winds whip across a swath of northwest Saudi Arabia, creating crescent-shaped dunes the color of red bricks. This area is home to the Howeitat tribe, which believes in malevolent spirits called “jinn” and evil ogresses and monsters called “ahl al-ard” (“people of the Earth”), which target humans traveling alone in the desert. Lawrence of Arabia called the Nefud Desert “the worst place God created!”



THE TAKLAMAKAN

In China, the local Uyghur language defines “Taklamakan” as: “You go in, but you don’t come out.” It’s the size of Germany and ground zero in China’s fight against a desert on the move. In recent years, whole groves of trees were reduced to forest graveyards. But by using grids made from dried straw, highways and villages remain sand-free.



THE UTAH DESERT

The Anasazi people of Utah mastered the ancient art of “runoff farming” by building an intricate system of water catchments for channeling all rain water toward farming plots. The practice combats desertification by preventing erosion and the release of loose soil into the wind.





DEATH VALLEY

Where native lizards spit blood from their eyes when threatened and temperatures soar to 130 degrees. It's killed many a wayward explorer, but it's never seen the likes of Max.



THE SAHARA

Where ancient technology like water catchments and desert kites show how earlier civilizations adapted to climate change. Today, this massive desert is marching south, turning Africa's midsection from green to brown at a rate of three to six miles per year. Countries like Senegal have planted more than 11 million trees and that's not nearly enough to stop a 4,000-mile-long crashing wave of sand.



THE LOCAL INNOVATORS



MADDIE AKERMANN

Leader of The Weathermakers, who believe they can regreen the entire Sinai and alter weather patterns in ways that halt desertification across the Middle East.



NOURA AL-MATROUSHI

The UAE's first female astronaut advises down-to-Earth projects about space exploration and what evidence from other planets tells us about all deserts.



Haidar El Ali

Senegal's "Johnny Appleseed" of a regreen super star—the mangrove tree.



John D Liu

Long-time leader of the regreen revolution, John guides Max through China's Taklamakan, where a new "eco system restoration camp" kicks off its work.



“ A desert kite view from above. These rock structures grew out of necessity brought on by desertification. As landscapes dried and hunting became more difficult, desert kites were created to maximize the hunting harvest by driving game into a single kill zone.

”



PETER SANDS

Navajo crusader fighting to save his people's ancient ways.¹⁵ He introduces Max to a Sipapu, or spirit hole, symbolizing the passage through which the first people emerged from Mother Earth



BEN HOFFLER

The Sinai's unofficial guide to ancient orchards and plants like the original, biblical "burning bush"—now called "holy bramble" or *Rubus ulmifolius*.



ALIA HAYEL ABOUTIYAH

An outspoken Saudi activist and member of the Huwaitat tribe, who is skeptical of tech solutions and so-called "desert cities of the future". Alia tells Max the new Saudi city of Neom "is being built on our blood, on our bones."



STORY BEATS

THE PLAN

Max, Ian and Raha arrive at a starting point: Prep for expedition, set a goal, then blast into a new desert adventure.

THE TREK

Max travels alone ahead of the team and meets with native people on his trek, gathering details about their first-hand experiences with desertification.

THE MOBILE WAR ROOM

While following Max in an all electric SUV – The Rivian – Raha and Ian run logistics and examine past cultures that have fought desertification.





THE FLASHBACKS

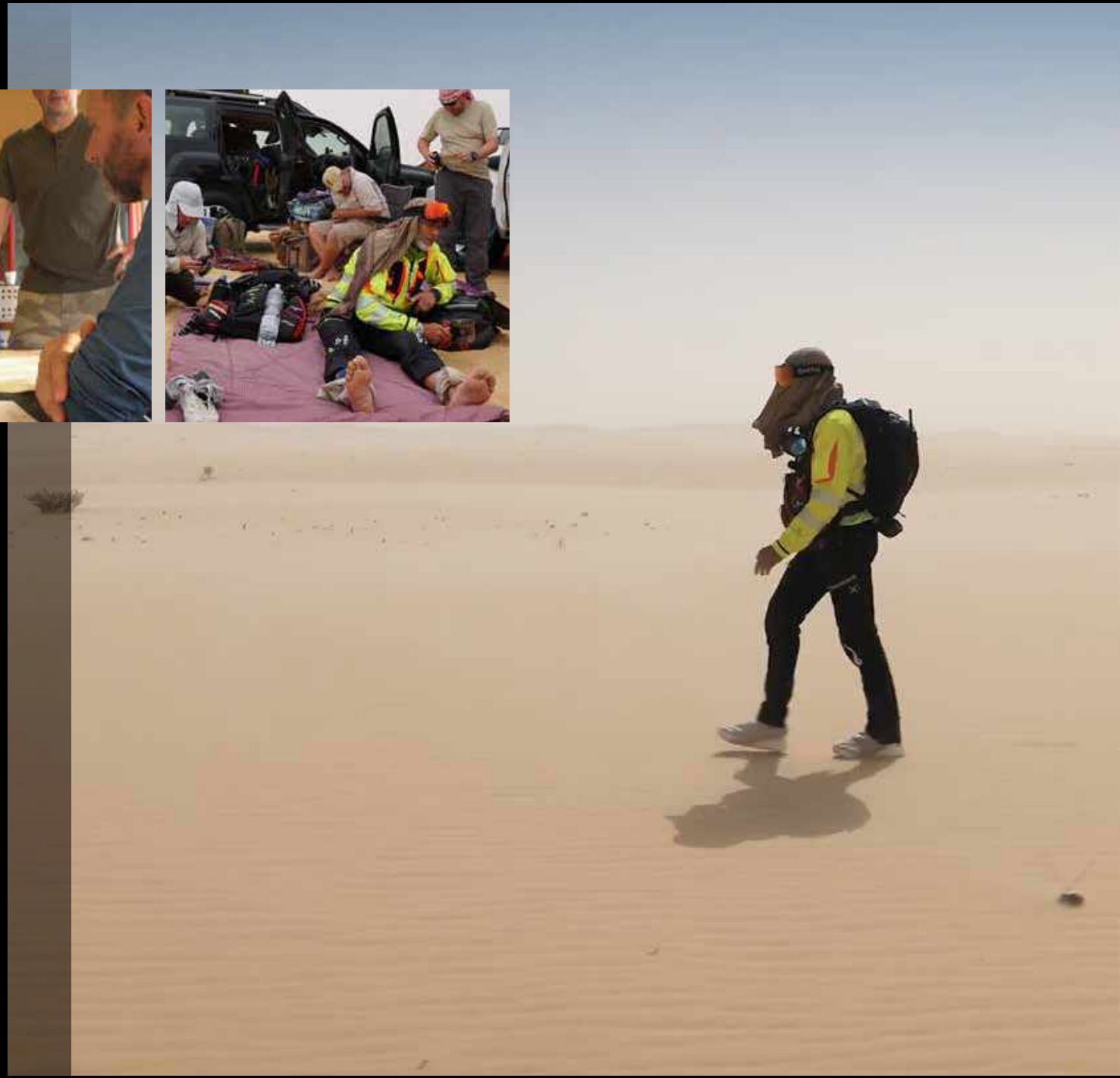
In between Max's desert trek we will flashback to earlier scenes with Max and the team as they prepare, research, and dig into the historical and scientific challenges found in different deserts.

THE PASS OR FAIL

Does Max complete the trek successfully across the desert? Does Max make contact with the right people and uncover the right lessons from science and history?

THE ADVENTURE CONTINUES

However it turns out for Max, he doesn't quit. His desert treks carry on, with unique discoveries in each episode motivating the quest to find answers for the problem of desertification.



EPISODES

EP. 101:

SINAI DESERT, EGYPT— DREDGING UP AN ANCIENT OASIS.

Ian and Raha deliver Max to the foot of Mount Sinai, where Moses received the 10 Commandments. In an ancient monastery, Max learns about a string of orchards growing sweet dates and native “nabug” fruit. He travels to these remote islands of green, then shares what he’s found with the Weathermakers—a team of Dutch engineers. Their work benefits from Max’s survey of growing sites where dredged clay soils will stimulate plant growth.

“

Turns out, a miracle soil called ‘nanoclay’ is kryptonite to desertification

”

“Of course, without water, clay is just dust. Max discovers how to water the regreen revolution with the sun.”



EP. 102:

THE RUB AL-KHALI, OMAN AND UAE — TURNING THE SANDS OF TIME INTO GREEN GOLD.

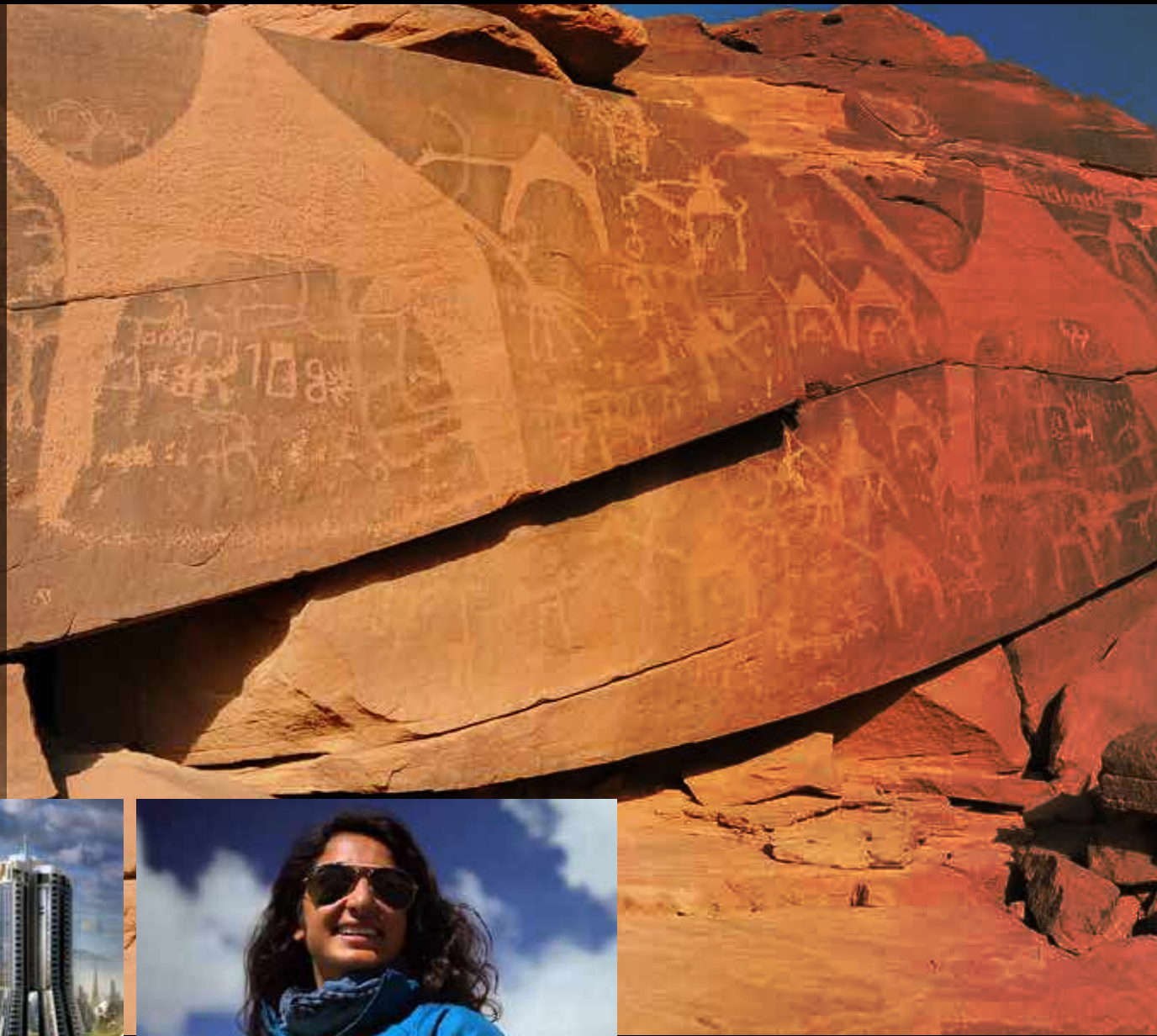
In the Rub Al-Khali Desert the secrets to human survival in the face of desertification could be found in the long-buried city of Ubar. Max looks at climate modeling and geologic evidence to test a theory: Did the ancient people of Ubar cause the city to collapse by draining the underground aquifer beneath them? Raha tracks Max in a gyrocopter as he treks into a remote tree-planting site. It's run by Desert Control, the Norwegian team that invented nanoclay—which is clay broken down into micro particles. It miraculously binds with sand to support vegetation.



EP. 103:

THE NEFUD, SAUDI ARABIA — A GREEN LINE IN THE SAND.

Max travels through the Ha'il Region, where rock art depicts large animals living in what must have been a wetter climate. Is there a message in the -5,000-year-old drawings that might help those constructing the nearby "future city" of Neom? Flashback to an expedition prep moment: Raha gives Max the lowdown on what to expect when he sets foot in Neom. It's built in a straight line made green by futuristic, solar-powered desalination systems turning seawater into a liquid cure for desertification.



EP. 104:

**THE UTAH DESERT—
REPEATING THE FAILURES
OF THE PAST, WHILE
LOOKING FOR A FUTURE
ON MARS.**

Max crosses Utah's red rock desert in search of answers to this region's most puzzling archaeological question: Did climate change cause the great Anasazi civilization to suddenly collapse—even as it grew increasingly sophisticated and technologically savvy? And in the mysterious vanishing of adventurer Everett Reuss, does Max find evidence of extraterrestrial contact? Ian resupplies Max in a solar-powered dune buggy and Raha preps for Max's arrival at the Mars Desert Research Station in Hanksville, Utah.

Max is unimpressed with Mars research.

Max would rather roll up his sleeves and help restore native plants.

“ Why are we going to Mars in search of water?

We should be conserving the water we have here. ”

EP. 105:

DEATH VALLEY OF THE MOJAVE DESERT, CALIFORNIA—CROSSING THE HOTTEST PLACE ON EARTH.

Max scouts for ideal locations to replant iconic Joshua Trees. They anchor the desert ecosystem, not allowing it to expand. But this means he has to cross infamous stretches of desert that earned this place its name. It killed off a number of early pioneers headed for the gold fields of California. Max learns from elders in the local Timbisha tribe how to avoid fatal mistakes, then shares with them what he's learned about Joshua Tree habitat.

Anchor species like the Joshua Tree lay a foundation allowing entire regions to regreen





EP. 106:

TAKLAMAKAN DESERT, CHINA—BACK FROM THE BRINK.

Ian and Raha guide Max into a section of the Taklamakan with topographical features similar to those found in the Loess Plateau—scene of the world's greatest greening comeback and victory over desertification. If Max can find equally promising desert territory in the Taklamakan, then the local Uyghur people can expand their hand-built grids made of straw. The grids trigger vegetation by holding in moisture and holding back the sand.

In Libya, Max encounters another sort of desert mad man—one who watered his country's vegetation grids with the world's largest irrigation system.



EP. 107:

LIBYAN DESERT, NORTH AFRICA— FOSSIL WATER UNDER THE DUNES.

Max retraces a section of Muammar Gaddafi's "Great Man-Made River," as it draws on the Nubian Sandstone Aquifer. This water accumulated during the last Ice Age and is not currently being replenished. Seems the irrigation pipe system is doing its job too well, and Max hopes by traveling the length of one of its branches, he will learn valuable lessons—info to share with others in North African trying to pipe their way to a greener future.

Max, Raha and Ian move on to Senegal, where locals are deploying smaller scale irrigation tech to build Africa's Great Green Wall.

SEASON 2: THE SOUTHERN HEMISPHERE



CHILE
ATACAMA DESERT



ARGENTINA
PATAGONIA DESERT



AUSTRALIA
GREAT SANDY DESERT



AUSTRALIA
TANAMI DESERT



ANGOLA
NAMIB DESERT



SOMALILAND
GUBAN DESERT



SOUTH AFRICA
KALAHARI DESERT



SOUTH AFRICA
KAROO DESERT



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