

VOL. 1 ISSUE 6

NGM.COM JANUARY 2014 \$275

NATIONAL GEOGRAPHIC MAGAZINE

Defenders of the Amazon

TAKING ON THE MODERN WORLD. AND WINNING.

WHAT EXPLORERS COLLECT 60 • THE LIVES OF GUEST WORKERS 72

SAVING MODERN-DAY DRAGONS 98 • RUSSIA'S OLYMPIC CITY 112 • CLIMBING OMAN'S CLIFFS 132

Inch your way up, let go, aim for a safe and watery landing. That's the sport of deep-water solo climbing, demonstrated by Hazel Findlay during an Oman expedition.

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The rich and powerful Brazilian tribe is battling a dam that will not die.

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Explorers can't resist souvenirs. These specimens are beautiful—and enlightening.

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Millions of guest workers toil in oil-rich countries, cut off from both locals and loved ones.

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Indonesia's monster lizard faces an iffy future.

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Islamist insurgents, tough Cossacks, warm winters—welcome to Russia's Olympic host city.

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The slightly nervous author, age 44, and two young hotshots climb Oman's knife-edged cliffs.

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Britain Bans Khat

The herbal stimulant has been declared illegal—to the dismay of African immigrants.

Mining Landfills

The methane gas alone could power one million US homes for a year. Other countries are also waking up to that possibility.

Brownie Points ▶

Named after a character in a children's book series, this dinky little camera put photography within everyone's reach.



On the Cover Bepró wears the cotton-wrapped earrings that young boys from Brazil's Kayapo tribe receive during their naming ceremony. The Kayapo pierce the ears of their infants as a way of symbolically expanding a baby's capacity to understand language and their existence.
Photo by Martin Schoeller

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Printed at Mangal Technologies Ltd., Plot no 2/a, Shivali Village, Industrial Area, Mangal-576104 and Published at Amar Chitra Katha Private Ltd., 3rd Floor, Krishna House, Raghuvantshi Mills Compound, Lower Pare, Mumbai-400013
Editor: Mr. Nilesh Vorkatkar



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Guest Workers Video

Prospective housekeepers audition for jobs.



Welcome to Sochi Video

Get a glimpse of life in the Russian resort town.



Cliff Hangers Video

See rock climbers dangle over the Gulf of Oman.

PHOTOS, FROM TOP: JONAS BENDIKSEN; THOMAS DWORZAK; RENAN OZTURK



Please recycle.



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ALEX WEBB

Émile Durkheim, the 19th-century sociologist coined the term "collective effervescence" for the positive impact crowds had on an individual's health. His theory comes to life at the Kumbh Mela.

February 2014



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Millions of pilgrims flock to a Hindu gathering in India—and find inner peace in numbers.

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60 Secrets of the Brain

With new technologies, scientists are able to shed light on life's great unsolved mystery: how the human mind really works.

By Carl Zimmer Photographs by Robert Clark

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Prospectors invade Canada's great wilderness.

By Tom Clynes Photographs by Paul Nicklen

104 There's No Place Like Home

When a man lives in one place for most of his life, he doesn't need GPS. He is guided by memories of boyhood bike rides, the ever present Mississippi, and the undeniable power of rhubarb.

By Garrison Keillor Photographs by Erika Larsen

126 Brunelleschi's Dome

How did a hot-tempered goldsmith with no formal architectural training create the miraculous edifice in Florence of the Renaissance?

By Tom Mueller Photographs by Dave Yoder

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An Elephant Never Runs Out

The mammal's six sets of chompers are enough for a lifetime of chewing.

Rooftop Tsunami Refuge

It will be built atop a new school in Westport, Washington.

The Benefit of Prune Digits

The ridges could have helped ancient humans catch fish or clamber over slick rocks.

Quinoa Conquers the World ▶

The high-protein Andean seed could help fight hunger—if we can grow enough of it.

Eyes on Their Arms

Sea stars can see—a little.

The 50-Million-Year-Old Bird

A newly discovered fossil is thought to be a cousin of the hummingbird and the swift.

Seasons in Space

Seasons look different on other planets.

Backyard Birds

An organization crowdsources information from birdwatchers.



144 **Found**



On the Cover The colorized fibers connect different regions of the brain. *Magnetic resonance image by Van Wedeen and L. L. Wald, Martinos Center for Biomedical Imaging, Human Connectome Project*

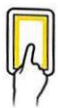
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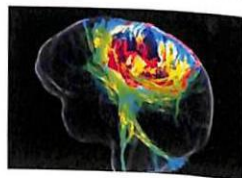
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Printed and published by Mr. Vijay Sampath on behalf of Anur Chitra Khatia Pvt. Ltd. Printed at Marath Technographics Ltd, Plot no. 214, Shree Village, Industrial Area, Marath-976104 and Published at Anur Chitra Khatia Private Ltd, 3rd Floor, Krishna House, Rajbhadrani, Main Compound, Lower Panel, Mumbai-400112. EMail: Mr. Nandini Venkatarao.

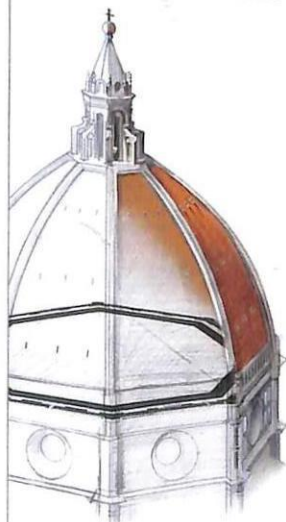


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Human Brain Map
Audio Slide Show
Brain imaging guides a surgeon's work.



Florence's Cathedral
360° View
You won't even need to crane your neck.

ART: FERNANDO G. BAPTISTA, NGM STAFF



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March 2014

38 Damascus: Will the Walls Fall?

The city's culture offers hope for saving Syria.

By Anne Barnard Photographs by Andrea Bruce

52 Journey Without End

Documenting the struggles of Syria's displaced.

By Carolyn Butler Photographs by Lynsey Addario

62 Where Greenstone Grows

Jade is king in New Zealand's rugged southwest.

By Kennedy Warne Photographs by Michael Melford

74 Quicksilver Tuna

It is the king of fish. It helped build civilizations. It is superfast. And it is perilously overfished.

By Kenneth Brower Photographs by Brian Skerry

96 Star-Eater

Do you really know what a black hole is? Let us take you into—and out of—the dark.

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108 People of the Horse

The feelings of Native Americans for their historic companions are simple: "It's true love, that's it."

By David Quammen Photographs by Erika Larsen

132 Call of the Bloom

Bats don't just look for flowers. Flowers reflect bat sounds to catch the winged mammals' ears.

By Susan McGrath Photographs by Merlin D. Tuttle



It's a good deal for both parties: The bat, a Cuban species, gets nectar; pollen from the blue mahoe tree's flower sticks to the fur and will be spread when the bat departs.

MERLIN D. TUTTLE

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Wiring the World

There are 340 trillion trillion trillion new IP addresses to bring more folks online.

Spit and Potatoes

These are two of the unlikely tools art historians use to restore Egyptian mummies and paintings.

On Thin Backyard Ice

A citizen science project asks people to report if their home rink is melting.

Flying Up From Rio

Brazilians flock to the U.S. to shop.



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On the Cover In this illustration, as in space itself, a black hole is revealed by the power of its pull on nearby stars and other celestial matter.
Art by Mark A. Garlick

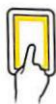
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Printed and published by M. J. Jay Sampath on behalf of Amal Chitra Kappa Pvt. Ltd.
Printed at Maripal Technologies Ltd. Plot no. 21a, Shivaji Village, Industrial Area, Marolli 576354, and is published on behalf of Amal Chitra Kappa Private Ltd. 1st Floor, Amal Chitra Kappa, Raghunagar, 1st Compound, Lower Panel, Mumbai-400012.
Editor: Mr. Niloufer Dinkar



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Bluefin Tuna Animation

Explore the traits that make the tuna a super fish.



Black Holes Animation

Black holes can't be seen. Watch how they're found.



Bat Echo Video

Bats fly in for a floral treat.



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A new generation of Breton women in France is reviving the tradition of wearing elaborate lacy headaddresses.

CHARLES FRÉGER

April 2014

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Owners of exotic pets love their chimps, tigers, and bears. But critics say keeping them is dangerous and cruel.

By Lauren Slater Photographs by Vincent J. Musi

64 A Tale of Two Atolls

Amorous turtles and young sharks find happiness by a pair of Indian Ocean islands, tucked away between Madagascar and southern Africa.

By Kennedy Warne Photographs by Thomas P. Peschak

78 Cosmic Dawn

When a star is born, the best way to take a look is with ALMA, the world's largest ground-based telescope in Chile.

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Hats off to Breton women.

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128 The Weed That Won the West

It came from Russia. And it tumbled. A lot.

By George Johnson Photographs by Diane Cook and Len Jenshel

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Commuter Science

A city-by-city breakdown of hours lost.

Gallery of Gardens

Artist Fritz Haeg has helped 15 families turn their lawns into a work of art.

Reunited After 163 Years

A newfound ancient turtle bone matches up with a specimen from 1849.

Soylent on Rye

It's a synthesized food that does not depend on agriculture.

Sugar Solution

Fructose plus water can make tissues transparent for a clear view of organs.

Stick a Needle in It

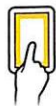
Most U.S. kids get vaccinations. Yet many adults are unprotected.

Freezing Fukushima

An ice wall might contain the Japanese power plant's radioactive leaks.

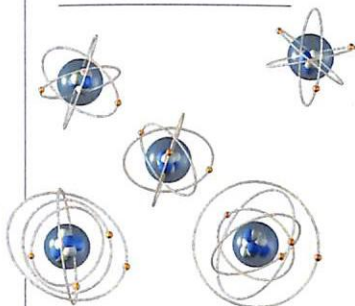
Block That Meteorite

Early warnings could keep us safe.



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Cosmic Dawn Interactive

Experience the expansion of the universe.



Deer in the Home Lights Video

Dillie the blind deer tours her domestic digs.



On the Cover

Jade the hedgehog was nearly 11 months old (and 16½ ounces) when she was photographed. South Carolinian Brandon Harley uses her as a breeder in his pet business. *Photo by Vincent J. Musi*

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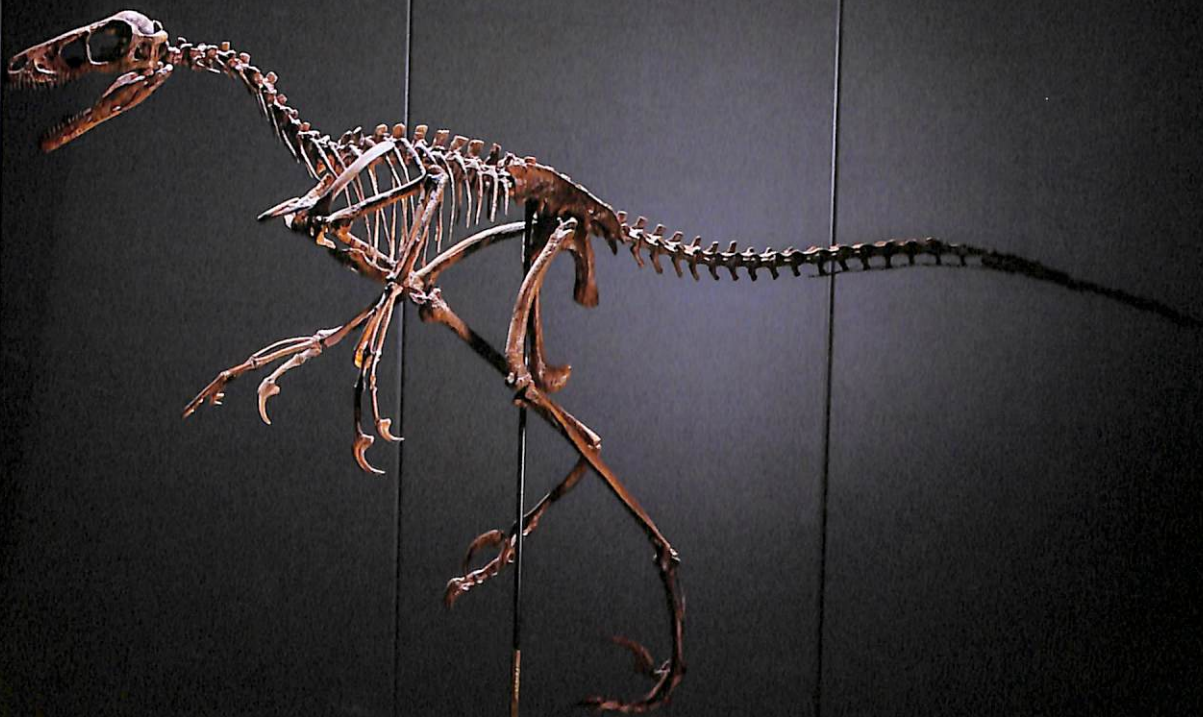
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Printed and published by Mr. Vijay Sampath on behalf of Amar Chitra Katha Pvt. Ltd. Printed at: Mahipal Technologies Ltd, Plot no. 2/A, Shivaji Village, Industrial Area, Marolli 576104 and Published at: Amar Chitra Katha Private Ltd, 3rd Floor, Krishna Nagar, Rajbhawan, Mills Compound, Lower Parel, Mumbai-400017. Editor: Mr. Tulashree Venkateshan



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May 2014

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To feed our hungry planet, we must
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Photographs by George Steinmetz and Jim Richardson

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72 **Digging Utah's Dinosaurs**
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92 **The Ship-Breakers**
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106 **The Generous Gulf**
From plankton to cod to whales, the Gulf of St.
Lawrence harbors a profusion of shimmering life.
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126 **Love and Loss on the Seine**
The river is a lure for romantics, tourists, sunbath-
ers, anglers, psychiatric patients—*le tout Paris*.
By Cathy Newman
Photographs by William Albert Allard

A surprising variety of dinosaurs lived on the
landmass Laramidia, including this clawed
carnivore from the dromaeosaurid family.

CORY RICHARDS

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Whose Hands Are Colder?

Women's—by nearly three degrees.

Seahorse on the Prowl

When it hunts for a meal, its secret weapon is its snout.

Peanut Revival

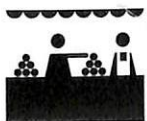
The original African varietal seemed to vanish 90 years ago. Now it's back.

Green and Growing

We've got the scoop on America's booming farmers markets.

Harvesting Combine

Eight per cent of the world's farmers are women. Closing the gender gap could yield several positive effects.



FOOD

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On the Cover
Art by Kevin Van Aelst

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Printed and published by M. Vijay Sampath on behalf of Amar Chitra Katha Pvt. Ltd. Printed at Manpal Technologies Ltd, Plot no 27a, Shivaji Village, Industrial Area, Mansarovar-576104 and Published at Amar Chitra Katha Private Ltd, Unit No 201 & 202, Sunar Plaza, 2nd Floor, Major Marolli Road, Andheri (East), Mumbai - 400 059 Editor: Mr. Vinod Venkatesan

FOOD

THE FUTURE OF FOOD

Our new series will offer daily updates at natgeofood.com.

QUESTION OF THE WEEK

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Is food security a human right?

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A 250-pound pig yields about 144 pounds of meat cuts for retail sale.

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Food Hub
Tasty features, food news, a blogging chef, and more.

Food Fact of the Day
Find out how many peanuts are in a 12-ounce jar of peanut butter and much more.





June 2014

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On the world's battlefields, combat canines and their handlers lead the way.

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In Peru a Polish archaeologist has outsmarted looters and unearthed an Andean treasure.

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88 Puffin Therapy

The clown-faced seabird is a sight to soothe a bird-watcher's soul.

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102 FOOD How to Farm a Better Fish

We now eat more farmed fish than beef—and that's just the beginning.

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122 Good Tines: A pointed history of the fork

124 Train for the Forgotten

For Siberia's isolated villagers, the doctor is in the railway car.

By Joshua Yaffa Photographs by William Daniels

The Atlantic puffin ventures onto land for only one reason.
DANNY GREEN

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Redheads

It isn't easy being red. In fact it can be downright painful.

Water and Wings

Aeronautical engineers are taking a lesson from butterflies.



Addictive Cheese

There's a reason Gouda makes you feel so good.

Penguin Pattern

Models of their huddles could someday solve our traffic problems.

Tearless Onions

Scientists promise all of the flavor and none of the crying.



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On the Cover Layka, a Belgian Malinois, won a medal for heroism after saving the lives of her handler and members of his U.S. special operations unit in Afghanistan.

Photograph by Martin Schoeller

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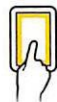
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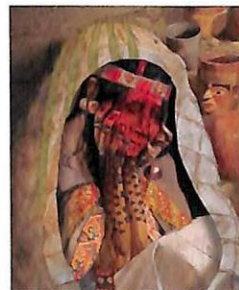
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War Dogs
Video

See canine companions from Vietnam to Afghanistan.



Peru Tombs
Interactive

Watch a 3-D video showing reconstruction of the tomb.

PHOTO: NGM VIDEO. ART: FERNANDO G. BAPTISTA, NGM STAFF



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Karst peaks rise like
ghosts at Yangshuo
in China's Yulong
River Valley.

CARSTEN PETER

July 2014

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One of the oldest questions may be answered in our lifetimes: Are we alone?

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Africa's fertile farmland represents both challenge and opportunity.

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One man's walk around the world continues.

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The Atlantic goliath grouper—concentrated in the waters of the southern United States, the Caribbean, and Brazil—struggles to survive.

By Jennifer S. Holland

Photographs by David Doubilet and Jennifer Hayes

124 **Empire of Rock**

China holds the planet's greatest concentration of karst spires and caves. Explorers are now using laser scanners to see these giant caverns.

By McKenzie Funk

Photographs by Carsten Peter

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Wearable Windmills

Tiny turbines may someday power your cell phone.

Invasives in Fashion

That cane toad looks fabulous on you.



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On the Cover Jupiter's moon Europa (foreground) may harbor life in the liquid ocean beneath its icy surface—fueled in part by elements from its sister moon Io. *Art by Dana Berry*

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Printed and published by Mr. V. Jay. Sampath on behalf of Amar Chitra Mahila Pvt. Ltd. Printed at Manpaal Technologies Ltd. 998 No. 2nd Stage, Oldage Industrial Area, Mahape, 407104 and Published at Amar Chitra Mahila (Pune) Pvt. Ltd. 201 & 202, Sunar Road, 2nd Floor, Main Market Road, Andheri (East), Mumbai - 400 059. Editor: Mr. Harish Chavan

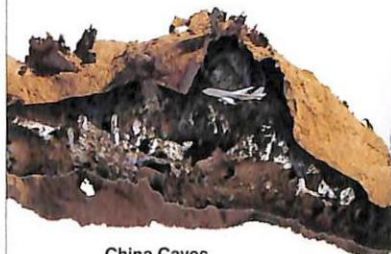


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Life Beyond Earth
Interactive
Could there be life on Europa?



China Caves
Video
Fly through the karst and caves.



Hejaz
Video
Follow Paul Salopek as he walks around the world.

PHOTOS: REBECCA HALE, NGM STAFF (CUFF); MOHAMAD BANOUNAH (HEJAZ)



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