

# ICA Commission on Mountain Cartography

9<sup>th</sup> Mountain Cartography Workshop

Banff Alberta, April 25 2014

## Recent Maps & Works in Progress

Martin Gamache, National Geographic Magazine

# Recent Maps

# MAXED OUT ON EVEREST

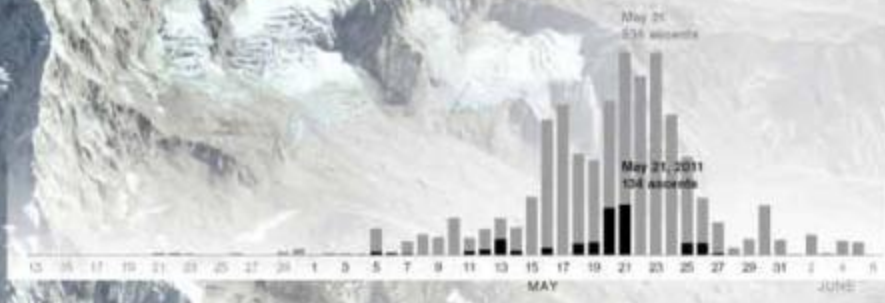
How to Fix  
the Mess  
at the Top  
of the World

Traffic chokes the Hillary Step on May 19, 2012. Some climbers spent as long as two hours at this 40-foot rock wall below the summit, losing body heat. Even so, 234 people reached the top on this day. Four climbers died.

CLIMBER: TRANQUIL; LITMOS; ADVENTURE; TREKING



Successful Everest summit bids by day of the year



# MOUNT EVEREST SUMMIT

29,035 ft (8,850m)

This is a note about deaths on other routes.

This is a small note about total deaths on the mountain that will also serve as a key.

## Deaths

Peak

Mountain



### STANDARD ROUTES

- South Col/Southeast Ridge (Nepal)
- North Col/Northeast Ridge (China)
- Expedition member death
- Local staff death

### MOUNT EVEREST SUMMIT

29,035 ft (8,850 m)

HILLARY STEP  
28,776 ft (8,771 m)

LHOTSE  
27,940 ft (8,516 m)

CAMP IV  
25,938 ft (7,900 m)

CAMP III  
21,240 ft (6,474 m)

CAMP II  
19,800 ft (6,035 m)

NUPTSE  
25,791 ft (7,861 m)

DEATH ZONE  
8,000 m

Bottle necks  
7,000 m

South Col

Western Cwm

West Ridge

Southwest Face

North Face

North Ridge

Northeast Ridge

North Col

South Col

West Shoulder

China Tibet

Nepal

Rongbuk Glacier

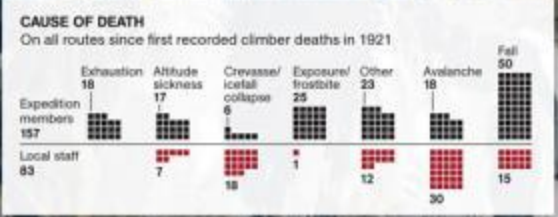
Lho La

Khumbu Glacier

Khumbu Icefall

BASE CAMP  
17,200 ft (5,270 m)

Deaths below Base Camp or at unknown location

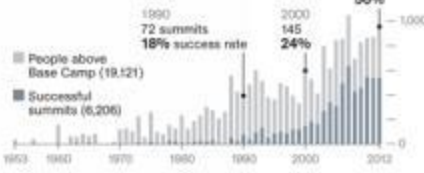


# EVEREST OVERRUN

More than half of all climbers now reach the top, despite the hazards of overcrowding.

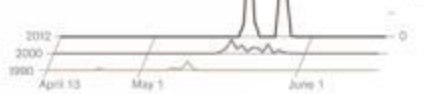
### TAMING THE MOUNTAIN

The success rate of climbers has more than tripled since 1990, largely due to more guides and better gear.



### MORE BOTTLENECKS

Improved weather forecasts have led climbers to time their attempts on the same few days each year.



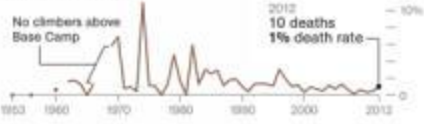
### FEWER ROUTES

With the rise of guided climbing, most ascents are made on only two routes: one in Nepal, the other in China.



### NO RISE IN MORTALITY

Despite the recent boom in the number of climbers, the death rate has not increased.



RECORDED ASCENTS AND DEATHS AS OF MARCH 21, 2013  
SCALE: 1:100,000 (THIS PERSPECTIVE) WITH UNCLIMBED ROUGH AND UNCLIMBED  
ROCK ROUTES APPROXIMATELY 1/4 MILE (1/4 KILOMETERS) LONG

MARTIN GARACHE AND MATTHEW FOWBLEY, NISM STAFF; NEHA SCHUMACHER  
SOURCES: GERMAN AEROSPACE CENTER; RAYMOND B. MUIZ; UNIVERSITY OF  
WASHINGTON; RICHARD SALJEBOE; WIKIMEDIA DATABASE

# NATIONAL GEOGRAPHIC Daily News

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## DEATHS ON EVEREST

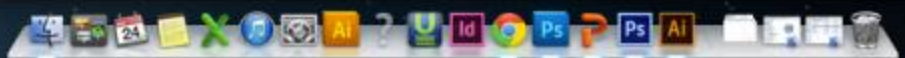
Charting the number of fatal accidents on Mount Everest's major climbing routes since 1921.



NGM STAFF. SOURCES: GERMAN AEROSPACE CENTER; RAYMOND S. HUEY, UNIVERSITY OF WASHINGTON; RICHARD SALISBURY, HIMALAYAN DATABASE

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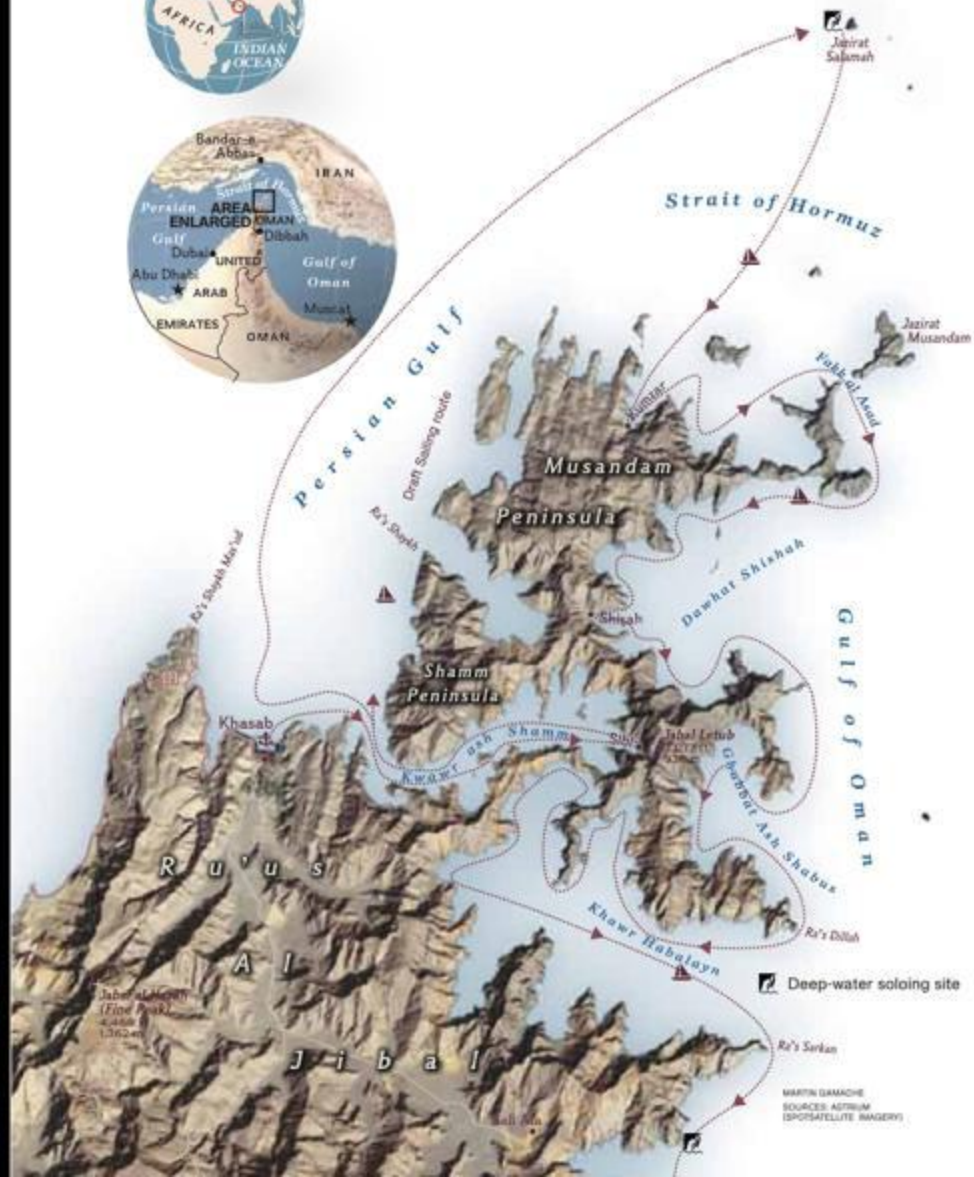


A wide-angle landscape photograph showing a person standing on a dark, rocky mountain peak in the foreground. The person is looking out over a vast, blue, fjord-like landscape with numerous islands and peninsulas. The sky is a mix of orange and blue, indicating sunset or sunrise. The overall scene is dramatic and scenic.

# Impossible Rock

On the northern coast of Oman  
a team of young climbers test themselves  
against knife-edge seaside cliffs.

*From the top of Jabal Letah,  
Rasid Othman looks down on the  
rocky strip of land that connects  
Oman's Musandam Peninsula  
to the Arabian mainland.*



# Rock and Water

Long, bony fingers of limestone jab into the sea around Oman's Musandam Peninsula, forming steep, fiordlike inlets. Looking at a chart of these features, Synnott knew the climbing here would be unmatched.

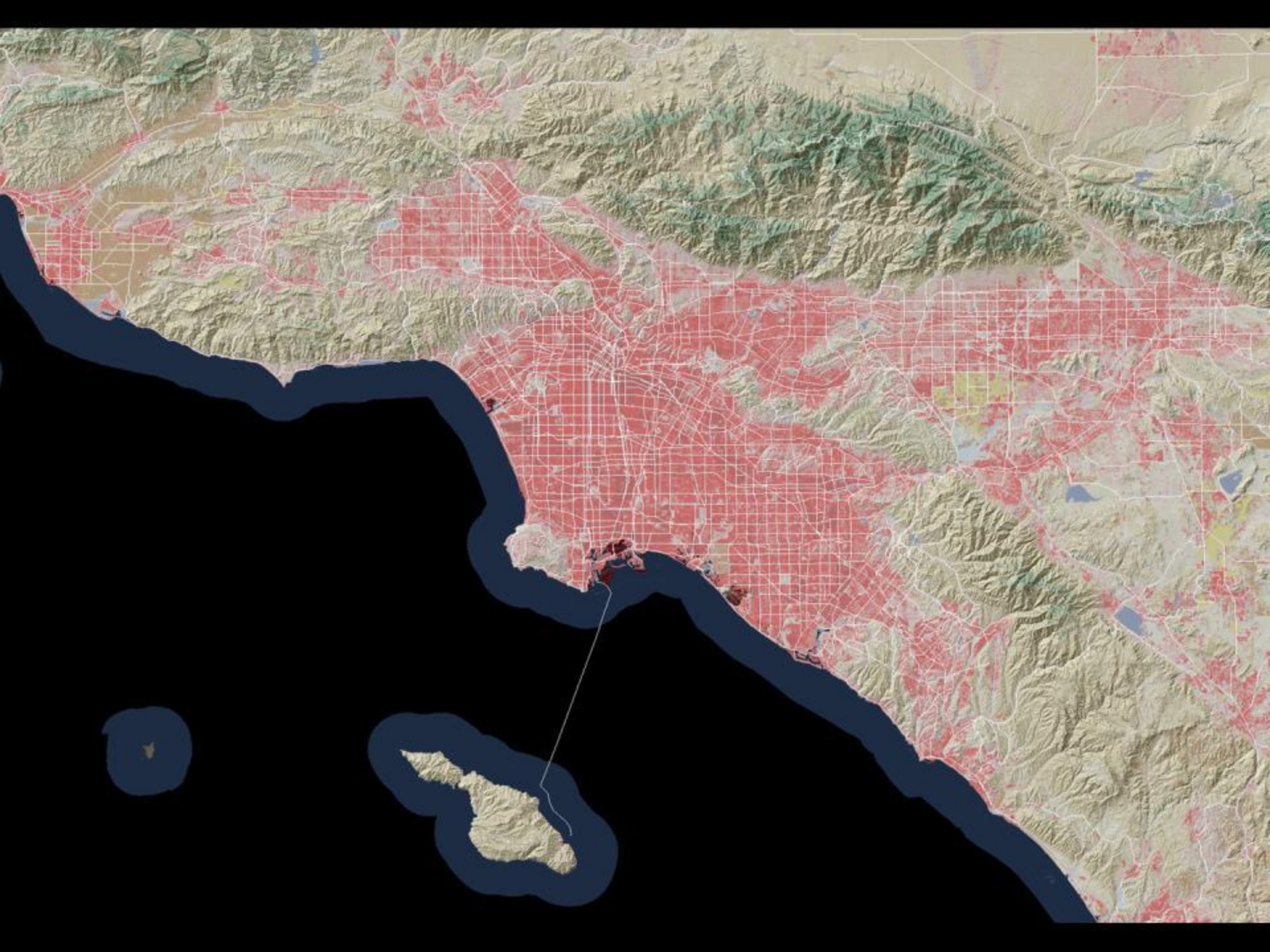


*A hidden camera records Hollywood's most reclusive star—this male cougar first seen in Griffith Park in Los Angeles almost two years ago. A radio collar tracks his moves, but residents see scant sign of him.*



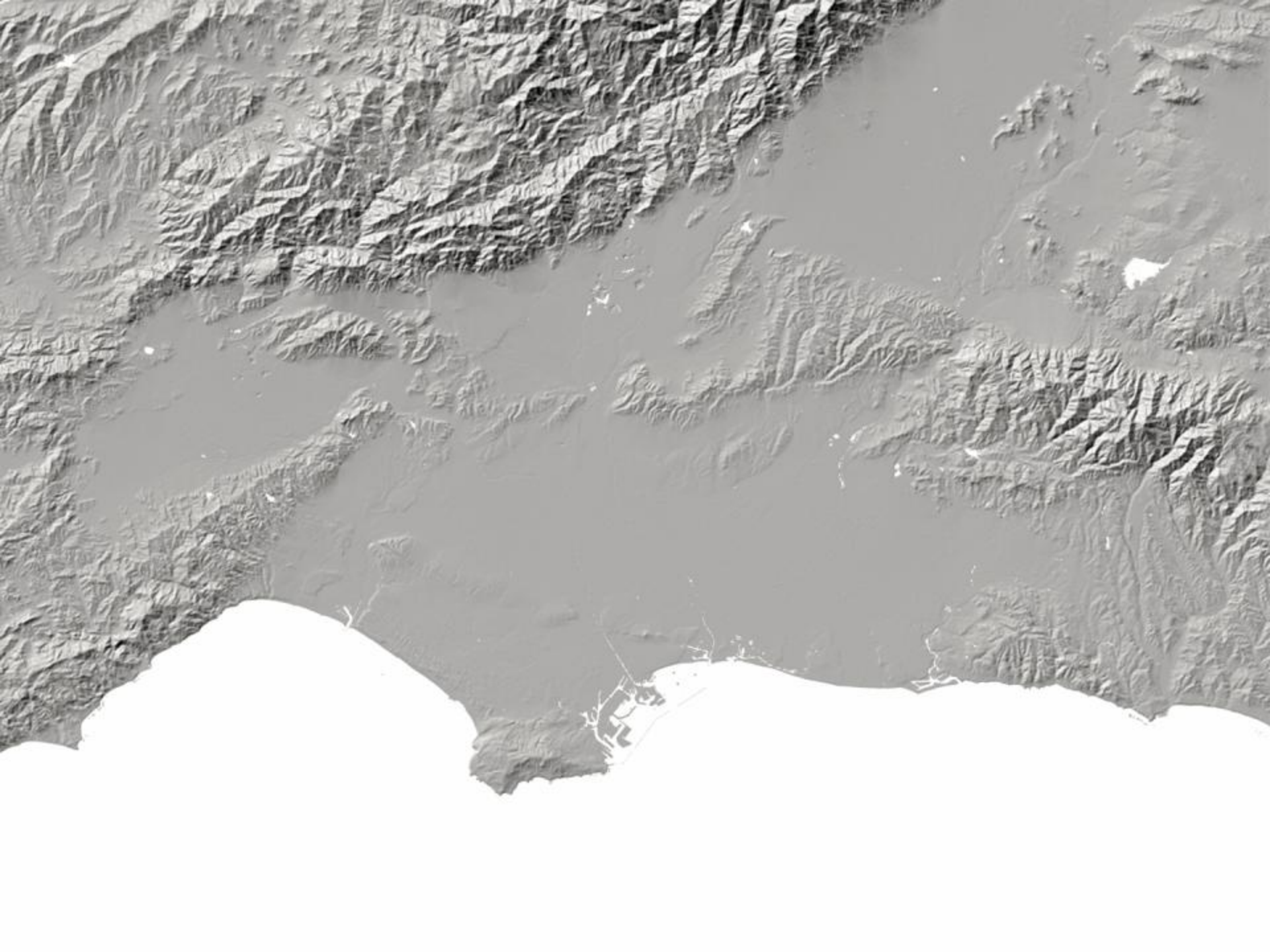
# Ghost Cats

Masters of stealth, they seldom step from the shadows. But cougars are quietly reclaiming lost ground.

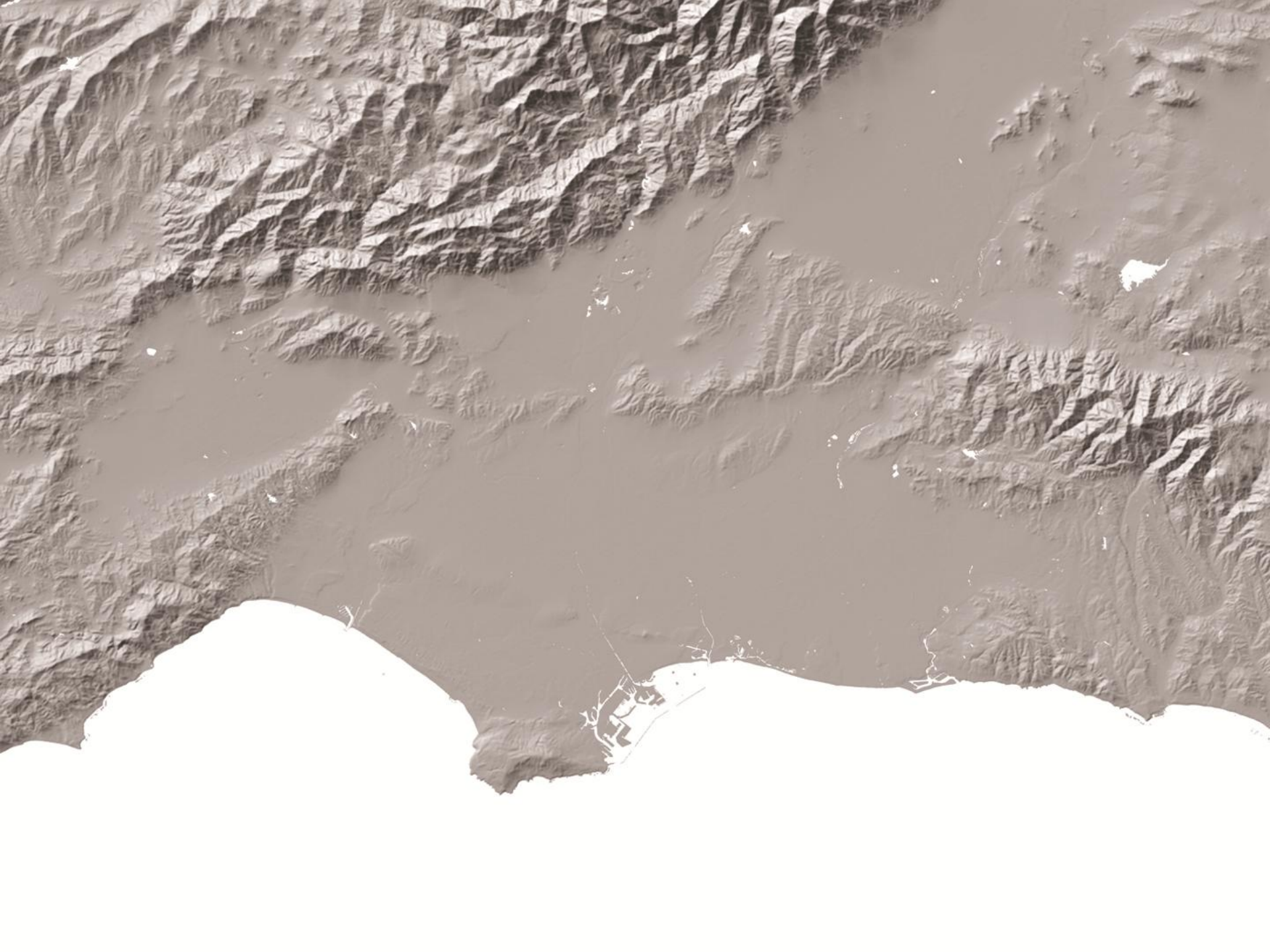




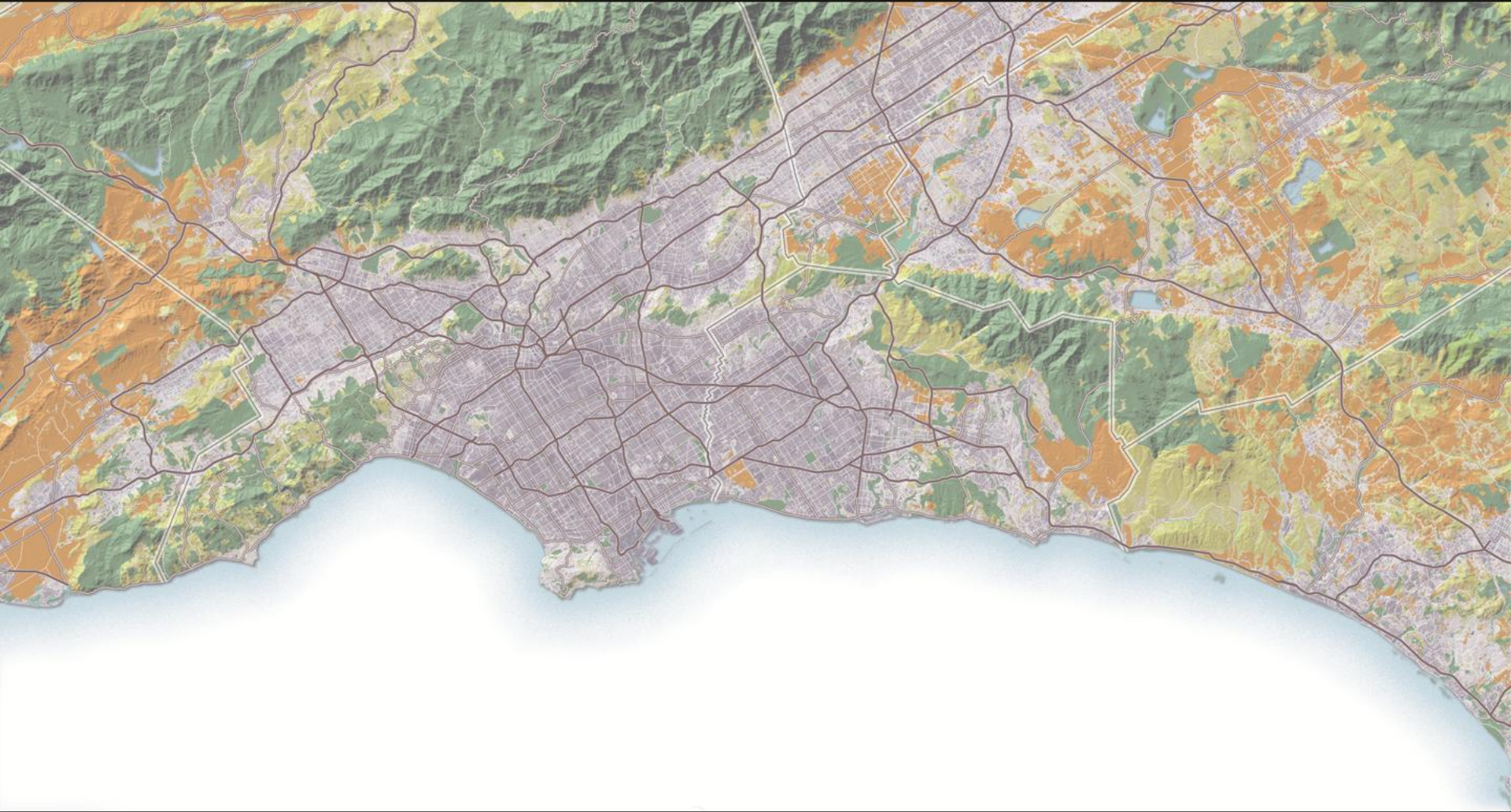
**EPO**



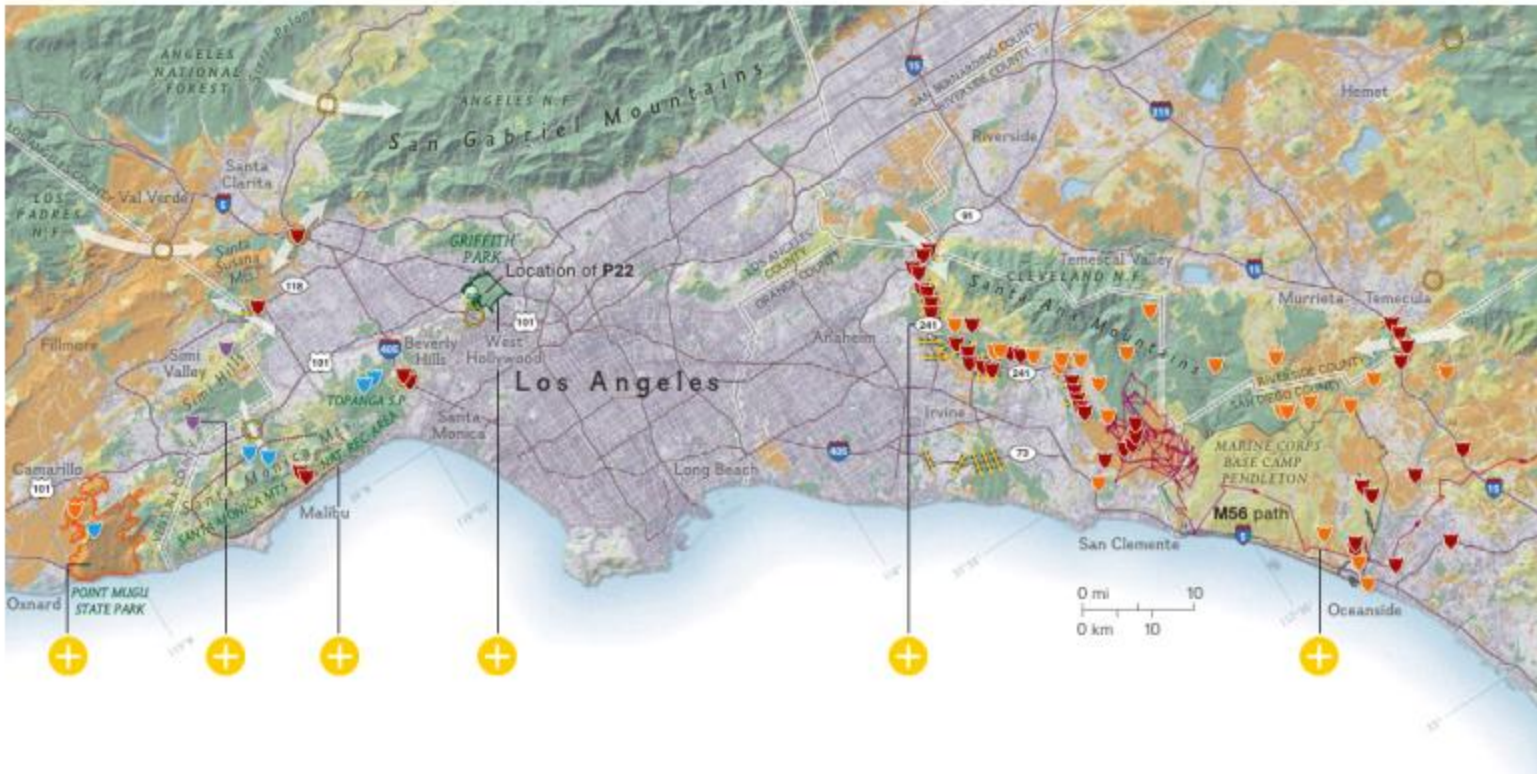












**CAT FATALITIES**

**COLLISIONS**

In car-choked southern California, vehicles kill as many or more cougars than any other cause related to humans. The locations of confirmed kills are noted above.

**CAT ON CAT**

Habitats like the Santa Monica Mountains can support only so many cougars. Males that dominate the territory are apt to kill younger cats to maintain control of breeding-age females.

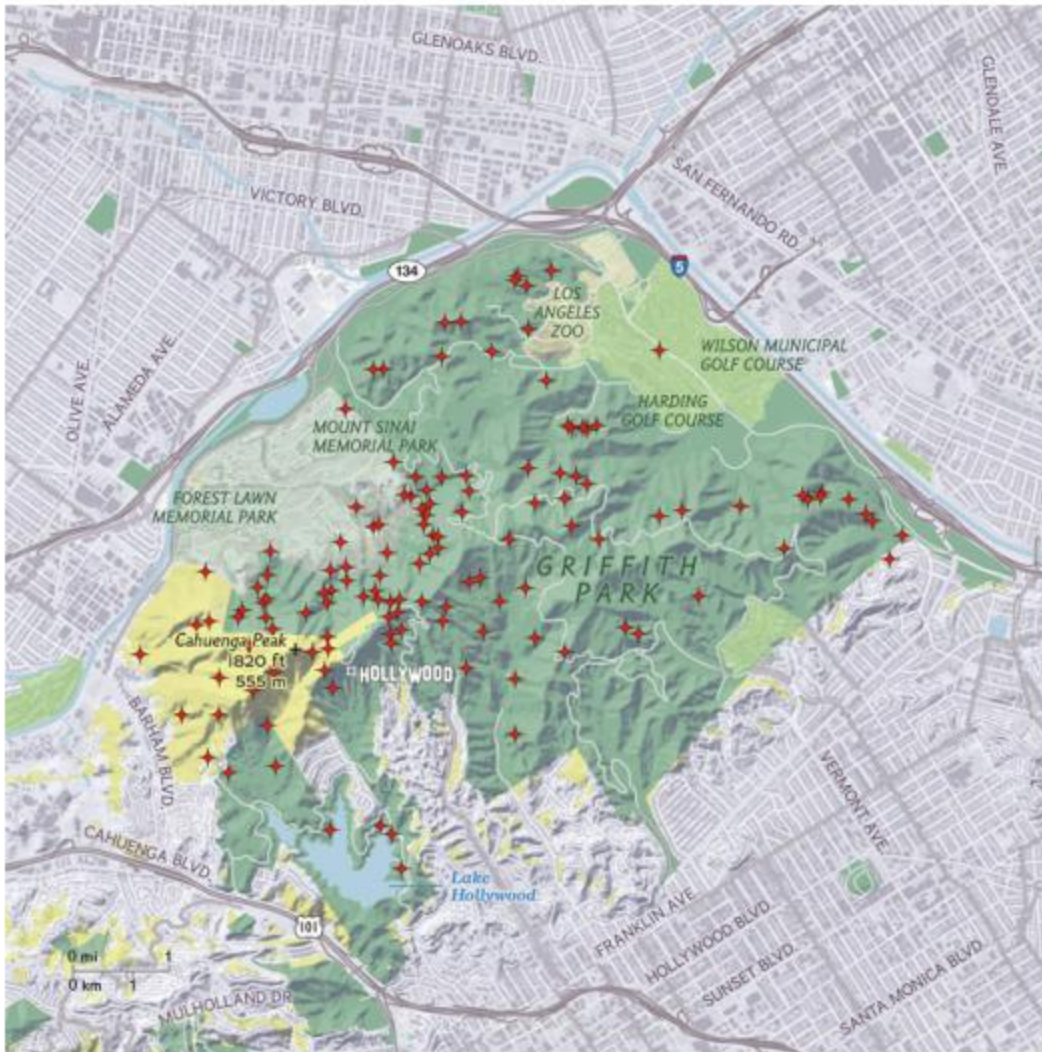
**RODENTICIDE**

Anticoagulants commonly used in rat poisons have been detected in nearly all California cougars tested to date—including mothers and kittens that eat small prey near residential areas.

**DEPREDATION AND POACHING**

Hunting cougars is illegal in California, but animal-control officers kill big cats that take livestock or threaten humans. Poachers have also slain numerous animals.

CLICK TO SEE FULL MAP KEY



RETURN TO MAP



**MAROONED IN L.A.**  
Cougar P22's tracking collar records his whereabouts every few hours. This sampling, taken between April and June 2012, shows that he stays within Griffith Park and adjoining green spaces.

P22 LOCATIONS

BACK

NEXT

CLICK TO SEE FULL MAP KEY

RETURN TO MAP X



M56 The only GPS-collared cougar known to have crossed I-15 alive, cat M56 traveled another 110 miles south before being shot for preying on domestic sheep.

BACK

CLICK TO SEE FULL MAP KEY



# YUKON

## CANADA'S WILD WEST

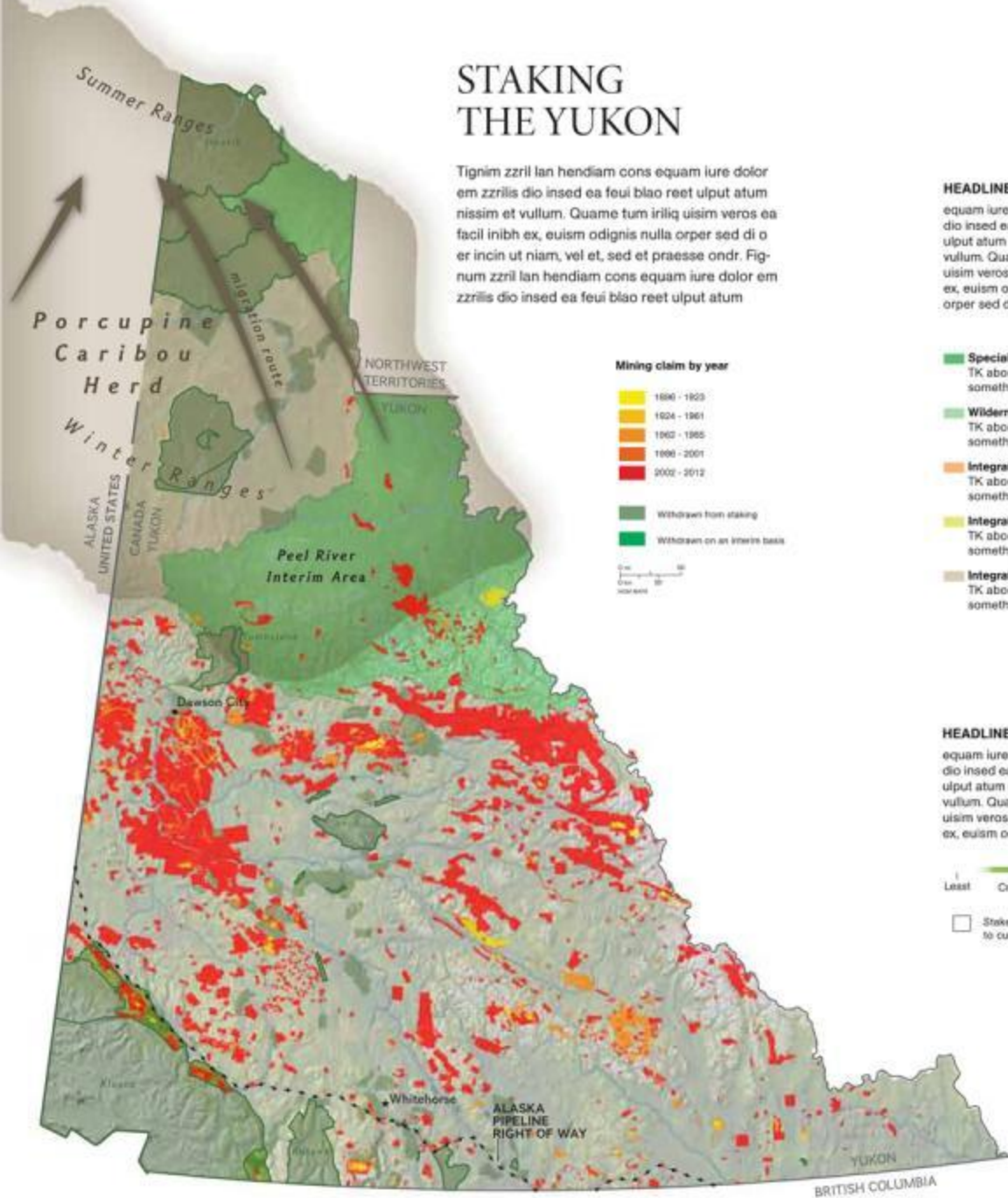
A modern-day minerals rush threatens  
one of North America's last great wildernesses.

BY TOM CLYNES  
PHOTOGRAPHS BY PAUL NICKLEN

*Having gorged on  
salmon to lay on fat for  
hibernation, a grizzly  
wears a coat of ice.*

# STAKING THE YUKON

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### Mining claim by year



### HEADLINE

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- Special Management Area**  
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- Wilderness Area**  
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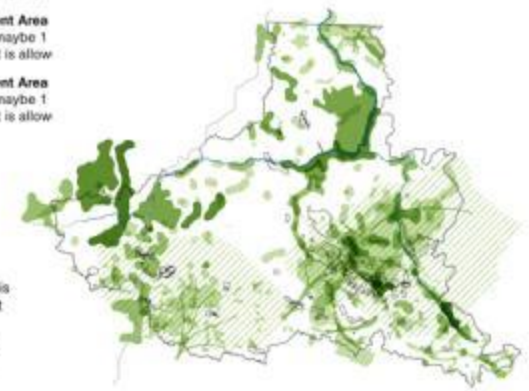
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Staked Mining Claim prior to current moratorium



2011: 106,867 new claims



### HEADLINE

equam iure dolor em zzrllis dio insed ea feui blao reet ulput atum nissim et vullum. Quame tum iriliq

Klondike gold rush 1896-1899



## STAKING SOARS WITH GOLD PRICES

High commodity prices (chiefly gold), plus a streamlined environmental assessment process, plus settled First Nations land claims and industry-friendly regulations all helped set the stage for an unprecedented mining exploration rush that peaked in 2011, when more than 100,000 claims were staked. Staking fever has since

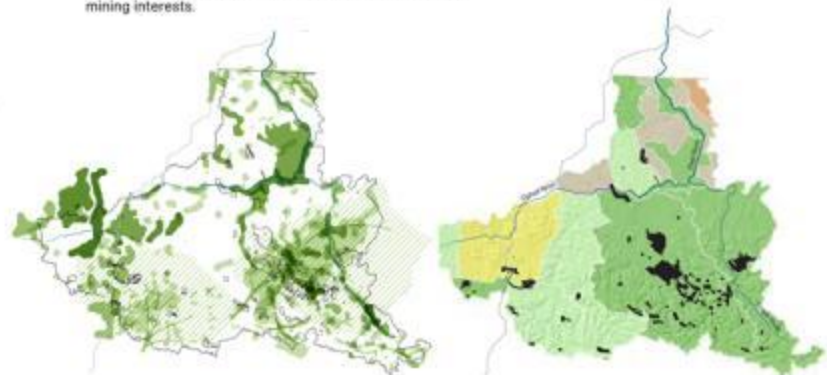
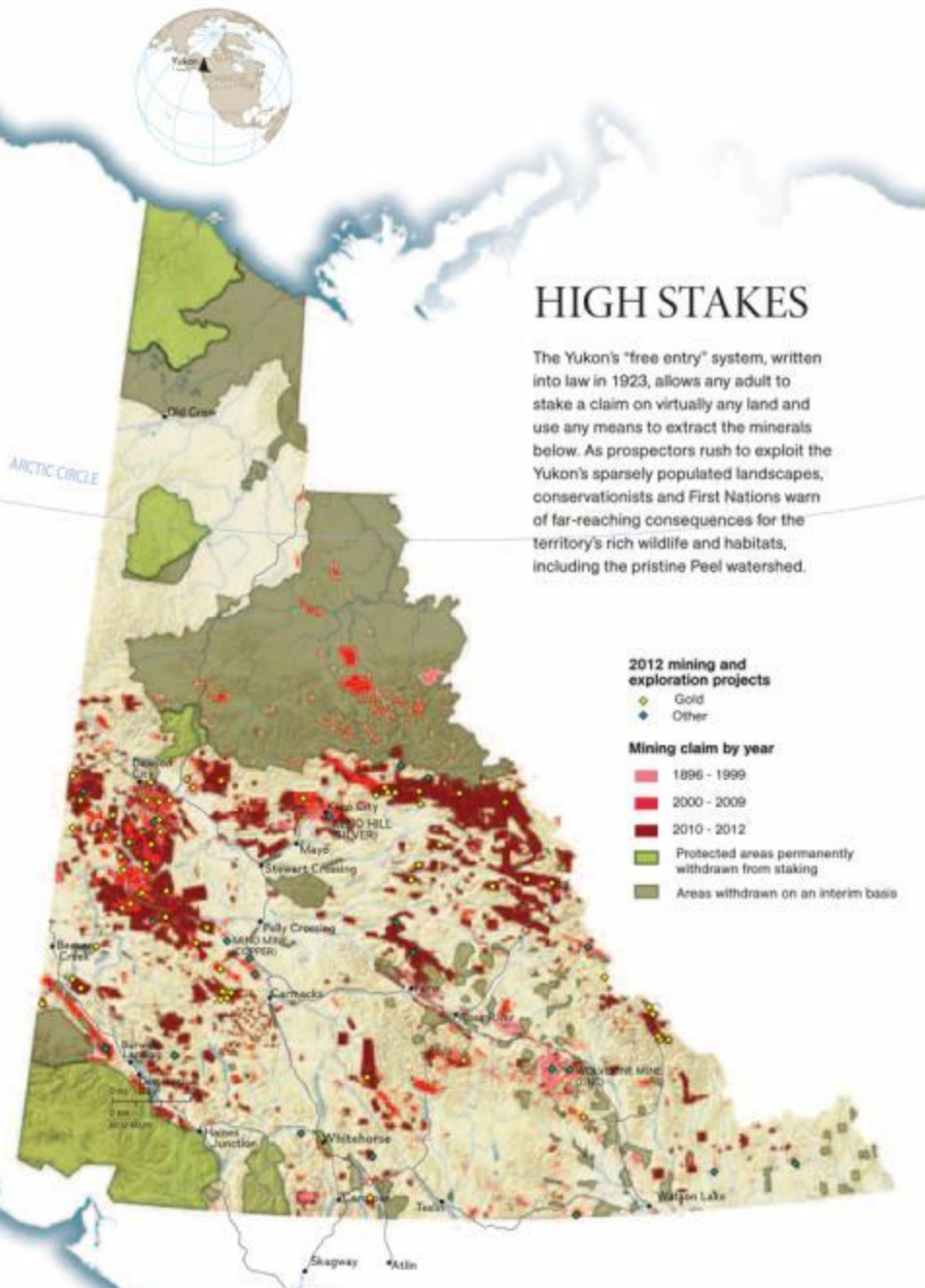
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## HIGH STAKES

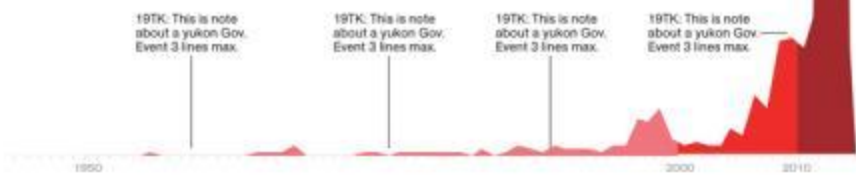
The Yukon's "free entry" system, written into law in 1923, allows any adult to stake a claim on virtually any land and use any means to extract the minerals below. As prospectors rush to exploit the Yukon's sparsely populated landscapes, conservationists and First Nations warn of far-reaching consequences for the territory's rich wildlife and habitats, including the pristine Peel watershed.

## A BATTLE OVER WILDERNESS ZONING

Sprawling over 26,000 square miles, the Peel watershed is one of the largest wild areas remaining in North America. A 2011 zoning plan (below) would maintain the area's wilderness character, but earlier this year the Yukon's pro-development government adopted a plan favored by mining interests.



- Special Management Area**  
TK about this zoning maybe 1 or 2 lines something about what is allowed
- Wilderness Area**  
TK about this zoning maybe 1 or 2 lines something about what is allowed
- Integrated Management Area Zone II**  
TK about this zoning maybe 1 or 2 lines something about what is allowed

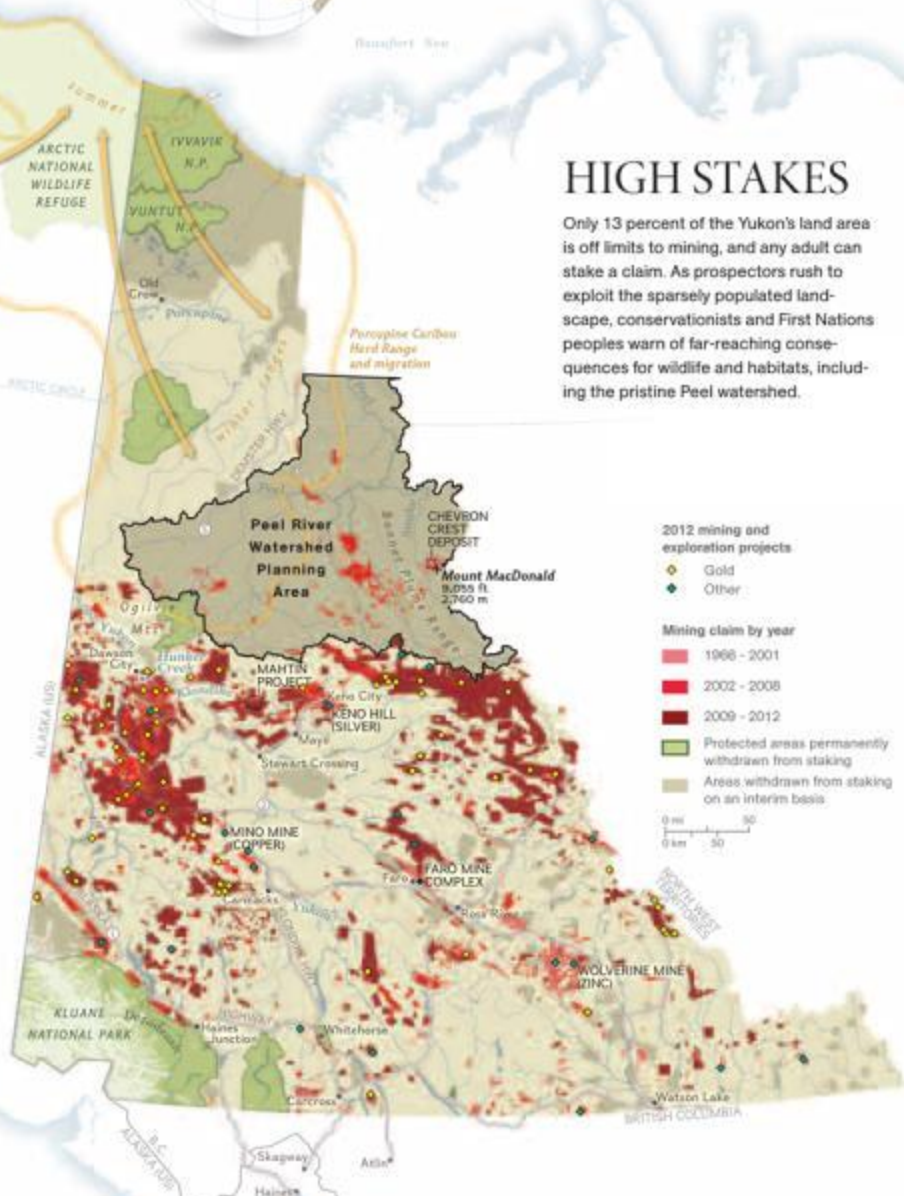




Beaufort Sea

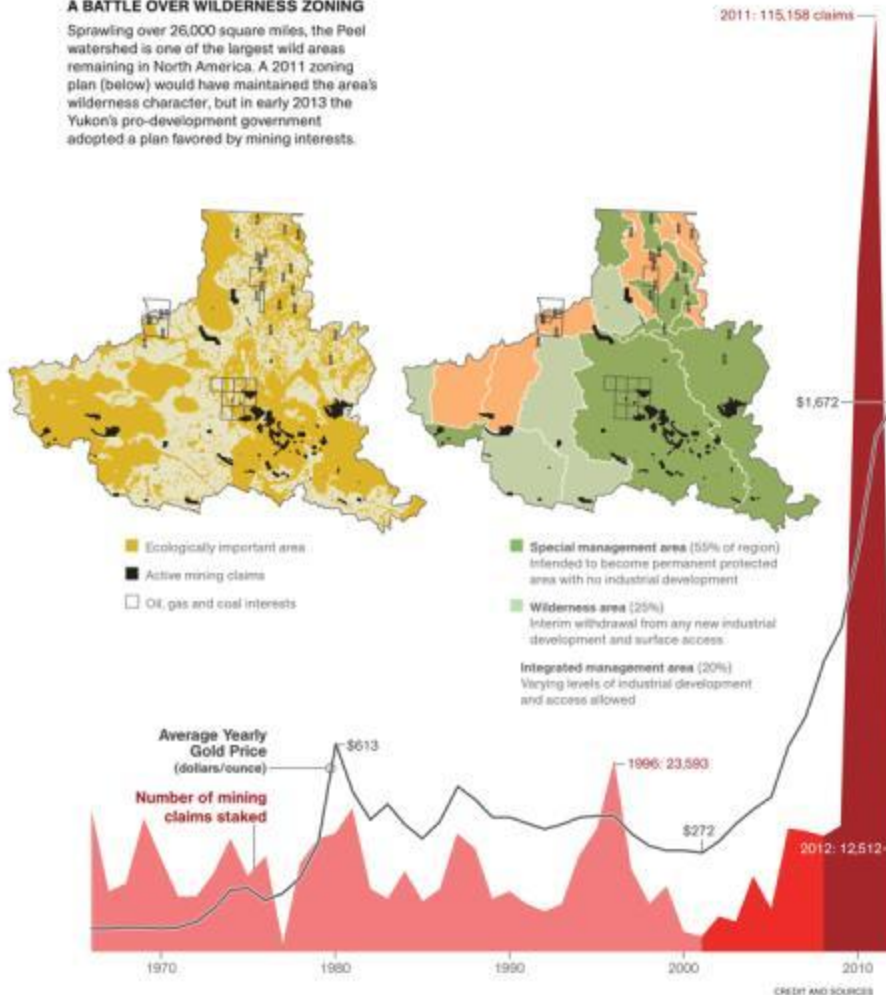
## HIGH STAKES

Only 13 percent of the Yukon's land area is off limits to mining, and any adult can stake a claim. As prospectors rush to exploit the sparsely populated landscape, conservationists and First Nations peoples warn of far-reaching consequences for wildlife and habitats, including the pristine Peel watershed.



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## STAKING SOARS WITH GOLD PRICES

The year 2011 saw over 115,000 mining claims, the peak of an intense rush. The driving factors were high prices for commodities—chiefly gold—aided by industry-friendly regulations and tax policies, and streamlined environmental risk assessments. Staking fever has since cooled as companies secure claims, confirm deposits, and wait for prices to rise again.



# HIGH STAKES

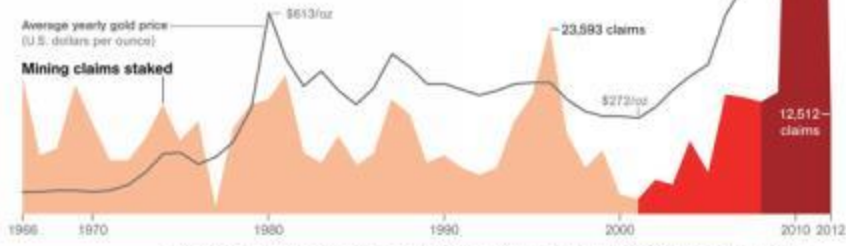
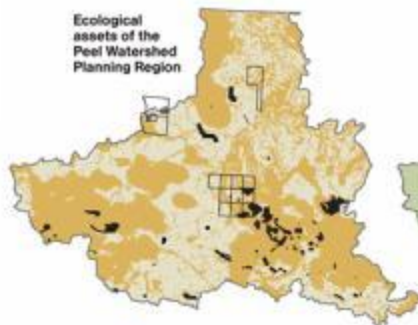
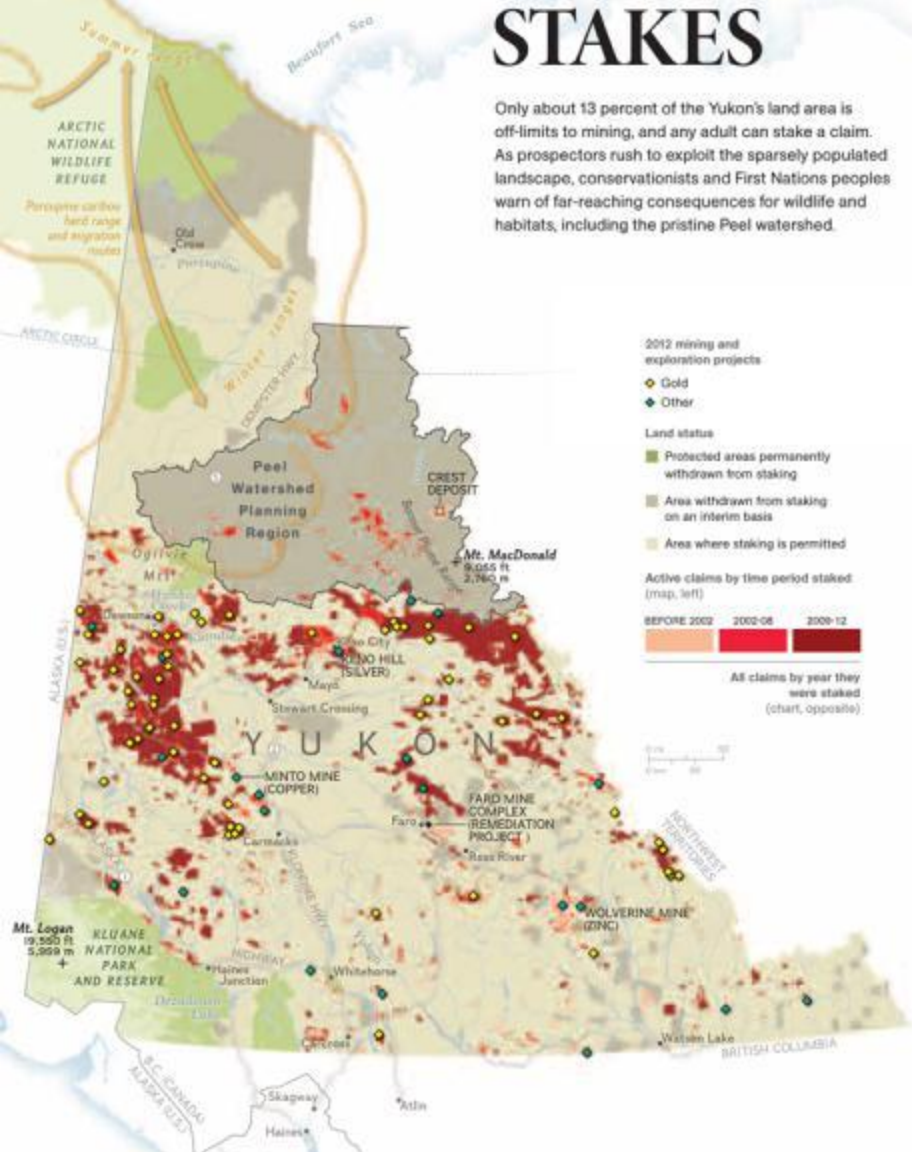
Only about 13 percent of the Yukon's land area is off-limits to mining, and any adult can stake a claim. As prospectors rush to exploit the sparsely populated landscape, conservationists and First Nations peoples warn of far-reaching consequences for wildlife and habitats, including the pristine Peel watershed.

## BATTLE OVER WILDERNESS ZONING

Sprawling over 26,000 square miles, the Peel watershed is one of the largest wild areas remaining in North America. A 2011 zoning plan (below right) would have maintained the area's wilderness character, but since then the Yukon government has proposed a plan more favorable to industrial development.

## STAKING SOARS WITH GOLD PRICES

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MARTIN GARACHE, NON STAFF SOURCES: ENERGY, MINES AND RESOURCES, YUKON; ENVIRONMENT YUKON; GEOMATICS YUKON; PEEL WATERSHED PLANNING COMMISSION; USGS; YUKON CONSERVATION SOCIETY; YUKON LAND USE PLANNING COUNCIL



*It is jade country. It is home to four national parks, which contain the highest mountains, longest glaciers, and tallest forests in New Zealand. It is Te Wahipounamu—the place of greenstone.*

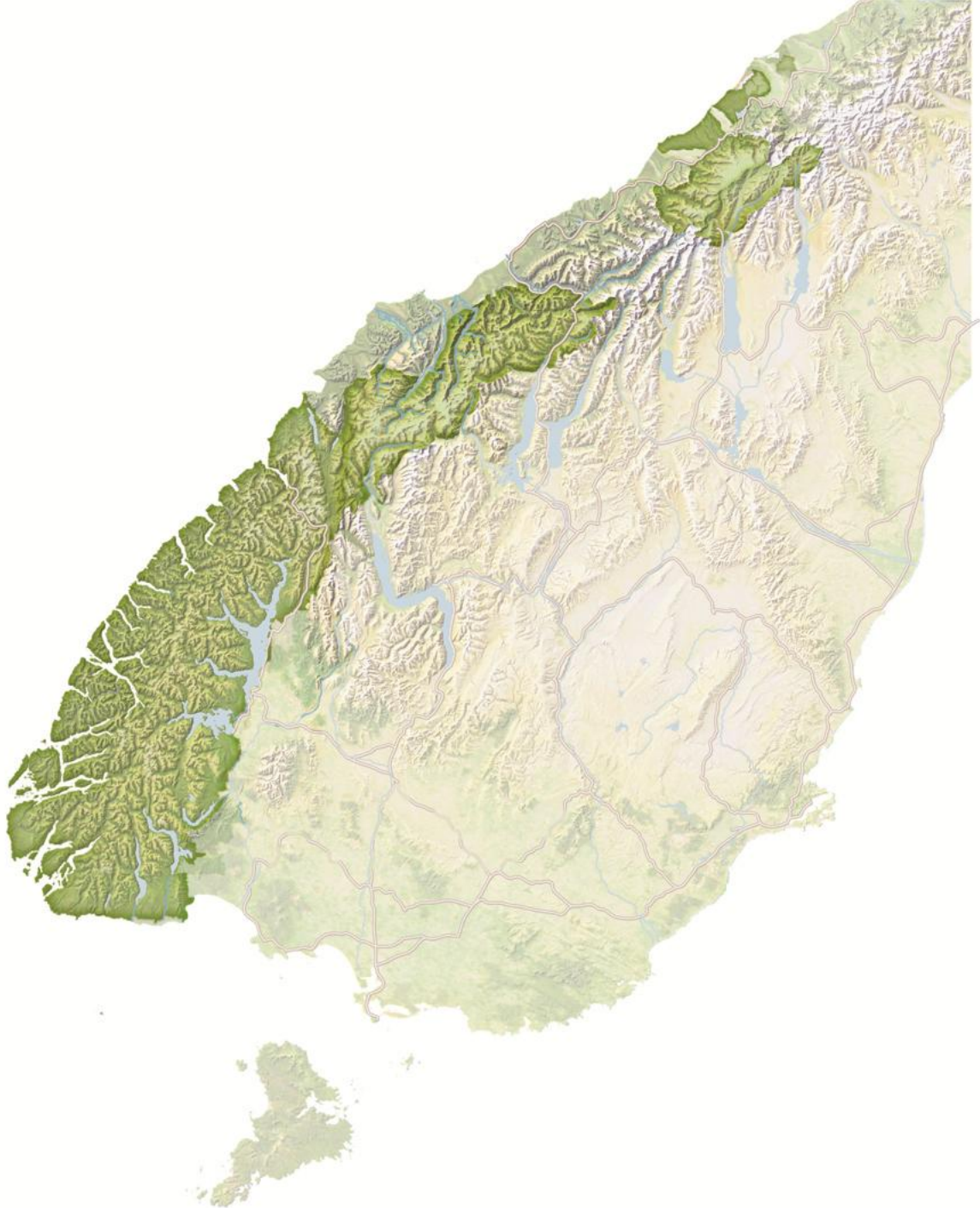
Where greenstone grows











By Kennedy Warne  
Photographs by Michael Melford

Jeff Mahuika bends down suddenly. Among the thousands of river pebbles at our feet, he has seen something my eyes have missed. His fingers grasp the edge of a stone and pry it gently from the gravel that all but hides it from view. It is a finger-long sliver of pounamu—greenstone, or jade—and as he holds it to the light, it gleams a cool gray green.

He passes it to me, and I stroke its river-smoothed skin. "Our people have a tradition that you don't keep the first piece you find," he says. "So I'm giving it to you." A thought comes to me. Mahuika is a master carver of greenstone. I hand the stone back to him and say, "If you drill a hole in it, I will wear this pounamu around my neck, to bind me to this place."



Te Wahipounamu, the place of jade. Since 1990 this southwestern edge of New Zealand has enjoyed World Heritage recognition for its four national parks and interconnecting tracts of conservation land. Of all the wilderness areas in my country, this is the one I return to most often, to breathe its mountain air, wade its rivers, hike its forests, and absorb its presence.

The carver and I are walking in the Cascade Valley, an hour beyond the end of the coast road, where it terminates south of Haast. Over our shoulders the Red Hills Range glows dark crimson in the afternoon sun. The pounamu in the rivers comes from those hills. The same tectonic forces that built the mountains made the stone.

We pace the riverbanks, heads down like wading birds, looking but not looking, because Maori believe pounamu is not found, it reveals itself. Revelation, however, is complicated by the fact that there are many green stones that are not greenstone, or nephrite, as geologists call it. I discover I am an expert in locating these look-alikes—the fool's gold of the jade enterprise.

Time and again I stoop to pick up a pretty sage green pebble.

"How about this one, Jeff? Nephrite?"

"Nope, leaverite," he says, as in, "Leave 'er right there."

When Maori were lords of this land, no resource was held in higher esteem than pounamu. In part the stone's stature arose from the uncountable hours needed to shape it into tools or ornaments, for pounamu is harder than steel. Working the stone over weeks or months imbued it with the life of its owner. In one tradition, when Maori died, their prized pieces of pounamu were buried with them, to be dug up later and passed on to a descendant. In this way pounamu transcended time, binding generations in a sacred embrace.

To handle such treasures today—in the form of chisels, ear pendants, fighting clubs—is to sense a link not just with the maker and owner but also with the physical ancestry of the stone. In the Maori world, objects speak to their origins: whalebone to the whale, wood to the tree, pounamu to its source river and mountain.

Water and ice scour the stone from its host rock; rivers carry it down to the sea. "The stone is always moving," says Mahuika. "In our stories we call it a fish. It's on a journey, just like we are."

We cross the Cascade River waist-deep, holding our arms out like wings, balancing against the current's muscular pull. It is spring, when the fry of native fish surge into Te Wahipounamu's rivers from the sea, heading upstream to grow to maturity in cool forest reaches. Catching these whitebait is a west coast religion. From dawn till dusk, coasters wade the river mouths with long scoop nets, sieving for 'bait. Later, in a tiny riverbank hut, or over a driftwood fire, butter will be melted in a frying pan and a mixture of egg and whitebait tipped in. Whitebait patties, food of the gods.

Maori call the commonest type of whitebait



The Te Wahipounamu-South West New Zealand World Heritage area stretches 280 miles from the mountainous north to the fiord-cut south. It encompasses nearly 10 percent of the country's land, incorporates four of fourteen national parks, and is a stronghold of ancient flora and fauna.

MARTIN GAMACHE, NEW ZEALAND  
SOURCES: NEW ZEALAND  
DEPARTMENT OF CONSERVATION;  
LAND INFORMATION NEW ZEALAND

inanga, and they use the same word for pounamu of a matching pearly gray, sometimes flecked with eyes, as if whitebait swam within the stone. In a world defined by mutual relationships, the Maori name for one thing often recalls another. Their name for the Southern Alps—the tumult of peaks that runs like a jagged spine through Te Wahipounamu—is also used for the wave-swept ocean.

The alps make this place what it is. Standing athwart the westerly gales of the latitude known as the roaring forties, they force moisture out of the clouds and drench the coast with rainfall. It is so wet here that in the less traveled south, moss grows on the asphalt of the roads.

During the last ice age alpine glaciers tattooed this region with lakes and chasms, and chiseled the fiords that give the southern swath of Te Wahipounamu its name, Fiordland. More than 3,000 glaciers remain in the World Heritage area. Two of the most famous—Fox and Franz Josef—plunge almost to sea level, where their snouts nuzzle the coastal rain forest.

These forests are a time capsule of Gondwana, the supercontinent that fragmented into the landmasses of today's Southern Hemisphere. When New Zealand split off from what is now Australia to begin its own journey into the Pacific, it created an ecological separation that endured 80 million years. That long solitude has made New Zealand a showcase of Gondwanan flora and fauna. South West New Zealand is its best window on that ancient world.

Maori maintain a presence here, though their numbers are thin. A symbolic moment came in 2005, when Mahuika's people opened a carved meetinghouse, their first ceremonial house in 140 years. It was a statement of survival and of hope but also an acknowledgment of human impermanence, a truth expressed in a Maori proverb: People come and go, but the land endures. □

Kennedy Warne dived into the seas of Arabia in our March 2012 issue. Michael Melford photographed America's historic Brandywine Valley in April 2013.

A close-up, underwater photograph of a harp seal pup. The pup is looking directly at the camera from a hole in a piece of clear, blue-tinged ice. Its eyes are dark and prominent, and its whiskers are visible around its snout. The background shows the dark water and the curved edge of the ice.

# The Generous Gulf

*The Gulf of St. Lawrence teems  
with all that shimmers, bites, and drifts.*

Born on the ice, a harp seal pup peers underwater near Quebec's Madeleine Islands.

More life can be found per cubic meter of water in the

Gulf of St. Lawrence than anywhere else on Earth.

hanging like hope on the hooks. Other species, many of them bottom feeders, are fished too, but lobsters are the fate to which the most lives here are tied, the weather that draws out the boats or sends them home. The lobsters are not infinitely abundant either, but for now, at least, populations of these "bugs," which the Micmac found unpalatable, seem stable.

The gulf has changed and will continue to change. Even if fishing were to stop tomorrow, species populations will wax and wane with climate change, which threatens to make the gulf warmer and less salty. So far we have chosen to make the wildness of the gulf a little less useful to humans each generation, and also a little less lovely. We eat the big cod, and so the cod that remain have evolved slower growth so they can breed or even die before getting big enough to be dinner worthy. As has happened elsewhere, seals, sea lions and shore birds have moved away from the shores. They escape by being distant.

Ask the people of the region what's next on the horizon and you hear phrases like: "When the cod come back," or "When fewer people fish for lobsters," or, as a petroleum executive said in the news, "When the oil comes up..."

This year plans are underway to drill the first big oil well, Old Harry, in the gulf. Environmentalists see the oil as a tragedy different from the old tragedies of the gulf. Maybe. One could also see it as just one more story of our choices about what we gather. We gathered the cod, as food and for oil, which fueled the lamps of industry. We gathered the whale for the same. If we gather Old Harry's oil, it will run out faster than whale or cod, but it will fuel our daily actions, our commutes and our enterprise, just the same. Of course, if it ever spills, it will also fuel new life, oil-eating bacteria and other species of wild but unwanted forms.

The good news is we get to choose, algal weeds or whales, oil-eating bacteria or seals. We get to choose because for now the gulf is still wild with life, like nowhere else. It is a wilderness in a teacup, steeped in wild evolution, trillions of individual organisms and also a great many hopes and dreams.



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As the numbers of cod and other predatory fish have plunged, lobsters have surged. Other species, many of them bottom-feeders, are fished too, but lobsters are now the fate to which the most lives here are tied, the weather that draws out the boats or sends them home. The lobsters are not infinitely abundant either, but for now, at least, the crustaceans the Mi'kmaq called "bugs" are thriving.

The gulf has changed and will continue to change. Even if fishing were to stop tomorrow, populations would wax and wane with climate change, which threatens to make the gulf warmer and less salty. So far we have chosen to make the gulf and its life-forms a little less useful to humans with each generation, and a little less lovely. Case in point: We eat the big cod, and so the cod that remain mature at an earlier age and a smaller size, so they can breed before getting big enough to be dinner worthy.

For thousands of years the gulf has been a place to gather, a place where hope is tied to what can be extracted from the wilderness. But times have changed. Gatherers are no longer just men and women in boats; they now include petroleum executives for whom fortune does not leap out of the water like a fish.

This year plans are under way to drill the first big oil well in the gulf, in what is known as the Old Harry prospect. Environmentalists see the oil as a tragedy that's different from the old tragedies of the gulf. Maybe. You could also see it as just one more story of our choices about what we gather. We gathered the cod, as food and for oil, which fueled the lamps of industry. We gathered the whale for the same. If we gather Old Harry's oil, it will run out faster than whale or cod, but it will fuel our daily actions, our commutes and our enterprise, just the same. Of course, if it ever spills, it will also fuel new life, oil-eating bacteria and other species that grow at our expense rather than to our benefit.

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## Fertile waters

The bounty of the St. Lawrence Gulf and estuary comes from nutrient-rich currents from the Atlantic Ocean that mix with fresh water from the interior. Jurisdiction is split between Canada's federal government and five coastal provinces, complicating management. Years of overfishing, warming waters, and possible offshore drilling cause concern for the ecosystem's health.

### Living assets

Scientists have identified ten ecologically sensitive areas in the gulf. The zones harbor 20 endangered species of fish, birds, and marine mammals.

### ENVIRONMENTAL PROTECTION

- Ecologically and biologically significant area
- Area of interest for proposed Marine Protected Areas

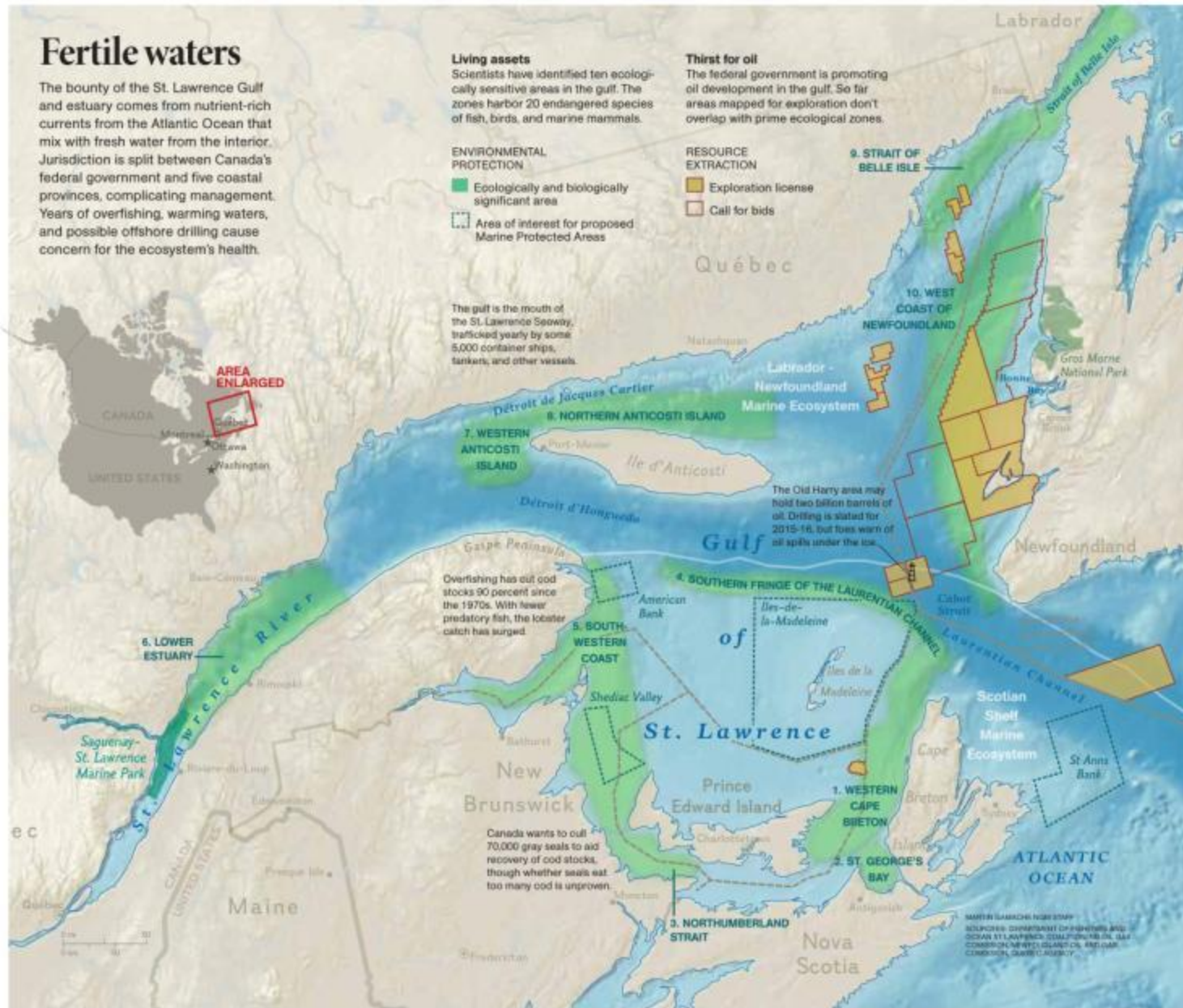
The gulf is the mouth of the St. Lawrence Seaway, trafficked yearly by some 5,000 container ships, tankers, and other vessels.

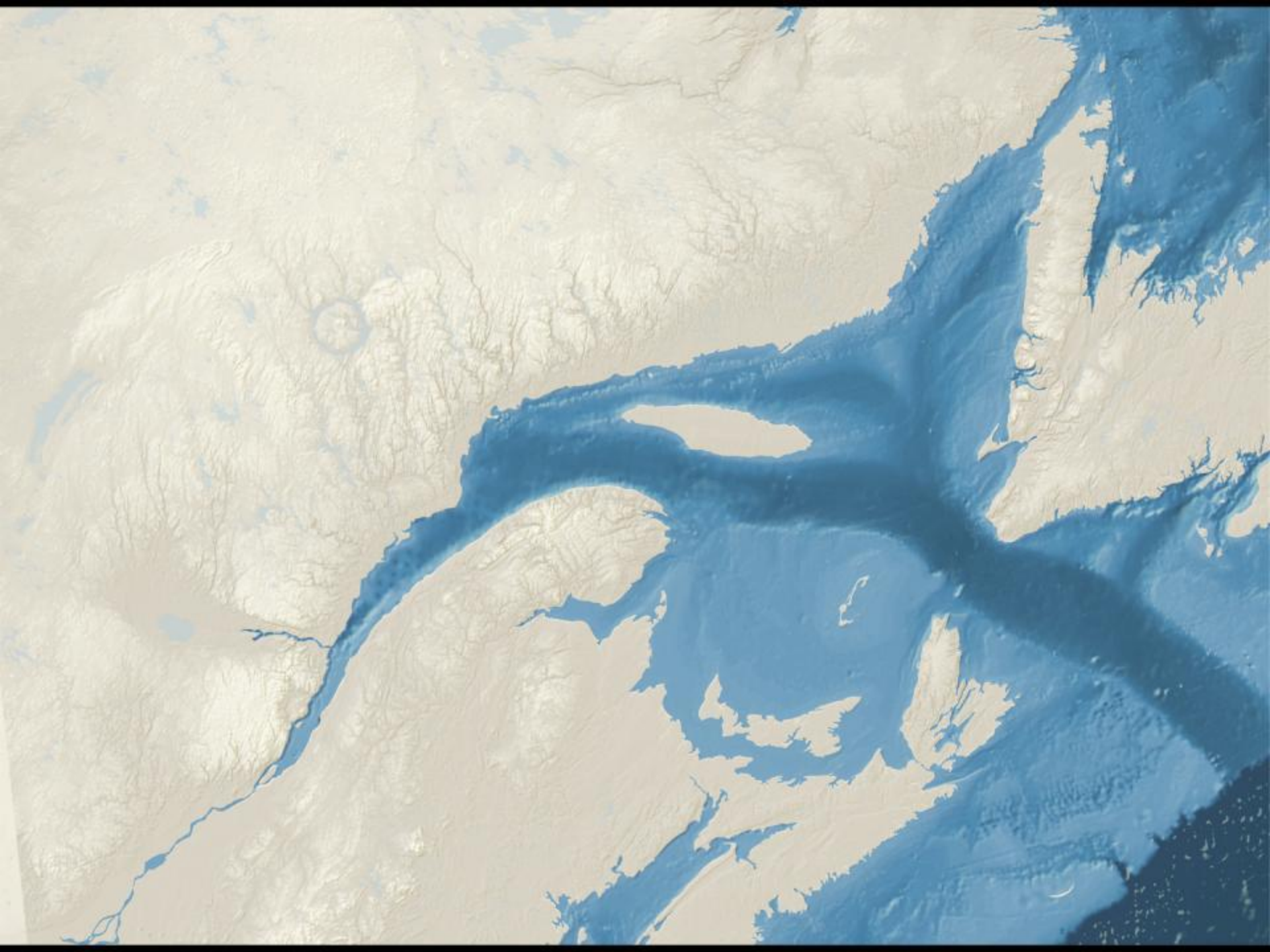
### Thirst for oil

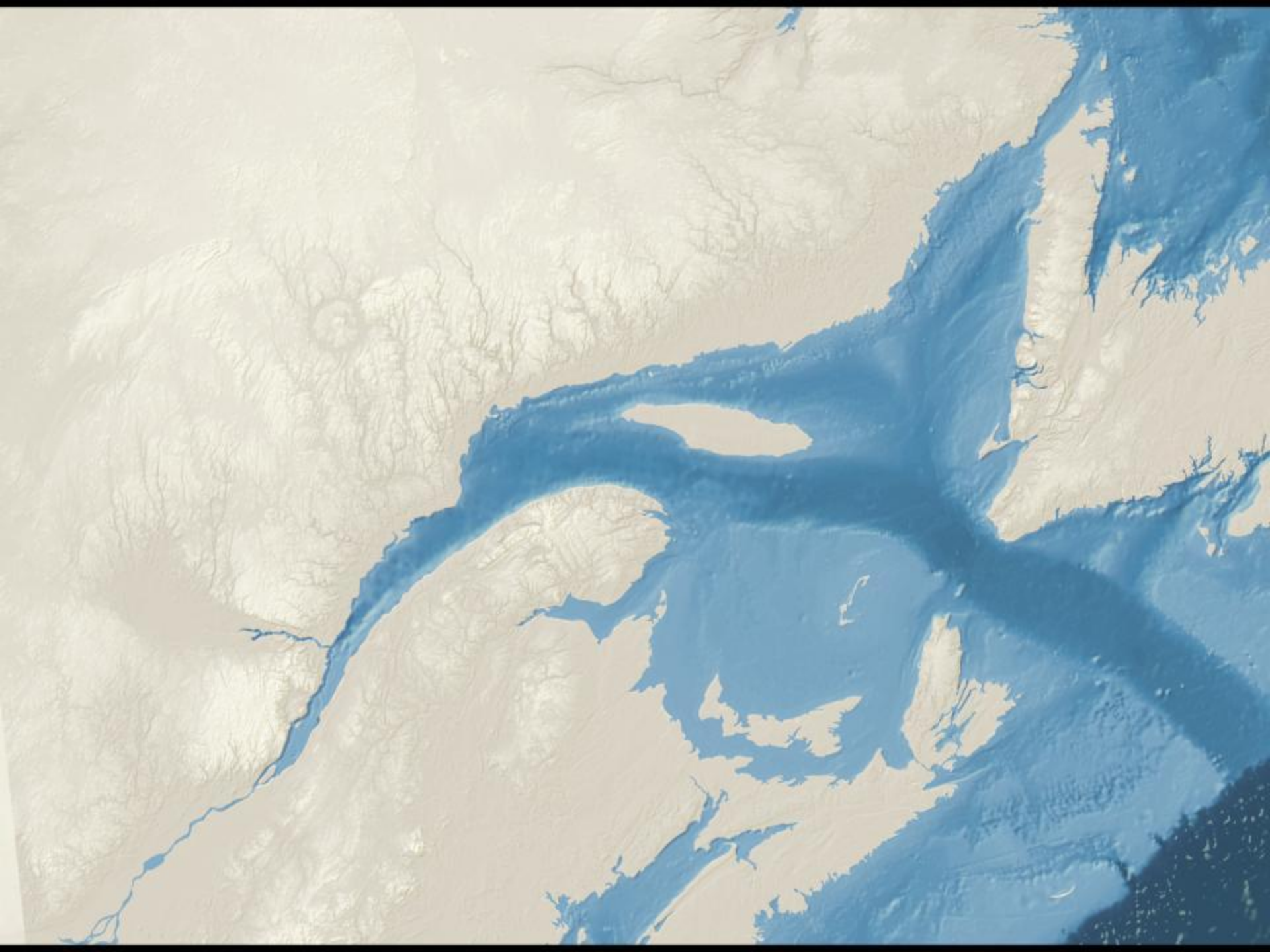
The federal government is promoting oil development in the gulf. So far areas mapped for exploration don't overlap with prime ecological zones.

### RESOURCE EXTRACTION

- Exploration license
- Call for bids











Works in Progress

Franz Josef Land | The Meaning of

# North

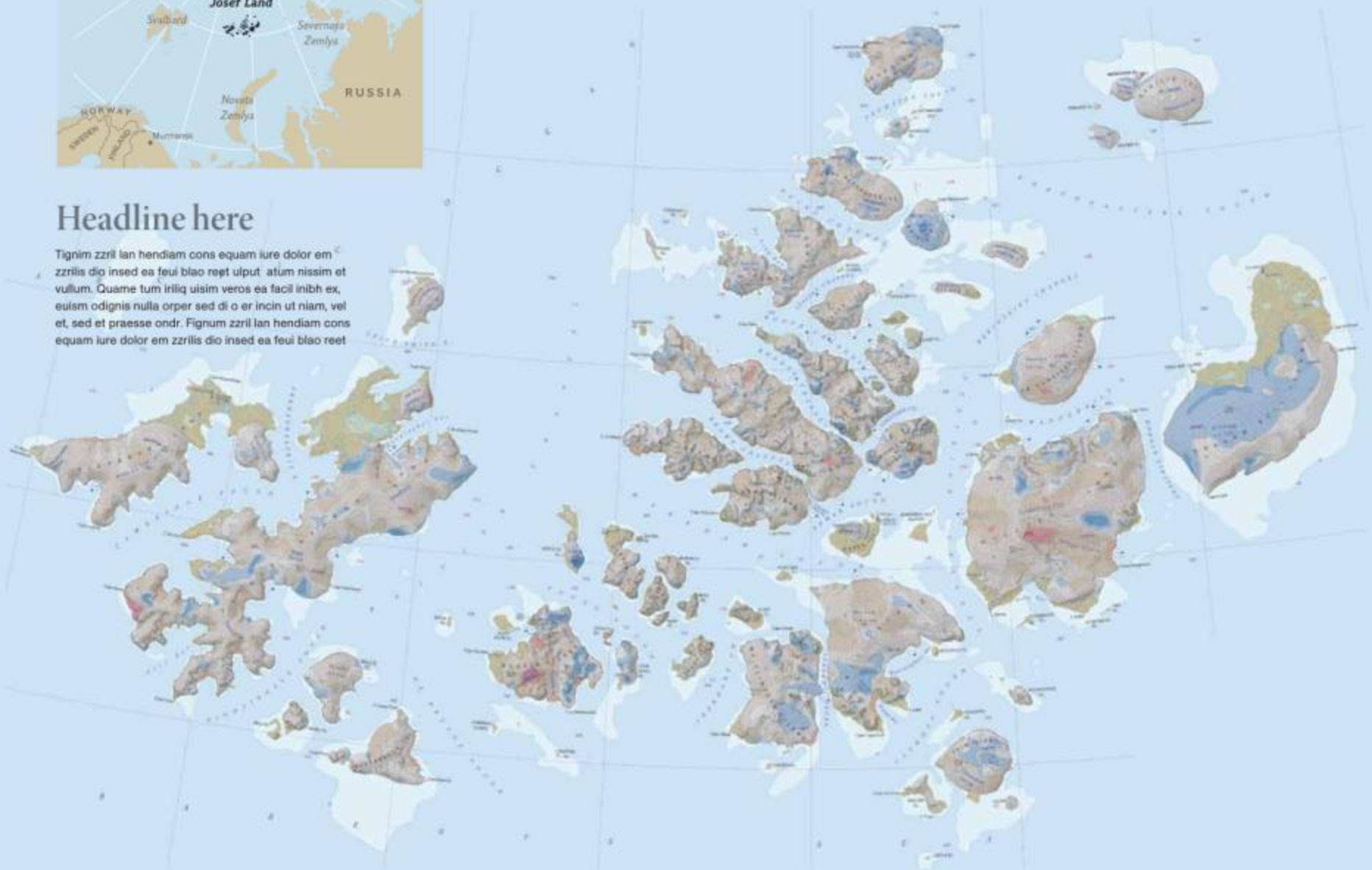


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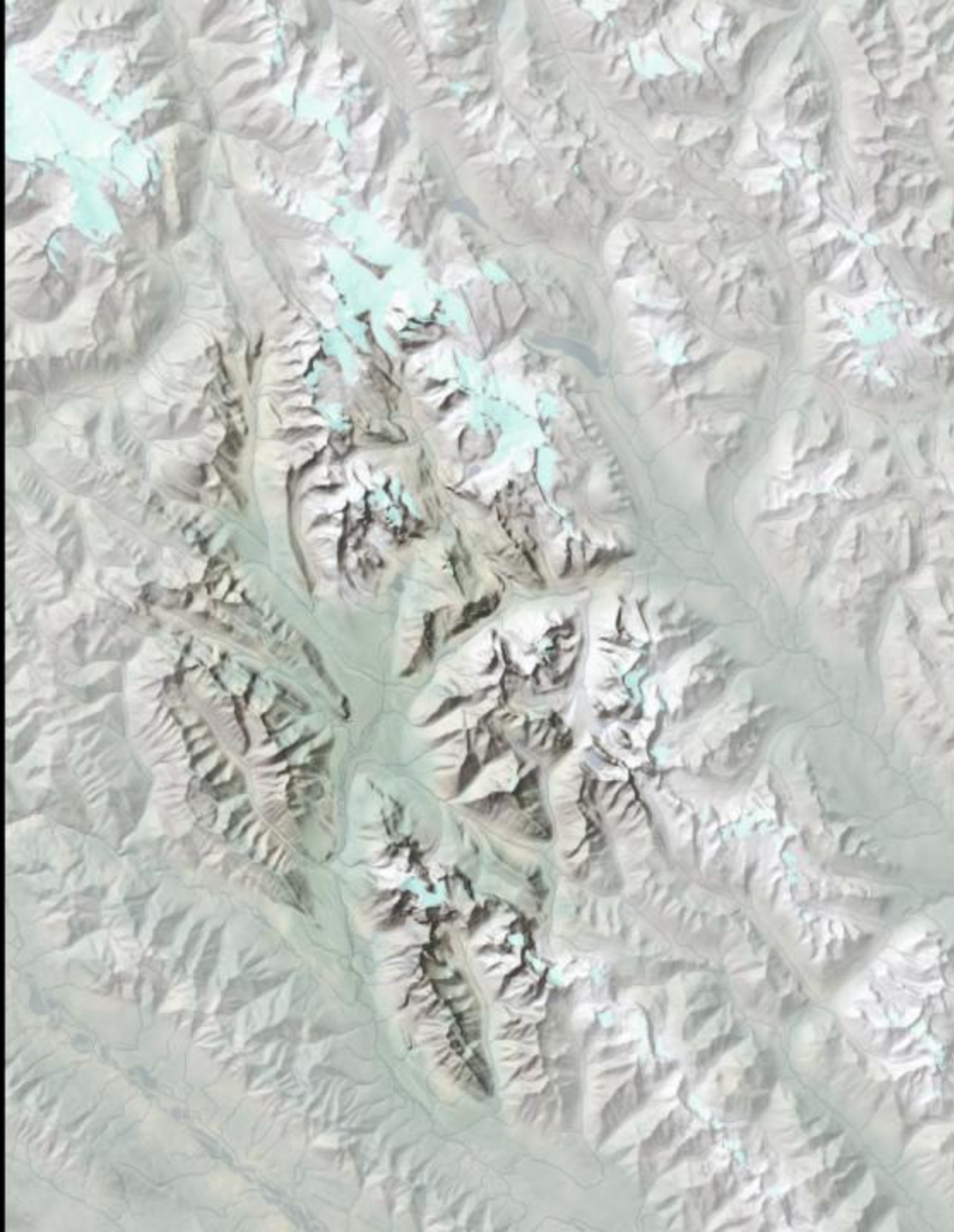


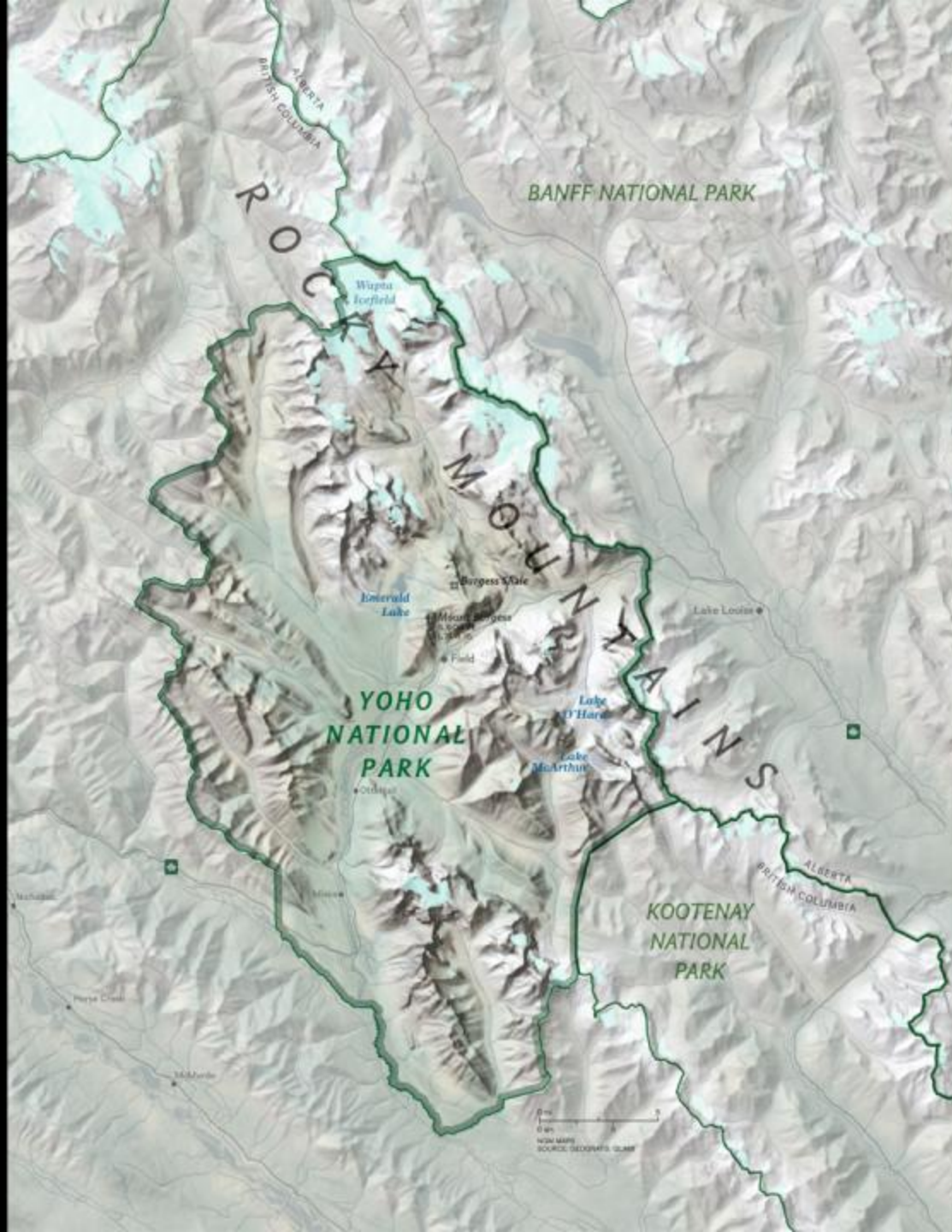




# Yoho

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here 127 years ago, then turned right on Highway 1, the Trans-Canada Highway, which runs through the middle of the national park. Yoho is small, an area of barely 500 square miles—a fifth the size of adjacent Banff National Park, east over 5,338-foot Kicking Horse Pass and the Continental Divide, and an eighth the size of Jasper, just to the north. But its name, a Cree word meaning “wow!,” signals that its wonders are densely packed: 33 named peaks above 10,000 feet, two historic mountain lodges on two glacial lakes whose water is an otherworldly shade of turquoise, and hundreds of waterfalls, including 1,260-foot Takakkaw, the third-tallest falls in Canada, which I saw at the end of my short drive up the Yoho Valley. The crowds here are mild

compared to Banff’s 3.5 million annual visitors, so much so that hikers can’t hold themselves back. Sometimes when they pass each other, I noticed, instead of “ahoy,” they exclaim “yoho!”

The reaction of the Vauxes when they first visited British Columbia in 1887, a year after the train line opened, was a more refined version of the same. The mountains were “cold, severe, beautiful, grand, unapproachably majestic,” wrote Mary’s youngest brother George Jr. The middle sibling, William, focused on the “air full of the delicious odor of the forest... and the wonderful harmony of light and shade.” Below Rogers Pass, close to Yoho in what is now Glacier National Park, they trekked to the toe of the great Illecillewaet Glacier—Mary, then

27, while wearing a black Victorian dress and a sun hat. The crevasses and towering seracs were like nothing they had ever seen. The Vauxes did what any modern tourists would do in the face of such beauty: They photographed it. The difference was that at the turn of the 20th century, a camera was a large wooden box and most “film” was a plate of glass that had to be carefully transported in and out of the mountains and back to civilization—and they were capturing some of the first images of a hitherto undocumented wilderness. “So little exploration has been carried out that each visitor is practically a new discoverer,” wrote George Jr. It was the beginning of their transformation into amateur scientists.

When the family returned in 1894, one of almost forty summers Mary would spend in the Canadian “Alps,” they were surprised to find that the Illecillewaet had shrunk. Their photographs held the proof. Their camera, they realized, could be a scientific instrument. William, an engineer, was particularly intrigued by the retreat of the glaciers, and the Vauxes began documenting the shifting landscape with what they called “test photographs”: the same shot taken from the same place, year after year, for the greater part of two decades. They also carefully mapped glaciers and moraines with surveying equipment. They attempted to calculate the glaciers’ rates of flow and recession by placing lines of steel plates across them, and seeing how far the plates had moved when they returned. Back in Philadelphia, they gave lantern slide shows to a curious public and, led by William, wrote well-received scientific papers. In Canada, theirs was the first continuous glacier study of its kind, and it is still referenced by scientists. At least eight decades ahead of modern concerns about global warming, “a big subset of the glaciers on the North American continent were receding,” says grandnephew Henry Jr., a Berkeley professor emeritus in resource economics. “This would be a significant discovery even now, and it was done by amateurs.”

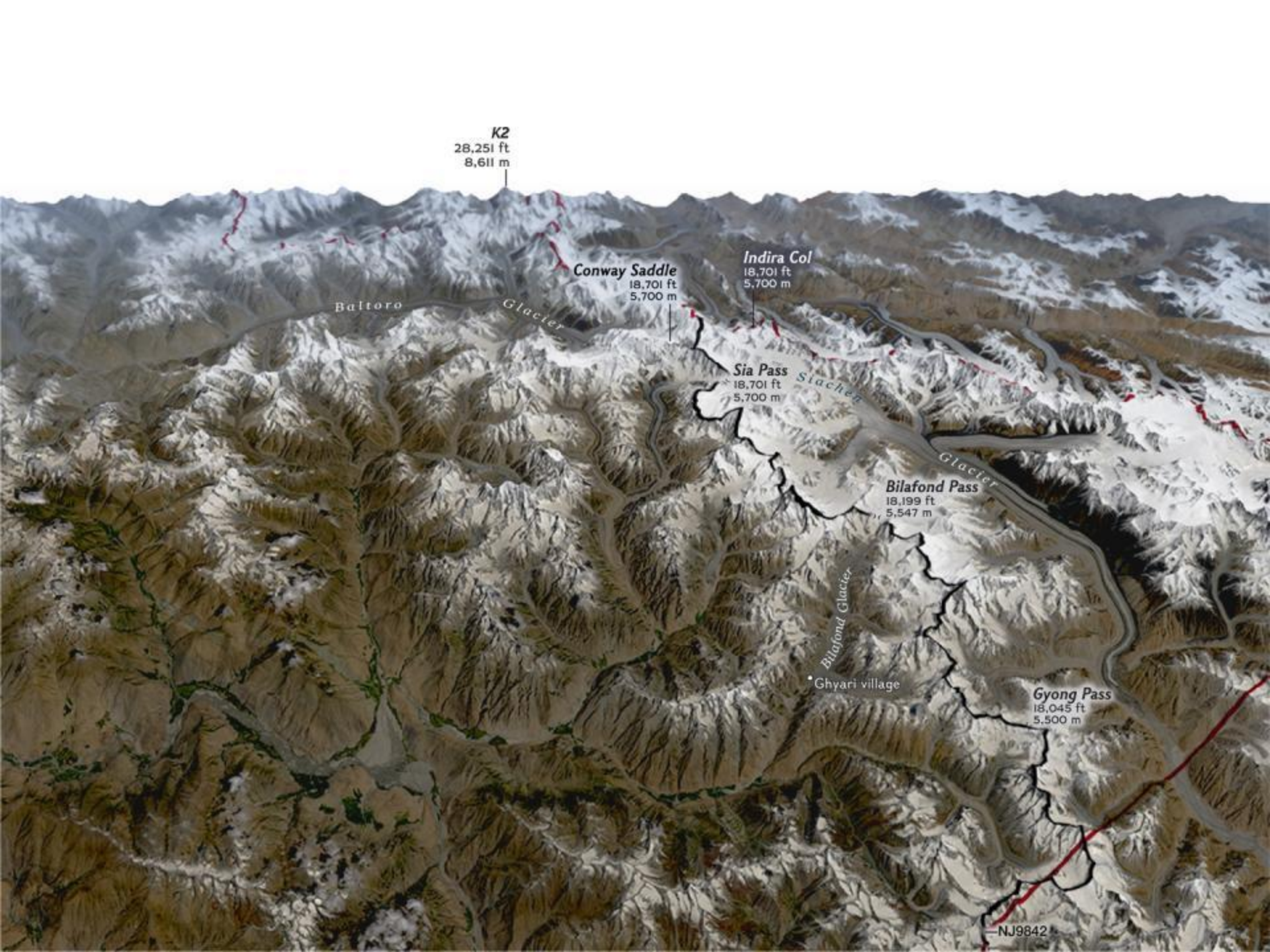
Even after William’s early death in 1908 from tuberculosis and George Jr.’s gradual return to civilized life and his Philadelphia law practice,

Mary kept coming to Yoho. She walked 5,000 miles on Rocky Mountain trails before her 1940 death. She became the first woman to climb 10,495-foot Mount Stephen, above Field—and thus the first woman to climb a major Canadian peak. She then climbed Mount Robson, north of Yoho, the highest peak in the Canadian Rockies. She camped in canvas tents near majestic Lake O’Hara while porcupines “tried the flavor of our bacon and the softness of the guides’ bed,” she wrote. She published stories about her adventures, doing “more to advertise the Canadian Rockies by magazine articles and photographs than perhaps any other living writer,” according to the Banff newspaper at the time. She took up botanical painting, in 1925 publishing a five-volume set of illustrations known as the “Audubon of Botany.”

It is worth noting, as Stephan Jay Gould might, how much of this was owed to chance. The Vaux family first came to Yoho because they traveled only by train—Mary’s father, George Sr., had once nearly drowned, so he refused to vacation by steamer—and the train line came to Yoho, you might say, because of luck of the draw. Kicking Horse Pass was too steep for safe train passage and would eventually require a figure-8 feat of engineering beloved by railroad buffs, the Spiral Tunnels. But the politics of the moment meant the route linking British Columbia to Alberta had to be chosen with great haste. It was mapped with the help of Major Albert Bowman Rogers, a surveyor with a tremendous white moustache “who wore his coveralls backwards,” according to an historian. There were safer ways over the Continental Divide, but there was no time to go looking for them. And so there came the train that carried the Vauxes to the Rockies, a piece of serendipity that both changed them and changed Yoho.

Quakers in the Victorian era were not meant to pursue such frivolities as art for the sake of art, but in the Vauxes’ black-and-white photos of the mountainous landscape—waterfalls, bogs, glaciers, forests, clouds—there is also an undeniable eye to aesthetics. “They were liberal Quakers,” says Henry Jr., so perhaps “they did art in





**K2**  
28,251 ft  
8,611 m

**Conway Saddle**  
18,701 ft  
5,700 m

**Indra Col**  
18,701 ft  
5,700 m

**Sia Pass**  
18,701 ft  
5,700 m

**Bilafond Pass**  
18,199 ft  
5,547 m

**Gyong Pass**  
18,045 ft  
5,500 m

Baltoro

Glacier

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