

Mush! Greenland's sea ice is vanishing—and with it a way of life. Says one local, "A man doesn't feel like a man if he doesn't have dogs." Here, several dog teams ply the ice on the way to Uummannaq.



Climate change may still be debatable in some circles, but in Greenland—the world's largest island, covered by an ice sheet averaging 1.6 miles deep—it's an observable fact. And there is no more dramatic way to witness what may determine the earth's future (and to have a rip-roaring adventure besides) than on a dogsled. **Bob Payne** hangs on for dear life

Photographs by TIINA ITKONEN

GOING TO THE DOGS

IN ILULISSAT, A TOWN ON THE west coast of Greenland, about 150 miles north of the Arctic Circle, it is late March, near the end of winter, when the days are growing long again but the sea ice is still solid enough, I have been assured, to support the weight of a dogsled.

On just such a sled, my guide, Johannes Mathaeussen, and I are about to set out on a four-day adventure across a white, treeless landscape. The sled, little more than a narrow wooden platform on runners, is piled about three stories high with all manner of gear and supplies, including a shotgun whose barrel I keep catching a boot on when for practice I climb atop the pile, where I am to ride, Mathaeussen tells me, “like a cowboy.”

Our twenty-dog team, knowing that they are about to be given the word to do what they are bred for, which is to run, are yapping excitedly and straining against the metal ice screw to which their traces are still attached. But Mathaeussen—whose Danish-sounding name is a result of Greenland’s longtime status as a dependency of Denmark, and whose flattened Inuit features are from a bloodline that originated, untold generations ago, somewhere on the high, cold steppes of Mongolia—is for the moment ignoring them.

Staring thoughtfully at the sky in the direction of the coastal hills that we will soon be ascending on our way to the frozen fjord on the other side, he finally says to me, “Snow is maybe coming.”

“How do you know?” I ask, following his gaze

mented his income by taking tourists on dogsled adventures—pulls up the hood of his parka and pretends to be shivering.

The parka highlights, I can’t help but observe on this fifteen-degrees-Fahrenheit morning, the contrast in our sartorial styles. I am standing here in the clothing the local adventure company that brought us together insisted I rent from them: sealskin pants and parka that are certainly warm enough, especially under the arms, but that make me look and smell like a stuffed animal. Mathaeussen, on the other hand, is wearing layers of moisture-wicking, water-repelling, color-coordinated gear from the likes of Patagonia and the North Face, gear that wouldn’t make him look out of place if he were trying to survive in, say, a Starbucks.

However well Greenlanders, all 56,000 of them, have mastered the art of adaptation, their skill is being tested now more than ever. Because here, on the world’s largest island, just over eighty percent of it covered by an ice sheet averaging 1.6 miles deep, climate change isn’t a theory but an observable fact.

FOR MOST TRAVELERS, WITNESSING climate change in Greenland means a summer visit aboard a cruise ship to Sermeq Kujalleq, the Greenlandic name for the Jakobshavn Glacier, a UNESCO World Heritage Site whose prodigious and increasing output of melting ice from the great inland ice sheet has made it a symbol of global warming. (Not to mention that it may have

but seeing no clouds or any of the other signs that I assume his lifetime of surviving in this desolate land have taught him to read.

“I looked on the Internet.”

His answer gives me pause, but I know it shouldn’t. For thousands of years, Greenlanders, almost all of whom can claim to be some mix of Inuit, have been forced by nature to live such a tenuous existence that they still often append statements of intent or desire with the word *immaqa* (maybe). And in all those years, the one thing that has allowed them to survive is their ability to adapt.

“If the snow comes, what do we do?” I ask, having researched this adventure well enough to have some fairly vivid images of myself in an Eskimo Pie-like state of permanence.

Flashing me a grin that reveals a missing tooth or two, the forty-six-year-old Mathaeussen—who for most of his life has been a professional hunter and ice fisherman but who, like many of his contemporaries, has in recent years supple-

produced the iceberg which sank the *Titanic*.)

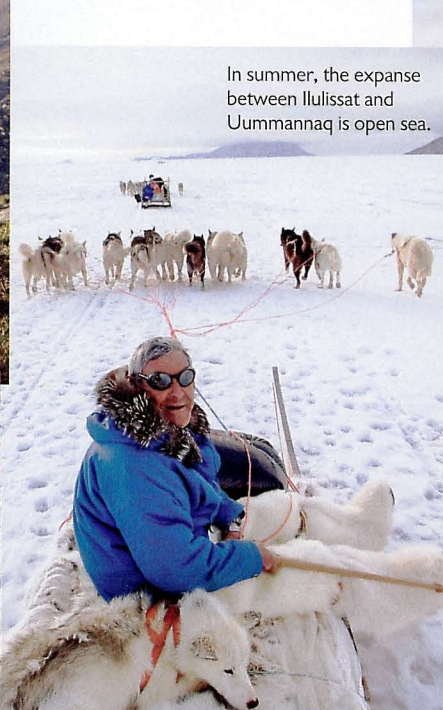
There is another change to be witnessed, though, and—at least until the international oil and mining companies now arriving on the scene discover what the receding ice sheet might have to reveal—it will have more effect than any other on traditional Greenlandic culture. That change is the disappearing sea ice.

“Ten years ago, we had sea ice for nine months of the year, and now less than half the year,” a Greenlandic named Ole Jorgen Hammeken told me a few days ago as I admired the collection of Inuit artifacts on the walls of his home in the western Greenland village of Uummannaq. (Who knew there were so many types of seal-skinning knives?)

Scientific evidence corroborates what the Greenlanders have been seeing for themselves. During the summer of 2008, satellite imaging recorded that the area of the Arctic Sea covered by ice shrank to the second smallest it has been since satellite monitoring began in 1979. There was less ice only in 2007,



Sled dogs may soon go the way of the horse and buggy.



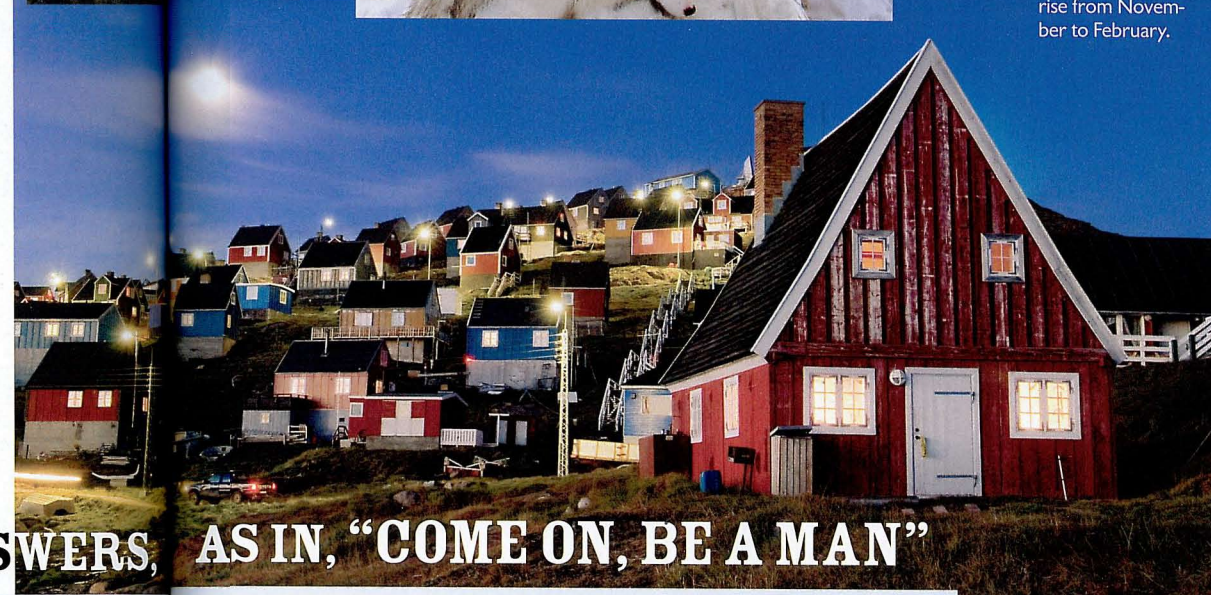
In summer, the expanse between Ilulissat and Uummannaq is open sea.



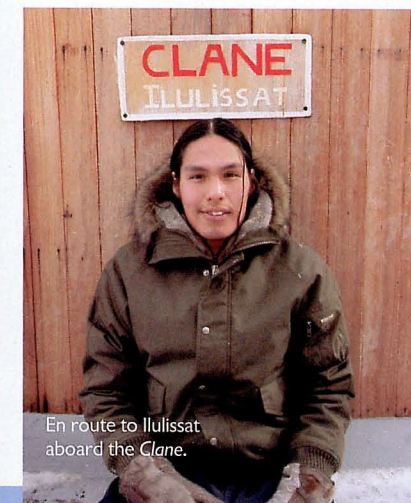
The dock at Kullorsuaq (population 405).



A fin whale near the village of Oqaatsut.



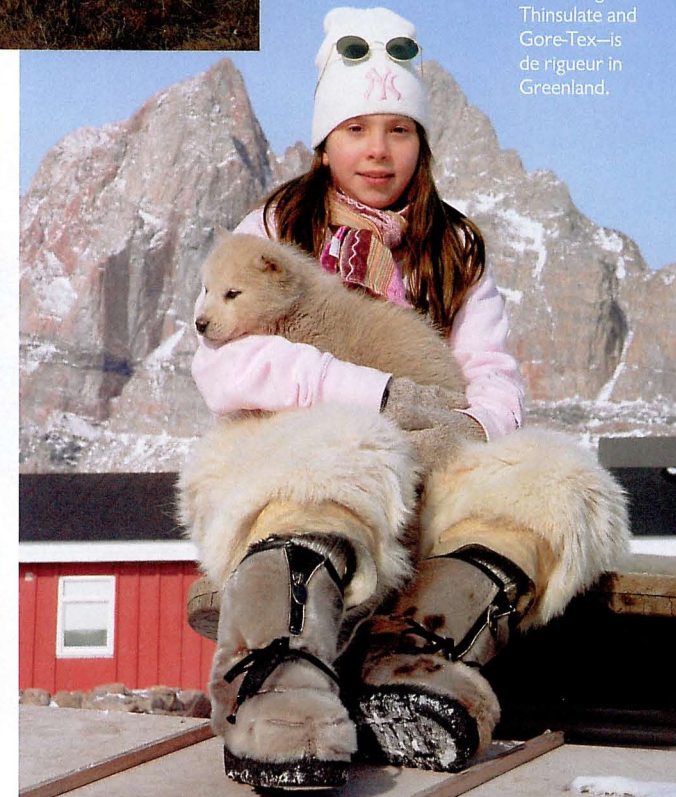
September in Upernavik, where the sun doesn’t rise from November to February.



En route to Ilulissat aboard the *Clane*.



The Jakobshavn Glacier may have produced the iceberg that sank the *Titanic*.



Fur—along with Thinsulate and Gore-Tex—is de rigueur in Greenland.

“ARE YOU SURE THIS IS SAFE?” “COWBOY,” HE ANSWERS, AS IN, “COME ON, BE A MAN”

the year that the Northwest Passage in the Canadian Arctic was ice free for the first time in human memory. That year, the ice shrinkage broke the previous record by twenty-five percent. Another thing Greenlanders have been seeing for themselves is that north of the Arctic Circle, which includes three-quarters of Greenland, the disappearance of sea ice for longer and longer periods is threatening wildlife important to traditional Greenlandic communities, particularly the polar bear and the narwhal. It is also causing the decline of another key element of Inuit culture—sled dogs (which are used primarily on the ice), since many Greenlanders no longer bother to keep them. The last is especially unsettling, Hammeken said, because in Greenland “a man doesn’t feel like a man if he doesn’t have dogs.”

Thousands of dogs remain, though, and for visitors there is no more dramatic way to witness climate change and to experience traditional Greenland—if you don’t mind the smell of dog on everything and are willing to camp on the ice (in a sleeping bag rated, one really should insist, to minus forty degrees)—than by dogsled.

Which is how I came to be here, on the outskirts of Ilulissat, its scattering of boxy houses painted green, yellow, red,

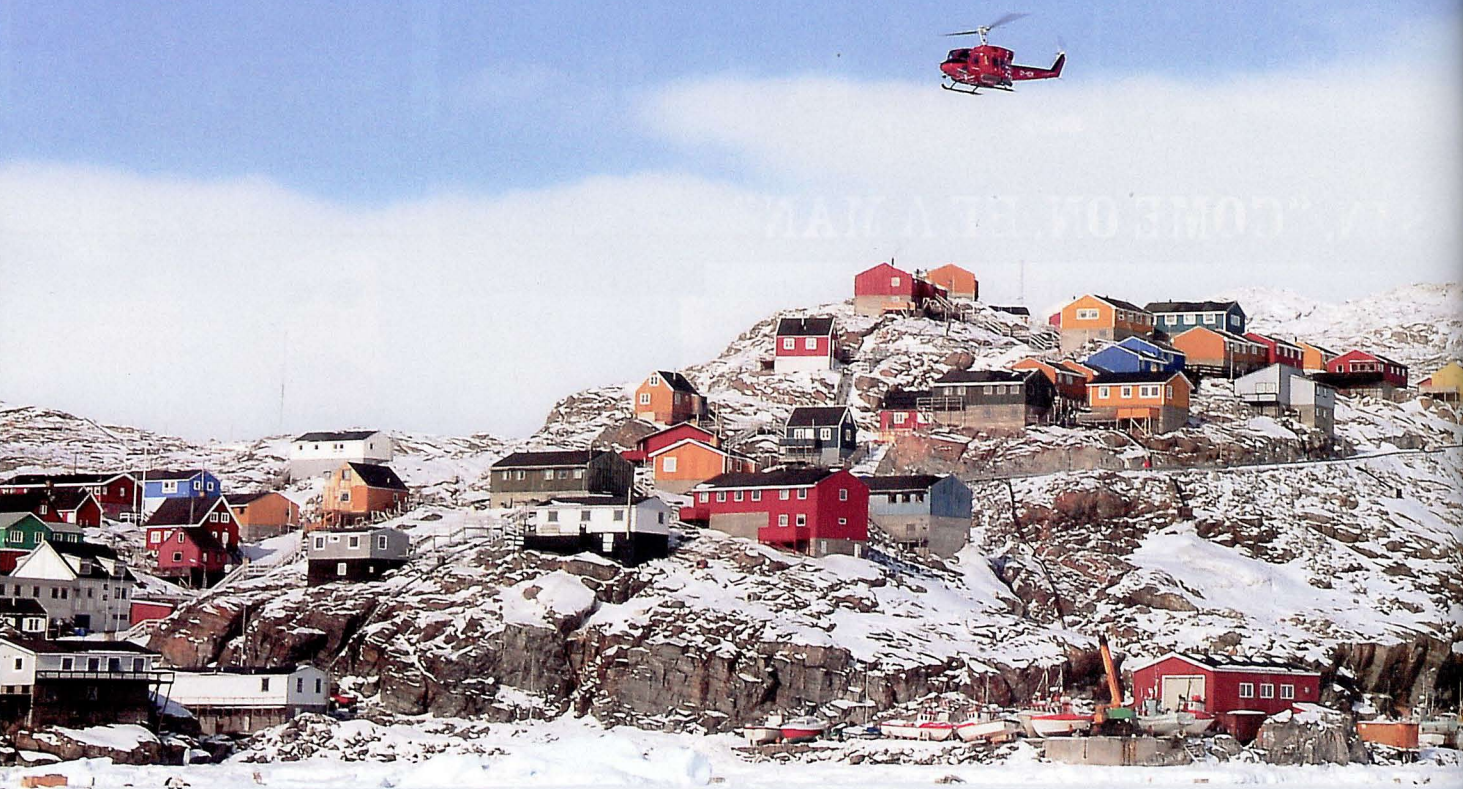
or blue against the bright white of the ice, as Mathaeussen turned from his contemplation of the sky and focused his attention on the dogs.

Earlier this morning, I’d had a discussion about sled dogs with Aleqa Hammond, minister of finance and foreign affairs for the home-rule government that Denmark allowed Greenland to establish in 1979, when I saw her on line for the breakfast buffet at Ilulissat’s almost-five-star Hotel Arctic—where I hope she didn’t notice that my survival skills demanded I stuff my pockets with rolls in anticipation of the trail ahead.

I’d mentioned to her that one of the things I hoped to accomplish on my journey was to learn how to drive a dog team. At which Hammond, a straight-talking woman, rolled her eyes and asked, “How far can you run, in the snow, wearing boots?”

Secretly, I’d been somewhat offended. But now, watching Mathaeussen’s team of twenty dogs, which, it has been pointed out to me, are a handful even by Greenlandic standards, I decide that another of Hammond’s attributes might be her wisdom.

Unlike their Alaskan and Canadian counterparts,



I ♥ Greenland: Uummannaq (“Heart-Shaped”) Mountain, 350 miles north of the Arctic Circle, towers over the eponymous town, which can be reached only in good weather—and only by helicopter.

I RAISE THE WHIP, AND THE DOG TURNS TO ME WITH MURDER IN HIS EYES. “JUST KIDDING,” I SAY. “JUST KIDDING”



Slip sliding away: The especially active Egi Glacier regularly calves chunks of ice the size of houses. When it comes to global climate change, "whatever is going to happen will happen quicker in Greenland," says one scientist.

PLACES & PRICES

ICE CAPADES

For how best to visit Greenland—by dog and by sea—turn to page 114.

Greenlandic dogs, which are related to the husky (and, further back, some say, to the wolf), are not usually harnessed two by two but in a fan pattern of equal-length traces. And in the few moments of Mathaeussen's distraction, his dogs, as incapable as kindergarteners of lining up, have made a rat's nest of their traces. But with the aid of a few kicks so enthusiastically applied that in some jurisdictions they would result in jail time, he soon has everything sorted out to his liking.

"Sit down, please," he says to me, and before I can get both my heavy gloves under the lashings I am supposed to hold on to, we are off, one of my arms waving in the air, much too much (for my comfort) like a rodeo rider's.

In a few minutes, the dogs now all at work, the sled's runners making a swooshing sound as they cut tracks through the snow, Ilulissat disappears behind a white fold in the landscape. And I am made to realize, with great force, that a dogsled journey—which, around here anyway, requires a trip over white-clad hills before you can get to the sea ice—is not something to be taken lightly.

After a gut-wrenching struggle to the top of a pass, I arrive feeling as though I had breathed my last breath about a hundred yards back, trail etiquette having required me to help out the dogs by jumping off the sled and loping alongside in my planet-Jupiter-weight boots. My satisfaction at seeing that Mathaeussen is also gasping for air turns to apprehension when, after repositioning the dogs so that they are behind the sled—as though they will be needed to act as a brake—he motions for me to climb back on. Looking over the crest at the icy trail falling steeply away ahead of us, one side bordered by a cliff face and the other by a drop into nothing, I hesitate. "Okay?" I ask doubtfully, as in "Are you sure this is safe?"

"Cowboy," he answers with emphasis, as in, "Come on, be a man."

So I climb atop all the gear, and down we go, not losing control until almost the bottom, when one of the

sled's runners catches the edge of a lump of ice, I throw my weight in the wrong direction, and we flip over spectacularly. The sled comes down hard on my right foot, causing me to howl so loud that even the dogs seem impressed.

After righting the sled and untangling the dogs, Mathaeussen wanders back to where I am lying facedown in the snow. "Okay?" he asks, as in, "I'm not going to have to give back my guide fee, am I?"

I get up, take a few tentative steps, and decide—after briefly considering the consequences of having my story end here—that I will be able to go on.

"Okay," I answer, as in, "I'll survive" despite a leg I will limp on for the next six weeks.

He again gives me his gap-toothed grin and happily shouts what I will come to recognize as one of a handful of English phrases he knows: "Extreme Greenland!"

After a few more ups and downs, all of which I manage to get through without being pitched into the snow, we are on the flat sea ice of the fjord. In a couple of months it will be open water, but for now I behold a frozen kingdom ringed by steep white hills and domed by a blue sky (the snow predicted on the Internet apparently having gone elsewhere) that appears to be ours alone. One nearly crushed foot, I decide, is a small price to pay for the privilege of entering it.

OUR PLAN—WORKED OUT WITH THE PEOPLE from the adventure company and contingent, like everything in Greenland, on the weather and the condition of the ice—is to circumnavigate the fjord before heading south toward Sermeq Kujalleq, the glacier. We won't be traveling east to the inland ice sheet itself because, except for a few scientists and death-wishing cross-country skiers, hardly anyone goes there, not even the Inuit, since it is essentially a flat, lifeless, featureless nothing. Still, even though we are on that twenty percent of the island which at least occasionally uncovers itself in the summer, it too is now pure white wilderness—without towns, without villages, without trees, and, we hope, without signs of melting.

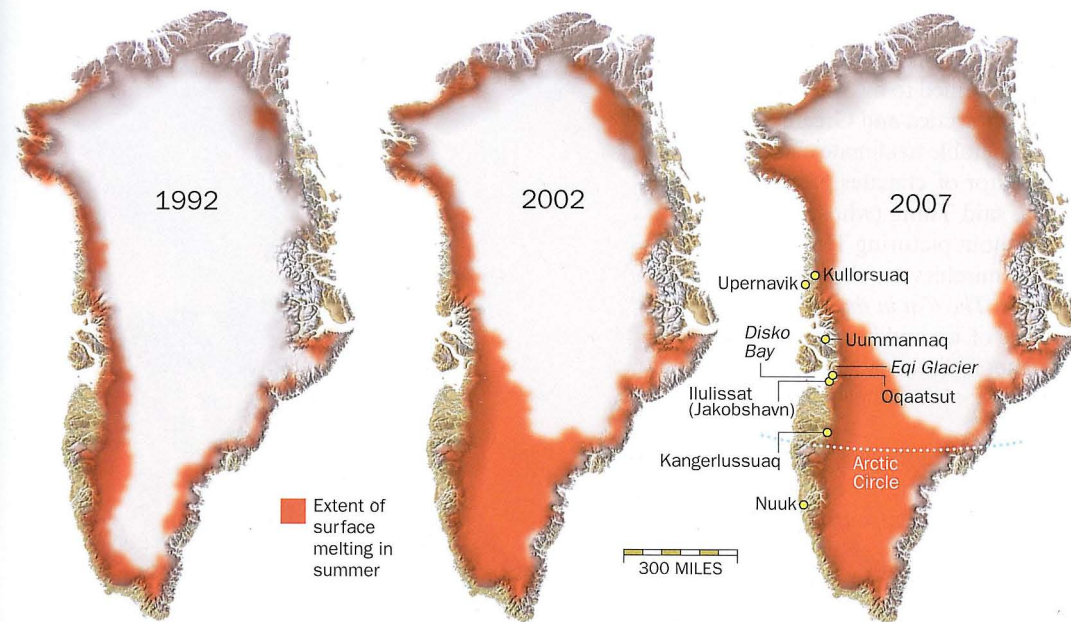
For several hours, we drive north along the fjord, the sole hint that anyone has ever been here before a faint track of trampled snow which our dogs follow with only an occasional crack of the whip or word from Mathaeussen. I know it is cold out because the batteries in my digital camera quickly go dead, but bundled in my sealskins and protected by my gloves, ski goggles, and boots, I have less complaint about the temperature than I did a few weeks ago at a Mexican beach resort, where the evenings were a bit cool for my liking.

As we ride, me mostly lost in a state of dreamlike

THE CANARY IN THE ARCTIC

As goes Greenland, so goes the world.

Since 1992, there has been a dramatic shrinking of the ice sheet. Not only could melting ice bring a catastrophic rise in sea levels, but it could eventually shut down the Gulf Stream, which gives northern Europe its temperate climate. Here is how the scenario would play out...

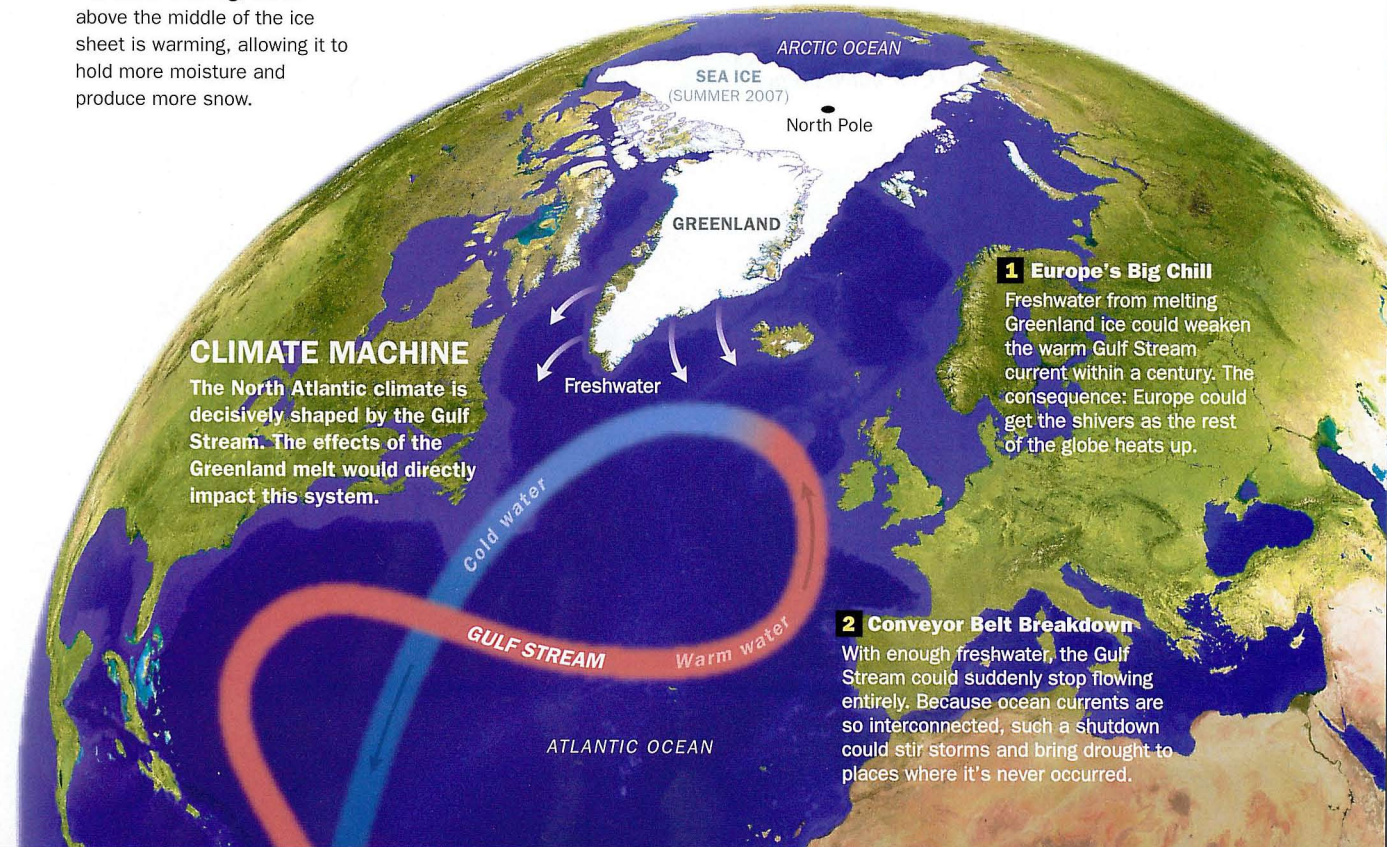
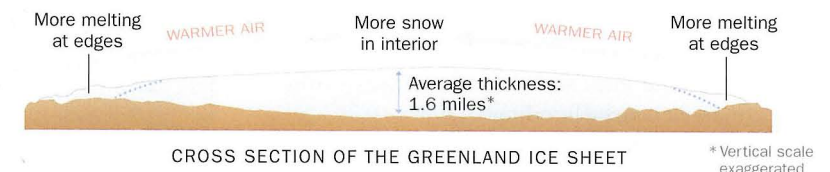


THE BIG MELT

Temperatures are rising faster in the Arctic than in any other region—at more than twice the average global rate. Melting sea ice creates a "positive feedback loop": Newly exposed water, which is darker than ice, absorbs greater amounts of sunlight, causing temperatures to rise even more. Separately, increasingly warm subsurface ocean water, a result of changing global temperatures and oceanic circulation, is speeding up glaciers like Ilulissat's Jakobshavn, the world's fastest-moving, racing along at as much as 112 feet per day.

GOING, GOING, GONE

The Greenland ice sheet is, oddly, thickening in the middle as it shrinks. Why? Above-freezing temperatures cause the sheet to melt at its thinning edges. At the same time, while still below freezing, the air above the middle of the ice sheet is warming, allowing it to hold more moisture and produce more snow.



CLIMATE MACHINE

The North Atlantic climate is decisively shaped by the Gulf Stream. The effects of the Greenland melt would directly impact this system.

1 Europe's Big Chill

Freshwater from melting Greenland ice could weaken the warm Gulf Stream current within a century. The consequence: Europe could get the shivers as the rest of the globe heats up.

2 Conveyor Belt Breakdown

With enough freshwater, the Gulf Stream could suddenly stop flowing entirely. Because ocean currents are so interconnected, such a shutdown could stir storms and bring drought to places where it's never occurred.

Graphics by Joe Lertola

THERE IS NOTHING LIKE SLEEPING IN CLOSE QUARTERS WITH WOMEN OF SLIGHT ACQUAINTANCE TO MAKE YOU REALIZE HOW DESPERATELY YOU NEED A BATH

contemplation, I find it hard to imagine that any kind of change could ever occur here, or that the rest of the world could care. But then I recall conversations I had with several scientists during a stop in Denmark on my way over. One of the scientists, Henning Thing, of the Danish Polar Center, who was preparing for his fortieth year of field research in Greenland, explained to me why, of the world's two great ice sheets, Antarctica and Greenland, the latter is so much more vulnerable to climate change, thus making it a better indicator of climates past and, possibly, future. Antarctica, said Thing (whose name, I must confess, I can't see without picturing Thing One and Thing Two, the incurably mischievous characters in the Dr. Seuss children's classic *The Cat in the Hat*), has ten times Greenland's volume of ice and is surrounded by an ocean current that isolates it climatically.

"It would take an immense cooker to heat that up," Thing said. (See what I mean?)

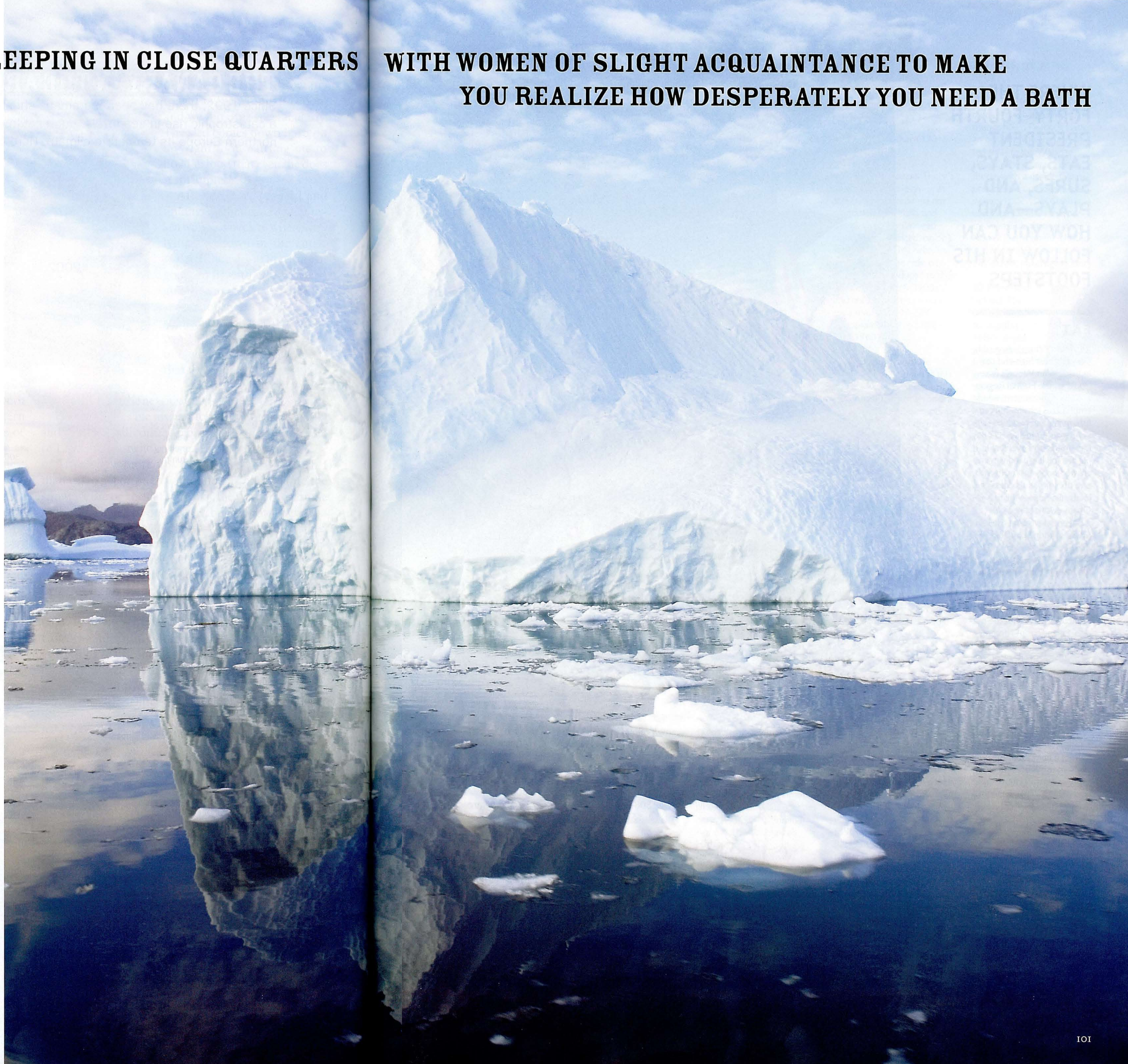
Greenland, on the other hand, is more easily affected by change because of its smaller volume of ice, and because it is influenced by a system of ocean currents that more easily transport heat to and from it.

"So whatever is going to happen will happen quicker in Greenland," Thing said.

According to some predictions, that might include a melting of the ice that, in a worst-case scenario, could cause sea levels around the world to rise by as much as twenty-three feet. That, and atmospheric circulation patterns, would have global consequences—from drought to massive coastal flooding.

Sune Olander Rasmussen, an ice core researcher at the University of Copenhagen's Centre for Ice and Climate, is among those attempting to determine what might trigger such an event. The focus of the team Rasmussen works with is to study climate history by drilling deep into the Greenland ice sheet and (Continued on page 125)

See additional images online at cntraveler.com/greenland.



Sign of the times: Although icebergs—like the one at right, near Kullorsuaq—are found near the ends of the earth, their increasing numbers are being felt in major cities throughout the world.