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CLIMATE CHANGE IN THE NORTH

**'EXISTENTIAL THREAT' RAISES CALLS FOR
CHURCH LEADERSHIP, VISION IN TACKLING CRISIS**



Graves in the northern Arctic, as in most places, are dug six feet deep. Unlike areas further south, the ground at these high latitudes is frozen below a certain point. Ground that is frozen for two or more years is known as permafrost.

When David Parsons returned to the Arctic in 2003 to serve as incumbent at the Church of the Ascension in Inuvik, N.W.T., his duties included preaching at funerals. It was prior to these funerals that he first began to notice a disturbing sight: the graves that had been dug had begun to fill with water. ▶

“Being the canary in the North, we’ve seen the change in the environment,” Bishop David Parsons says. “It’s not a theory to us.”

PHOTO: CONTRIBUTED



▶“When I’m going through the graveyard to bury somebody, I would have to jump down into the grave and bail it out, because of the water,” recalls Parsons, now bishop of the diocese of

the Arctic.

“You try to do that before the family got there, but if you’re coming right from the church, other people may have done it,” he adds. “But it wasn’t uncommon to have to do that at times with some of the graves, and I’ve done that in Aklavik, in Tuk and Inuvik.... We definitely see a change in the permafrost.”

The thawing of permafrost is one of the most significant effects of climate change. Scientists have warned that the thawing permafrost could have dire ramifications by causing a feedback loop that will further accelerate global temperature rise. But in the Arctic and Yukon, the growing impact of climate change is already a reality—one that Anglicans throughout these regions are bearing witness to.

On May 19, Archbishop Fred Hiltz, then-primate of the Anglican Church of Canada, blessed the opening of a new Anglican church, St. Luke’s, in the community of Old Crow, Yukon. That same day, the Vuntut Gwitchin First Nation of Old Crow declared a climate change emergency.

The Yeendoo Diinehdoo Ji’heezrut Nits’oo Ts’o’ Nan He’aa Declaration points to drastic changes in the land and animals in Old Crow and the surrounding territory of the Vuntut Gwitchin, and the fact that annual average temperature in the Canadian North has increased by 2.3 degrees Celsius. It calls on communities, governments, organizations and movements to utilize all their resources towards efforts to prevent the rise of world temperatures

to more than 1.5 degrees Celsius above pre-industrial levels—the benchmark identified by the Intergovernmental Panel on Climate Change (IPCC) to reduce catastrophic effects on the global ecosystem, human health and well-being.

Lorraine Netro, a member of the Vuntut Gwitchin First Nation and St. Luke’s Anglican congregation in Old Crow who serves on the chief’s committee for climate change and the environment with the Assembly of First Nations, has seen the negative effects of climate change in her community firsthand.

Netro is a longtime advocate for protecting the calving grounds for the porcupine caribou, which are located in the Arctic National Wildlife Refuge. The porcupine caribou are vital to food supplies for the Vuntut Gwitchin.

“We depend solely on the porcupine caribou herd for our food sustenance, and for the past number of years, we haven’t seen the caribou go by, nearby our community, like it used to,” Netro says. “So we don’t get our food harvest like we used to, and that causes food insecurity.”

Like many other animals in the North, porcupine caribou subsist on lichen, a slow-growing plant that forms a surface over rocks and trees. Because of warming temperatures, snow that used to stay frozen now melts and re-freezes, forming a layer of ice over the lichen that makes it difficult for the caribou to eat.

Each spring, the porcupine caribou pass through the area near Old Crow in April, May and June, a period known as the caribou days. In recent years, caribou numbers have dwindled. The 2019 caribou days marked the first time that the porcupine caribou herd had come through the community in meaningful numbers in four years. ▶



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PHOTO: MIKE BOYLAN USFWS/PIXNIO



►The changing climate impacts food security in other ways for the Vuntut Gwitchin. Hunters and trappers, who relied on their traditional knowledge of animal migrations and weather patterns, now face greater uncertainty due to changes in these patterns. Safety is also an issue as ice disappears sooner in the spring.

Meanwhile, fishers have seen salmon numbers go down. The Clayoquot Biosphere Trust's 2016 Vital Signs report noted that rising air temperatures cause declining water levels in rivers and higher rainfall precipitation during cooler seasons, causing more frequent flooding and increased erosion in salmon spawning habitat—driving down the number of salmon who return to rivers.

With Old Crow being a fly-in community, the Vuntut Gwitchin must rely more on food transported by air into the community, which means higher food prices. But Netro says that these changes also have a spiritual effect on her people.

"We live a traditional and cultural way of life," Netro says. "Our lifestyle depends totally off the land and our rivers. The Vuntut Gwitchin people [are] spiritually connected to our land, animals and waters."

"When we don't harvest caribou for one spring or one



“When we don’t harvest caribou for one spring or one fall, that impacts us as a people. When you take away one key aspect of our cultural way of life, that has a domino effect on our emotional, spiritual well-being.”

—Lorraine Netro



fall, that impacts us as a people,” she adds. “When you take away one key aspect of our cultural way of life, that has a domino effect on our emotional, spiritual well-being.”

Conversely, when the caribou came back this spring during the May long weekend, “the spirit and energy and everyone in our community was just lifted.”

Chief Dana Tizya-Tramm is unequivocal about the danger that climate change poses to the Vuntut Gwitchin.

“This is an existential threat for our people,” he says. “But we share this threat with the world.... The world is telling us that it’s come to a point of break. The environmental systems we’ve stressed, the natural resources we’ve stressed, our manipulation of chemicals and how we flow them through our environments, have stressed the world to the point where we are now not dealing with a climate issue. We are dealing with a people issue.”

While the Vuntut Gwitchin have raised the alarm with their declaration of a climate emergency, the ramifications of climate change have left their mark on all people living in the North, as Parsons can attest.

The ministry of Parsons in the Arctic stretches back

to 1989, when he began a five-year term as incumbent at All Saints Church in Aklavik, N.W.T. After 10 years as an evangelist with the Church Army in New Brunswick, he returned to the North for a stint as incumbent at the Church of the Ascension in Inuvik. In 2012, he was elected bishop of the Anglican diocese of the Arctic.

During that time, Parsons has noted a variety of changes in the Arctic climate, from warmer temperatures to differences in snowfall. Such anecdotal observations reflect conclusions from the IPCC’s latest report, which describes rising temperatures leading to the further thawing of permafrost, reduced sea ice and changing precipitation patterns that threaten Arctic infrastructure and services.

For example, all buildings in the North are usually built on stilts, akin to telephone poles, dug three to six metres into the ground. In the past, residents would dig a hole, stick a wooden post in and wait for the ground to re-freeze, which would provide a solid foundation for the building.

“Nowadays, because [of] the permafrost, a lot of those poles are experiencing dry rot,” Parsons says. “Now to build, you have to use metal pipes, and the metal pipes are put down deep into the permafrost.... That’s very



Melting permafrost has already cost cities like Dawson City, Yukon, hundreds of thousands of dollars—as buildings slant, pipes burst and roads crack, according to reports published by the CBC. PHOTO: PI-LENS/SHUTTERSTOCK

expensive.... If you have 30 holes, it could be \$1,000 [per pipe] in some places at the lowest level. That would add an extra \$30,000 onto your building.”

A 2016 study by scientists in Siberia warned that buildings would start to collapse by the mid-2020s as a result of the thawing permafrost, which makes the ground unstable and can lead to landslides and coastal erosion.

Roads are also at risk, as the shifting of ground due to the thaw can cause highway asphalt to buckle, resulting in large bumps in the road.

“A lot of highway crews...put in a road, and from Newfoundland across the country, you can see then parts where the road has swelled up, where it’s frozen or melted, and it shifts the pavement up or down,” Parsons says. “In our roads in the North, you can see those areas where it’s a lot more than what is considered normal.”

Because many areas of the Arctic do not have any proper roads or are otherwise inaccessible, drivers there have long travelled on frozen ocean, following routes that were safe in the past. But with shifting currents, warming temperatures and dwindling ice cover, the ice that vehicles travel on often proves more precarious than drivers expect.

In some cases, the consequences can be deadly—a reality that can be hard to grasp for people who live further south.

“Just imagine driving down the Don Valley Parkway [in Toronto] and a number of cars disappear in sinkholes. I think that would cause a bit of a problem, right?” Parsons says.

“A number of years ago, we lost one of our deacons. He and his wife were well-seasoned travellers, and they went through the ice. I’ve heard of stories of people going

through it thinking that they're on what we call multi-year ice, and it was year ice, and so they've gone through [the ice] with their snow machines."

Despite such tragedies, Parsons points out that for people living in the North, the effects of climate change are often complex. With the melting of polar ice, for instance, parts of the Northwest Passage that were previously inaccessible to ships are now navigable, providing an influx of new jobs. For example, some Arctic residents now work on cruise ships.

Nevertheless, the negative effects of climate change have compelled communities to seek solutions to rising global temperatures, as evidenced by the declaration of a climate change emergency in Old Crow. Precisely what such a role might look like, however, garners different responses among different communities and individuals.

In Old Crow, the Vuntut Gwitchin have taken on what Tizya-Tramm calls "the largest solar energy project in the circumpolar north," in the form of a 940-kilowatt solar array that the community will own and operate for 25 years.

Old Crow previously flew diesel into the community to be burned in a diesel generator, making it one of the highest carbon emitters per capita in the Yukon. The new solar array aims to satisfy 24 per cent of the community's energy needs, allowing Old Crow to turn off their diesel generator from early March to late September. The Vuntut Gwitchin are also working on feasibility studies for biomass and wind energy.

Tizya-Tramm hopes that the climate emergency declaration will serve as a stepping stone towards a pan-northern or pan-Arctic climate accord. He sees the church as a key ally in supporting the call to action outlined in the document.

"When we stand with the church, it helps legitimize things," the chief says.

"When we label each other, it devolves the conversation, because one person is industry, the other is an activist," he adds. "Just right there, it sets up biases and an uneven ground.... But when the church is involved in this as well, that is the greatest equalizer, as an activist and an industry [person], they both go to church.

"There's a large vacuum here, and I believe that climate change offers all of us an opportunity of reflection, cohesion and moving forward. But I also see a large opportunity here for the church to be a leader in

all of this.... Their teachings in general, I believe, all very much pertain to this—respect for one another, respect for creation and a larger context in which we all fit into, not just an individual pressing their will upon creation."

Parsons believes that the Anglican Church of Canada must pray and support investments into technology to facilitate the transition away from fossil fuels towards sustainable energy. He decries what he calls a lack of "vision" in the church.

"Being the canary in the North, we've seen the change in the environment," he says. "It's not a theory to us. But to be thinking stupidly, if we just cut out Alberta gas for instance, or northern oil and natural gas, that that's going to fix something—we're light years away from what needs to be done. But light years can happen in one year."

He cites the telephone as an example of how quickly technology can change, from landlines and rotary telephones to the smartphones of today.

"The Anglican Church of Canada can pray and support people from all walks of society.... We're supposed to pray for our governments, pray for the engineers and other scientists who are working diligently trying to come up with solutions, support people in all walks of life to be able to be moving in that direction," Parsons says.

"But my part is to try to encourage people that there's hope—that there is a God that is interested in us, and he calls us to walk by faith to be able to look at things that do not exist as if they're possible to exist.... The Anglican Church of Canada can encourage young people to study, study really hard to learn and seek solutions and to invent things that do not exist yet."

"We need to encourage scientists to keep going," he adds. "It's no simple thing. But it's an act of faith, believing that what is not possible is possible. I don't mean to be critical. I mean to be encouraging to others. For us up here, sometimes you've just got to deal with things. And the Arctic people have always been innovators."

For Netro, the call to action is succinct, based on concern for those who will come after her.

"People need to wake up and make it a priority, because what kind of land are we going to leave for our future generations?" she asks. "It's my responsibility as a grandmother to do whatever I can today." ■