Upside to global warming: 'New North' will thrive

September 6 2010, by Meg Sullivan

Laurence Smith

Move over, Sunbelt. The New North is coming through, a UCLA geographer predicts in a new book.

As worldwide population increases by 40 percent over the next 40 years, sparsely populated Canada, Scandinavia, Russia and the northern United States will become formidable economic powers and migration magnets, Laurence C. Smith writes in "The World in 2050: Four Forces Shaping Civilization's Northern Future" (Dutton Books), scheduled for publication Sept. 23.

While wreaking havoc on the environment, global warming will liberate a treasure trove of oil, gas, water and other natural resources previously

locked in the frozen north, enriching residents and attracting newcomers, according to Smith. And these resources will pour from northern rim countries — or NORCs, as Smith calls them — precisely at a time when natural resources elsewhere are becoming critically depleted, making them all the more valuable.

"In many ways, the New North is well positioned for the coming century even as its unique ecosystem is threatened by the linked forces of hydrocarbon development and amplified climate change," writes Smith, a UCLA professor of geography and of Earth and space sciences.

Other tantalizing predictions:

• New shipping lanes will open during the summer in the Arctic, allowing Europe to realize its 500-year-old dream of direct trade between the Atlantic and the Far East, and resulting in new access to and economic development in the north.

• Oil resources in Canada will be second only to those in Saudi Arabia, and the country's population will swell by more than 30 percent, a growth rate rivaling India's and six times faster than China's.

• NORCs will be among the few place on Earth where crop production will likely increase due to climate change.

• NORCs collectively will constitute the fourth largest economy in the world, behind the BRIC countries (Brazil, Russia, India and China), the European Union and the United States.

• NORCs will become the envy of the world for their reserves of fresh water, which may be sold and transported to other regions.

An Arctic scientist who has consistently sounded alarms about the

approach of global warming, Smith is best known for determining the role of climate change in the disappearance of more than a thousand Arctic lakes over the last quarter of the 20th century. Discover magazine ranked Smith's finding among the top 100 scientific discoveries of 2005.

The geographer also has conducted research on the role of greenhouse gases in precipitating the end of the last Ice Age some 9,000 years ago.

Armed with a fellowship from the Guggenheim Foundation, Smith set out in 2006 on a 15-month tour to assess the toll of global warming on the northern rim, especially among such indigenous peoples as Canada's Inuit and Scandinavia's Sami. He interviewed seal hunters, reindeer herders, fishermen, miners, farmers, oil company executives, biologists, climatologists, oceanographers, indigenous elders, restaurant operators, small-town mayors and big-time federal officials. But the scientist uncovered more than he expected.

"I kept badgering people for stories about climate change," Smith said. "They'd sigh and oblige me, but then say, 'There's also this oil plant going up behind me' or 'All these Filipino immigrants are pouring in.' Within about two months, I realized there is a lot more going on up there besides climate change. Climate change is a critical threat to many people, but it isn't the sole development in their lives."

In fact, climate change is only one of four "global forces" Smith analyzes in the book. He also addresses the anticipated toll worldwide of a growing and aging population, dwindling natural resources at a time of mounting demand, and increasing globalism and economic integration.

"I went up there to write a book about climate change," Smith said. "I came out of it writing about the world and the big pressures it faces."

Not surprisingly, Smith predicts that China will replace the U.S. as the

country with the strongest economy by 2050. The U.S. will drop to second place, followed by India, he said. Meanwhile, megacities will proliferate, increasing from 19 today to perhaps 27 by 2025.

According to Smith, in the best-case scenario, climate change can be expected to raise temperatures an average of 4.5 degrees Fahrenheit by century's end, a large number greater than the difference between a record cold and a record hot year in New York. At worst, temperatures will rise twice as much. And don't expect relief from wind, solar and hydrogen technologies, he warns. By 2050, they still won't satisfy global energy needs. In fact, growing water shortages may force societies to choose dirtier power sources, such as coal, over cleaner, water-intensive sources like hydropower.

Smith paints a picture of wet regions of the globe getting wetter, parched regions becoming drier and increasingly erratic and dangerous weather events.

As a result of these and other threats, wildlife will suffer the greatest rate of extinction since the disappearance of the dinosaurs 65 million years ago, he writes. Climate change will push wildlife that manage to survive northward and into higher elevations, with increasing hybridization between northern and southern species.

And human population and prosperity trajectories presents the greatest threat of all, Smith says. The demand for water in North Africa, the Near East and South Asia is already overtaking supply, and the situation will only get worse. In fact, worldwide water resources will become so precious that they will be tracked from outer space, possibly within the next decade.

Hardest hit by the changes, Smith predicts, will be megacities in the developing world, which are already struggling to accommodate an

influx of rural migrants, "despite being hell on Earth." But not so in the New North. New prosperity awaits communities that lie north of the 45th parallel as global warming diminishes winter's severity and the world's energy appetite increasingly turns to natural gas and unconventional oil, he writes.

"In many ways, the stresses that will be very apparent in other parts of the world by 2050 — like coastal inundation, water scarcity, heat waves and violent cities — will be easing or unapparent in northern places," Smith said. "The cities that are rising in these NORC countries are amazingly globalized, livable and peaceful."

Cities expected to increase in size and prominence over the next 40 years include Toronto, Montreal, Vancouver, Seattle, Calgary, Edmonton, Minneapolis-St. Paul, Ottawa, Reykjavik, Copenhagen, Oslo, Stockholm, Helsinki, St. Petersburg and Moscow, he writes.

"It's not that London or L.A. are going to become empty wastelands," Smith said. "Even in 2050, there will be far more people down here than in the north. But many northern places that are now marginal or not really thought much about will emerge as very nice places to be."

Of the 10 "ports of the future" cited by Smith, only three — Alaska's Prudhoe Bay, Canada's Churchill and Iceland's Reykjavik — will sound familiar. Future beneficiaries of increased Arctic traffic will also include Nuuk in Greenland; Hammerfest, Kirkenes and Tromsø in Norway; and Archangelsk, Dudinka and Murmansk in Russia.

Although they will be facing severe threats to their traditional culture, northern indigenous communities can be expected to share in the wealth, Smith predicts. In the northern U.S., Canada and Greenland, these societies are expected to trade harpoons for briefcases, as increasingly common self-determination agreements allow them to exploit natural

resources just as climate change is making them more accessible.

"Northern aboriginal people don't like being portrayed as hapless victims of climate change," Smith said. "They want the power and resource revenues to save themselves, and at least in North America, it looks like they'll have it."

Research for the book in no way abated Smith's concern about the prospects of climate change, but it did leave him optimistic in a lot of ways.

"It's like the Louisiana Purchase of 1803," he said. "There's a new part of the world that's emerging, with vast continents and a harsh geographical gradient but also resource and immigration bonanzas. Humanity will increasingly look north in response to the four global pressures of rising population, resource demand, globalization and climate change."

Provided by University of California Los Angeles