By Bob Reiss

S THE MIDNIGHT SUN RISES over the North Pole this year, it will shine down on a great race at the top of the world that could affect the lives and pocketbooks of every American. It will be a race not of explorers on dogsleds but of scientists on icebreaking ships, mapping the ocean floor below. Their work may provide a key to global wealth and power in the 21st century.

If the race goes well, the U.S. stands to gain rights to oil and gas deposits in an undersea territory 20

times larger than Kuwait. Experts say other benefits may come as new shipping routes open, lowering the cost of cars you buy, gasoline you purchase, and many items shipped to the eastern U.S. from Asia.

"Economic, scientific, and conservation opportunities in the Arctic are fabulous," says James Connaughton, President Bush's top energy adviser. Adds Rear Adm. Arthur E. Brooks, who heads the Coast Guard off Alaska, "The Arctic is crucial."

But both men are worried, too. If other nations gain control of disputed areas of the sea bottom or of new shipping

lanes that the U.S. wants kept open to all, security may be handicapped. They'd like to see better intercountry coordination to protect Arctic waters. Some

experts even fear eventual altercations. "If the United States doesn't lead the way toward diplomatic solutions, the Arctic may descend into armed conflict," warns Scott Borgerson of the Council on Foreign Relations.

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Eight countries ring the 5.5 million square miles of sea and land above the Arctic Circle

A bird's-eye perspective of the Arctic region

PHOTOS BY FEDOSEYEV LEV/ITAR-TASS/CORBIS (ICE-BREAKER), DURNER/THE ANCHORAGE DAILY NEWS/AP (TREADWELL), ASSOCIATION OF RUSSIAN POLAR EXPLORERS/AP (FLAG), AND AMSTRUP/U.S. FISH AND WILDLIFE SERVICE (POLAR BEARS); MAP BY MANUEL CARTAGENA

The area has some of the toughest conditions on Earth—subzero temperatures, icebergs that can smash ships, and terrain that has killed hundreds of explorers.

Until recently, the Arctic's wealth-which may include up to 25% of the Earth's oil and gas reserves-was too difficult to reach. But now the North Pole is warming twice as fast as the rest of the planet, according to the Intergovernmental Panel on Climate Change. Last year's summer Arctic ice cap was half the size it was 50 years ago. As the ice shrinks and technology improves, "it's likely, if you live in Maine, that your gasoline will soon be coming from the Russian Arctic partly via icebreaking tankers," says Mead Treadwell, chair of the U.S. Arctic Research Commission. "If you want to buy any item made in Asia, odds are increasing that it will come through the Arctic."

Why take the new route? Savings. A container ship sailing from China to New York would shave off more than 3000 miles by going through the Arctic. Each trip would save as much as \$2 million on fuel and fees for the Panama Canal—savings that could be passed on to consumers.

Signs of a warming Arctic are everywhere. Some are tragic. Melting ice is shrinking the habitat of

animals like polar bears. Native hunting grounds have disappeared. In Alaska, roads, buildings, and pipelines will need billions of dollars worth of shoring up as the frozen ground beneath them thaws. And sea levels are gradually rising.

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But there are some benefits as well. Norway's new Snow White energy field, 90 miles offshore and once unreachable, is expected to produce \$1.4 billion worth of liquefied natural gas annually for the next 25 years. Arctic oil already has helped make Russia the world's second-biggest oil producer.

One farseeing Denver businessman, Pat Broe, and his company, OmniTRAX, bought the Canadian sub-Arctic port of Churchill 10 years ago for \$10. The barren area is home to polar bears and tundra. Nobody thought Churchill could be profitable, since ice blocked the port much of the year. Now more ships

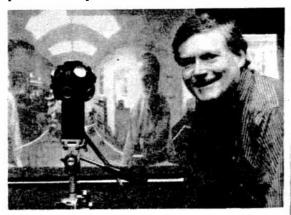
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are arriving there to load Canadian agricultural products. It's cheaper to ship goods by rail to Churchill and then send them across the Arctic than to send them by the longer southern route. In the near future, crops from the Midwestern U.S. may go via Churchill, too. What's more, the Northwest Passage—the legendary sea route that threads through Canada's northern islands and links the Atlantic and Pacific oceans—was open last summer.

Scientists think the passage will be permanently ice-free during the summers sometime between 2013 and 2040. Borgerson predicts that within 20 years, a U.S. town like Alaska's Dutch Harbor may become a trade hub as important as thriving Singapore is today, with a significant tonnage of world shipping sailing past. That's why the race is on to draw boundaries and why American, Russian, and Norwegian scientists will be up north this summer, mapping the sea bottom.

Their work will help governments divide up thousands of square miles of sea floor—areas where the ocean surface will remain international but a host country will own the mineral rights underneath. "This will be the greatest division of lands on Earth possibly ever to occur, if you add up claims around the world," says Paul Kelly, an American consultant on energy and ocean policy.

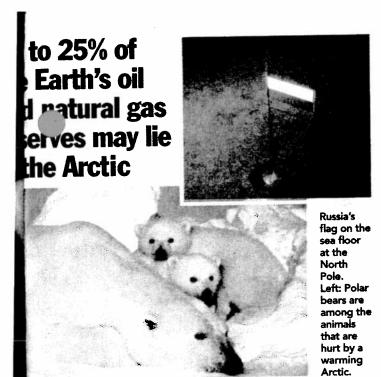
Although Arctic relations remain friendly, disputes have erupted. Canadian and American claims



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—Mead Treadwell, U.S. Arctic Research Commission

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overlap near Alaska. Russia claims regions bigger than the land masses of France and Spain combined. Canadian officials insist the Northwest Passage belongs to their country, while the U.S. wants it to be international. Some Arctic experts fear the war of words may turn into worse. "The Russian claim is a time bomb," says Ariel Cohen, a Russian policy eart at the Heritage Foundation, a conservative tank in Washington, D.C.

Last summer, the race heated up after a Russian mini-sub dropped a flag on the sea bottom at the North Pole. "The Arctic is ours," boasted Arthur Chilingarov, a Russian explorer and legislator. The flag drop electrified other countries. One week later, Canadian Prime Minister Stephen Harper flew to a small, rocky Arctic island at Resolute Bay. "Use the Arctic or lose it," he said, promising funding for new icebreakers, Arctic troops, and a new military base.

Meanwhile, officials in Washington, D.C., have begun a wholesale review of Arctic policy, but Cohen calls U.S. preparation "notoriously insufficient." While the Russians have about 20 icebreakers, the U.S. Coast Guard has just a couple considered seaworthy. Russia and Norway have filed claims with the U.N., and Canada and Denmark are expected to follow. The U.S. has not yet filed a claim and is the only Arctic nation that hasn't ratified a treaty called the Convention on the Law of the Sea, which will determine who gains control of contested offshore areas around the world.

"The U.S. will be cut out of the boundary wars if we don't ratify soon," said Sen. Lisa Murkowski

(R., Alaska). President Bush called ratification "urgent," saying that it "would give the U.S. a seat at the table." Ratification is supported by a wide alliance of oil and shipping companies, Senators from both parties, and major environmental groups, which favor the treaty's provisions for protecting the oceans around the world. But a group of Senators has blocked ratifying the treaty. Sen. David Vitter (R., La.) says it would "hand a portion of our national security matters to the U.N."

A U.N. commission of scientists has started to analyze Arctic claims. The commission's head, Alexandre Albuquerque, a retired Brazilian Navy commander, says it's possible that other nations' claims may be recognized while America delays ratifying the treaty.

This summer, American scientists

will be charting the sea floor north of Alaska on a Coast Guard icebreaker. Chief scientist Larry Mayer says that he'll always remember two sights from last year's voyage, when the ice had shrunk so much that the ship was able to research at least 100 miles farther north than was previously possible. He was excited by the first sight: the sea bottom captured on his computer screen. The floor was pocked with 300-foot-wide holes, an occurrence that usually indicates escaping natural gas.

The second sight occurred when Mayer was standing on deck. He spotted a lone polar bear drifting on a 30-foot-wide piece of ice. In the old days, the animal could have walked on solid ice back to land, but now it was bent and doomed. To Mayer, the two sights highlighted opportunity and tragedy in the least-mapped area of the world.

Why the Arctic Matters

- Russia, Canada, the U.S., and several other nations are vying for a share of the 5.5 millionsquare-mile region above the Arctic Circle.
- This resource-rich area may contain up to 25% of the Earth's oil and gas reserves.
- The Arctic's warming is opening sea routes that could make shipping goods to and from Asia and Europe cheaper and faster.