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# US is seeking new riches with claims to ocean floor

By Beth Daley, Globe Staff, 5/11/2003

**T**he United States is rushing to stake a claim that could be worth billions of dollars and biological treasures in the last wild place left on earth: the deep seabed.

A little-known provision in a decades-old international treaty allows countries to extend their jurisdiction over ocean floor resources beyond the current 200-mile limit if they can prove that the underwater portion of their lands stretches farther out to sea. Many countries' coastlines give way to an underwater plain that slopes down for miles before hitting the true ocean floor.

With \$3.2 million from Congress, a team at the University of New Hampshire is leading a massive mapping effort to pinpoint exactly where these boundaries may be, especially off the coasts of Alaska and the Northeast, two of the most promising regions.

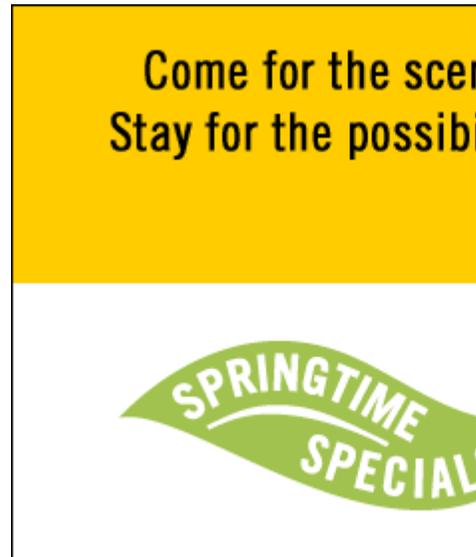
By one estimation, the United States could reap up to \$1.3 trillion in oil, gas, and mineral reserves, and unknown biological resources, such as deep-sea corals that hold hope for pharmaceutical products.

"We don't really know exactly what is down there," says Larry Mayer, director of the University of New Hampshire's Center for Coastal and Ocean Mapping. "We are confident within the [US jurisdictional] limits."

The National Oceanic and Atmospheric Administration has contracted with two private vessels equipped with sophisticated sonar devices to give more detail about the seabed floor and where the United States is entitled to stake a claim.

So far, only Russia has submitted a claim to the United Nations agency for the continental shelf rights, but more than a dozen other countries are preparing scientific reports to make their claims before a 2009 deadline. If Russia's submission is any indication, however, the proposed boundaries are likely to translate into nasty international disputes.

Already, that country's claim to more than 600,000 square miles around the Arctic region is disputed by the United States and four other countries that say Russia's scientific v



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flaws."

Environmentalists are taking a wait and see attitude on interest in exploring the sea, but hope international oversight could limit the damage from activities such as oil drilling. The treaty encourages greater exploitation.

"I certainly would be concerned about any proposal or any encouragement about oil until we have a full and clear understanding of the values of the ocean floor," said campaign director for Oceana, an international oceans advocacy group.

For years, countries all but ignored this submerged region outside their 200-mile jurisdiction, stymied by a lack of technology to drill for oil in thousands of feet of water and a lack of knowledge of exactly what they would find on the seabed. Now, with better mapping tools, Brazil is drilling for oil in 6,000 feet of water -- a depth unheard of 15 years ago. Some believe countries will one day be able to tap into vast amounts of energy reserves such as methane in seabed sediment.

The key legal document in the seabed rush is from a 1982 UN convention that gave coastal nations jurisdiction over the resources from the ocean floor to the sea's surface, 200 nautical miles from their shore. A provision in this Law of the Sea Treaty also gives countries jurisdiction over resources on and under the seabed up to 350 miles from their coast if they can prove that their continental shelves extend there. The extended area does not include anything else in the water, although it may include some bottom-reliant species such as

Existing sonar mapping has given scientists a good general idea of the topography of the seabed. The team is relying on a technique called multibeam sonar that can cover the sea floor completely, giving a better picture of its structure.

In addition to Alaska and an area beyond Georges Bank off New England, the US has claims near the Blake Plateau off Florida. The UN has a complex formula for staking a claim on the seabed, requiring details such as sediment depths and other indicators of where the continental slope hits into the true sea floor.

Already, however, existing data the UNH team has painstakingly reviewed are revealing unexpected secrets of the sea floor even off New England, one of the most studied

"There are constant surprises," says Mayer. "People always had this idea of the sea floor being flat and boring, but it's not at all. There are all sorts of geological features we're seeing such as landslides for instance."

Coastal countries have rights over about 20 percent of the world's ocean in their 200-mile continental shelves. According to one analysis, about 54 countries may be able to claim extensions of their continental shelves, accounting for an additional 5 percent of the world's oceans, making the total claimed equal to more than half of the Earth's land surface.

Questions still exist, however. It's unclear what legal standing US claims will have until the US ratifies the Law of the Sea Treaty, although it abides by its rules.

According to the treaty, countries have 10 years from the time they ratify to submit claims. Countries that ratified the treaty more than a decade ago have been given an extension

Observers say the United States no longer has significant objections to the treaty and could ratify it in the next few years.

Also certain to be debated is exactly what can be taken from the seabed. While nonliving items such as oil, gas, and minerals are clearly covered, the law states that living "sedentary" species can also be taken, although the definition can get fuzzy. For example, Icelandic scallops are considered sedentary by the UN because they can attach themselves to the sea floor, but Atlantic scallops, which can swim, are not, even though they are essentially the same shellfish.

Once the UN approves countries' claims, it's up to the nations to settle any overlapping border disputes. Once the claims are settled, the areas more than 350 miles out to sea may be the next to be debated.

While scientists are beginning to peer into these abyssal sea regions, some companies are already looking for valuable bacteria and minerals in places such as deep-sea hydrothermal vents that spew hot water from the Earth's crust and undersea mountains. A French cosmetic company is already advertising it is using heat-seeking bacteria from the vents to develop a sunblock lotion that gives more protection, according to news reports.

"The hope about ocean development is peculiar, subject to myth wedded with greed," says Jack Archer, a retired professor of environmental sciences at the University of Massachusetts at Boston and a specialist in ocean policy. "But it's still a great unknown. We don't really know what is out there."

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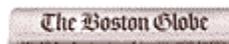
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