
RESOURCES & ENVIRONMENT

ventures have stirred heated debate at UN Law of the Sea Conferences, where Third World spokesmen contend that the sea's resources should be shared by all. As long as that issue remains, Crutchfield says, the United States should take care not to jeopardize trade relations with other nations in order to gain access to nodules whose exact value has yet to be determined.

Moreover, the United States should not move too fast to tap its offshore oil and gas reserves. Crutchfield asks: Why not leave such reserves intact until foreign oil becomes prohibitively expensive? Contrary incentives, however, are built into the U.S. Interior Department's present "bonus bidding plus royalties" leases on potential offshore oil fields. With oil companies investing up to \$250 million for a single lease (in effect, for an oil "hunting license"), "the pressure to produce is tremendous."

Clouds of Dust

"Dust from the Sahara" by Joseph M. Prospero, in *Natural History* (May 1979), P.O. Box 6000, Des Moines, Iowa 50340.

Reddish dust from the North African Sahara Desert creates a persistent, dense haze off Africa's west coast. Saharan dust has turned up in England—where automobiles were tinted red overnight in July 1969—and in the Alps and the Pyrenees, where "red snows" are not uncommon. One regular route, however, is westward, across the Atlantic.

The dust arises from great storms, some covering areas 600 miles long and 200 miles wide, writes Prospero, a geophysicist at Miami (Fla.) University. Hot air radiates up from the Sahara's barren surface to a height of three or four miles, where it mixes with high velocity wind streams. Wind speeds accelerate throughout the warm air, churning up the desert. A cloud of dust moves west to the African coast. From the coast, shifting trade winds carry it across the ocean at speeds between 17 and 21 miles per hour—southerly toward French Guiana in winter, northerly toward Miami, Fla., in the summer. Every summer, Saharan dust colors the sky over Miami a "milky yellow gray" and turns the setting sun into "a pale yellow gray disk."

During the early 1970s, the amount of atmospheric dust crossing the Atlantic increased—a change Prospero attributes to the drought in the Sahel region of Africa. Dust concentrations dropped after the drought ended but have remained above pre-1970 levels.

Overall, 20 percent of the earth's surface is arid or desert land, including parts of Central Asia, the southern Soviet Union, Australia, and the western United States. No one knows what would happen if the amount of dust in the earth's atmosphere increased markedly, observes Prospero, but there are some clues. The heavy dust concentrations off the coast of northern Africa, for instance, seem to inhibit the formation of cumulus clouds (a source of showers and thunderstorms), creating thin, "sheet-like" clouds instead.