Environment

Ozone threat from nuclear explosions

Officials of the U.S. Arms Control and Disarmament Agency have concluded that depletion of the atmosphere's ozone layer by atomic explosions may present a greater hazard from nuclear war than fallout. Agency director Fred C. Iklé announced discovery of the effect during a speech in Chicago earlier this month to the Council on Foreign Relations.

According to Iklé, the arms control agency learned of the effect earlier this year from still-secret AEC reports and has confirmed its existence through independent study. Apparently, nuclear explosions in the atmosphere produce nitric oxide molecules that interact with ozone concentrated in the stratosphere. Each molecule of nitric oxide can destroy many molecules of ozone, which are vital to life on earth since they filter out the harshest ultraviolet rays of the sun. A four percent decrease of the ozone layer was measured following the atmospheric atomic tests of 1960-61, and some of the strongest arguments leading to the scuttling of America's SST project centered on the plane's possible effect on atmospheric ozone.

Ilké says no one yet knows how many atomic explosions would be needed to destroy enough of the ozone layer to endanger human life, but his agency has commissioned the National Academy of Sciences to look into the matters and the Senate Foreign Relations Committee is investigating.

The costs of western coal

In the current issue of ENVIRONMENT magazine, two authors attempt an environmental cost analysis of proposed mining in the new western coal fields. In the next three decades, they say, a minimum of $19 billion in social and environmental costs will be encountered. Of this amount, $12 billion would be required for land reclamation, control of drainage, loss due to accidents and loss of recreational value of land due to strip mining. The remaining $7 billion would be needed to dispose of mine wastes and handle other side effects of sub-surface mining.

The article's authors are George E. Dials, a captain in the U.S. Army Corps of Engineers, now attached to the U.S. Atomic Energy Commission, and Elizabeth C. Moore, associate editor of APPALACHIA magazine. Traditionally, say the authors, "most of the cost has been paid by the people who live and work where the coal is mined." But now, "Technology is available to make coal mining safe for both miners and environment."

Fighting the tussock moth

Last year, the fuzzy larval stage of the tussock moth created havoc in the tall timber country of the Pacific Northwest, destroying nearly three-quarters of a million acres of forest in the worst outbreak ever (SN: 9/1/73, p. 138). Now a team of National Forest Service scientists in Corvallis, Ore., led by entomologist Hank Thompson, believe they have found an effective biological control.

After successfully identifying, culturing and test spraying a naturally occuring virus that attacks the tussock moth larvae, the scientists hope that after another year or so of field testing they can use the virus to control outbreaks of the moth without harming other life forms. In their current tests, cited in the August FOREST RESEARCH, they report 99.9 percent effectiveness in reducing populations of the pest in test-spraying in the Wallowa-Whitman National Forest near Enterprise, Ore.