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Letters

Plumes and peaks

After some examination of the atmospheric data taken during the Novaya Zemlya plume events ("Cloud Conundrums," SN: 3/28/87, p.204), I believe that these clouds are naturally occurring, orographically-induced formations. When winds blow perpendicular to the 2,500+ foot glacial ridge, along the northern portion of the island, a long gravity-wave pattern is established downwind, on the lee side. The cases collected by Matson show sharp boundaries conforming to the contour of this glacial barrier.

Changes in atmospheric moisture, stability or winds (speed or direction), together with the changes in barrier or mountain ranges, substantially affect the lee side cloud pattern. In the case of Novaya Zemlya, the glacier narrows to about half its width, a peak of 2,590 feet, before abruptly terminating near the northern coast. Without the barrier, the gravity wave becomes dampened and the lee

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cloudiness quickly tapers off, seemingly to a point source.

Cloud patterns that reflect the long waves downstream of mountains have been observed worldwide. Although this explanation does not carry the intrigue of anthropogenic or geomorphic activities, these cloud patterns serve as important descriptors of atmospheric motions. Research by others has shown that these patterns are often associated with strong upper-level turbulence and strong surface chinook winds.

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AIDS victims: Stressed out?

As suggested in Joanne Silberner's article "What Triggers AIDS?" (SN: 4/4/87, p.220) and

reinforced by Kenneth Epstein (Letters, SN: 5/16/87, p.307), there are strong suggestive links between stress and AIDS. It has been well established that the types of stress AIDS victims may be particularly predisposed to (social isolation, loss of important relationships) are associated with a decline in those immune system defenses responsible for our resistance to viral-linked disorders. It also is apparent that many individuals who demonstrate the antibody for human immunodeficiency virus do not develop AIDS. Studies are under way to test the hypothesis that such individuals are in fact better able to cope with stressful life events than those who succumb to the illness, as has been suggested in some malignant disorders. If this proves correct, then effective stress reduction techniques may provide important prophylactic adjunctive treatment benefits.

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