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Cover: A red maple swamp at Back Bay National Wildlife Refuge in Virginia Beach, Va. Under Congress' proposed new definition, the area would no longer rank as a wetland because it doesn't have enough plants or trees that grow exclusively in wetlands. (Photo: J. Paul Minkin, Environmental Protection Agency, Washington, D.C.)

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Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921. It gratefully accepts tax-deductible contributions and bequests to assist its efforts to increase the public understanding of science, with special emphasis on young people. More recently, it has included in its mission increasing scientific literacy among members of underrepresented groups. Through its Youth Programs it administers the International Science and Engineering Fair, the Science Talent Search for the Westinghouse Science Scholarships, and publishes and distributes the *Directory of Student Science Training Programs for Precollege Students*.

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Letters

No trouble in paradise?

I'd wager that the principal gas escaping from Kilauea is water vapor, not carbon dioxide ("Attack of the Vog," SN: 5/6/95, p.284). Furthermore, it appears from the article that most residents are not exactly choking. Perhaps the greatest danger to residents is that tourists will stay away if they read too many scary articles. The only sulfur dioxide I can remember being disturbed by when I spent much of a week on the Big Island in March was at Halemaumau, on the caldera rim.

Kenneth J. Van Dellen
Professor of Geology and
Environmental Science
Macomb Community College
Warren, Mich.

Magnetism or movement?

The simplest explanation for the presumed rapid changes in Earth's magnetic field, as

recorded in the Steen's Mountain lavas ("Earth's Magnetic Field Follies Revealed," SN: 4/22/95, p.244), is that the material from which the samples were collected was physically moved after it had frozen. Anyone who has observed live basaltic lava flows knows that huge frozen blocks will float around on the still liquid interior of the flow as new lava is added.

I think one has to be *very* careful with sample selection for paleomagnetism studies.

Richard G. Duncan
San Francisco, Calif.

Good point. If blocks of lava had tilted and rotated as they were cooling, it would seem as if Earth's magnetic field had shifted orientation. The authors of the paper ruled out this possibility, however, for several reasons. Tilt- ing and rotation of the blocks would have disturbed the flat flow, but there is no evidence of such movement at the outcrop, says Coe. Furthermore, the top and bottom of the flow display a different magnetic orientation than the

middle. For your explanation to work, the top and bottom surfaces of the solid lava block must have moved differently from the middle. "That is hard to imagine. And if it did happen, you should see it in terms of some disruption in the interior," says Coe. —R. Monastersky

G, the relative constant

Your report of differing results for the value of G, the gravitational "constant," does not surprise me ("Gravity's force: Chasing an elusive constant," SN: 4/29/95, p.263). I find that G changes every time I ride my bicycle. Sometimes the hill at the end of the street is only a minor obstacle. Other times it seems nearly insurmountable.

Mark A. Oldenburg
Bettendorf, Iowa

CORRECTION

Reader Paul Doering's name (Letters, SN: 5/27/95, p.323) was mistakenly printed as Paula. SCIENCE NEWS regrets the miss-print.

JULY 22, 1995

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