

SCIENCE'S COMPASS

ment (4), which was developed over about 3 years (versus 1 month for the NRC report). The summary from the IPCC is that "[t]here is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities."

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References and Notes

1. Committee on the Science of Climate Change, Division of Earth and Life Studies, National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (National Academy Press, Washington, DC, 2001). Available at <http://www.nap.edu/catalog/10139.html>
2. M. E. Mann, R. S. Bradley, M. K. Hughes, *Geophys. Res. Lett.* **26**, 759 (1999).
3. P. A. Stott *et al.*, *Science* **281**, 2133 (2000).
4. IPCC, *Climate Change 2001: The Scientific Basis*, J. T. Houghton *et al.*, Eds. (Cambridge Univ. Press, Cambridge, in press).

Earth System Science Sentiments

I AM IN ALMOST COMPLETE AGREEMENT WITH John Lawton's discourse on "Earth system science" (Editorial, 15 Jun., p. 1965). However, I was taken aback by the obvious lack of reference to geology as a constituent. By definition alone, geology should have been featured prominently in the discussion. And then I realized that the "Earth system science" described by Lawton is "geology." We don't need a new name because this is not a new discipline. The points made are still valid—we need to broaden the perspective and redesign our institutions to more fully use this new definition and allow the old science of geology to flourish.

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"THERE ARE, AS FAR AS I AM AWARE, NO undergraduate degree courses in [Earth system science]," says John Lawton in his Editorial. I am, in fact, a graduate of just such a program! Stanford University established its Earth Systems Program (<http://pangea.stanford.edu/ESYS/>) when I was a sophomore, allowing me to graduate in 1994 with a B.S. in Earth systems. When I was in the program, Earth systems students took classes in biology, geology, and economics, in addition to classes in mathematics, physics, and chemistry. The program offered several "tracks," or concentrations within the major program.

A number of other colleges including Southern Utah University, Cornell, California State University Monterey Bay, and Seoul National University (1) have

established similar interdisciplinary Earth science programs. Having such a breadth of exposure has served me well in several jobs and now in graduate school. I agree with Lawton's call for further institutional support for an integrated systems approach to Earth science, in the name of planetary health.

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References and Notes

1. Web sites for the programs mentioned are as follows: Southern Utah State University, <http://www.suu.edu/sci/physci/earth.html>; Cornell, http://www.geo.cornell.edu/ses/SES_home.html; California State University Monterey Bay, <http://csumb.edu/academic/descriptions/essp.html>; and Seoul National University, <http://sees.snu.ac.kr/bken/index.html>

CORRECTIONS AND CLARIFICATIONS

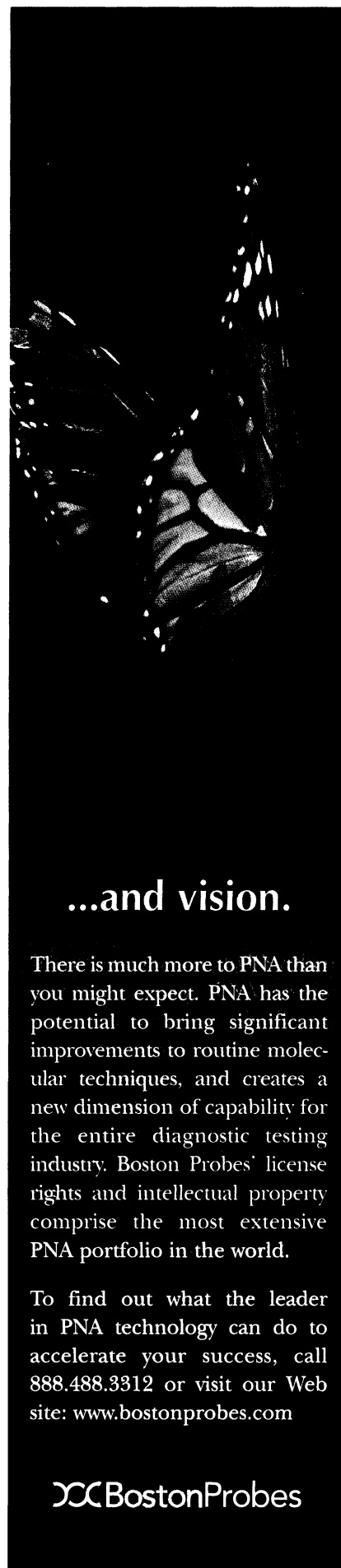
REPORTS: "New ages for the last Australian megafauna: continent-wide extinction about 46,000 years ago" by R. G. Roberts *et al.* (8 Jun., p. 1888). In note 27, one of the digits in the URL for the supplementary material was incorrect. The correct URL is www.sciencemag.org/cgi/content/full/292/5523/1888/DC1

TABLE OF CONTENTS: (8 Jun., p. 1788). The painting with the caption "Megafauna overkill" was not from the report by R. G. Roberts *et al.*, as indicated. Like the painting that accompanied S. Pimm's book review in the same issue (p. 1841), it is a reconstruction of Eocene biota from Wyoming by Rebecca Horwitt.

PERSPECTIVES: "Open windows to the polar oceans" by P. Lemke (1 Jun., p. 1670). Sensible heat was erroneously defined as "the amount of energy necessary to change a liquid to a vapor at constant temperature and pressure." This expression is the explanation for latent heat. Sensible heat is the energy necessary to produce a particular temperature change in a mixture of liquid and gas, excluding any energy required for a phase change.

Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the previous 6 months or issues of general interest. They can be submitted by e-mail (science_letters@aaaas.org), the Web (www.letter2science.org), or regular mail (1200 New York Ave., NW, Washington, DC 20005, USA). Letters are not acknowledged upon receipt, nor are authors generally consulted before publication. Whether published in full or in part, letters are subject to editing for clarity and space.



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