



OF THE WEEK

Skylab creates holes in the sky	244
Cholesterol and lipoproteins	244
A tree grows in Egypt	245
Parental loss linked to genius	245
DSDP probes South Pacific	246
Small fast-pulsing laser built	246
Death penalty studies hit	246
Low-level microwave radiation hazard	247
Measuring immune fighters	247

RESEARCH NOTES

Earth Sciences	268
Biology	268

ARTICLES

Special Solar Issue

Solar's past performance and promise	248
Sun studies old and new	252
SERI comes of age	255
Sunsat: Controversial but appealing	256
Biomass: Using solar energy naturally	258
Animal energy the reptilian way	260
San Jose State goes solar	262
Japanese solar technology	263

DEPARTMENTS

Science on T.V.	242
Solar Books & Periodicals	269

COVER: The sun, our magnificent star, will be celebrated on May 3 for its energy-giving potential. See special solar energy section p. 248. (Photo by NASA, courtesy of Motorola)

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Energy is the problem of the decade — and most probably of the next several decades. While no single solution is likely to emerge, it is becoming increasingly clear that the sun will be a major part of any solution to the energy crisis. A Council on Environmental Quality study released two weeks ago, for instance, suggests that solar power could account for 25 percent of the nation's energy needs by the year 2000 and for 50 percent by 2020. President Jimmy Carter is reported to have called the CEQ report optimistic, but Denis Hayes, a senior researcher with the Worldwatch Institute in Washington, is even more optimistic. In a paper released this week (*Worldwatch Paper 19, The Solar Energy Timetable*) he says, "We can meet five-sixths of the anticipated world energy budget with solar energy by 2025."

Which, if any, estimate is accurate? We don't know, but because the answer will depend to a large extent on science and technology, we at SCIENCE NEWS decided to devote a special double issue to solar energy and the sun. Policy/Technology Editor Janet Raloff spent several months doing research for her major article on the history and economics of solar technologies. Contributing Editor Kendrick Frazier and Senior Editor/Physical Sciences Editor Dietrick E. Thomsen pulled together the most recent research on the sun itself. Our staff of editors and reporters also found stories on almost every aspect of solar energy from sun-catching satellites to biomass energy to how cold-blooded animals utilize the sun. In this issue we also take a look at the fledgling Solar Energy Research Institute and at how solar technologies are being applied in such places as San Jose and Japan.

Our special solar issue is timed to be in your hands by Sun Day, a day-long celebration of solar technology scheduled for May 3. Sun Day is being brought to you by the same people who brought you Earth Day in 1970. (Denis Hayes, the light behind Sun Day, was the director of Earth Day.) Earth Day was the highly successful consciousness raising effort that got the environmentalist movement up and running. Sun Day has a slightly different goal. It is less of a consciousness raising effort—the Arab oil embargo took care of that—and more of a lobbying effort. One of its aims is to focus social, political and economic forces on solar technology—and it is already succeeding.

When we began planning this issue four months ago, almost no one had heard of Sun Day. By May 3, millions will have heard of it across the country and around the world. Energy fairs, conferences, teach-ins, concerts and solar demonstrations are scheduled in at least 150 cities from Maine to Hawaii. On an international level, Sun Day activities are planned in 19 countries, and representatives of 65 other nations have expressed interest in participating in Sun Day programs. The U.S. Congress has introduced a joint resolution asking President Carter "to issue a proclamation calling upon the general public, industry, and labor of the United States to observe such day with appropriate activities and ceremonies and to direct all appropriate federal agencies to cooperate with, and participate in, the celebration of 'Sun Day.'" Carter, who has been accused of being only lukewarm on solar energy, responded by issuing a proclamation declaring May 3 as Sun Day. He is also scheduled to visit SERI in time for Sun Day celebrations (see p. 255), and is expected to announce at that time the formation of a high-level panel to examine and coordinate the administration's solar program.

Will these and associated Sun Day activities help bring us into a solar age? We don't know, but as Hayes says, "To get there from here . . . requires a considerable commitment at the national, neighborhood, and even individual level. The payoff will be a suitable energy system that would last as long as the earth is inhabitable."

—Robert J. Trotter