COOL IMAGES

California Blooming

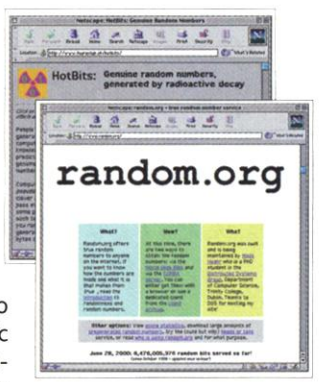
This curious-looking flower was new to science when first noticed in 1970, sprouting in a suburban field on the Tiburon peninsula north of the Golden Gate Bridge. Dubbed the Tiburon mariposa lily, *Calochortus tiburonensis* is native to a patch of serpentine soils less than a kilometer across, putting it squarely on threatened species lists. You can look up this and nearly 4000 other California plant species at CalPhotos,* which has one of the biggest botany photo collections on the Web. And one of the most useful: It links to CalFlora, a database packed with taxonomic info, maps, and decades of plant-sighting reports. The 25,000 CalPhotos, developed by the Berkeley Digital Library Project originally from a monk's wildflower slides, has lately expanded to other topics—check out, for instance, amphibians and African landscapes.

* elib.cs.berkeley.edu/photos

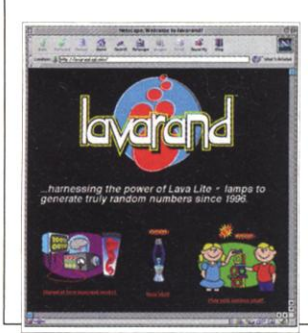
SITE VISITS

Pick a Number From 1 to 2^{32}

From encrypting e-mail messages to simulating the collapse of stars, many scientific procedures require random numbers. But generating truly random numbers with a computer is impossible. Computers can only follow algorithms, and no matter how convoluted, an algorithm tells you how to get the next number from all the preceding ones. Mother Nature, however, is less predictable, and three Web sites rely on quirky physical processes to provide the truly random bits you crave.



To catch the randomness blowing in the wind, Random.org tunes a radio to an unused frequency, listens to the static generated by the churning of the atmosphere, and converts the fluctuations into numbers. In contrast, Hotbits (www.fourmilab.ch/hotbits) tracks the time between clicks of a Geiger counter as it measures the radioactive decay of krypton-85, also a random process. And if you want retro-hip unpredictability, try Lavarand (lavarand.sgi.com). The site scrambles digital snapshots of six lava lamps to extract cool randomness from the groovy undulations of hot goo.



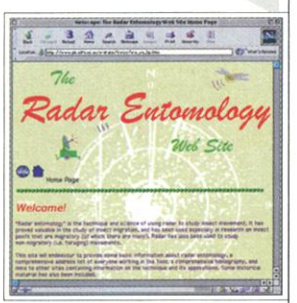
All three sites readily spit out kilobytes of numbers, and Random.org and Lavarand let you download megabytes of previously generated numbers. But don't use these to encode your deepest secrets: Hackers may be able to read the bits as you download them.

SITE VISIT

Pest-O-Scope

When swarms of armyworm moths took to the skies of northeastern China in centuries past, nervous farmers could only guess where the hungry pests were headed. These days, however, radar entomologists can track migrating and foraging insects with high precision using sensors originally designed to spot incoming enemy bombers or storm fronts. The Radar Entomology Web Site offers an exhaustive guide to this little-known field, from its early history to a list of current practitioners—often government scientists trying to improve pest control.

www.ph.adfa.oz.au/a-drake/trews/ww_re_hp.htm



The site, developed by biometeorologist Alistair Drake of Australia's University of New South Wales in Canberra, includes blurbs on recent research, upcoming meetings, and a bibliography. A Q&A column answers readers' questions, such as how much it might cost to build your own radar or the estimated airspeed of migrating beetles. Technophiles will enjoy the Radar Photofile, which profiles insect radars past and present, from scanning dishes to harmonic arrays. And don't miss the radar images, patches of dots and streaks that show, for instance, honeybee drones congregating near a Texas hive and aphids surfing a surging sea breeze in Finland.

HOT PICKS

Our family tree. Take a quick jaunt through 5 million years of human history at this small but growing new Smithsonian site on human origins. Check out fossil casts of species such as *Australopithecus afarensis* and *Homo habilis* from the museum's collection, reviews of hot research, and an ask-a-scientist page. www.mnh.si.edu/anthro/humanorigins

Seeing red. Infrared light is emitted even by cool astronomical objects, and it passes through dust without being scattered. That makes it useful for spotting everything from brown dwarfs to galaxies beyond the Milky Way. This educational site covers everything from Sir William Herschel's discovery of infrared from the sun in 1800 using a prism and thermometers, to the latest images from Earth-orbiting observatories. www.ipac.caltech.edu/Outreach/Edu

Science ONLINE

Contests in which aspiring entrepreneurs submit their plans for scrutiny by investors or business schools have mushroomed in the past 2 years, helping to launch many an Internet start-up and biotech firm. This week, *Science*'s Next Wave shows scientists with interesting business ideas where the hottest competitions are. You'll also find advice on writing a business plan and the stories of scientists who won recent contests. www.nextwave.org

Send Internet news and great Web site suggestions to netwatch@aaas.org

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