

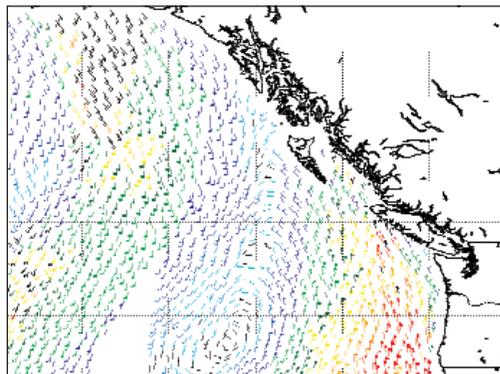
DATABASE

Where Turtles Tread

Turtles have been shuffling and paddling around for more than 200 million years, but today many species are dwindling. Created to help conservationists and researchers, the EMYSsystem amasses taxonomic and distribution data for the world's 200-plus land and freshwater turtles. (The database excludes marine forms, whose wanderings make it hard to nail down their ranges.)

The site incorporates a mammoth project from herpetologist John Iverson, now at Earlham College in Richmond, Indiana, who compiled every turtle collection record he could gather from colleagues, publications, and the world's museum catalogs. Click on a species such as Madagascar's radiated tortoise (*Geochelone radiata*) to gather basic taxonomic information and map its occurrence, based on the thousands of collection records. These charts are particularly useful for conservation planning because they indicate each species' historic range, says site co-author Ross Kiester of the U.S. Forest Service in Corvallis, Oregon.

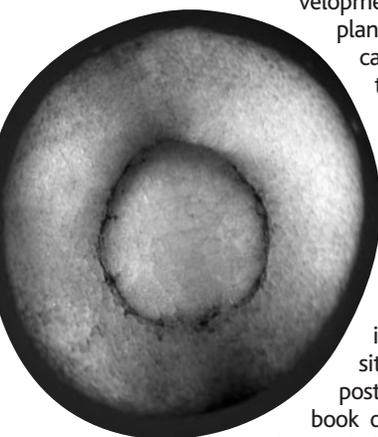
emys.geo.orst.edu



IMAGES

Watch What Develops

Forget about the first day of kindergarten, your wedding, or your trip to Graceland. The event that really changed your life was gastrulation, the massive rearrangement of cells during embryonic development that establishes the body plan. Researchers and students can follow the intricacies of the process by screening these videos from Cold Spring Harbor Laboratory Press in New York.



During gastrulation, cells from the embryo's surface stream into its interior, creating the three-layered body architecture characteristic of most animals. The site's more than 30 movies, posted to supplement a new textbook on gastrulation, let you view these cellular migrations in animals from nematodes to salamanders to mice. Here, an embryo from the frog *Xenopus laevis* appears to fold in on itself.

www.gastrulation.org

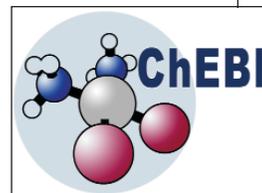
Send site suggestions to netwatch@aaas.org. Archive: www.sciencemag.org/netwatch

DATABASE

Biochemistry's Little Guys

DNA, RNA, and proteins are the big shots, but cells also depend on a host of smaller compounds and atoms such as zinc. To help drug designers, molecular biologists, and other researchers quickly round up information on these often overlooked components, the European Bioinformatics Institute (EBI) has launched a new database called ChEBI. The collection tallies more than 2700 natural and synthetic "small molecular entities": atoms, molecules, free radicals, ions, and other chemicals with biological impact. You can nab data such as the entry's chemical classification, function, and alternate names. Uncover its structure and what biochemical pathways it participates in by connecting to the KEGG Ligand Database (NetWatch, 3 April 1998, p. 7). To learn what proteins each example interacts with, follow links to EBI's UniProt database, a compendium of sequence and function information.

www.ebi.ac.uk/chebi



RESOURCES

Broadcasting Live From the High Seas

The National Data Buoy Center brims with data for everyone from climate modelers looking for records of marine temperatures to oceanographers studying wave behavior. The site from the National Oceanic and Atmospheric Administration holds measurements from more than 400 automated observing stations and buoys, most of which are bobbing around in U.S., Canadian, and European waters. You can garner near-real-time values for water and air temperature, wind speed, wave height, and other variables. Or rummage through the archives for numbers from as far back as the 1970s. The center, which includes data from the Great Lakes and St. Lawrence Seaway, also links to satellite maps of wind speed and direction (above left, red indicates the strongest winds, blue the weakest).

seaboard.ndbc.noaa.gov

TOOLS

DNA Surfing

Like a good tour guide, the Gene Resource Locator can help you find the highlights of the mouse and human genomes. Hosted by the University of Tokyo, the site lets you scroll through individual chromosomes to locate features such as exons (noncoding DNA), introns (coding DNA), common mutations known as SNPs, and matches for expressed sequence tags: snippets of DNA used as tools to pinpoint genes or gauge their activity. You can pick out sequences whose RNA might undergo alternative splicing, creating different proteins. To find out whether a gene is switched on in a particular tissue, link to the BodyMap gene activity database.

grl.gi.k.u-tokyo.ac.jp

RESOURCES: Broadcasting Live From the High Seas

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