

Exploring the 2011 Naturally Illinois Expo

First Floor

1 Backyard Diversity: Insects of Illinois and Beyond

Insects are the most diverse group of organisms on the planet. More than 33,000 species have been recorded from Illinois. Learn about the amazing diversity of insects and their importance to the environment. (Room 196)

2 Fossil Insects View insect fossils including compression (rock) fossils and fossils embedded in amber. (Room 196)

3 The Stream Team: Representatives of Native Illinois Fish Want to learn about the diversity of native Illinois fish? Come check out some live examples of fish from our area! (Room 184)

4 Crayfish: Keystone Species of Central Illinois Streams Crayfish are interesting creatures that are so important in stream ecosystems that they have been referred to as a keystone species. See some real crayfish in action, and learn more about aquatic invertebrates. (Room 184)

5 Illinois Mussels: Livers of the Rivers Do you know why mussels are important to the health of a river? Come learn about mussels, their diversity, and where they live. Watch mussels filtering water in a stream! (Room 171)

6 Mosquitoes and Diseases This display shows mosquitoes’ complex life cycle, their biological diversity, and their diverse breeding habitats, especially in urban areas. Learn how mosquito species transmit diseases including West Nile virus, malaria, and dengue and how researchers are exploring how environment influences their transmission. (Main Foyer)

7 INRS—Home of the Illinois State Scientific Surveys The Institute was established in 2008 and builds on the Scientific Surveys’ long and honored reputations for basic and applied research and service to the state. Institute scientists work to support sustainable economic development and natural and cultural resource management for Illinois and beyond. *In the coming months, look for our new name, **Prairie Research Institute*** (Main Foyer)

8 INRS Libraries Meet the INRS librarians and find out how they can help you! Learn about the publicly available resources and services. (Main Foyer)

9 INRS Publication Sales and Teacher Information Browse or buy our brand-new books on Illinois geology and Illinois birds. We also have posters, maps, field manuals; guides to Illinois’ insects, mammals, fossils, and rocks; Good Guy/Bad Guy insect cards; games; and more. Enter our drawing to win a free publication. Teachers, find out about teacher workshops, curricula, and more related to earth and environmental science. (Room 139)

10 Storm Water Floodplain Simulation System This dynamic, hands-on simulation model and experiments clearly demonstrate the critical role of floodplains and how human development within the watershed can impact storm water runoff and flooding in the watershed and floodplain areas. (Room 122)

11 Earthquakes Now and Then See a real-time display from the ISGS seismometer located in the Expo building and real-time maps of earthquake locations around the world. Maps and posters describe the 1811 earthquakes, which created waterfalls on the Mississippi River and rang bells in Charleston, South Carolina. (Room 123)

12 Ancient Geologic Faces of Illinois The geologic face of the state has changed over the past 400 million years. View dozens of museum-quality rock slabs showing fossil corals, gastropods, crinoids, and cephalopods. See limestone, sandstone, and granite rocks (retrieved from boreholes as deep as 8,000 feet) that are used to interpret and reconstruct ancient environments. (Outside Room 122)

13 Illinois Minerals What are tripoli, galena, sphalerite, and peat? Where are they found? What minerals are found in your county? Find out the answers to these and other mineral resource questions. (East Foyer)

14 Underground Cave Display and Cave Exploration View a simulated cave environment featuring stalagmites and stalactites. The growth rings of one 80,000-year-old stalagmite tell the story of geologic processes and climate changes that occurred during its formation. Cave exploration video also. (East Foyer)

15 Understanding Groundwater and Water Wells This ISGS-ISWS exhibit shows you how groundwater interacts with a water well, a landfill, and a nearby stream. Two water-well models show how we get water from the ground. (Room 101)

16 Mapping in 3-D Geologists are using 3-D visualization software to help understand how geologic deposits are distributed. This interactive exhibit shows how geologists use this new technology to make 3-D maps. (Room 101)

17 Build Illinois Witness a brief “reconstruction” of the last 500 million years of Illinois geologic history. Using a map of sand, a few props, and our imagination, we journey back in time to see the Illinois landscape change from tropical ocean, to steaming swamp, to the frosty wastes of the Ice Age. Understand why Illinois looks like it does today! (Room 101)

Second Floor

18 Illinois Height Modernization Program Want to learn about leveling, datums, and the airborne LiDAR imagery now being acquired and used in Illinois? We will describe some of the uses for these new data and show how this information improves public safety, welfare, and economy. (Outside Room 261)

19 The Climate of Illinois The climate of Illinois is important in our daily lives. Hot summers, cold winters, snow, rain, tornadoes—we have it all! Check out some of our state records to see how extreme our climate really is. (Room 261)

20 Community Collaborative Rain, Hail, and Snow Network—CoCoRaHS Each day hundreds of CoCoRaHS volunteer observers throughout

Illinois report rain, snow, and hail measured in their backyards. Anyone in Illinois can participate! Find out how you, your family, or school can become part of one of the largest citizen-scientist programs in the country. (Room 261)

21 Weather on Your Birthday—Midwestern Regional Climate Center You can get a certificate showing the weather conditions on the day and place you were born. The Midwestern Regional Climate Center maintains records of past weather data and climate information for the entire country, especially the Midwest region. Discover how past weather data can answer your questions. (Room 261)

22 New ISGS STATEMAP Geologic Maps The seven geologic maps on display were completed for the USGS National Cooperative Geologic Mapping Program’s STATEMAP project August 31, 2010. (Room 222)

23 Fun with Gases, Liquids, and Solids Watch simple, fun experiments on the physical properties of liquid nitrogen and dry ice. See their effects on the atmosphere and on familiar objects. See how quickly changes in temperature and phase (i.e., liquid to gas) can impact the pressure of the substance’s surroundings. (Room 223)

24 Fun with Water Chemistry See how much fun science can be! Join us for demonstrations and hands-on activities highlighting water chemistry. You’ll get to use indicators, test strips, and meters to study the pH of household substances, observe properties of supersaturated solutions, and use polymers to make “slime”. (Room 215)

25 The Many Wonders of Carbon Dioxide Come explore the wonders of CO₂! This odorless, colorless gas is very important to life on planet Earth. Essential for plant photosynthesis, this gas is frequently in the news for its role as a major greenhouse gas. (Room 211)

Tent 1

26 Kids’ Fossil Dig Kids of all ages can dig for minerals or plant and animal fossils. Keep one of the minerals or fossils you find! Minerals and fossils range in age from approximately 280 million years old to 480 million years old.

Tent 2

27 Biomass to Biofuels and Biochar We’ll explain the usefulness of a thermo-chemical process in converting waste lipids (fats and oils) and biomass (defatted algae, defatted seedcakes, lignins, corn stover) to biofuels and biochar.

28 Waste Not, Want Not—Biofuels without Borders INRS scientists and UI students are producing biofuels from waste such as used cooking oil from dormitories and restaurants. The scientists are also helping Haitians produce biofuels from renewable Haitian resources, such as *Jatropha*, a flowering plant that grows throughout Haiti.

29 Monitoring Contaminants in Humboldt Penguins Scientists are using penguins in their work to understand the dispersal of toxic substances worldwide. Over 100 chemicals in samples taken from Humboldt penguins from Peru were analyzed and will be compared with information about North American bald eagles and a captive Humboldt penguin.

30 Pharmaceuticals and Hormones in Animal Farm Runoff Learn more about how natural hormones and antibiotics can go from animal farms to the environment, what their environmental fate is, and how we can minimize the dangers associated with pharmaceutical pollution.

31 Plants of Illinois Ever wonder how many different kinds of plants live in Illinois? How do they provide food and shelter for humans and wildlife? Learn about the diversity of plants, the habitats they provide, and how plant habitats are monitored.

32 Turtles of Illinois It may be the Year of the Rabbit on the Chinese calendar, but did you know that 2011 is also the Year of the Turtle? Come learn about Illinois turtle species and sign up for our radio telemetry demonstrations to test your turtle tracking skills. Live turtles will be here to greet you at our booth!

33 Impacts of Lead Fishing Tackle View live critters and plants used to test product safety and the health of the environment. Learn why using traditional lead fishing tackle such as sinkers is hazardous to some birds. See examples of products that are safer for the environment.

34 Mud to Parks: Beneficial Use of Sediment as Soil Our scientists are leading this project that takes large amounts of sediment from clogged rivers and deposits it where it can be used as topsoil to restore landfills, industrial sites, habitat, and other areas.

35 Name that Bird: Approaches to Identifying, Observing, and Recording Birds Our interactive display will not only demonstrate how to identify birds by appearance, song, and habitat but also give you a chance to learn some of the techniques we use to observe birds and record their songs. You will be able to listen to bird calls, too.



Earth, Wind, and Fire 5K Run & 2.5K Walk

The race kicks off at 9:00 AM on Saturday, March 12th. Registration is inside the Main Foyer. Race starting line is outside the Northeast Entrance of Natural Resources Building. Information about the event, registration, and course map are available at <http://www.inrs.illinois.edu/expo/5krun.shtml> or contact Don Luman, the race director, at 217-244-2179 or dluman@inrs.illinois.edu.

36 What Happens to Your Electronic Waste? Come see what can be done to prevent e-waste from computers, TVs, cameras, printers and cell phones from going to landfills. Learn about refurbishing and reusing computers.

37 Mammals What is a mammal? What kind of mammals do we have in Illinois? Come learn more about the world of bats, beavers, coyotes, and more!

38 What’s in Our Rain Learn about the quality of rainwater collected by the National Atmospheric Deposition Program (NADP) from locations across the U.S. You’ll use NADP data to see how air pollution has affected the chemicals in rainwater over time. See how mercury in rainfall affects the fish we eat.

Tent 3

39 Cleaner Coal for Illinois See what steps are needed to make coal usable in power plants. Find out about our projects aimed to reduce the environmental impact of coal-powered electrical plants, including removing CO₂ and mercury from coal stack emissions and finding alternative water sources for power plants.

40 Coal in Illinois Take a few minutes to learn about coal, one of Illinois’ most interesting and economically important resources. We will show you where coal is located in Illinois, how much there is, how it is found, and how it is mined.

41 Get to the Core: Steamy Swamps and Ice Age Glaciers View a drill core from the 2009 Natural Resources Building test hole and see maps and diagrams of geological processes. About 300 feet of the core sediment dates back to about 1 million years and lies over shale and coal deposits older than 300 million years. View the entire core and learn how geologists used this and other evidence to interpret and reconstruct this location’s geologic history.

42 Field Geologists Decipher Hidden Landscapes and Seascapes in Illinois Do you like the outdoors? Come visit field geologists who make maps of rock formations in Illinois. See the tools we use to make observations and collect data. Learn about a GPS, a compass, a hand lens, and a topographic map!

Tent 4

43 Natural Resources Through Time—Salt Production We will be making salt from saline spring water in the same way that settlers of the Midwest did during the late 1700s and 1800s to preserve their food. (Outside Tent 4)

44 Natural Resources Through Time – Flint Knapping We will demonstrate making arrowheads from chert (flint) using a technique called flint knapping that was developed by early man and Native Americans. This ISAS-ISGS exhibit was organized collaboratively to illustrate the close relationships between archaeology and natural resources.

45 Rocks, Bones, Pots, and People: What Does It All Mean? What can archaeology tell us about the past? Learn about how people lived in Illinois for the past 10,000 years. See an archaeological dig, excavate for artifacts, and learn how archaeologists study past peoples.

Greenhouse

46 Sloth Says . . . Ice Age, What? Learn about the materials and landforms that are the result of glacial ice in Illinois. Touch a “glacier” and watch how water sorts sediment; examine till, loess, striated rocks, and gravel containing erratic pebbles. Learn where to find erratics in Illinois.

47 Glacial Geology of Illinois See how the huge glaciers that repeatedly covered parts of Illinois during the Ice Age both eroded and deposited rock materials as the ice advanced and then retreated. Examine glacial deposits—the parent material of Illinois’ richest soils.

48 Corrosion Showcase Hidden minerals in water cause scale. We have 45 examples of scale and corrosion to show you. Come learn about the causes of the scale buildup in the pipes in your home. You’ll be able to measure the dissolved minerals in different waters from Illinois.

49 What’s in a Wetland? Receive an introduction to Illinois wetlands and discover why they are important. Demonstrations, including a “peat bog” and soil cores, will help you learn about wetlands without getting your feet wet. You’ll see how wetlands provide many resources, including things we eat!

50 How Streams Work See how streams erode their banks and learn ways to slow down erosion.

South Drive

51 Illinois’ Petroleum Resources Visit the traveling exhibit of the Illinois Petroleum Resource Board to see working models of oil field equipment and learn about the importance of oil and gas in your daily life. You’ll increase your awareness of the science and business aspects of the Illinois oil and gas industry, too.

52 Illinois American Water Stop by for free water and learn more about the water supplied in our area from the Mahomet aquifer.

53 Traveling Science Center—Illinois Biodiversity and Exotic Invasive Species This mobile classroom features informative panels on biodiversity in Illinois. Designed in partnership with Illinois Cooperative Agricultural Pest Survey, new exhibits highlight the impacts of exotic invasive species. Learn about the types of habitats and species diversity of your region and how you can protect them.

54 Campus Bike Project Campus Bike Project serves students, faculty, and staff who are looking for inexpensive, low maintenance, and environmentally friendly transportation. The CBP provides space for working on bicycles, learning from skilled mechanics, and sharing knowledge about bicycle commuting, safety, repair, and culture. This is the one-year anniversary of the project. (Garage)

