2014 PRAIRIE LIGHTNING SYMPOSIUM

40 Lightning Talks
5 minutes, 20 slides, 15 seconds each. Ready? Go!

prairie.illinois.edu/lightning
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Thursday, March 20
Talks 9:00 AM to 4:00 PM • Posters 4:00-5:00 PM
Reception 4:00-6:00 PM, with music by Irish folk group SMC

I Hotel and Conference Center
1900 S. First Street, Champaign
Free and open to the public

HOME OF THE ILLINOIS STATE SCIENTIFIC SURVEYS
Illinois Natural History Survey • Illinois State Archaeological Survey • Illinois State Geological Survey • Illinois State Water Survey • Illinois Sustainable Technology Center
AGENDA

8:30 a.m.  Continental breakfast
9:00 a.m.  Introduction and ground rules
9:05 a.m.  Welcome

LIGHTNING TALKS

9:15 a.m.  Session 1
10:00 a.m.  Break
10:15 a.m.  Session 2
11:00 a.m.  Break
11:15 a.m.  Session 3
11:50 a.m. to 1:15 p.m.  Lunch on your own
1:15 p.m.  Session 4
2:00 p.m.  Break
2:15 p.m.  Session 5
3:00 p.m.  Break
3:15 p.m.  Session 6

POSTER SESSION AND RECEPTION

4:00 p.m. to 5:00 p.m.  Poster session
4:00 p.m. to 6:00 p.m.  Reception, music by Irish folk group SMC

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AGENDA

8:30 a.m. Continental breakfast
9:00 a.m. Introduction and ground rules
9:05 a.m. Welcome

9:15 a.m. Session 1
Jonathan Rose ISAS The great American cure all: remedies, medicines and other poisons found at the East St. Louis site.
Jeremy Tiemann INHS One fish, two fish = one million endangered sunfish.
Jennie Atkins ISWS Isaac in Illinois.
Brian Adams ISAS We’ve been working on the railroad: archaeological resources along the Chicago to St. Louis high-speed rail corridor.
Julie Allen INHS aTRAM: a fast method for assembling genes from next-gen sequencing data.
Susan Braxton OED Identifiers for data: EZID pilot at the University of Illinois.

10:00 a.m. Break

10:15 a.m. Session 2
Andrea Fritts INHS Mighty mollusks: silent archives of natural history.
Tim Larson, Scott Elrick, Drew Phillips ISGS The meadow bank enigma.
Daniel Abrams ISWS Translating groundwater science to policy.
Shantanu Pai ISTC I am watching your waste.
Claire Dappert ISAS The unexpected boarders: toys and female-centric effects found in a late Victorian East St. Louis “male” boarding house.
Jason Robinson INHS Why things are where we find them.

11:00 a.m. Break

11:15 a.m. Session 3
George Roadcap ISWS Splitting Kendall County: the hydrologic impact of the Sandwich Fault.
Angela Patton ISAS Video and outreach.
John Taft INHS Evidence of plant species and functional group attrition in shrub-encroached prairie: implications for restoration.
John Scott ISTC Fractionation, characterization, and toxicity of a Spirulina hydrothermal liquefaction wastewater.
John Mulrow ISTC The Governor’s Sustainability Award: battling sustainababble since 1987.
Ed Jakaitis ISAS Villages, mounds, and the manor: heritage management at the Indian Hill Historic District.

11:50 a.m. to 1:15 p.m. Lunch on your own

1:15 p.m. Session 4
Alison Stodola INHS A walk down the aisles of Mollusca.
Paula Bryant ISAS Into the next century: protecting the archaeology within the Cook County Forest Preserve.
Lois Yoksomalian ISGS Geochemists and petrographers: best friends forever.
Jeremy Overmann, Matt Miller ISWS Rust, bugs, rocks, and piles of money.
Jeffrey Stein INHS Parentus interruptus: how fishing may (or may not) affect parental care in largemouth bass.
Patrick Durst ISAS Turn of the century archaeology in East St. Louis: the morphology of privy vaults.

2:00 p.m. Break

2:15 p.m. Session 5
Robert Bauer ISGS What do you know about oil & gas drilling and fracking?
Loren Merrill INHS Assessing the condition of wild animals: physiological and parasitological tools for understanding variation within and among individuals and populations.
Tom Holm ISWS Arsenic in Illinois groundwater.
Melissa Baltus ISAS Crossroads on the Little Calumet: excavations at a 13th century village in the Chicago area.
Joy Scrogum ISTC Electronic engagement: bringing sustainability home (without carrying it over the threshold).
Richard Fishel ISAS Reduce, reuse, recycle: artifacts recovered from an 1820s Potawatomi homestead along the Spoon River.
Jeffrey Bara INHS Mosquito-borne diseases: past, present, and future.

3:00 p.m. Break

3:15 p.m. Session 6
Tamira Brennan ISAS Discovering people through pottery in pre-Columbian Illinois.
Kingsley Allan ISWS Using augmented reality in FEMA RiskMAP outreach.
Gary Miller OED Water for life, liberty, and light.
Christopher Benda INHS The Illinois Natural Areas Inventory update.
Steve Wilson ISWS The private well class.
Karen Witter OED Quirks, twerks, jerks, and heroes - secrets of success of the Scientific Surveys.
Mark Branstner ISAS Alcohol consumption on the Illinois frontier: more choices than you might think.

POSTER SESSION AND RECEPTION

4:00 p.m. to 5:00 p.m. Poster session
4:00 p.m. to 6:00 p.m. Reception, music by Irish folk group SMC
Session 1.
Jonathan Rose, archaeological specialist, ISAS. jgros@illinois.edu
The great American cure all: remedies, medicines and other poisons found at the East St. Louis site.
Of all the dangers and pitfalls a person could encounter during early 20th century life, one wouldn’t expect medicine to be one of them. However, during ongoing analysis, researchers have discovered that a number of the medicines identified at the East St. Louis site were in fact dangerous. We’ll discuss a select few of such concoctions: their history, ingredients, and how they were affected by regulatory legislation.

Jeremy Tiemann, field biologist, INHS. jtemann@illinois.edu
One fish, two fish = one million endangered sunfish.
The redspotted sunfish (Lepomis miniatus) historically had a limited distribution in Illinois, and because of low abundance and restricted distribution, the species was listed as “Threatened” under the Illinois Endangered Species Act in 1989 and subsequently downgraded to “Endangered” in 2009. We (as biologists with IDNR and INHS) initiated a conservation effort in 2005 to secure this species’ presence and viability within the state. With the assistance of a citizen scientist, we have propagated and translocated thousands of redspotted sunfish into the fish’s historical range and feel cautiously optimistic that we have established a network of viable populations in these areas.

Wei Zheng, senior researcher, ISTC. weizheng@illinois.edu
The widespread occurrence of emerging contaminants, such as pharmaceutical and personal care products (PPCPs), in watersheds has been recognized as a critical environmental issue. We are conducting a study to determine the occurrence of PPCPs in shallow karst groundwater from caves and springs in the Sinkhole Plain of Southwestern Illinois. It is a collaboration work involving four institute surveys.

Jennie Atkins, WARM program manager, ISWS. jatkins@illinois.edu
Isaac in Illinois.
The networks of the Water & Atmospheric Resources Monitoring (WARM) Program are uniquely situated to monitor the progress and impacts of large-scale weather events in the state. The large coverage area and range of observations provides users of the WARM networks with the ability to track events through weather parameters such as barometric pressures and precipitation and to see the effects of the events on the state’s rivers, lakes, and soils. In this talk, we will discuss Hurricane Isaac, its travel through the state on Labor Day weekend 2012, and the impacts of this large storm.

Brian Adams, assistant director statewide surveys, ISAS. badams4@illinois.edu
We’ve been working on the railroad: archaeological resources along the Chicago to St. Louis high-speed rail corridor.
Improvements are planned for the existing Union Pacific Railroad corridor between Chicago and the Mississippi River at St. Louis to facilitate high speed rail traffic. As these proposed improvements may involve ground disturbance, archaeological investigations are underway to identify sensitive cultural resources. This talk summarizes investigations to date.

Julie Allen, postdoctoral researcher, INHS. juliema@illinois.edu
aTRAM: a fast method for assembling genes from next-gen sequencing data.
With the new sequencing technology, our capacity to generate and access genetic data has exploded. However, the computational skills required to analyze the data require a time-consuming learning curve. The software I am presenting greatly decreases the time needed to assemble single genes from large genome datasets, making these resources and technologies accessible to more people.

Susan Braxton, Institute head librarian, OED. braxton@illinois.edu
Identifiers for data: EZID pilot at the University of Illinois.
Digital object identifiers (DOIs) are ubiquitous in scholarly publishing and facilitate access and citation tracking. DataCite maintains a DOI registry specifically for data resources, and the University Library is offering access to the DataCite DOI registry as a pilot service. How can this service benefit your research program?

Session 2.
Andrea Fritts, postdoctoral research associate, INHS. afritts@illinois.edu
Mighty mollusks: silent archives of natural history.
Freshwater mussels, sometimes called “rocks with guts” are an often-underappreciated and highly imperiled group of animals that deserve some time in the limelight. These “rocks” hold numerous surprises, like the way the females use extensions of their body to lure in unsuspecting fish to be hosts for their parasitic larvae. The hard shells of mussels deposit annual growth rings, much like tree growth rings, and the shells of mussels from historic collections can serve as records of long-term environmental change over the past 150 years.

Phil Millhouse, senior research archaeologist, ISAS. millhous@illinois.edu
In the past decade ISAS has assisted the Jo Daviess Conservation Foundation with the preservation of over 640 acres of property in northwestern Illinois that contains valuable Native American cultural resources, including burial and effigy mounds, village areas, rock shelters and mussel shell middens. This program has been successful because it addresses preservation of cultural and natural resources as a linked unit and actively engages a multitude of private, public and volunteer entities to conserve target properties. In the long term these concerted efforts will create a constellation of preserves that will help reconnect both local people and visitors with the unique natural and cultural heritage of the region.

Tim Larson, Scott Elrick, Drew Phillips, ISGS. thlarson@illinois.edu
The meadow bank enigma.
The Meadow Bank is an unusual landform in the Wabash River valley of southeast White County. A robust dialog has led us to an understanding of the unique combination of processes that created this feature.

Daniel Abrams, groundwater flow modeler, ISWS. dbabrams@illinois.edu
Translating groundwater science to policy.
Water supply planning groups in northeastern Illinois require metrics of groundwater availability
that are easy to communicate to policy makers and the public. How then can we interpret our complicated regional groundwater flow models to provide accessible, understandable, and scientifically defensible results that can drive policy decisions?

Shantanu Pai, visiting waste research specialist, ISTC. spai@illinois.edu
*I am watching your waste.*
Why I care about your waste, why I waste time wondering about waste, and why you should care about your waste – all this in 5 minutes or less.

Claire Dappert, historical research archaeologist, ISAS. dappert@illinois.edu
*The unexpected boarders: toys and female-centric effects found in a late Victorian East St. Louis “male” boarding house.*
Between 2009 and 2012, the Illinois State Archaeological Survey of the Prairie Research Institute at the University of Illinois conducted archaeological excavations at a turn of the century boarding house “the Maid House” as part of the New Mississippi River Bridge Project, a new alignment of Interstate 64/70 through a former working-class residential neighborhood in East St. Louis. Documentary evidence indicates that this boarding house strictly serviced male workers. While there is ample archaeological evidence for men in the form of clothing and leisure activities generally associated with working-class males, the archaeology also evinces the presence of women and young children, contradicting that this was in fact a “male” boarding house.

Jason Robinson, postdoctoral research associate, INHS. jrob@illinois.edu
*Why things are where we find them.*
Biogeography is the study of the factors that determine the geographic distributions of species. Some places on earth have had enormous recent change in species compositions. The responses of species to past change should guide our predictions on the potential response to future change.

**Session 3.**

George Roadcap, hydrogeologist, ISWS. roadcap@illinois.edu
*Splitting Kendall County - the hydrologic impact of the Sandwich Fault.*
The water level data from the deep sandstone aquifers appear to be split by the Sandwich Fault Zone which cuts across the center of Kendall County from northwest to southeast. North of the fault the water levels are very deep due to the large cones of depressions centered in the Aurora and Joliet areas while south of the fault water levels are dramatically higher. Thus, with the fault acting as flow barrier, the possibility opens up for groundwater supplies to be developed to the south of the fault.

Angela Patton, video and production specialist, ISAS. apatton2@illinois.edu
*Video and outreach.*
The Illinois State Archaeological Survey is using video to promote, engage, and educate the community about the work they do. ISAS recently completed a short documentary about their community outreach program in Brooklyn, Illinois. This talk explores video’s role as an outreach tool and how easy and effective it can be.

John Taft, plant ecologist, INHS. jtaft@illinois.edu
*Evidence of plant species and functional group attrition in shrub-encroached prairie: implications for restoration.*
Woody encroachment is a major threat to prairie remnants. This study quantifies species and plant functional group losses across the shrub encroachment gradient. Native functional groups most strongly associated with the lowest encroachment levels were hemi-parasites, warm-season grasses, legumes, and perennial dicot forbs but total richness of species and functional group declined only after woody encroachment reached intermediate levels suggesting a level of resistance that has implications for identifying sites with the greatest restoration potential.

John Scott, senior analytical chemist, ISTC. zhewang@illinois.edu
*Fractionation, characterization, and toxicity of a Spirulina hydrothermal liquefaction wastewater.*
Hydrothermal liquefaction (HTL) is a process of thermochemical conversion that converts high water content biomass into an energy dense liquid carbon material. The large amount of wastewater generated from this process contains beneficial components (nutrients) and detrimental components (toxins). Chemical methods and toxicity testing were coupled with a complex sample fractionation process to characterization a wastewater sample obtained from a large-scale HTL system.

John Mulrow, business/industrial sustainability specialist, ISTC. jmulrow@illinois.edu
*The Governor’s Sustainability Award: battling sustainabobble since 1987.*
The Illinois Governor’s Sustainability Award is attracting more and more applicants from outside the industrial and manufacturing sectors – a welcome but challenging trend. ISTC is faced with evaluating a wide variety of sustainability project types, differing definitions of ‘sustainability’, and a host of non-standardized outcome metrics. I will explain how this long-standing awards program is facing the challenge of ‘sustainabobble’ and helping Illinois companies strengthen and achieve their sustainability goals.

Ed Jakaitis, staff archaeologist, ISAS. jakaitis@illinois.edu
*Villages, mounds, and the manor: heritage management at the Indian Hill Historic District.*
ISAS has recently developed a heritage management program with the Smeja Homestead Foundation, a non-profit that owns the Indian Hill Manor and Farm National Register Historic District in Rockford, Illinois. The 400 acres of historic district and surrounding landscape have been set aside with the goal of developing a natural resource conservation and cultural heritage center. Recent ISAS research has highlighted significant cultural resources that are now being preserved as a part of the Foundation’s master plan.

**Session 4.**

Alison Stodola, field biologist, INHS. alprice@illinois.edu
*A walk down the aisles of Mollusca.*
Commit yourself to a tour of the INHS freshwater mollusk collection: things old, new, borrowed, and blue. We house over 400,000 specimens for research and preservation. Our collection guides future work and conservation of mollusks in Illinois and the world.

Paula Bryant, staff archaeologist, ISAS. pb4242@illinois.edu
*Into the next century: protecting the archaeology within the Cook County Forest Preserve.*
While initially created to protect the natural resources of Cook County, the Forest Preserve District of Cook County has become a bastion for archaeological sites as it is one of the last sections around the Chicago metro area that has not been destroyed by urban development. During the centennial of the Cook County Forest Preserve’s inception, the Illinois State Archaeological Survey is joining with the Illinois Natural History Survey and Illinois State Water Survey to create a Master Plan for Natural and Cultural Resources within the Preserves. This plan
will aid in identifying and assessing critical areas of impact to best ensure the diversity of the Forest Preserve’s natural and cultural heritage is sustained into the next century.

Lois Yoksoulian, postdoctoral research associate, ISGS. leyok@illinois.edu
*Carbon sequestration in the Illinois Basin: laboratory-scale geochemical experiments.*
Fossil fuel industries are likely to remain an integral part of Illinois’ economic portfolio, even as concerns over emissions of greenhouse gases continue to rise. Geologic carbon sequestration is one potential technology being developed to mitigate the environmental impact of fossil fuel exploitation and maintain a balance between the states energy demands and economic vitality. This presentation will highlight some of the laboratory-scale geochemical studies done by the ISGS related to carbon sequestration.

Jeremy Overmann and Matt Miller, chemists, ISWS. joverman@illinois.edu, mmill@illinois.edu
*Rust, bugs, rocks, and piles of money.*
Since 1949, the Institutional Water Treatment Program has been advising state offices, mental health centers, prisons, and universities on water treatment for heating, cooling, and potable water systems. The main threats to these systems are corrosion, biological growths, and scale deposits. Properly treating the water in these systems saves the state millions of dollars annually by reducing maintenance and operating costs, and reduces water, chemical, and energy use.

Jeffrey Stein, senior research scientist, INHS. jstein@illinois.edu
*Parentes interruptus: how fishing may (or may not) affect parental care in largemouth bass.*
Largemouth bass are a widely distributed freshwater sport fish in North America and a popular target of recreational anglers throughout the midwest. Due to the aggressive nature of males during their reproductive period each spring, anglers target nesting bass for both harvest and catch-and-release fishing. Offspring survival, however, can be compromised when parental males are removed from their nest by an angler, raising questions regarding the impact of spring angling on everything from recruitment dynamics to evolutionary changes in aggression.

Patrick Durst, ABFS statewide survey coordinator, ISAS. pdurst@illinois.edu
*Turn of the century archaeology in East St. Louis: the morphology of privy vaults.*
This presentation will present an overview of the archaeological excavation of turn of the century privy vaults in East St. Louis, Illinois. The majority of the material culture assemblage in East St. Louis was derived from these types of features. The talk will briefly touch on the construction methods, uses, maintenance, and filling of these units.

Session 5.

Robert Bauer, engineering geologist, ISGS. rabauer@illinois.edu
*What do you know about oil & gas drilling and fracking?*
With recent Illinois legislation passed in 2013, hydraulic fracturing is a hot topic in Illinois and around the United States. The basics history of oil & gas drilling and fracking in the US is presented through a series of quiz questions.

Loren Merrill, postdoctoral researcher, INHS. loren21@illinois.edu
*Assessing the condition of wild animals: physiological and parasitological tools for understanding variation within and among individuals and populations.*
Studies of basic and applied biology often rely on numerous measures to estimate the health or condition of focal organisms. New non-destructive, ecological-physiology techniques allow researchers to assess an individual’s condition with much greater resolution. In this talk I will discuss the types of questions researchers can answer using these techniques, and how they can be utilized across taxa.

Tom Holm, groundwater chemist, ISWS. trholm@illinois.edu
*Arsenic in Illinois Groundwater.*
Arsenic is found in some Illinois groundwater. I will cover its source and how it can be removed in private wells and public water supplies.

Melissa Baltus, cultural resource archaeologist, ISAS. mbaltus2@illinois.edu
*Crossroads on the Little Calumet: excavations at a 13th century village in the Chicago area.*
The late pre-Columbian period in the upper Midwest was a socially transformative era of population movement and shifting group identities. Recent archaeological excavations by the Illinois State Archaeological Survey at the Joe Louis site, an Upper Mississippian Fisher Phase (A.D. 1200-1400) village on the Little Calumet River, have provided details regarding daily life, social gathering, and regional interactions during this time period. As only a handful of Upper Mississippian village sites have been excavated in the Chicago area, the Joe Louis site is an important key to better understanding the history of northern Illinois.

Joy Scrogum, emerging technologies resource specialist, ISTC. jsrogum@illinois.edu
*Electronic engagement: bringing sustainability home (without carrying it over the threshold).*
Sustainability is a complex concept, and making it understandable and relatable to the average person is a huge challenge for its advocates. As part of the Sustainable Electronics Initiative, ISTC staff members use our ubiquitous electronic gadgetry as the key to making the environmental and social impacts of technology immediately relevant and compelling. By engaging students and others in considerations of greener gadgets, the results are greener mindsets and personal connections to issues with a global scale, both of which are critical to fostering lasting change.

Richard Fishel, senior research archaeologist, ISAS. rfishel@illinois.edu
*Reduce, reuse, recycle: artifacts recovered from an 1820s Potawatomi homestead along the Spoon River.*
During 2013, ISAS conducted survey and limited test excavations at an Historic Indian site along the Spoon River. A substantial metal assemblage was recovered, including gun parts, ammunition, projectile points, jewelry, clothing ornaments, and scrap pieces, as well as a smaller number of stone and glass artifacts. Relying primarily on archival information, we suggest that the site is likely affiliated with the Potawatomi and dates to the 1820s.

Jeffrey Bara, postdoctoral fellow, INHS. jjbara@illinois.edu
*Mosquito-borne diseases: past, present, and future.*
Following the establishment of cities and villages, many mosquito-borne diseases emerged and became significant public health threats. Since the end of World War II, rapid urbanization and globalization has dramatically increased the magnitude and frequency of mosquito-borne disease epidemics. However, new vector control measures in development offer hope for a future without mosquito-borne diseases.

Session 6.

Tamira Brennan, senior research archaeologist, ISAS. tbrennan@illinois.edu
*Discovering people through pottery in pre-Columbian Illinois.*
The Illinois State Archaeological Survey’s multi-year excavations for the New Mississippi River Bridge project uncovered a large portion the East St. Louis Mound Complex of southern Illinois, the second largest Native American mound complex in North America and an important precinct within the much larger Greater Cahokia region. Analysis of the hundreds of thousands of ceramic items recovered on this project is currently underway. This talk highlights how these data provide a diverse array of information on pre-Columbian culture, ranging from mundane aspects such as what hair styles were worn, to the complex processes that led to the rapid formation of an indigenous city of unprecedented scale.

Kingsley Allan, GIS manager, ISWS. kingsley@illinois.edu

Using Augmented Reality (AR) in FEMA RiskMAP outreach.

Augmented Reality (AR) refers to the display of digital information overlaying a view of the real world through a digital device such as a smartphone or tablet PC. Experimentally ISWS has added AR content to Flood Insurance Rate Maps presented at stakeholder meetings. Specifically the newly studied high risk areas have been set as trigger areas so that when a smartphone focuses on that area, the view through the phone is superimposed with a depth grid animated to cycle through the various flood frequencies.

Mark Branstner, senior historic archaeologist, ISAS. mbranstn@illinois.edu

Alcohol consumption on the Illinois frontier: more choices than you might think.

Despite the commonly portrayed image of the hard-drinking frontiersman of the early nineteenth century, the image is an oversimplified one. Recent archaeological recoveries from the Seibert site in St. Clair County argue for a more measured appraisal that includes a range of cultural options, both ethnic and religious.

POSTERS

(alphabetical by first author; numbers refer to placement in the hall)

6. Daniel Abrams, groundwater flow modeler, ISWS. dbabrams@illinois.edu

Scott Meyer, hydrogeologist, ISWS. smeyer@illinois.edu

George Roadcap, hydrogeologist, ISWS. roadcap@illinois.edu

Groundwater availability in northeastern Illinois.

Current and future groundwater withdrawals in northeastern Illinois may not be sustainable. Model simulations indicate that withdrawals from aquifers have resulted in considerable reduction of groundwater discharge to streams. Furthermore, withdrawals from deep bedrock aquifers have created a large cone of depression that presents a risk to both water quantity and quality.

21. Kingsley Allan, GIS manager, ISWS. kingsley@illinois.edu

Augmenting RiskMAP with Augmented Reality (AR).

Augmented Reality (AR) refers to the display of digital information overlaying a view of the real world through a digital device such as a smartphone or tablet PC.

36. Whitney AnthonySamy, postdoctoral research associate, INHS. wbannin2@illinois.edu

George Klut, Forest Preserve Dist. of Cook County. george.klut@cookcountyil.gov

Dan Thompson, Forest Preserve Dist. of Dupage County. dthompson@dupageforest.com

Andrew Kuhns, aquatic ecologist, INHS. arkuhns@illinois.edu

Michael Dreslik, herpetologist, INHS. dreslik@illinois.edu

Dan Kirk, district heritage biologist, IDNR. dan.kirk@illinois.gov

Marlis Douglas, CaMEL director, INHS. mrd@illinois.edu

Christopher Phillips, associate research program leader, INHS. caphilli@illinois.edu

Genetic diversity and gene flow of Blanding’s Turtle (Emydoidea blandingii) across northeastern Illinois.

The Blanding’s Turtle, *Emydoidea blandingii*, is of conservation concern throughout its range and most extant populations are small and isolated within fragmented landscapes with little opportunity for successful dispersal. Because genetic data are essential for planning conservation strategies, we employed microsatellite DNA markers to examine genetic diversity and gene flow of remnant *E. blandingii* populations using tissue samples from 191 adult individuals collected from four counties (Lake, Dupage, Will, and Grundy) in northeastern Illinois. Preliminary results suggested that levels of genetic diversity were similar across counties, yet subtle genetic structure and asymmetrical migration rates were detected among counties.

Karen Witter, external affairs advisor, OED. kwitter@illinois.edu

Quirks, twerks, jerks, and heroes - secrets of success of the Scientific Surveys.

The Scientific Surveys have a remarkable history, whose origins date back over a century and a half. I will highlight some key events, people, and other factors that have contributed to the long-term success of Illinois’ unique Scientific Surveys.

Christopher Benda, visiting plant ecologist, INHS. botanizer@gmail.com

The Illinois Natural Areas Inventory Update.

In 2008, an update to the Illinois Natural Areas Inventory was initiated to systematically survey the state for new high quality natural communities. Hundreds of sites were identified and nominated across the state. This talk will summarize the reasons justifying the need for an update and present some of the findings.

Steve Wilson, groundwater hydrologist, ISWS. sdwilson@illinois.edu

The private well class.

A 10 lesson self-paced online class was developed for private well owners to educate them about their responsibilities for maintaining their well and to ensure their well water is safe to drink. The class has a national audience and has had over 2,600 participants in the first year. The program has provided the opportunity to collaborate with many other stakeholders across the country, including state health departments, ASDWA, RCAP, cooperative extension, the Indian Health Service, and many other local organizations.

Gary Miller, associate executive director, OED. gdmiller@illinois.edu

Water for life, liberty, and light.

The Illinois Scientific Surveys have a rich legacy of innovative water research, resource assessment, and stewardship that has been key to our quality of life. Some key accomplishments are highlighted, current water management challenges discussed along with current research and key partnerships that provide singular value to Illinois.

Kingsley Allan, GIS manager, ISWS. kingsley@illinois.edu

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The private well class.

A 10 lesson self-paced online class was developed for private well owners to educate them about their responsibilities for maintaining their well and to ensure their well water is safe to drink. The class has a national audience and has had over 2,600 participants in the first year. The program has provided the opportunity to collaborate with many other stakeholders across the country, including state health departments, ASDWA, RCAP, cooperative extension, the Indian Health Service, and many other local organizations.

Kingsley Allan, GIS manager, ISWS. kingsley@illinois.edu

Using Augmented Reality (AR) in FEMA RiskMAP outreach.

Augmented Reality (AR) refers to the display of digital information overlaying a view of the real world through a digital device such as a smartphone or tablet PC. Experimentally ISWS has added AR content to Flood Insurance Rate Maps presented at stakeholder meetings. Specifically the newly studied high risk areas have been set as trigger areas so that when a smartphone focuses on that area, the view through the phone is superimposed with a depth grid animated to cycle through the various flood frequencies.

Mark Branstner, senior historic archaeologist, ISAS. mbranstn@illinois.edu

Alcohol consumption on the Illinois frontier: more choices than you might think.

Despite the commonly portrayed image of the hard-drinking frontiersman of the early nineteenth century, the image is an oversimplified one. Recent archaeological recoveries from the Seibert site in St. Clair County argue for a more measured appraisal that includes a range of cultural options, both ethnic and religious.
1. Zohreh Askari, geologic specialist, ISGS. askari@illinois.edu
The Cambrian and the Ordovician Prairie du Chien Groups in central Illinois consist of alternating dolomite and siliciclastic units. They were deposited in a shallow marine environment and include several porous and permeable sandstone and vugular or fractured dolomite reservoirs. The reservoirs are extensive and laterally grade to fine to coarsely crystalline dense dolomite, which could serve as important reservoirs for natural gas or CO2 storage.

14. Jennie Atkins, WARM program manager, ISWS. jatkins@illinois.edu
A new way of looking at WARM.
The Water & Atmospheric Resources Monitoring (WARM) Program is changing its website. Coming this summer, the new WARM website will provide users with more intuitive methods to access and view the multiple datasets that make up WARM. This website will also provide users with new tools and options to meet their data needs.

9. Erin Benson, archaeological assistant, ISAS. ebensn@illinois.edu
Michael Farkas, GIS coordinator, ISAS. mgfarkas@illinois.edu
Duane Esarey, assistant director special projects, ISAS. desarey@illinois.edu
Archaeological site significance for management: not as simple as you’d think.
Significance of archaeological resources to developers and planners relates to potential costs, delays, and roadblocks rather than the ability to contribute significant knowledge as dictated by legislative regulations. The Illinois archaeological site inventory, accumulated over nearly a century of archaeological practice, imposes severe limitations in providing information serving these pragmatic needs. In spite of these limitations, certain aspects of existing data can be harvested to facilitate a proactive management approach.

32. Steven Boles, research archaeologist, ISAS. slboles@illinois.edu
Jenna Ely, crew member, ISAS.
Justin Wallace, crew member, ISAS.
Exploring distant connections and influences at the East St. Louis mound complex.
A large sample of exotic projectile points and associated production debris were recovered during recent unprecedented scale archaeological investigations at the East St. Louis Mound Complex. The site contains largely continuous occupation from circa A.D. 950 to 1200 spanning the period of Paucket’s proposed ca. A.D. 1050 Big Bang model, which posits distant relationships and large scale migrations at the onset of Mississippian culture. These exotic materials, in combination with use of styles identical to distant peoples but replicated in local materials, provide data relating to the scale, fluctuating intensity, and sources of these migrations.

10. Steve Buck, natural areas coordinator, INHS. sbuck@illinois.edu
Nate Beccue, natural areas research specialist, INHS. nbecce@illinois.edu
UIUC natural areas research sites.
The University of Illinois at Urbana-Champaign owns and manages eleven research sites, the Natural Areas, that are dedicated to the ecological, biological and environmental research and teaching needs of the campus. These permanent holdings, about 970 acres (393 hectares) in area, are located within Champaign, Vermilion and McLean counties, IL.

4. Claire Dappert, historical research archaeologist, ISAS. dappert@illinois.edu
Patrick Durst, ABFS statewide survey coordinator, ISAS. pdurst@illinois.edu
Trash or treasure: urban archaeology in East St. Louis.
Between 2009 and 2012, the Illinois State Archaeological Survey of the Prairie Research Institute at the University of Illinois excavated just over 250 sub-surface features as part of the New Mississippi River Bridge Project, a new alignment of Interstate 64/70 through a former working-class residential neighborhood in East St. Louis. Privy vaults were by far the most common feature encountered, and given that little organized effort was historically made to collect household waste in East St. Louis, eventually all privies became trash receptacles. The archaeology of such facilities provides new information about the daily lives of the workers and the families that resided in East St. Louis and has the potential to redefine our understanding of historic East St. Louis through a variety of possible research avenues, including gender, health, and identity.

26. Jason DeBoer, large river fisheries ecologist, INHS. jadeboer@illinois.edu
Mark Fritts, large river fisheries ecologist, INHS. mwfritts@illinois.edu
Ecological factors affecting annual production of largemouth bass and bluegill.
Fishes in the lower Illinois River are subject to extreme seasonal and annual variation in abiotic factors (e.g., discharge, temperature), as well as a variety of biotic factors (e.g., resource competition, nest predation), which can pose a substantial challenge to recruitment. We developed species-specific models using a 25-year data set compiled from the LTF program and state and federal agencies to investigate variables that regulate the annual production of largemouth bass (Micropterus salmoides) and bluegill (Lepomis macrochirus) in the Peoria reach of the Illinois River. Our findings improve the understanding of the recruitment of fishes in the lower Illinois River and the relative control of biotic and abiotic factors in explaining the trends observed in our long-term data set.

12. F. Brett Denny, associate economic geologist, ISGS. fdenny@illinois.edu
Mary J. Seid, geologic specialist, ISGS. maryseid@illinois.edu
Cristina Penna, student, Southern Illinois University.
Brett Howell, student, Illinois State University.
Rare earth elements and related economic minerals at Hicks Dome in Southern Illinois.
Hicks Dome which is located in Hardin County (SE Illinois) has been uplifted 4,000 feet by deep seated igneous activity. Geochemical and petrographic analyses of igneous intrusions and fluorite surrounding the intrusion suggest that Hicks Dome is underlain at depth by a carbonatite complex. Structural analysis of intrusive breccias within Devonian and lowermost Mississippian rocks at the surface around the dome suggest that radial extensional fractures funneled mineralizing hydrothermal fluid and gas outward from the apex of the dome.

31. Sarah Douglass, mussel field biologist, INHS. sabales@illinois.edu
Diane K. Stastean, mussel field biologist coordinator, INHS. diane.stastean@illinois.gov
Alison P. Stodola, mussel field biologist, INHS. alprice@illinois.edu
Yong Cao, stream ecologist, INHS. yongcao@illinois.edu
Mussel matchmaking: the peculiar relationship between fishes and mussels.
Researchers from the Illinois Department of Natural Resources and the Illinois Natural History Survey, through the collection of species data during statewide intensive basin surveys, have been investigating the natural phenomenon of freshwater mussels utilizing
fishes as hosts for their larvae (glochidia). Using these data, we predicted mussel occurrence using fish abundance and richness via Random Forest regression in program R. Preliminary models were built for mussel species with various reproduction strategies, and these results were contrasted with landscape-only predictions.

18. Haiyan Huang, visiting scholar, ISWS. huanghaiyan.usa@gmail.com
Rongjian Ye, postdoctoral research associate, Univ. of Tennessee. rye2@tennessee.edu
Yanhui Peng, postdoctoral research associate, University of Tennessee. ypeng9@utk.edu
Junming Wang, atmospheric scientist, ISWS. wangjm@iillinois.edu
Neal Stewart, professor, Dept. of Plant Sciences, Univ. of Tennessee. nealstewart@utk.edu

Seed and pollen dispersion and invasion from round-up resistant horseweed (Conyza canadensis).
Horseweed has become increasingly problematic in agricultural fields throughout the United States due to its round-up resistance. The objectives of this study include: 1) to understand atmospheric factors that influence seed/pollen release rate and dispersal distance, and 2) to develop and evaluate models/online tools which can be used to predict horseweed seed/pollen production and release, short and long distance transport and deposition. Calibrated and validated using Illinois and Tennessee field data, the local and regional models/online tools for horseweed were built (http://rsetserver.sws.uiuc.edu/horseweed/).

20. Junhua Jiang, senior research engineer, ISTC. junhua@iillinois.edu
Nancy Holm, assistant director for SRPEC, ISTC. naholm@iillinois.edu
Real-time and on-site electrochemical sensing.
Electrochemical detection can be easily realized in a simple and cheap implementation platform with high sensitivity. The coupling of modern electrochemical detection principles and recent advance in microelectronics and microfabrication has led to powerful, compact and user-friendly analytical devices. These developments allow the instrument to be taken to the sample and hence to ensure effective process or pollution control. We have shown the prospects of microelectrodes-based electrochemical techniques for real-time and on-site determination of environmental contaminants in water, food, soil, and air.

23. Meg Kline Brussee, graduate research assistant, INHS. mkaline@iillinois.edu
Sergiusz Czesny, assistant professional scientist and director of Lake Michigan Biological Station, INHS. czesny@iillinois.edu
Oocyte development and reproductive status of round goby in Lake Michigan.
The round goby (Neogobius melanostomus) has successfully invaded the Laurentian Great Lakes over the past two decades and although much research has explored their ecological impacts and behavior, their basic reproductive biology in invaded systems is understudied. Through evaluation of fecundity and oocyte development of RG in Lake Michigan we found significant differences in proportional oocyte counts per sample period that aid in validation of predicted spawning peaks from Gonadosomatic Index (GSI) scores. An almost ubiquitous standard of GSI>8 is currently used to determine mature reproductive status in RG but has remained unverified until recently (Zeyl et al., in press) and our data show that mature female GSI scores are significantly higher than 8 and the GSI scores of non-reproductive and reproductive females differ significantly.

22. Laura Kozuch, curator, ISAS. lkozuch@iillinois.edu
Mississippian shell cup effigies.

Lightning whelks (Busycton sinistrum) come from the western Florida coast, and effigy vessels meant to imitate large lightning whelk cups are found at inland Mississippian sites. These vessels underscore the importance of lightning whelk shells among Mississipians, and clarify their cosmological ideas. I show how ceramic effigies are meant to simulate actual lightning whelk cups, and their importance in purification ceremonies using “casseena” or Black Drink.

8. David Larson, hydrogeologist, ISGS. drlarson@illinois.edu
Sharing hydrogeological data - a national approach.
Groundwater levels and quality are monitored in many areas of the country. Because these data in general are not readily accessible, they are not available for use in regional or national evaluations of groundwater resources. The National Groundwater Monitoring Network comprises an integrated, voluntary system for data collection, management, reporting, and retrieval through a web-based portal, and provides an efficient means for data sharing.

35. Yaghoob Lasemi, reservoir geologist/sedimentologist, ISGS. ylasemi@illinois.edu
Potential for new discoveries in the Siluro-Devonian rocks along the southern flank of the Sangamon Arch, Central Illinois.
The Siluro-Devonian along the southern flank of the Sangamon Arch, central Illinois, is one of the hottest petroleum plays in the Illinois Basin and includes multiple geologically related prospects that lie on the regional dip that gently slopes to the southeast. Oil production is from the Middle Devonian Lingle and the Middle Silurian Racine lenticular reservoirs in an area known as the Mt. Auburn trend, which have produced more than 18 million barrels of oil from several oil fields. The Devonian reservoirs occur where the Lingle pinches out against the arch in a belt paralleling the southeastern margin of the Mount Auburn trend oil fields and the potential for new Silurian discoveries appears to be excellent in the unexplored areas between the existing fields, and in the deeper horizons considering that there are many oil fields with few or no tests in the deeper zones.

34. Xinli Lu, thermal engineer, ISTC. xiniliu@iillinois.edu
Joe Pickowicz, environmental engineer, ISTC. pickowitz@illinois.edu
Deb Jacobson, senior operations manager, ISTC. djacobso@illinois.edu
Vinod Patel, manufacturing engineer, ISTC. vapatel@iillinois.edu
Performance demonstration of in-stream hydrokinetic power in a wastewater treatment plant.
A prototype pico in-stream waterfall turbine has been installed at Stickney wastewater treatment plant for performance validation and demonstration. Key parameters (power, rotor speed, voltage etc.) can be monitored by a web-based data collection system. Collected data showed the turbine operated well and reached its rated power output of 1.2 kW most of the time.

11. Elizabeth Luber, research specialist, ISTC. eluber2@iillinois.edu
Nancy Holm, assistant director for SRPEC, ISTC. naholm@iillinois.edu
Kirsten Walker, environmental education specialist, ISTC. kwh@iillinois.edu
Prairie Research Institute Science Camp.
The Prairie Research Institute Science Camp is a week-long day camp where high school juniors, seniors, and recent graduates have the opportunity to spend one day at each of the
five divisions of the Institute working side-by-side with scientists to gain hands-on experience in geology, archaeology, sustainable technology, water science, and environmental/biological science. The initial camp was held from July 15 to 19, 2013, with 12 area high school students participating. Some of the highlights from last year’s camp included driving a go-cart powered by biodiesel made from corn or plastic, analyzing for contaminants in water, learning bird banding techniques, studying ancient artifacts and food sources, and creating 3D geologic maps from core samples.

19. Susan McIntyre, wetland plant ecologist, INHS. smcinty@illinois.edu
   Jeff Matthews, assistant professor, NRES, University of Illinois. jmatthew@illinois.edu
   Cassandra Rodgers, Environmental Unit, IDOT-D2. cassandra.rogers@illinois.gov
   Evaluating success of four planting methods versus natural regeneration of a wet floodplain forest in Illinois.

   In 1998, IDOT designed a wetland mitigation project to test five tree-establishment methods (balled and burlapped trees, bare root trees, seedlings, acorns/delayed planting, and natural regeneration). Fifteen years later we returned to assess success compared to the surrounding natural forest in terms of tree size and density, species richness, and invasive species dominance, as well as cost of implementation. We found that, contrary to theories of 'spontaneous succession,' restoration success increased with treatment cost while low-investment and 'natural regeneration' treatments failed; however, we also found that after a point, incremental gains may not always justify the extra expense.

24. Xiaodong Miao, associate sedimentologist, ISGS. mioa@illinois.edu
   Paul Hanson, associate professor, University of Nebraska-Lincoln. phanson2@unl.edu
   Christopher Stohr, engineering geologist, ISGS. stohr@illinois.edu
   Hong Wang, quaternary geochemist, ISGS. hongwang@illinois.edu
   Youngest wind-blown dust deposit in Illinois and its paleoclimate significance.

   Wind-blown dust deposit (loess) is an extensive soil parent material in the Midwest and important paleoclimate archive, and the conventional wisdom is that little or no dust accumulation occurred in Illinois during the Holocene (11.7 ka to present, ka is thousand years ago). In the recent effort to search youngest loess deposits in Illinois, we applied optically stimulated luminescence (OSL) dating to several of the thickest loess deposits in Illinois. These new OSL ages and stratigraphic succession suggest loess was deposited during the Holocene (e.g. 3.5, 7.4, 10.2 ka) in Illinois along the Mississippi River, with thicknesses that range from 0.5 to 1 m.

28. Martha Mihich, archaeological specialist, ISAS. mmartha017@gmail.com
   Walking in their shoes: understanding historic shoe construction types.

   This poster covers various methods of determining historic shoe construction from fragmentary and complete shoes, while also discussing complications and barriers to determining construction. The main goal is to create a visual guide to the common constructions and shoe repairs present in the MRB historic artifact assemblage. Determining common shoe constructions provides a better insight to historic urban communities.

16. John Mulrow, business/industrial sustainability specialist, ISTC. jmulrow@illinois.edu
   Deb Jacobson, senior operations manager, ISTC. djacobso@illinois.edu
   Irene Zlevor, office administrator, ISTC. izlevor@illinois.edu
   The Governor’s Sustainability Award: advancing sustainability in the state and beyond.

The Illinois Governor’s Sustainability Award has been a keystone program of the Illinois Sustainable Technology Center since 1987, so we have on record a fascinating history of sustainable business trends in Illinois. This poster will present aggregate data on Governor’s Sustainability Award winners, presenting trends in technology, geography, and decision-making. The poster will also highlight success stories of 2-3 recent Award winners.

15. Julie Nieset, wetland plant ecologist, INHS. jenieset@illinois.edu
   Meg Engelhardt, wetland plant ecologist, INHS. mjengel@illinois.edu
   Valerie Sivicek, wetland plant ecologist, INHS. sivicek@illinois.edu
   Brian Wilm, wetland science program coordinator, INHS. wilm@illinois.edu
   Brad Zercher, GIS/GPS specialist, INHS. zercher@illinois.edu
   Floodplain wetland restoration: comparing two large wetland mitigation banks along the Illinois River.

   Two large wetland mitigation banks have been established along on the Illinois River: the 830-acre Morris site and 1643-acre La Grange site. Although seemingly similar, these two sites had vastly different outcomes, due in large part to varying hydrologic regimes. Information gained from these studies can be used to better plan for successful river floodplain wetland restoration in the future.

29. William Peterman, postdoctoral fellow, INHS. peterman@illinois.edu
   Abundance, physiology, and population structure: fine-scale landscape genetics of a terrestrial salamander.

   Plethodontid salamanders are unique among terrestrial vertebrates in that they are lungless. In this study, I determine the effects of fine scale environmental gradients on abundance, water loss, and genetic differentiation, and found that water loss was the best predictor of genetic differentiation across the landscape.

30. Seth Rients, waste research specialist, ISTC. rients@illinois.edu
   Shantanu Pai, waste research specialist, ISTC. spai@illinois.edu
   On the road towards Zero Waste.

   Zero Waste is the next evolution in the reduce, re-use, recycle archetype. ISTC has created a top-down systems approach for examining solid waste streams to assist partners in transitioning to Zero Waste. This poster will detail the process, with examples from the ISTC headquarters in Champaign.

5. John Scott, senior analytical chemist, ISTC. zhewang@illinois.edu
   Nandakishore Rajagopalan, associate director for ARIES, ISTC. nrajagop@illinois.edu
   Susan Barta, analytical chemist, ISTC. sbarta@illinois.edu
   Gerald Bargren, chemist, ISTC.

   Compositional analysis of biomass to aid agricultural, bio-processing, and end use decisions.

   Compositional analysis of biomass is required to aid decisions on the end use of bio-energy feedstocks. In addition, engineers performing bioprocessing can utilize these data to aid their large-scale operations. ISTC is currently collaborating with the Illinois Department of Transportation, the U of I Center for Advanced BioEnergy Research, and the U of I Department of Crop Sciences to generate, process, and utilize biomass grown alongside Illinois roadways.
13. Joy Scrogum, emerging technologies resource specialist, ISTC. jscrogum@illinois.edu
Sustainability Film Festival: An Earth Week engagement event.
During Earth Week 2014, a series of sustainability-related documentaries will be screened at the Spurlock Museum’s Knight Auditorium with free admittance for the public, followed by audience discussion with ISTC staff members and other local experts. The films, Living Downstream, Terra Blight, and Waste=Food, explore the environmental consequences of human production and management strategies, and will allow university students, staff, and the general public to learn more about important sustainability issues, relevant campus projects and local resources, and actions they can take to “green” their own lives. After the festival, DVDs of the documentaries, along with downloadable resource lists and activities, will be made available for borrowing from the Prairie Research Institute Library for use in classes, meetings, and for personal enrichment.

33. M. Jared Thomas, paleontology research technician, INHS. thomasmj@illinois.edu
Synan Nicholson, lab assistant, INHS. synan@illinois.edu
Mary Best, lab manager, INHS. marybest@illinois.edu
Sam W. Heads, curator of paleontology, INHS. sheads@illinois.edu

The Milton Sanderson Dominican amber collection at the INHS.
The Milton Sanderson collection of Early Miocene amber from the Dominican Republic constitutes the largest unbiased collection of Dominican amber in the world. The collection remained untouched and in storage for over 50 years until its recent rediscovery. This poster presents the preliminary results of a renewed effort to process and document this scientifically important and historically significant collection.

3. Jenwei Tsai, wetland soil specialist, INHS. ctsai@illinois.edu
Scott M. Wiesbrook, assistant project leader for soils, INHS. swiesbro@illinois.edu

An assessment of hydric soil indicators of Illinois Department of Transportation wetland delineation projects.
We utilized data from 2009 to 2013 of all wetlands mapped by the Illinois Natural History Survey wetlands group to determine the dominant hydric soil indicators used in hydric soil determinations in Illinois Department of Transportation projects. Preliminary results show the overall dominant hydric indicators in wetland sites mapped in Illinois are reedox dark surface (27%), depleted matrix (20%), thick dark surface (12%), depleted below dark surface (7%), and 2cm muck (4%). Further analysis will include finding the dominant indicators within the five different U.S. Army Corps of Engineers districts and physiographic linkages within the state, to apply this finding for training purposes, and to validate the usefulness of published environmental data.

17. Hong Wang, quaternary geochemist, ISGS. hongwang@illinois.edu

Radiocarbon and optical dating of last deglacial stratigraphy on an intrachronozonal level in the Illinois River valley.
Two dune-paleosol-lacustrine successions, located on the upland of the Illinois River valley, document the major climate events on an intrachronozonal scale since the Last Glacial Maximum. The abrupt contacts of the sedimentary units and the reasonably well-constrained chronologies provide new information for discussion of a conceptual model of last deglacial climatostratigraphic framework in the Midwestern United States. Through comparing the local stratigraphic units with well-defined and widely accepted chronozones, these dune-paleosol-lacustrine successions are suggested as regional representatives for high-resolution paleoclimate and paleoenvironment studies.

27. Nathan Webb, assistant petroleum geologist, ISGS. ndwebb2@illinois.edu
John Grube, retired, ISGS. jgrube@illinois.edu
Curt Blakley, associate geologist, ISGS. cblakley@illinois.edu
Beverly Seyler, retired, ISGS. bseyler@illinois.edu

The importance of geologic reservoir characterization in the successful application of CO2 enhanced oil recovery and storage programs: examples from Carboniferous fluvi-tidal deposits of the Illinois Basin, USA.
Depositional environment has a pronounced effect on the heterogeneity of petroleum reservoirs. Detailed subsurface mapping of reservoir architecture, as well as a thorough knowledge of the petrophysical characteristics of the sandstones, is critical to the success of a CO2 EOR and storage program. This paper will show the impact of example Carboniferous fluvio-deltaic depositional environments in the Illinois Basin on the screening of potential CO2 EOR and storage sites, and the means to improve CO2 EOR and storage efficiency based on well placement and orientation with regards to reservoir heterogeneity and architecture.

25. Molly Woloszyn, extension climatologist, ISWS. mollyw@illinois.edu
Martin Jaffe, environmental planning specialist, Illinois-Indiana Sea Grant. mjaffe@uic.edu

Winter climate adaptation measures for the city of Chicago.
Focusing mainly on summer impacts, many local climate adaptation plans ignore the societal and environmental impacts of warmer and possibly shorter winters in the future. This poster will summarize the findings from a study with the City of Chicago that examined potential winter impacts in the future for Chicago. In addition, a summary of the adaptation measures recommended to the City of Chicago to reduce the negative impacts during winter in the future will be highlighted.

7. Matthew Yoder, biological informatician, INHS. diapriid@gmail.com
Dmitry Dmitriev, interim entomology collections manager, INHS. dmitriev@inhs.illinois.edu
R. Edward DeWalt, aquatic entomologist, INHS. dewalt@illinois.edu
David Eades, orthopterist, INHS. dceades@illinois.edu

Building TaxonWorks: an informatics infrastructure for biodiversity data.
Species File Software at INHS provides software and services for scientists who study biodiversity. Our new web-based initiative, TaxonWorks, focuses on capture and display of complex, inter-related biodiversity data. We introduce and seek feedback on this major effort to support the mission of INHS and that of other scientists the world over.

2. Alexey Zelin, staff archaeologist, ISAS. azelin@illinois.edu

A view of prehistoric art through late woodland clay figurines recovered from archaeological sites in the American Bottom.
During the last decade a large number of clay figurines was recovered by ISAS personal from the Late Woodland sites situated in the American Bottom. The figurines are crudely made, and portray human and animal entities. The exact function of the figurines is unknown; they may have been used as toys, fertility aids, good luck charms, or cult objects.
ABOUT THE PRAIRIE RESEARCH INSTITUTE

The Prairie Research Institute is a multidisciplinary research institute that provides objective research, expertise, and data on the natural and cultural resources of Illinois to decision makers and the public. Home of the Illinois State Scientific Surveys and one thousand scientists and staff, it is the largest institute at the University of Illinois. The Surveys have helped keep the state’s economy, environment, and people prosperous and secure for over 160 years.

ABOUT THE PRAIRIE LIGHTNING SYMPOSIUM

The Prairie Lightning Symposium was introduced in 2011 to help researchers and staff from across the Institute learn about our diverse research and projects in a fast-paced, informal setting. Presenters are limited to twenty slides, each of which appears for 15 seconds, for a total of exactly five minutes. Once a presentation starts, slides advance automatically. In addition to lightning talks, the symposium features a vibrant poster session and numerous opportunities to meet and interact with colleagues.

To learn more, visit prairie.illinois.edu/lightning.

UPCOMING EVENTS

Institute Anniversary Lecture Series
The Institute Anniversary Lecture Series commemorates the fifth year of the formation of the Prairie Research Institute as home of the Illinois State Scientific Surveys at the University of Illinois.

Nunavut, Canada’s Frozen Territory
Prairie Research Institute Executive Director Bill Shilts
4:00 p.m., Wednesday, April 30, 2014
Beckman Institute Auditorium

Naturally Illinois Expo

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Andrea Fritts, INHS
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Laura Keefer, ISWS
Elizabeth Luber, ISTC
Sara Olson, ISWS
Roselyn Smith, ISAS
Renaé Strawbridge, ISGS
Steve Wald, OED
Angie Wisenhart, OED

Welcome
Kevin O’Brien, Director, ISTC

Session Moderators
Sam Heads, INHS
Renaé Strawbridge, ISGS

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