



## 2009 Winter Meeting

Indiana Association of Professional Soil Classifiers (IAPSC)

### Indiana Association of Professional Soil Classifiers Winter Meeting

#### Location: The Garrison Lodge

Fort Harrison State Park  
Indianapolis, IN  
UTM 584579E 4413150N NAD83  
Zone 16

When: January 22, 2009

#### Agenda

- 9:00 – 10:00 Registration Paul McCarter
- 10:00 – 10:10 Welcome and introductions Brad Lee
- 10:10 – 10:25 Travis Neely (NRCS update)
- 10:25 – 10:40 Zach Rigg (FS update)
- 10:40 – 11:00 Break
- 11:00 – 12:00 Maria Marshall (Pricing Strategies for Small Businesses)
- 12:00 – 1:00 Lunch

- 1:00 – 1:30 Dena Marshall (Adventures of the Dirt Girl - The more entertaining aspects of being a woman soil scientist in the field)
- 1:30 – 2:00 Kevin Norwood (Terrain Attributes Aid Soil Mapping on Low-Relief Indiana Landscapes)
- 2:00 – 3:00 Mike Prentice (Glacial Environments of Antarctica)
- 3:00 – 3:20 Break
- 3:20 – 4:30 Business Meeting and Elections

The Indiana Association of Professional Soil Classifiers (IAPSC) is a not-for-profit organization of soil scientists who are interested in the field study and evaluation of soils.

Brad Lee, President  
Dena Marshall, Past President  
Spence Williams, President Elect  
Phillip Owens, Vice President  
Paul McCarter, Jr., Secretary-Treasurer  
Norm Stephens, Pedestal Editor

<http://www.isco.purdue.edu/irss/iapsc.html>

**Indiana Registry of Soil Scientists**  
(As written on the IRSS web site.)

The Indiana Registry of Soil Scientists is a program that establishes ethical standards and education, examination, and work experience criteria for Indiana Registered Soil Scientists.

<http://www.isco.purdue.edu/irss/>

**Pedestal**

We need your stories and photographs for the Pedestal. Please email them to:

[Norm.stephens@in.usda.gov](mailto:Norm.stephens@in.usda.gov)

Or mail them to:

Norm Stephens  
NRCS-USDA  
6013 Lakeside Blvd.  
Indianapolis, Indiana, 46278

**Electronic copy of Pedestal** can be found at:  
<http://www.indianasoils.com/>

**HASTI 2009**

The Indiana Association of Professional Soil Classifiers is continuing their sponsorship of a booth at the Hoosier Association of Science Teachers February 4th through the 6th. We will be needing help staffing the booth largely on the 5<sup>th</sup> and 6<sup>th</sup>. 8:AM to 5:00 PM on the 5<sup>th</sup>, and 8:AM to 2:PM on the 6<sup>th</sup>. Most of the activity will be on the 5<sup>th</sup> and it would be great to have a number of people willing to work a 4 hour shift on either one of those two days. Thursday the 5<sup>th</sup> from 5:30 – 7:30 is the social at the Indiana State Museum. HASTI booth workers will be able to tour the museum during this event too.

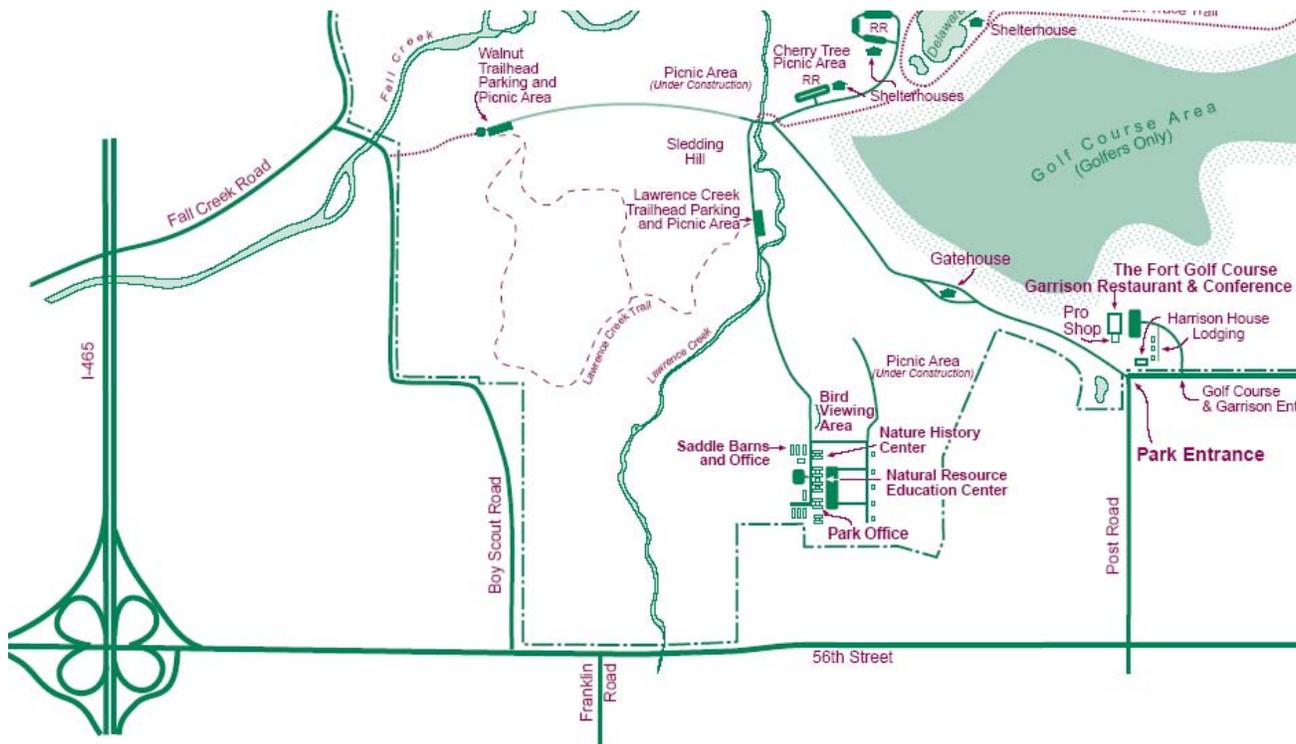
If you would like to help with the HASTI project, please contact: [norm.stephens@in.usda.gov](mailto:norm.stephens@in.usda.gov)

This year's IAPSC Annual Meeting will be held again at the historic district of Ft. Benjamin Harrison at the Garrison Lodge on January 22, 2009. The Garrison Lodge is the former Officer's Club and is located within the 1700-acre Ft. Harrison State Park on the east side of the I-465 loop at the 56<sup>th</sup> street exit.



**A registration fee of \$25.00** will cover the cost of coffee, snacks, and a **buffet lunch** in the Garrison Restaurant. Please fill-out the registration form on the last page and **mail to Paul McCarter by January 16th**; registration after January 16th will be \$30.00. Lodging is available by contacting the Garrison website at: <https://garrison.dnr.state.in.us/> or by calling **Reservations: 877-LODGES-1**

**Fort Harrison Golf Resort & Conference Center**  
6002 N. Post Road Indianapolis, IN 46216  
Phone: 317-543-9592 Fax: 317-543-3967



## 2008 State Land Judging Results



Dena Marshall awards the Chrome Spade to Coach Glen Jones from North Miami High School. This is Glen's fifth spade.

### 2008 State Soils Judging Results

Individuals (in order 1st through 5th):

#### Juniors

Kayla Bechman (Franklin FFA White)  
Kaleb Kramer (North Decatur FFA)  
Trent Mabry (Franklin FFA White)  
Erin Bush (Franklin FFA White)  
Tommy Mitchell (Orleans FFA)

#### Senior 4-H

Paige Cooley (North Miami 4-H)  
Allyssa Richie (North Miami 4-H)  
Arnold Piotter (North Miami 4H)  
Brandon Rice (Franklin Blue)  
Amanda W M ~ (Franklin Blue)

#### Senior FFA

Matthey Armbruster (Southmont FFA)  
Jeremiah Anderson (Southmont FFA)

Clay Bitterling (Rochester FFA Gold)  
Jared Richardson (North Miami)  
Michael Peters (North Decatur FF'A 1)

#### Masters

Ethan Manning (North Miami Red)  
Tyler Murphy (North Miami Black)  
Michael Stamberger (Rochester FFA Black)  
Caria Napier (North Miami Black) ' - -  
Nick Fleenor (Orleans FFA)

#### Top 5 Junior Teams

1<sup>st</sup> Franklin FFA White - Sara Newkirk & Torn  
Bechman, Coaches  
Kayla Bechman, Trent Mabry, Bailey Johnson, Erin  
Bush.

2<sup>nd</sup> Orleans FFA - Hank Carson, Coach  
Tommy Mitchell, Michael Magill, David Sanders,  
Lucas Daugherty

3<sup>rd</sup> Westview FFA - Paul Baker, Coach  
Loren Miller, James Miller, Galen Slabach, Richard  
Miller

4<sup>th</sup> North Decatur FFA - Scott Johnson, Coach  
Kaleb Kramer, Alex Hellmich, Grant Ricke, Justin  
Geis

5<sup>th</sup> Tri County FFA - Travis Scherer, Coach  
Teena Hicks, Josie Douglas, Dakota Westphal, Sean  
Hayden

#### Top 5 Senior 4-H Teams

1<sup>st</sup> North Miami 4-H- Glen Jones, Coach  
Allyssa Richie, Paige Cooley, Arnold Piotter,  
Brantley See

2<sup>nd</sup> Franklin Blue - Sara Newkick & Tom  
Bechman, Coaches  
Daniel Bechman, Amanda Workman, Ashley Dunn  
, Brandon Rice

3<sup>rd</sup> Fairfield 4-H-Kraig Bowers, Coach  
Miles Kritzman, Nolan Drudge, Stephanie Stroup,  
Nathaniel Adam

4<sup>th</sup> Hagerstown 4-H 1 - Don Sturgeon, Coach

Joe Gollhofer, Matt Gollhofer, Austin Robinson,  
Kurtis Grandison

5th Argos 4-H - Michael Jones, Coach  
Matt Hatfield, Patrick Chaney, Kelsey Strahla,  
Cassie Campbell

### **Top 5 Senior FFA Teams**

1<sup>st</sup> Southmont FFA - Gary Mosbaugh, Coach  
Lagora Paxton, Matthew Armbruster, Jeremia  
Anderson, Cole Smith

2<sup>nd</sup> North Decatur FFA 1 - Scott Johnson, Coach  
Randy Dierckman, Ryan &is, Evan Hellmich,  
Michael Peters

3<sup>rd</sup> Gibson Southern FFA 1 - Richard Ritter, Coach  
Kelsey Ziliak, Will Ritter, Jacob Ziliak, Zane  
Gramer

4<sup>th</sup> Western Boone - Don Haberlin, Coach  
Sarah Garst, Jody Garst, Jason Wethington, Laura  
Padgett

5<sup>th</sup> North Miami FFA Gold - Glen Jones, Coach

Kyleigh See, Bryant See, Nathan Ward, Katelyn  
Hattery

### **TQV 5 Masters Teams**

1<sup>st</sup> North Miami Red- Glen Jones, Coach  
Ethan Manning, Spencer Murphy, Sarah Correll,  
Christy Richardson

2<sup>nd</sup> North Miami Black- Glen Jones, Coach  
Tyler Murphy, Kayla Rudd, Karli Musselman,  
Carla Napier

3<sup>rd</sup> Decatur County 4-H- Elizabeth Werner, Coach  
Josh Fry, Kenny Dierckman, Baron Deck, Tyler  
Hill

4<sup>th</sup> Orleans FFA - Hank Carson, Coach  
Nick Fleenor, Justin Van Brunt, Sara Talbert,  
Andrew Johnson

5<sup>th</sup> Western Boon FFA - Don Haberlin, Coach  
John Scott, Calvin Grimes, Michaela Fuesting, Ila  
Scott



**State Contest Practice Pit:** Students get an early start on an outwash plain site.

# 2008 Forest Soils Workshop in Bellville, Ohio

By Norm Stephens



Foresters and Soil Scientists get a special tour of the Secret Arboretum.  
(<http://secrest.osu.edu/pageview.asp?id=30>)

Ohio hosted the 28<sup>th</sup> annual meeting of the Central States Forest Soils Workshop. I think you will see from the photos that this year was wetter than most years, but we still had a great meeting. The session started out Tuesday evening with some lectures on the research and landforms we would be seeing the next couple of days. The buses left early Wednesday morning for the Smith farm site and our first taste of rain for the trip. We looked at soil pits in former farm fields that had returned to woods over the last 50 years or so. The land had suffered both the effects of erosion and deposition from conventional tillage. We also learned more about the Emerald Ash Borer and the potential damage it could do to our forest ecosystems. A great lunch followed this at The Maple Grove Church of the Bretheran and we then moved on to the Crull Woods after lunch to tour a landform still containing old growth timber. We returned to the hotel and got ready for a great home style meal at the Troyer's Dutch Heritage Resturant. The evening was not short on jokes and humor, but most memorable was a talk given by **David Kline**. David Kline is an Amish farmer, author, and speaker. He spent the evening telling humorous stories, and relating the Amish faith to life and nature. His talk was most definitely a high point at the meeting. You can check out some of David Kline's books at your local library, or order them online through most book sellers. **Scratching the Woodchuck**: Nature on

an Amish Farm, and **Great Possessions: An Amish Farmer's Journal**, are a couple of great books of his to read.

Thursday was a tough day with lots of rain in the morning and a cold front moving in during the night. We met in Wooster, Ohio at the Ohio State University's OARDC Center (<http://www.oardc.ohio-state.edu/>) that morning. The cold wind made the soil pits and forest site popular places to be. The worst of the rain hit us at the deciduous tree plantings, but we had some large maple trees to deflect some of the moisture. We then got back on the buses and toured some of downtown Wooster's urban tree plantings. This ended the regular portion of the workshop. There was an optional lunch and tour of the Secret Arboretum which was most definitely another high point at the meeting. The rain had stopped and the temperature was a little warmer and we were given a tour of the arboretum by the curator Ken Cochran. The Secret Arboretum was celebrating its Centennial this past year and is well worth visiting if you're ever in the Wooster, Ohio area. It's also priced right for the soil scientist ... with free admission. Be sure and join us for the next Central States Forest Soils Workshop in Santa Claus, Indiana in 2009, October 13-15 and earn IRSS CEUs.



First stop at the Smith Farm.



Neil Smeck discusses erosion classes on the reforested ground on the Smith Farm.



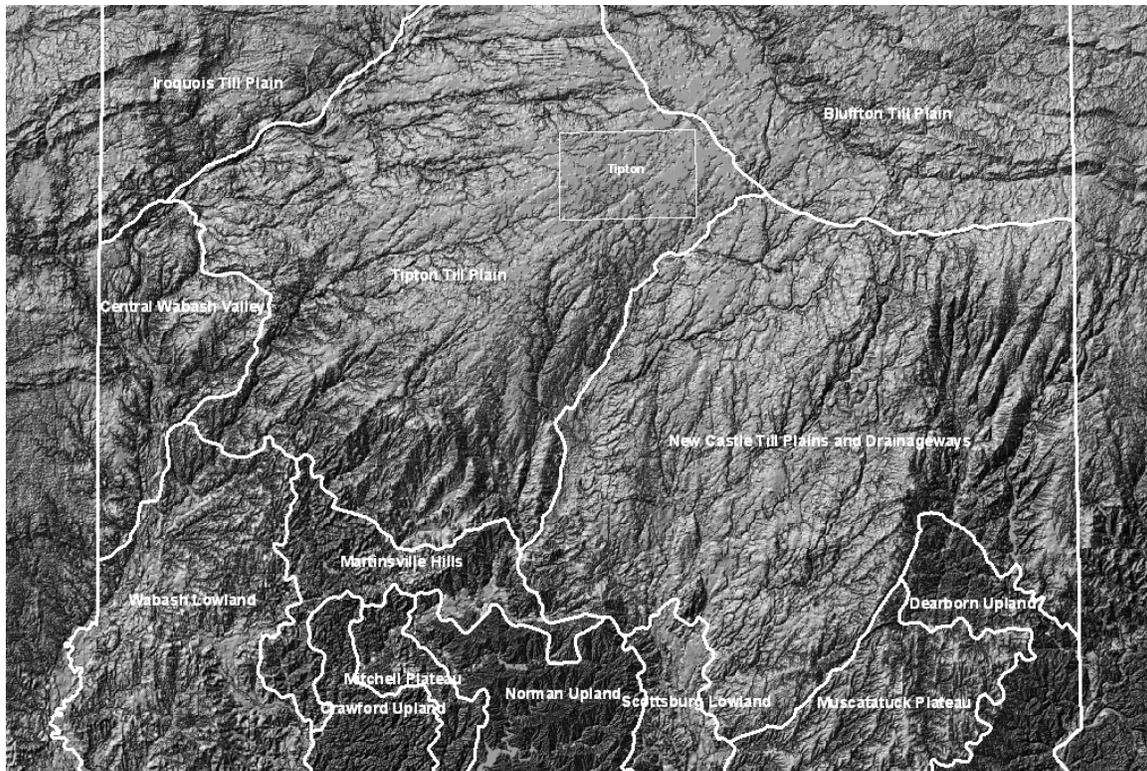
Mike Wigginton and Asghar Chowdhery examine a soil pit in an old growth forest in Crull woods.

## Tipton County and the Tipton Till Plain

By Norm Stephens

The Tipton Till plain is landform composed of a variety of glacially derived sediments including ablation till, lodgment till, fluvial silts, outwash, and loess. The loess on the Tipton Till Plain is of a far lesser extent than the loess found along the fringes of the major Indiana tributaries and has largely been plowed and mixed into the fluvial silts. The Tipton Till Plain is a fairly descriptive name which includes one of Indiana's most abundant and limiting sediments deposited by the glaciers as they moved through central Indiana. The problem with this name is that it suggests the dominant nature of the area as being that of a ground moraine. This maybe quite true in some areas, but the landform as a whole could be better described as a drift plain.

The term "drift" is a term that is no longer in vogue largely due to our need as scientists to split out parent materials to better describe the landscape. The usage of drift dates back to the early days of the study of geology and the recognition of transported rocks of European origin being found in northern Africa. These rocks being thought to of arrived in their North African locations as a result of ice rafting during the great biblical flood of Noah's day. Drift includes all sediments related to the movement and deposition glacial ice and the associated melt waters. All of which are found on the Tipton Till Plain.

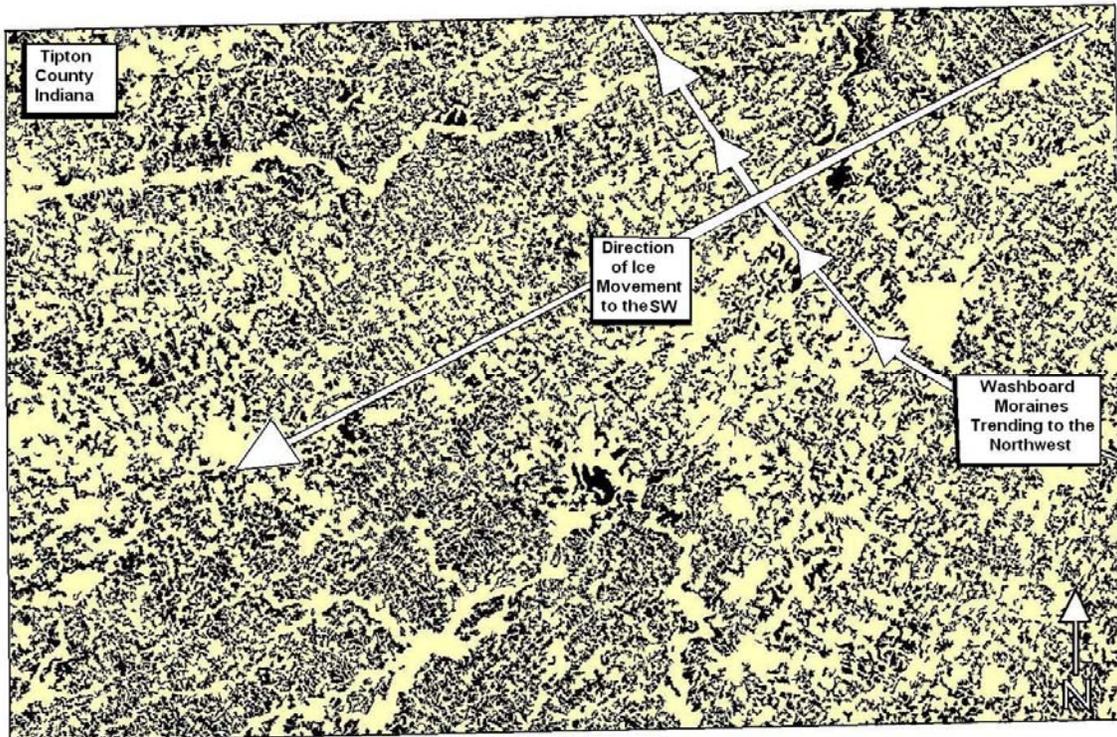


The DEM is exaggerated 25X to better show the landforms.

The surface sediments on the drift plain often resemble sediments more commonly found in river delta environments, but then when you think about the dynamics of a glacial ice sheet it is really nothing more than a very slow moving river in the solid phase. It is from this thought that it is easy to see all the abandoned melt water sluiceways and channels distributed across the land's surface. Defining the landforms is not an easy task for as much as the ice and its associated melt waters are responsible for the deposition of sediment they are also responsible for the erosion of those same sediments at different times and positions of the ice front.

The distance from the ice front will often make a significant difference in the degree of coarseness found in the fluvial sediments within the soil profiles. Coarser materials are found within the higher flow environments nearer the ice front and the finer materials are found the furthest away in the quieter waters. The washy nature of the Tipton Till Plain suggests a lot of modification of the sediments by water, but it also lacks deeply incised valleys found in the New Castle Till Plain to the east. This suggests more ponding of the glacial melt water on the Tipton Till Plain than that of the New Castle Till Plain. This observation is also substantiated by the well developed washboard moraine complex found in Tipton County.

### **Washboard Moraines**



Map of Tipton County showing the washboard moraine pattern in the alfisols mapped there.

Washboard moraines are regularly spaced moraines oriented transverse to the direction of ice flow. The washboard moraines in Tipton County are of low relief and are closely spaced. The relief would be far more substantial if it weren't for the fluvial silts filling in the depressions between the ridges. The ridges are composed of a variety of glacial materials such as outwash, till, fluvial silts, and clays. Some of these ridges have been pushed into place by the advancing ice sheet and others by the wasting of the ice into standing water. Some of the ridges running parallel to the ice flow are often composed of a higher percentage of outwash materials and in some cases may be small eskers. More often than not they represent cracks, or shear zones in the stagnant ice which formed natural drains for the wasting ice mass.

The significance of the washboard moraine complex is in the area of predictability, or should I say "a reduction in predictability" on a given landform. This doesn't mean you can't have a general prediction on what you will find on the landform, but it does increase the need for an onsite investigation for any type of land use activity. The big determining factor is the volume and rate of flowing water exiting from the melting ice in relationship to the melt water outlets. You can pick any point on the map and tell a little different story of what was happening at a given point in time. My comments will be more general in nature for the purpose of this discussion. The big picture has an increase in bedrock elevation in central Boone County which was perhaps enough to increase the amount of drag on the advancing ice sheet to the point of shifting the direction of ice flow to the northwest, and to the southeast of the Tipton Till Plain. This created an area of moraine and ice dammed water which was saturated with glacial silts and clays. The melt water periodically found outlets and partially drained the area at different times. Numerous abandoned sluiceways give evidence to this process. The distance relationship to the melt water outlets and the front of the ice sheet will often determine the type of sediments found on a given landform. Generally, the sediments of the washy layer between the fluvial silts and the till will coarsen towards the central moraine in Boone County to the southwest, and will become finer as you near the Union City moraine to the northeast. There are a few exceptions to this trend like the outwash fan complex in northeastern Tipton County, but overall it is true.

The surface soil texture is dominated by fluvial silts except where they were plowed away, or where the till and outwash was of significant elevation not to be inundated by the silt saturated glacial melt water. Looking out across the till plain it's easy to see the silt saturated glacial melt waters have done a pretty fair job of leveling the landscape. This leveling effect was further enhanced by the farmer's tillage, but when soil survey transects are run parallel along a given landform the distance to the densic layer can be quite variable in the same landscape position. The lodgment and ablation sediments on the washboard moraines were often eroded away as melt water channels cut into them when the ice sheet margin was much nearer the moraines. These same channels were later filled by quieter silt saturated waters from the ice sheet as the ice retreated away from the moraines. The channel fills can be quite variable depending on the

flow of water and the locations of the former ice block restrictions on the drift plain.

The formation of the washboard moraine complex is by both lodgment and ablation processes. Both processes largely occurred in an environment of still glacial melt water. The resulting sediment packages are far more stratified in Tipton County than what is typically found elsewhere on the Tipton Till Plain. This stratification may be found within the soil pedon, or below it. And it's not at all unusual to find thin beds of till with silts, or sands between them. The color of the stratified layers may suggest slightly better drainage conditions than the actual drainage condition and caution should be used in that regard. Very dense till, silts, and clays may be found in the core of the moraines and are often below a surface mantle of fluvial silts and other ablation sediments.



The dragline in the picture above is cutting a ditch through a Tipton County moraine mapped as Tuscola soil, but in this case it is closer to a Williamstown soil with dense till instead of sand. Loamy stratified fine and very fine sands can be found down slope from the pictured cut. Mixed stratified sands and till is a common situation in the washboard moraine area. The intermorainal areas will often pond water and may need more than just subsurface tiles to provide sufficient relief from surface runoff.

The fluvial silts of the intermorainal areas will often contain pelcypod, ostracod, and gastropod shells in the unleached horizons. Quite often these sediments will be referred to as lacustrine in nature and by appearance this is as good a description as any, but they more often than not lack the seasonal varves found with true lakebed deposits and most likely represent depositional events in a glacial lake setting.

Central Indiana was very wet during the Pleistocene and stayed that way right up and through the Holocene until the steam dredges began cutting ditches, and farmers began installing drainage tiles. Some areas are still plagued by drainage issues. Heavy rains like what we experienced in 2003 will fill many of the old sluiceways and intermorainal areas with water. These poorly drained areas will often drain better than the moraines during the dry season, but they will also channel more surface, and subsurface, water during the wet season. The home site in the picture below looks pleasant enough during the dry months, but it always has problems during the wet months of the year. This house was built prior to the publication of the modern Tipton County soil survey. The builder could have used the soil survey to become aware of this potential problem and used onsite observations by a private soil consultant to confirm the problem.



A house built in a Patton depression along the Tipton – Howard County line.

Tipton County is mapped using a different model than most of its surrounding neighbor counties. It will be necessary to have a thorough understanding of the dynamics of the glacial environment during the deposition of the various sediments to ensure the successful joining of Tipton County with the surrounding counties during the soil survey update process. The simple “loess over till” model will lead to many mismatches of landforms without that understanding.

## Soil Scientists In The Field



Ohio State's OARDC Center was well prepared for all the tall stories being told at the 28<sup>th</sup> Annual Central States Forest Soils Workshop. Knee boots were optional this year.



You know you're in trouble when your group is being led by two Steves and a Tom.



Scot Haley solves the Emerald Ash Borer problem with a reenactment from his favorite movie ... “Psycho”.



Halloween at the State Land Judging practice pits brings out the dirt devil in Dena Marshall.  
And like the country song says, “You should have seen it in color!” ... and you can at:  
<http://www.indianasoils.com/>

# 29<sup>th</sup> ANNUAL CENTRAL STATES FOREST SOILS WORKSHOP

## Location

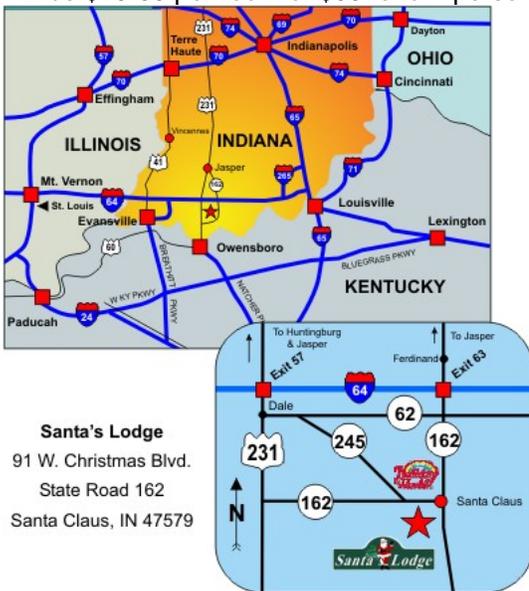
Santa Claus is located 140 miles south of Indianapolis, IN and 65 miles west of Louisville, KY off I-65. (see map on registration form)



**Yellow-Poplar (Tulip-tree), *Liriodendron tulipifera*. Indiana's State Tree**

## Lodging

The host hotel for the workshop will be at Santa's Lodge [www.santaslodge.com](http://www.santaslodge.com) at Santa Claus, Indiana. Rates will be \$49-59 per room or \$99 for a 4 person suite.



**Santa's Lodge**  
91 W. Christmas Blvd.  
State Road 162  
Santa Claus, IN 47579

## Camping

**October 13-15, 2009**  
**Santa Claus, Indiana**

Camping is available at:

- ◆ Lake Rudolph Campground  
(812) 937-4458 (877) 478-3657  
[www.lakerudolph.com](http://www.lakerudolph.com)
- ◆ Lincoln State Park  
(812) 937-4710  
[www.in.gov/dnr/parklake/6709.htm](http://www.in.gov/dnr/parklake/6709.htm)

## Tentative Program Includes

- ◆ Oak Regeneration
- ◆ Forest Best Management Practices
- ◆ Timber Stand Improvement
- ◆ Demonstration farm on private land
- ◆ Pine Harvest and soil chemical property changes
- ◆ Industry Tour
- ◆ Water movement in a Watershed
- ◆ Soils on Mississippian Sandstone and Shale
- ◆ Fabulous Hoosier cooking and hospitality

## For Additional Information

Contact: Gary Struben or Ken Collins, USDA-NRCS, 6013 Lakeside Blvd., Indianapolis, Indiana 46278-2933, 317-290-3200, Extensions 373 and 356 respectively. Or e-mail at:

[Gary.Struben@in.usda.gov](mailto:Gary.Struben@in.usda.gov)

[Kenneth.Collins@in.usda.gov](mailto:Kenneth.Collins@in.usda.gov)

## Sponsors

- ◆ Hoosier Chapter-Soil and Water Conservation Society
- ◆ Indiana Association of Professional Soil Classifiers
- ◆ Indiana Department of Natural Resources Division of Forestry
- ◆ Indiana Society of American Foresters
- ◆ Purdue University Department of Forestry and Natural Resources
- ◆ USDA-U.S. Forest Service
- ◆ USDA-Natural Resources Conservation Service-Indiana

**Watch for final registration details in the Fall Pedestal**

## **2009 WINTER MEETING REGISTRATION FORM**

For Thursday – January 22nd

### **Send in your Check Today!**

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***Registration Fee \$25.00 before JANUARY 16th***

**LATE FEE after JANUARY 16th - \$30.00**

**If at all possible register before JANUARY 16<sup>th</sup>**

Make checks to I.A.P.S.C. Inc.  
Clip and mail to Paul McCarter  
R.R. #1, Box 252A  
Bloomfield, IN 47424-9750

Name(s): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Members please update the following, if needed:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No: \_\_\_\_\_

E-mail address: \_\_\_\_\_