

# From the GeoDESK

Fall Edition 2010  
Volume 3, Issue 3

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## Newsletter Contacts

Submit letters, projects, feedback and articles to:  
[beth.kelly2@us.army.mil](mailto:beth.kelly2@us.army.mil) or  
[peter.sandgren@ct.gov](mailto:peter.sandgren@ct.gov)

These articles are published for the education and enjoyment of the GIS community, and may be edited to fit space available.

The CT Geospatial Council does not endorse or recommend any software programs.



**Connecticut Geospatial Information Systems Council  
 Education and Outreach Working Group**

*presents*

# Connecticut GIS Day 2010

NOVEMBER 17, 2010

Central Connecticut State University, New Britain, CT

Torp Theater located in Davidson Hall

9:30 am – 2:30 pm **Map Poster Gallery Viewing/Networking**  
**\*\*Vote for People's Choice Map Poster\*\***



10:00 am – 12:30 pm **Educational/Informational presentations and lightning talks**



1:30 pm – 2:30 pm **Keynote address by GIS Hall of Famer and former TeleAtlas Senior Scientist, Mr. Don Cooke, ESRI Program Manager, Community Basemap Program, Redlands, CA**



2:30 pm – 3:30 pm **GIS Council Meeting - Public Welcome**  
**Also including presentations to the Connecticut 2010 Geography Bee Winner And 2010 High School Geography Challenge Winners**



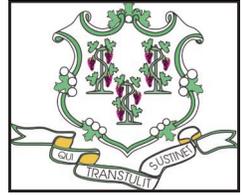
## Connecticut Becomes an AmericaView Member State

By James Hurd, UCONN



Connecticut has recently become the 37<sup>th</sup> member state of the AmericaView Consortium. AmericaView is a nationwide program that focuses on satellite remote sensing data and technologies in support of applied research, K-16 education, workforce development, and

technology transfer. *Continued on page 2.*



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Have you been to a corn maze yet? It's that time of year again and farmers have developed their corn mazes to supplement their income. GPS and field mapping software are used to draw these amazing designs in the cornfield. Most GPS units are accurate to within a meter and are able to provide the guidance needed to carve a successful corn maze. GPS and field mapping software are used to display a digitized copy of the maze design on a hand-held computer in the field. GPS is used to mark the coordinates of the four corners of a corn field for the mapping software, then fit the maze design to these corners and map out the design. Once the design is georeferenced, the GPS is hooked up to a handheld computer and GPS points are marked on the ground. Lawn mowers are used to carve out the design in the corn. GPS is being used worldwide to create complicated mazes that help farm communities raise money. From coast to coast, corn mazes are being accurately and quickly created using GPS technologies. Most farms that invite the public to visit their corn maze also have other special fall exhibits and farmers markets for visitors. Visit [www.cornmazesamerica.com/connecticut.htm](http://www.cornmazesamerica.com/connecticut.htm) for a maze near you.

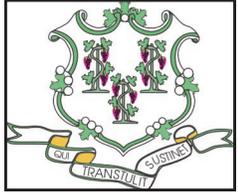
While the mazes are a challenge, visitors who get stumped can find their way out via their own GPS!



*Cont. from page 1.* **AmericaView** is comprised of university-led, state-based consortia working together to build a nationwide network of state and local users. AmericaView works to further expand communications networks, facilities, and capabilities for acquiring and sharing remotely sensed data among AmericaView members.

The genesis of AmericaView comes from a 1998 pilot project started in Ohio by the United States Geological Survey (USGS) and a group of Ohio universities. The impetus was to overcome some of the major cost and remote sensing data access problems that they faced. As such, the objective of the OhioView project was to create a prototype system for high-speed processing and rapid delivery of remotely sensed data to state and local users. Currently 13 universities participate in OhioView and the state supports the purchase of statewide satellite imagery, conducts remote sensing educational programs, and supports remote sensing based research activities. Impressed with the success of OhioView, in 2000 Congress instructed the USGS to begin implementing a similar program nationwide resulting in the formation of AmericaView.

One of the goals of AmericaView is to expand participation to all 50 states. Earlier this year, researchers and educators from the University of Connecticut, in collaboration with partners from Yale University and Wesleyan University, took the initiative to submit an application for membership to AmericaView. The application was formally approved by AmericaView in June 2010 and ConnecticutView was established. The initial objective of ConnecticutView is to promote itself in the state and begin the development of a Connecticut Consortium. Participation in GIS Day is one of the ways ConnecticutView is hoping to attract potential ConnecticutView partners. Through the development of a ConnecticutView Consortium, it is hoped that all the participating members will be able to benefit from data discounts and other services offered through AmericaView and help promote remote sensing education and research within the state. The ultimate mission of ConnecticutView, however, is yet to be decided. The current partners are hopeful other universities and institutions in the state will become members and help determine the future of ConnecticutView. A website is currently in development, but if you have questions, please contact ConnecticutView Director, James Hurd at 860-486-4610 or [james.hurd\\_jr@uconn.edu](mailto:james.hurd_jr@uconn.edu). For more information about AmericaView, please visit <http://www.americaview.org>.

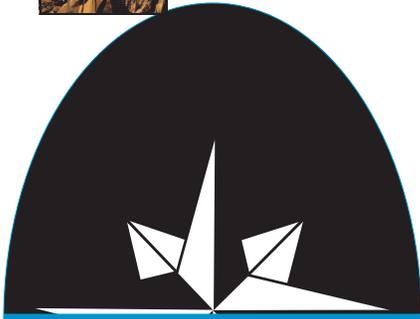


# CONNECTICUT Geo-Focus



## From the GeoDESK

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**What is the tidiest element on a map?**  
*The neatline.*

**Why did the cartographer put a band-aid on the map?**  
*To cover the bleeding edge.*

**What are they and where are they?**

*WHAT—They are five to seven minute talks that get right to the point.*  
*WHERE -This year at the GIS Day Event on November 17th .*  
*If your interested in giving one contact us !*

*beth.kelly2@us.army.mil*  
*Or TDymkowski@NewingtonCT.gov*

**Lightning Talks**

### Calling All Map Makers

### To participate in GIS Day

### November 17, 2010

The Education and Outreach Working group needs to fill Davidson Hall at CCSU with your maps! Every year we have a great turn out so join us on GIS Day and show off your best map skills. A Peoples Choice vote will take place for the best maps. Results will be made public on [www.ct.gov/gis](http://www.ct.gov/gis)



### TIME FOR SCHOOLS TO REGISTER FOR THE 2011 NATIONAL GEOGRAPHIC BEE

Fee Goes Up After October 15!

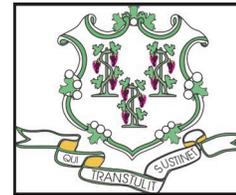
The National Geographic Bee is a school competition for students in grades four through eight. Excite your students about the world around them and reward those who excel in their knowledge of geography by giving them a chance to compete in a school geographic bee.

Schools registered by October 15, 2010 will pay \$90 fee and will receive their contest materials in early November. Registration after October 15 will be \$110. Go to [www.nationalgeographic.com/geobee](http://www.nationalgeographic.com/geobee) to get complete information and other dates and deadlines.

#### History Corner by Beth Kelly

If you're conducting research using old maps, it's a good thing to remember this: in the 18<sup>th</sup> and early 19<sup>th</sup> centuries, scales of distance were not universal; color and symbol keys varied; and the quality and detail of the maps differed from cartographer to cartographer. Different countries provided different schools of cartographic training and design. Hence American and British maps are scaled in individual feet; German maps in the common stride pace; and French maps in leagues. Surveyors should be aware of this when analyzing maps, plans, and diagrams produced by multi-nationals that depict the same event in history.





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**ESRI Free Seminar:**  
**Increase Productivity with ArcGIS 10**  
 When: October 12, 2010  
 Where: Crowne Plaza Cromwell 372 Berlin Road Cromwell, CT 06416  
**Join ESRI at No Cost**  
 Spend a day learning how to be more productive in your job using ArcGIS 10. From tools and demos that focus on relevant workflows to helpful presentations and discussions about improved analysis, access to imagery, mobility, and ways to use the Web, you'll come away equipped to leverage ArcGIS 10 in a desktop, mobile, server, or cloud environment. Further info/  
 Registration at  
<http://www.esri.com/events/seminars/arcgis10/index.html>

**Upcoming**  
**New England Conferences**  
  
**NEARC 2010**  
 Nov 7—10, 2010  
 Newport, RI  
[www.northeastarc.org](http://www.northeastarc.org)  
  
**Association of American Geographers AAG Annual Meeting**  
 April 12—16, 2011  
 Seattle Washington



## Fall Classes

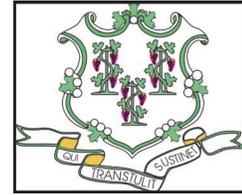
There is still time to sign up for one of the popular GIS Classes offered at UConn

For more information visit the new website at : <http://clear.uconn.edu/geospatial>

All classes are taught at the Middlesex County Extension Center 1066 Saybrook Road Haddam, CT 06438

- **Mashup Madness: Using Google Tools to Create Maps on the Web**  
 October 19. NEW COURSE! This one-day course introduces students to the basics of creating simple mapping “mashups.” Course fee \$100
- **Creating and Using Geospatial Models: An Introduction to ModelBuilder for ArcGIS**  
 November 23. A one-day course that introduces ArcGIS users to the capabilities and uses of ModelBuilder. Course fee \$100
- **Developing Custom Geoprocessing Tools: An Introduction to Python Scripting**  
 December 8-9. A two-day course which introduces ArcGIS users to the basics of writing and integrating Python scripts in ArcGIS. Course fee \$150

\*Note: All GIS training courses are currently taught using ArcGIS 9.3. ArcGIS 10 courses will begin in early



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### High School Geography Challenge

The 19th annual CT High School Geography Challenge was held at The University of Connecticut in Storrs on Tuesday, May 18. Fifteen teams from public and private high schools around Connecticut competed in this day-long interscholastic competition.

The members of the winning team from Staples High School of Westport were Scott Gunde (graduated), Jeff Loselle (graduated), Cole Manley, and Robert Perry. Their faculty advisor was James D'Amico, social studies department head at Staples HS.

This year's theme was Mapping Europe. Teams of three to five students each competed in orienteering, problem solving, and map reading activities at the Homer Babbidge Library on the Storrs campus. Everyone involved was pleased that the rain held off until all teams had finished the outdoor orienteering event! After lunch, the participants moved to the Konover Auditorium in the Thomas J. Dodd Research Center on campus to compete in the final event of the day's competition, the Geography Bowl.

Other schools competing at this year's High School Geographic Challenge were Edwin O. Smith High School in Storrs (2nd place), Housatonic Valley Regional High School of Falls Village (3rd place), Hamden High School (4th place), Bacon Academy of Colchester, Danbury High School, East Catholic High School of Manchester, East Lyme High School, regional magnet Metropolitan Learning Center of Bloomfield, and Norwich Free Academy.

The Connecticut High School Geography Challenge offers students the opportunity to develop and test their geography knowledge, understanding, and skills in a fun, fast-paced, and interscholastic competitive environment. The Connecticut High School Geography Challenge is the only statewide geography competition for high school students. Students who were involved in the Geography Bee in middle school find the High School Geographic Challenge an exciting way to continue their interest in geography.



## Staples High School

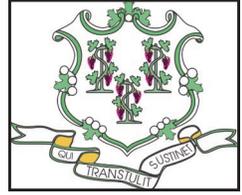
70 North Avenue, Westport CT 06880 | Main Number (203) 341-1200 | Fax 341-1202 | Attendance 341-1281

### Who's Who in CT GIS?

If you would like to nominate someone (or yourself) for the CT Geo-Person Spotlight, please send us a brief paragraph containing their bio/GIS contributions and a photo of that person, with their permission of course, to [Beth.Kelly2@us.army.mil](mailto:Beth.Kelly2@us.army.mil). This is a great way to get to know your peers and get your GIS-self out there and network!

There is no guarantee that your submission will be published but we always welcome GIS news!





## Municipal Highlight

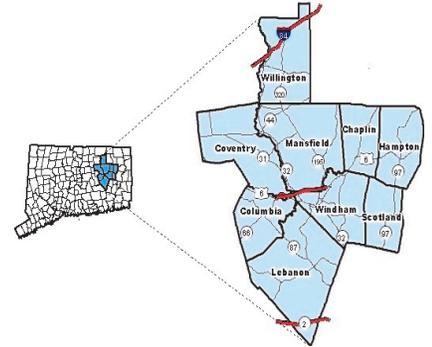
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### The Windham Region

### Council of Governments (WINCOG)

CHAPLIN, COLUMBIA, COVENTRY, HAMPTON, LEBANON, MANSFIELD, SCOTLAND, WILLINGTON, WINDHAM



The Windham Region Council of Governments (WINCOG) announces a new interactive website for finding local property information:

<http://www.wincog-gis.org/>

Users may search for property information by owner or address and view aerials and other mapping for the towns of Chaplin, Coventry, Columbia, Hampton, Lebanon, Mansfield, Scotland, Willington, and Windham. The website was prepared with the assistance of municipal officials and is a project of the Windham Region GIS and Cadastral Data Center. It is funded with a grant from the CT Office of Responsible Growth.

Find out more about the Windham Region GIS and Cadastral Data Center here:

<http://www.wincog.org/documents/GIS-CAD-flyer.pdf>

**WINCOG**

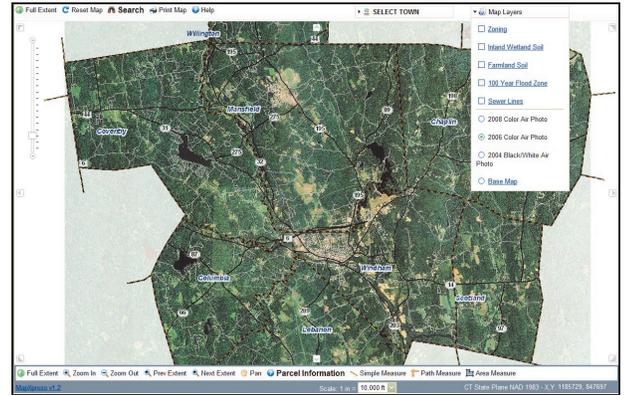
*acts as a clearinghouse for information about the towns in the region.*

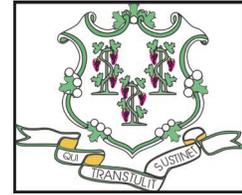
*WINCOG maintains a library of current census and other demographic data, maps, plans, and planning literature. Periodic news releases keep municipalities informed on regional issues.*

*WINCOG provides member towns with the most recent U.S. Census statistics, as well as information about current best practices in planning and zoning on topics of particular interest.*



**Contact information:**  
**Jana Butts, AICP**  
 Senior Planner &  
 GIS Coordinator  
[planner@wincog.org](mailto:planner@wincog.org)  
 &  
**Michael Cipriano**  
 GIS Analyst  
[GIS@wincog.org](mailto:GIS@wincog.org)

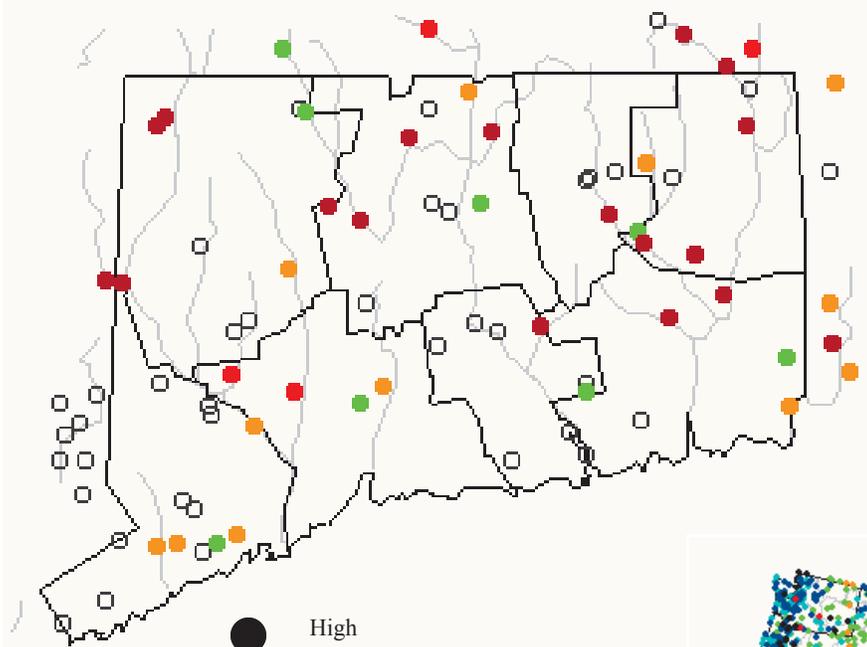




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Monday, September 20, 2010 11:30ET

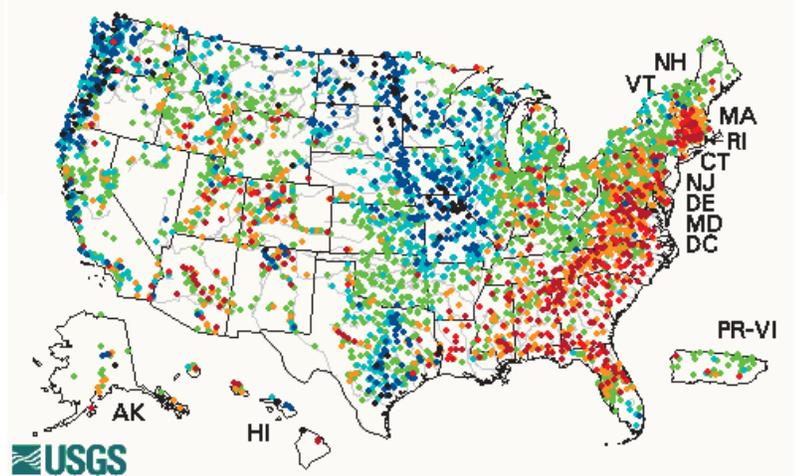


*The colored dots on this map depict streamflow conditions as a percentile, which is computed from the period of record for the current day. Only stations with at least 30 years of record are used. The gray circles indicate other stations that were not ranked in percentiles either because they have fewer than 30 years of record or because they report parameters other than streamflow.*



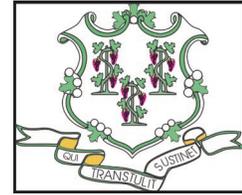
- High
- >90th percentile
- 75th-89 percentile
- 25th-74th percentile
- 10th-24th percentile
- <10th percentile
- Low
- Not ranked

Monday, September 20, 2010 11:30ET



## Daily Stream Flow Conditions Are Mapped

Real-time data typically are recorded at 15-60 minute intervals, stored onsite, and then transmitted to USGS office every 1 to 4 hours, depending on the data relay technique used. Recording and transmission times may be more frequent during critical events. Data from real-time sites are relayed to USGS offices via satellite, telephone, and/or radio and are available for viewing within minutes of arrival. The colored dots on the map depict stream flow conditions as a percentile, which is computed from the period of record for the current day of the year. Only stations with at least 30 years of record are used. The hollow circles indicate other stations that were not ranked in percentiles either because they have fewer than 30 years of record or because they report parameters other than stream flow. Visit [www.waterdata.usgs.gov/nwis](http://www.waterdata.usgs.gov/nwis)



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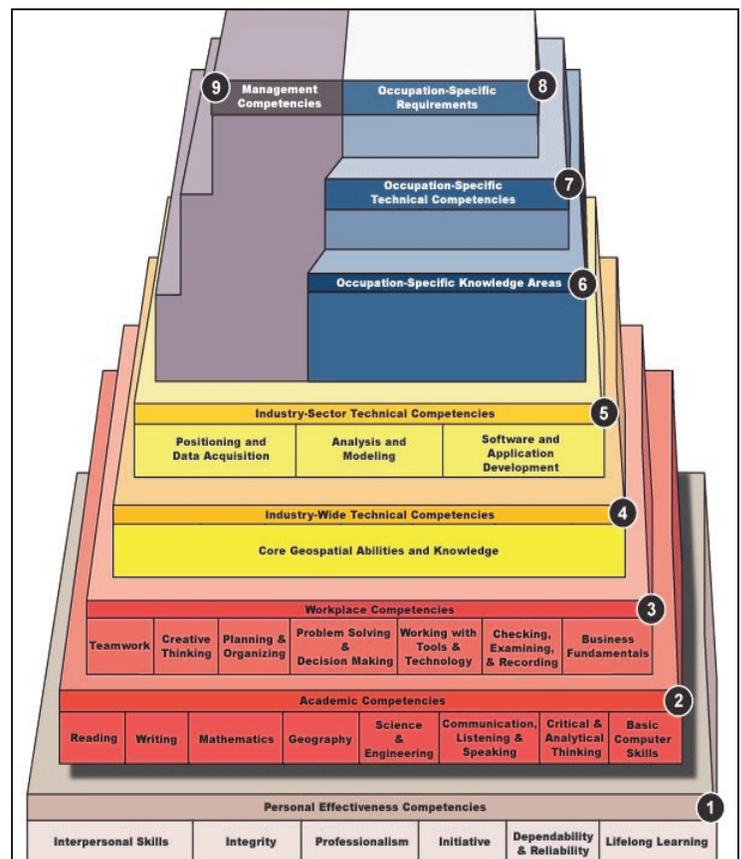
**Geospatial Technology Competency Model**  
By the United States Department of Labor

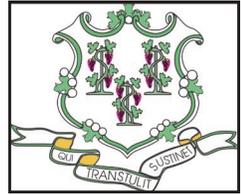
WASHINGTON — The U.S. Department of Labor's Employment and Training Administration announced the release of an industry competency model for geospatial technology. There are now 16 models available on the Competency Model Clearinghouse available through the department's One-Stop Career Centers website. The Geospatial Technology Competency Model has been developed by researching and analyzing publicly available resources, existing skill standards, competency-based curricula and certifications to provide an employer-driven framework of the skills needed for success in geospatial technology.

"Competency models offer workers an opportunity to learn what it takes to enter a particular field," said Secretary of Labor Hilda L. Solis. "The geospatial model serves as a guide for those who want to both find a good job and map out a long-term career pathway in any of several geospatial technology fields including surveying and mapping, computer science and information science."

The model will serve as a resource for career guidance, curriculum development and evaluation, career pathway development, recruitment and hiring, continuing professional development, certification and assessment development, apprenticeship program development and outreach efforts to promote geospatial technology careers. ETA worked with employer and education partners for two years to develop and validate a model that represents the broad range of services, technical and manufacturing professions, and products within the fields of geography, surveying and mapping, computer science, information science and other specialized areas of application that comprise geospatial technology. The GeoTech Center, a government, academia and industry partnership funded, in part, by a grant from the National Science Foundation and based at Del Mar College, led the validation process.

The model builds on previous efforts to describe geospatial industry skill needs, including the Geospatial Technology Competency Model developed at the University of Southern Mississippi. The new model groups competencies into foundational competencies, core geospatial competencies and competencies for three geospatial sectors: positioning and data acquisition, analysis and modeling, and software and application development. To access the new competency model, visit the Competency Model Clearinghouse at <http://www.careeronestop.org/competencymodel/>. For more information on the range of Department of Labor employment and training programs visit <http://www.doleta.gov>.





## From the GeoDESK

### PCs Around the World Unite To Map the Milky Way

By Gabrielle M. DeMarco, Rensselaer Polytechnic Institute 2010

The combined computing power of the [MilkyWay@Home](#) project recently surpassed the world's second fastest supercomputer. At this very moment, tens of thousands of home computers around the world are quietly working together to solve the largest and most basic mysteries of our galaxy.

Enthusiastic and inquisitive volunteers from Africa to Australia are donating the computing power of everything from decade-old desktops to sleek new netbooks to help computer scientists and astronomers at Rensselaer Polytechnic Institute map the shape of our Milky Way galaxy. Now, just this month, the collected computing power of these humble home computers has surpassed one petaflop, a computing speed that surpasses the world's second fastest supercomputer.

The project, MilkyWay@Home, uses the Berkeley Open Infrastructure for Network Computing (BOINC) platform, which is widely known for the SETI@home project used to search for signs of extraterrestrial life. The interdisciplinary team behind MilkyWay@Home, which ranges from professors to undergraduates, began the formal development under the BOINC platform in July 2006 and worked tirelessly to build a volunteer base from the ground up to build its computational power. Each user participating in the project signs up their computer and offers up a percentage of the machine's operating power that will be dedicated to calculations related to the project. For the MilkyWay@Home project, this means that each personal computer is using data gathered about a very small section of the galaxy to map its shape, density, and movement.

In particular, computers donating processing power to MilkyWay@Home are looking at how the different dwarf galaxies that make up the larger Milky Way galaxy have been moved and stretched following their merger with the larger galaxy millions of years ago. This is done by studying each dwarf's stellar stream. Their calculations are providing new details on the overall shape and density of dark matter in the Milky Way galaxy, which is widely unknown.

"When you use a supercomputer, all the processors are the same and in the same location, so they are producing the same results at the same time," Varela said. "With an extremely distributed system, like we have with MilkyWay@Home, we are working with many different operating systems that are located all over the globe. "This is a really unique opportunity to get people interested in science while also allowing us to create a strong computing resource for Rensselaer research." All of the research, results, data, and even source code are made public and regularly updated for volunteers on the main MilkyWay@Home Web site found at: <http://MilkyWay.cs.rpi.edu/>. The research was funded primarily by the National Science Foundation (NSF) .



Here is a top-down view of one possible model for the Sagittarius Dwarf Stream.

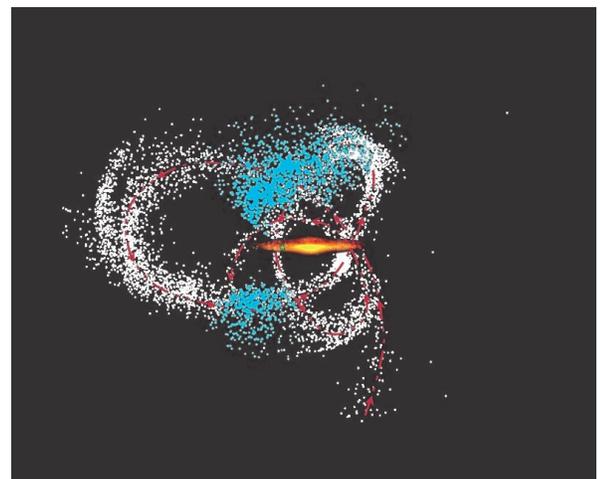
The middle galaxy represents the Milky way with the sun being the green dot within the disk.

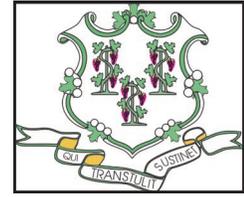
The blue stars are the general areas of the Sagittarius dwarf that is being studied.

Imagine we are looking down on top of a semi-flat structure —

[CLICK HERE](#)

for a 3D model below produced by David Law at the University of Virginia.





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## Borne on the Wing: Avian Influenza Risk in U.S. Wild Songbirds Mapped By Cheryl Dybas, National Science Foundation 2010

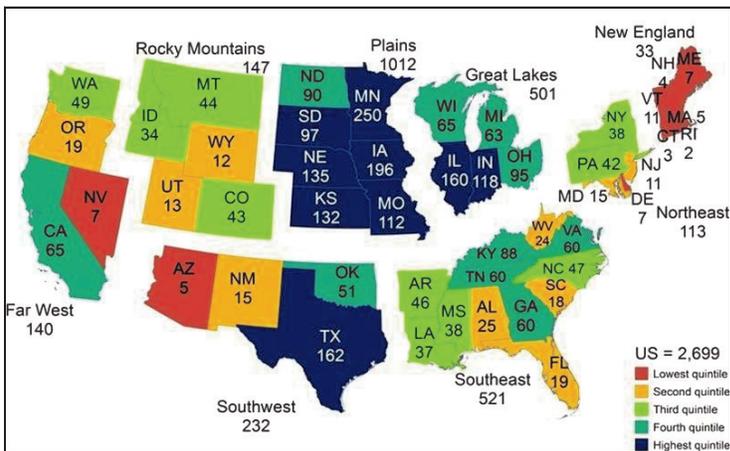
Scientists have discovered that 22 species of passerines--songbirds and perching birds--in the contiguous U.S. are carriers of low-pathogenicity avian influenza. Pathogenicity is the ability of a germ to produce an infectious disease in an organism. The researchers reported their results in the journal *BMC Infectious Diseases*.



Northern water thrushes are songbird carries of the influenza virus.

The research is supported by the joint National Institutes of Health (NIH)-National Science Foundation (NSF) Ecology of Infectious Diseases (EID) Program. At NSF, EID is co-funded by the Directorates for Biological Sciences and Geosciences. The prevalence of influenza in waterfowl has long been known. But the researchers' analysis of samples taken from 225 passerine species in 41 U.S. states indicates that the number of songbird species with low-pathogenicity avian influenza is greater than the number in eight other avian orders, including waterfowl.

"Avian influenza virus [AIV] is an important public health issue because pandemic influenza viruses in people have contained genes from viruses that infect birds," says Trevon Fuller, lead author of the paper and a biologist at the Center for Tropical Research at UCLA. "Some AIV subtypes have periodically mutated from low pathogenicity to high pathogenicity forms that are lethal, for example, to poultry." Since passerines share the same habitat as poultry, they may be more effective transmitters of this disease than aquatic birds to humans, Fuller says. Analysis of the geographic distribution of AIV,



The golden-crown kinglet is among the top songbirds infected with influenza. Credit: State of Wisconsin

says Thomas Smith, also a biologist at the Center for Tropical Research at

Predicted number of cases of avian influenza in wild birds in the U.S. a the state scale. Credit: Thomas B. Smith

UCLA and a co-author of the paper, "can identify areas where such 'reassortment' events might occur, and how high pathogenicity might travel if it enters wild bird populations in the U.S." Modeling the number of AIV cases is important, says Sam Scheiner, NSF program director for EID, "because the rate of co-infection with multiple AIV subtypes increases with the number of cases."

On a state scale, Connecticut and Rhode Island have the lowest cases. Minnesota is predicted to have the most cases of AIV. The virus has been introduced to Minnesota turkey farms by wild birds--some 135 times since 1968. The amount of harvest cropland was "highly significant," the biologists found. "Agricultural activity reduces the amount of natural habitat available to avian migrants," says Fuller. The birds become crowded together in smaller areas. Minimum temperature also emerged as important for predicting AIV cases. AIV is known to survive for a longer time in colder conditions. During a cool-weather 1984 outbreak in Pennsylvania, for example, the virus survived in barns for as long as 105 days.