



## From the GeoDESK

Summer Edition 2010

Volume 3, Issue 2

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### Upcoming New England Conferences

NEARC 2010  
Nov 7—10 2010 at Newport, RI  
[www.northeastarc.org](http://www.northeastarc.org)

### Newsletter Contacts

Submit letters, feedback and articles to:  
Beth.kelly2@us.army.mil or  
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.

## NOAA Expects Busy Atlantic Hurricane Season

An “active to extremely active” hurricane season is expected for the Atlantic Basin this year according to the seasonal outlook issued by NOAA’s Climate Prediction Center— a division of the National Weather Service. As with every hurricane season, this outlook underscores the importance of having a hurricane preparedness plan in place.



Across the entire Atlantic Basin for the six-month season, which begins June 1, NOAA is projecting a 70 percent probability of the following ranges: 14 to 23 Named Storms (top winds of 39 mph or higher), including: 8 to 14 Hurricanes (top winds of 74 mph or higher), of which: 3 to 7 could be Major Hurricanes (Category 3, 4 or 5; winds of at least 111 mph).

*Continued on page 2.*



## Revolutionary History Meets Modern Technology in Redding, CT

By Bethany A. Morrison, Cosimo Sgarlata and Laurie Weinstein 2010

Since 2007, archaeologists at Western Connecticut State University (WCSU) have been investigating the remains of a Revolutionary War winter encampment site on property jointly owned by the town of Redding and the Nature Conservancy. During the winter of 1778-79, Continental troops were stationed in Redding to protect ammunition and reserves in Danbury. Of the three encampments occupied that winter, one is now Putnam Memorial State Park, one has been destroyed by development, and the third, the “Middle Encampment,” the focus of our work, remains relatively undisturbed. *Continued on page 3.*



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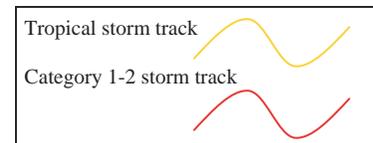
### State Hurricane History: Connecticut

This map on the right shows all category 1 to 5 hurricanes whose centers have passed within 10 nautical miles of the state's boundary during the period 1851 to 2005. For more information on the hurricane history for Connecticut, visit the Historical Hurricane Tracks Tool <http://csc-s-maps-q.csc.noaa.gov/hurricanes/>.



Atlantic Basin Hurricane Tracking Chart  
National Hurricane Center, Miami, Florida

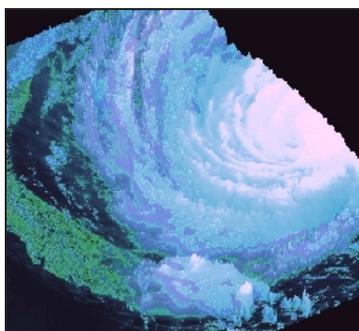
To track a hurricane yourself  
navigate to NOAA for the 2010  
Blank Hurricane  
Tracking Map  
[www.nhc.noaa.gov/tracking\\_charts](http://www.nhc.noaa.gov/tracking_charts)



To view photos of the 1938 hurricane go to 1938 hurricane <http://www.cslib.org/aerials/aerials1938.htm>

### NOAA Expects Busy Atlantic Hurricane Season

*Cont. from page 1* . “If this outlook holds true, this season could be one of the more active on record,” said Jane Lubchenco Ph.D., under secretary of commerce for oceans and atmosphere and NOAA administrator. “The greater likelihood of storms brings an increased risk of a landfall. In short, we urge everyone to be prepared.” The outlook ranges exceed the seasonal average of 11 named storms, six hurricanes and two major hurricanes. Expected factors supporting this outlook are: (1) upper atmospheric winds conducive for storms, (2) wind shear, which can tear apart storms, will be weaker since El Niño in the eastern Pacific has dissipated, (3) strong wind shear helped suppress storm development during the 2009 hurricane season. Warm Atlantic Ocean Sea surface temperatures are expected to remain above average where storms often develop and move across the Atlantic. Record warm temperatures—up to four degrees Fahrenheit above average—are now present in this region. Since 1995, the tropical multi-decadal signal had brought favorable ocean and atmospheric conditions in sync, leading to more active hurricane seasons. Eight of the last 15 seasons rank in the top ten for the most named storms with 2005 in first place with 28 named storms. *NOAA May 27, 2010*



*Hurricane Gloria ranks as the 13th costliest and the 16th most intense hurricane at time of U.S. landfall this century. Gloria first passed over Cape Hatteras, North Carolina on September 27 as a category 3 storm. Moving at more than 30 mph, it made landfall again over southern Long Island, New York as a category 2 storm. Economic losses were estimated at \$900 million.*



Flooding in Milford CT from Hurricane Gloria 1995. *Newsday AP*



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### Revolutionary History Meets Modern Technology in Redding, CT

By Bethany A. Morrison, Cosimo Sgarlata and Laurie Weinstein

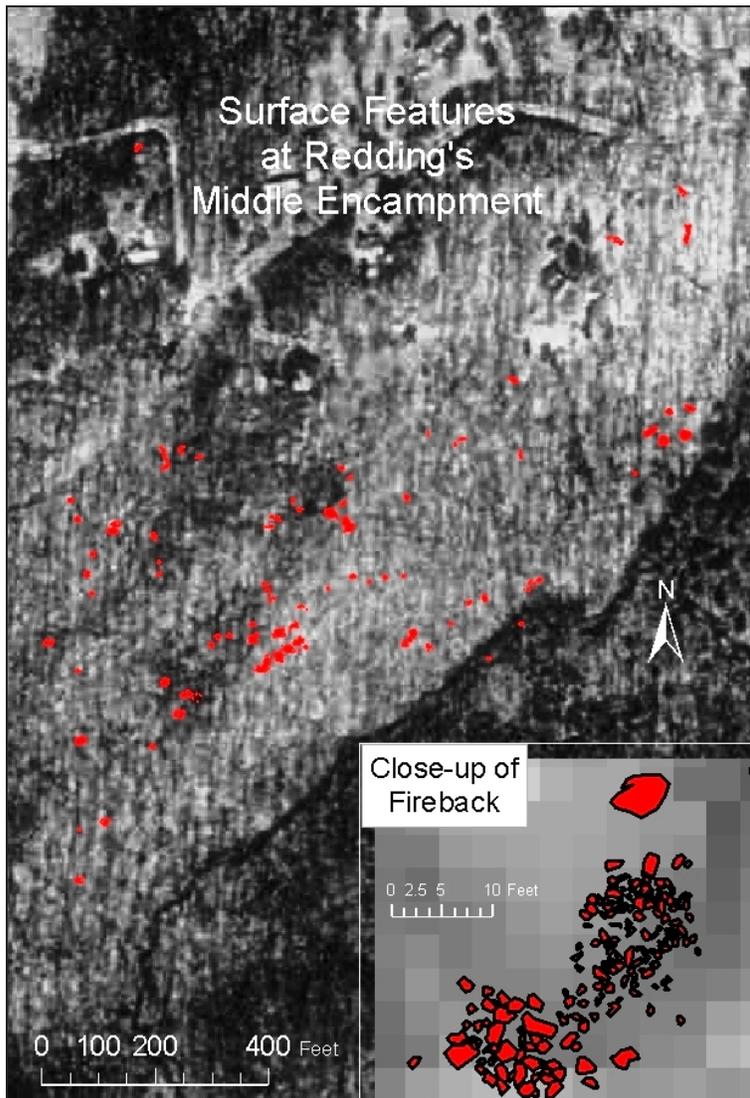


*Continued from page 1*

Investigations by the WCSU summer field school in archaeology have focused on defining site boundaries and confirming the integrity of the remains. A pedestrian survey covering 100% of the property revealed approximately 80 surface features, including foundations and collapsed chimney remains (called “firebacks”), remnants of soldiers’ huts and ancillary buildings. Long-term goals for the project include nominating the site as a State Archaeological Preserve and researching activities at the camp. Issues of interest include:

1) the layout of the camp in comparison to others from the war; 2) how orders from Washington were interpreted on the landscape; 3) variations in material culture among military divisions; and 4) the role of Native Americans, blacks, and women at the camp.

Archaeologists have long been aware of the significance of spatial information in their investigations. GIS can be useful in documentation, analysis and interpretation of the spatial component inherent in archaeological remains. This was especially true for the Middle Encampment where numerous surface features had to be mapped in the field and later digitized and overlain onto aerial photos and topographic maps. An important advantage in this exercise was the capability of the GIS to preserve fine details such as the individual shapes of the rocks, while also, in the same map, allowing the archaeologists to zoom out and look at the site at a whole. As the project continues, the database features of ArcView will be utilized in order to help address many of the research objectives outlined above. Artifacts entered into this database should reveal spatial patterns in terms of their distributions, and field photographs linked to the various features will simplify the task of visualizing the spatial interconnection between features. ArcView has also been useful in examining



the “line of sight” (view shed) aspects of the camp’s relative location, and it is hoped that its network analysis capabilities can shed light on possible travel routes and interconnections both within the site and between it and other locations.



## Geo Tidbits

### Save the date! GIS Day is November 17th 2010.

This years event will take place at Central Connecticut State University and our Keynote Speaker is GIS Hall of Famer—Don Cooke. See last page for Don's Bio.

### Society of Woman Geographers

The Society brings together women "explorers at heart" whose work had involved extensive travel in the investigations of little-known or unique places, peoples or things in the world since 1925. The founders took "geographer" in it's broadest sense to include such allied disciplines as anthropology, geology, biology, archaeology, oceanography and ecology. [www.iswg.org](http://www.iswg.org)



Amelia Earhart carried the SWG flag in 1939 to commemorate her 1932 flight.

**CONVERT:** Degrees, Minutes, Seconds and Decimal Degrees Latitude/Longitude Conversions. This utility permits the user to convert lat/long between decimal degrees and degrees, minutes, and seconds. [www.FCC.gov/mb/audio/bickel/DDMMSS-decimal.html](http://www.FCC.gov/mb/audio/bickel/DDMMSS-decimal.html)

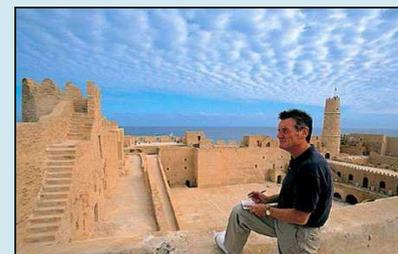
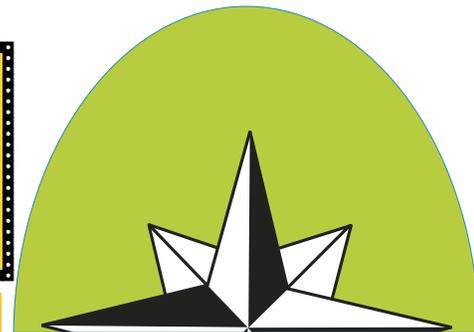
### Earth Pulse: State of the Earth 2010

Vital Statistics—Map and compare global trends, global population density, rank urbanization and population growth using the National Geographic Interactive map for global vital statistics. <http://earthpulse.nationalgeographic.com/earthpulse/earthpulse-map>

*More upcoming Conferences:*  
**2010 NYS GIS Conference**  
[www.esf.edu/nysgisconf](http://www.esf.edu/nysgisconf)  
October 24-26, 2010  
Saratoga Springs, NY  
**URISA 48th Annual Conference**  
[www.urisa.org/conferences](http://www.urisa.org/conferences)  
Sept. 28—Oct 1

### History Corner

For centuries, navigators and explorers have searched the heavens for a system that would enable them to locate their position on the globe with the accuracy necessary to avoid tragedy and to reach their intended destinations. On June 26, 1993, however, the answer became as simple as the question. On that date, U.S. Air Force launched the 24th Navstar satellite into orbit, completing a network of 24 satellites known as the Global Positioning System, or GPS. With a GPS receiver that costs less than a few hundred dollars you can instantly learn your location on the planet – your latitude, longitude, and even altitude to within a few hundred feet.

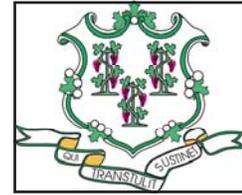


**“Geography is a subject which holds the key to our future.”**  
*Michael Palin, English Comedian, Actor, Writer and Television Presenter.*

**“The reinvention of daily life means marching off the edge of our maps.”**  
*Bob Black, Author of “The Abolition of Work.”*

**“We are all pilgrims on the same journey—but some pilgrims have better road maps.”**  
*Nelson DeMille, American author of thriller novels.*





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# CT Geo-Person Spotlight

## Thad Dymkowski of Newington, CT GIS



Since March of 2009, Newington GIS has been under the direction of Thad Dymkowski. Thad came to the town from a private contractor with 10 years of GIS experience. Upon arriving in his new position, he was tasked with migrating the town GIS to an ArcGIS Server and SDE environment. Prior to that, the town had been using a personal geodatabase and an internal ArcIMS web application.

Currently, the town utilizes a multi-machine deployment with ArcGIS Server running on a virtual server with Windows® Server, ArcSDE utilizing PostgreSQL on another virtual server, and ArcWeb Server running on a third virtual server. Significant security protocols and back up routines were employed making for a solid and secure system that serves the town well.

In addition to migrating to the latest software from ESRI, the town signed on with TDC Group's Freeance application prior to his arrival. Thad implemented and created a customized web GIS application for internal use with the Freeance viewer. The application allows town department staff to access assessor parcel information and view aerial photos as well as select town clerk maps, deeds, and other GIS data to help them serve the citizens more effectively and efficiently.

Since coming on staff, Thad has updated the town GIS data to reflect the most up to date conditions and accurate information, and provided mapping support and analysis to many departments in town hall. He has also helped the town Department of Highway and Sanitation with a mobile application for collecting street sign data and an application for tracking snow plow activity in the winter.

“When people use the internal web GIS or ask me for custom data or maps, it is nice to know that I am able to do my part to assist them in achieving their ultimate project goal, or provide a citizen with valuable information that will in turn satisfy their needs or answer a question.”

In addition to his GIS responsibilities to the town, Thad is also a utility member of the IT staff, responding to service calls for the town computer network. When not producing maps or GIS data, he can be found in a police cruiser troubleshooting a malfunctioning notebook computer, replacing a broken optical drive, or resolving a printer issue in any department in town hall or the public library.

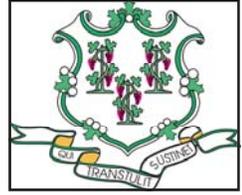
The future of GIS in Newington includes providing an intra-web crime mapping application for the Newington Police Department, a public access GIS Web application, and several other GIS infusions that are in the very early stages of development. Visit Newington GIS on the web at [www.newingtonct.gov](http://www.newingtonct.gov).

## Who's Who in CT GIS?

If you would like to nominate someone (or yourself) for the CT Geo-Person Spotlight please send a brief paragraph of their bio/GIS contributions and a photo of that person, with their permission of course, to Beth.Kelly2@us.army.mil or Peter.sandgren@ct.gov. 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!





## GIS Training & Updates

### Summer Workshop for Teachers August 2, 2010 Exciting New CGA Collaboration with MAGIC

The Connecticut Geographic Alliance has begun a new exciting collaboration with MAGIC. The University of Connecticut Libraries' Map And Geographic Information Center (MAGIC), collects maps, atlases, gazetteers, aerial photographs, and digital geospatial data pertaining to the state of CT, New England and the world. MAGIC digitizes public domain and copyright free maps and resources in order to enable researchers to have digital access to these resources.

On August 2, 2010, the CGA and MAGIC will present a workshop entitled "Interactive Maps to Enhance Student Learning" at the University of Connecticut's Homer Babbidge Library on the Storrs campus. It will run from 9:00 a.m. to 3:00 p.m. with a break for lunch. The workshop is geared towards teachers of students in grades five through twelve. Each participant will be eligible to receive 0.5 CEUs upon completion of the program.

The workshop is essentially free for participants. The CGA requests \$25.00 registration deposit that will be refunded upon completion of the workshop. The registration deadline is July 6, 2010. Questions regarding the workshop can be directed to Jeffery Dunn at MAGIC ([jeffery.dunn@uconn.edu](mailto:jeffery.dunn@uconn.edu)).

### Spring NEARC Smith College Northampton, GPS Muster Results

The annual spring Northeast Arc User Group (NEARC) meeting took place on May 11 at Smith College in Northampton, MA. The daylong conference featured an ArcGIS 10 preview by ESRI along with a full day of presentations, technical workshops and of course, the 3rd annual GPS Muster. Also new to the 2010 meeting were the lunch time **Lightning Talks**, five minute presentations on various topics ranging from integrating GIS and social networking sites to methods for creating a functional addressing database for municipal GIS. Well over 100 people were in attendance, making the 2010 conference one of the most successful Spring NEARC meetings to date.

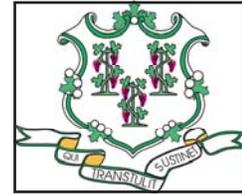


A total of 19 contestants took part in the GPS Muster, an effort to get "closet to the pin" using all sorts of GPS devices. The "pin" was actually a buried nail whose actual location was measured with a survey grade GPS. The 2010 GPS Muster went to Mark Goetz placed the winning flag at 2.25 ft (from the surveyed location). Runners up included David T. at 2.29 ft and Emily Wilson at 3.18 ft and Dan Czaja at 3.41 ft. Great job Connecticut!



**NOTICE! GIS Class Available** — The Department of Geography at Southern Connecticut State University will offer the ESRI Authorized *ArcGIS Desktop II: Tools and Functionality* class on June 28-30 and on August 26 - 28th. The course is appropriate for people who are seeking to learn how to use ArcGIS software and have some prior exposure to GIS. Contact Dr. Eric West at Southern CT State University for more information. Don't forget, everything has a deadline! Call 203 392-6693 or email [weste1@southernct.edu](mailto:weste1@southernct.edu). Class info: <http://training.esri.com>

# CONNECTICUT Geo-Focus



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## Connecticut Disaster Data by DEMHS

### State Uses GIS In The Successful Appeal For Federal Assistance

The combined effect of the rain and wind storms that slammed Connecticut in mid and late March dumped enormous amounts of rain on the state and the subsequent flooding damaged many homes and businesses. The governor and the Department of Emergency Management & Homeland Security, DEMHS, went to work on a request for federal assistance, and in a few days, Public Assistance (PA) was granted. This made funding available to cities and towns to help rebuild damaged roads, bridges and other significant infrastructure.

The state's request for Individual Assistance, or IA, was not, however, granted. This came as a shock to people who had needed the fire department to pump out their basements, or had seen their foundations shift on the waterlogged soil. Neighboring Rhode Island was granted IA, and residents there wasted no time applying for funds to cover repairs to their homes and property.

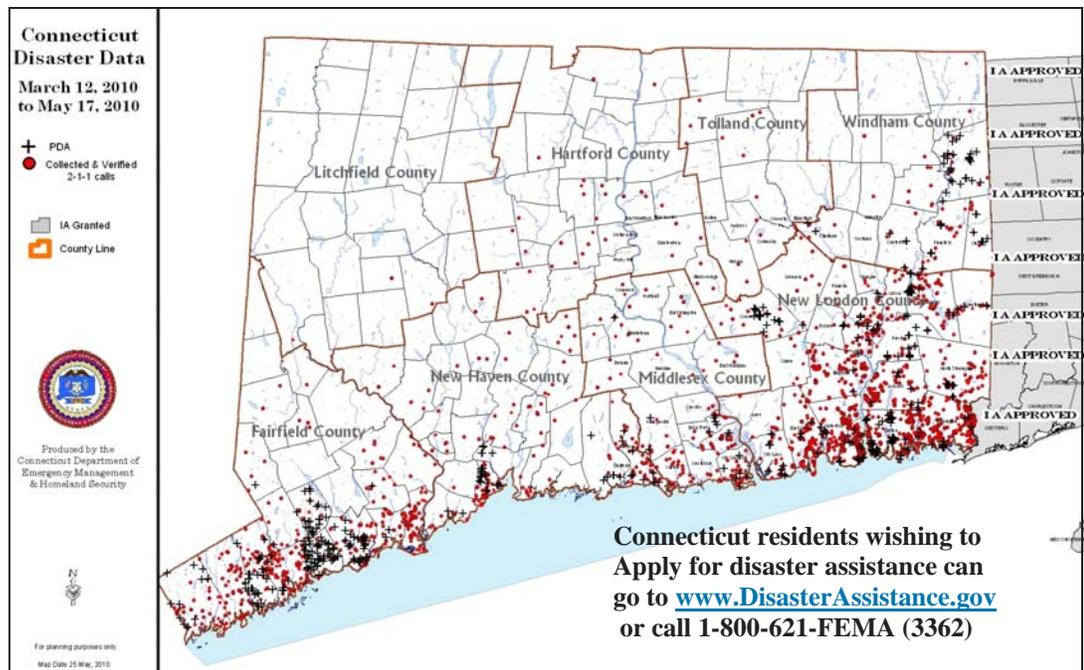
The Governor immediately chose to appeal the decision and tasked DEMHS with collecting information to strengthen the request. A special phone bank was set up at 2-1-1 Infoline, and residents were

asked to call and report their losses. Meanwhile, DEMHS regional coordinators visited homes where owners had claimed major damage, and other staff called back residents to verify reported damages.

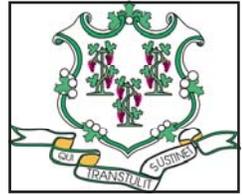
DEMHS officials wanted the visual impact of a map to strengthen their appeal. Several ways of displaying the number of damage calls were tried, including graduated symbols to depict levels of damage ranging all the way to "destroyed." The final product showed clusters of damage reports along the shoreline and into Windham county, with IA APPROVED spelled out over Rhode Island.

The appeal was submitted by the governor, and Individual Assistance was granted a short time later for the shoreline counties and Windham county. Within days, word came down from FEMA's Region 1 Office: Connecticut's carefully constructed appeal for Individual Assistance has been recognized by FEMA as a national Best Practice and will be shared with other states for use in their own future appeals.

Connecticut residents wishing to apply for disaster assistance can go to [www.DisasterAssistance.gov](http://www.DisasterAssistance.gov) or call 1-800-621-FEMA (3362).



**New England — St. Lawrence Valley Geographical Society (NESTVAL).** The 88th meeting of geographers from the Northeastern North America will be held at UCONN Storrs Campus Oct. 29th — Oct. 30. Check the website for more details and registration: [www.regonline.com/NESTVAL2010](http://www.regonline.com/NESTVAL2010)

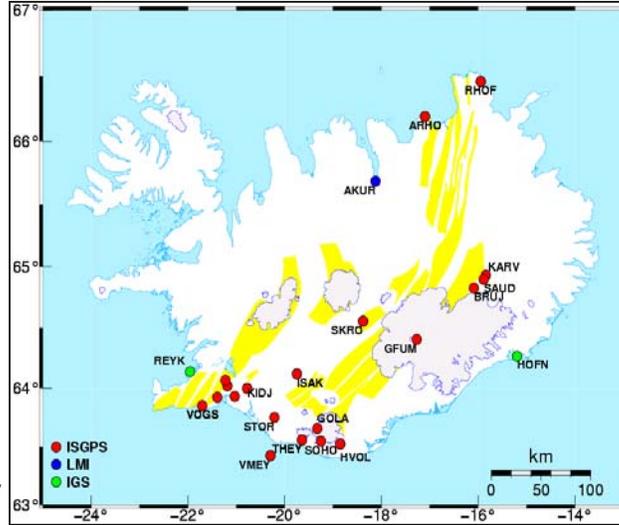


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### GPS Measurements in Iceland: The ISGPS Network

The Icelandic Meteorological Office operates a network of continuous geodetic GPS stations in Iceland to monitor crustal deformation related to plate movements, volcanic unrest and earthquakes. With geodetic quality instruments and specialized software it is possible to achieve the daily position of the stations to within a few millimeters. CGPS stations are therefore an excellent tool to monitor crustal deformation. Visit <http://hraun.vedur.is/ja/englishweb/gps/stationmap.html>

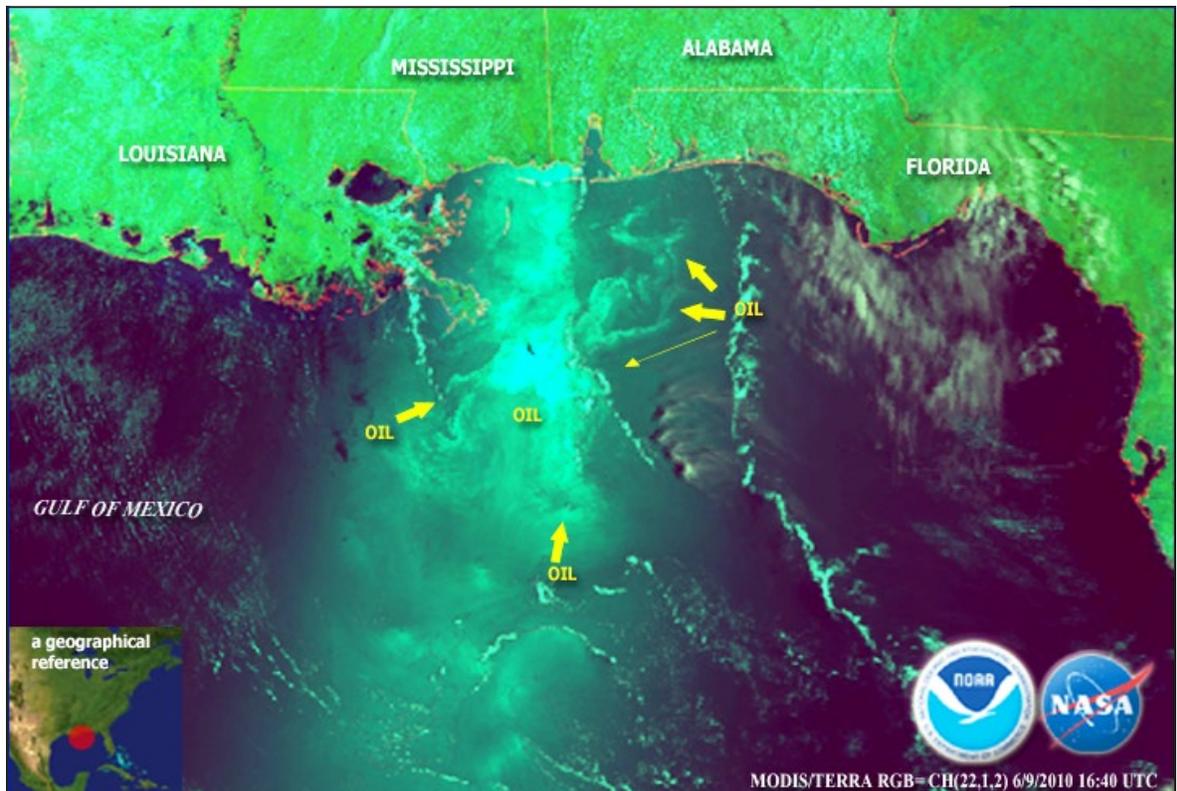


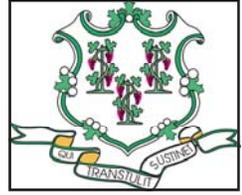
**Spitzer Infrared Showcase**  
 NASA's Spitzer and Hubble Space Telescope joined forces to create these striking composite images of some of the most popular sights in the universe. Check out the fabulous imagery and zoom into your favorite galaxy on [www.google.com/sky](http://www.google.com/sky)

**M51 and M104 galaxies**

### Have You Been Tracking the Gulf Oil Spill ?

Gulf Oil Spill Maps are available on [www.osei.noaa.gov](http://www.osei.noaa.gov) the "significant event" imagery website. It's been seven weeks since the BP oil rig explosion that set off catastrophe. The most recent government estimates put the total amount of oil lost at 23.7 to 51.5 million gallons, making it by far the nation's largest oil spill. It surpasses the 11 million-gallon 1989 Exxon Valdez oil spill off Alaska as the worst in U.S. history. Much of the oil now being captured and pumped to a ship on the surface where workers are burning off the natural gas attached to the crude and shipping the remaining oil to shore. In addition, the British oil giant is preparing to deploy a device called an Evergreen Burner that turns the oil-gas mixture into a vapor that is pushed out its 12 nozzles and burned without creating visible smoke.





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## From the GeoDESK

### Madison Student Crosses Continents to Win

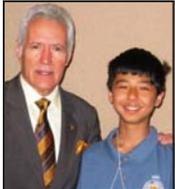
Submitted by Bill DeGrazia, CT Bee Coordinator 6/6/2010



Darius Mostaghimi, a thirteen year old from Walter C. Polson Middle School in Madison, Connecticut had to travel the world to defeat runner-up Jack Walsh, an eighth grader, from Fairfield County Homeschoolers to become the 22<sup>nd</sup> Connecticut State Geographic Bee Champion on April 9, 2010. Darius took top honors by matching answer for answer with Jack in the Championship Round on questions that covered Europe, Africa, Asia, and Pacific. Darius won by answering the tiebreaker question from moderator Brad Drazen of NBC Television 30-“What country includes the islands of Melville Mornington, and Bathurst?” His answer, “Australia,” won Darius \$100, a “National Geographic Collegiate Atlas of the World” and an all-expenses paid trip to Washington, D.C., to compete in the finals of the 22<sup>nd</sup> annual National Geographic Bee on May 25-26. The Bee is a program of the National Geographic Society. This year’s Connecticut State Bee sponsors were Google™ and Plum Creek.

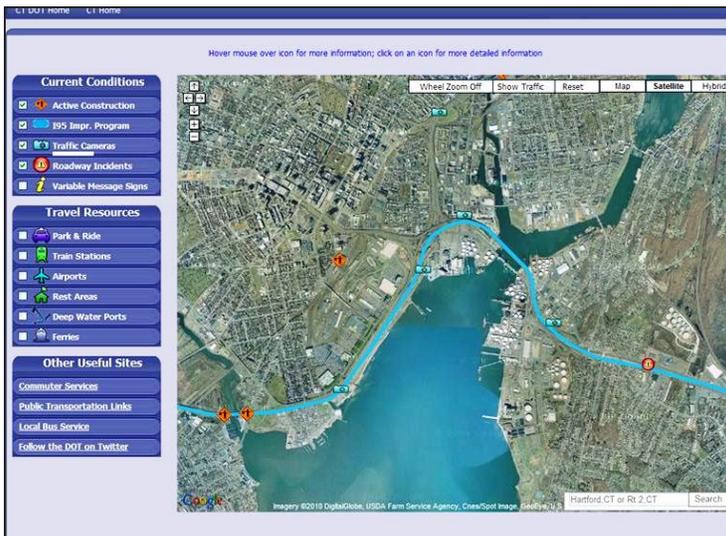


One hundred fourth-to-eight graders from across Connecticut took part in the Bee. Michael Lally, an eighth grader from Newtown Middle School finished third. Others advancing to the finals were Michael Borecki from the Hindley School in Darien, Christopher Hard of Greens Farm Academy, Reed Kelly of Tomlinson Middle School in Fairfield, Zachary James of Western Middle School in Greenwich, Gregory Graham from East Ridge Middle School in Ridgefield, Jake Morris from the King Low Heywood Thomas School in Stamford, and Carson Drew from Latimer Lane in Simsbury.



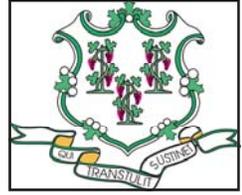
Darius competed in the national competition and just missed the finals. First prize for the National winner, Aadith Moorthy of Palm Land (Palm Harbor, FL) Middle School, was a \$25,000 college scholarship and lifetime membership in the National Geographic Society. Second and third place finishers received \$15,000 and \$10,000 college scholarships. Additionally, the national winner will travel (along with one parent or guardian), all expenses paid, to the Galápagos Islands with “Jeopardy!” quiz show host and National Geographic Bee moderator Alex Trebek and the “Jeopardy!” Clue Crew.

## Welcome to Connecticut's Interactive Travel Information Map



Now you can get travel information from Connecticut's Interactive Travel Information Map at the DOT website. If you are a commuter like I am, this map helps me see where the active construction is taking place along the roads so I can see what is ahead of me for my journey home through the I-95 Improvement project everyday! This map can also tell you where the traffic cams are so you can check out your commute before you leave work especially before those Friday holiday weekends. You can even see where road incidents are occurring so you can avoid them on your way home. You can map the “Park and Ride” commuter lots, train stations, airports, rest

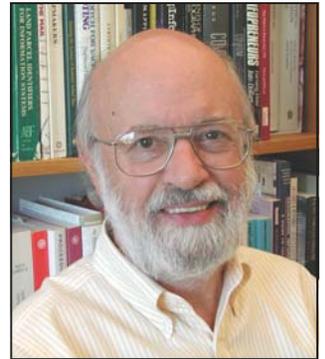
Go to [www.dotdata.ct.gov/iti/master\\_iti.html](http://www.dotdata.ct.gov/iti/master_iti.html) and try it out!



## From the GeoDESK

### More on the Keynote Speaker for CT GIS Day 2010.....

Don Cooke has been a leading proponent of making government data available for public use. He started his career in the public sector where he quickly recognized the potential of that data to incubate new industries that would improve the quality of life for all Americans.



***“Currently municipalities and counties with 17th-century land records systems are systematically crippled in their ability to administer taxation equitably, conserve their natural resources, plan for rational growth, and educate their students in geospatial technologies. It's really amazing that there are no digital parcel maps readily available in large areas of the country. This is the 21st century, Hello?????”***

In 1967 Don was a member of the Census Bureau team that developed the predecessor of today's TIGER system. The approach was called Dual Independent Map Encoding (DIME) and provided a major breakthrough by using topology in its database design. This work was part of the New Haven Census Use Project, looking for innovative ways to use digital Census data to deliver useful products. He quickly saw that the raw data needed a third party to manipulate that data into something of greater value.

Cooke soon became a leader in the GIS industry. In 1968 he co-founded Urban Data Processing, Inc., now Harte- Hanks Data Technologies (HHDT), which is a leader in supplying MCIF services and software to banks. Cooke founded Geographic Data Technology, Inc. (GDT) in 1980, which was the major TIGER digitizing contractor in the mid-1980s, and data supplier to the Census Bureau. GDT was acquired by Tele Atlas in 2004 and Cooke served as an integral part of the company as Chief Scientist until recently he became an Independent Consultant at CIM..

Don served on the URISA Board of Directors in the 1970s. He was very significant in moving URISA to see GIS as the most significant change agent in urban and regional information technology. He taught workshops in DIME and founded URISA's Special Interest Group, first called SIG/GBF (Geographic Base File). He became famous for bringing a gallon of New Hampshire maple syrup to serve as a door prize for conference participants.

Cooke continues to be a significant voice in the public sector. He served as a member of the National Academy of Science's Mapping Science Committee from 1989 to 1993. During that time, he continued his advocacy for sharing public data. He became an advocate for parcel data and is quoted in the 2007 report, National Land Parcel Data: A Vision for the Future. The quote gives a good example of the clarity and humor he brings to his arguments.

*“Currently municipalities and counties with 17th-century land records systems are systematically crippled in their ability to administer taxation equitably, conserve their natural resources, plan for rational growth, and educate their students in geospatial technologies. It's really amazing that there are no digital parcel maps readily available in large areas of the country. This is the 21st century, Hello?????”*

Don has documented some of the early days of GIS with a chapter in the 1997 book The History of Geographic Information Systems. In 2005, he wrote Fun with GPS, an educational guide designed to inspire global positioning services (GPS) enthusiasts and help educators incorporate GPS mapping technology in the classroom. He is a graduate of Yale and studied Civil Engineering Systems at MIT. He still plays ice hockey and chamber music. He is an avid amateur astronomer/astrophotographer and windsurfer, and he enjoys driving his '59 Mercedes 220S and '59 AC.