

Takeaways from GeoEd'15: Reflections of a Conference



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GeoEd'15 Conference

• In partnership with the National Geospatial Technology Center of Excellence, Jefferson Community and Technical College - Southwest Campus hosted the eighth annual GeoEd Conference in Louisville, KY on June 10, 2015.

• Pre-conference workshops were held on the Southwest campus on June 8th and 9th.

• A post-conference Mini-Session on UAVs was held on June 11.



Pre-Conference Workshops

- **ArcGIS Online** – Rich Schultz
- **Open Source Software** – Tom Mueller
- **Simple Python using ArcPY** – Vince DiNoto
- **Pictometry and PQL for Educators** – Andy Mendola
- **Using Collector for Field Data** – Vince DiNoto
- **Learning to Leverage the Tools and Products of the GeoTech Center** – Rich Schultz
- **Introduction to ArcGIS Pro for the GIS Professional** - Robert LeClair
- **Implementation of the Geospatial Awareness Course** – Ken Yanow & Nicole Ernst
- **Remote Sensing and Imagery use in ArcGIS 10.3 Desktop** – Ann Johnson
- **Open Educational Forum** – all
 - List of Issues Discussed in Detail:
<https://drive.google.com/file/d/0B5z9N8m9L60ITkRteC1qR2hJTE0/view?usp=sharing>



The products (i.e., tools) and services of the GeoTech Center include the following:

- the Geospatial Technology Competency Model (GTCM),
- Model Courses and content,
- the National Map of Geospatial Programs in the U.S.,
- a Community of Practice (a centralized national network for geospatial workers.),
- the GeoEd Annual Conference,
- an international list serve for geospatial technologies,
- a monthly newsletter,
- Mentoring Groups,
- Geospatial Workshops,
- a massive open online course (MOOC) and open ongoing course (OOC),
- a Student Skills Competition,
- Awards for Geospatial Educators and Partners,
- Monthly Webinars, a Map and Data Library,
- resources for starting a geospatial program, resources for geospatial careers,
- a Model Program and Content Tool, and
- a Syllabus Repository for Geospatial Coursework.

Pre-Conference Workshops

•Details of GeoEd'15 Workshops available here:
<https://drive.google.com/file/d/0B5z9N8m9L6OIUVZib09PYWNFUjQ/view?usp=sharing>



Conference Activities

Geospatial Technology Competency Model (GTCM 2014) and other work at the Department of Labor – Rodney Jackson and Rich Schultz

GISP Examination – Bill Hodge

GeoTED (08) – Chris Carter, et al.
 Weber State University (07) – Michael Hernandez
 Kean College (13) – Mike Rudolph

GeoTY – Keith Madsen, CEO of USGP

AGIS PMS – Robert Lofler

Introduction to UAV – Chris Ostr

Model Courses – Ann Johnson and Rich Schultz

Integration of GST into other courses – Tom Mueller

Status update of the National Geospatial Technology Center of Excellence (GeoTech Center) – National Map – Student Competition – Vron D'Elia

Award Winners – Ann Johnson

Outstanding Educator – David Stokes, Getting to Removable: How geospatial instruction can transcend traditional knowledge

Outstanding Company – GeoTED

Outstanding Achievement Award – Taha Johnson

Geospatial Awareness Courses in the S&C Community and Misconceptions – Nicole Ernst

Lightning rounds

Jacqueline Housal – Sinclair

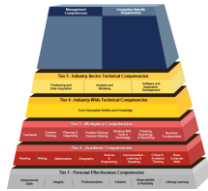
"An Essential and Inevitable as The Air We Breathe: Cloud Supported Geospatial Teaching and Learning" – Demetris Zourarakis – Kentucky State Government



Conference Activities Takeaways

Geospatial Technology Competency Model (GTCM 2014) and other work at the Department of Labor – Rodney Jackson and Rich Schultz

- UCGIS is currently working on BoK 2.0
- Newest version of GTCM revised in Fall 2014
- Job descriptions and modifications sent to DoL for Geospatial Industry by Rodney
- GTCM is current but may need revision in future as industry changes so rapidly



Conference Activities Takeaways

GISP Examination – Bill Hodge

- GISCI will have examination process accredited by ANSI
- Validated by job analysis
- Exam strengthens the GISP certification and helps align with job analyses
- Knowledge Areas Breakdown:
 - Conceptual – 12%
 - Cartography/Visualization: 14%
 - GIS Design/Data Modeling: 29%
 - GIS Analytical Methodology: 17%
 - Data Manipulation: 15%
 - Geospatial Data: 13%
- Anyone can take exam starting July of 2015.



Conference Activities Takeaways

NSF Projects in GIST

• **GeoTED (VA)** – Chris Carter, et. al.: Interdisciplinary Service Learning, Shared Services, Virtual Internships

• **Weber State University (UT)** – Michael Hernandez – GenEd. course Intro. to Geospatial Sciences and Geospatial Technician survey tasks

• **Kaskasia College (IL)** – Mike Rudibaugh – Geospatial Technology Advantage – Preparing GST technicians and GST-enabled graduates to S. Illinois business and industry

- Articulated program: 2yr→4 yr→ workforce
- Conduct outreach events
- Counseling Guide for GST
- STEM Integration Modules
- Assembling a team for ATE Grant



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Conference Activities Takeaways

GeoINT – Keith Masback, CEO of USGIF

• *There is no train of thought, so this can't be derailed...*

1. GPS – precision geo-location
2. Remote sensing: old, new and drone
3. Processing power
4. Software/hardware
5. Broadband and fiber optic
6. Cloud-based access and enablement
7. Mobile – 685,000 apps in Apple Store have location central to their operation
8. Analytics and big data – Factual – company of authoritative data
9. Location-based intelligence and location-based services driven by marketing and healthcare
10. Augmented and virtual reality
11. Internet of things: tied to place



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Conference Activities Takeaways

ArcGIS PRO – Robert LeClair

- Pro is for 64-bit and ArcGIS Desktop is not
- Will NOT replace ArcMap
- Cloud-ready
- ArcMap, ArcCatalog, ArcGlobe, and ArcScene all mashed together in Pro.



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Conference Activities Takeaways

Introduction to UAV – Chris Cruz

- Discussion around Certificate of Authorization (COA)
- 70,000 jobs in U.S. over next 3 years
- \$13.6 billion economic impact
- By 2025: 10,000 jobs and \$82 billion impact
- Biggest application: precision agriculture:
- Most active states: Texas, California, and Virginia.
- Conservation Drones YouTube clip: <https://www.youtube.com/watch?v=VO48BVssXSc>



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Conference Activities Takeaways

Model Courses – Ann Johnson and Rich Schultz

Preparing the entry-level geospatial workforce via Model Courses:

- GST 100: Geospatial Awareness
- GST 101: Intro. to Geospatial Technology
- GST 102: Spatial Analysis
- GST 103: Data Acquisition
- GST 104: Cartographic Principles
- GST 105: Remote Sensing and Imagery Analysis
- GST 106: Geospatial Programming
- GST 107: Web Applications and Development
- GST 108: Geospatial Capstone
- GST 109: Internship



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Conference Activities Takeaways

Integration of GIST into other courses – Tom Mueller

Integration of Geospatial Technologies into:

- Crime mapping
 - Hydrology
 - Fire Science
 - Geology
 - Foreign Language
 - History
 - English Literature
- Using OpenStreetMap
- 5 Themes of Geography:
- Location
 - Place
 - Movement
 - Regions
 - Human/Environmental Interactions



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Conference Activities Takeaways

Status update of the National Geospatial Technology Center of Excellence (GeoTech Center) – Vince DiNoto

- National Map of U.S. Geospatial Programs located here:
<http://www.geotechcenter.org/geospatial-national-map.html>

•Student Competition – Vince DiNoto

Deadline Extended to Friday, June 19, 2015
<https://sites.google.com/site/geospatialcompetition/>



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Award Winners

- Outstanding Educator – David Skiles, Getting to Remarkable: How geospatial instruction can transcend traditional knowledge
- Outstanding Company – GeoTED
- Lifelong Achievement Award – Tora Johnson



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Award Winners



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Conference Activities Takeaways

Geospatial Awareness Courses in the B&I Community and Microcredentials – Nicole Ernst

- 10-county service area with 20,000 students
- 2005: Intro to GIS Online
- \$99 and no credit Can be used as elective in program
- Used Elmhurst College MOOC (partnership with GeoTech Center) as model



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Post Conference Mini-Session: UAVs

Nuts and Bolts of Unmanned Aerial Vehicles (UAVs)

- Applications:
 - Film industry
 - Law enforcement
 - Real estate
 - Business
 - Environmental management/resources
 - Agriculture

- Notes available on GeoTech Center Google Drive for the workshop



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Post Conference Mini-Session: UAVs

Nuts and Bolts of Unmanned Aerial Vehicles (UAVs)



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Post Conference Mini-Session: UAVs

Nuts and Bolts of Unmanned Aerial Vehicles (UAVs)

Chris Cruz's UAV Resources:

<https://drive.google.com/file/d/0B5z9N8m9L6Q0URFMhNNk5RUk/view?usp=sharing>

Schools with FAA Approved COAs:

<https://drive.google.com/file/d/0B5z9N8m9L6Q0URFMhNNk5RUk/view?usp=sharing>

UAV Curriculum/Program at West Valley College in Saratoga, CA:

<https://drive.google.com/file/d/0B5z9N8m9L6Q0URFMhNNk5RUk/view?usp=sharing>



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