

## Meeting Summary



### INFORMATION

<b>DATE:</b>	11/16/2017	<b>START TIME:</b>	1:00 pm	<b>END TIME</b>	2:30 pm	<b>LOCATION:</b>	NH National Guard Regional Training Institute (RTI), 722 Riverwood Drive, Pembroke, NH RM 221
<b>SUBJECT/PROJECT:</b>	GIS Committee Meeting						
<b>PURPOSE:</b>	Scheduled Meeting						
<b>FACILITATOR:</b>	Denis Goulet, CIO						
<b>Attendees:</b>	<p>Committee Members</p> <ol style="list-style-type: none"> <li>1. Adjutant General – Gen. David Mikolaities; alternate is Capt. John Petro</li> <li>2. Agriculture, Food &amp; Markets – Robert Wolff</li> <li>3. Dept. of Natural and Cultural Resources – Tanya Krajcik</li> <li>4. DOE – Gretchen Tetreault and Ryan Petrain</li> <li>5. Energy and Planning – Kenneth Gallager</li> <li>6. DES – Hamilton McLean</li> <li>7. Fish &amp; Game – Katie Callahan</li> <li>8. DHHS – CIO Donna O’Leary</li> <li>9. DoIT – Commissioner Denis Goulet</li> <li>10. Dept. of Natural and Cultural Resources – Jonathan Horton</li> <li>11. DOT – Commissioner Victoria Sheehan and Glenn Davison</li> <li>12. The director of UNH’s geographically referenced analysis and information transfer (GRANIT) system, or designee – Fay Rubin</li> <li>13. A representative from the NH Association of Regional Planning Commissions – Sara Siskavich</li> </ol>						
<b>Absentees:</b>	<ol style="list-style-type: none"> <li>1. Linda Socha-DO</li> <li>2. Stephan Hamilton-DRA</li> <li>3. Assistant Commissioner Richard Bailey- DOS</li> <li>4. Angelo Marino</li> </ol>						

ITEM #	AGENDA
I.	Welcome – DoIT Commissioner Denis Goulet, committee chair
II.	Motion to accept minutes from <a href="#">8/24/17</a> meeting
III.	Imagery Acquisition Considerations – Sean Goodwin
IV.	Imagery Acquisition Plan – Fay Rubin
V.	GeoCortex Proposal – Hamilton McLean
VI.	Clearing House Planning - All
VII.	Motion to Adjourn

ITEM #	MINUTES
I.	Welcome – DoIT Commissioner Denis Goulet, committee chair
II.	<b>Motion to accept minutes from <a href="#">8/24/17 meeting</a></b> <ul style="list-style-type: none"> <li>Motion to approve the minutes of the August 24, 2017 meeting, seconded and approved by all.</li> </ul>
III.	<p><b>Imagery Acquisition Considerations – Sean Goodwin, E-911</b> presented the following slides</p> <p>The goal is to move towards developing a common imagery acquisition plan to benefit all stakeholder imagery users to improve and/or enhance agency operations. There are many agencies at the State, Regional and local level that are currently using imagery in one form or the other.</p> <p>6 inch resolution provides for much more detail than the current 1 foot resolution statewide holding. Local urban areas are recommending 3 inch resolution imagery for more densely populated areas. There are software vendors who provide imagery analytical tools to enhance the operational value of a consistent statewide imagery acquisition plan. They further support additional derivative imagery products to evaluate and identify change over time across needs and subject areas which include hi resolution LIDAR. There needs to be a discussion on the distribution of imagery particularly to the regional and local stakeholders.</p> <p>The GTAC has been provided a imagery needs survey developed by Fay Rubin to capture a broad range of imagery usage and operational needs in order to propose specifications to meet all stakeholder requirements. A plan to hold imagery workshops is in process with the GTAC and other potential imagery users.</p> <p>There could be an opportunity to engage the private sector and include them in the funding model. We will reach out to them and find out what their needs are.</p> <div data-bbox="613 1205 1211 1654" data-label="Image"> <p><b>STRATEGY #1</b></p> <p><b>Develop and maintain NH statewide base map and derivative data products</b></p> <p><b>Objectives</b></p> <p>A. (GTAC Level) Develop a plan for the regular acquisition, maintenance, and dissemination of statewide base map imagery and derivative data products. Plan to include:</p> <ul style="list-style-type: none"> <li>Needs assessment</li> <li>Technical specifications</li> <li>Funding model(s)</li> </ul> <p>B. (GAC/Executive Level) Explore the feasibility of a New England-wide consortium to achieve cost efficiencies in the acquisition of orthophotography</p> </div>

## Appointed Stakeholders

- Adjutant General
- Agriculture
- Corrections
- Cultural Resources
- Education
- OEP
- DES
- F&G
- DHHS
- DOIT
- DRED
- DRA
- DOS
- DOT
- Granit
- Municipality

## Adjutant General

- Mission Planning and Response
- Wildfire Response
- Safety and Security Planning-Readiness Centers

## Pembroke National Guard Training Facility

2010



2015



## Land Use Agencies

- Agriculture
  - Quantifying change in agricultural lands over time
  - Agricultural land use in proximity to water
- Cultural Resources
  - Covered Bridges
  - Cemeteries
  - Archeological Sites
  - Historic Sites
- Fish and Game
  - Habitat Management
  - Current Search and Rescue visualization
- Regional and Local Planning Agencies

## Land Use Change

State (OEP, DES, DOT, DOS, DRA, DOE)  
Local (Planning, Assessing, Public Safety, Conservation)

2010

2015



Kingswood Regional High School, Wolfeboro

Department of  
Education

2010

2015

DOE Facility Management

Safety and Security Planning  
State and Local



Office of Energy & Planning/Economic Development  
Energy Infrastructure

Berlin 2010



Berlin 2015



DHHS

- Change in vector born disease habitat
  - Mosquitoes
  - Tick
- Shelter locations in Flood Plain/Hazard Areas
- Coastal rise behind Hampton sea wall
- Other derivative products

## Forestry Operations Tuftonboro



## Forestry Operations Interested Parties

- DRA/Municipalities
  - Timber Tax Collection
- Forest Lands
  - Safe and lawful forestry operations
- Environmental Services
  - Alteration of Terrain
  - Wetlands
- DOS/HSEM
  - Storm related disaster assistance

## 2010 Newington 2015



### Agencies

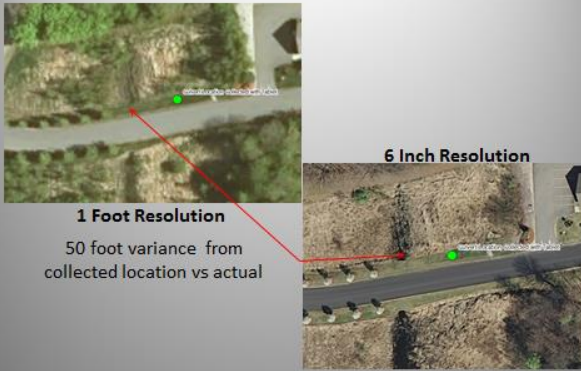
DOT  
DOS  
DES  
Local

### Storm water Runoff/Change in Impervious Surface



SNHU

### Culvert Management



1 Foot Resolution

50 foot variance from collected location vs actual

6 Inch Resolution

### Concord Housing Development

2010

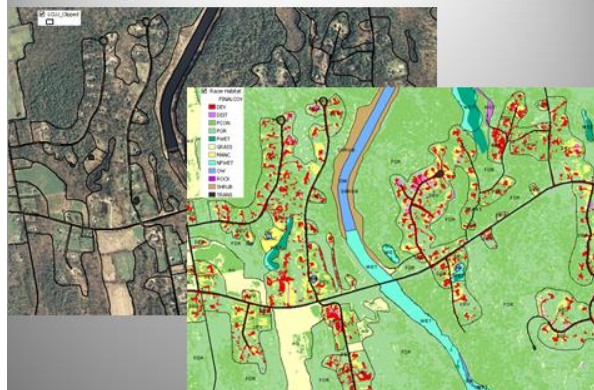
2015



### Comparative Statistics Possible using NH Parcel, Consistent Imagery and software

- Percent parcels with change
- Identify parcels with probable change
- Assessment changes
  - added a deck, pool, barn etc.
- Spectral change-forest
- Environmental Change
- Manmade vs Environmental Change
- Filter on paved surface change by community
- Algae Blooms
  - Leaf on collections required

### Image classification: Wildlife habitat



### Collective Benefits

- Regular High resolution imagery collection enables State, Regional and Local agencies to achieve their missions with greater detail and operational efficiencies
- Reduces the need for field visitations with highly accurate and expensive GPS equipment as well as back office processing time
- Provides a common operating base layer to assist inter agency location data standardization of other base map layers
  - Shorelines, Footprints, Utility Right of Ways etc.
- Serves as a historical record of ground conditions



## Draft Standards

- Resolution-6 inch, minimum
- Leaf off
- 4 band, Orthorectified
- Frequency-Biennial acquisition
- Distribution plan for State, Regional, Local Agencies
- Upcoming work sessions
- **!Please complete and return the survey sent out by Fay Rubin on Imagery Needs!**


## Funding?

- The Legislatively formed Geographic Committee will be reviewing appropriate continuing funding mechanisms under the leadership of Commissioner Goulet, Chair of the Committee
- Seek a long term reoccurring acquisition process
- Agency Budgeting across the biennium's

IV. Imagery Acquisition Plan – Fay Rubin – UNH GRANIT - presented the following slides.

### Alignment with Action Plan

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#### STRATEGY #1

**Develop and maintain NH statewide base map and derivative data products**

**Objectives**

A. (GTAC Level) Develop a plan for the regular acquisition, maintenance, and dissemination of statewide base map imagery and derivative data products. Plan to include:

- Needs assessment
- Technical specifications
- Funding model(s)

B. (GAC/Executive Level) Explore the feasibility of a New England-wide consortium to achieve cost efficiencies in the acquisition of orthophotography

### Plan Components

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- Define statewide standards for imagery acquisition:
  - Imagery type (aerial photography, satellite imagery, LIDAR, etc.)
  - Imagery resolution (1', 6", 3")
  - Imagery accuracy (horizontal and vertical)
  - Frequency of imagery acquisition
  - Acquisition conditions (leaf on/leaf off, bare ground, sun angle, etc.)
  - Delivery considerations (format, projection tiling scheme, tile naming convention, metadata)
- Develop funding allocation model:
  - Focus on who participates, not funding mechanism

### Plan Activities

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- Host User Needs Input Sessions
  - State and federal agencies
  - Regional and municipal agencies
  - Private sector
- Finalize and Distribute Online User Needs Survey
- Compile Results
  - Integrate results from input sessions and online survey
- Research Vendor Options
  - Identify options for source acquisition, licensing options
- Develop Funding Allocation Model
  - Funding by all stakeholders
  - Funding by all participating state agencies
  - Funding by primary state agency stakeholders (DOT, DOS, DRA)
- Finalize Plan

**Plan Activities:**

Three input sessions will be convened to collect input from state and federal agencies, regional and municipal agencies, and the private sector. The following specific tasks will be managed by GRANIT staff to support this activity:

- Facilitate planning meeting with GTAC Task Force.
- Develop meeting presentation materials.
- Meet with GTAC Task Force to review presentation materials.
- Finalize presentation materials.
- Host/facilitate meeting.

**Estimated Budget Requirements**

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Preliminary budget:

Category	Estimate
Personnel (fully loaded)	\$24,660
Travel	\$675
<b>Total</b>	<b>\$25,335</b>

**Project Working Group**

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- Catherine Callahan, NH F&G
- Glenn Davison, NHDOT
- Ken Gallager, NHOSI
- Sean Goodwin, NHDOS
- Hamilton McLean, NHDES
- Fay Rubin, UNH GRANIT
- Tim Scott, NHDOS
- Sara Siskavich, NRPC

**Committee Discussion:**

Discussion on adding Nonprofits for input sessions

Discussion on compiling a GIS user mailing list across the state.

Commissioner Goulet questioned who will manage the contract under this proposal; Glenn Davison said he was willing.

Commissioner Goulet also asked if the funding portion has contingencies built in. Conversation ensued and GTAC is to revisit the budget and formalize the proposal.


**Motion for the GTAC Subcommittee to formalize the Imagery Acquisition Plan funding and to formalize the proposal for Commissioner Goulet’s review before the next quarterly meeting.**

**Motion by DHHS CIO Donna O’Leary, was seconded by DOT Commissioner Victoria Sheehan and all approved**

V. **GeoCortex Proposal – Hamilton McLean – DES presented the following slides.**

### GIS Committee's Action Plan

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#### Strategy #2

Objectives

A. Pursue a long-term contract with a state GIS clearinghouse to:

- Store, manage, and provide access to enterprise geospatial data sets
- Develop and promote task- and cost-appropriate tools to analyze and display data

B. Increase outreach to all stakeholders to promote awareness and use of enterprise geospatial data sets

Areas of further exploration:

- Common GIS presentation tools and platforms that exist through vendor agreements
- Training opportunities to take full advantage of these platforms

- This proposal aligns with Strategy #2 of the GIS Committee's Action Plan

### Project Vision

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- An 18-month, multi-agency collaboration.
- Deploy a scalable, statewide infrastructure.
- Help more people make better decisions.
- GIS technology simplified.

- Collaboration - (DOT & DES)
- Test a collaborative web-mapping application model with standardized and customized map viewers & customer-centric workflows.
- Better decisions
- Users of all abilities

### Project Activities

4

1. Survey state agencies to:
  - Establish current/future needs/capabilities/skill sets
  - Evaluate current/future computing infrastructure
2. Establish recommended standards for:
  - Map publishing, including map content, data layer naming, and metadata, as well as stylistic elements
  - Minimum data quality characteristics
3. Establish governance structure/documents to address:
  - User management
  - Software management
  - Site publication environment
  - Data hosting
4. Provide training and technical support

- To better understand needs and potential acceptance GeoCortex (<http://www.latitudegeo.com>) hosted by UNH Earth Systems Research Center ("ESRC") .
- Sharing of platform by up to 200 staff each at NH DOT and DES
- Training of 2 support staff each agency
- Support is tiered through escalation through ESRC then GeoCortex
- User management will be coordinated by ESRC

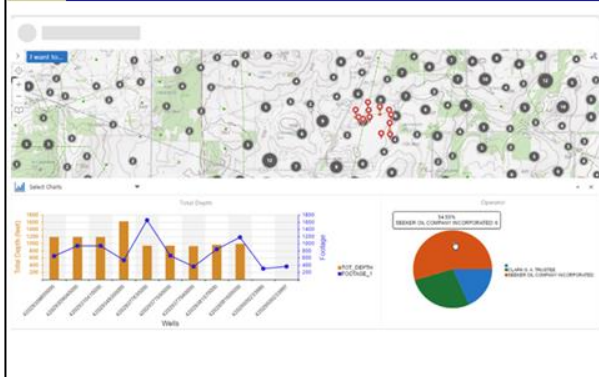
## Project Highlights

- [GeoCortex](http://www.latitudegeo.com) (<http://www.latitudegeo.com>) hosted by UNH Earth Systems Research Center ("ESRC").
- Sharing of platform by up to 200 staff each at NH DOT and DES
- Training of 2 support staff each agency
- Support is tiered through escalation through ESRC then GeoCortex
- User management will be coordinated by ESRC

- Shared license to Geocortex Essentials, a software framework developed by Latitude Geographics (<http://www.latitudegeo.com/>)
- Collaboration- (DOT & DES)
- To enable quickly building and deploying web mapping applications that will provide broad public access to key datasets maintained by the participating agencies.
- Support standardized map viewers & customized derivatives of standardized

## CHARTING

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### Charting

- Visualize attribute information (i.e. tell your story through a map) customizable charting
- Charts dynamically update as selections and results change.

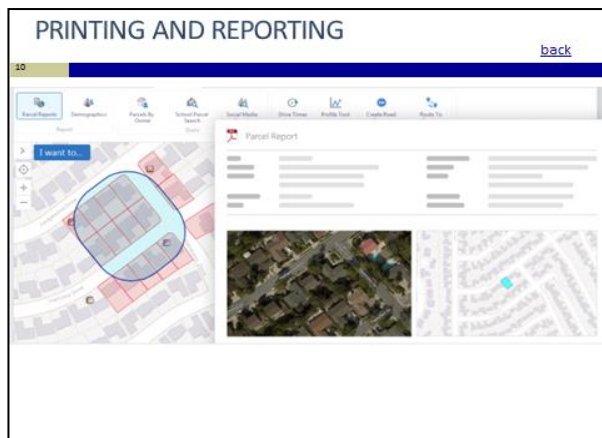
## FORMS

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The screenshot shows a web application interface for entering attributes of a road closure. A circular callout highlights a form titled 'Enter Attributes'. The form includes fields for 'Reason' (with a dropdown menu), 'Starting' (with a date and time picker), 'Ending' (with a date and time picker), and 'Emergency Vehicle Only Access' (with a checkbox). The background shows a street view map with a red line indicating the road closure.

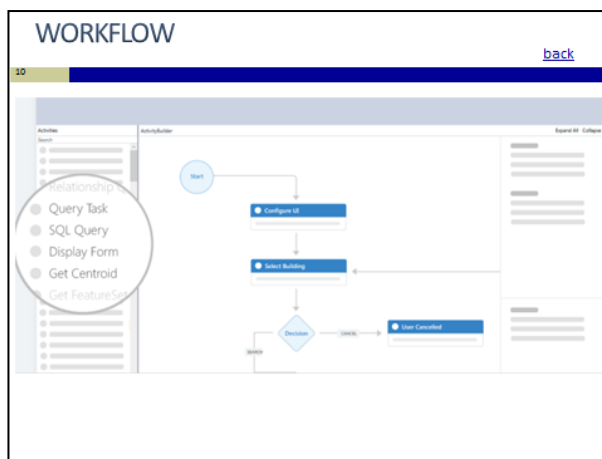
### Forms

- Create interactive dialogs for web and mobile applications.
- Prompt end-users for information via text boxes, auto-complete entries, date pickers, and drop-down menus.
- Viewers that work on virtually any device on or off line and sync'd when access is restored



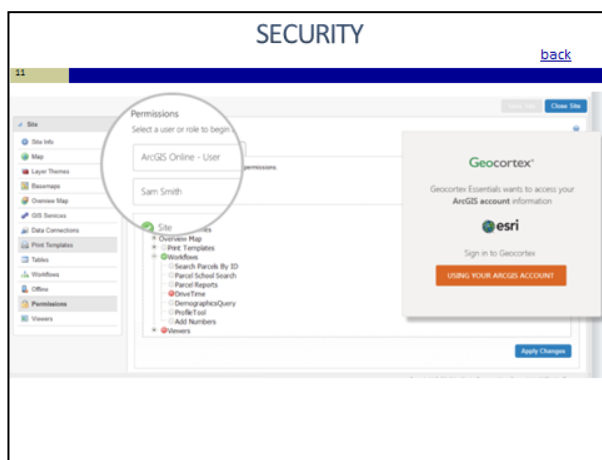
### Printing and Reporting

- Manage normal or large format, high-resolution map printing
- Customizable and out-of-the-box layouts and templates.
- Save, share and reuse report layouts



### Workflow

- Access over 200 pre-built functions to do common tasks.
- Buffering, geocoding, querying, geoprocessing, routing, emailing, and form inputs
- Chain together pre-made activities to decrease the time for audience/staff to execute specific business functions they need.



### Security through credentialing

- Grant or deny access to specific components within MAP & workflows.
- Supply permissions on applications, map services, layers, map features, database tables, reports, workflows .
- Create personalized experiences for users or groups within your organization.

## INTEGRATION

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Inspecting Engineer	Inspection Date	Risk Rating	Tubing Pressure (kPa)	Hoisthead Pressure (kPa)	Casing Pressure (kPa)	Leads or Cables	Site Secure	Vent Open	Lower Sign Present
Scotty Bullock	Apr 18, 2013 12:00 AM	High	8,218	9,188	8,218	Yes	Yes	Yes	Yes
Mark Doney	Mar 12, 2013 12:00 AM	Low	9,188	8,218	8,218	Yes	Yes	Yes	Yes
Major Jones	Mar 9, 2013 12:00 AM	Med	8,218	8,218	10,818	Yes	Yes	Yes	Yes
Quincy Bechar	Dec 1, 2012 12:00 AM	High	8,218	10,818	8,762	Yes	Yes	Yes	Yes

- Integration**
- Link spatial and non-spatial databases, files, or web services; embedded in reports, searches, and forms.

## SEARCH

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- Searching**
- Highly-scalable, extremely fast search engine provides intuitive search across millions of map features.
  - See search suggestions as they are typed – sorted by relevance – and results will be plotted on the map directly.

## Project Issues

- Sunset strategy
- Project Management
  - Prepare MOU for submission to:
    - NH Attorney General
    - G&C
  - Contract management
  - Project plan development
  - Risk management
  - Schedule maintenance
  - Change control
  - QA/QC
  - Project team & Stakeholder communications

**Funding Requirements:**

15	
18-month pilot	
Category	Estimated Cost
Personnel	\$58,943
Software Licensing	\$32,400
Training	\$14,345
Technical Support	\$4,140
Travel	\$680
Facilities & Administrative (35.2%)	\$38,899
<b>Total</b>	<b>\$149,408</b>

**Motion for GeoCortex pilot program as presented to be vetted by the GTAC Subcommittee and to inform Commissioner Goulet of their decision before the next quarterly meeting. Motion by Ken Gallaher, seconded by DHHS CIO Donna O’Leary all approved.**

<b>VI.</b>	<b>Clearing House Planning</b> Discussion during the GeoCortex Proposal covered this item.
<b>VII.</b>	<b>Motion to Adjourn</b> <ul style="list-style-type: none"> <li>• Commissioner Goulet requested a motion to adjourn at 2:25 pm, motion was made, seconded and approved</li> </ul>

**ACTION ITEM**

ITEM #	DESCRIPTION	Assigned To	Due Date
	<b>GTAC Subcommittee to formalize the Imagery Acquisition Plan funding and to formalize the proposal for Commissioner Goulet’s review before the next quarterly meeting.</b>	<b>GTAC Subcommittee</b>	<b>Before the next GIS Committee meeting</b>
	<b>GeoCortex pilot program as presented, to be vetted by the GTAC Subcommittee and to inform Commissioner Goulet of their decision before the next quarterly meeting.</b>	<b>GTAC Subcommittee</b>	<b>Before the next GIS Committee meeting</b>

**NEXT MEETING: TBD**