

**Appendix A**  
Questionnaire Responses



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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**Instructions:** Please fill out and answer the questions the best you can. Please be brief and to the point. Use details to describe your answers and use bullet points as necessary. Should your answer pertain to one particular storm event (e.g. Irene or Alfred) please indicate the storm in parenthesis in your response. Return all responses to Jeff Bolton at [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov).

Name: Kathy Luntta

Employer: Town of Andover

Department/Unit: Building Department

Position: Admin. Assistant

Phone: 860-742-4036 ext. 3

Email: [andoverbuilding@comcast.net](mailto:andoverbuilding@comcast.net)

Primary Role in Storm Event: N/A

List which Storm Primarily Impacted Your Area (list both if applicable): Alfred

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
No, we do not have GIS. We hope to have it in the future.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: N/A
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: N/A
2. Barriers:

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: [N/A](#)

2. Barriers:

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
[Activated the CERT Team, Fire Department and Public Works immediately.](#)

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**  
[The Town could be more organized.](#)

**C) Other comments:**  
[I have used First Selectman, Bob Burbank’s response’s in this survey.](#)

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.



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**GIS Staff Questionnaire**

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Name: Larry Baril

Employer: Town of Avon

Department/Unit: Engineering

Position: Town Engineer

Phone: 860.409.4322

Email: [Lbaril@town.avon.ct.us](mailto:Lbaril@town.avon.ct.us)

Primary Role in Storm Event: Sanitary collection system operations and mapping support

List which Storm Primarily Impacted Your Area (list both if applicable):  
Irene: we had flooding and a sanitary mainline wash-out that  
Alfred: much more impact with collection system emergency maintenance, storm power outage/restoration, debris removal

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes to a limited degree – for Irene GIS was used for flood impact and identification of sensitive receptors. For Alfred, GIS was used to attempt to communicate with residents concerning power restoration (this ultimately failed since CL&P information was deemed to be unreliable) and debris removal tracking

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Flood area presentation (Irene)
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: None – our EOC was operational but we were not called in during the storms

2. Barriers: During Alfred, our town hall complex lost power and internet capability showing the weakness of being able to use our ArcIMS website as a resource
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: See above
2. Barriers: See above – power was out at Town Hall for 2 days. Note that our EOC had emergency power, but our town hall servers were not within the powered zone
3. Other Comments:

**PART III**

- A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
**Our practices were not defined and implemented – they were ad-hoc**
- B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**  
**In our case, the resources should have been identified prior to the storm (for that matter, at any time prior to) and a plan in place to deploy under various circumstances**
- C) Other comments:**



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Name: Danuta Szostek

Employer: Town of Branford

Department/Unit: Information Technology

Position: GIS Analyst

Phone: (203) 315-0668

Email: [dszostek@branford-ct.gov](mailto:dszostek@branford-ct.gov)

Primary Role in Storm Event: Cartographer

List which Storm Primarily Impacted Your Area (list both if applicable): Irene Storm and October 29<sup>th</sup> Snowstorm

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes, the evacuation & sheltering guide brochure with the Town evacuation routes and shelters was available for residents at the Town Hall.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
  - 1) Updated the Evacuation Routes Map with correct shelter addresses for the Town Evacuation Brochure (pdf included).
  - 2) Created Emergency Management Map with fire hydrants and road access for the Fire Department for the upcoming Hurricane Irene (pdf included).
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: None

2. Barriers:
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: [None](#)
2. Barriers: [Town Hall did not have power for one day after Hurricane Irene.](#)
3. Other Comments: [The Town of Branford did not have power for six days.](#)

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

[Follow the recommendations included in the Town of Branford Evacuation & Sheltering Guide.](#)

**C) Other comments:**

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Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

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Name: Katherine Daniel

Employer: Town of Brookfield

Department/Unit: Land Use Office

Position: LU Office manager

Phone: 203-775-7316

Email: [kdaniel@brookfieldct.gov](mailto:kdaniel@brookfieldct.gov)

Primary Role in Storm Event: None

List which Storm Primarily Impacted  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
No. We use GIS for land use planning, not emergency management.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:
2. Barriers:

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

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Name: Neil Pade

Employer: Town of Canton

Department/Unit: Land Use

Position: Director of Planning and Community Development

Phone: 860-693-7891

Email: [npade@townofcantonct.org](mailto:npade@townofcantonct.org)

Primary Role in Storm Event:

List which Storm Primarily Impacted  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

GIS system was in production during the recent storm event and was not able to be used. However staff was cognizant of how having such a system working would have made life easier for the management of post storm issues.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

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Name: Gary A. Goeschel, II

Employer: Town of East Lyme

Department/Unit: Department of Planning

Position: Director of Planning

Phone: 860-691-4105

Email: [ggoeschel@eltownhall.com](mailto:ggoeschel@eltownhall.com)

Primary Role in Storm Event: Provide Storm Surge Mapping

List which Storm Primarily Impacted Irene

Your Area (list both if applicable):

**PART I**

A) **Did your Emergency Operations Center (EOC) engage GIS resources?** Explain. –  
Pre-storm mapping service. Provided general storm surge inundation mapping.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Provided Storm Surge Inundation Mapping
2. Barriers: lack of data, to provide more specific, mapping. Lack of staffing to provide GIS services, and limited by software applications and number licensing.
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: To my knowledge, none.
2. Barriers: Unsure. I suspect the limited understanding by decision makers of the power, usefulness and capabilities GIS could bring to Emergency Operations Management coupled with a lack of resources (from staffing to software and computer access) to actually provide such services resulted in the non-utilization of GIS

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: **NONE**
2. Barriers: **Same as above.**
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

Provide emergency responders, at a minimum, a map indicating areas of coastal inundation a flood zones.

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

Could have better inundation mapping, mapping to identify critical facilities and their risks, tracking shelter operations, street closings, the location of emergency responders and public work crews, during and post storm event in addition to the storm tracks themselves. Also, damage to municipal infrastructure as it pertains to eligibility to receive FEMA dollars.

**C) Other comments:**

Educating decision and policy makers that the benefit of utilizing GIS, in all applications not just emergency management is the most efficient and cost effective way to manage various operations as the return on the investment of both tangible and intangible benefits is greater than the investment itself.

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Name: Rhonda McCarty

Employer: Town of Ellington

Department/Unit: Assessors Office

Position: Assessor

Phone: 860-870-3109

Email: [rmccarty@ellington-ct.gov](mailto:rmccarty@ellington-ct.gov)

Primary Role in Storm Event:

List which Storm Primarily Impacted [Alfred](#)

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

NO - The current administration is not very technologically advanced. Post storm I suggested that it would be a very useful tool and did not receive a response.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM N/A**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM N/A**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**C) POST-STORM N/A**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

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Name: [Scott St. Onge](#)

Employer: [Town of Enfield](#)

Department/Unit: [Information Technology / EOC](#)

Position: [Webmaster](#)

Phone: [860-253-6314](#)

Email: [sstonge@enfield.org](mailto:sstonge@enfield.org)

Primary Role in Storm Event: [Support for EOC](#)

List which Storm Primarily Impacted [Alfred](#)  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
[Yes, maps of power restoration and road hazards were created on-the-fly using ArcGIS online and ArcGIS for SharePoint.](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:  
[Printed maps made available to EOC for tracking responses;](#)  
[SharePoint GIS-enabled libraries made available to dispatch staff for geo-coded incident tracking.](#)
2. Barriers:  
[Large, printed maps were out of date with no quick mechanism for updating them.](#)  
[SharePoint data only available on the Town's internal \(employee\) network.](#)  
[Need to upgrade infrastructure to allow for public access to Town managed GIS resources.](#)
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

Real-time public maps of power restoration made available via ArcGIS online embedded in Town's website.

2. Barriers:  
Data exports and time-analysis not available. It would have been fantastic if the utility companies shared GIS datasets with the Town.
3. Other Comments:  
Online tools were used for ease-of-creation and sharing, but were not utilized in an extensible manner.

### **C) POST-STORM**

1. GIS actions or activities:  
Plan to have better GIS resources available in place for next event (update print maps, identify and incorporate emergency locations into GIS layers, etc.)
2. Barriers:  
Distribution of existing work-load to accomplish new goals, along with GIS infrastructure upgrades to facilitate deployment of device-independent GIS data.
3. Other Comments:

## **PART III**

### **A) List your "Best Practices" that helped in the storm response and/or recovery efforts:**

Rapid delivery of information such as the locations of sheltering operations or travel hazards to emergency personnel for response and the citizens for safety – GIS aids this effort by providing the very user-friendly interface of a familiar map.

### **B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

Tap into citizen contributed information for real-time situation updates.

Insist on the cooperation of outside agencies (i.e. utilities) to provide GIS datasets when applicable.

State exposed GIS services for inter-town communications and resource sharing. A data-sharing, state-wide technical working group may facilitate this effort.

### **C) Other comments:**



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Name: Francis Armentano

Employer: Town of Granby, CT

Department/Unit: Community Development

Position: Director

Phone: 860-844-5319

Email: [farmentano@granby-ct.gov](mailto:farmentano@granby-ct.gov)

Primary Role in Storm Event: Emergency management team

List which Storm Primarily Impacted Your Area (list both if applicable): Alfred

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Used hard copy of map produced from GIS.  
Did not use digital/computer resources.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

Please return by email, mail, or fax to:

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Name: [Dustin Anderson](#)

Employer: [Town of Greenwich](#)

Department/Unit: [Office of the First Selectman](#)

Position: [Administrative Manager](#)

Phone: [203 622 7710](#)

Email: [Danderson@greenwichct.org](mailto:Danderson@greenwichct.org)

Primary Role in Storm Event: [Communicating information through press releases and phone calls](#)

List which Storm Primarily Impacted [Both Irene and Albert](#)  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

[Yes. The Town of Greenwich utilized GIS to identify parcels that would potentially be impacted by a Category 3 Hurricane. We then informed the proper owners of the impending potential damage to their health and property and advised the to evacuate.](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: [Identification of potentially affected areas; location of key Town and private infrastructure](#)
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: [No use](#)
2. Barriers: [We actually used Google Maps to create a public map of road closures and congestion. To do this in GIS would be too laborious.](#)
3. Other Comments: [The public loved the fact that they could just navigate to a particular webpage to find relatively up-to-date information. Contrast this with attaching large pdfs to emails.](#)

**C) POST-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**PART III**

- A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
[The identification of parcels by owner and crafting individualized messages to neighborhoods.](#)

[Identifying where you key response infrastructure is and being able to anticipate potential threats to it.](#)

- B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

- C) Other comments:**

<p>Please return by email, mail, or fax to:</p> <p>Jeff Bolton, Chair Storm Response and Recovery Assessment Group Connecticut GIS Council 165 Capital Avenue Room 275 Hartford, Connecticut 06106 Email: <a href="mailto:jeffrey.bolton@ct.gov">jeffrey.bolton@ct.gov</a> Fax: 860-713-7250</p> <p>Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.</p>
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Name: GREG SULLIVAN

Employer: Town of Greenwich

Department/Unit: IT/GIS

Position: GIS COORDINATOR

Phone: 203-622-7737

Email: [GSULLIVAN@GREENWICHCT.ORG](mailto:GSULLIVAN@GREENWICHCT.ORG)

Primary Role in Storm Event: MAPPING SUPPORT TO EOC PRE/DURING/POST-EVENT

List which Storm Primarily Impacted [IRENE, ALFRED](#)  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes. We provided pre-event analysis of potential flood-impacted areas/populations, prior to event; FEMA/FIRM and SLOSH maps for evac planning during event; mapped road closures and trees/wires down post-event.

All the above were paper maps, but road hazard/closure map was posted to Town of Greenwich website as a PDF, as well. This product was updated to a Google Maps link for Alfred.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: [Above](#).
2. Barriers: [None](#).
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: [Above](#).
2. Barriers: [Weather hazards mitigated information about field conditions, from public safety personnel.](#)

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: [Above](#).
2. Barriers: [Limited manpower meant delays in getting information about field conditions, hazards and cleanup.](#)
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

[GIS being a part of core EOC staff from the outset of an event, helps GIS staff to plan for resources and products that will be useful to responders in the field. Having a free-standing, dedicated GIS laptop with Town of Greenwich basemap data loaded locally, insures that GIS data is available to responders, even if EOC itself loses power.](#)

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

[Google maps-style internet information is invaluable for responders and the public alike to be aware of road closures, hazards and the progress of cleanup efforts.](#)

**C) Other comments:**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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**Instructions:** Please fill out and answer the questions the best you can. Please be brief and to the point. Use details to describe your answers and use bullet points as necessary. Should your answer pertain to one particular storm event (e.g. Irene or Alfred) please indicate the storm in parenthesis in your response. Return all responses to Jeff Bolton at [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov).

Name: Andrew Bowne

Employer: Town of Groton, CT

Department/Unit: Information Technology

Position: GIS Coordinator

Phone: 860-441-6699

Email: [abowne@groton-ct.gov](mailto:abowne@groton-ct.gov)

Primary Role in Storm Event: GIS Technical Support

List which Storm Primarily Impacted Irene

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes, primarily for flood maps or areas prone to excessive flooding. These maps were used for evacuation purposes. Other maps used were Street Maps and Damage Assessment Maps.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

Not many pre-storm activities were done. We already had several maps created and “canned” so it was a matter of printing them as requested.

**B) DURING THE STORM**

1. GIS actions or activities:

Map Production and distribution

2. Barriers:

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:  
[Storm Damage Assessment](#)
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

[Up-To-Date Data and software & hardware played a big part. It was easy to quickly and effectively produce maps on-demand.](#)

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

[Better coordination/contact between local's and regions. I was contacted by none of my neighboring towns to see what I was doing or what we could do together during the event.](#)

**C) Other comments:**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
Storm Response and Recovery Assessment Group

**GIS Staff Questionnaire**

**Instructions:** Please fill out and answer the questions the best you can. Please be brief and to the point. Use details to describe your answers and use bullet points as necessary. Should your answer pertain to one particular storm event (e.g. Irene or Alfred) please indicate the storm in parenthesis in your response. Return all responses to Jeff Bolton at [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov).

Name: LINDA KASINOFF

Employer: TOWN OF HAMDEN

Department/Unit: ENGINEERING

Position: PARTY CHIEF

Phone: 203-287-7049

Email: [lkasinoff@sbcglobal.net](mailto:lkasinoff@sbcglobal.net)

Primary Role in Storm Event: N/A

List which Storm Primarily Impacted  
Your Area (list both if applicable): BOTH

**PART I**

- A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain. YES  
WE PRODUCED A MAP WITH OUR PARCEL SHAPEFILE AND AN OLDER SHAPEFILE THAT WE HAD (2002) WATER CO. SHAPEFILE. WE DID HAVE A PDF OF THE CURRENT WATER CO. UPDATE BUT USED THE OLD SHAPEFILE. PRIORITY FOR HOMES IN AREAS THAT PART II DID NOT HAVE CITY WATER WOULD HAVE THEIR POWER TURNED ON SOONER THAN OTHERS.  
Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies (TOILETS) used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.

**A) PRE-STORM**

1. GIS actions or activities: RE: ABOVE
2. Barriers: N/A
3. Other Comments: WOULD BE GREAT TO HAVE UTILITI UPDATED SHAPEFILES.

**B) DURING THE STORM**

1. GIS actions or activities:



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**GIS Staff Questionnaire**

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Name: Rich Gallacher, GISP

Employer: Town of Manchester, CT

Department/Unit: Engineering/GIS

Position: GIS Coordinator

Phone: 860-647-3062

Email: [richg@manchesterct.gov](mailto:richg@manchesterct.gov)

Primary Role in Storm Event:

List which Storm Primarily Impacted [Irene & Alfred](#)

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
[Yes, the GIS Unit provided mapping for the Highway Division field crews and CL&P.](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: [Entering report calls into a geodatabase feature class, reviewing highlighted paper street maps and creating an Access database of downed wire/tree locations](#)
2. Barriers: [Communication and coordination of incoming calls from CL&P, Highway and the general public. Incorporating the Town's on-line citizen report info into GIS maps.](#)
3. Other Comments: [We were unprepared for Alfred more than Irene which is surprising bc Irene came first.](#)

**B) DURING THE STORM**

1. GIS actions or activities: [Mapping incoming calls from Highway Division field crews. Relaying road closures for all field crews and emergency dispatch. Plotting road closure maps for distribution to all Town Dept's](#)

2. Barriers: Not be allowed to create a GIS web service of closed roads and downed wires and serve the data out immediately to a private/internal web site
3. Other Comments: We had all this data that changed every 10 minutes but the managers only wanted paper maps so we ended up plotting a morning map and an afternoon map. Used a lot of plotter paper- killed the trees that weren't already dead ;)

### **C) POST-STORM**

1. GIS actions or activities: Dozens of road closure and downed trees/wires. Data updated every 10 minutes.
2. Barriers: not being allowed to post the updates on the web
3. Other Comments:

## **PART III**

- A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
**Using the GIS to organize and coordinate recovery efforts. We had plenty of people just not all working together until the GIS was incorporated into EOC operations**
- B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**  
**Free, easy and standardized flow of GIS data from Town's with GIS capabilities to a centralized location that posts all data for everyone to access over the internet. If Manchester closes a street during a storm, every town in CT should know about it as soon as Manchester uploads the data.**
- C) Other comments:**  
**Use the GEO-Lab.**



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: Patrick ladd

Employer: City of Meriden

Department/Unit: MIS

Position: GIS Specialist

Phone: 203-630-4148

Email: [pladd@ci.meriden.ct.us](mailto:pladd@ci.meriden.ct.us)

Primary Role in Storm Event: None

List which Storm Primarily Impacted Your Area (list both if applicable): Pre-Halloween snow storm

**PART I**

A) Did your Emergency Operations Center (EOC) engage GIS resources? Primarily through use of city-wide street maps with flood planins

**PART II**

Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.

**A) PRE-STORM**

1. GIS actions or activities: Printing street maps
2. Barriers: none
3. Other Comments: none

**B) DURING THE STORM**

1. GIS actions or activities: [None](#)
2. Barriers: [None](#)
3. Other Comments: [None](#)

**C) POST-STORM**

1. GIS actions or activities: [CL & P asked for 3 copies of our city-wide street map](#)
2. Barriers: [None](#)
3. Other Comments: [None](#)

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: Bruce A. Kolwicz  
 Employer: City of Milford  
 Department/Unit: Public Works  
 Position: Public Works Director  
 Phone: 203 783-3269  
 Email: BKolwicz@ci.milford.ct.us  
 Primary Role in Storm Event: Citywide First Responder - Opening of Roads

List which Storm Primarily Impacted  
 Your Area (list both if applicable):

**PART I**

A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.

**PART II**

Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.

A) PRE-STORM Not used

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

B) DURING THE STORM Not Used

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**C) POST-STORM**                      *Not Used*

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**PART III**

**A) List your "Best Practices" that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

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Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: Thad Dymkowski

Employer: Town of Newington, CT

Department/Unit: Department of Information Technology/GIS Services

Position: GIS Technician

Phone: (860) 665-8592

Email: [tdymkowski@newingtonct.gov](mailto:tdymkowski@newingtonct.gov)

Primary Role in Storm Event: Data provider/support

List which Storm Primarily Impacted Your Area (list both if applicable): Winter Storm Alfred

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

*Our EOC commander (chief of police) requested several paper maps be made for rapid access. During the storm, the generator at town hall failed, thus not allowing for access to any digital or web based data, so the paper maps were essential during critical operations during the storm. In addition, the maps were used after the storm for routing due to street closures, and in planning clean up efforts*

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: *Paper map production for planning and staging of storm resources*
2. Barriers: *None encountered*
3. Other Comments: *N/A*

**B) DURING THE STORM**

1. GIS actions or activities: *None due to power loss in town hall*
2. Barriers: *Loss of power*
3. Other Comments: *N/A*

**C) POST-STORM**

1. GIS actions or activities: *Paper map production for use by clean up crews for planning tree removal strategy and progress*
2. Barriers: *none*
3. Other Comments: *Never underestimate the power of the paper map!*

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
*Metadata! It answered the questions of “when was this last updated?”... also, having plenty of paper on hand*

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**  
*Access to any and all emergency data held by the state agencies, including any/all utility data, locations of shelters in adjacent towns, before the storm occurs. Establishment of data sharing with adjacent towns or perhaps creation of a web portal for data where towns can go and download the data before the event.*

**C) Other comments:**  
*There are so many towns in the state that do not have any GIS whatsoever... perhaps it would be possible for the state to provide them with something as simple as an ArcReader application on disk with basic data that contains freely available info such as wetlands, soils, road network, aerial, planimetric data- general essential base map data, so that they can look at it on a computer without having to go purchase GIS software... they could then print out maps for planning/cleanup, etc.*

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: Marc Tate

Employer: Town of North Stonington

Department/Unit: IT/GIS/ Emergency Management

Position: Director of Emergency Management/IT/GIS Coordinator

Phone: 860-514-5663

Email: [Mtate@northstoningtonct.gov](mailto:Mtate@northstoningtonct.gov)

Primary Role in Storm Event: Director of Emergency Management

List which Storm Primarily Impacted Irene

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes. Hazard Map and Street Maps were used to track potential dangers and recovery status.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Print Maps needed for planning

2. Barriers: None

3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: Track issues and locate problem areas

2. Barriers: None

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: Track issues and recovery. Location of problem areas and area where power was being restored.
2. Barriers: With limited power we did not have the ability to print large maps. Without internet we could not access the online GIS so all data requests came to EMD. CL&P reps did not know how the grid was laid out in town and we provided them with limited copies of our maps
3. Other Comments: We are in the process of acquiring CL&P grid layout for the town to create a new data layer.

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

Preprinting Maps

Having Street maps and Hazard Maps updated and ready to print on demand

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

Many towns around did not have any mapping to use and that limited them greatly. Emergency management should become better versed in the benefits of GIS.

The ability to pass along our GIS data to CL&P would have made things easier. Rather than having to report then report again the same information.

**C) Other comments:**

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Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: Mark S. DeVoe

Employer: Town of Plainville

Department/Unit: Technical Services

Position: Director of Planning and Economic Development

Phone: 860-874-8588

Email: [devoe@plainville-ct.gov](mailto:devoe@plainville-ct.gov)

Primary Role in Storm Event: N/A

List which Storm Primarily Impacted Your Area (list both if applicable): Irene – major loss of property, power outages  
Alfred – loss of property, power outages

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Plainville does have a functional GIS platform. Lack of funding and staff have been cited as determining factors. Plainville continually looks for grant opportunities to implement GIS.

We have not responded to the rest of the survey as it assumes active use of GIS.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

2. Barriers:
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

Please return by email, mail, or fax to:

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Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: Eric Belt

Employer: Town of Salem

Department/Unit: Wetlands Commission

Position: Vice Chair IWCC and GIS Volunteer

Phone: 8608894768

Email: [ericbelt@cs.com](mailto:ericbelt@cs.com)

Primary Role in Storm Event: None

List which Storm Primarily Impacted Your Area (list both if applicable): Irene

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

No, none was requested to the best of my knowledge.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

2. Barriers:
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:** We had no requests for GIS assistance from our EOC. There are only two of us that are conversant with GIS in Town Hall. The Town Planner, Mary Ann Chinatti, and myself. I do the GIS heavy lifting as a volunteer.

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.

**RE: [CTGIS-L] GIS Storm Response and Recovery Assessment Group**

Regis Dognin [r.dognin@cityofshelton.org]

**Sent:** Wednesday, November 23, 2011 12:26 PM**To:** Bolton, Jeffrey

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I could not type into the fields provided.  
To my knowledge, GIS was never involved in any aspect of storm preparation.  
I have made normal city maps that were probably useful to some.  
I make a city map for fire, EMS, etc. which includes fire hydrants, pipe size, and hydrant ID.

Regards,  
Regis J. Dognin - GIS Specialist  
City of Shelton - Finance Dept.  
54 Hill Street, Shelton, CT 06484  
Tel: 203-924-1555 x398  
Email: r.dognin@cityofshelton.org

-----Original Message-----

From: Unmoderated discussion list for Connecticut GIS Users  
[<mailto:CTGIS-L@LISTSERV.UCONN.EDU>] On Behalf Of Bolton, Jeffrey  
Sent: Tuesday, November 22, 2011 11:51 PM  
To: CTGIS-L@LISTSERV.UCONN.EDU  
Subject: [CTGIS-L] GIS Storm Response and Recovery Assessment Group  
Importance: High

The Connecticut GIS Council last week created a working group to assess how GIS was used during Tropical Storm Irene and Storm Alfred. The GIS Storm Response and Recovery Assessment Group's focus will be on various aspects of how GIS was used for pre-storm, storm, and post-storm response and recovery efforts at the local, regional, utility, state, and federal levels. The goals of the assessment are to: identify what GIS strategies were used (or not), barriers encountered, best practices, and recommendations.

The GIS Assessment Group is reaching out to all GIS staff across the state to collect information relating to the assessment's goals through the attached questionnaire. Please take the time to fill it out and return it as soon as possible by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group

Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: jeffrey.bolton@ct.gov<<mailto:jeffrey.bolton@ct.gov>>  
Fax: 860-713-7250

Based on the responses, someone from the GIS Assessment Group may be contacting you to gather more information.

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.

Thanks in advance of your participation.

Sincerely,  
Jeff Bolton, CT GIS Council  
Meg McGaffin, City of Milford  
Aaron Nash, Town of Vernon  
Erik Snowden, Capitol Region Council of Governments

P.S. You can also download the questionnaire at the following link:  
<http://www.ct.gov/dpw/cwp/view.asp?a=2442&q=306642&PM=1>

P.P.S. Please forward this link to whoever uses GIS in CT and is not on the list serv. If you did not participate in storm efforts for Irene or Alfred please fill out the questionnaire anyway as it's an opportunity share your GIS thoughts and recommendations relating to disaster coordination.

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This list (CTGIS-L) is an unmoderated discussion list for all CT GIS Users.

If you no longer wish to receive e-mail from this list, you can remove yourself by going to <http://listserv.uconn.edu/ctgis-l.html>



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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**Instructions:** Please fill out and answer the questions the best you can. Please be brief and to the point. Use details to describe your answers and use bullet points as necessary. Should your answer pertain to one particular storm event (e.g. Irene or Alfred) please indicate the storm in parenthesis in your response. Return all responses to Jeff Bolton at [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov).

Name: Stephen Lowrey  
Employer: Town of Tolland  
Department/Unit: Planning & Community Development  
Position: Zoning/Wetlands Agent and GIS Operator  
Phone: 860) 871-3605  
Email: [slowrey@tolland.org](mailto:slowrey@tolland.org)  
Primary Role in Storm Event: Create mapping showing and identifying specific road blockages and power line failures.  
List which Storm Primarily Impacted Your Area (list both if applicable): Irene-limited impact no GIS resources used  
October 29<sup>th</sup> snow storm

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources?** Explain.

4 days after the storm, after the PWD had time to access damage, mapping was generated to show roads that were still closed.

One week after the storm the PWD was able to access specific damage and the locations of power system failure and mapping was generated to identify these locations by the type of problem with summary of specific condition i.e. tree down, wires down, poles down etc.

Since we had never had such town-wide conditions, we had no pre-created databases to work with and GIS capability had to be created on the fly.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: NONE
2. Barriers: Limited personnel who understand what GIS can do for them; lack of personnel who are trained to use advanced features of GIS, or can use GIS in any capacity; ArcGIS is only loaded on a minimal number of computers (none at the EOC), many available computers are not GIS capable.
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: NONE

2. **Barriers:** I live 60 miles from Tolland, therefore was not going to Tolland unless specifically called. The only other person with any GIS literacy is the PW Director, he was busy trying to keep his crews ahead of the storm and does not have the GIS knowledge to create new or modify existing GIS layers to plot the data needed. Lack of GIS capable computers in the EOC.

3. **Other Comments:**

**C) POST-STORM**

1. **GIS actions or activities:** Mapping as explained in Part I, new maps and feature datasets were loaded onto the PW Dir. GIS capable laptop, so that GIS capability was available in the EOC (EOC not connected to Town computer network). The Town organized a voluntary effort to clean up the yards of the elderly & disabled for Nov. 26, residents registered for this event and some 70 addresses were plotted on maps and lists describing the properties and what needed to be done were created.

2. **Barriers:**

3. **Other Comments:**

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

Obviously, I don’t have any “Best Practices”, I do have some strong recommendations – in retrospect: 1) the EOC must have GIS capability; 2) there must be at least one person on each shift capable of editing layers to track changing conditions; 3) the EOC must have access to available GIS data; 4) GIS layers tracking conditions must be succinct-don’t get bogged down filling in too much data; 5) the EOC must have the printing capability to make the paper maps necessary; 6) Communicating with utilities both verbally and GIS.

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

GIS can be used to keep track of you assets; infrastructure, shelters, transportation, etc.: your liabilities; failed infrastructure, pinch-points in our transportation, etc.: your responsibilities; elderly, infirm & disabled, etc. GIS can be used to post updated maps on the internet to inform the public where they can go – or not go. I realize that the internet is of limited usefulness during power outages, but many Smart Phone continued to operate. GIS can be used to plan recover, the most efficient routes to reach the greatest number

**C) Other comments:**

<p>Please return by email, mail, or fax to:</p> <p>Jeff Bolton, Chair Storm Response and Recovery Assessment Group Connecticut GIS Council 165 Capital Avenue Room 275 Hartford, Connecticut 06106 Email: <a href="mailto:jeffrey.bolton@ct.gov">jeffrey.bolton@ct.gov</a> Fax: 860-713-7250</p> <p>Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.</p>
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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: Stephen Lowrey

Employer: Town of Tolland

Department/Unit: Planning

Position: Zoning/Wetlands Officer & GIS Operator

Phone: (860) 871-3605

Email: [slowrey@tolland.org](mailto:slowrey@tolland.org)

Primary Role in Storm Event: Creating damage location maps after the storm  
Setting up GIS on Public Works Computer  
Creating mapping for post storm cleanup

List which Storm Primarily Impacted: Irene

Your Area (list both if applicable): Alfred to a much greater extent.

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

There was no use of GIS for Irene, damage was relatively light and power restored quickly. During Alfred there was no use of GIS. The EOC is not connected to the Town's computer network therefore GIS data was not accessible. After the storm I created a base map and copied it and a number of relevant layers on a disc and loaded them onto the Public Works Director's laptop. After the road crew completed an assessment of damage I created a layer to display that information on the map and this was given to the CL&P repair crews.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

None

2. Barriers:

Lack of connection to GIS data. I don't believe that we have a data set of residents with medical issues that might have been encouraged to get to shelter before the storm.

3. Other Comments:  
Since Tolland has little risk of large scale flooding, damage is random, which is to say there is little geographic relationship to the location of potential damage; I don't think that GIS would help to plan.

**B) DURING THE STORM**

1. GIS actions or activities: None
2. Barriers: Lack of connectivity
3. Other Comments: Since both of these storms were causing their major damage after dark, it would have been difficult to keep a running tally of damage as it occurred, so I am not sure of the utility of GIS until the Town had the opportunity to open roads.

**C) POST-STORM**

1. GIS actions or activities: Creation of mapping to locate problems: road closures, power lines and poles down, and, specifically, what roads were accessible for emergency vehicles so that routes around town could be planned
2. Barriers: Again, the E.O.C. was not connected to the Town computer network and so after I entered data into the computer it had to be put on a CD and driven to the E.O.C.
3. Other Comments: Although Tolland's Public Works Director is very much a GIS neophyte, he is very aware of how it can help him. It helps to have personnel that want to use the technology.

**PART III**

**A) List your "Best Practices" that helped in the storm response and/or recovery efforts:**

At this point in time I don't have any Best Practices; we just made it up as we went along.

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

1. Data collection & entry needs to be quick and simple but provide, at least, the minimum information needed.
2. During and immediately after the disaster it is more important to know where the roads are open than the location of all the blockages.

**C) Other comments:**

You need to have GIS capable computers in the EOC and the EOC needs to be able to access the data.

CL&P spent the first 3 days or so accessing damage-much of this work could have been done by the various towns' personnel (with a little training)



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: David Scherf

Employer: City of Torrington

Department/Unit: Engineering

Position: Manager of GIS/Technical Services

Phone: 860-489-2234

Email: [David\\_scherf@torringtonct.org](mailto:David_scherf@torringtonct.org)

Primary Role in Storm Event: Post-storm recovery efforts

List which Storm Primarily Impacted Both

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

They used stock large format GIS-produced maps.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: None besides several large format maps produced for EOC prior to events
2. Barriers: None
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: None
2. Barriers: If anything, the inability to move from home to work would have been a problem. Desktop GIS software isn't too flexible for remote access.
3. Other Comments:

## C) POST-STORM

1. GIS actions or activities: Produced maps showing cleanup zones and exported street lists for zones in the order that the City and contractors should follow for brush removal. Made a couple of aerial maps for Fire Dept.
2. Barriers: None
3. Other Comments:

## PART III

### A) List your “Best Practices” that helped in the storm response and/or recovery efforts:

Have readily available and accurate street centerline datasets, address datasets for parcels and address points, utilities, critical infrastructure, aerials, flood data, etc... and basemaps or webpages to put these on.

- B) **List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:** The CL&P web maps were great resources. If EOCs had this sort of statewide base to start from, then they may be able to show resources and apparatus at work through AVL, active shelters and #s of visitors, road closures, etc... Of course, someone has to manage and work this system. One suggestion is to examine the overwhelming response of GIS practitioners to volunteering worldwide through GISCorps ([www.giscorps.org](http://www.giscorps.org)). Maybe the state EOC at the Armory could enlist volunteers from the state to create an enhanced web presence during disasters by having a list of volunteers to choose from with known skills and capabilities lend a hand.

- C) **Other comments:** 1) Include GIS managers and users in the hazards and disasters conversation -- Pre-event, event and post-event. It would be good to let each town’s GIS manager know what data that the state has compiled for critical infrastructure and what products and applications are available for these and who is using them – we know how to build them, use them and train others on them; but we are not much use if not included at the table. And we may have data that is useful for first responders and emergency managers (For example, Torrington has a Tennessee Gas Pipeline trunk line that runs through several suburbs. After the second storm I thought about it a bit and then took a hour or so to map it from various sources not knowing if the EOC, local dispatch PSAP, or FD and PD have this data in their preplans. And if it does already exist, I’ve never seen it on any of the CT data clearinghouses . I also started a transmission line mapping project after the storm, but never heard back from ISO New England to get some product that confirms the mapping I’ve already done. This stuff isn’t rocket science. Anyone can see the transmission lines, towers, poles, sub-stations from Google, Bing, state aerials etc... And I can search the internet and find this type of information for other states, but not Connecticut. )
- 2) Also, EOC directors and other first responder staff may not know what hardware, software, data, and application capabilities already exist within towns and cities, and the rapidity with which we can produce maps, reports, KML/KMZ, ArcPad and other mobile platforms, ArcGIS Server websites, etc... The biggest hurdle for much of this is how services are shared and coordinated. My job description buries me in several layers of government, not allowing me to be this type of coordinator. A state GIS coordinator could possibly fill this gap.



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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**GIS Staff Questionnaire**

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Name: Aaron Nash

Employer: Town of Vernon, CT

Department/Unit: Data Processing

Position: GIS Coordinator

Phone: 860-870-3674

Email: [anash@vernon-ct.gov](mailto:anash@vernon-ct.gov)

Primary Role in Storm Event: Worked in Vernon EOC mapping storm related calls

List which Storm Primarily Impacted Your Area (list both if applicable): Irene and Alfred both impacted Vernon

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes, I was called into the EOC to map out incident locations on Sunday after Winter Storm Alfred hit, I also printed large street maps to use for emergency and priority planning. I was required to stay in the EOC all week during the storm clean up.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

None

2. Barriers:

3. Other Comments:

We did not engage in any pre-storm planning because the impact in Vernon was unknown at the time.

**B) DURING THE STORM**

1. GIS actions or activities: Incident mapping

2. **Barriers:** I was unable to remote into my office computer because the power was off in my building due to an outage. I was able to find data on an old flash drive and generate some maps during the storm from my house in Franklin.
3. **Other Comments:** The inability to have remote data has led me to replicate my databases onto my work laptop so I can keep an offline copy for emergency mapping

**C) POST-STORM**

1. **GIS actions or activities:** Spend all week working on mapping incident locations and printing maps. Thankfully our data center was operational (Generator) and I was able to work remotely and access our live data
2. **Barriers:** We asked the utility company for information as to what calls from Vernon came into their call center, we wanted to use this data to compare to the calls that came into the Vernon EOC. That way we could make sure CL&P had the most current list of incidents. It took them 3 days to generate the list. We also asked for a list of customers that were without power, they could not deliver. So we asked for a list of streets that were without power, they could not deliver. We needed this information to generate a map to post in the Vernon Shelter so residents without power could not only see the severity of the storm but so they could determine whether their street had been energized so they could return home. We also asked for a circuit map to assist in lines down mapping and to assist in deciding the priorities for repair, that was finally sent to us on Wednesday or Thursday
3. **Other Comments:** It would be nice if somehow CL&P could share their data with municipalities to assist in storm cleanup efforts. As a GIS community we understand the importance of having good data and keeping it protected, but sharing information will help everyone in the end.

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

I did have a laptop with me at home so I was able to map the initial incidents during the storm, although I did not have current data

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

ESRI has an emergency response web mapping template in their resource center. I am going to implement that web template for live use during a storm and build a mobile application that will allow emergency personnel and residents to submit information through the application. This will allow for one common database to be used town wide and with built in tools allow users to draw more information from the map.

**C) Other comments:**

<p>Please return by email, mail, or fax to:</p> <p>Jeff Bolton, Chair  Storm Response and Recovery Assessment Group  Connecticut GIS Council  165 Capital Avenue Room 275  Hartford, Connecticut 06106  Email: <a href="mailto:jeffrey.bolton@ct.gov">jeffrey.bolton@ct.gov</a>  Fax: 860-713-7250</p> <p>Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.</p>
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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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**GIS Staff Questionnaire**

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Name: [Lawrence Niland](#)

Employer: [Town of West Hartford](#)

Department/Unit: [Police](#)

Position: [I.T. Specialist](#)

Phone: [860.523.2017](#)

Email: [LNiland@westhartford.org](mailto:LNiland@westhartford.org)

Primary Role in Storm Event: [I.T. Coordinator](#)

List which Storm Primarily Impacted [Both](#)

Your Area (list both if applicable):

**PART I**

- A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
[Yes. Our CAD has maps built from our GIS system and we use GPS data from our vehicles for location. We also used maps to identify problem areas with Town.](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: [Identified areas for potential flooding prior to the hurricane.](#)
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: **Showed locations of problems. Mapped power outages as CL&P was not providing accurate information. Able to see deployment of resources around Town.**
2. Barriers: **GIS system for maps is not completely interactive. Had to use other programs to produce maps for public.**
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: **Followed deployment of power return and road closures.**
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:  
No established “best practices”.**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:  
Interaction with CL&P to provide accurate and up-to-the-minute maps of power outage areas.**

**C) Other comments:**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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**GIS Staff Questionnaire**

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Name: Andrew Kingsbury

Employer: Town of Westport

Department/Unit: Fire Department

Position: Fire Chief/EMD

Phone: (203) 341-5000

Email: [akingsbury@westportct.gov](mailto:akingsbury@westportct.gov)

Primary Role in Storm Event: Emergency Manager/Fire Chief

List which Storm Primarily Impacted Your Area (list both if applicable): TS Irene & Winter Storm Alfred

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
We use GIS for our Computer Aided Fire & Police Dispatching, GIS is utilized in our EOC for mapping, tracking incident locations, etc.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Used GIS along with printed surge maps provided by FEMA for planning.
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: We attempted to track road blockages on GIS thru our Mobile Data Terminals for TS Irene with moderate success. During Storm Alfred we switched to Google Maps for recording road blockages.
2. Barriers: Not practical for an untrained emergency management staffer to utilize real time, software costly.

3. Other Comments: [In the past we have used the flood map layer to determine actions at given locations, did not for these particular storms](#)

**C) POST-STORM**

1. GIS actions or activities: [Same](#)
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
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## GIS Staff Questionnaire

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Name: Damion Vassel

Employer: Town of Westport

Department/Unit: Engineering

Position: GIS Technician

Phone: 203-341-1133

Email: [dvassel@westportct.gov](mailto:dvassel@westportct.gov)

Primary Role in Storm Event: Incident Mapper / Planner

List which Storm Primarily Impacted Your Area: Hurricane Irene  
(list both if applicable):

### PART I

A) **Did your Emergency Operations Center (EOC) engage GIS resources?** Yes, GIS resources were used as a visual and planning tool to capture and report incidents as they happen.

### PART II

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

#### A) PRE-STORM

1. GIS actions or activities:
  - a. A confidential emergency evacuation map was created for town residents with special needs in the event evacuation was needed.
  - b. SLOSH map was acquired and reviewed to see storm surge heights and winds.
  - c. Finding a way to depict incidents on a map as they occur (real-time) that can be viewed by department and personnel that aren't a part of EOC.
2. Barriers: Finding an internet base application that can be viewed by others that doesn't require a license and is free.
3. Other Comments: Mode of communication had different concepts, eventually we settled on Google Map while utilizing ARCMAP and ARC IMS.

**B) DURING THE STORM**

1. GIS actions or activities: Mapping incidents and keeping their status up-to-date and real-time.
2. Barriers: Not all incidents were being reported back to EOC.
3. Other Comments: Progression of the storm determines the pace at which the incidents are reported.

**C) POST-STORM**

1. GIS actions or activities: We had a map that depicted a majority of all incidents within the town.
2. Barriers: Incidents were still being reported and were no longer getting mapped.
3. Other Comments: The overall map was very helpful in the depiction of the area/s severely hit.

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

During an emergency that required emergency personnel, with the incidents being mapped we knew the roads that were impassible and alternate routes were created to improve response time and we were able to clear the blocked roads first after the storm.

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

GIS is the best mode of communication between towns and its residents, with GIS anyone with access to the internet can see the status of the disaster and how it’s affecting them.

**C) Other comments: I would recommend a statewide internet based GIS application to map and track incidents in real-time.**



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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**GIS Staff Questionnaire**

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Name: **Stuart Cobb**

Employer: **Town of Willington**

Department/Unit:

Position: **Emergency Management Director**

Phone: **860-234-9777**

Email: **scobb@willingtonfire.org**

Primary Role in Storm Event: **Emergency Management Director**

List which Storm Primarily Impacted **Both Irene & Alfred**  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

**No**

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers: The town does not employ any knowledgeable GIS personnel although WINCOG does handle some of the GIS functions.
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:

2. Barriers:

**Internet connectivity town-wide was lost during much of the post-storm period. We also lack local knowledgeable GIS personnel.**

**Our town office building (where our building department is located) has ArcGIS and a wide-format printer but does not have an emergency generator.**

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**Far from “Best”, we used poster board/printed maps to locate trouble spots and maintained an Excel spreadsheet of trouble spot data.**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**GIS incidents (i.e. power line trouble spots/road closures) should be merged into a regional database. It is important to know if there are situations outside our town lines that would impact us.**

**C) Other comments:**

**It would have been very helpful if CL&P had provided us with circuit maps (preferably before the storms). Even during the post-storm period, we were not given access to that information citing privacy and security concerns.**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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**Instructions:** Please fill out and answer the questions the best you can. Please be brief and to the point. Use details to describe your answers and use bullet points as necessary. Should your answer pertain to one particular storm event (e.g. Irene or Alfred) please indicate the storm in parenthesis in your response. Return all responses to Jeff Bolton at [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov).

Name: Lauren Good

Employer: Town of Windsor

Department/Unit: Planning Department

Position: Assistant Town Planner

Phone: 860.285.1982

Email: [good@townofwindsorct.com](mailto:good@townofwindsorct.com)

Primary Role in Storm Event:

- tracking all non-emergency calls to EOC & PD in GIS (Irene)
- tracking all tree and wire related calls to EOC in GIS (Alfred)

List which Storm Primarily Impacted Your Area (list both if applicable): Alfred had a much heavier impact – close to 500 calls just related to tree and wire issues. There were a few downed trees and one street closure due to Irene – approx. 40 calls.

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources?** Explain.

(Irene)Yes. I was in the EOC taking data sheets and entering info from radio calls directly into the GIS program, which was then being sent to the Director of PW, PD, and various town officials to have one point of information collection and dissemination for non-emergency calls to the PD/EOC.

(Alfred)Yes. We had 24-7 call-takers in the EOC who would take caller information, which would be passed on to me and I would update the GIS with this information and send out an Excel spreadsheet and map to the EOC, town officials, DPW, and our CL&P rep on a regular basis. It was also used when power was returning to show which areas of town were receiving power and which were not.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: (Irene) Created a basic GIS map/database template to house potential non-emergency phone calls into the EOC/PD. (Alfred)None.
2. Barriers: n/a
3. Other Comments: n/a

**B) DURING THE STORM**

1. GIS actions or activities: (Irene)Worked in the EOC as described above. (Alfred)Did not work directly in the EOC as it was heavily staffed.
2. Barriers: I'm the only GIS person on staff in Windsor so there is no backup. I was not able to be reached during the first 48 hours of Alfred, which caused a severe backlog of information to enter, taking approximately a full 8 hours to catch up on entering before useful information could be disseminated. Due to a cramped EOC, I was also not able to be present at that location, which may or may not have been a hindrance.
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: Maps used to illustrate (internally) sections of town where power was being restored.
2. Barriers: GIS was not used to its full potential to help with post-storm cleanup, although debris clean-up routes were based on recycling routes created a number of years ago. Analysis may have been better using those routes coupled with severity of debris?
3. Other Comments:

**PART III**

**A) List your "Best Practices" that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

Our CL&P rep briefly showed us a map of the power circuits – this type of information – knowing where different areas of the town's power comes from – would be extremely beneficial. We all know that there are security implications, but I think we can all agree that everyone sitting in an EOC would have appreciated this information.

**C) Other comments:**

<p>Please return by email, mail, or fax to:</p> <p>Jeff Bolton, Chair Storm Response and Recovery Assessment Group Connecticut GIS Council 165 Capital Avenue Room 275 Hartford, Connecticut 06106 Email: <a href="mailto:jeffrey.bolton@ct.gov">jeffrey.bolton@ct.gov</a> Fax: 860-713-7250</p> <p>Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.</p>
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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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Name: Warren Connors

Employer: Town of Woodbridge

Department/Unit: Public Works

Position: Operations Manager

Phone: 203-389-3421

Email: [wconnors@ci.woodbridge.ct.us](mailto:wconnors@ci.woodbridge.ct.us)

Primary Role in Storm Event: Direct Public Works operation

List which Storm Primarily Impacted Your Area (list both if applicable): Both

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
No. We do not use GIS for emergency management.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

### **PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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Name: Delia P. Fey

Employer: Town of Woodstock

Department/Unit: Land Use

Position: Town Planner / ZEO

Phone: 860-963-2128 x332

Email: [townplanner@woodstockct.gov](mailto:townplanner@woodstockct.gov)

Primary Role in Storm Event: No special role, just continue to do my job

List which Storm Primarily Impacted Your Area (list both if applicable): Hurricane – power outages, flooding & roads closed, October snow storm – power outages, roads closed

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
Not that I know of.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: None that I know of.
2. Barriers: None that I know of.
3. Other Comments: None that I know of.

**B) DURING THE STORM**

1. GIS actions or activities: None that I know of.
2. Barriers: None that I know of.
3. Other Comments: None that I know of.

**C) POST-STORM**

1. GIS actions or activities: None that I know of.

2. Barriers: [None that I know of.](#)
3. Other Comments: [None that I know of.](#)

### **PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

[I was not involved in any.](#)

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

[Train the emergency event planner – Fire Chief or whoever is coordinating the response. I would not be involved in that as the Town Planner in this job. We only have one GIS license so I don't think the Emergency Management Director has been trained on it nor does he have access to it.](#)

**C) Other comments:**

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Name: [Glenda Prentiss](#)

Employer: [Council of Governments of the Central Naugatuck Valley](#)

Department/Unit:

Position: [GIS Coordinator](#)

Phone: [203-757-0535](#)

Email: [gprentiss@cogcnv.org](mailto:gprentiss@cogcnv.org)

Primary Role in Storm Event: [none](#)

List which Storm Primarily Impacted [Irene and Alfred](#)  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

[There is no EOC in our region. Individual towns may subscribe to CODE RED and use the website](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

2. Barriers:
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**A state level GIS Emergency Response team (volunteers and/or paid) could be called into action when an event occurs. The important data layers and web sites need to be in place BEFORE an event.**

**C) Other comments:**

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Name: Eric Apgar

Employer: NECCOG

Department/Unit: GIS

Position: GIS Director

Phone: 860-774-1253

Email: [Eric.Apgar@neccog.org](mailto:Eric.Apgar@neccog.org)

Primary Role in Storm Event: NA

List which Storm Primarily Impacted Your Area (list both if applicable): Both impacted parts of our region.

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? No.**

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: None.
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: None.
2. Barriers:
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: [One map was prepared for a FEMA tour of Sterling after the tropical storm.](#)
2. Barriers:
3. Other Comments:

### **PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

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Name: Fred North

Employer: Dept. of Children and Families

Department/Unit: Office for Research and Evaluation

Position: Social Work Supervisor

Phone: (860) 723-7219

Email: Fred.north@ct.gov

Primary Role in Storm Event: Prepared point-in-time (as of 8/26/11) map series and shapefiles of providers that provide placement services to DCF children showing which are in SLOSH zones by category

List which Storm Primarily Impacted Your Area (list both if applicable): Both - though did not provide update for second storm

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

No, I offered our services to them as part of our effort to educate and engage various managers throughout the agency in our slowly developing GIS capacity.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

On the afternoon of Friday, August 26, 2011, I provided a set of resources to our Disaster Planning coordinator, Office of Foster and Adoptive Services and Regional Directors that they could print out or display on any computer (in Adobe pdf format), as well as shapefiles that could be consumed in a system with GIS capability (such as at the state EOC) if needed.

These resources included the following:

- o Flash Drive was given to the Disaster Coordinator containing:
  - i. Adobe PDF file containing a series of 19 maps showing zoomed-in areas of the CT shoreline, with the locations of all placement providers (both family and congregate care settings) symbolized, including a specific layer of those placements located within hurricane surge zones.

- ii. Excel workbook with the list of all placement providers, including a pivot table summarizing the numbers of placements located within surge zones (organized by DCF administrative areas and by storm category)
- iii. ArcGIS 9.3 Map file from which the PDFs were created, as well as all underlying shapefiles, for use at the statewide EOC if needed/desired. The locations of foster homes are considered confidential information, so was not to be used unless there was a significant need to risk exposing such data to unintended release.
- o Emailed the PDF and Excel files to all managers mentioned above for their reference if/when they had access to the email network.

2. Barriers:

Our Disaster Planning coordinator was new to the position (having assumed those duties on Friday, August 26, 2011), and this was the first time I attempted to provide such information before an expected event, so there was uncertainty what data would be most useful during/after such an event.

3. Other Comments:

I was informed after the fact that the GIS Lab at the state EOC could have utilized the files provided had they been made available to them, and had there been a need.

**B) DURING THE STORM**

1. GIS actions or activities:

None.

2. Barriers:

I was not asked to provide any further data or updated maps after the storm. Also, our disaster coordinator did not have the best equipment (ie generator and/or uninterruptible power supply for computer/phones) at her home to maintain complete situational awareness, and was unable to leave her neighborhood for an extended period due to downed power lines across the roads. This also meant she was unable to get to the statewide EOC or to our own Central Office either, so could not make use of them there until two days after the storm.

3. Other Comments:

NA

**C) POST-STORM**

1. GIS actions or activities:

Our disaster coordinator formed an emergency planning committee that included managers from a wide variety of functional areas within the agency. Activities have included reviewing the processes in place both before, during and after disaster events. This has included identifying what GIS information would be useful and in what format, as well as improving

communication protocols between providers and the agency, and between agency representatives and the statewide EOC.

2. Barriers:

NA

3. Other Comments:

NA

### PART III

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

- Utilize the most current data layers available.
- Distribute necessary information before the event occurs.
- Present necessary information in multiple formats that best meet each need.
- Distribute necessary information using multiple methods so it is available from multiple sources should some not be available during/after an event.

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

Ideally there would be two (one public-facing, one secured with confidential critical data layers included) statewide GIS web applications that allow the public to view changing flood areas, infrastructure damage (esp. road obstructions/delays and power outages), and status/estimates for repairs in as close to real-time as possible. Agencies representatives should have access to the secured site, which could include custom views that show only the layers most relevant to their own business but have others available as needed. Also, any such applications should include whatever information can be obtained from neighboring states as well, should impacted areas include border zones and it is necessary for citizens to cross borders to obtain the nearest available shelter or other assistance.

**C) Other comments:**

NA

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Name: Erik Madsen

Employer: State of CT

Department/Unit: Department of Developmental Services (DDS)

Position: GIS Manager

Phone: 860-418-6012

Email: [Erik.madsen@CT.gov](mailto:Erik.madsen@CT.gov)

Primary Role in Storm Event: Provide maps and spatial data to DDS EOC, technical assistant to DDS State EOC designee, on call for State EOC GIS Lab

List which Storm Primarily Impacted Your Area (list both if applicable): 14 facilities evacuated for Irene. 120 facilities evacuated for Alfred.

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
GIS resources were not utilized by the DDS EOC for either storm.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

Have and maintain a ESRI file geodatabase of the geocoded locations of all DDS facilities.  
Prepared a map for Irene of DDS facilities subject to storm surge and inland flooding.

2. Barriers:

GIS Manager was not aware of any available GIS shapefiles or live GIS feeds for CT road closures or utility outages.

3. Other Comments:

DDS EOC was not in full activation for either storm.

**B) DURING THE STORM**

1. GIS actions or activities:  
Distributed GIS map during Irene to EOC email boxes.
2. Barriers:  
Unaware of recipients receipt and use of the map and its data.
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:  
Continue to maintain GIS DDS facilities database.
2. Barriers:  
No feedback from EOC managers on the utility of the GIS resources and Maps.
3. Other Comments:

**PART III**

- A) List your “Best Practices” that helped in the storm response and/or recovery efforts:  
Established facility emergency evacuation relocation plans. Established Emergency Individual Fact Sheets and individual ID badges. Established manager on call schedule in each DDS region.
- B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:  
State EOC GEMS GIS database should be maintained and available for municipalities and state agencies to use in disaster planning and actual events. DDS GIS Manager should contribute DDS GIS data to the GEMS database. State agencies and utilities should make their GIS data available to other state agencies and municipalities for planning and disasters.
- C) Other comments:

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Name: [Pete Sandgren/Dan Czaja](#)

Employer: [State of Connecticut](#)

Department/Unit: [Department of Emergency Services and Public Protection](#)

Position: [GIS Coordinator](#)

Phone: [Pete: 960.256.0875, Dan: 860.685.8131](#)

Email: [Peter.Sandgren@ct.gov](mailto:Peter.Sandgren@ct.gov), [Daniel.czaja@ct.gov](mailto:Daniel.czaja@ct.gov)

Primary Role in Storm Event: [State EOC Geolab](#)

List which Storm Primarily Impacted Your Area (list both if applicable): [Both Irene and Alfred](#)

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

[Yes. The State of Connecticut EOC activated the Geolab for 12 hour days, with a few 24 hour shifts during the first week, to provide mapping support during both Irene and Alfred.](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: [Contacted staff from other agencies to develop a staffing roster. Preparing paper planning maps for use by agencies within the State EOC. Maps included storm inundation maps.](#)
2. Barriers: [DESPP now has 3 GIS people but all others available on volunteer basis. Still this enabled us to have a full roster for most of the days.](#)
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: [Preparing paper activity maps for use by agencies within the State EOC. Maps included power outages by town, commodity distribution, towns with shelters and warming centers, MRA, CERT, EOC activated. Most maps were continually revised for new high-level meetings. \(See map list sent previously for Halloween storm\)](#)

2. Barriers: Having to manually update outage information and shelter datasets for maps because GIS and tabular data is not integrated.
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: Paper maps printed for debris teams going out into the field. Prepared maps showing what organization (state, contractor, by what agreement, etc.) was doing debris work in what towns.
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

At least 3 analysts per shift, dividing the workload. We had 2 plotters and were able to acquire a laser printer to print multiple copies of letter-size maps for EOC briefings.

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

Flex viewer to show things like towns with shelters open might make it easier to keep the general EOC staff up to date.

**C) Other comments:**

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## GIS Staff Questionnaire

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Name: Al Sylvestre

Employer: CT State Dept of Labor

Department/Unit: Research

Position: Geographer

Phone: 860-263-6279

Email: [Alan.Sylvestre@ct.gov](mailto:Alan.Sylvestre@ct.gov)

Primary Role in Storm Event: NA

List which Storm Primarily Impacted Your Area (list both if applicable): 29 & 30 October 2011 snow storm

### PART I

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

CTDOL does not have an EOC

### PART II

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

#### **A) PRE-STORM**

1. GIS actions or activities: Not Applicable (NA)
2. Barriers: NA
3. Other Comments: NA

#### **B) DURING THE STORM**

1. GIS actions or activities: NA

2. Barriers: NA

3. Other Comments: NA

**C) POST-STORM**

1. GIS actions or activities: NA

2. Barriers: Agency central office building was closed for two days because it had no power.

3. Other Comments: NA

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
NA

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:** NA

**C) Other comments:** NA



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: James R. Spencer

Employer: Connecticut Department of Transportation

Department/Unit: Bureau of Policy and Planning

Position: Supervising Transportation Planner

Phone: 860-594-2014

Email: James.Spencer@ct.gov

Primary Role in Storm Event: Ad-hoc assistance should need arise

List which Storm Primarily Impacted Your Area (list both if applicable): Storm Alfred and Storm Irene

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Our EOC made no contact to us during or after either storm. Our Maintenance Leads responsible for the recovery efforts and associated vendors for both storms reached out to Planning for a listing and maps of the roads eligible for Federal Reimbursement on the State and Federal Systems.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: N/A
2. Barriers: N/A
3. Other Comments: N/A

**B) DURING THE STORM**

1. GIS actions or activities: N/A
2. Barriers: N/A
3. Other Comments: N/A

**C) POST-STORM**

1. GIS actions or activities: Our Inventory Section compiled a database listing of those roads that were on the Federal or State Systems that would be eligible for Federal Aid Reimbursement. These were then compiled by our GIS Section into mapping by Maintenance District and by Town.
2. Barriers: N/A
3. Other Comments: N/A

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts: N/A**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster: N/A**

**C) Other comments: N/A**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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**GIS Staff Questionnaire**

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Name: Beth Stewart-Kelly

Employer: State Military

Department/Unit: FMO, Planning & Programming

Position: GIS, EA1

Phone: 8605244844

Email: Beth.kelly2@us.army.mil

Primary Role in Storm Event: Support EOC and JOC with GIS

List which Storm Primarily Impacted Your Area (list both if applicable): Irene and Alfred

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

yes

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments: No activation until storm/post storm

**B) DURING THE STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

### C) POST-STORM

1. GIS actions or activities:
  - a. Tracked power outages and critical missions for national guards, road clearing missions, Red Cross Shelters supported, and Commodity Distribution centers were opened and run by the Guards.
2. Barriers:
  - a. Working out of the State EOC, has only 3 work stations. More GIS workstations are needed.
3. Other Comments:
  - a. ArcMap kept crashing and could not export to PDF (o any other file extension) for map printing on Geolab #1.
  - b. I worked out of the EOC for 10 days after the snowstorm but was never invited to attend any outbrief meetings.

### PART III

#### A) List your “Best Practices” that helped in the storm response and/or recovery efforts:

- a. National Guard worked together with the State EOC which prevented repetitious map making.

#### B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:

- a. Need utility companies to release data layers so the state can organize relief efforts more efficiently.

#### C) Other comments:

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Name: Christopher Roy

Employer: State of Connecticut

Department/Unit: Department of Public Health – Drinking Water Section

Position: Supervisor

Phone: 860-509-7333

Email: [christopher.roy@ct.gov](mailto:christopher.roy@ct.gov)

Primary Role in Storm Event: Information Logistics

List which Storm Primarily Impacted both

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes. Please see explanations below.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: During Irene, the Drinking Water Section used Hurricane Surge Inundation mapping available on CT Eco and DEEP's GIS Data download website. We overlaid our public drinking water well layer to determine which public drinking water sources were most likely to be impacted by flooding caused by the storm.
2. Barriers:
3. Other Comments: The information we were looking for was publicly available on two different websites which was convenient.

**B) DURING THE STORM**

1. GIS actions or activities: During Alfred, The Drinking Water section used the power outage mapping available on the CL&P website to relate these areas to the locations of public drinking water systems. Communication with many systems was difficult so it was helpful to see if the lack of power in specific areas contributed to our communication difficulties.  
Irene: None

2. Barriers:
4. Other Comments: [As it turned out, flooding was not the primary concern during Irene, power outages were.](#)

**C) POST-STORM**

1. GIS actions or activities: [GIS was used to help conduct for post-storm public drinking water system](#)
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments: [A fully documented central repository for state-wide GIS data and related map services, available to all agencies, would be beneficial.](#)**

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Name: [Christina Walsh](#)

Employer: [State of Connecticut](#)

Department/Unit: [Connecticut Siting Council](#)

Position: [Supervising Siting Analyst](#)

Phone: [860-827-2944](#)

Email: [Christina.walsh@ct.gov](mailto:Christina.walsh@ct.gov)

Primary Role in Storm Event: [n/a](#)

List which Storm Primarily Impacted  
Your Area (list both if applicable): [n/a](#)

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
[n/a](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:
2. Barriers:

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:

2. Barriers:

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**GIS could be used to identify which wireless telecommunications sites are out-of-service at a given time to help service to these sites be restored more quickly. Cellular telecommunications sites are important to maintaining emergency communications for first responders and the general public.**

**C) Other comments:**

**The Connecticut Siting Council did not participate in storm response for either storm but is interested in collecting information regarding wireless telecommunication sites and electric transmission lines that failed during or after each storm and the reason for that failure. We hope to use that information in the future to be able to map potential problem areas.**

**Collection of the storm data may also help the Connecticut Siting Council in siting of these facilities in such a way as to avoid the occurrence of faults in the system in the future.**



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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**GIS Staff Questionnaire**

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Name: [Emily Wilson](#)

Employer: [UConn](#)

Department/Unit: [Center for Landuse Education and Research, Dept. of Extension](#)

Position: [Geospatial Educator](#)

Phone: [860 345-5226](#)

Email: [Emily.wilson@uconn.edu](mailto:Emily.wilson@uconn.edu)

Primary Role in Storm Event:

List which Storm Primarily Impacted Your Area (list both if applicable): [Tropical Storm Irene, October Snowstorm](#)

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

[I did not work in a GIS or EOC capacity during the storms](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**

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Connecticut GIS Council  
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Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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Name: Bruce Milardo

Employer: Connecticut Light & Power Company

Department/Unit: Engineering

Position: GIS Manager

Phone: 860-665-5997

Email: [milarbl@nu.com](mailto:milarbl@nu.com)

Primary Role in Storm Event: GIS Manager – Patrol Information

List which Storm Primarily Impacted Your Area (list both if applicable): All Storms impact CL&P

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

**Yes, CL&P utilizes GIS to map its facilities and serves as the basis for the electric model for operating the electric system. Maps derived from GIS are used to patrol and assess damage from storm events.**

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

**Maps for AWC, satellite and patrol, update electric system configuration,**

2. Barriers:

**Identification of critical customers for each town and the State of Connecticut, paper based systems in the field**

3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities:

**Patrol and damage assessment functions, outage and trouble spot mapping, outage management feeds several communication tools (e.g. CL&P web site)**

2. Barriers:

**Improved automation of data gathering and analysis**

3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities:

**Mapping of storm damage changes, post storm audits to reflect electrical configuration in GIS**

2. Barriers:

**Matching of electronic data to manual paper process to make repairs and report corrective measures taken**

3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**Electric system configuration is valid pre-storm, our Outage Management System reflects current conditions during the event, and post storm audit and corrective activities are tracked to completion using GIS.**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**see attached presentation from Governor’s Two Storm panel, Utility participation with State of Connecticut and Towns to develop protocols for sharing information**

**C) Other comments:**

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Name: Keith Anderson

Employer: Connecticut Natural Gas

Department/Unit: Engineering

Position: GIS/Cad Manager

Phone: 860 727-3030

Email: [kanderson@ctgcorp.com](mailto:kanderson@ctgcorp.com)

Primary Role in Storm Event: Facility management

List which Storm Primarily Impacted Your Area (list both if applicable): For CNG Irene was of more concern

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**  
Yes, in pre storm planning.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:  
We used our GIS database to distinguish which facilities were located in areas prone to flooding and/or on structures (i.e. bridges) that could become damaged or dislodged during the storm.

**B) DURING THE STORM**

1. GIS actions or activities:  
Monitored areas of concern that we developed in our database and then by using Scata data (monitors gas pressure in the mains) we were able to see if there was a main leak.

**C) POST-STORM**

1. GIS actions or activities: none

### PART III

**List your “Best Practices” that helped in the storm response and/or recovery efforts:**

By knowing what facilities are located in flood plains we are quickly able to figure out what areas need to be monitored for flooding and pressure loss.

**Other comments:**

While I can't specifically speak for other utilities in the state, as GIS Director at Connecticut Natural Gas, I feel we have a couple of road blocks to sharing our digital data with municipalities. The first is at what level of detail the data would be useful to the towns without showing critical faculties and also protecting the privacy of our customers. The next is will this shared data, once in the hands of the municipalities fall under FOIA, possibly allowing easier access to information about critical infrastructure. Natural gas is different then most utilities as it is explosive and could create a big issue if information about critical infrastructure fell into the wrong hands. We used to share all our data with municipalities located in our franchise area, with the statement for official use and viewing only. We stopped after we spotted our gas network mapping on display on a few towns internet gis mapping. Our company policy now is if you need to know the locations of the gas mains in a specific area we will print out a D-sized 40 scale map or maps of the requested area and it can be picked up at our offices, free of charge.

Please return by email, mail, or fax to:

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Storm Response and Recovery Assessment Group  
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Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
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CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
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Name: Vincent F Susco, Jr

Employer: East Hampton Colchester Joint Facilities

Department/Unit:

Position: Public Utilities Administrator

Phone: 860-267-2536

Email: [vsusco@sbcglobal.net](mailto:vsusco@sbcglobal.net)

Primary Role in Storm Event: preventing property damage and injury and protecting public health and safety. To that end the position is authorized to perform the necessary work and purchase the necessary resources to maintain the integrity of the wastewater systems

List which Storm Primarily Impacted Your Area (list both if applicable): Irene & Alfred

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

NO

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: NONE
2. Barriers:
3. Other Comments:

**B) DURING THE STORM**

- 1. GIS actions or activities: NONE
- 2. Barriers:
- 3. Other Comments:

**C) POST-STORM**

- 1. GIS actions or activities: NONE
- 2. Barriers:
- 3. Other Comments:

**PART III**

- A) List your "Best Practices" that helped in the storm response and/or recovery efforts:  
Following an Emergency Plan Document**
  
- B) List any Recommendations on how GIS can/should be used during a local, regional, or  
statewide disaster:**
  
- C) Other comments:**

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Name: **Jim Gagnon**

Employer: **South Central Connecticut Regional Water Authority**

Department/Unit:

Position: **GIS Program Manager**

Phone: **203-401-2657**

Email: **[jgagnon@rwater.com](mailto:jgagnon@rwater.com)**

Primary Role in Storm Event:

List which Storm Primarily Impacted  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

We were not impacted by either storm such that we were operating under a state of emergency. I do believe our organization did have an EOC of sorts gathered during the weekend the hurricane/tropical storm roared over CT, basically just to more closely monitor the situation. Our distribution area stretches from Milford to Branford north to Cheshire. While we certainly got hit, the hardest hit areas during both storms were north and east of our area. The shoreline was spared during the snowstorm and most, if not all our area, is serviced by UI and not CL&P. Power was up and running quickly for most of our area. As you can imagine our entire distribution system is designed to keep running and delivering water even during power outages and happens seamlessly. So there was no problem there.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: **Business as usual**
2. Barriers: **None**
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: [Business as usual](#)
2. Barriers: [None](#)
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: [Business as usual](#)
2. Barriers: [None](#)
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:** It’s difficult to tell you how/if GIS was employed during this time. I can tell you that no special GIS services were requested during either storm. But we have an enterprise system at RWA. GIS is available throughout our headquarters here along Long Wharf and on 48 field laptops. GIS is used by people across the organization on a daily basis as part of their duties, in-house and in the field. Everything they need is at their fingertips. I asked our Senior Mgr of Distribution and Construction and he said they did not use GIS in any special way during either of the storms, no different than they would use it on any other day. There were no barriers such that GIS services were requested in order to better analyze a particular situation that may have arisen. It was pretty much business as usual at the water company.



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Name: Nicholas McNamara

Employer: South Norwalk Electric & Water

Department/Unit: Technical Services

Position: GIS Coordinator

Phone: 203-866-4446 ext 2035

Email: [nmcnamara@snew.org](mailto:nmcnamara@snew.org)

Primary Role in Storm Event: Sourcing all system data and maps for preplanning, response and recovery efforts

List which Storm Primarily Impacted Irene, Oct. snow storm.  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Maps and data were provided to field crews and management before the events. Additional resources were not needed during or after the event.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Most current maps and data requests provided for planning to engineering and management for identification of potential areas of trouble.
2. Barriers: none. SNEW is working on streamlining the data sharing process, to give more employees access to GIS and up-to-date data without having to manually produce maps and prepare data on the fly in the future for more rapid preparation, although SNEW has not had problems in the past in this area.
3. Other Comments:

**B) DURING THE STORM**

1. GIS actions or activities: none required. GIS Coordinator remained on-call but was not needed for either event.

2. Barriers: none, although field computers with system information will be implemented in the future to facilitate up-to-date information. Lack of information from CL&P about the status of the transmission lines feeding our system likely was troubling.
3. Other Comments: Less than 1% internal distribution outage for both events. 100% outage for approximately 1 day during Irene because CL&P cut our transmission feeds. Once that was restored, we were at 99%+ up.

### **C) POST-STORM**

1. GIS actions or activities: Updating asset and location data as necessary to reflect repair work performed as a result of the storm events.
2. Barriers: none.
3. Other Comments: SNEW is currently planning to build a new transmission distribution substation, to reduce reliance on CL&P for transmission needs and future system outages should be reduced in frequency and length if the project reaches approval and completes construction.

## **PART III**

- A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
**This is currently in development as we have a <1 yr old GIS system, still under construction.**
- B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**
- C) Other comments: We have a GIS system currently in development, being less than 1 year old. Our distribution system is very robust and even major events typically cause very few outages. Our line crews are often dispatched to assist CL&P and other state utilities that have less robust systems.**



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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**Instructions:** Please fill out and answer the questions the best you can. Please be brief and to the point. Use details to describe your answers and use bullet points as necessary. Should your answer pertain to one particular storm event (e.g. Irene or Alfred) please indicate the storm in parenthesis in your response. Return all responses to Jeff Bolton at [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov).

Name: Stacey Schwartz

Employer: City of Boston, MA

Department/Unit: Office of Emergency Management, UASI MBHSR

Position: GIS Analyst

Phone: 617-343-4163

Email: [Stacey.schwartz@cityofboston.gov](mailto:Stacey.schwartz@cityofboston.gov)

Primary Role in Storm Event: Planning Section GIS Support

List which Storm Primarily Impacted Irene

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes, we used Hurrevac, followed the news and NOAA's satellite imagery/radar in order to monitor the storm's approach. The approach of heavy rains were tracked using the [http://www.hpc.ncep.noaa.gov/kml/qpf/QPF24hr\\_Day1\\_latest\\_netlink.kml](http://www.hpc.ncep.noaa.gov/kml/qpf/QPF24hr_Day1_latest_netlink.kml) flooding kml

The Mayor's 24 HR Hotline GIS data hub tracked and displayed citizen request calls by category type e.g. downed tree, power lines, traffic light outages. etc.... This was plugged in to arc map as a dataservice.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

- a. Tracking storm, USACE SLOSH hurricane inundation model to identify facilities vulnerable to Cat 1- Cat 2 storm surge were we to be impacted by surge from Irene in the case surge were to occur and vulnerable populations would need to be evacuated from these areas.

2. Barriers:

- a. Some elements of the storm were difficult to prepare for using GIS- High winds were especially hard to narrow in on as far as knowing which areas would be impacted more heavily.

## **B) DURING THE STORM**

1. GIS actions or activities: Situational Awareness Reports, tracking citizen request, parks and recreation response to downed trees, public works response to downed trees. Tracking police, fire and ems response to downed trees and downed wires, obstructed traffic in major arteries, NSTAR reports for power outages....
2. Barriers: Lag time- if not allowed back end sql access to the CRM feed, GIS is relying on others to provide report updates every so often which is fine as long as they can provide them with coordinates and addresses and incident description. In some cases, reports were just coming in as addresses. Different incident location reporting standards are in use by different agencies across the city which makes it difficult to work with the reports coming in from different sources. Some have been consolidated into one but there are still more than one in use.
3. Other Comments: Access to the live feeds of this information is the most efficient way to report on what is happening right then and there rather than on a situational update report received based on what was going on an hour ago.

## **C) POST-STORM**

1. GIS actions or activities: Evaluating the number of incidents reported in all, how many were public property, private property involving structural or vehicular damage. GIS was used to help categorize these incident types further down to be used in recovery efforts and for the preliminary damage assessment.

## **PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
**Best practices are currently being developed based on the flow of processes during this event and in what areas work can be done to make the process more efficient. For example, seeing if the several reporting systems can be standardized in a way where they can be quickly mapped rather than having to map each with a separate process due to different reporting conventions.**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**C) Other comments:**



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**GIS Staff Questionnaire**

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Name: [Erica Heidelberg](#)

Employer: [MA Emergency Management Agency](#)

Department/Unit: [Planning](#)

Position: [All Hazards Planner](#)

Phone: [508-820-2033](#)

Email: [Erica.Heidelberg@state.ma.us](mailto:Erica.Heidelberg@state.ma.us)

Primary Role in Storm Event: [GIS Unit/ Situation Unit](#)

List which Storm Primarily Impacted [Tropical Storm Irene](#)  
Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

[Yes. One staff person was assigned as GIS Unit 24/7 for first 72 hours, after which only day-shift was scheduled for the rest of the activation.](#)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:

[Time was spent setting up map templates for use during the event. Utilizing ArcMap and Google Earth with HSIP Gold data, set up an Infrastructure Map template, Power Status Map template, and Sheltering Map template. Also created GoogleEarth versions of SLOSH maps for MEMA's Hurricane information page.](#)

2. Barriers:

[MEMA doesn't employ any full-time GIS-dedicated staff, so must be pulled from other pre-landfall planning efforts to focus on mapping preparation.](#)

[Experienced inaccuracy issues with ArcMap shp to kml conversion. Conversion wasn't clean, resulting in lost data during from SLOSH kml files.](#)

3. Other Comments:

## **B) DURING THE STORM**

1. GIS actions or activities:  
Some regular map products were produced using ArcMap and GoogleEarth. Most time was spent on special requests from EOC management (maps of dams of concern, maps of road closures in affected areas, maps of impacted areas/ hydrology, etc). Most maps were published to PDF format and posted to WebEOC file library. Some printed maps were posted in the EOC.
2. Barriers:  
Time consuming data entry and formatting (utility outage information, roadway status).  
Would benefit from a more automated data collection process.  
  
Had difficulty downloading satellite imagery (bandwidth issue?).  
  
Had slow response time from ESRI basemaps in ArcMap (bandwidth issue?).  
  
MEMA GIS personnel were pulled off GIS Unit for other agency assignments, compounding the GIS staff shortage.
3. Other Comments:  
With very few staff to fill the GIS Unit position, staff burn out from multiple long shifts very quickly. MEMA called upon MA State Fusion Center to assist with staffing some shifts.

## **C) POST-STORM**

1. GIS actions or activities:
2. Barriers:
3. Other Comments:  
GIS Staff were assigned to other post-event duties and were removed from the mapping function.

## **PART III**

- A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**  
Need formal agreements with other state agencies for operational GIS assistance.  
Need approval of MEMA GIS data release policy.
- B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**  
Streamline data collection process to facilitate and expedite the ability to publish maps (e.g. utility data provided in multiple formats from different companies – needed one person to synthesize and format the data in order to use it for mapping, which is labor/time intensive).
- C) Other comments:**



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**GIS Staff Questionnaire**

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Name: William A. Cooney

Employer: Commonwealth of Massachusetts, Military Division

Department/Unit: Joint Forces Headquarters, Construction and Facility Maintenance Office

Position: Facilities GIS Manager

Phone: (508) 233-7256

Email: [Bill.cooney@us.army.mil](mailto:Bill.cooney@us.army.mil)

Primary Role in Storm Event: Provide GIS support for planning

List which Storm Primarily Impacted Your Area (list both if applicable): Hurricane Irene had a larger impact on the area

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources?** Explain. Yes, the Joint Operations Center (JOC) within the JFHQ requested maps from GIS data including storm tracks, potential rainfall and wind speed projects along with the MAARNG armories and units in particular areas.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Planning, creating forecast maps from NOAA data, layered with MAARNG armories and unit stationing data along with other state specific data, roads, railways, public transit routes in order to have a knowledge base of which units are where for during and post storm clean up. In addition which armories might be in heavily impacted areas and thus require repositioning of assets so that equipment is not trapped in an armory that has been cut off by flooding or other road blockages. Maps were created as .pdf files for handouts to units, as well as for use in briefings as PowerPoint slides.
2. Barriers: Staffing shortage, as I am the only GIS specialist working in the JFHQ.
3. Other Comments: Software ArcInfo Workstation 9.3.1  
Dell Precision PWS 490  
Intel Xeon Processor (Dual)  
5160 @ 3.00 GHz

3.00GB of RAM  
250GB Hard drive  
OS – Windows XP Professional

Graphics Card NVIDIA Quadro FX 4500:  
G70GL –Core  
470 – Core Clock  
525 – Memory Clock  
512 – Memory Size  
256-bit GDDR3 – Memory Type  
Memory Bandwidth – 33.6

HP Designjet 130nr Plotter

## **B) DURING THE STORM**

1. GIS actions or activities: During the storm GIS data was being fed to the JFHQ from the Massachusetts Emergency Management Agency (MEMA) with little or no input from the in house GIS
2. Barriers: Lack of communication with MEMA
3. Other Comments: The need for a higher speed plotter is essential, the current plotter in use was purchased with more construction/facilities minded projects where speed especially when dealing with orthophotos is less of a concern.

## **C) POST-STORM**

1. GIS actions or activities: Maps showing which units were deployed around the state.
2. Barriers: The need for a higher speed plotter is essential, the current plotter in use was purchased with more construction/facilities minded projects where speed especially when dealing with orthophotos is less of a concern.
3. Other Comments:

## **PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:** Having base maps (templates) with the common used layers (roads, armory locations, hospitals, etc.) already created then only having to create/edit new/existing data specific to the particular operation saves a lot of time.

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:** On a regional level good communications and ways for the various state sin the region to share data would be very useful (a server), as sometimes sharing data via email is problematic as the MAARNG email system does strip off certain attachments crucial to GIS, .shp, etc

**C) Other comments:**



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Name: LtCol Mike Domingue

Employer: New Hampshire National Guard

Department/Unit: J5 – Strategic Plans

Position: Director

Phone: 603-227-1417

Email: [Mike.domingue@us.army.mil](mailto:Mike.domingue@us.army.mil)

Primary Role in Storm Event: Joint Operations Center Battle Captain

List which Storm Primarily Impacted Irene

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

State of NH – Weather, Power Outage and Road Closures

NHNG JOC – Weather (Dynamic); Power Outages and Road Closures (Static)

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities:
  - a. Monitored storm related information
2. Barriers:
  - a. None
3. Other Comments:
  - a. None

**B) DURING THE STORM**

1. GIS actions or activities:
  - a. Monitored storm related information
  - b. Viewed linked photos of destruction
  - c. Viewed power outages
  - d. Viewed road closures

2. Barriers:
  - a. None
  - b. We did not have shared information from FEMA that would have been useful for situation awareness
  - c. This was static information as sent to us from our SEOC
  - d. This was static information as sent to us from our SEOC
3. Other Comments:
  - a. None
  - b. We need to find a way to post photos for ingestion by SEOC and NG Operations centers
  - c. We are working on this issue with our SEOC – we will be able to resolve.
  - d. We are working on this issue with our SEOC – we will be able to resolve.

### C) POST-STORM

1. GIS actions or activities:
  - a. Monitored storm related information
  - b. Viewed linked photos of destruction
  - c. Viewed power outages
  - d. Viewed road closures
2. Barriers:
  - a. None
  - b. We did not have shared information from FEMA that would have been useful for situation awareness
  - c. This was static information as sent to us from our SEOC
  - d. This was static information as sent to us from our SEOC
3. Other Comments:
  - a. None
  - b. We need to find a way to post photos for ingestion by SEOC and NG Operations centers
  - c. We are working on this issue with our SEOC – we will be able to resolve.
  - d. We are working on this issue with our SEOC – we will be able to resolve.

### PART III

- A) List your “Best Practices” that helped in the storm response and/or recovery efforts: **None**
- B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster: **We need to find a way to identify critical information and determine how it is going to be shared to level that need it. The Central US Earthquake Consortium (CUSEC) has found a way to do this; suggest that we utilize the Northeast States Emergency Consortium (NESEC) to explore how they might be able to enable similar services for the NESEC Region (FEMA Region I and NY and NJ).**
- C) Other comments: **None**



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**GIS Staff Questionnaire**

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Name: Josh O'Neill

Employer: City of Providence

Department/Unit: Emergency Management

Position: Recovery Coordinator

Phone: 401-680-8095

Email: [joneill@providenceri.com](mailto:joneill@providenceri.com)

Primary Role in Storm Event: ESF 5, Incident Coordination, Logistics

List which Storm Primarily Impacted Your Area (list both if applicable): Hurricane / Tropical Storm Irene

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes, we were fortunate enough to have a Geography Lecturer from Rhode Island College (RIC) volunteer for us in our EOC and be our GIS person during the Sunday shift when the storm hit. We do not have a GIS analyst on staff; I have some GIS experience, but cannot do GIS full time do to other responsibilities. During normal business hours we rely on GIS analysts in the City Planning Department.

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Mostly trying to figure out staffing for our GIS desk in the EOC
2. Barriers: Lack of GIS staff for emergency management. Reductions in staff citywide have essentially cut our city GIS personnel down to 2. We are a city of 175,000 people and we can't afford a larger GIS staff.....
3. Other Comments: Staffing the EOC is always difficult

**B) DURING THE STORM**

1. GIS actions or activities: Our GIS volunteer from RIC took addresses for trees and utility poles down (service calls) and created a map of point data for all calls of service

2. Barriers: We created static maps that needed to be updated constantly. We are now looking at a way to track service calls by plotting point data using an interactive, real time mapping application via ESRI online.
3. Other Comments:

**C) POST-STORM**

1. GIS actions or activities: Continuation of Map updates for Tree Debris tracking and Debris Removal Operations.
2. Barriers: Lack of full time GIS personnel in office
3. Other Comments:

**PART III**

**A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

**Interactive, real time mapping of service calls for trees, utility poles, power outages, etc....**

**C) Other comments:**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.



CONNECTICUT GEOSPATIAL INFORMATION SYSTEMS  
*Storm Response and Recovery Assessment Group*

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**GIS Staff Questionnaire**

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Name: [Shane White](#)

Employer: [State of Rhode Island](#)

Department/Unit: [Administration/Planning](#)

Position: [RIGIS Coordinator](#)

Phone: [401-222-6483](#)

Email: [shane.white@doa.ri.gov](mailto:shane.white@doa.ri.gov)

Primary Role in Storm Event: [GIS support for RIEMA \(Irene\)](#)

List which Storm Primarily Impacted [Irene](#)

Your Area (list both if applicable):

**PART I**

**A) Did your Emergency Operations Center (EOC) engage GIS resources? Explain.**

Yes. Internal RIEMA GIS resources were engaged, but were not dedicated to GIS. I was called in to support GIS efforts of RIEMA at the State EOC under ESF #5. Further resources were engaged from the University of Rhode Island – Environmental Data Center (URI-EDC).

**PART II**

*Describe how GIS was used for each applicable phase of the storm(s). Include details on maps and technologies used (printed maps, software, applications, etc.), in addition to barriers to success. Barriers can pertain to data, staffing issues, communication, software, technological limitation, etc. Please attach any map products as applicable.*

**A) PRE-STORM**

1. GIS actions or activities: Coordinated personal schedules of GIS call-list. Determined that Greg Bonyng & Mike Bradley (URI-EDC) and I would work on shifts during the storm (Irene). Greg set up a small local network in the RIEMA EOC with a data server (orthophotography, and complete RIGIS database), two laptops and a desktop PC in case the Internet went down during the storm. URI-EDC created map templates to be used during the storm. (Irene). I reported to the RIEMA EOC for 1 day.
2. Barriers: The loaner equipment from URI-EDC wouldn't have been necessary if the RIEMA EOC GIS project was complete. At that point in time, hardware and software had been purchased, but not yet installed, and tested.

3. Other Comments:

## **B) DURING THE STORM**

1. GIS actions or activities: I reported to the RIEMA EOC for two days. Created (7) evacuation maps for pre-defined coastal municipal inundation zones based upon many live evacuation status updates. As people were utilizing shelters, created (1) shelter occupancy map showing utilization as of two points in time. A flood inundation map was requested. National Grid (statewide electricity provider) requested a map service or other mapping updates showing road closures due to trees down or flooding (I referred them to our RIDOT GIS contact who was coordinating that effort). Sat next to the FEMA GIS representative and provided her with the many online resources made available by various Federal agencies and Esri.
2. Barriers: Flood inundation information was not available. Could not obtain map services or raw GIS data from electric utility vendor (National Grid) to overlay on top of our other situational maps. FEMA GIS rep was not “in the loop” with all of the GIS emails and other communications during the storm.
3. Other Comments: No other maps or analyses were requested. There is a huge lack of knowledge by decision makers of the capabilities of GIS to support decision making. We have an enormous wealth of data and expertise in how to analyze it, that is for the most part untapped.

## **C) POST-STORM**

1. GIS actions or activities: Nothing on my part.
2. Barriers: n/a
3. Other Comments: It is my understanding that the cleanup effort was left to various State and local government agencies to deal with on their own. Again, the State’s GIS resources were mostly untapped.

## **PART III**

### **A) List your “Best Practices” that helped in the storm response and/or recovery efforts:**

- Pre-created map templates
- Use of map request forms during the event
- Single point of request during the incident
- Fully-functional GIS network in case of loss of Internet
- Pre-established GIS “call list” to staff the event

**B) List any Recommendations on how GIS can/should be used during a local, regional, or statewide disaster:**

- Senior GIS staff need to be present in as many planning and decision making meetings as feasible to listen to requests and then volunteer information, mapping and/or analysis to help solve problems or make better decisions

**C) Other comments:**

Please return by email, mail, or fax to:

Jeff Bolton, Chair  
Storm Response and Recovery Assessment Group  
Connecticut GIS Council  
165 Capital Avenue Room 275  
Hartford, Connecticut 06106  
Email: [jeffrey.bolton@ct.gov](mailto:jeffrey.bolton@ct.gov)  
Fax: 860-713-7250

Please feel free to call with any questions in filling out this questionnaire at (860) 713-5706.