Chemical Emergencies

Resources to Help Identify and Respond to Hazardous Materials Incidents

Summary

- Chemical accidents in Connecticut
- What DEEP needs from LHDs
- Being aware of chemicals in your community
- HSIN and HSIP GIS information
- Risk Management Plans
- DPH consequence assessment for RMP facilities

Chemical Accidents in Connecticut

- DEEP's spill reporting hotline received an average of 8,329 calls a year between 1997 and 2012
- There were 274 accidents involving chlorine and 111 involving ammonia Between 1996 and 2008
- Between November 2009 and January 2012 there were 142 injuries and 7 deaths
- 50 evacuations during this 2-year period

What DEEP Needs from LHDs

- The needs will be situation specific
- DEEP doesn't expect LHDs to be first responders and shouldn't rush in
- Identify hazardous chemicals in your community and be prepared for incidents
- Identify high hazard facilities
- Be able to identify sensitive populations in the area like nursing homes, schools and medical facilities
- Support the LEPC and community first responders
- Provide risk communication and health information

What DEEP Needs from LHDs

- Support Unified Command during an incident and, if possible, have a staff member assigned to it (in some instances it would be expected)
- Be careful that messaging from LHD is consistent with what is coming from Unified Command
- DEEP may want assistance with private and public potable drinking water well location(s) and possibly sampling support during large incidents
- LHDs need to identify reach-back people
    - State Level
    - Federal Level
    - Subject matter experts

Other Important LHD Activities

- Obtaining information on health impacts
- Contact with medical providers
- Input on evacuation and reentry
- Disseminate information on medical treatment and decontamination

Preparing for a Chemical Accident

- Local health departments should work to identify hazardous substances stored or moving through their communities
- Knowing what chemicals are in your community would:
  - Allow the collection of toxicology information prior to an accident
  - Provide information for drills and exercises that would better prepare a community for a real accident
  - Allow simulations to be run in order to identify vulnerable receptors in your community, such as hospitals and daycares

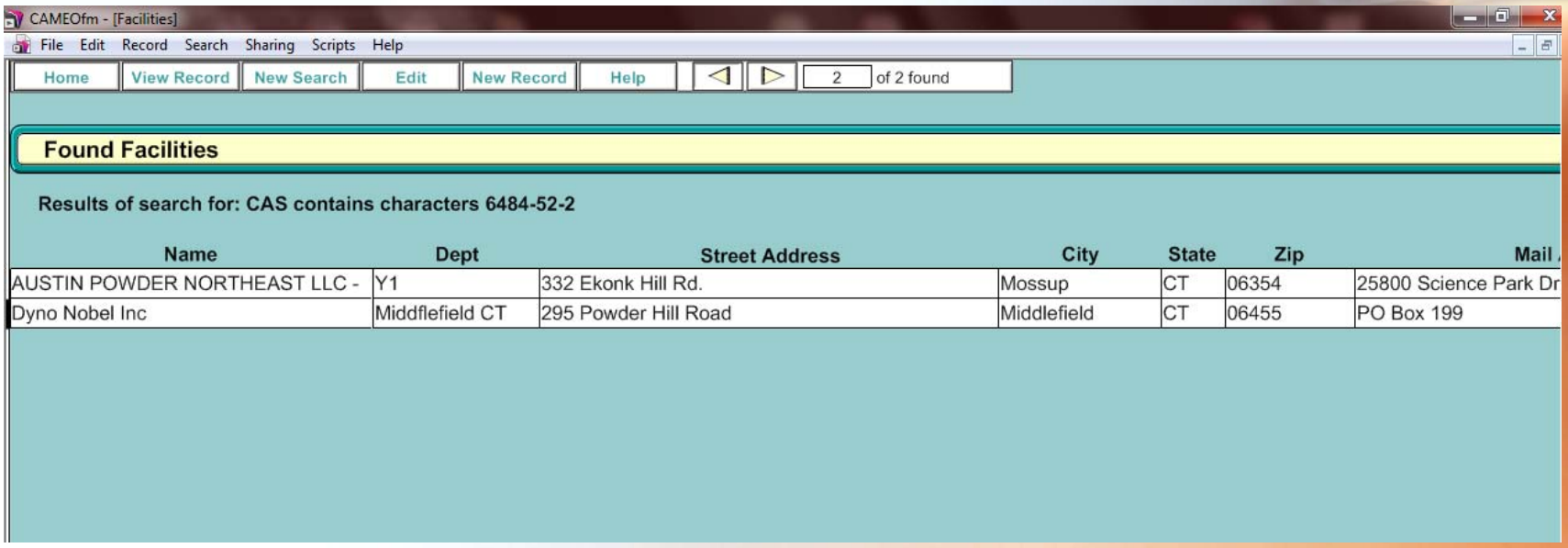
Sources of Hazardous Material Information

- LEPCs and fire departments
- Emergency Planning Community Right-to-Know Act (EPCRA) Tier II Database
- Toxic Release Inventory
- National Response Center
- Risk Management Plans
- State or federal hazard and vulnerability assessments

Tier II Database

- Facilities manufacturing, processing, or storing designated hazardous chemicals must report quantities used or stored above the 'threshold planning quantity' or TPQ must be reported to the LEPC and fire departments for inclusion in the Tier II database.
- The Tier II Database is maintained by the SERC
- The local fire department will have information (you could coordinate with them if you want to view a facility)
- Information is sensitive and care should be taken with distribution
- Imported into EPA's CAMEO Suite

Tier II Data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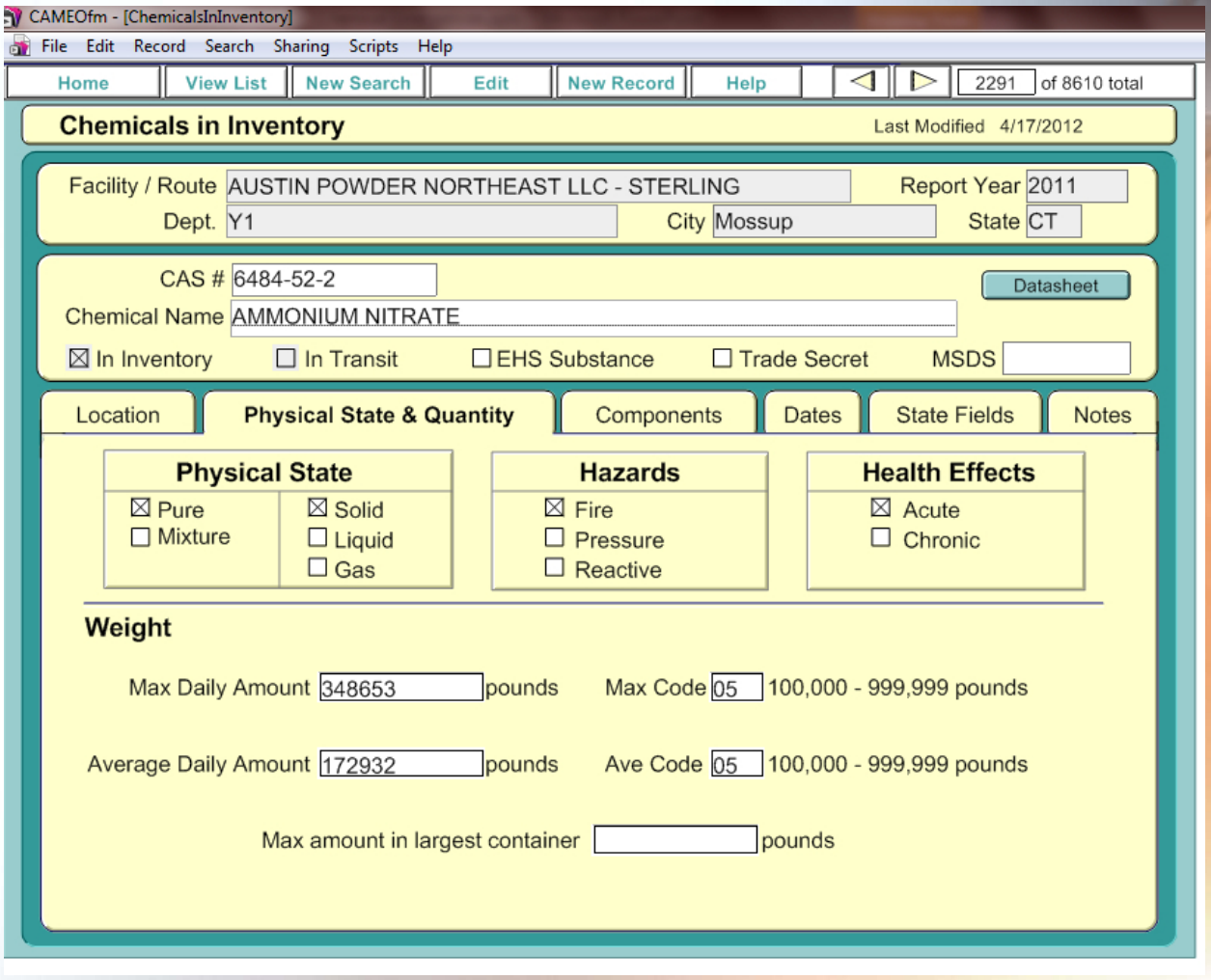
Found Facilities
Results of search for: CAS contains characters 6484-52-2
Name Dept Street Address City State Zip Mail
AUSTIN POWDER NORTHEAST LLC - Y1 332 Ekonk Hill Rd. Mossup CT 06354 25800 Science Park Dr
Dyno Nobel Inc Middflefield CT 295 Powder Hill Road Middlefield CT 06455 PO Box 199

Tier II Data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Last Modified 4/17/2012
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Report Year 2011
Dept. Y1
City Mossup
State CT
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Datasheet
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In Inventory
In Transit
EHS Substance
Trade Secret
MSDS
Location
Physical State & Quantity
Components
Dates
State Fields
Notes
Physical State
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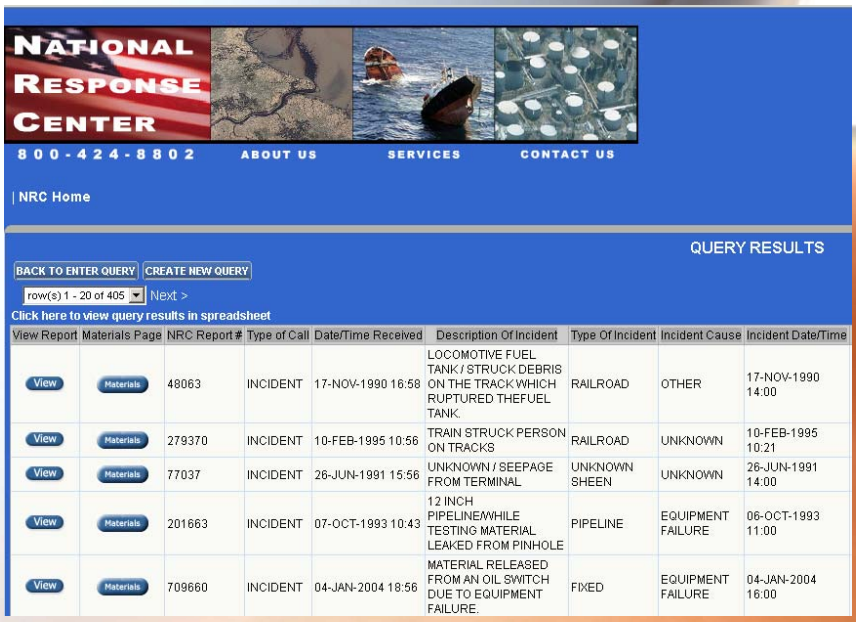
Mixture
Solid
Liquid
Gas
Hazards
Fire
Pressure
Reactive
Health Effects
Acute
Chronic
Weight
Max Daily Amount 348653 pounds
Max Code 05 100,000 - 999,999 pounds
Average Daily Amount 172932 pounds
Ave Code 05 100,000 - 999,999 pounds
Max amount in largest container pounds

CAMEO Suite

- CAMEO stands for Computer-Aided Management of Emergency Operations
- The CAMEO Suite is a system of software applications used widely to plan for and respond to chemical emergencies.
  - CAMEO – Database application
  - MARPLOT – GIS application
  - ALOHA – Dispersion modeling application
- Allows you to view, edit and analyze the Tier II data
- The programs are separate but work together

National Response Center

- ‘Serves as the sole national point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories’ (at least in theory).
- You can sign up for email notifications of Connecticut incidents



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View	Materials	279370	INCIDENT	10-FEB-1995 10:56	TRAIN STRUCK PERSON ON TRACKS	RAILROAD	UNKNOWN	10-FEB-1995 10:21
View	Materials	77037	INCIDENT	26-JUN-1991 15:56	UNKNOWN / SEEPAGE FROM TERMINAL	UNKNOWN SHEEN	UNKNOWN	26-JUN-1991 14:00
View	Materials	201663	INCIDENT	07-OCT-1993 10:43	12 INCH PIPELINE/WHILE TESTING MATERIAL LEAKED FROM PINHOLE	PIPELINE	EQUIPMENT FAILURE	06-OCT-1993 11:00
View	Materials	709660	INCIDENT	04-JAN-2004 18:56	MATERIAL RELEASED FROM AN OIL SWITCH DUE TO EQUIPMENT FAILURE.	FIXED	EQUIPMENT FAILURE	04-JAN-2004 16:00

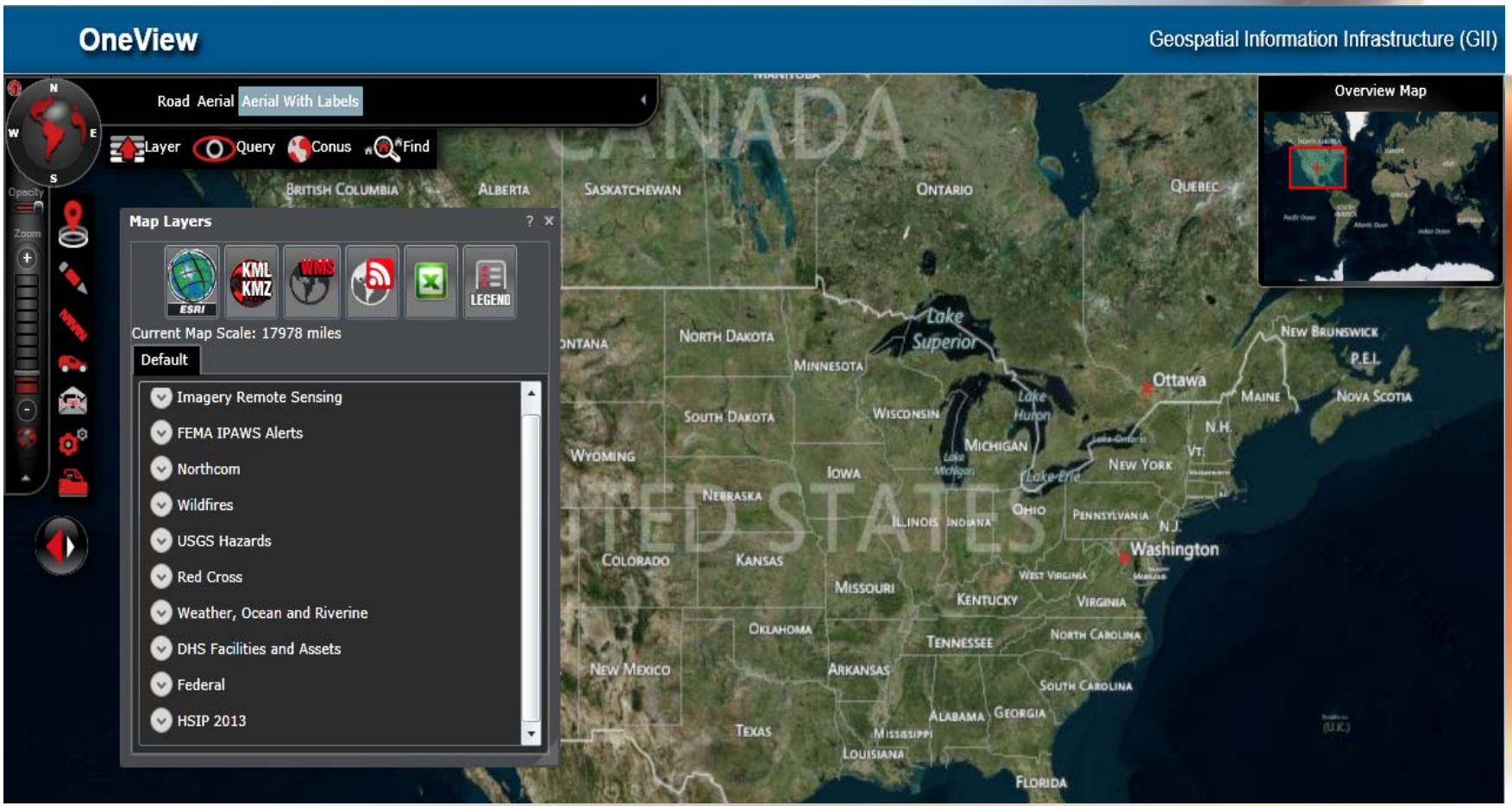
Homeland Security Information Network (HSIN)

- Homeland Security information portal
- Various groups including Public Health and GIS

Geospatial Information Infrastructure

HSIP Freedom

OneView


OneView
Geospatial Information Infrastructure (GII)
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Layer Query Conus Find
Map Layers
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Default
Imagery Remote Sensing
FEMA IPAWS Alerts
Northcom
Wildfires
USGS Hazards
Red Cross
Weather, Ocean and Riverine
DHS Facilities and Assets
Federal
HSIP 2013
Overview Map
CANADA
UNITED STATES
Ottawa
Washington
Lake Superior
Lake Huron
Lake Erie
Lake Michigan
British Columbia
Alberta
Saskatchewan
Ontario
Quebec
New Brunswick
P.E.I.
Nova Scotia
Maine
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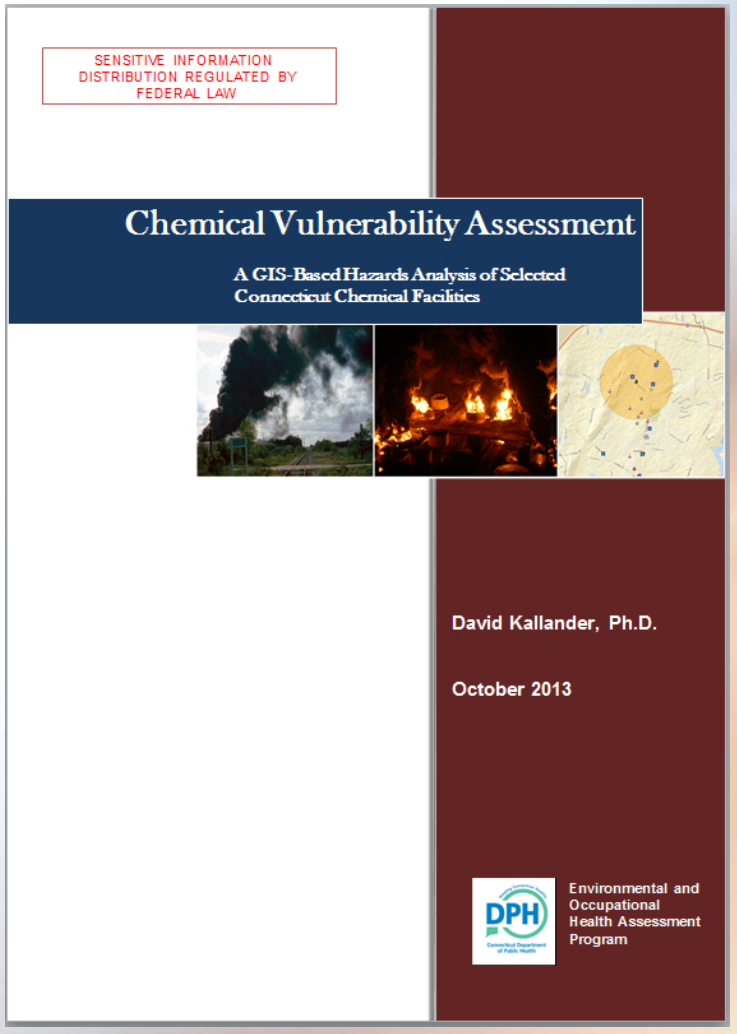
Wyoming
New Mexico
Oklahoma
Texas
Arkansas
Louisiana
Mississippi
Alabama
Georgia
Florida
South Carolina
North Carolina
Tennessee
Kentucky
West Virginia
Virginia

Risk Management Plans

- The regulation focuses on facilities with chemicals that could cause offsite health impacts
- Each regulated facility must prepare and implement a risk management program and maintain documentation of the program onsite in the form of a 'risk management plan' (RMP).
- The risk management program will include an analysis of the potential offsite consequences of an accidental release, a five-year accident history, a prevention program, and an emergency response program.
- Connecticut has 31 RMP facilities

Hazards Analysis

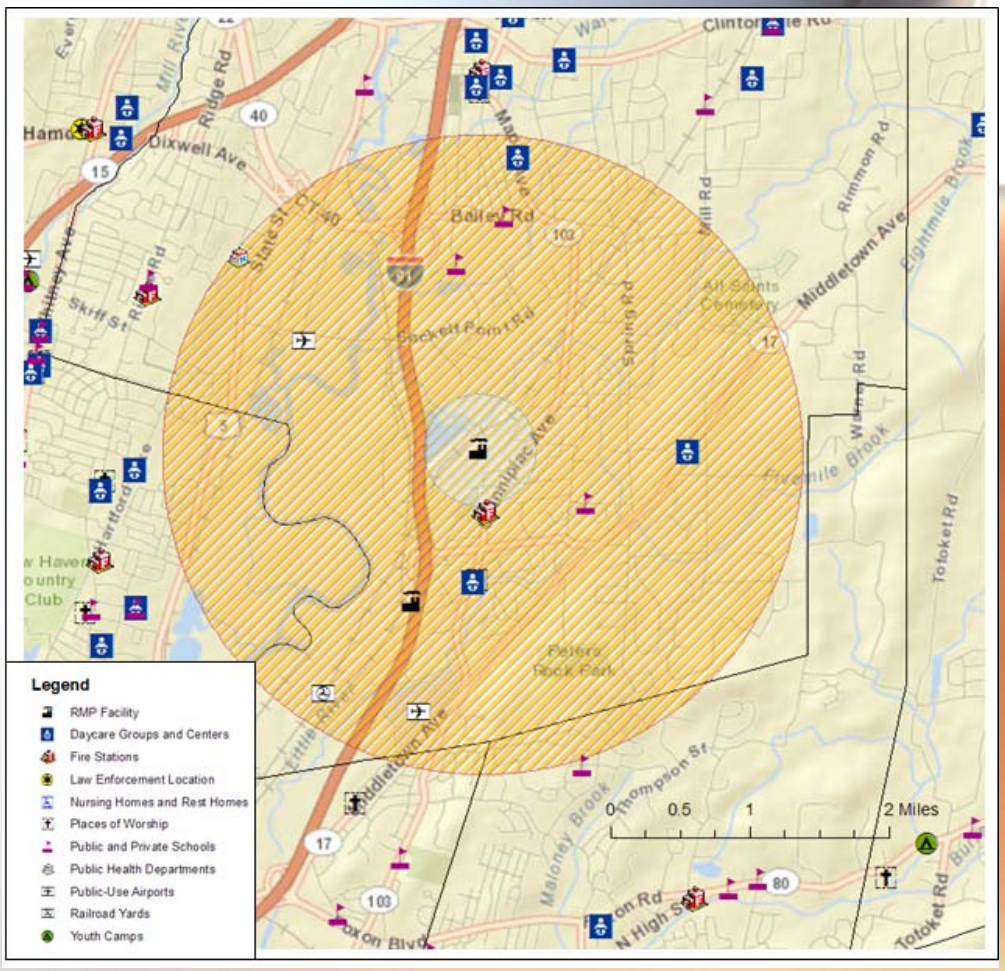


Project Objectives

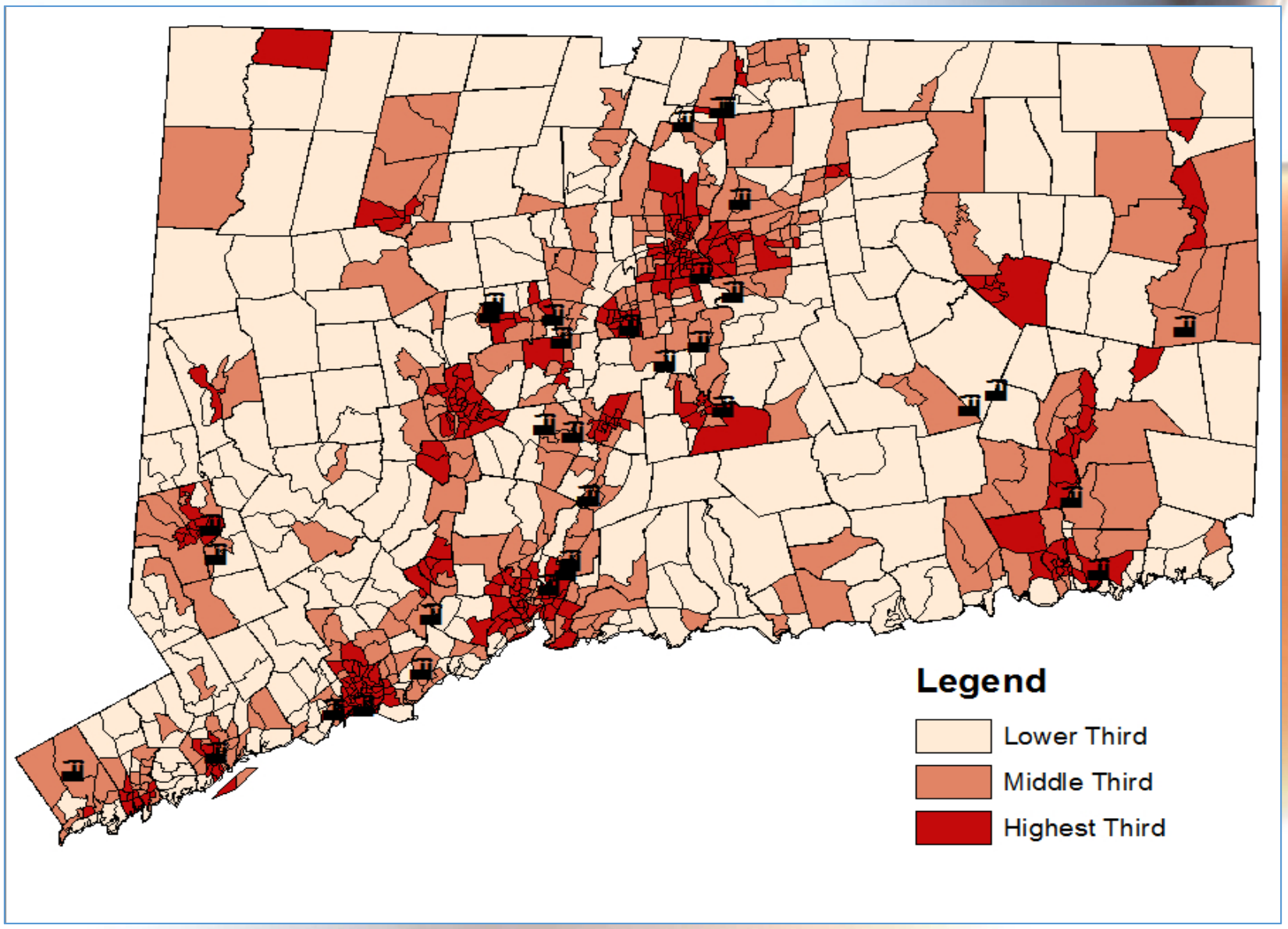
- Developed a vulnerable populations GIS that included 23 types of potentially vulnerable facilities including nursing homes, day cares and hospitals.
- Incorporated an ATSDR 'Social Vulnerability Index' that ranked census tracts based on socially vulnerable groups (elderly, poor, disabled, etc.) that might need extra assistance during an emergency
- Identify individuals and institutions vulnerable to a large-scale chemical release or vapour cloud explosion using vulnerability maps.

Vulnerability Maps

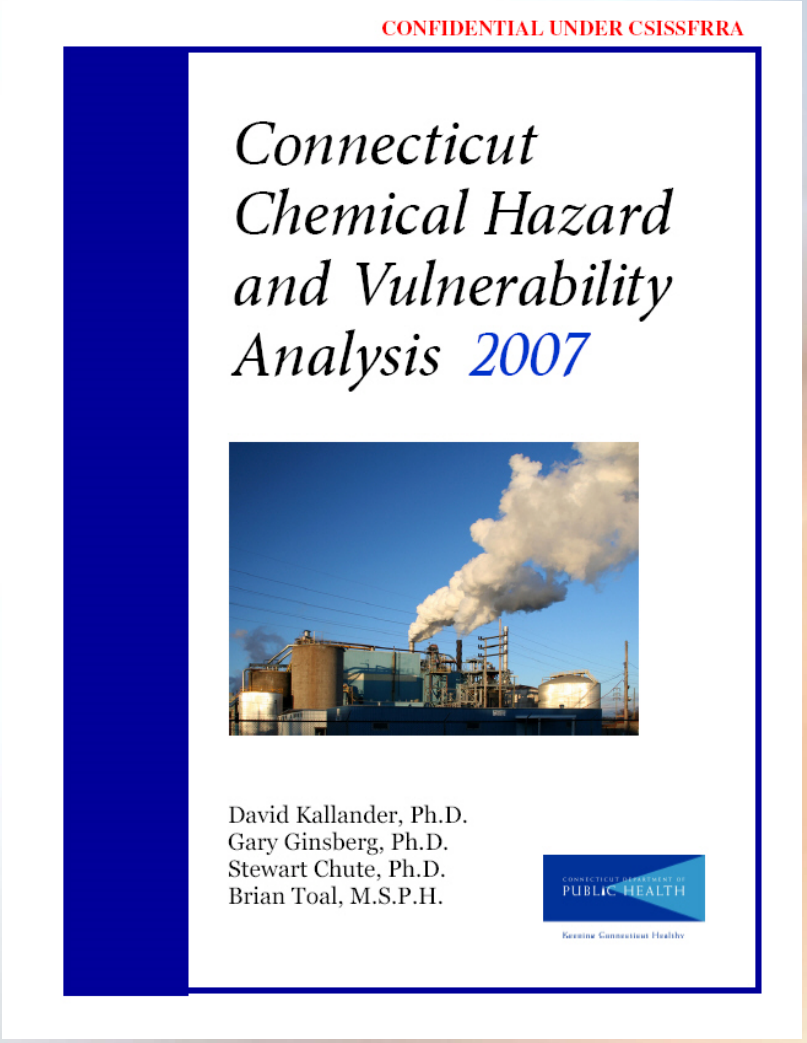
- Created vulnerability maps for 31 facilities
- Vulnerable zone radii for the 26 facilities with toxic chemicals ranged from 0.12 miles up to 45 miles, with an average radius of 3.3 miles and a median of 1.7 miles.
- Seven facilities had vulnerable zones greater than 2 miles.
- Daytime toxic releases or flammables explosions caused highest casualties for most facilities



Social Vulnerability



2007 Vulnerability Assessment



The End

- Even though Connecticut is a small state, chemical spills occur often
- Lots of tools are available for identifying hazards in the community like the Tier II Database and facility RMPs
- DPH Hazards Analysis will be sent to LHDs in (hard copy) in the next month