



# MAPC Data Day: OLIVER

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(aka MassGIS)

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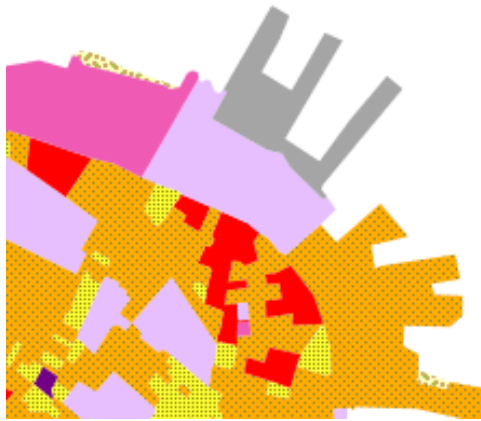
**Information Technology Division**  
**Executive Office for Administration and Finance**



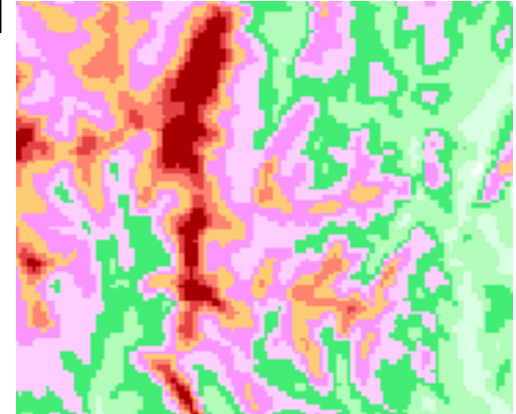


# MassGIS = digital library with > 1,000 datalayers:

**Landuse**



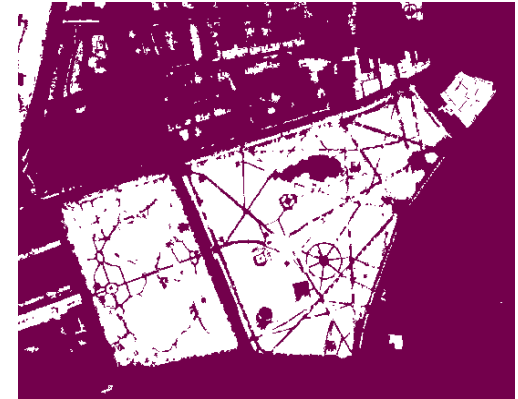
**Wind Speed**



**Aerial  
Photos**



**Impervious  
Surface**





# Geographic Questions

Where to put turbine?



Wind engineer

Wind speed +  
Elevation +  
Roads +  
Zoning +  
Open Space +  
Wetlands

Vernal Pools Near?



Teacher

Schools +  
Vernal Pools +  
Roads +  
Open Space

Where to fish?



Fisherman

Boat Ramps +  
Ponds +  
Roads

Where to suggest houses?



Real Estate Agent

Aerial Photos +  
Parcels +  
Schools +  
Hospitals +  
Libraries +  
Open Space +  
Public Transit



# OLIVER

**New version Jan. 10, 2012!**



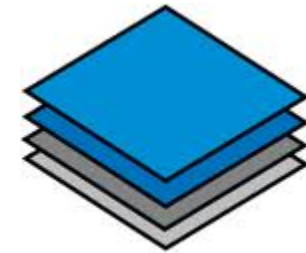


# OLIVER

GeoServer



OpenLayers



GeoExt



Bing  
geocoding



Google  
maps



Yahoo  
User  
Interface  
Library (YUI)





# OLIVER

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**Runs on OpenGeoSpatial Consortium (OGC)  
standard web mapping services**

**provided by GeoServer**

**WMS – Web Map Service**

**WFS – Web Feature Service**



# What are web map services?

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## **WMS – Web Map Service (GetMap)**

- Image of a map returned (PNG, TIFF, etc)
- Can get a legend graphic

## **WFS – Web Feature Service (GetFeature)**

- Feature info returned (attributes and/or coordinates)



# What are web map services?

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## For WMS or WFS:

- Request can be URL or XML
- Can filter on attributes or geometry
- Can get data back in > 3,000 projections

Many output formats: JPG, PNG, GML, KML, SHP, PDF, XLS, CSV



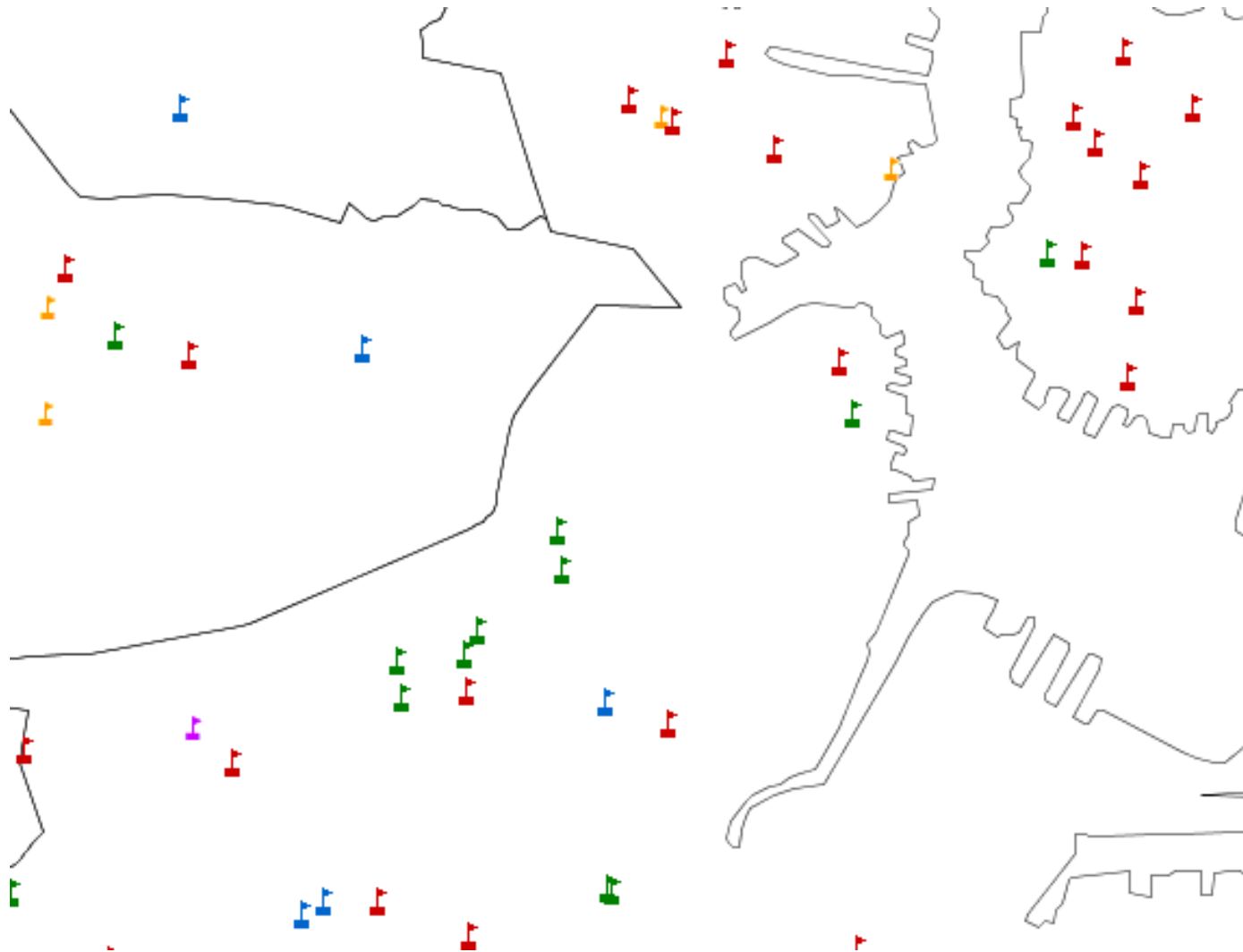
# WMS URL Example

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`http://giswebservices.massgis.state.ma.us/geoserver/wms?VERSION=1.1.1&REQUEST=GetMap&SERVICE=WMS&LAYERS=massgis:GISDATA.TOWNS_POLYM,massgis:GISDATA.SCHOOLS_PT&STYLES=Black_Lines,&BBOX=232325.38526025353,898705.3447384972,238934.49648710093,903749.1401484597&SRS=EPSG:26986&WIDTH=570&HEIGHT=435&FORMAT=image/png`



# WMS Result





# WFS URL Example

---

```
http://giswebservices.massgis.  
state.ma.us/geoserver/wfs?re  
quest=GetFeature&version=1.  
0.0&service=WFS&propertyna  
me=TOWN,POP2000&typenam  
e=massgis:GISDATA.TOWNS_  
POLYM&CQL_FILTER=POP2000  
>100000
```



# WFS Result

```
<?xml version="1.0" encoding="UTF-8"?>
<wfs:FeatureCollection xmlns:wfs="http://www.opengis.net/wfs" xmlns:gml="http://www.opengis.net/gml"
  xmlns:massgis="http://massgis.state.ma.us/featuretype"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://massgis.state.ma.us/featuretype http://giswebservices.massgis.state.ma.us
  <gml:boundedBy>
    <gml:Box srsName="http://www.opengis.net/gml/srs/epsg.xml#26986">
      <gml:coordinates xmlns:gml="http://www.opengis.net/gml" decimal="." cs="," ts=" "
        >107210.18360951201,868673.000913621
        252005.57369636302,935123.120655508</gml:coordinates>
    </gml:Box>
  </gml:boundedBy>
  <gml:featureMember>
    <massgis:GISDATA.TOWNS_POLYM fid="GISDATA.TOWNS_POLYM.35">
      <massgis:OBJECTID>35</massgis:OBJECTID>
      <massgis:TOWN>BOSTON</massgis:TOWN>
      <massgis:POP2000>588957</massgis:POP2000>
    </massgis:GISDATA.TOWNS_POLYM>
  </gml:featureMember>
  <gml:featureMember>
    <massgis:GISDATA.TOWNS_POLYM fid="GISDATA.TOWNS_POLYM.49">
```





# OLIVER Basemaps

The screenshot displays the 'Basemaps' menu in the OLIVER application. The menu is open, showing a list of map providers. The 'Create custom basemap' option is selected, indicated by a blue dot. Below the list is an 'Opacity' slider set to 100%.

- Create custom basemap
- Bing Hybrid
- Bing Roads
- Bing Satellite
- CloudMade
- Google Hybrid
- Google Roadmap
- Google Satellite
- Google Terrain
- OpenStreetMap
- TopOSM-Massachusetts

373,67      0%      Opacity      100%

Basemaps



# OLIVER Layer Type Ahead

Available Data Layers >>

school ▼


- Elementary School Districts
- Elementary School Districts Labels
- High School Districts
- High School Districts Labels
- Middle School Districts
- Middle School Districts Labels
- Pre-kindergarten to High School Buildings
- Pre-kindergarten to High School Labels








# OLIVER Change Colors

**Active Data Layers**

Check all | Uncheck all | Remove all

 Massachusetts Towns


-  Zoom to layer
-  View metadata
-  Choose a color 
-  Revert to original symbology

**Legend**





# OLIVER Extract by Poly

**Identify results**

Select a data layer to highlight its features on the map and to view its feature details. You can view up to 2,000 features per data layer. To export data layers that are within or overlap the identify area, click [here](#) to launch the data export wizard .

**Data layers**

	Data layer name	Feature(s) found?
	Pre-kindergarten t...	4 feature(s)
	Massachusetts To...	1 feature(s)



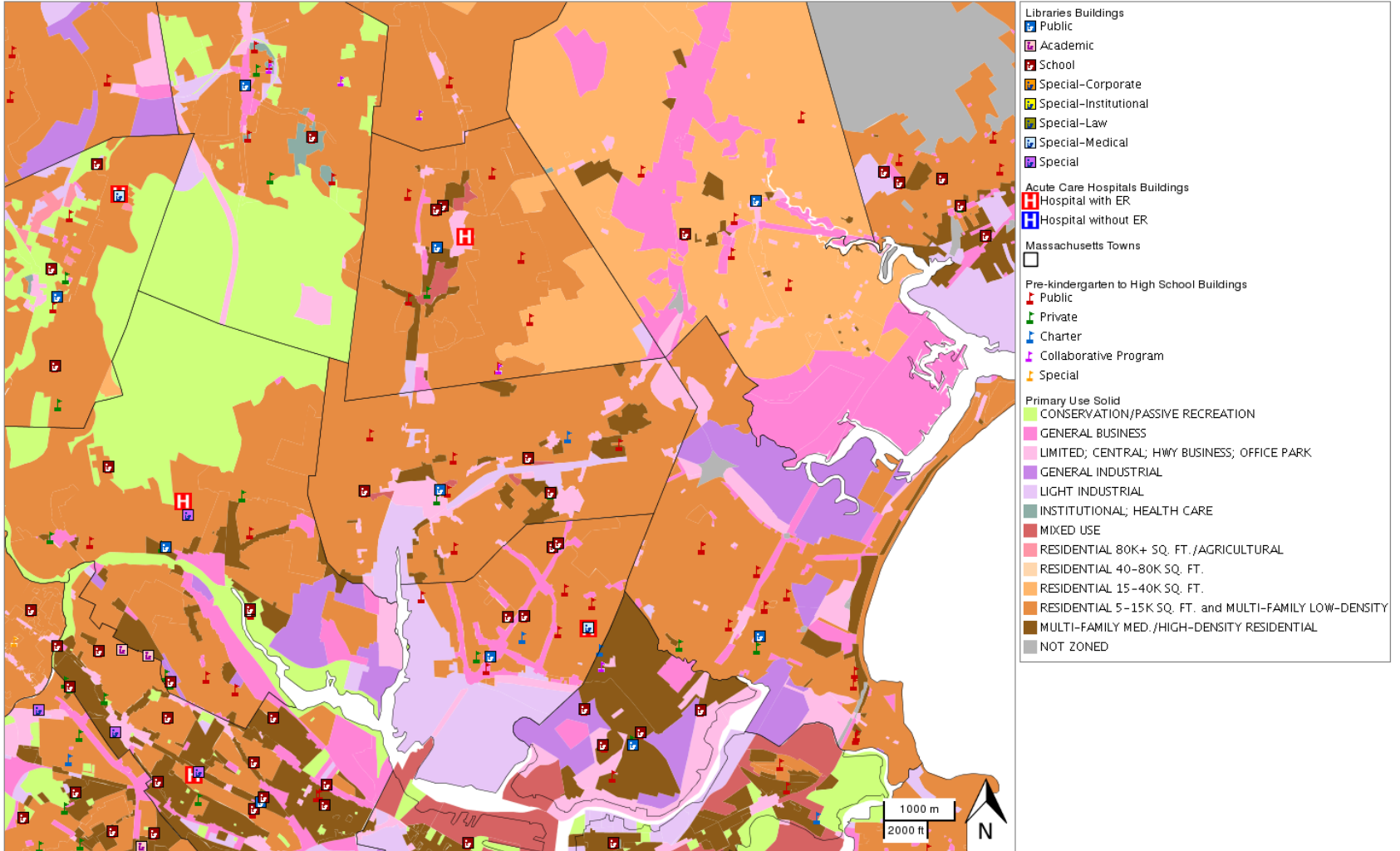
# OLIVER Permalink

[http://maps.massgis.state.ma.us/map\\_ol/oliver.php?lyrs=Massachusetts%20Towns~massgis:GISDATA.A.TOWNS\\_POLY~Orange\\_Polys|Pre-kindergarten%20to%20High%20School%20Buildings~massgis:GISDATA.SCHOOLS\\_PT~GISDATA.SCHOOLS\\_PT::Default&bbox=-71.14295332558095,42.39905184521652,-70.96408217081994,42.47215329489033&coordUnit=m&measureUnit=m&base=TopOSM-MA&center=-7909641.4148005,5226457.2011292&zoom=13&opacity=0.64,1&baseO=null](http://maps.massgis.state.ma.us/map_ol/oliver.php?lyrs=Massachusetts%20Towns~massgis:GISDATA.A.TOWNS_POLY~Orange_Polys|Pre-kindergarten%20to%20High%20School%20Buildings~massgis:GISDATA.SCHOOLS_PT~GISDATA.SCHOOLS_PT::Default&bbox=-71.14295332558095,42.39905184521652,-70.96408217081994,42.47215329489033&coordUnit=m&measureUnit=m&base=TopOSM-MA&center=-7909641.4148005,5226457.2011292&zoom=13&opacity=0.64,1&baseO=null)



# OLIVER Print/Save

Malden Area Map 1/10/2012





# OLIVER Configuration Options

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## Previous:

- title, datalayer, about text and logos
- default layers, default extent
- basemap

## Additional:

- most tools show / hide
- QuickZoom dropdowns, linked or unlinked
- Draw / Edit tools (including snapping / splitting)





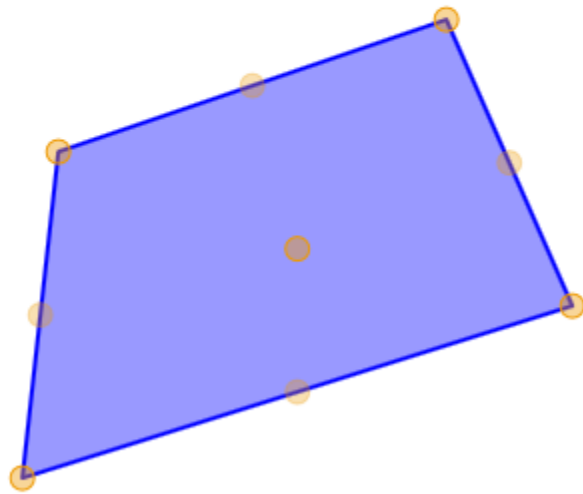
# OLIVER Linked Dropdowns

MALDEN	AMERIGE FIELD
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- AMERIGE FIELD
- BELL ROCK MEMORIAL PARK
- Bell Rock Cemetery
- CALLAHAN PARK
- COYTEMORE LEA
- DEVIR PLAYGROUND
- FORESTDALE PARK
- Fellsmere Park
- Fellsmere Park
- Forestdale Cemetery
- GOVERNMENT CENTER PLAZA
- GRAPE ST. PLAYGROUND
- HAWKRIDGE DELTA
- HUNTING FIELD



# OLIVER Draw/Edit



**WFSTFeatureEditing**

Ready

Geoserver Editable Point   Geoserver Editable Line   **Geos**   **Editing feature**

TEST_ID	NAME	Name	Value
1	Proposed Field	TEST_ID	1
		NAME	Proposed Field

Close Feature Editor   Delete   Save   Cancel



# OLIVER External WMS

### External sources

Select an external data source to view its available data layers. These can be added to your map for display only. You will not be able to use the identify, permalink, print, or export tools with data layers from external sources, nor will you be able to view their metadata or change their symbology.

#### Sources

NOAA Charts (RNC)

#### Data layers

Add selected | Add all

Title ▲	Name	Description
NOAA Raster Chart Footprints	NOAA Raster C...	NOAA Raster C...
NOAA Raster Charts	NOAA Raster C...	NOAA Raster C...
NOAA RNC Boundary	NOAA RNC Bou...	NOAA RNC Bou...





# Web Map Services Wiki

state.ma.us https://wiki.state.ma.us/confluence/display/massgis/Home Search

Dashboard › Mass GIS › Home Browse Log In Sign Up Search

Search

- whats new
- getting started
- wms home
- wms sld home
- geocoding home
- wfs home
- wfs examples
- simple clients
- web clients home
- advanced topics
- The Get Outdoors Massachusetts Mobile App Contest



## Home

1 Added by Karolina Zdzitowiecka, last edited by Aleda Freeman on Aug 02, 2011 (view change)

Tools

## MassGIS Geospatial Web Services Homepage

This is the home of the MassGIS geospatial web services project. This site contains information on accessing, using and developing against MassGIS-maintained "Web Map Service" and "Web Feature Service" services. **\*Anyone may use these services.\*** Questions about how to use the MassGIS web services can be directed to:

- [Aleda.Freeman@state.ma.us](mailto:Aleda.Freeman@state.ma.us), 617-626-4530 or ITD-DL-MassGisAdmins@MassMail.State.MA.US
- Let us know if you'd like to be a contributor.

NOTE: Only registered users can edit pages in this wiki.

We can help you figure out how best to use the services, and help you construct your request syntax. To stay informed about changes to the services (anticipated downtime, etc) and to exchange information with other service users we urge you to join the public [MassGIS Web Mapping Services Google Group](#). You may also [watch any page](#) on this wiki to see changes to the page, or [watch the entire space](#). A good page to watch would be the [What's New With the MassGIS Web Services](#) page.

## Who We Are

MassGIS is the Commonwealth's Office of Geographic and Environmental Information. On July 1, 2010, MassGIS left the Executive Office of Energy and Environmental Affairs (EOEEA) to become part of the [MA Information Technology Division \(ITD\)](#).

## What We Do



# THANK YOU.

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**Aleda Freeman**

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**<https://wiki.state.ma.us/confluence/display/massgis>**

**617-626-4530**