Easy to Use GIS and GPS Tools

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RCRA Inspectors Workshop
Rehoboth, DE
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Overview

- Demonstrate free GIS viewer, free air photos, free GPS software, free Census Data
- Answer questions:
  - Where am I?
  - Where is my site?
  - Is anyone drinking groundwater near my site?

GIS Programs

- ESRI
  - Arc Explorer (free GIS viewer)
    - http://www.esri.com/software/arcexplorer/
  - ArcView 3.x
  - ArcView 8.x
  - ArcGIS 9.x
- TatukGIS
  - TatukGIS Viewer

What can I do with Arc Explorer?

- View aerial photos & topos
- View & query shape files (& databases) made by another ArcView program or from DNR Garmin (from a Garmin GPS)
- View CAD drawings
- Measure distances
- Print maps

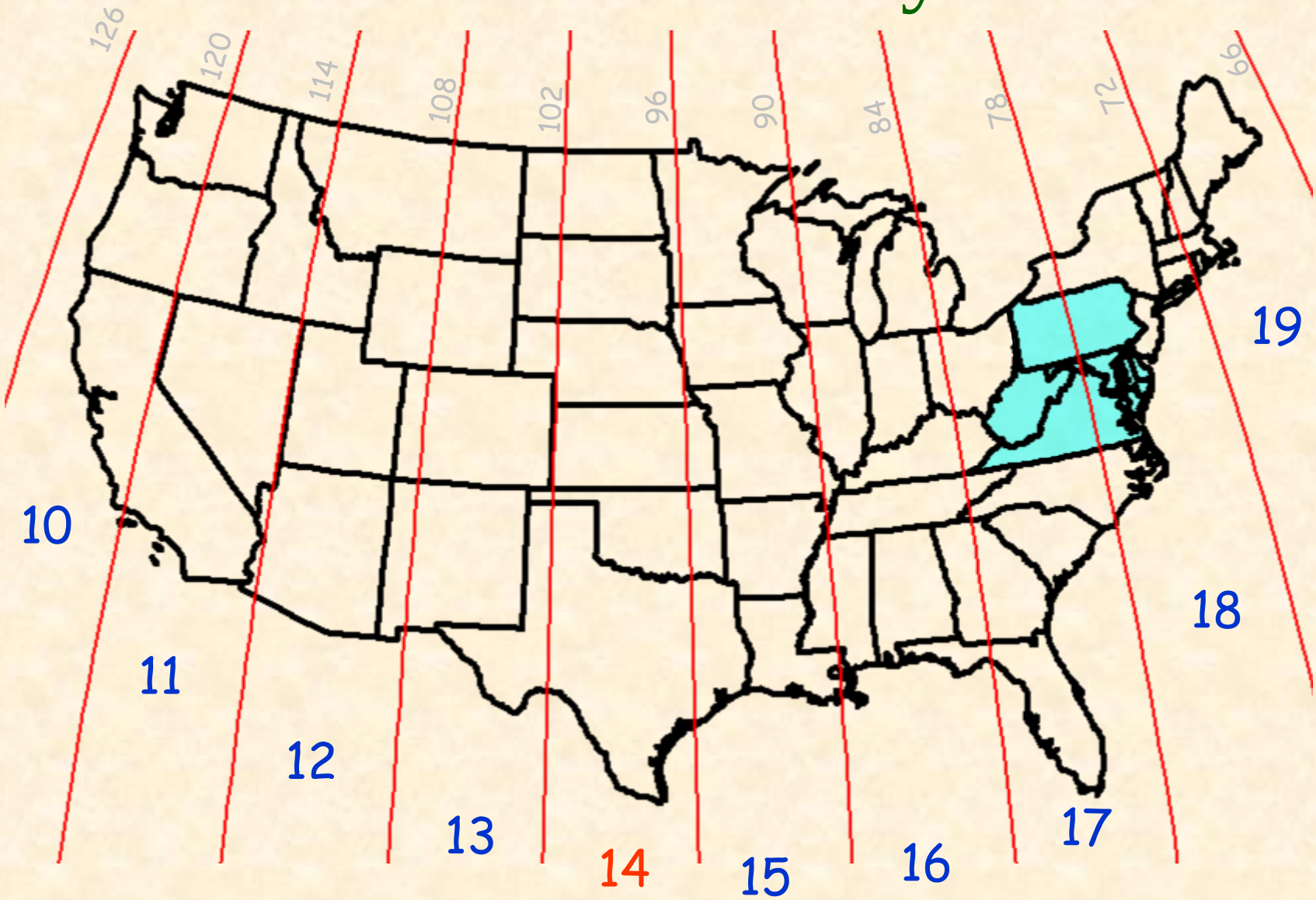
Aerial Photography in Region 3

- What's available?
  - TerraServer USA
  - USGS: The National Map
  - West Virginia (WV GIS Technical Center)
  - Pennsylvania (PASDA)
  - Delaware Mapping & Integration Laboratory (DataMIL)
  - Google Earth
  - Others?

Terraserver USA

- Online: topos, B&W and color air photos
- Color photos at 0.25 meter per pixel resolution
- Access through Terraserver USA
  - http://terraserver.microsoft.com
- Better access through USA PhotoMaps program
  - http://www.jdmcox.com/
- All Washington DC, some VA & MD available in color
- Color images from April 2002
- UTM coordinate system
- Available as JPGs with world file

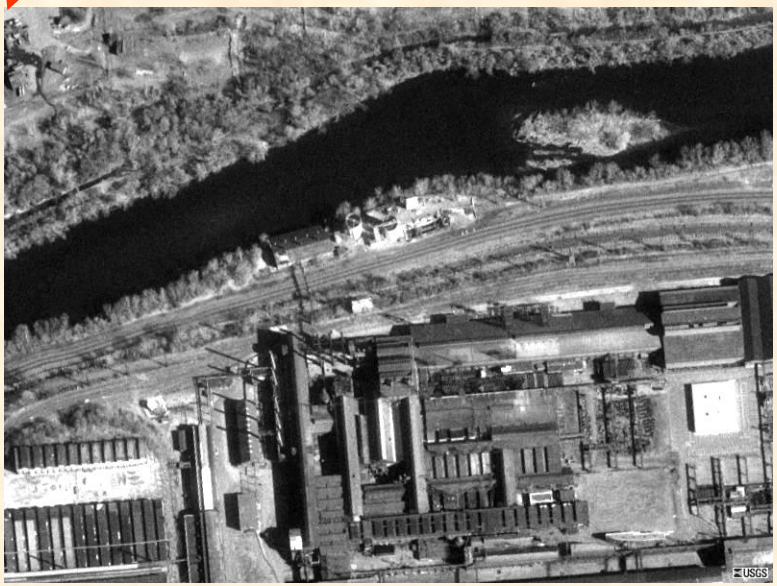
UTM Coordinate System



Air Photos & World Files

```
1.000000
0.000000
0.000000
-1.000000
470000.000000
4496800.000000
```

BSC_1.JPGW



BSC_1.JPG

```
1.000000
0.000000
0.000000
-1.000000
470800.000000
4496800.000000
```

BSC_2.JPGW

BSC_2.JPG

Air Photos & World Files

```
1.000000
0.000000
0.000000
-1.000000
470000.000000
4496800.000000
```

```
1.000000
0.000000
0.000000
-1.000000
470800.000000
4496800.000000
```

TerraServer-USA - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://terraserver-usa.com/ Go Links

Google Search Web 203 blocked Options

TerraServer USA

Home | Advanced Find | Famous Places | Web Services | About

Search TerraServer

Street

City

State

GO

Longitude Latitude

GO

TerraServer-USA

Featured Locations:

- **Denver, Colorado** 2005 January 24
- **Los Angeles, California** 2005 January 24
- **Raleigh, North Carolina** 2005 January 24
- **San Francisco, California** 2005 January 24

Famous Places

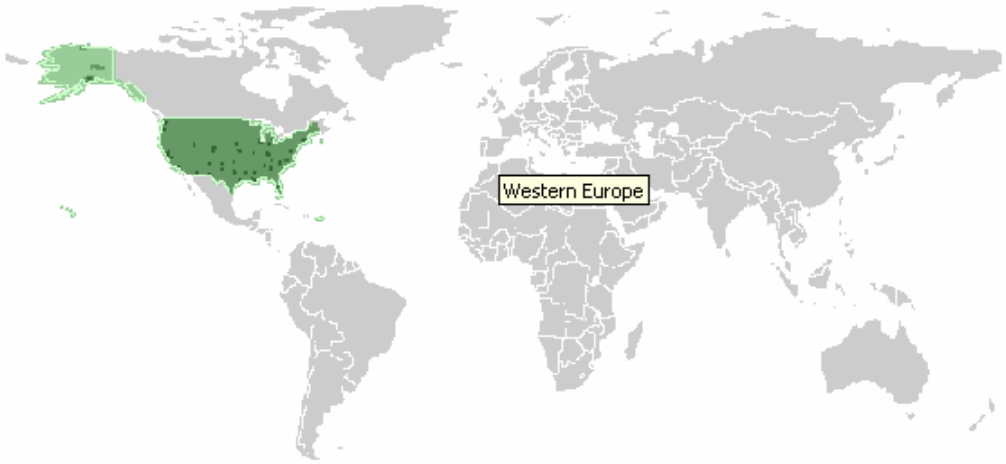
Fulton County Stadium

Fort Ticonderoga, New York

Alcatraz, San Francisco Bay, California

DSS-14 Deep Space Network Antenna, Goldstone

Click the green areas to zoom-in on the map.



News

New SOAP/XML Web Service available

Welcome to Version 6 User Interface!

http://terraserver-usa.com/cmap.aspx?src=0&ppd=1&r=3&c=6&W=0&ClickAt=?0,0 Internet

Start Joel Henn... WPDOCS [All] Local Disk ... Microsoft ... Removabl... new_gis_a... TerraSer... 2:47 PM

TerraServer-USA - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://terraserver-usa.com/ Go Links

Google Search Web 203 blocked Options

TerraServer USA

Home | Advanced Find | Famous Places | Web Services | About

Search TerraServer

Street
5501 New Hampshire Ave

City
Silver Spring

State
MD GO

Longitude Latitude

GO

TerraServer-USA

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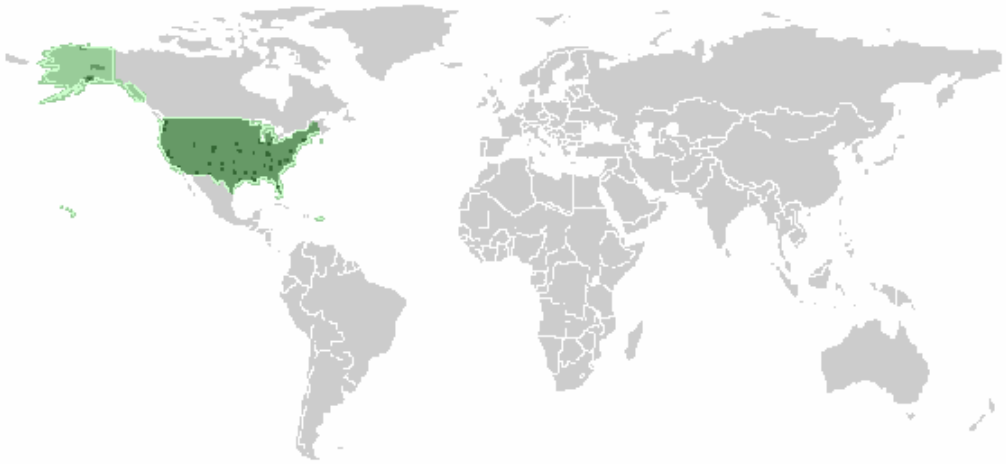

News

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Welcome to Version 6 User Interface!

Internet

Start | Joel Henn... | WPDOCS | [All] | Local Disk ... | Microsoft ... | Removabl... | new_gis_a... | TerraSer... | 2:48 PM

Search TerraServer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://terraserver-usa.com/advfind.aspx

TerraServer USA

Home | Advanced Find | Famous Places | Web Services | About

Search TerraServer

Street: 15501 New Hampshire Av

City: Silver Spring

State: MD

GO

Longitude Latitude

GO

Address Search

Search results for *15501 New Hampshire Ave, Silver Spring MD*

Found 1 address candidates. Checked the best 10 address matches and found 1 with imagery.

	Address	Available Image
1	15501 New Hampshire Ave, Silver Spring, MD 20905	**Urban Areas 4/10/2002** **Aerial Photo 4/5/1988** **Topo Map 7/1/1981**

Advanced Find

Address | Place | Decimal Degrees | DMS

Address Search

Street: 15501 New Hampshire Ave

City: Silver Spring

State

Country: USA

Zip Code:

GO

Enter the street or zip code of the address to search for. City and state are optional. Only U.S. addresses are currently supported. Click

Done

Internet

Start | Joel Henn... | WPDOCS | [All] | Local Disk ... | Microsoft ... | Removabl... | new_gis_a... | Search T... | 2:48 PM

Search TerraServer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://terraserver-usa.com/advfind.aspx

TerraServer USA

Home | Advanced Find | Famous Places | Web Services | About

Search TerraServer

Street: 15501 New Hampshire Av

City: Silver Spring

State: MD

GO

Longitude Latitude

GO

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Advanced Find

Address | Place | Decimal Degrees | DMS

Address Search

Street: 15501 New Hampshire Ave

City: Silver Spring

State

Country: USA

Zip Code:

GO

Enter the street or zip code of the address to search for. City and state are optional. Only U.S. addresses are currently supported. Click

http://terraserver-usa.com/addressimage.aspx?t=1&s=10&Lon=-76.99662006&Lat=39.10982711&Alon=-76.99662006&Alat=39.10982711&w=1&o

Internet

Start | Joel Henn... | WPDOCS | [All] | Local Disk ... | Microsoft ... | Removabl... | new_gis_a... | Search T... | 2:49 PM

Address Imagery View - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://terraserver-usa.com/addressimage.aspx?t=1&s=10&Lon=-76.99662006&Lat=39.10982711&Alon=-76.99662006&Alat=39.10982711&w=1&opt=0&addr=15501+New

TerraServer USA

Home | Advanced Find | Famous Places | Web Services | About

Search TerraServer

Street: 15501 New Hampshire Av

City: Silver Spring

State: MD

GO

Longitude: -76.99662

Latitude: 39.10983

GO

The National Map

15501 New Hampshire Ave, Silver Spring, MD 20905

Cloverly, Maryland, United States 05 April 1988

Download | E-mail | Info | Print | Order Photo | World File

Size

Aerial Photo | Urban Areas

OUT

IN

NORTH

WEST

EAST

SOUTH

Done

Internet

Start | Joel Henn... | WPDOCS | [All] | Local Disk ... | Microsoft ... | Removabl... | new_gis_a... | Address I... | 2:50 PM

Address Imagery View - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://terraserver-usa.com/addressimage.aspx?t=1&s=10&lon=-76.99662006&lat=39.10982711&alon=-76.99662006&alat=39.10982711&w=1&opt=0&qs=15501+New+H

TerraServer USA

Home | Advanced Find | Famous Places | Web Services | About

Search TerraServer

Street: 15501 New Hampsjire Av

City: silver spring

State: md

GO

Longitude: -76.99662

Latitude: 39.10983

GO

The National Map

15501 New Hampshire Ave, Silver Spring, MD 20905

Cloverly, Maryland, United States 05 April 1988

Download | E-mail | Info | Print | Order Photo | World File

Size

Aerial Photo | Urban Areas

OUT

IN

Current image resolution is 1 meters per pixel

NORTH

WEST

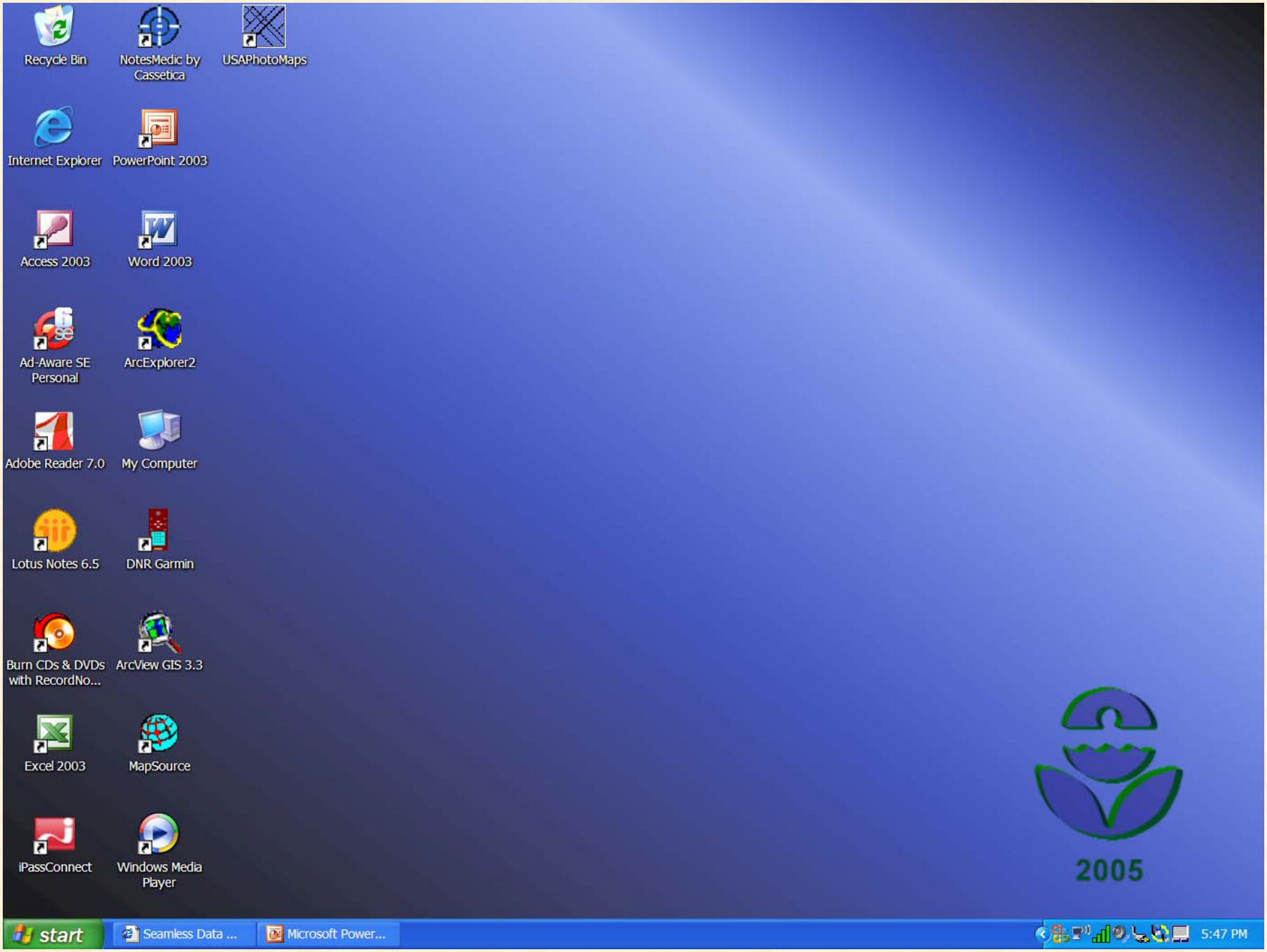
EAST

SOUTH

USGS

Internet

Start | Joel Henn... | [All] | Local Disk ... | Microsoft ... | Removabl... | new_gis_a... | 15501_ne... | Address I... | 3:13 PM


Recycle Bin
NotesMedic by Cassetica
USAPhotoMaps
Internet Explorer
PowerPoint 2003
Access 2003
Word 2003
Ad-Aware SE Personal
ArcExplorer2
Adobe Reader 7.0
My Computer
Lotus Notes 6.5
DNR Garmin
Burn CDs & DVDs with RecordNo...
ArcView GIS 3.3
Excel 2003
MapSource
iPassConnect
Windows Media Player
2005
start
Seamless Data ...
Microsoft Power...
5:47 PM

Washington,DC N 38.908587° W 77.135366° Zoom: 4 meters/pixel Elev: Photo

File View GoTo Zoom Scroll Text Route Waypoints GPS Help

- Address...
- Populated Place...
- USGS Landmark...
- Lat/Lon...

start | Seamless Data ... | Microsoft Power... | Washington,DC... | 5:50 PM

Washington,DC N 38.908456° W 77.140529° Zoom: 4 meters/pixel Elev: Photo

File View GoTo Zoom Scroll Text Route Waypoints GPS Help

GoTo

Enter at least a City and State or a ZIP code

Address:

City: Washington

State: DC

ZIP:

OK Cancel

start Seamless Data ... Microsoft Power... Washington,DC... 5:52 PM

Washington,DC N 38.909528° W 77.073167° Zoom: 4 meters/pixel Elev: Photo

File View GoTo Zoom Scroll Text Route Waypoints GPS Help

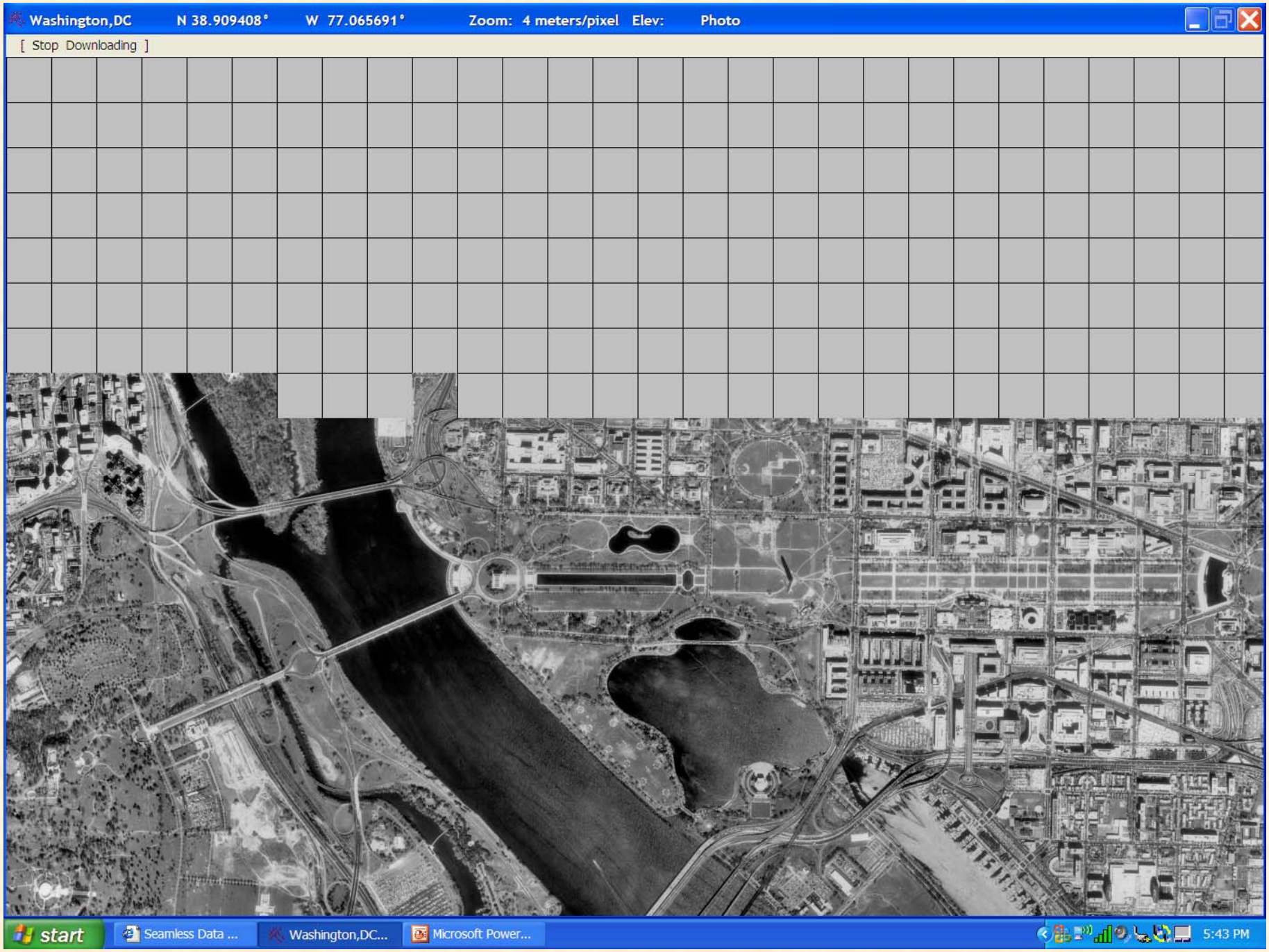
- Download Map Data
  - Fill Screen F
  - Elevation Data E
  - Tiger Streets S
- New Map Location...
- Open Map Locations
- Copy to 'Screen01.jpg'
- Create a BIG jpeg file...
- Run Streets & Trips
- TerraFetcher
- Preferences
- Import
- Print...
- Exit

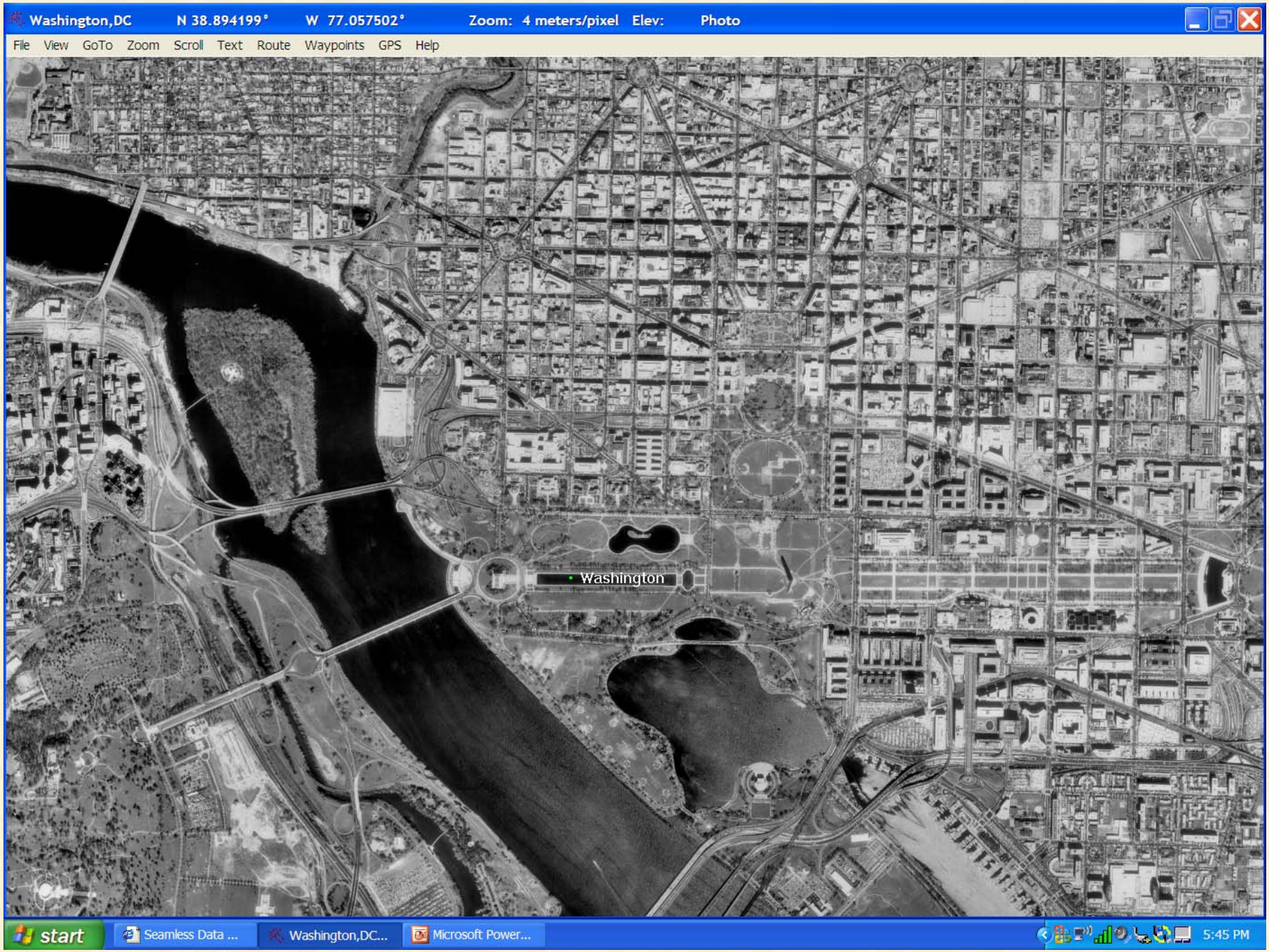
Washington

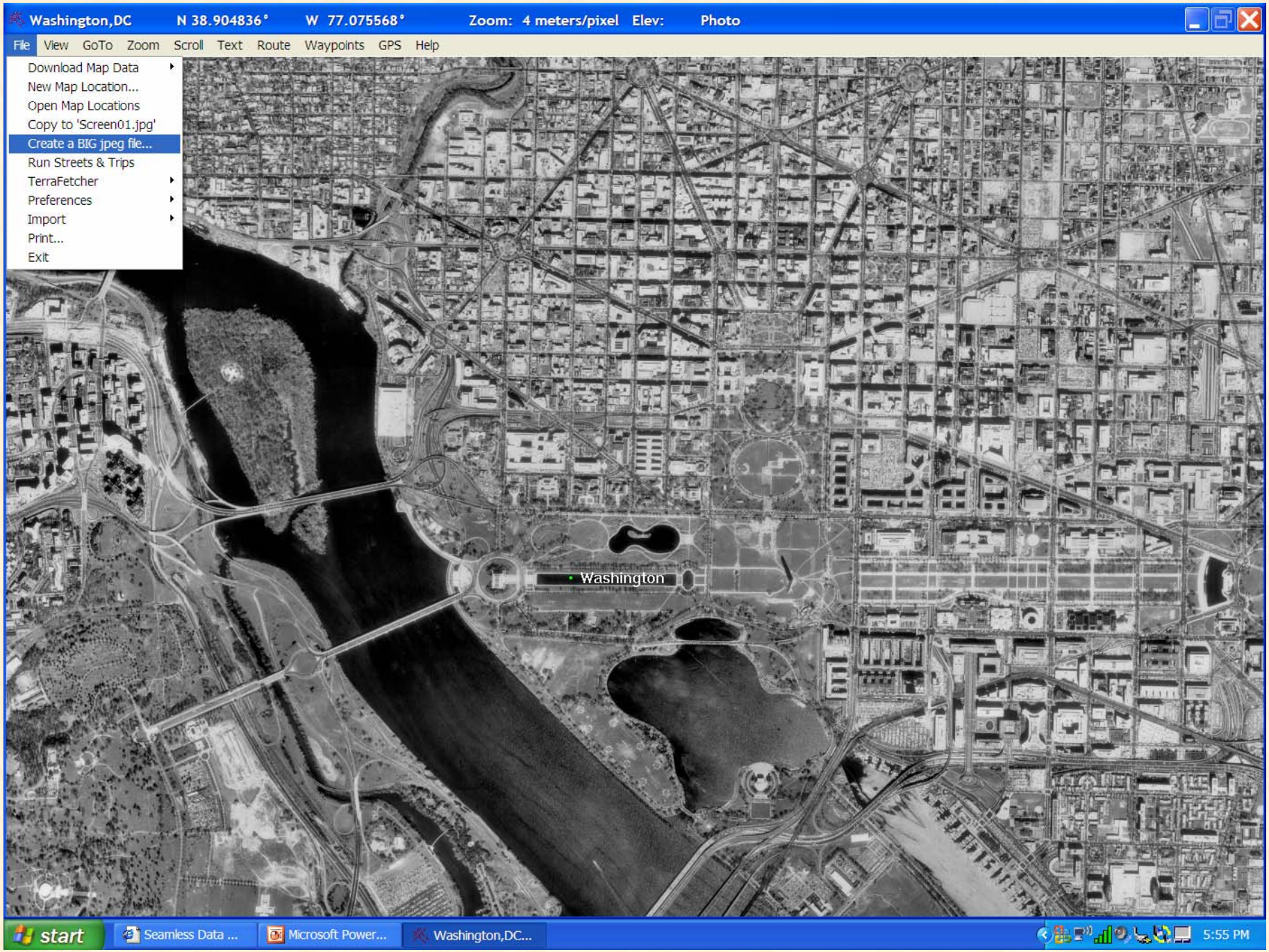
Wireless Network Connection is now connected

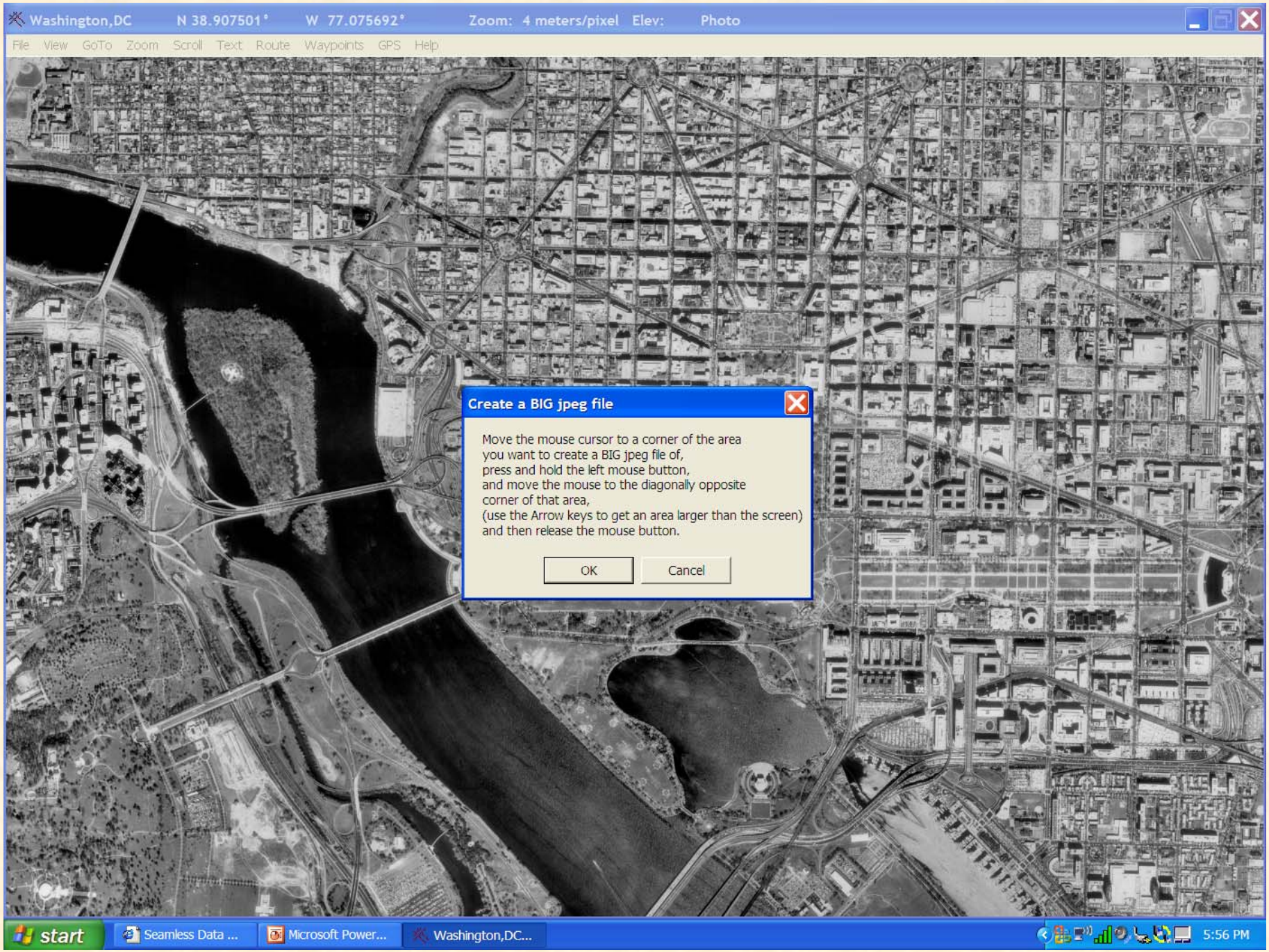
Connected to: NETGEAR
Signal Strength: Very Good

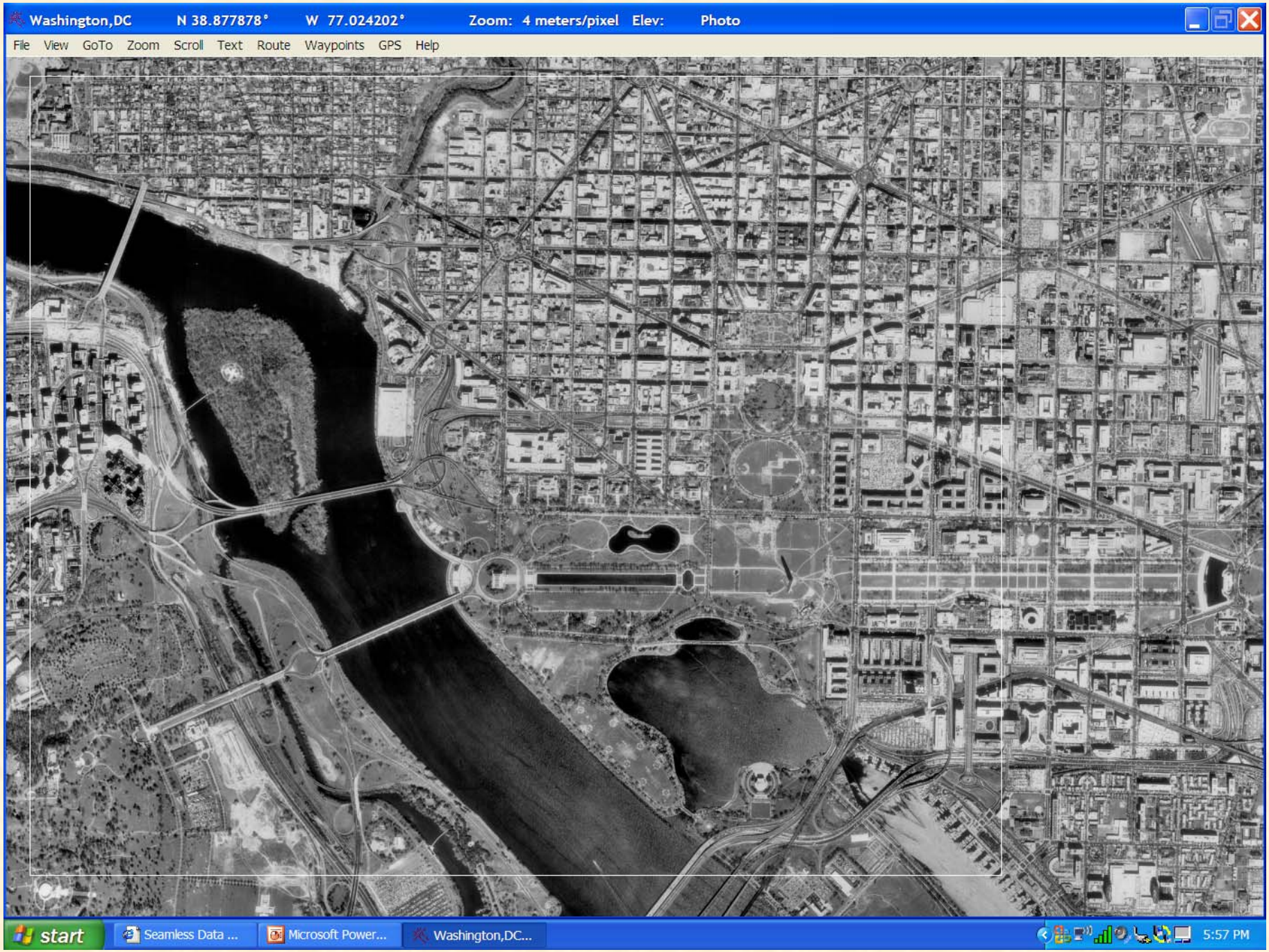
start Seamless Data ... Washington,DC... 5:41 PM

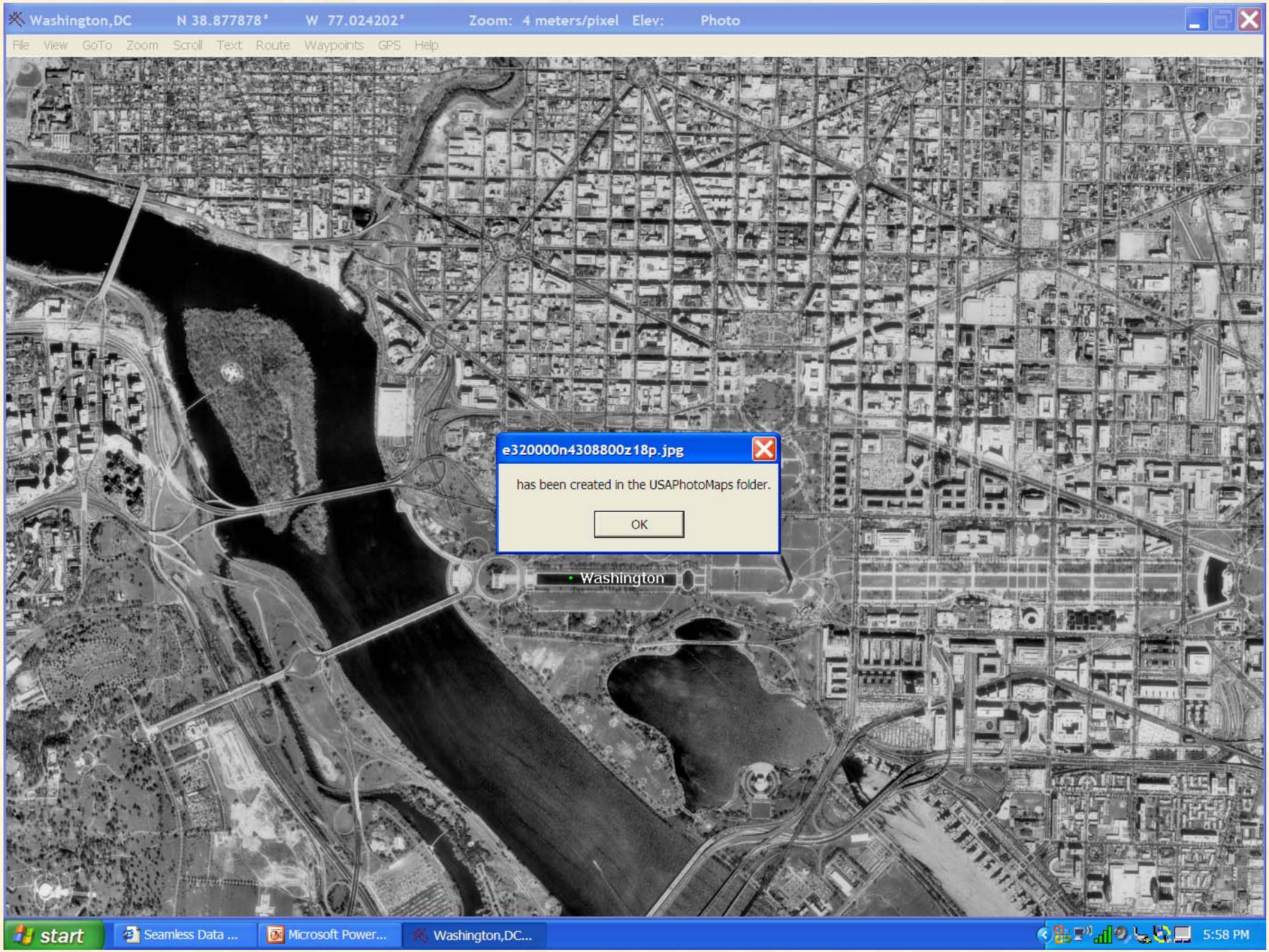

Washington,DC N 38.909408° W 77.065691° Zoom: 4 meters/pixel Elev: Photo
[Stop Downloading]
start
Seamless Data ...
Washington,DC...
Microsoft Power...
5:43 PM


Washington,DC N 38.894199° W 77.057502° Zoom: 4 meters/pixel Elev: Photo
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
Washington
start
Seamless Data ...
Washington,DC...
Microsoft Power...
5:45 PM


Washington,DC N 38.904836° W 77.075568° Zoom: 4 meters/pixel Elev: Photo
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
Download Map Data
New Map Location...
Open Map Locations
Copy to 'Screen01.jpg'
Create a BIG jpeg file...
Run Streets & Trips
TerraFetcher
Preferences
Import
Print...
Exit
Washington
start
Seamless Data ...
Microsoft Power...
Washington,DC...
5:55 PM


Washington,DC N 38.907501° W 77.075692° Zoom: 4 meters/pixel Elev: Photo
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
Create a BIG jpeg file
Move the mouse cursor to a corner of the area
you want to create a BIG jpeg file of,
press and hold the left mouse button,
and move the mouse to the diagonally opposite
corner of that area,
(use the Arrow keys to get an area larger than the screen)
and then release the mouse button.
OK
Cancel
start
Seamless Data ...
Microsoft Power...
Washington,DC...
5:56 PM


Washington,DC N 38.877878° W 77.024202° Zoom: 4 meters/pixel Elev: Photo
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
start
Seamless Data ...
Microsoft Power...
Washington,DC...
5:57 PM


Washington,DC N 38.877878° W 77.024202° Zoom: 4 meters/pixel Elev: Photo
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
e320000n4308800z18p.jpg
has been created in the USAPhotoMaps folder.
OK
Washington
start
Seamless Data ...
Microsoft Power...
Washington,DC...
5:58 PM

USAPhotoMaps

File Edit View Favorites Tools Help

Back Search Folders

Address C:\Program Files\USAPhotoMaps Go

File and Folder Tasks

- Move the selected items
- Copy the selected items
- Publish the selected items to the Web
- E-mail the selected items
- Delete the selected items

Other Places

- Program Files
- My Documents
- Shared Documents
- My Computer
- My Network Places

Details

Name	Size	Type	Date Modified
e320000n4308800z18p.txt	1 KB	Text Document	10/10/2005 5:57 PM
e320000n4308800z18p.jpg	3,079 KB	JPEG Image	10/10/2005 5:57 PM
e320000n4308800z18p.jgw	1 KB	JGW File	10/10/2005 5:57 PM
USB.dta	2 KB	DTA File	10/10/2005 4:50 PM
Position02.csv	8 KB	Microsoft Office Excel ...	10/10/2005 4:50 PM
ACTIVE LOG.csv	120 KB	Microsoft Office Excel ...	10/10/2005 4:47 PM
USAPhotoMaps.ini	1 KB	Configuration Settings	10/10/2005 4:45 PM
.xml	1 KB	XML Document	10/10/2005 3:54 PM
Washington,DC.xml		cument	9/30/2005 1:33 PM
USAPM.ini		ration Settings	9/30/2005 12:58 PM
Position01.csv		ft Office Excel ...	9/29/2005 9:18 PM
PositionXX.csv		ft Office Excel ...	9/29/2005 9:17 PM
uninstall.exe	35 KB	Application	9/29/2005 3:49 PM
USAPhotoMaps.exe	404 KB	Application	9/28/2005 5:22 PM
USAPhotoMaps.txt	28 KB	Text Document	9/28/2005 1:27 PM
GPSHelp.txt	10 KB	Text Document	8/12/2005 3:42 PM
Tiger.txt	6 KB	Text Document	8/9/2005 2:42 PM
TigerCounties.txt	75 KB	Text Document	5/6/2005 10:12 PM
unzip.exe	164 KB	Application	2/28/2005 6:51 PM
jl15.dll	344 KB	Application Extension	8/19/2003 12:11 PM
zlib.dll	52 KB	Application Extension	3/13/2002 9:46 PM
USAPhotoMapsData		File Folder	10/10/2005 5:43 PM
BigPhotoMapsData		File Folder	10/10/2005 4:06 PM

Type: Configuration Settings
Date Modified: 10/10/2005 4:45 PM
Size: 114 bytes

start | Seamless Data ... | Microsoft Power... | Washington,DC... | USAPhotoMaps | 6:02 PM

e320000n4308800z18p.jpg - Windows Picture and Fax Viewer

start | Seamless Data ... | Microsoft Power... | Washington,DC... | USAPhotoMaps | e320000n4308... | 6:03 PM

USAPhotoMaps

File Edit View Favorites Tools Help

Back Search Folders

Address C:\Program Files\USAPhotoMaps Go

File and Folder Tasks

Rename this file
Move this
Copy this
Publish th
E-mail thi
Delete thi

Other Places

Program
My Docum
Shared D
My Compu
My Netwo

Details

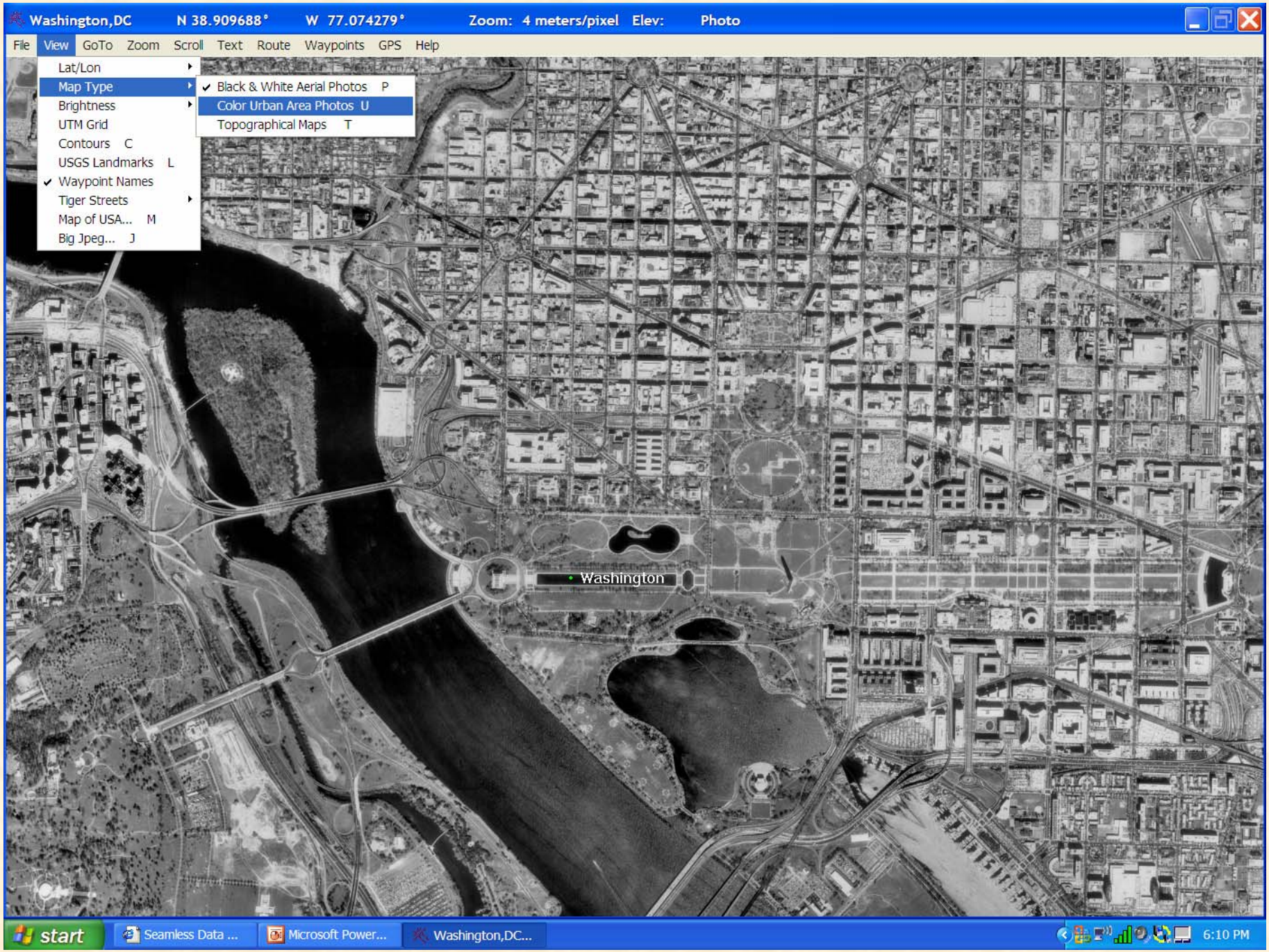
Name	Size	Type	Date Modified
e320000n4308800z18p.txt	1 KB	Text Document	10/10/2005 5:57 PM
e320000n4308800z18p.jpg	3,079 KB	JPEG Image	10/10/2005 5:57 PM
e320000n4308800z18p.jgw	1 KB	JGW File	10/10/2005 5:57 PM
			10/10/2005 4:50 PM
			10/10/2005 4:50 PM
			10/10/2005 4:47 PM
			10/10/2005 4:45 PM
			10/10/2005 3:54 PM
			9/30/2005 1:33 PM
			9/30/2005 12:58 PM
			9/29/2005 9:18 PM
			9/29/2005 9:17 PM
			9/29/2005 3:49 PM
			9/28/2005 5:22 PM
			9/28/2005 1:27 PM
			8/12/2005 3:42 PM
			8/9/2005 2:42 PM
			5/6/2005 10:12 PM
			2/28/2005 6:51 PM
			8/19/2003 12:11 PM
			3/13/2002 9:46 PM
			10/10/2005 5:43 PM
			10/10/2005 4:06 PM

e320000n4308800z18p.jgw - Notepad

File Edit Format View Help

```
1.000000
0.000000
0.000000
-1.000000
320000.00000
4308800.00000
```

start Seamless Data ... Microsoft Power... Washington,DC... USAPhotoMaps e320000n4308... 6:05 PM

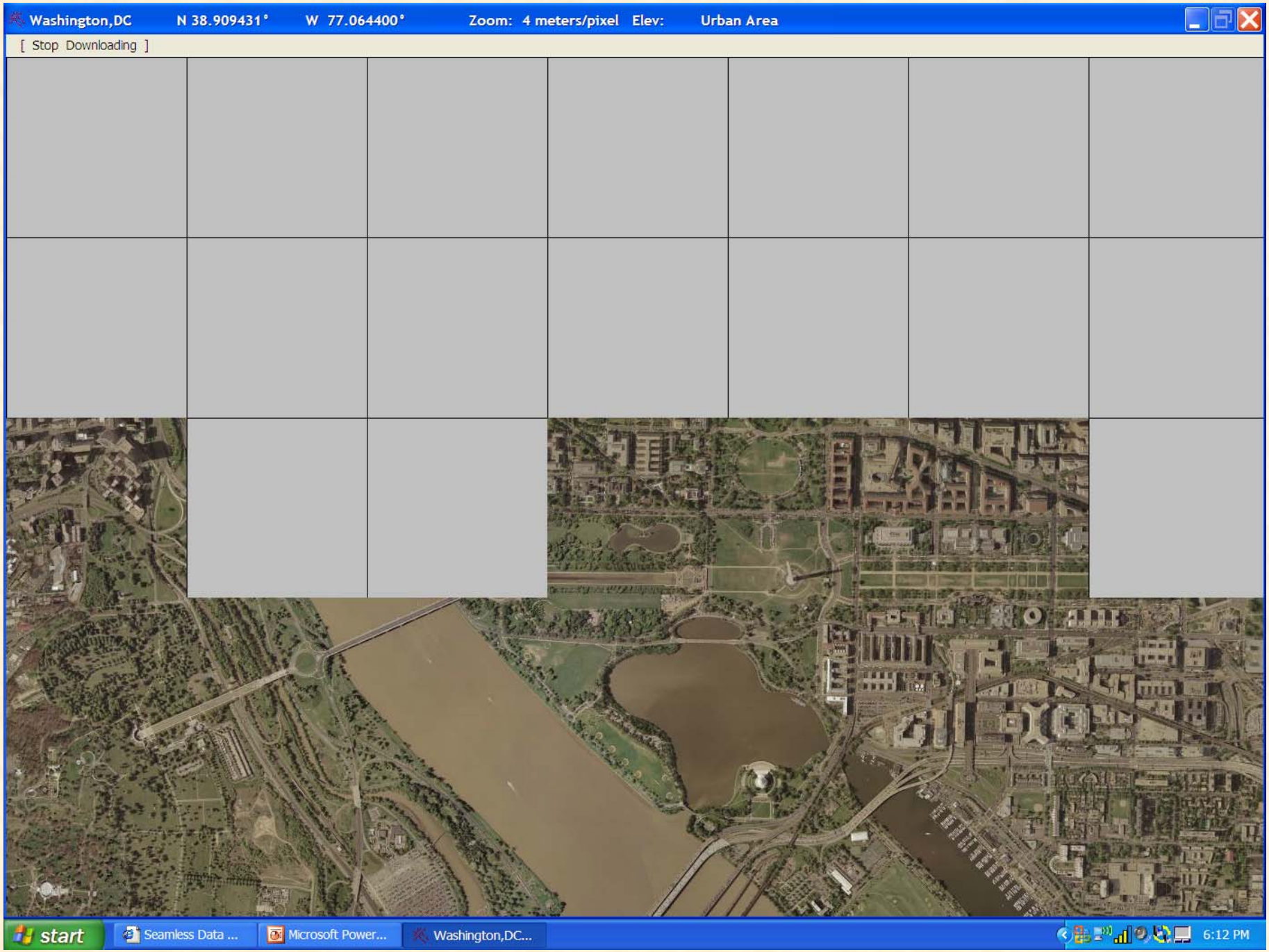

Washington,DC N 38.909688° W 77.074279° Zoom: 4 meters/pixel Elev: Photo
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
Lat/Lon
Map Type
Brightness
UTM Grid
Contours C
USGS Landmarks L
Waypoint Names
Tiger Streets
Map of USA... M
Big Jpeg... J
Black & White Aerial Photos P
Color Urban Area Photos U
Topographical Maps T
Washington
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:10 PM

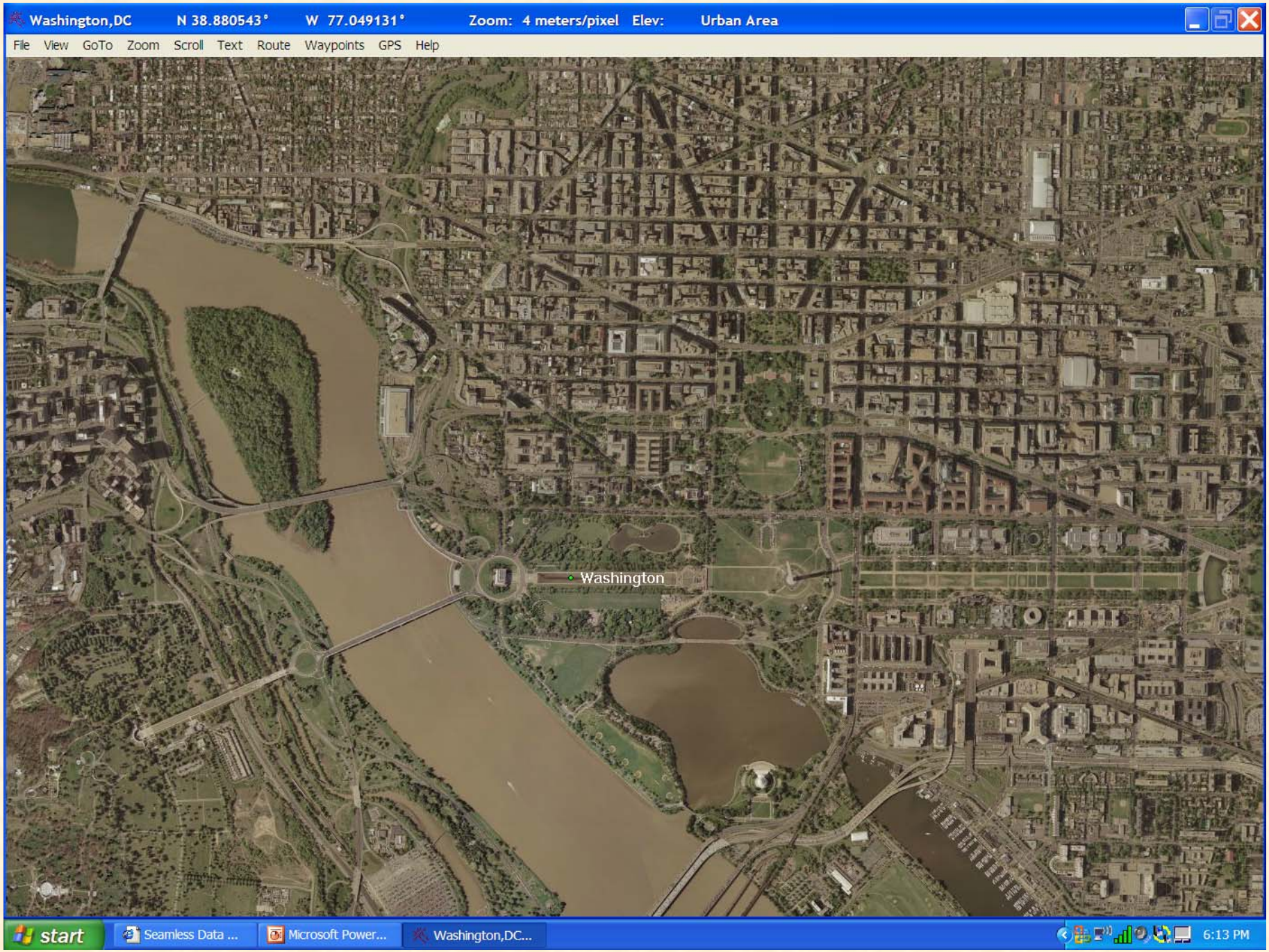
Washington,DC N 38.907959° W 77.064081° Zoom: 4 meters/pixel Elev: Urban Area

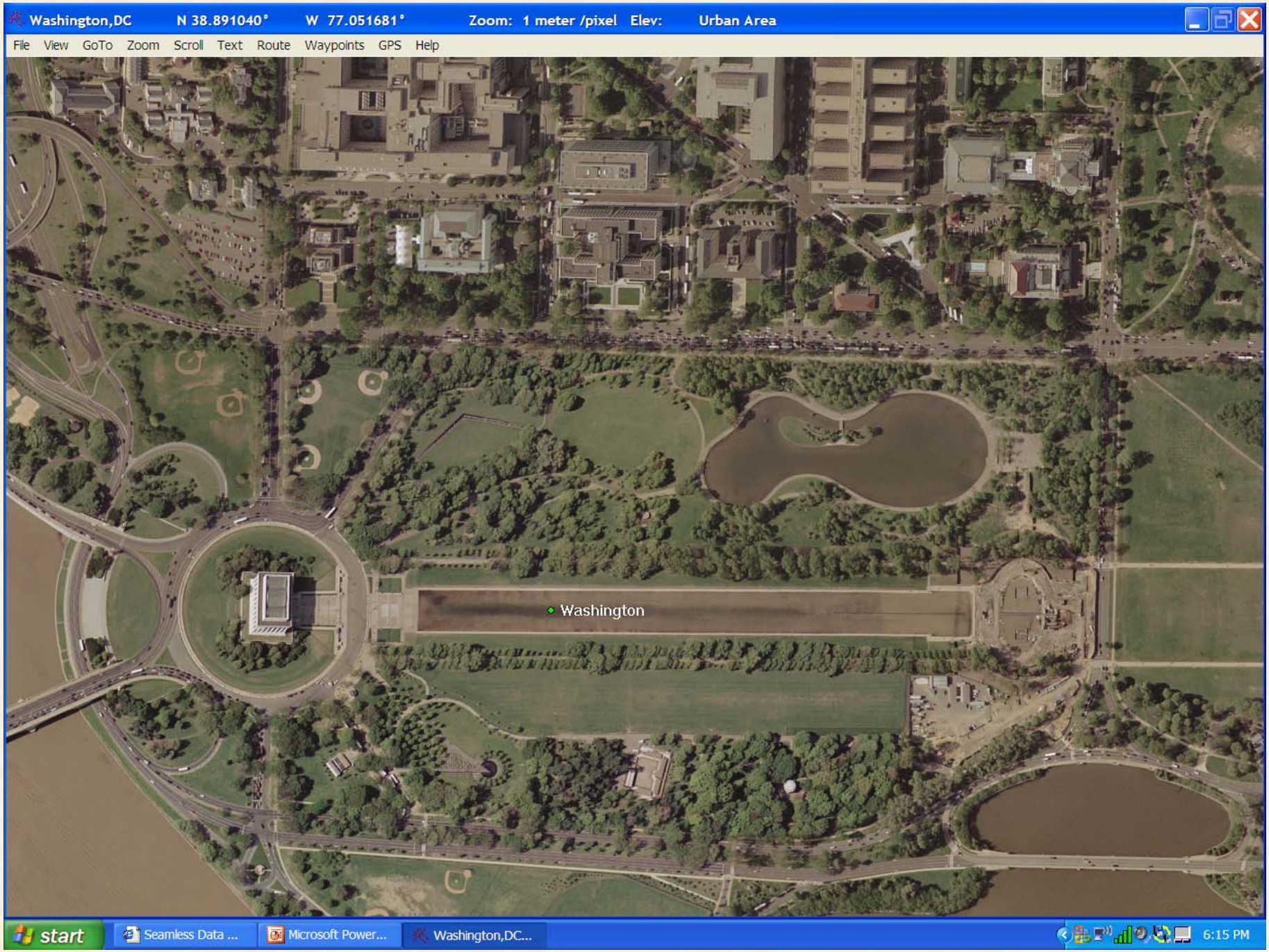
File View GoTo Zoom Scroll Text Route Waypoints GPS Help

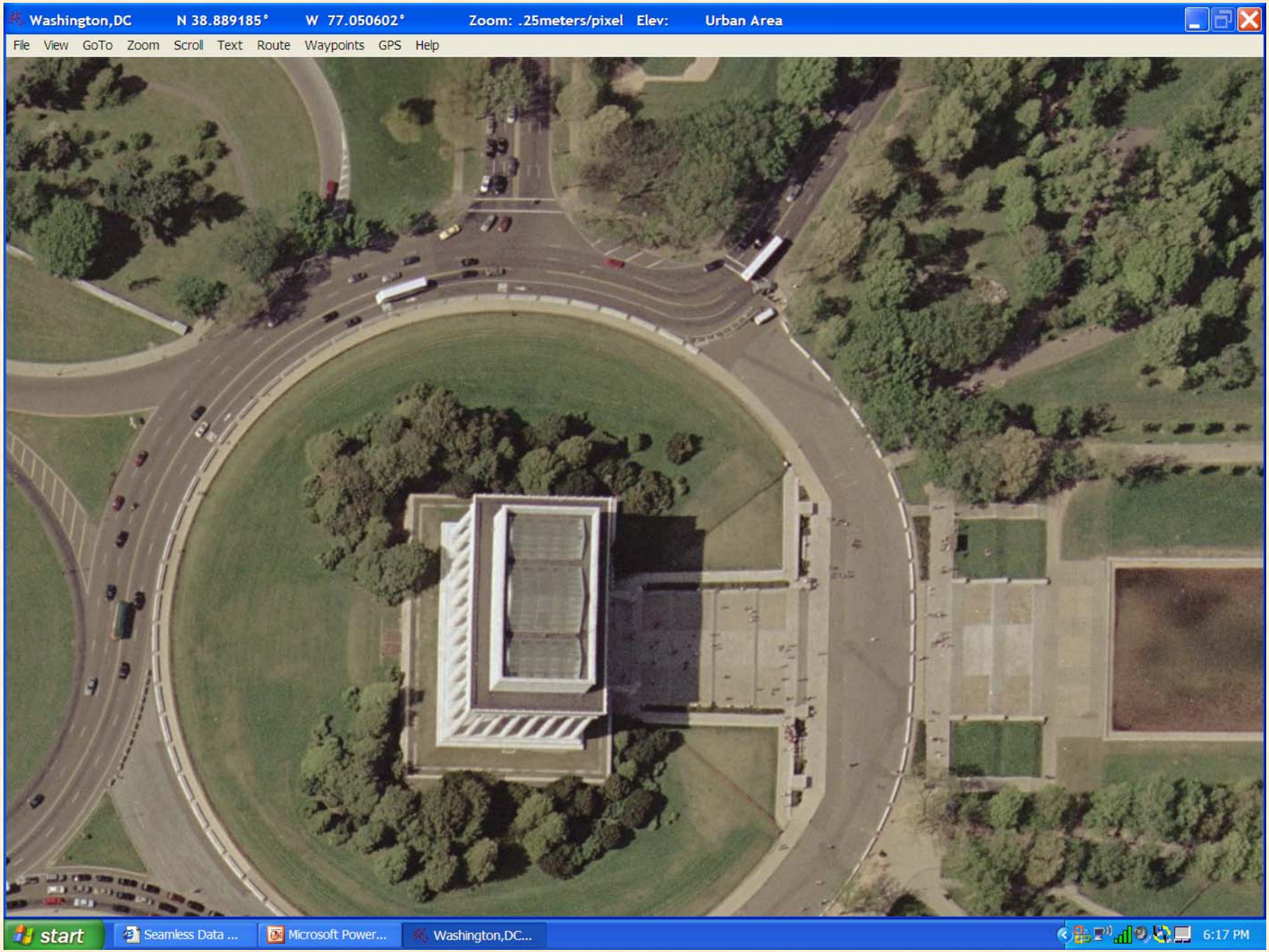
Washington

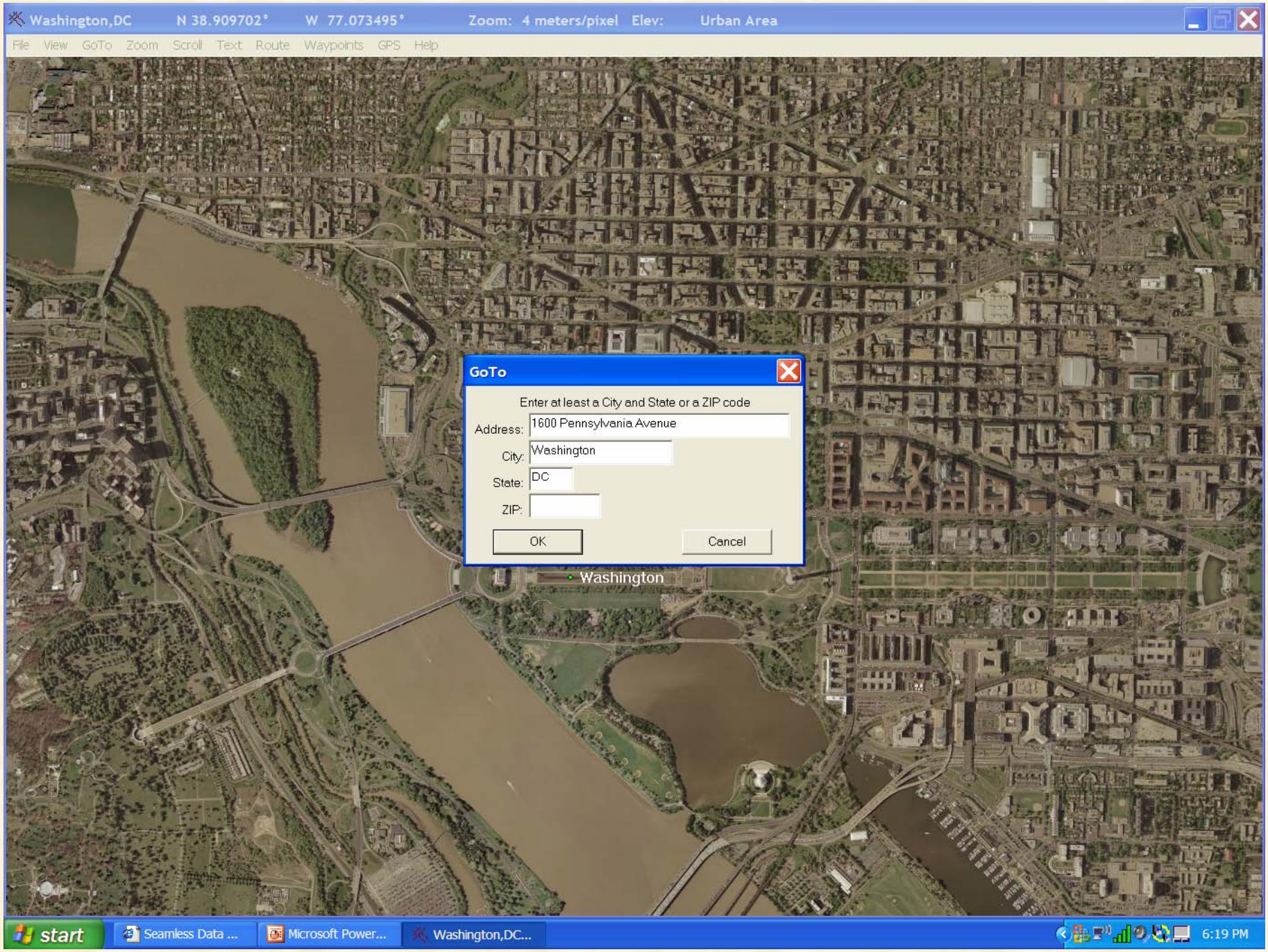
start Seamless Data ... Microsoft Power... Washington,DC... 6:11 PM

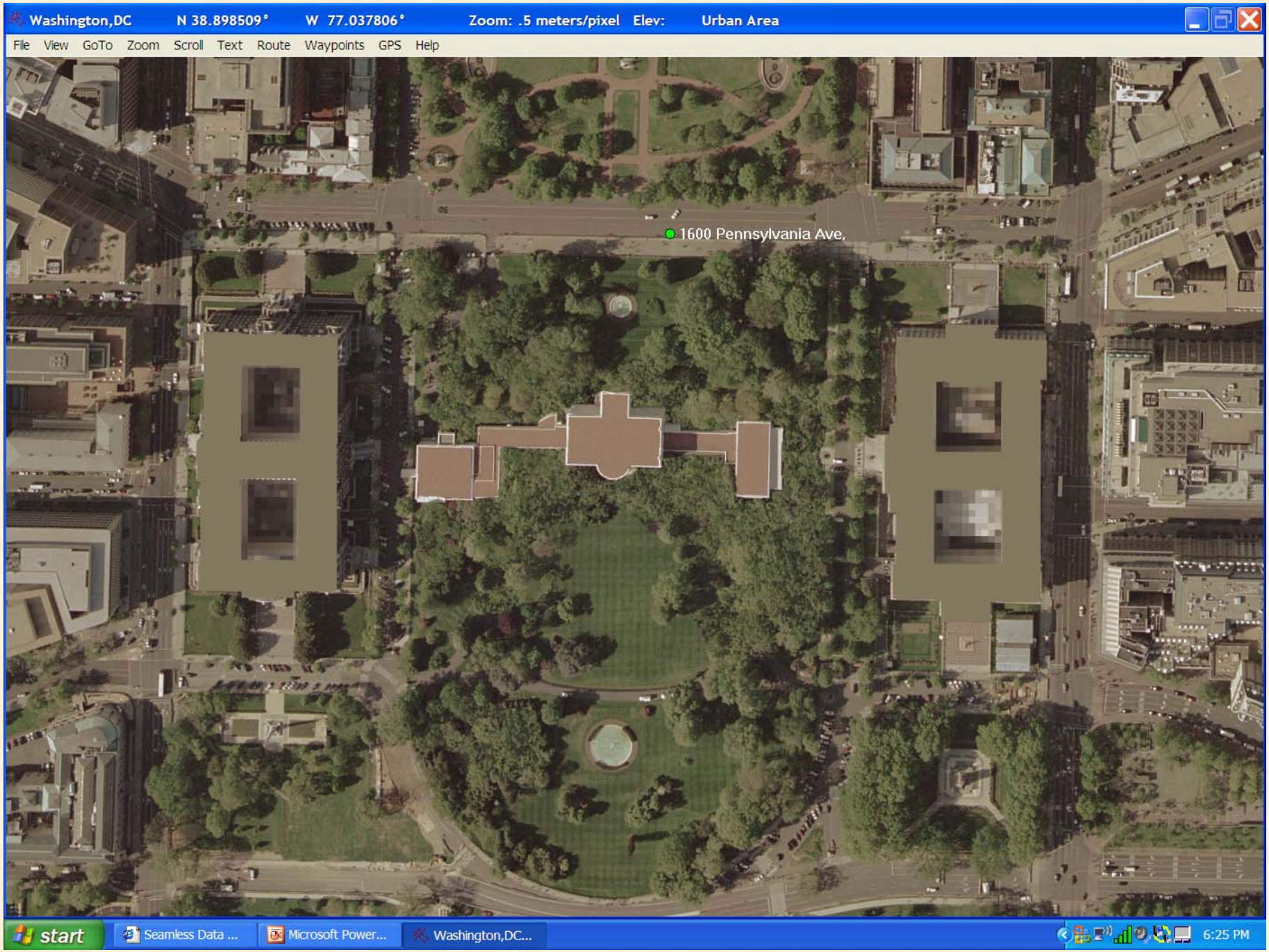

Washington,DC N 38.909431° W 77.064400° Zoom: 4 meters/pixel Elev: Urban Area
[Stop Downloading]
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:12 PM

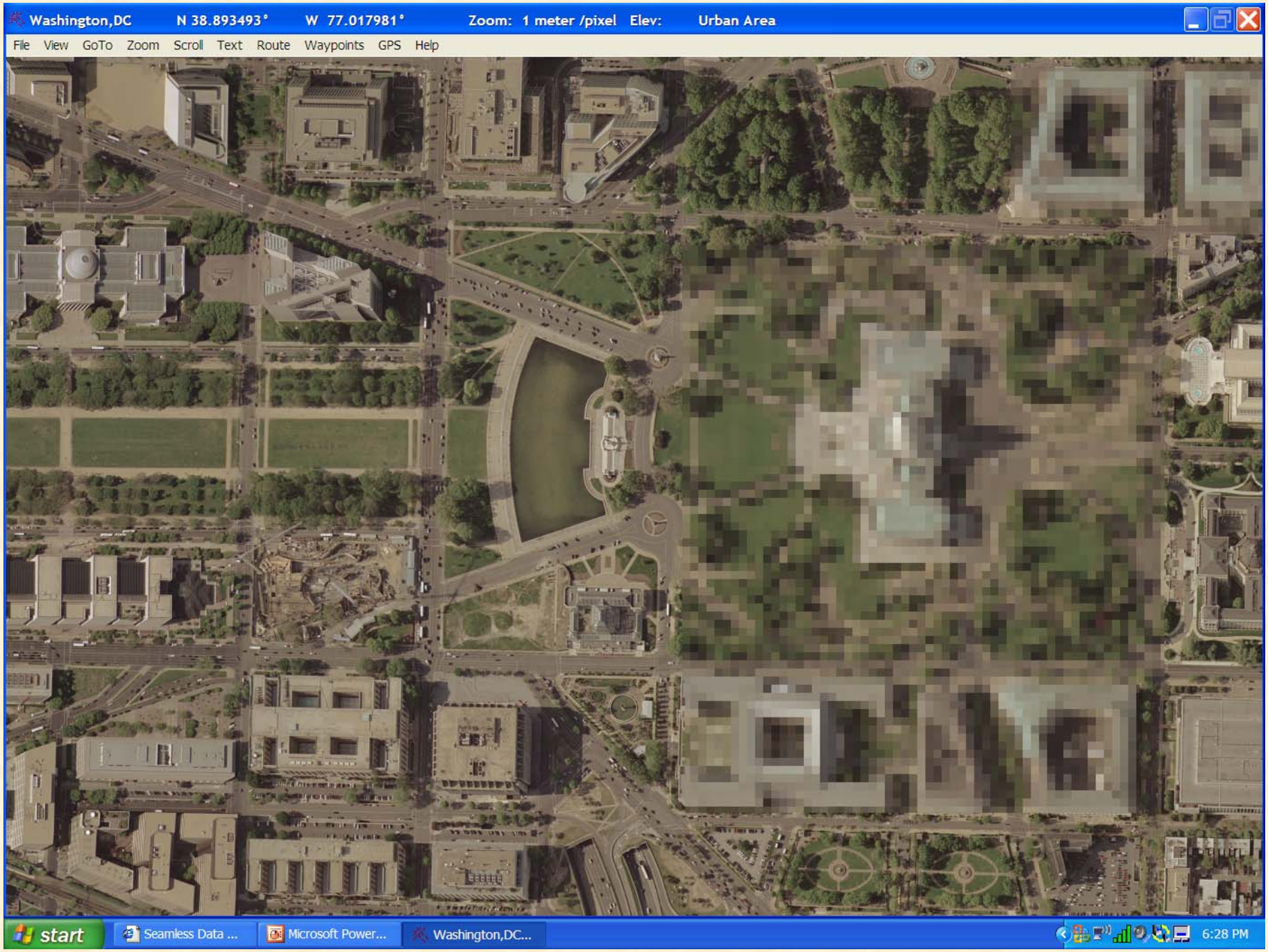

Washington,DC N 38.880543° W 77.049131° Zoom: 4 meters/pixel Elev: Urban Area
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
Washington
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:13 PM


Washington,DC N 38.891040° W 77.051681° Zoom: 1 meter /pixel Elev: Urban Area
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
Washington
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:15 PM


Washington,DC N 38.889185° W 77.050602° Zoom: .25meters/pixel Elev: Urban Area
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:17 PM


Washington,DC N 38.909702° W 77.073495° Zoom: 4 meters/pixel Elev: Urban Area
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
GoTo
Enter at least a City and State or a ZIP code
Address: 1600 Pennsylvania Avenue
City: Washington
State: DC
ZIP:
OK
Cancel
Washington
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:19 PM


Washington,DC N 38.898509° W 77.037806° Zoom: .5 meters/pixel Elev: Urban Area
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
1600 Pennsylvania Ave,
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:25 PM


Washington,DC N 38.893493° W 77.017981° Zoom: 1 meter /pixel Elev: Urban Area
File View GoTo Zoom Scroll Text Route Waypoints GPS Help
start
Seamless Data ...
Microsoft Power...
Washington,DC...
6:28 PM

USGS: The National Map

- Online, interactive map service
- Data available via “The National Map Viewer”
- http://nationalmap.gov/
- All DC, some PA, VA, MD, DE
- Photos available as TIFs, with world file
- Variable resolution
- Variable dates
- UTM coordinate system
- Lots of other data available

West Virginia GIS Technical Center

- Natural color orthophotography
- Entire State of West Virginia (Spring, 2003)
- http://www.wvgis.wvu.edu/data/dataset.php?action=search&ID=254
- Created to improve 911 emergency dispatch and response
- 2’ per pixel resolution
- Available in WV State Plane or UTM coordinate systems
- MrSID file format, with world file

File Edit View Favorites Tools Help

Back Search Favorites

Address http://www.wvgis.wvu.edu/data/dataset.php?action=search&ID=254 Go Links

Google Search 30 blocked Check Look for Map AutoFill Options

West Virginia GIS Technical Center

Home About News Data Internet Mapping Training Directory State Activities Products Links

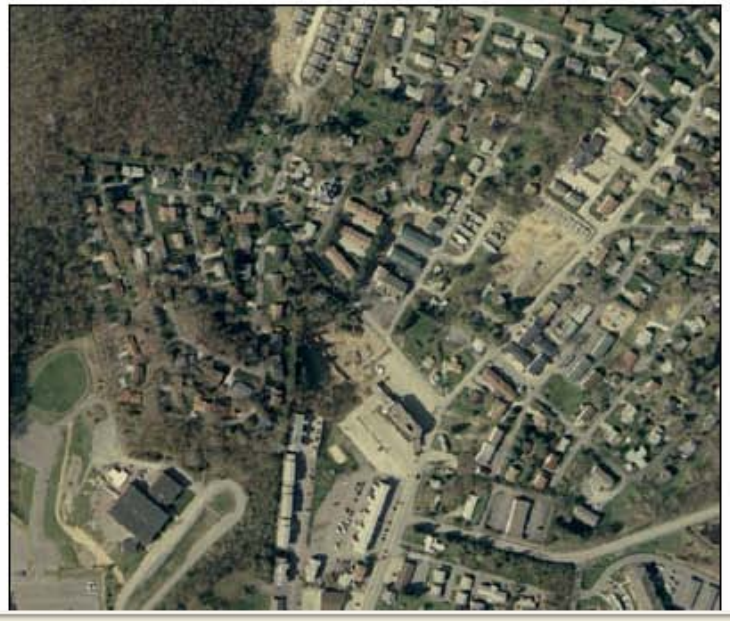
Menu

- About the Center
- GIS News
- GIS Data
  - Search Data
  - Keyword Search
  - List All Data
  - New and Revised Data
  - Index and Status Maps
  - WV Gazetteer
- Internet Mapping
- Training and Education
- State GIS Directory
- State GIS Activities
- Products
- Links
- Site Map

MapWV.gov

SAMB Orthophotos (2003)

Download Summary Metadata Full Metadata

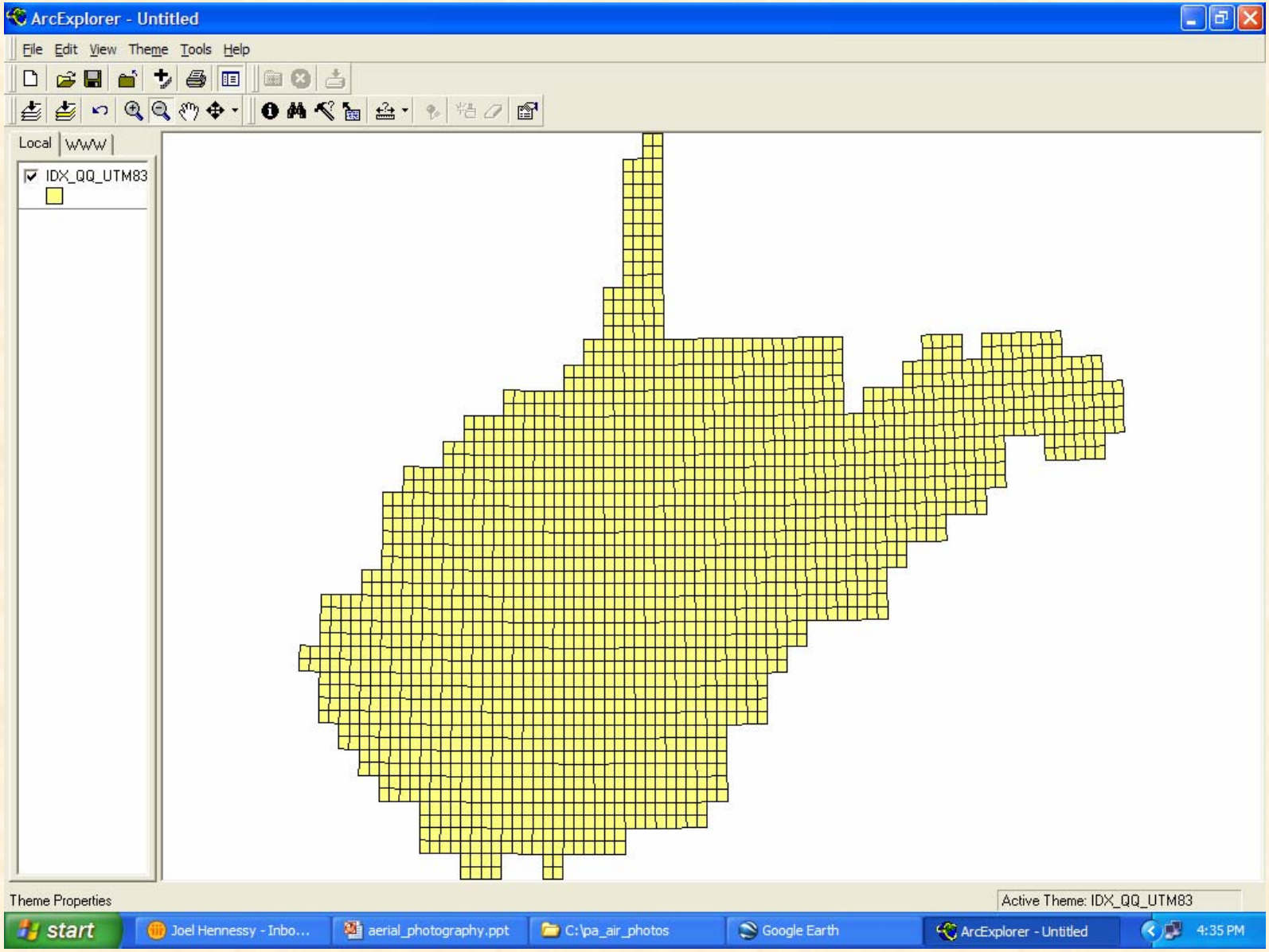


Printable Version

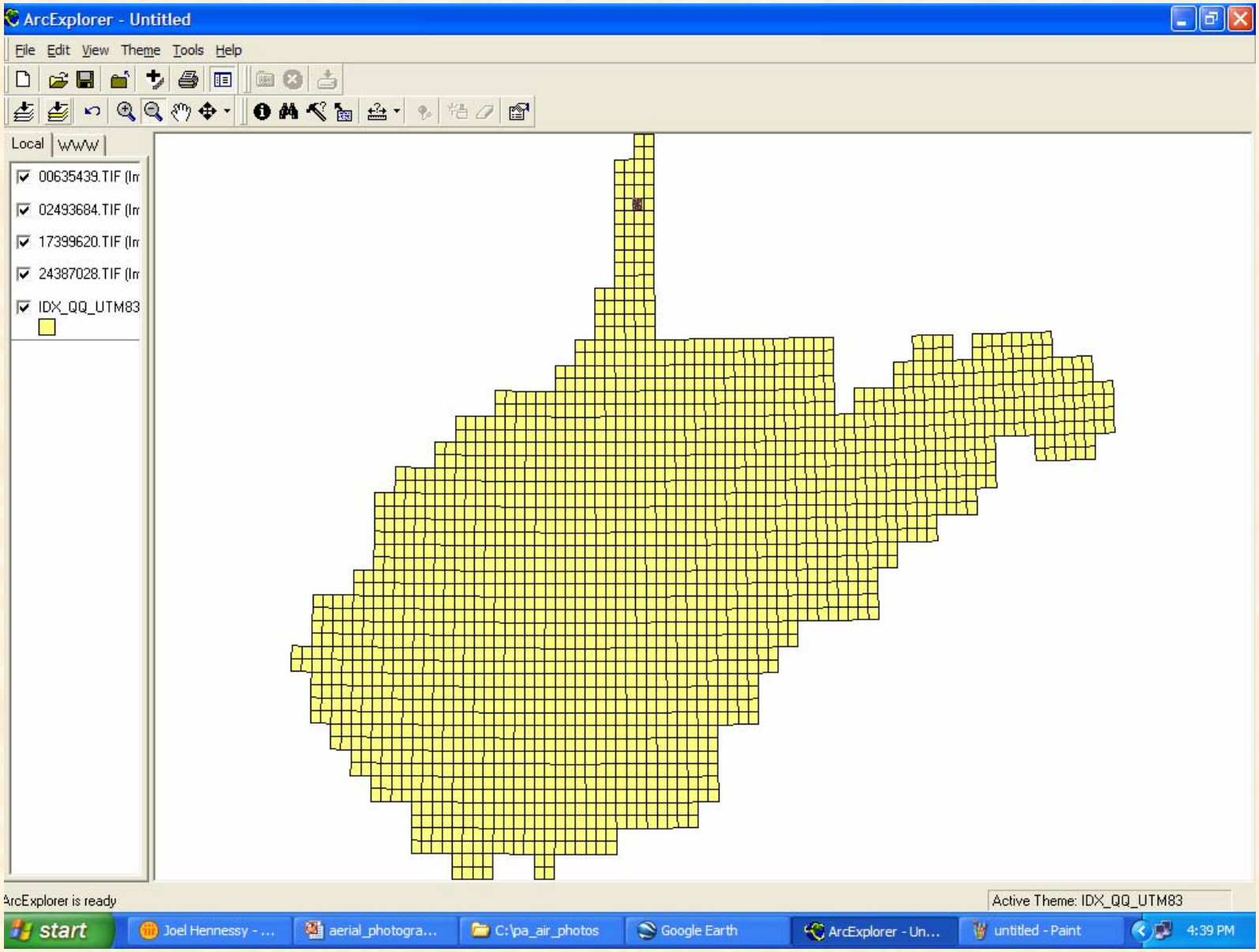
Click Here!

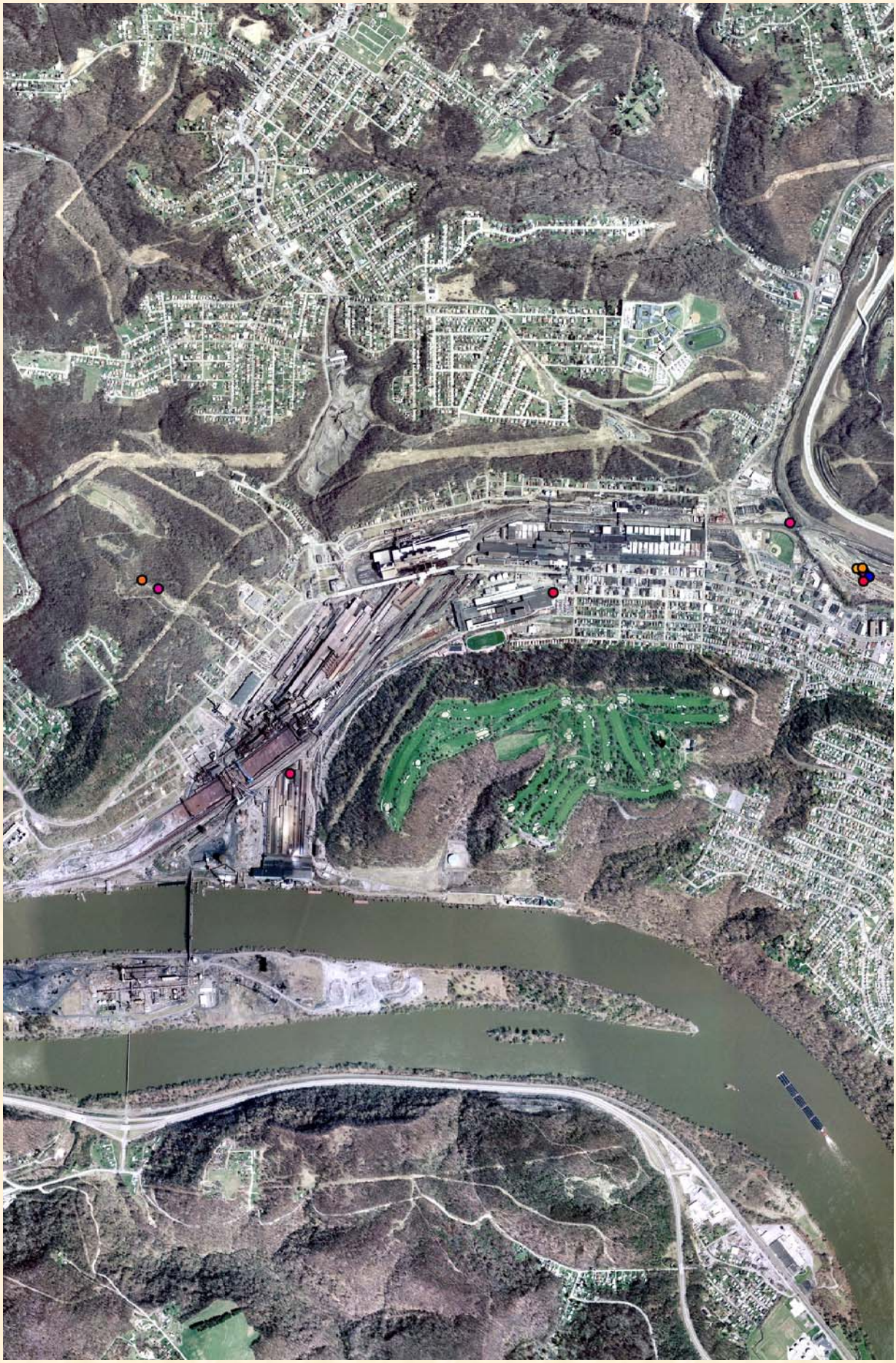
Internet

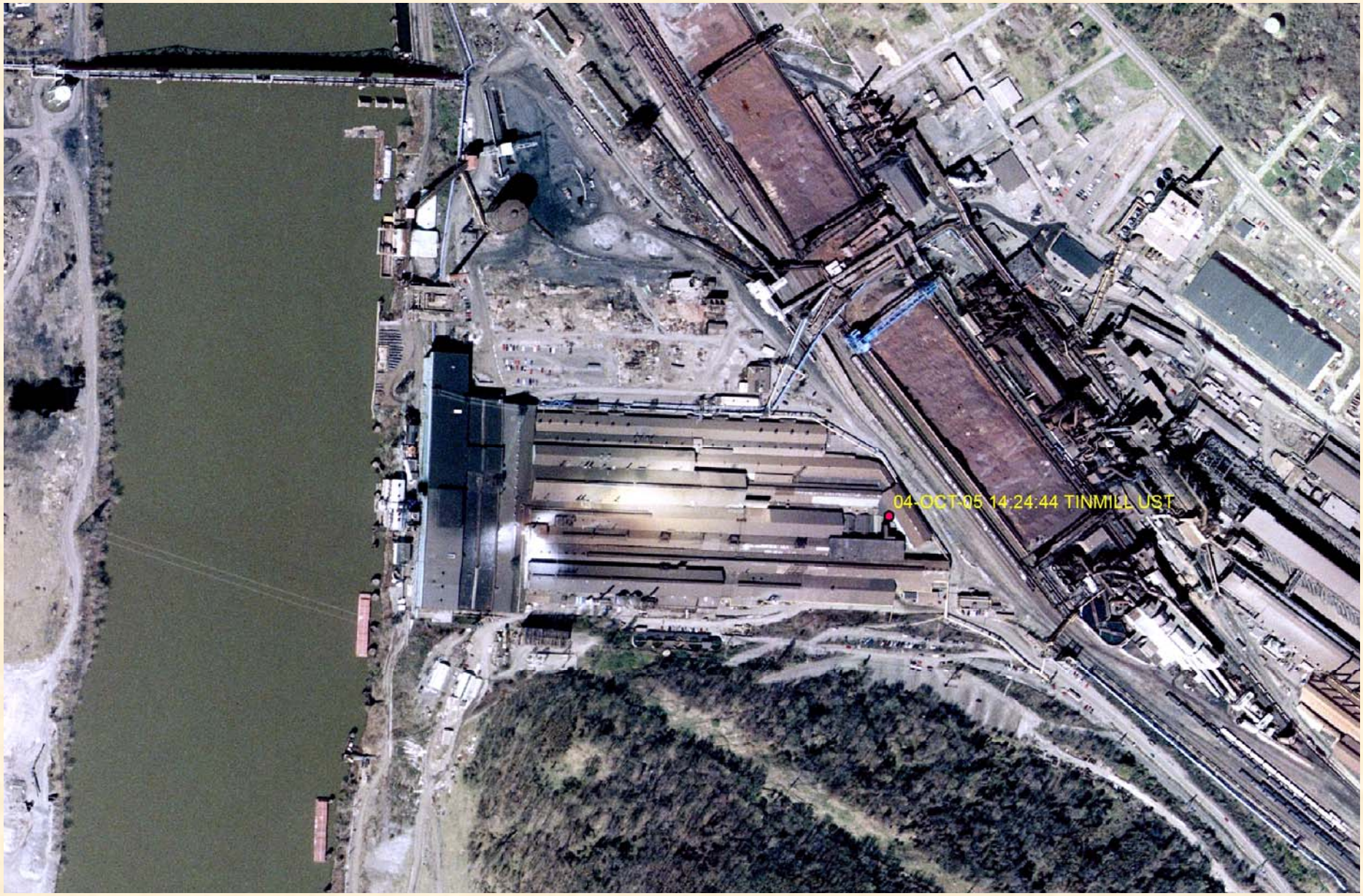
WV Orthophoto Index



WV Orthophoto Index






04-OCT-05 14:24:44 TINMILL UST

04-OCT-05 14:24:44 TINMILL UST

Pennsylvania PAMAP Imagery

- Natural color orthophotography
- Entire State of Pennsylvania (eventually)
- Currently have Fulton, Franklin, Adams, York, Huntingdon, Cumberland, Dauphin, Mifflin, Juniata, Perry, Berks, Schuylkill, Bedford, Bradford, Carbon, Erie, Lancaster, Lebanon, Lehigh, Monroe, Montour, Northampton, Northumberland, and Wayne Counties
- http://www.pasda.psu.edu/pamap/
- Some 2’ some 1’ per pixel resolution
- Available in PA State Plane coordinate system
- MrSID file format, with world file

Scotrun_Texaco

MAR 30 2004

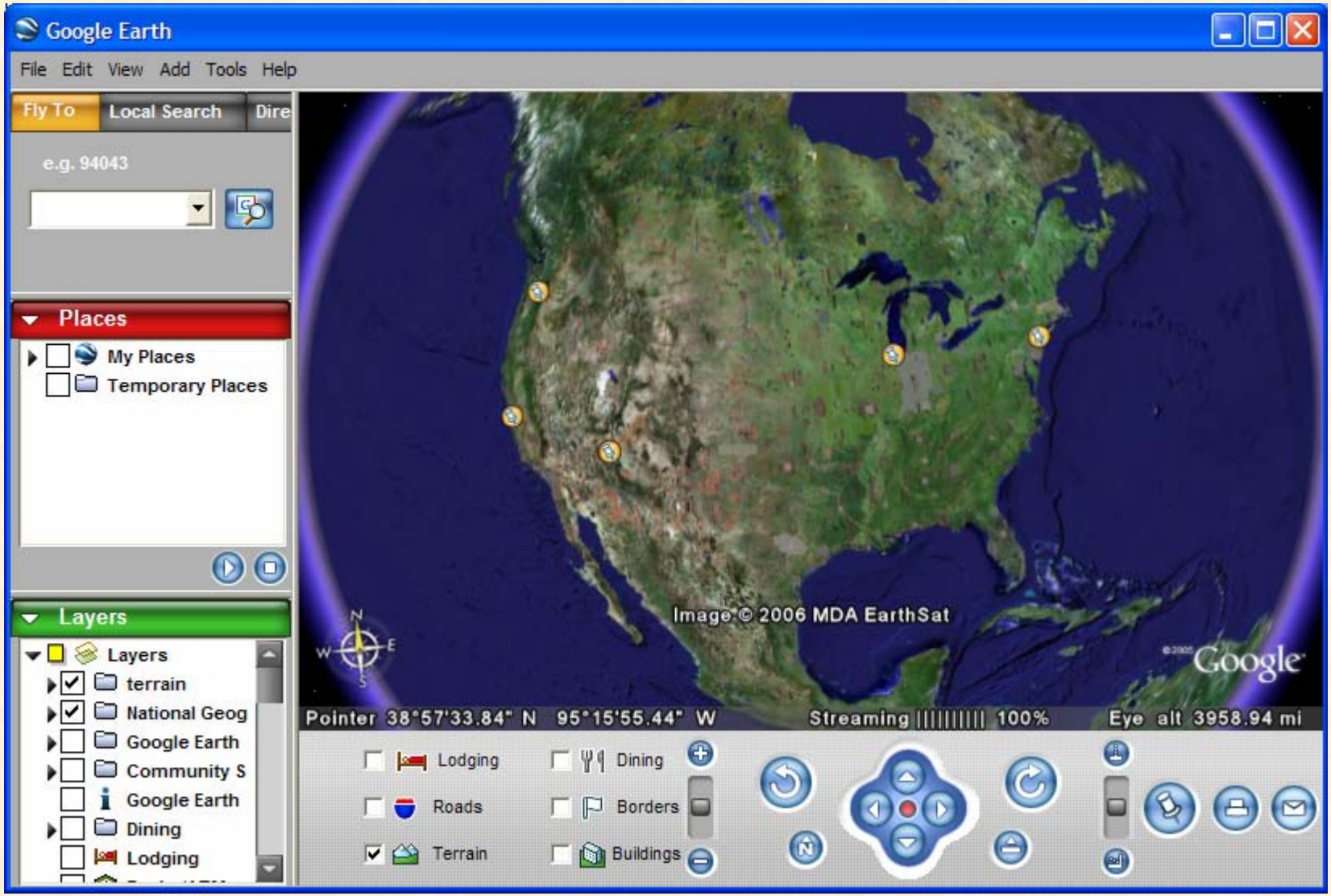
MAR 30 2004

Scotrun_Texaco

Google Earth

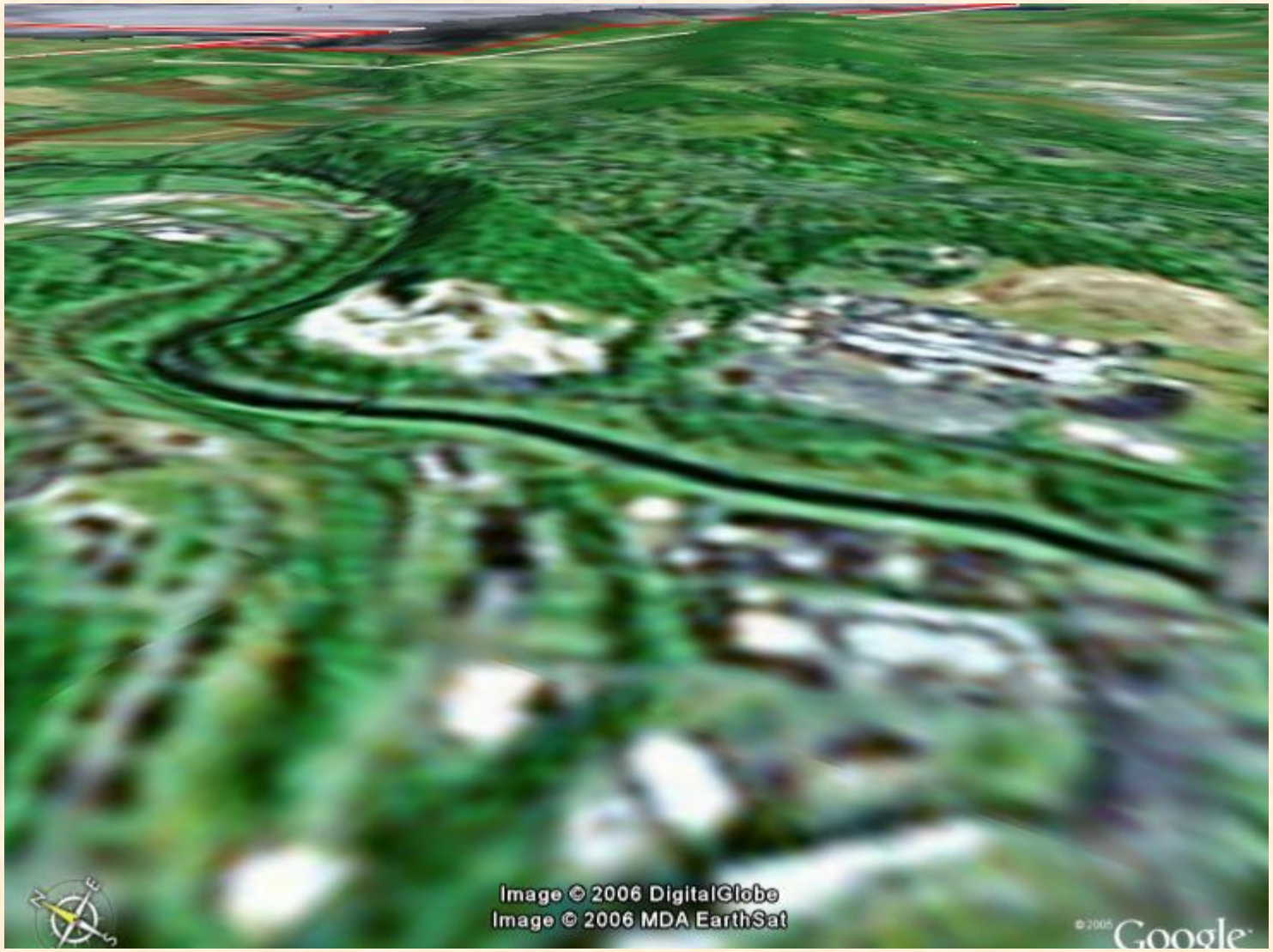
- Program available at http://earth.google.com/
- Go anywhere on Earth
- Tilt image, see draped over DEM
- Fly through landscape
- Save image as JPG
- No world file
- Resolution good to lousy

Google Earth



Harley Davidson - York, PA

Harley Davidson - York, PA



Harley Davidson - York, PA

Google Earth

- Where are we right now?
  - 101 N. Boardwalk, Rehoboth Beach, DE

File Edit View Add Tools Help

Fly To | Local Search | Directions

e.g. San Francisco

walk, rehoboth beach, de 19971

101 N. Boardwalk, rehoboth beach , de 19971

Clear

Places

- My Places
  - LVIP
  - fair_hill
    Fair Hill meeting area
  - Earth's Tectonic Plates
    - Plates
      Deep beneath California, the Pacific and North American
    - Text 3D
    - Arrows 3D
    - Plates Legend
    - USGS Logo
  - test
    - plymouth meeting ikea
    - house

Layers

- Layers
  - terrain
  - Geographic Web
  - Featured Content
  - Global Awareness
  - roads
  - 3D Buildings
  - borders
  - Populated Places
  - Alternative Place Names
  - Dining
  - Lodging
  - Google Earth Community
  - Shopping and Services
  - Transportation
  - Geographic Features

Lodging | Dining
Roads | Borders
Terrain | Buildings

start | Joel Henness... | Microsoft Acti... | Intellisync for... | 2 Windows... | 4 Microsoft... | Google Earth | 12:27 PM

Delaware DataMIL

- Internet mapping service
- Make maps from the web site, or
- Access imagery & features from within GIS
- Current topos
- Historical aerial photography

Delaware DataMIL - Microsoft Internet Explorer provided by EPA - version 6

File Edit View Favorites Tools Help

Back Search Favorites

Address http://datamil.delaware.gov/?c=HOME Go Links

Google aphy delaware Go Bookmarks 128 blocked Check AutoLink AutoFill Send to aerial Settings

Delaware DataMIL
Data Mapping & Integration Laboratory

HOME | MAPPING | METADATA | HELP | ABOUT

The DataMIL is an Internet Mapping Server (IMS) providing the most current base map of Delaware. Users can access the base map from this web site, or pull the data directly into GIS software on their desktops. There are three main components of the DataMIL:

The Map Production Laboratory (Map Lab)

This internet mapping application can be used to:

- Search for locations
- Create maps (standard letter size)
- Download an image
- Extract data for a specific area
- View historic aerial photography
- Download current Topographic Maps for Delaware
- Provide a venue to report data errors to the data stewards

Image Services

Image services are **OGC** compliant and can be accessed using GIS software. Image services are simply an image of either a raster, or a group of vector datasets. These image services are scale dependent and can be directly added to a GIS software mapping application. They cannot be modified. Image services are available for: aerial photography, boundaries, elevation, hydrography, land use/land cover, parcels, reference and transportation. See the **Help GIS Software Link** to access these services.

Feature Services

Feature services are also **OGC** compliant and can be accessed using GIS software. Almost all of the data served through the Map Lab are available as feature data sets.

Site Navigation

HOME
MAPPING
METADATA
HELP
ABOUT

DataMIL News

New DataMIL Web Statistics
2006.11.22

Historic 1968 Aerial Photography now available!
2006.09.12

Sussex County Parcels Updated
2006.09.01

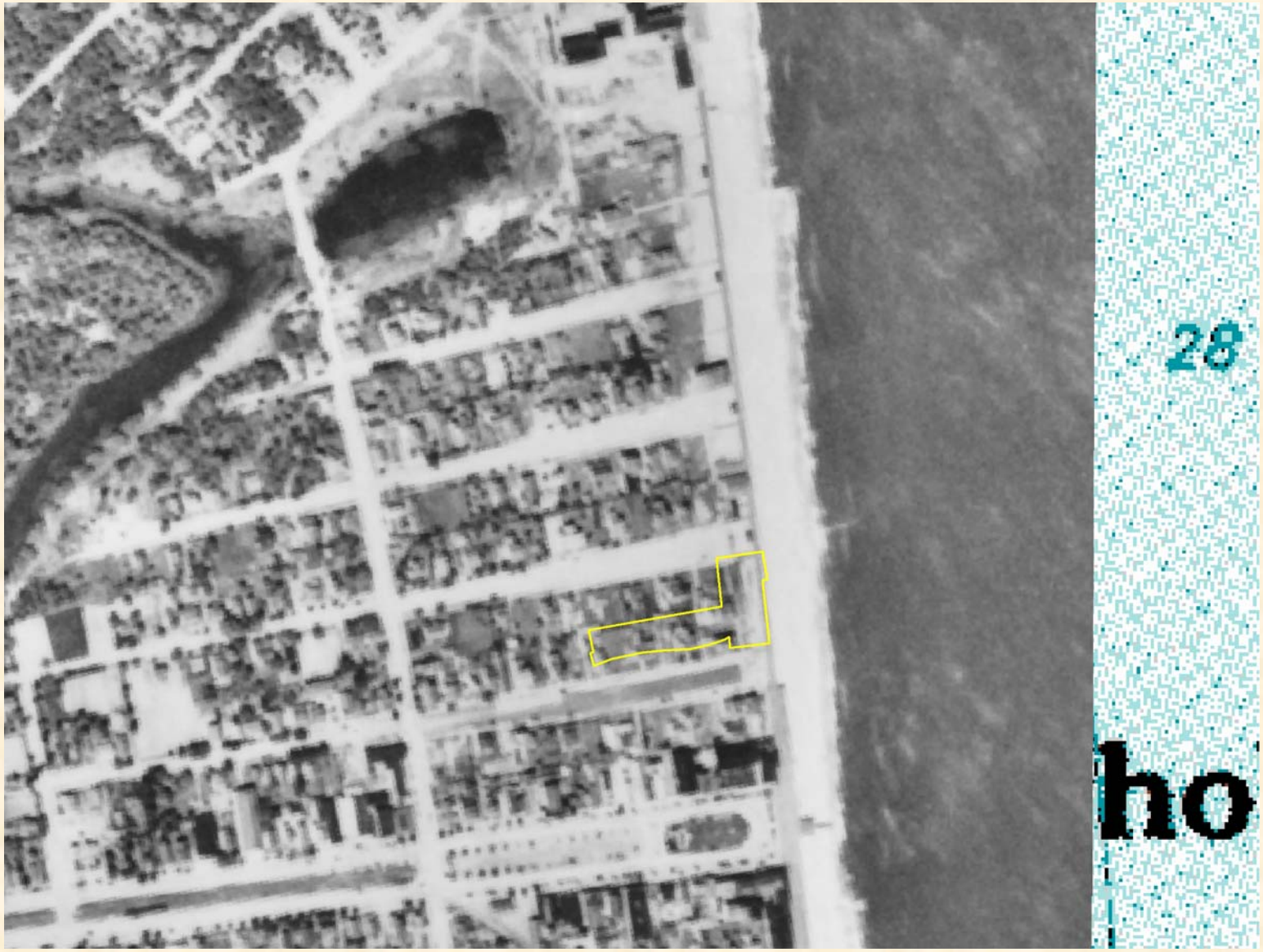
Municipal Boundaries and Community Names Updated
2006.09.01

RSS

Map Lab

Map Lab
Click Here To Enter

Internet

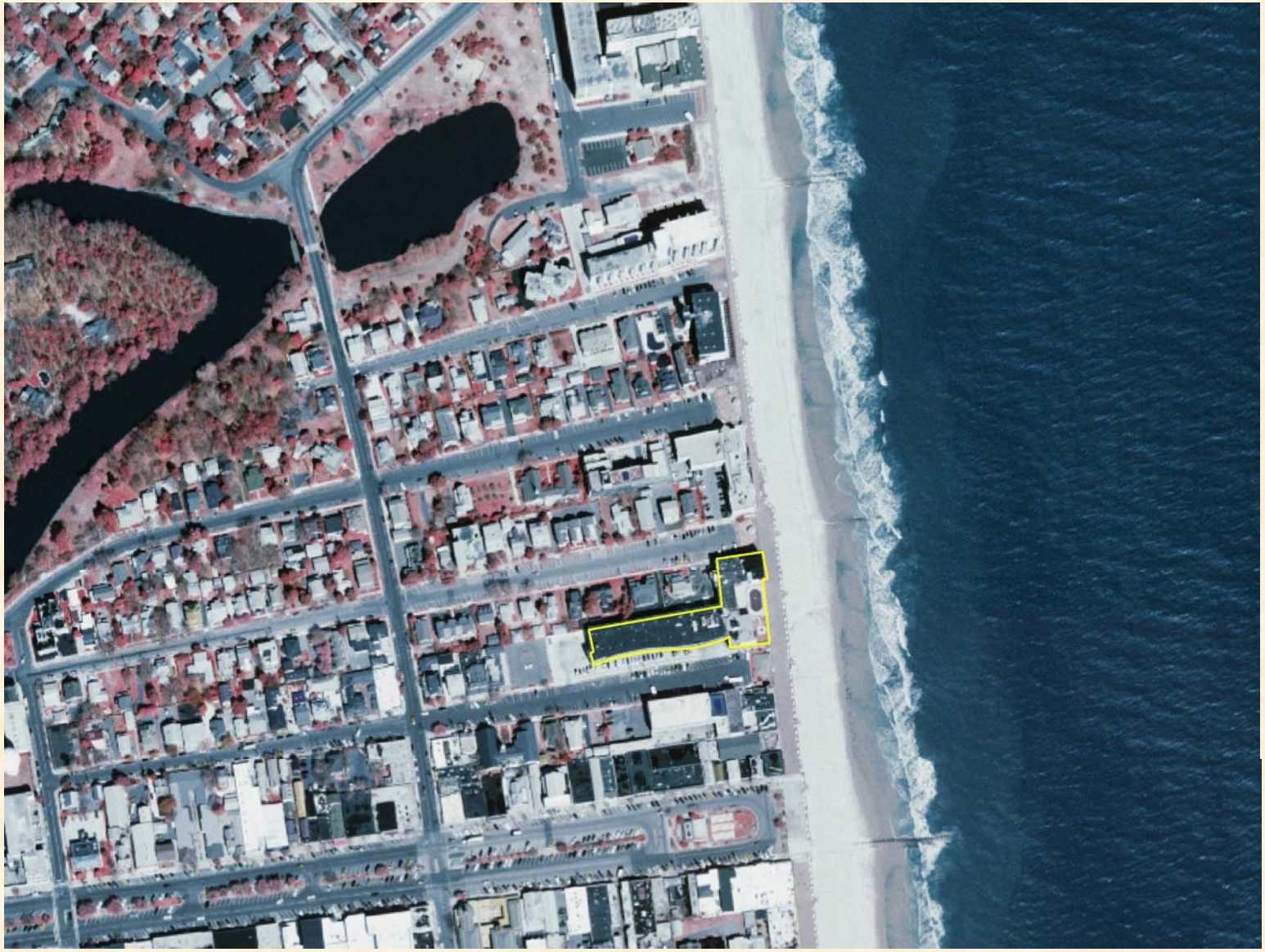


1937

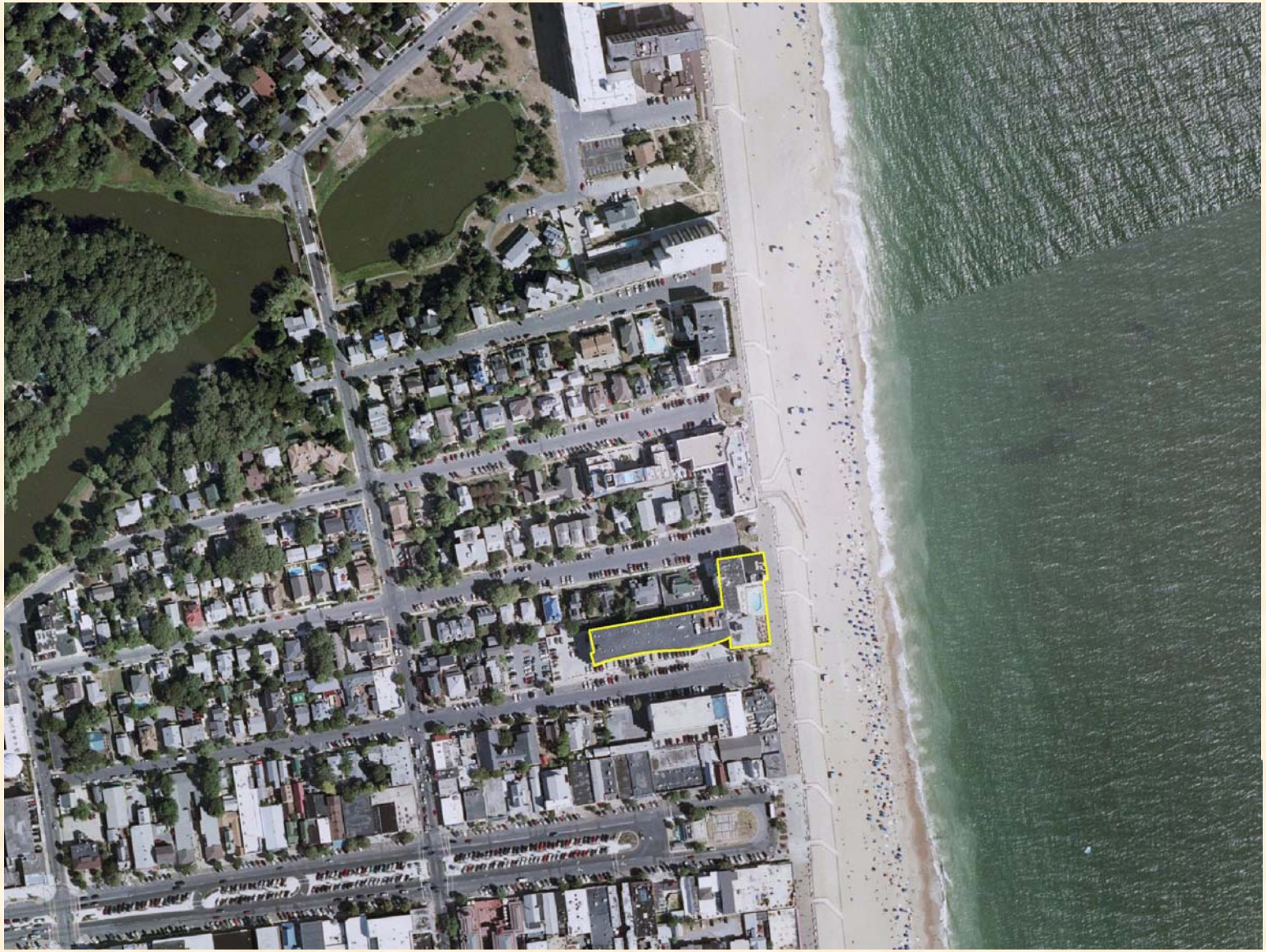
1954

1961

1968



2002



(not from DE DataMIL…)

2005

DNR Garmin

- Minnesota DNR GPS Application
- Directly transfer data between Garmin GPS and GIS
- Create ArcView shapefiles from tracks and waypoints
- Available at: http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html

ArcExplorer - Untitled

File Edit View Theme Tools Help

Local WWW

ArcExplorer is ready

No Active Theme

Start ArcExplorer - Untitled rcra_workshop_rehoboth... Microsoft PowerPoint - [e... 5:31 PM

ArcExplorer - Untitled

File Edit View Theme Tools Help

Local | WWW

Add Theme(s)

Data Types: All ArcExplorer Types

Add Theme | Close

Accept selection

C:\rcra_workshop_rehoboth_2007\color_air_photo_and_GPS_data\

- My Downloads
- My Music
- pamap_shapefiles
- presentations
- Program Files
- RARE
- rcra_workshop_rehoboth_2007
  - color_air_photo_and_GPS_data
  - DE_historical_photos
  - waypoints_tracks
- Recycled
- Solutia

Name	Type	Size
tracks_4_25_2007.shp	Arc	1KB
waypoints_4_25_2007.shp	Point	1KB
color_air_photo_9_1_2005.jpg	Image	2290KB
color_infrared_3_24_92.jpg	Image	262KB

4 items found

ArcExplorer is ready

No Active Theme

Start | Microsoft PowerPoint - [e... | ArcExplorer - Untitled | Add Theme(s) | 5:41 PM

ArcExplorer - Untitled

File Edit View Theme Tools Help

Local | WWW

WAYPOINTS_4_

TRACKS_4_25_

COLOR_AIR_PH

Theme Properties

Active Theme: WAYPOINTS_4_25_2007

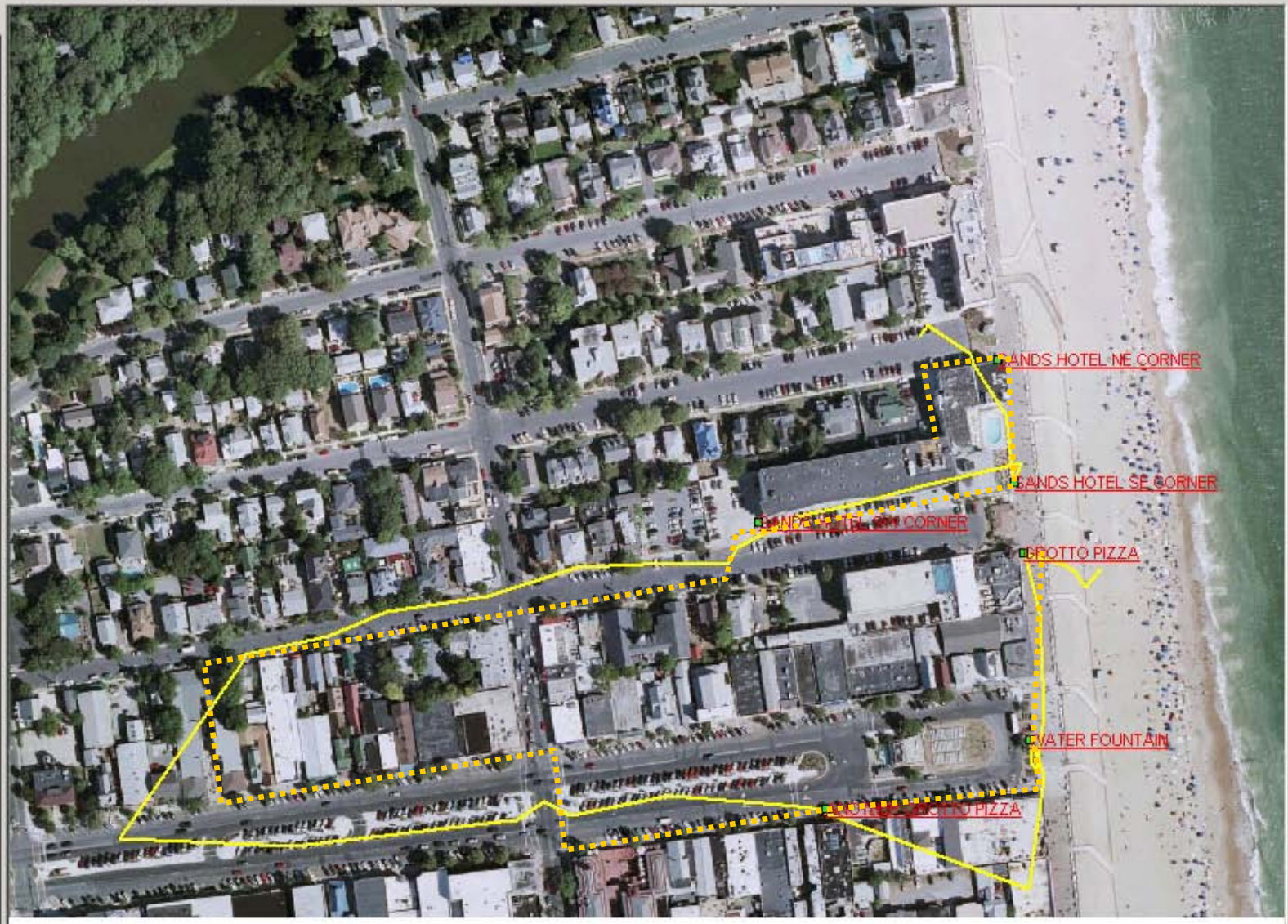
Start | Microsoft PowerPoint - [e... | ArcExplorer - Untitled | 5:43 PM

ArcExplorer - workshop_hotel.AEP

File Edit View Theme Tools Help

Local WWW

- WAYPOINTS_4_25_2007
- TRACKS_4_25_2007
- COLOR_AIR_PHOTO_9_1_2



Remove Active Theme

No Active Theme

Start ArcExplorer - worksho... Microsoft PowerPoint - [e... 2:41 PM

1990 Census

- Asked question about source of water in 1990
- Did not ask question in 2000

H15. Do you get water from –

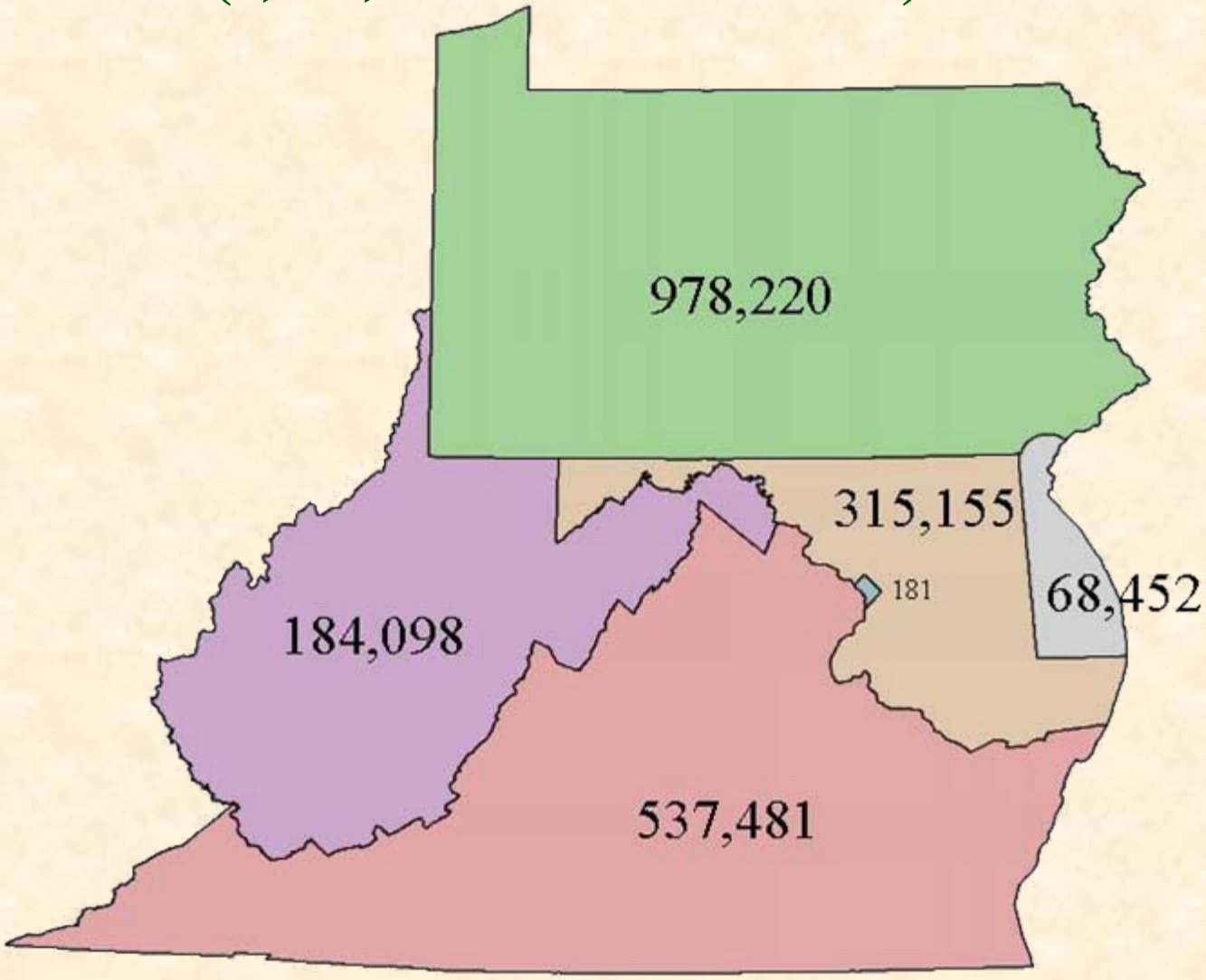
- ○ A public system such as a city water department, or private company?
- ○ An individual drilled well?
- ○ An individual dug well?
- ○ Some other source such as a spring, creek, river, cistern, etc.?

1990 Census Data

- WILL PROVIDE:
  - Number of homes with wells in blockgroup
  - Number of households in blockgroup
  - Location of blockgroups
  - Other demographic data
- WILL <u>NOT</u> PROVIDE:
  - Street address of homes with wells
  - Names of individuals
  - Well information (depth, construction, etc.)

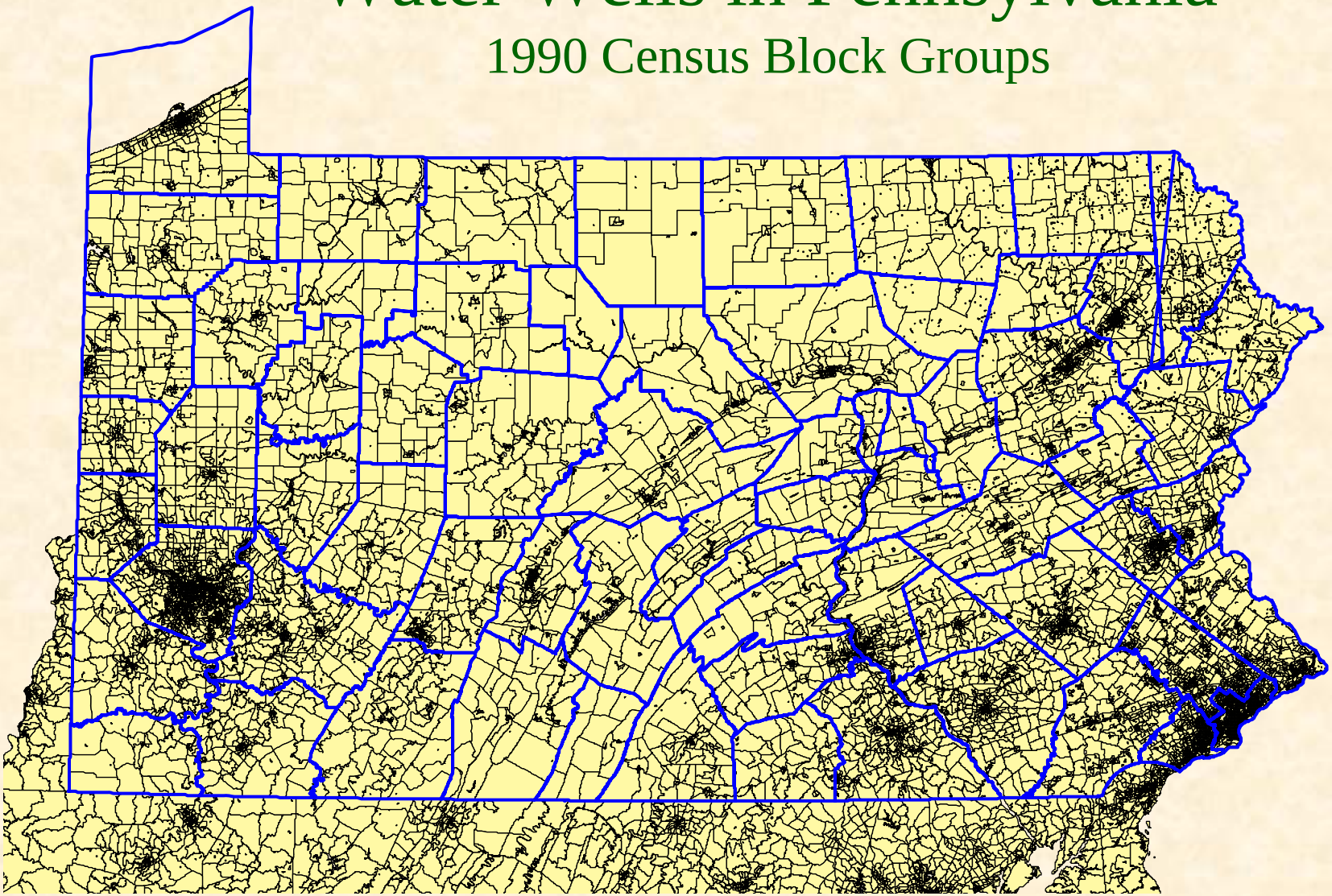
Private Wells in Region 3

(2,083,587 as of 1990 Census)



Water Wells in Pennsylvania

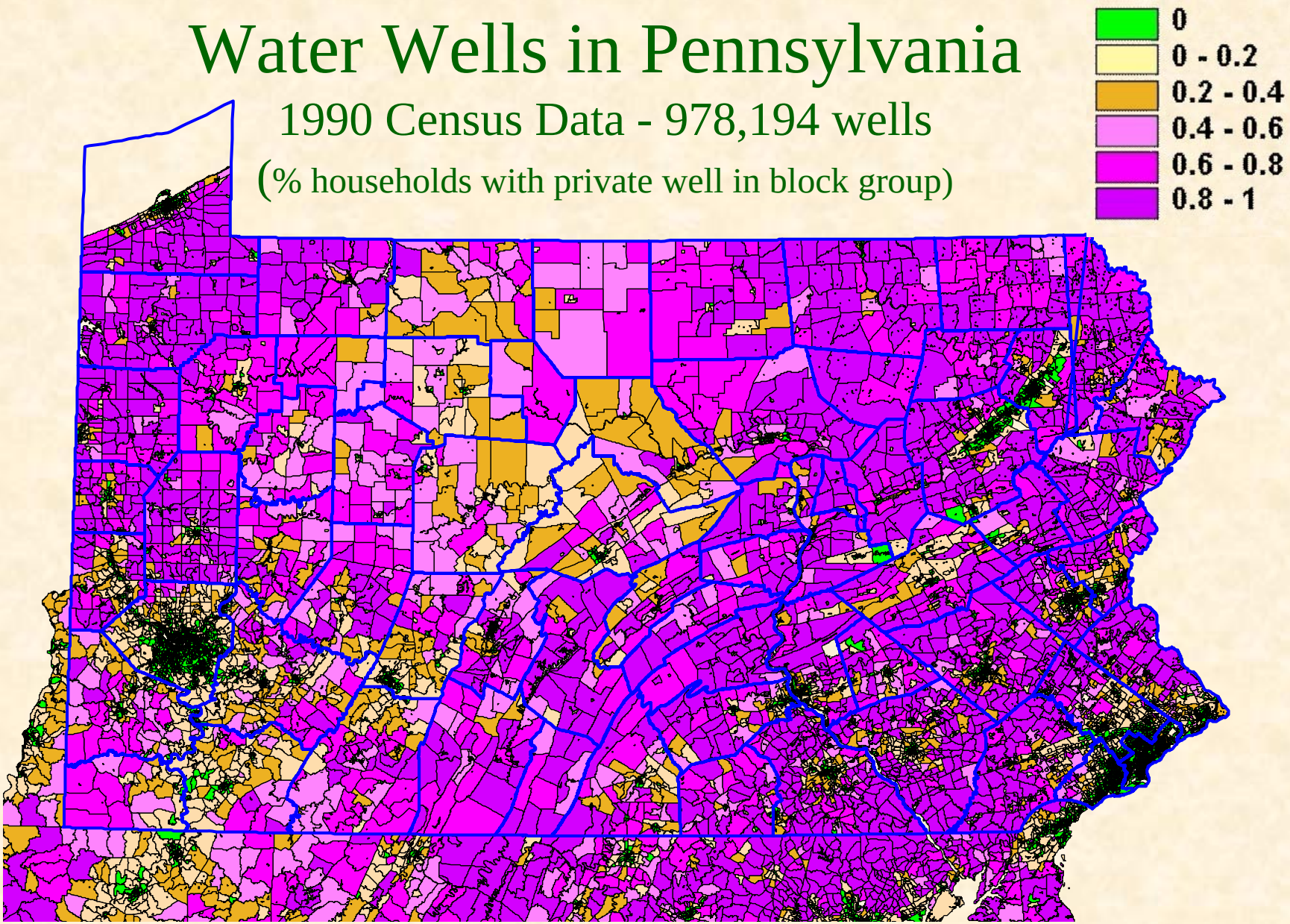
1990 Census Block Groups



Water Wells in Pennsylvania

1990 Census Data - 978,194 wells

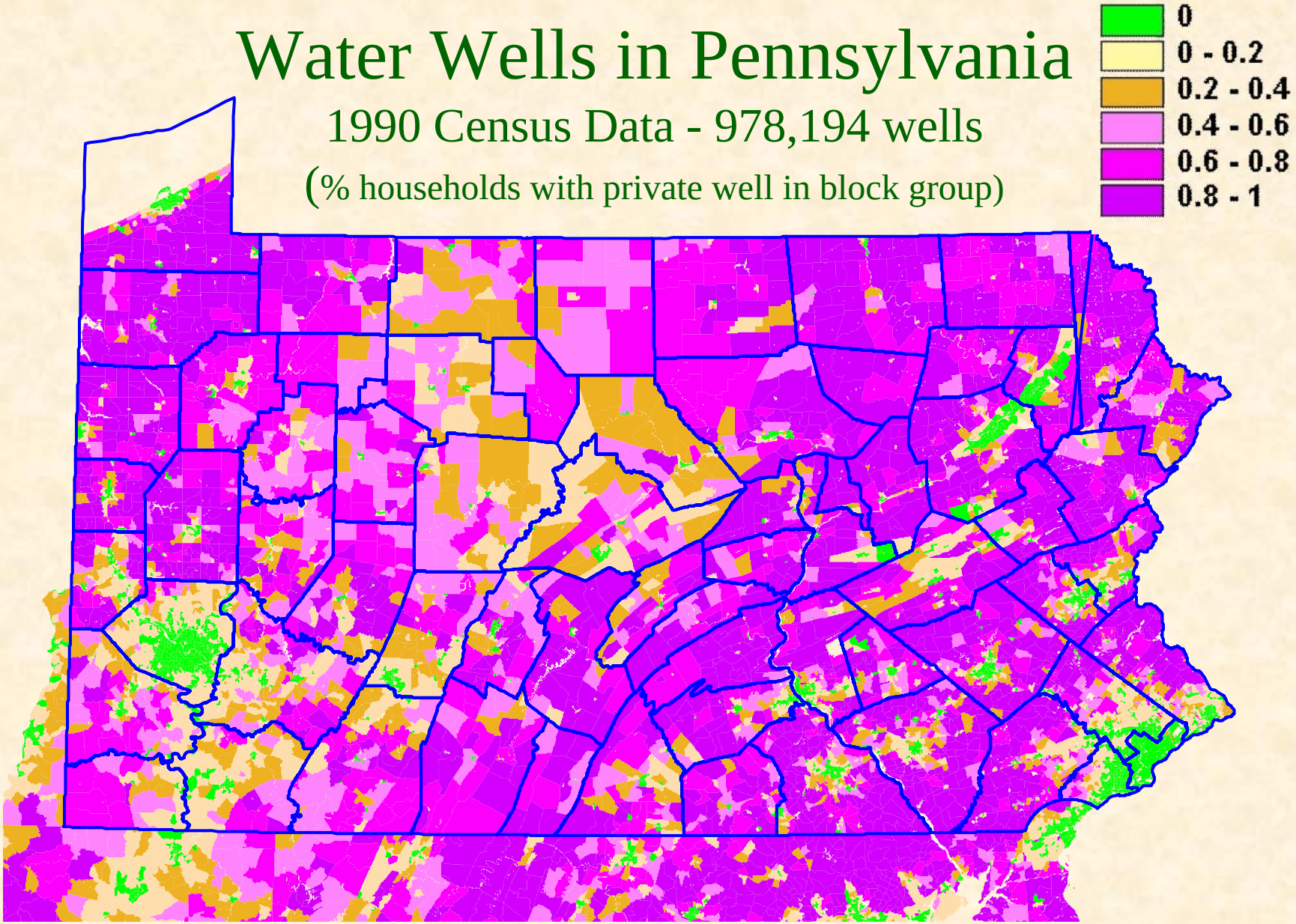
(% households with private well in block group)

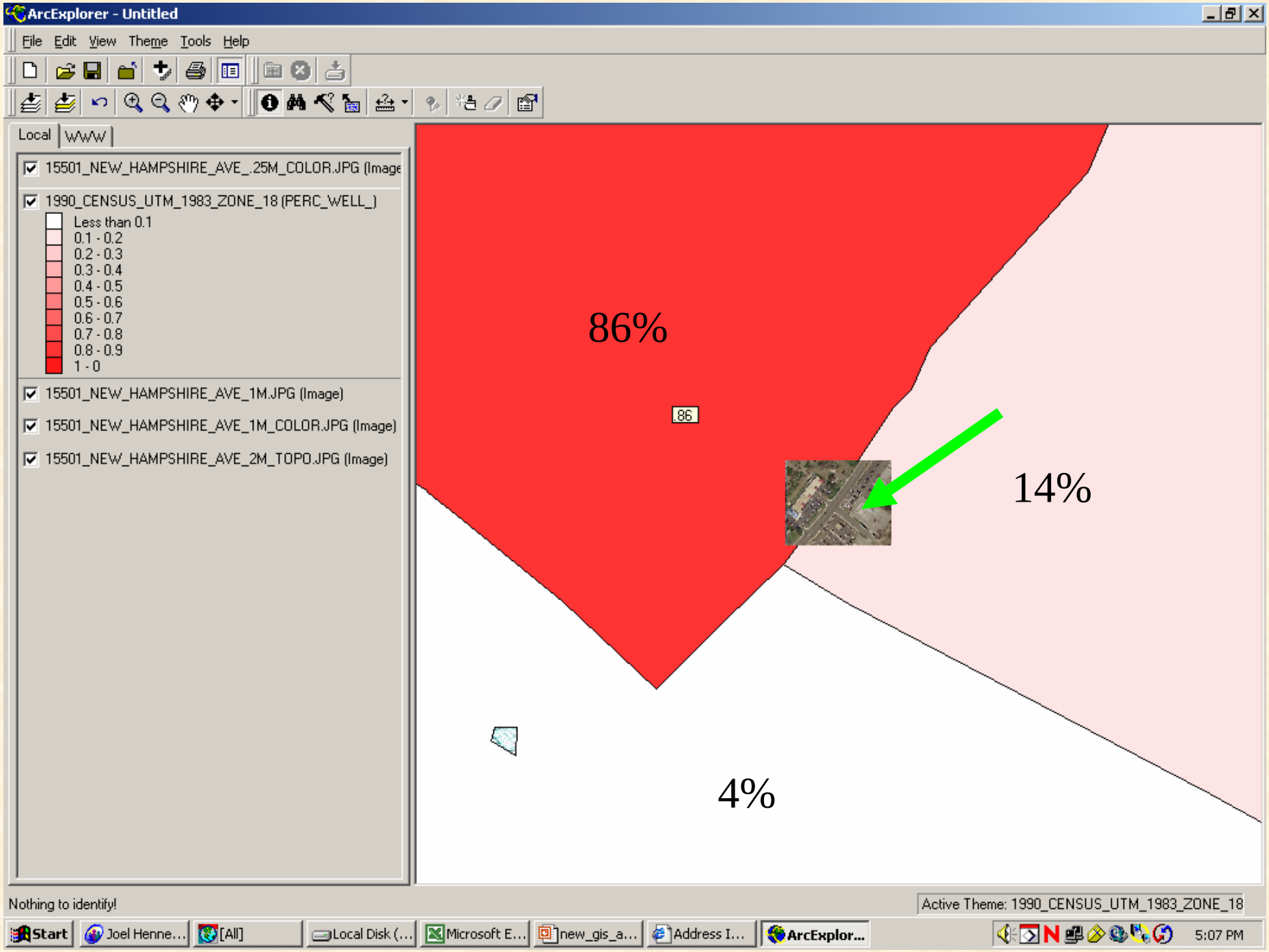


Water Wells in Pennsylvania

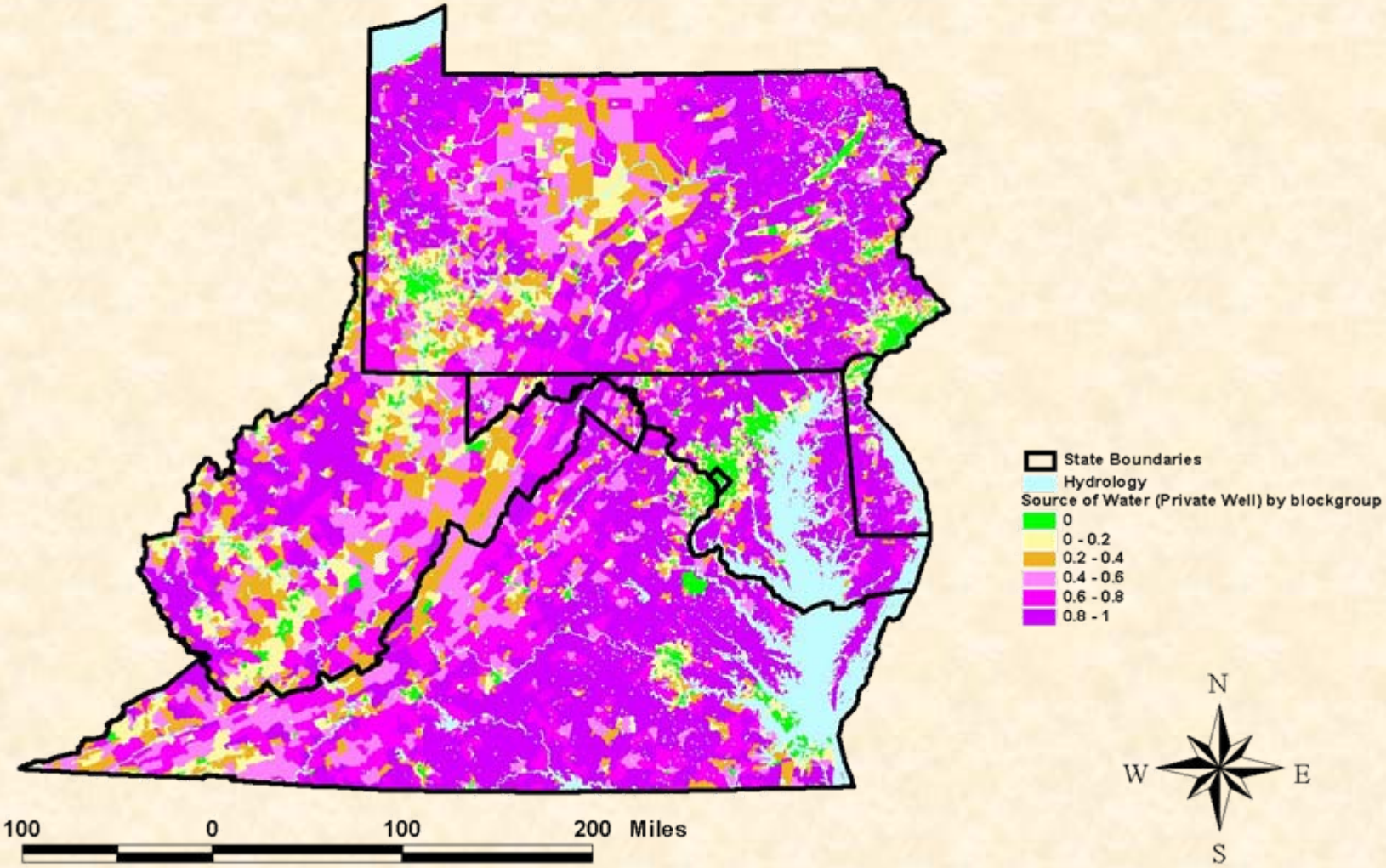
1990 Census Data - 978,194 wells

(% households with private well in block group)

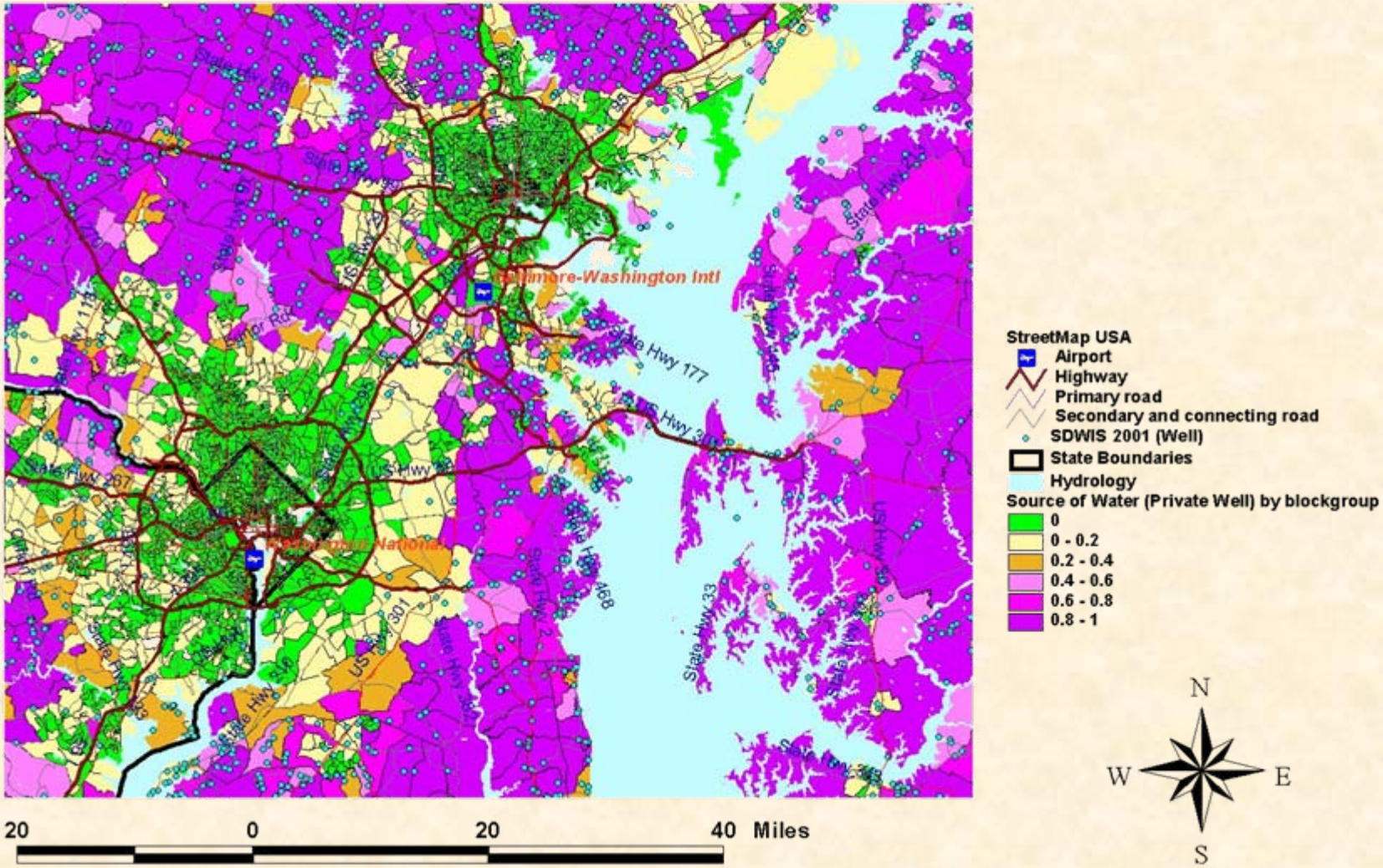



ArcExplorer - Untitled
File Edit View Theme Tools Help
Local
WWW
15501_NEW_HAMPSHIRE_AVE_.25M_COLOR.JPG (Image
1990_CENSUS_UTM_1983_ZONE_18 (PERC_WELL_)
Less than 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
0.5 - 0.6
0.6 - 0.7
0.7 - 0.8
0.8 - 0.9
1 - 0
15501_NEW_HAMPSHIRE_AVE_1M.JPG (Image)
15501_NEW_HAMPSHIRE_AVE_1M_COLOR.JPG (Image)
15501_NEW_HAMPSHIRE_AVE_2M_TOPO.JPG (Image)
86%
.86
14%
4%
Nothing to identify!
Active Theme: 1990_CENSUS_UTM_1983_ZONE_18
Start
Joel Henne...
[All]
Local Disk (...
Microsoft E...
new_gis_a...
Address I...
ArcExplor...
5:07 PM

Private Well Use by Census Block Group
EPA Region III - 1990 Census



Baltimore, MD / Washington, D.C. Area
Public and Private Groundwater Use



Links

- Terraserver-USA: terraserver-usa.com
- USA Photomaps: jdmcox.com
- USGS Seamless Data Distribution:
  - seamless.usgs.gov
- DNR Garmin:
  - dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html
- US Census Bureau: census.gov
- ArcExplorer: esri.com
- Delaware DataMIL: http://datamil.delaware.gov