

UNDERSTANDING NRCS MAPS

How are they set up?

How do you add layers to a map?

What does the map look like in 3d?

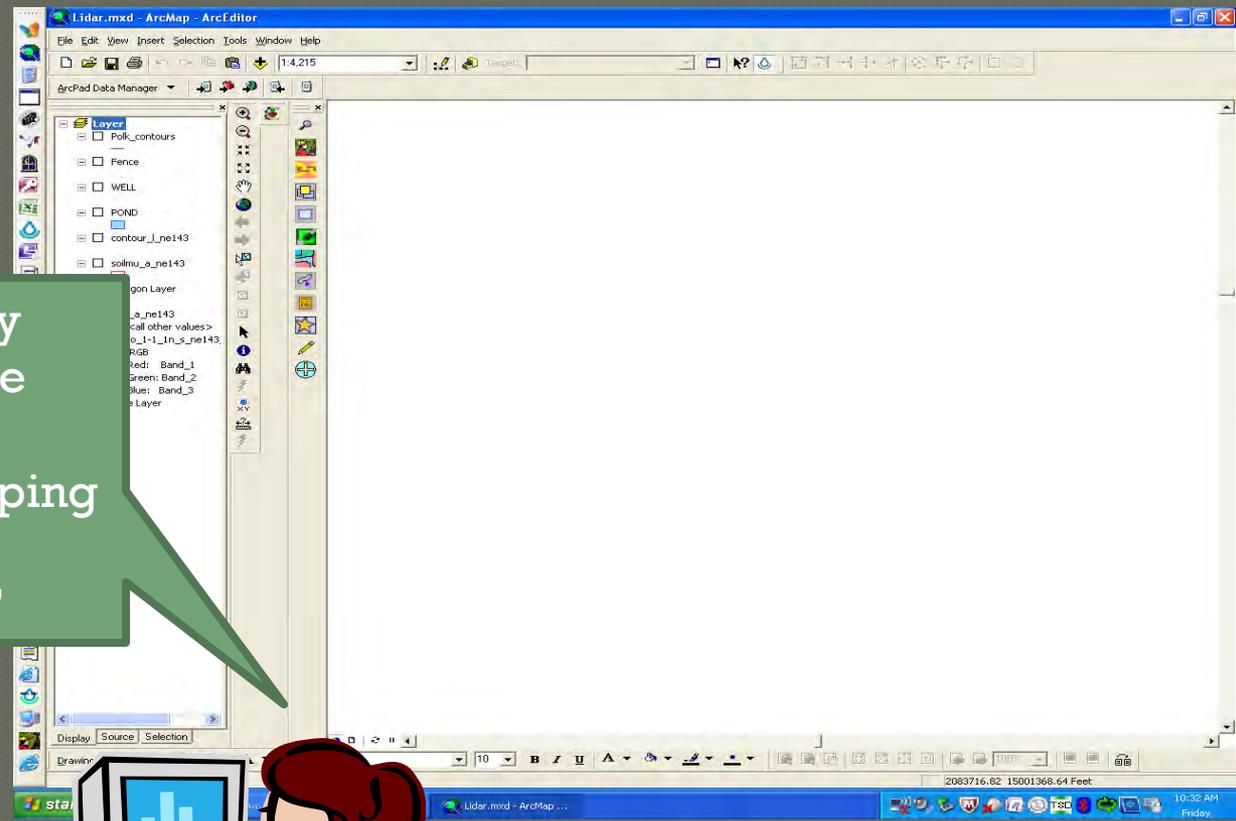
Creating a map of your
farm is just like adding
layers to a cake.

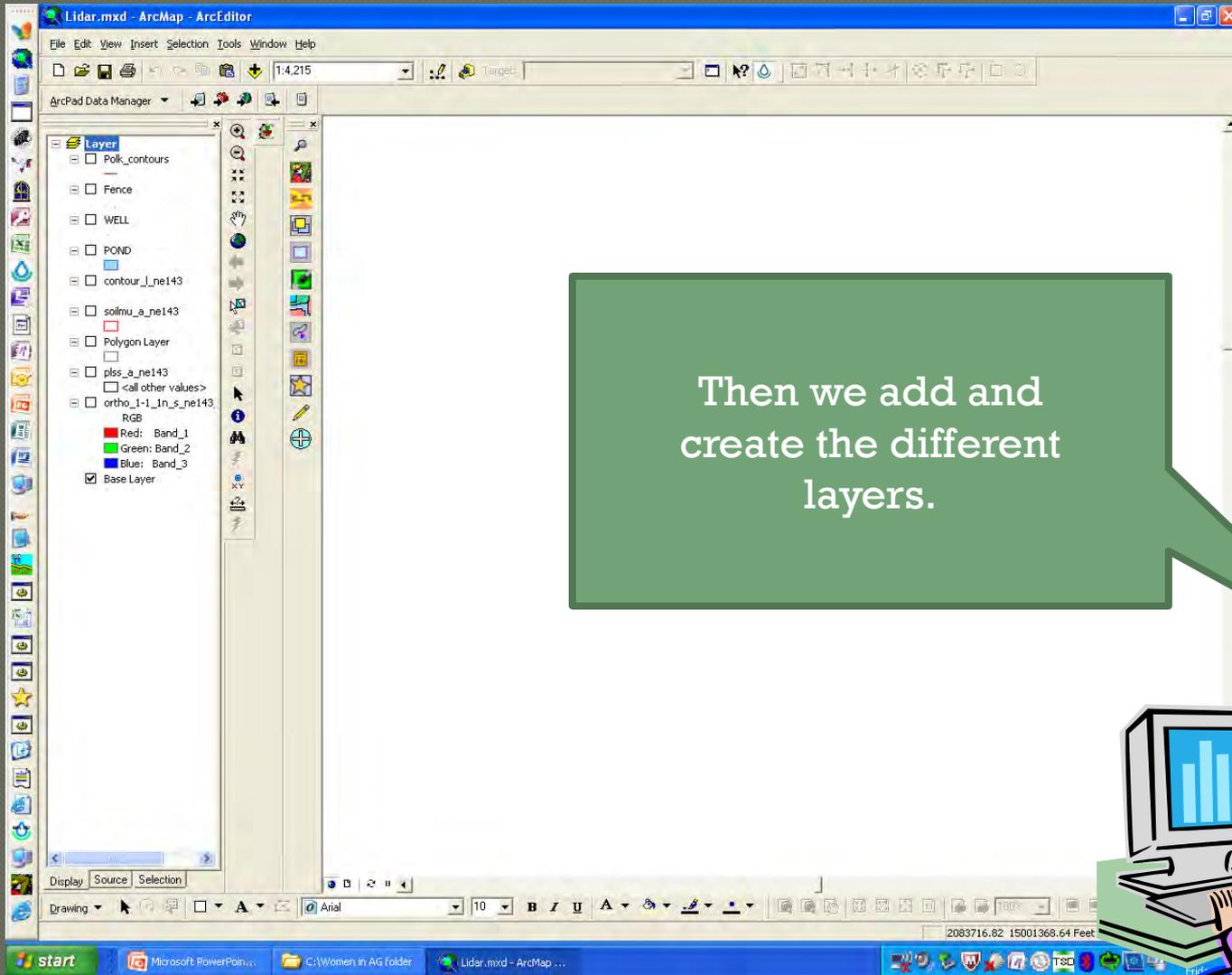


The layers you add to the map determine the results.



You start by opening the program. For basic mapping we use "ArcMap"





Then we add and create the different layers.



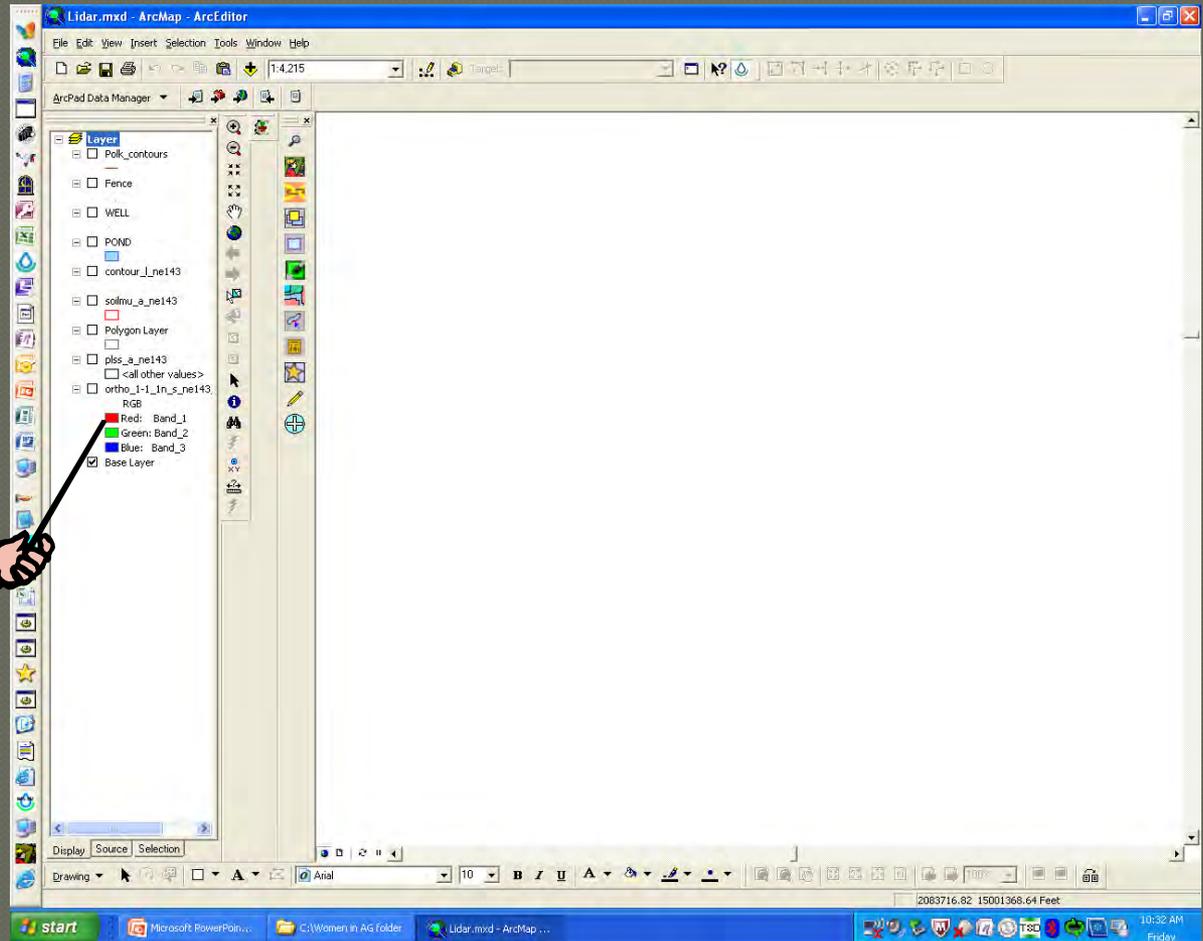
NOTE

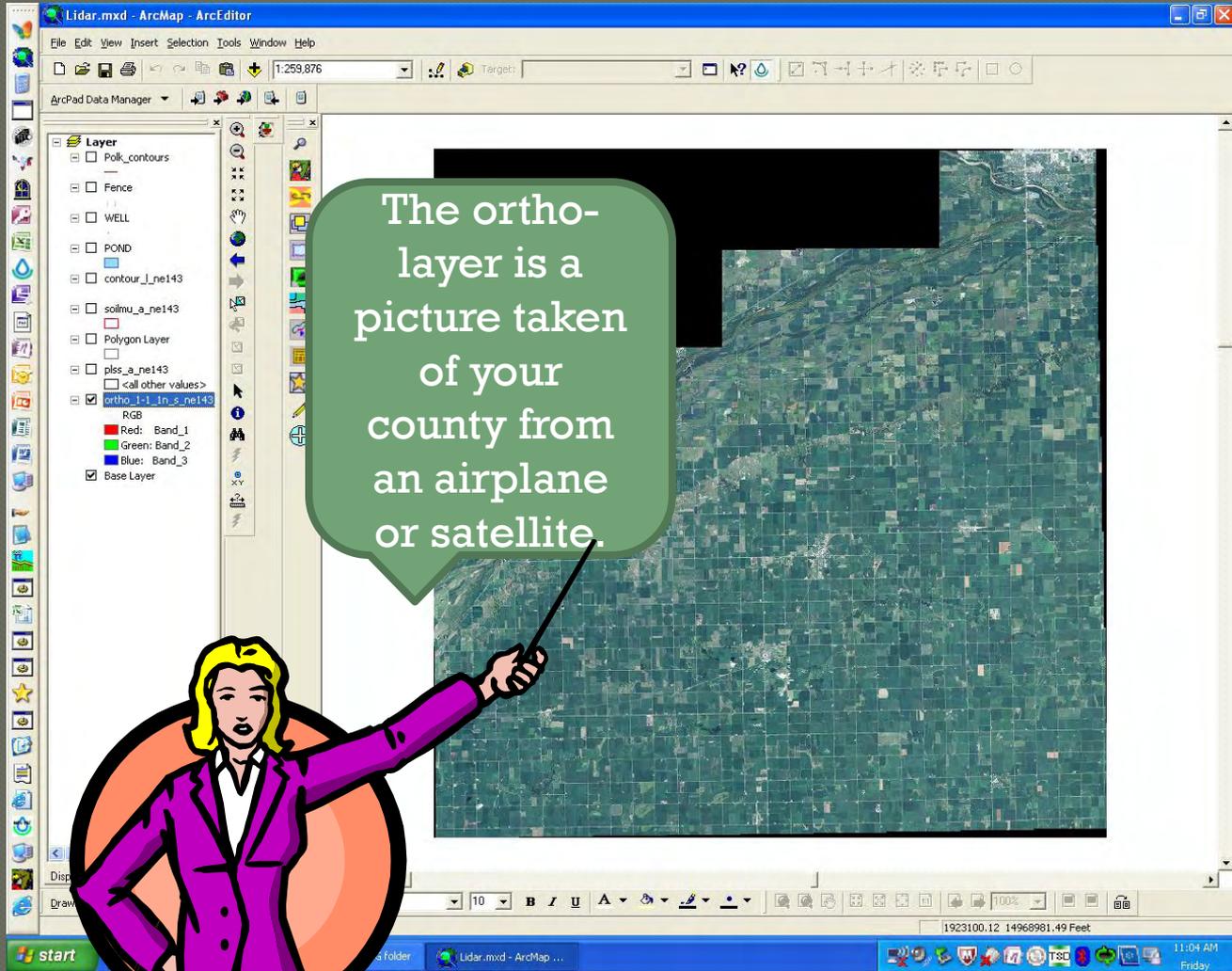
If you stop into our office for a planning map of your farm, be thinking about the layers you would like to see.

Soils, fence, ponds, tanks, wells, terraces, diversions, ground cover, and more.



Our maps usually start with an ortho-layer





The ortho-layer is a picture taken of your county from an airplane or satellite.



Let's add
another layer.
This is the
PLSS
layer



A screenshot of the ArcMap software interface. The window title is "Lidar.mxd - ArcMap - ArcEditor". The interface includes a menu bar (File, Edit, View, Insert, Selection, Tools, Window, Help), a toolbar, and a main map area. On the left, the "Layer" pane is open, showing a list of layers: Polk_contours, Fence, WELL, POND, contour_1_ne143, solmu_a_ne143, Polygon Layer, lss_a_ne143, <all other values>, withno_1_1_inus_ne143, RGB (with sub-items Red: Band_1, Green: Band_2, Blue: Band_3), and Base Layer. The "withno_1_1_inus_ne143" layer is selected and highlighted in blue. The map area displays a grid overlay on a satellite-style image, with a large black rectangular area in the upper left. The status bar at the bottom shows coordinates "1969345.38 14979132.89 Feet" and the system tray includes the Windows Start button, taskbar, and system clock showing "11:17 AM Friday".

Lidar.mxd - ArcMap - ArcEditor

File Edit View Insert Selection Tools Window Help

ArcPad Data Manager

Layer

- Polk_contours
- Fence
- WELL
- POND
- contour_ne143
- soilmu_a_ne143
- Polygon Layer
- plss_a_ne143
 - <all other values>
 - ortho_1-1_inus_ne143
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - Base Layer

Display Source Selection

Drawing

1969345.38 14979132.89 Feet

start Microsoft PowerPoin... C:\Women in Ag folder Lidar.mxd - ArcMap ... 11:17 AM Friday

Each of the squares on the map represents a full section, or one square mile.

Lidar.mxd - ArcMap - ArcEditor

File Edit View Insert Selection Tools Window Help

1:259,876

ArcPad Data Manager

- Layer
 - Polk_contours
 - Fence
 - WELL
 - POND
 - contour_1_ne143
 - soilmu_a_ne143
 - Polygon Layer
 - plss_a_ne143
 - <call other values>
 - ortho_1-1_in_s_ne143
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - Base Layer

Display Source Selection

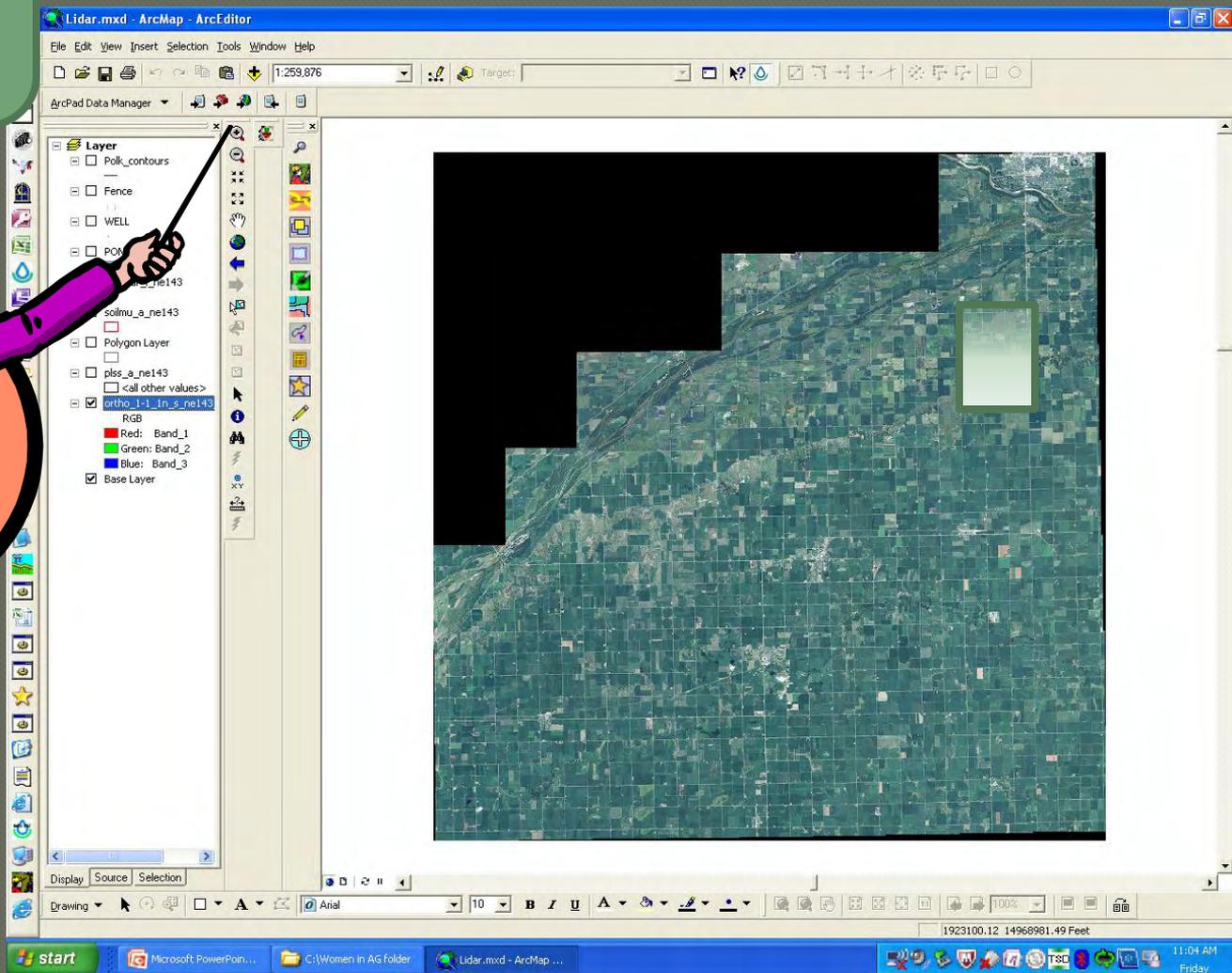
Drawing

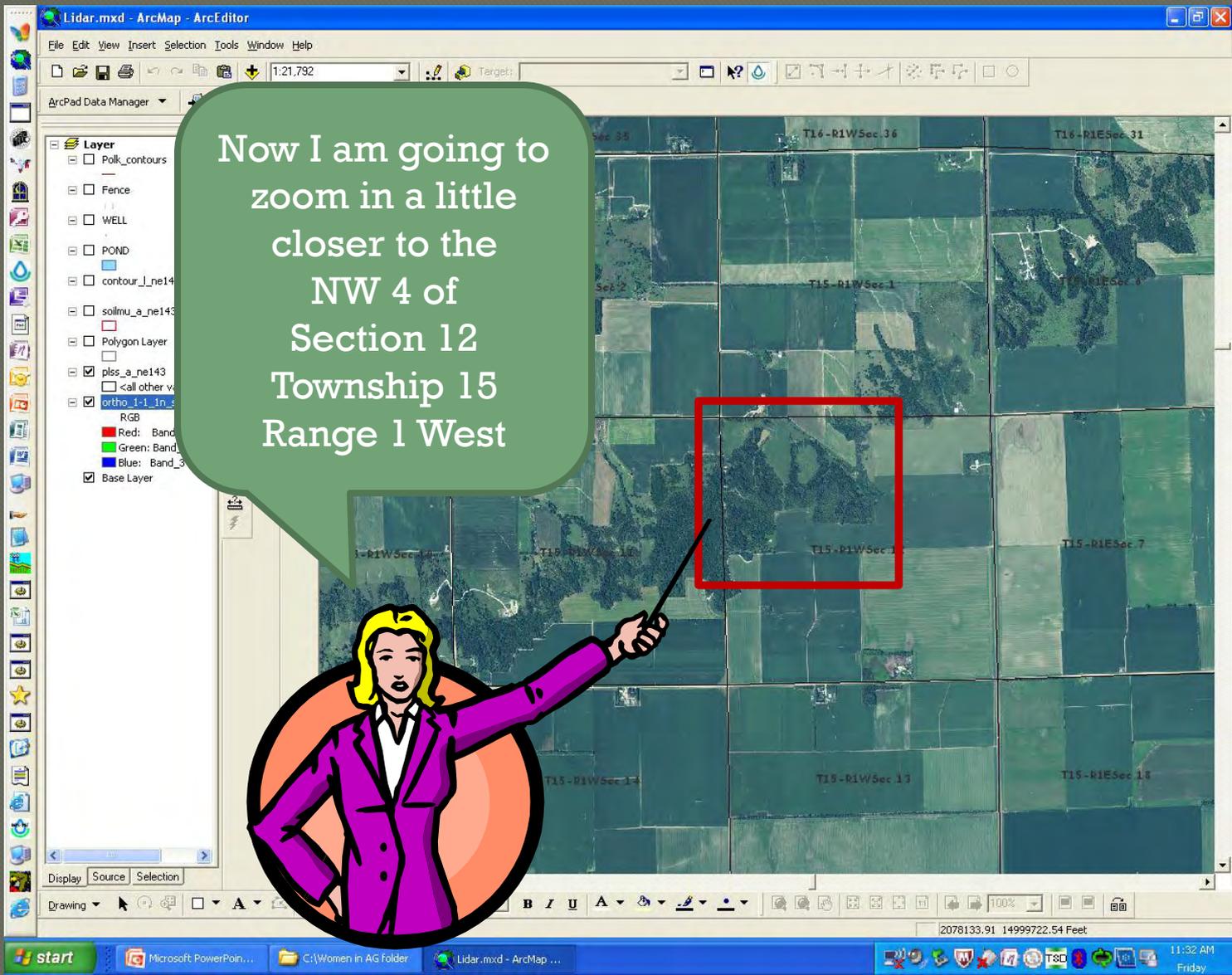
1923100.12 14968981.49 Feet

start Microsoft PowerPoi... C:\Women in AG folder Lidar.mxd - ArcMap ... 11:04 AM Friday

This is the area I am going to show you today.

I will use the zoom tool to select the area I want.

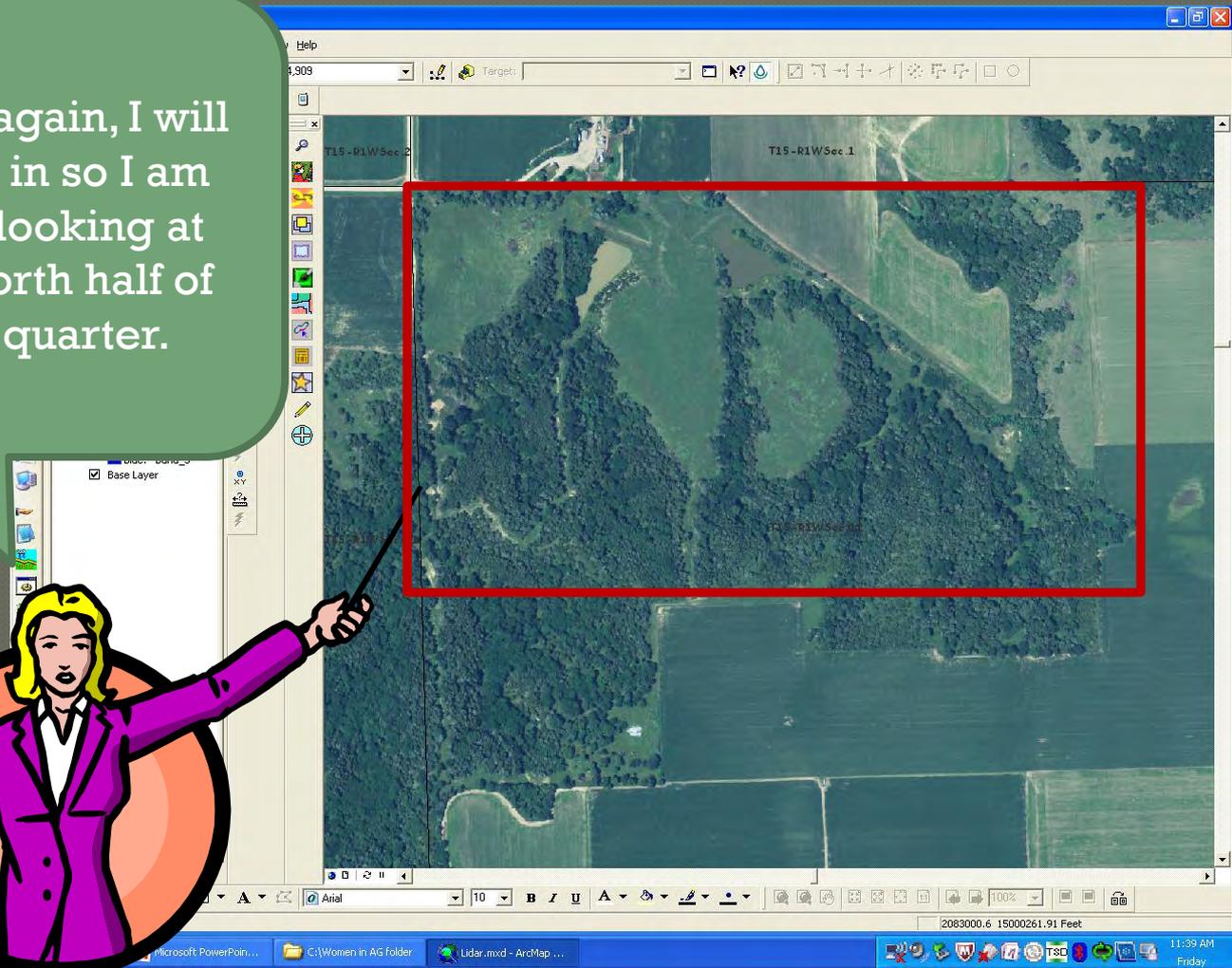




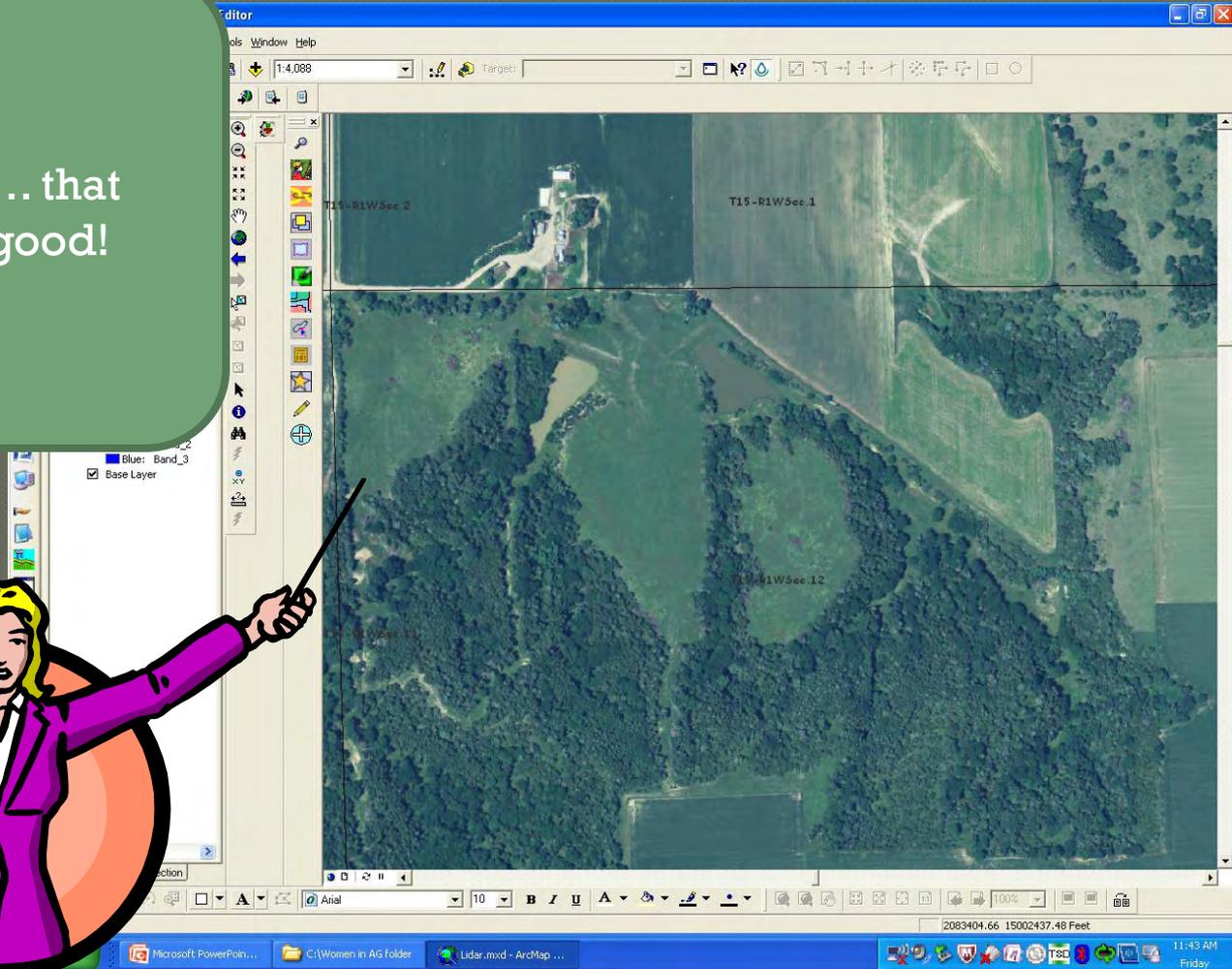
Now I am going to zoom in a little closer to the NW 4 of Section 12 Township 15 Range 1 West



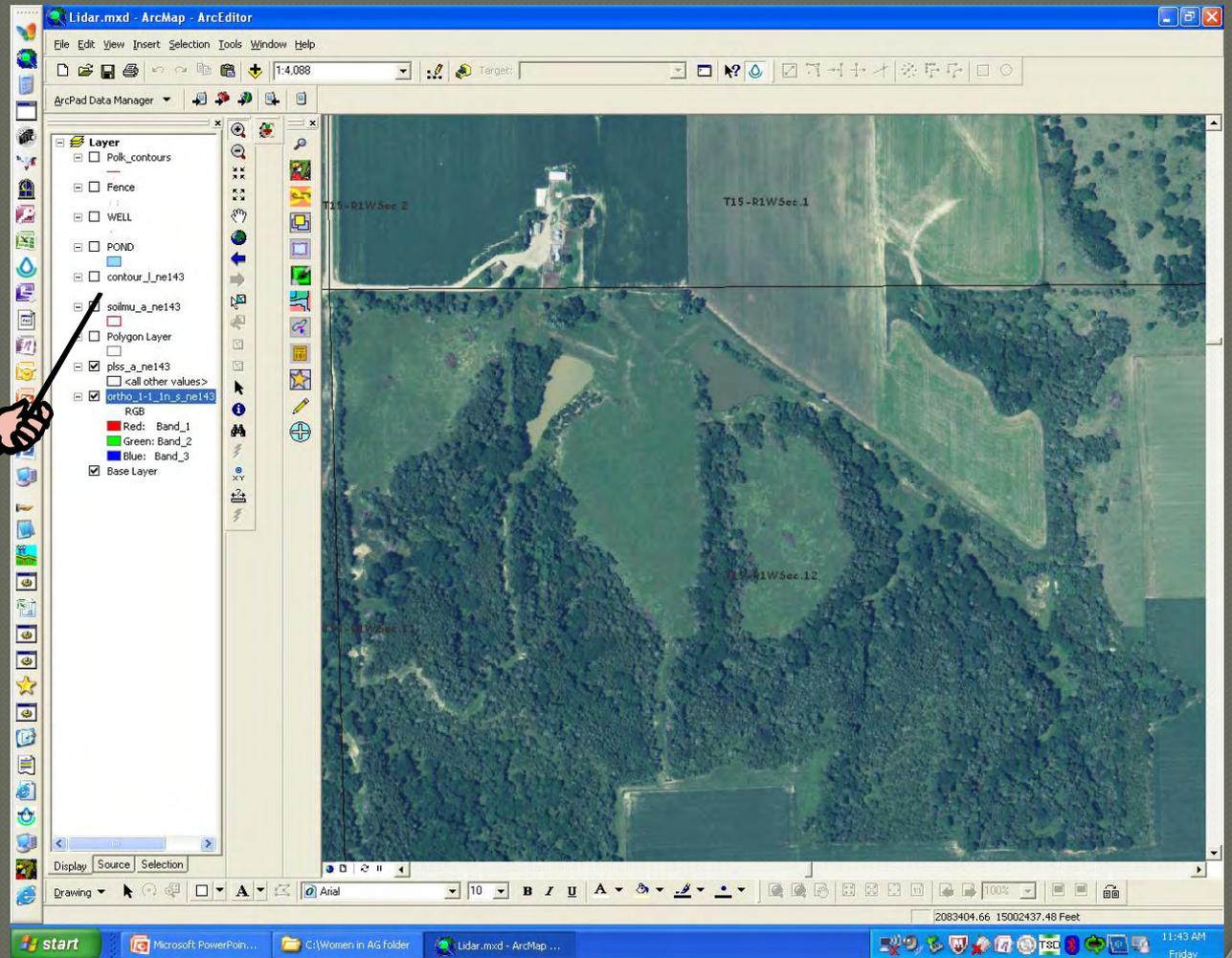
Once again, I will zoom in so I am only looking at the north half of the quarter.



There.... that looks good!



Now let's add a couple more layers.
Some of the layers are already in my computer.....



For example
the soils layer.

Some layers you
and I have to
create.....



The screenshot shows the ArcMap software interface. The title bar reads "Lidar.mxd - ArcMap - ArcEditor". The menu bar includes File, Edit, View, Insert, Selection, Tools, Window, and Help. The toolbar contains various icons for navigation and editing. The ArcPad Data Manager is visible at the top left. The Layer Properties window is open, showing a list of layers:

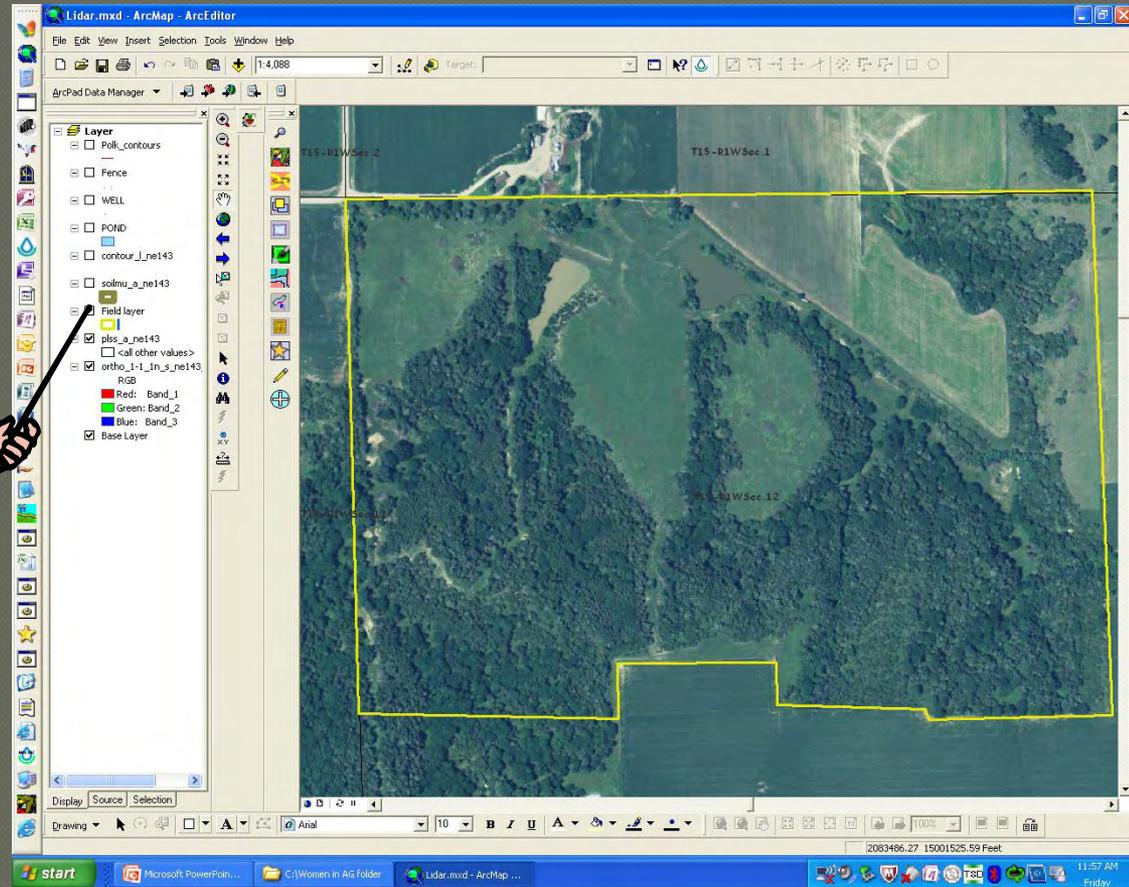
- Polk_contours
- Fence
- WELL
- POND
- contour_l_ne143
- soilmu_a_ne143
- Polygon Layer
 - plss_a_ne143
 - <all other values>
- ortho_1-1_1n_s_ne143
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - Base Layer

The map displays a satellite-style aerial view with yellow outlines indicating various soil types and their characteristics. Labels on the map include:

- Muir silt loam, 3 to 7 percent slopes
- Muir silt loam, 1 to 3 percent slopes
- Coly soils, 6 to 11 percent slopes, severely eroded
- Uly silt loam, 6 to 11 percent slopes
- Hastings silt loam
- Ortello complex, 6 to 11 percent slopes, eroded
- Coly silt loam, 30 to 60 percent slopes
- Hastings silt loam, 0 to 1 percent slopes
- Hastings silt loam, 4 to 8 percent slopes
- Filmora silt loam

The status bar at the bottom shows the drawing tool set to "Aerial", a scale of 10, and a coordinate system of 2083120.8 15002302.65 Feet.

I drew this field layer.....

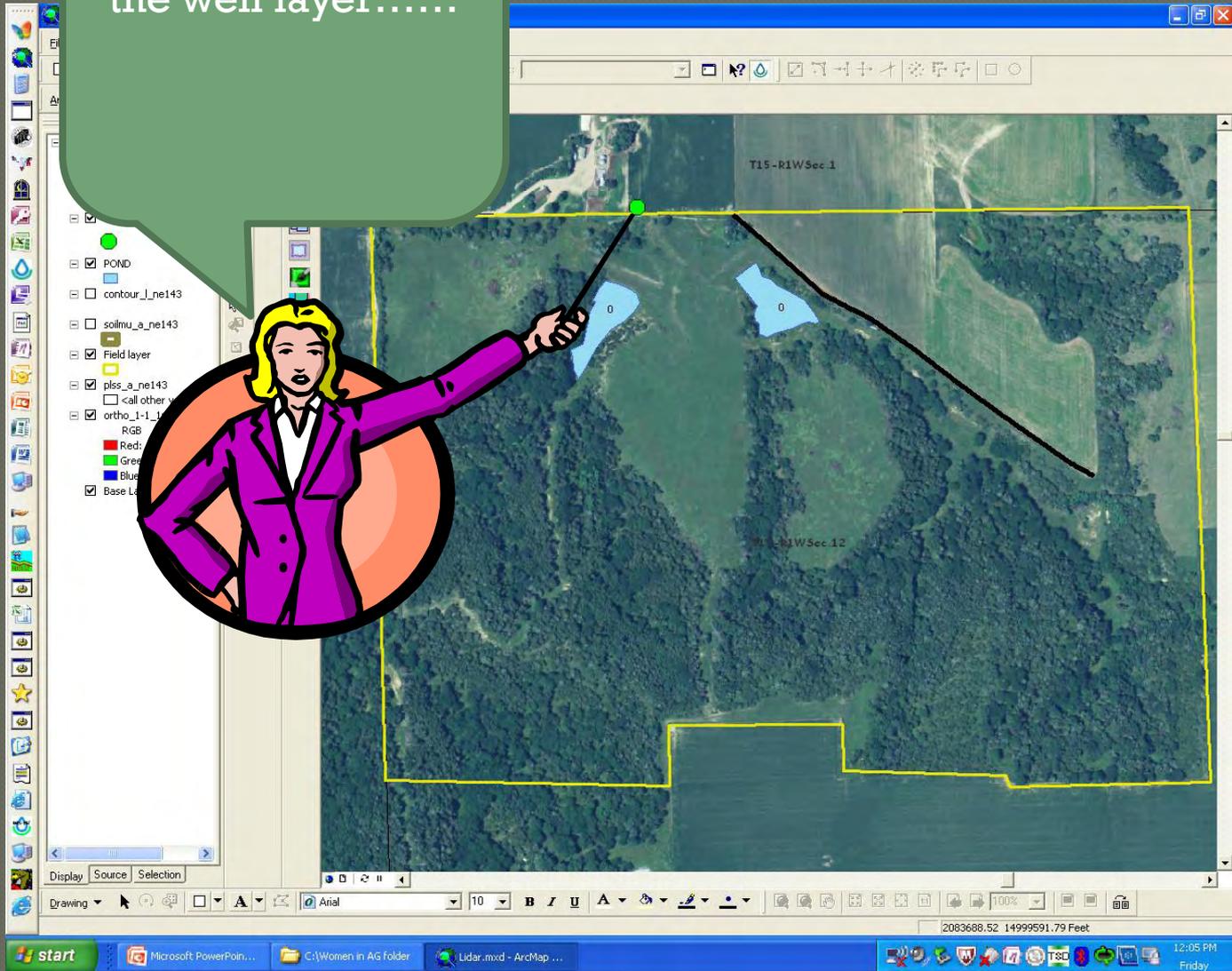


I also created
the pond layer.....

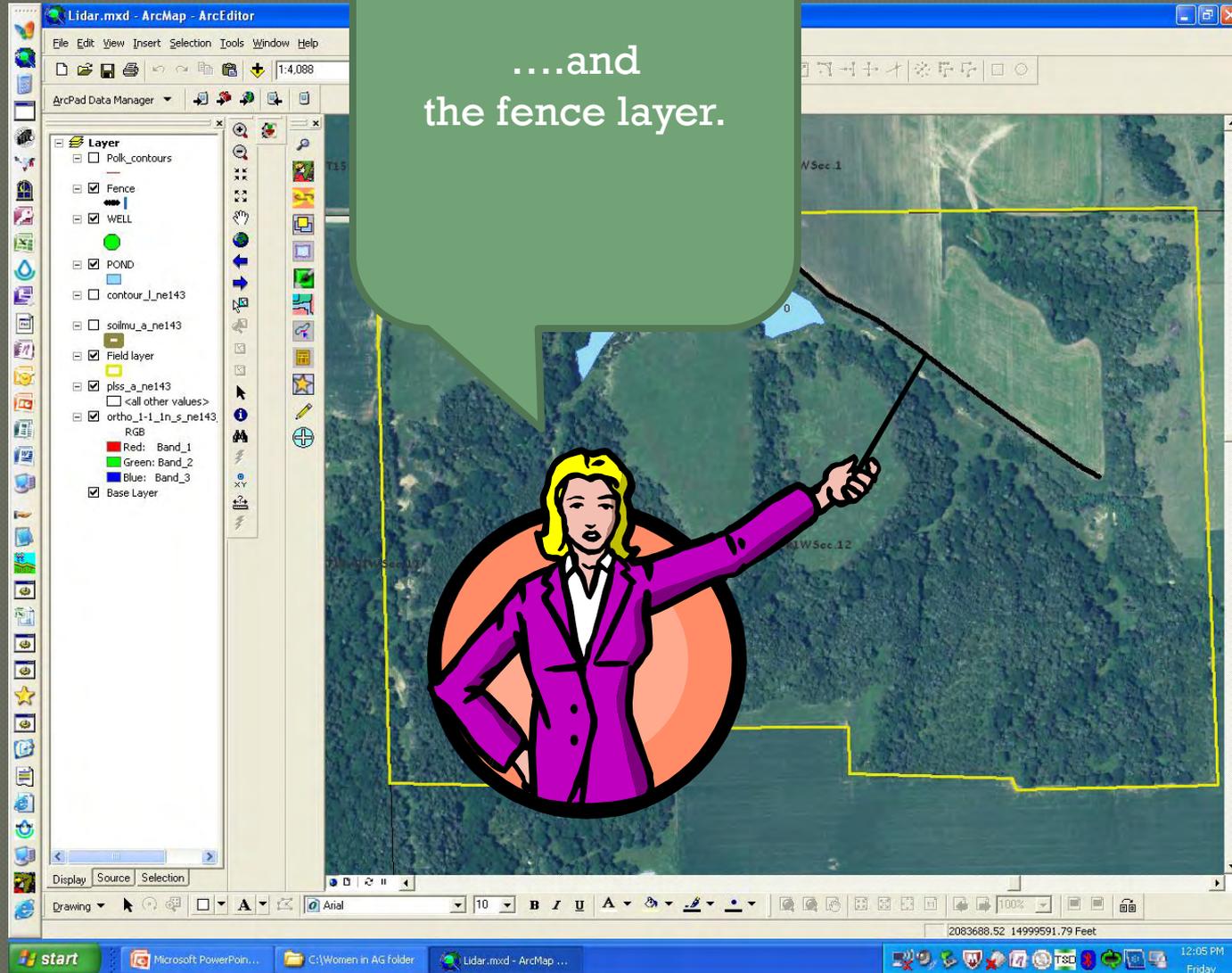
The screenshot displays the ArcMap interface with the following elements:

- Legend:**
 - Field layer
 - plss_a_ne143
 - ortho_1-1_in_s_ne143
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - Base Layer
- Map:** Shows an aerial view with a yellow boundary, a black line, and two blue ponds labeled '0'.
- Toolbar:** Includes various navigation and editing tools.
- Status Bar:** Displays coordinates (2083688.52 14999591.79 Feet) and scale (100%).
- Taskbar:** Shows the Start button, Microsoft PowerPoint, C:\Women in AG folder, Lidar.mxd - ArcMap, and system tray with the time 12:05 PM Friday.

the well layer.....



....and
the fence layer.



If you were to stop by the NRCS office in your county, the staff will help you create a map with the layers you need for your farm plan.

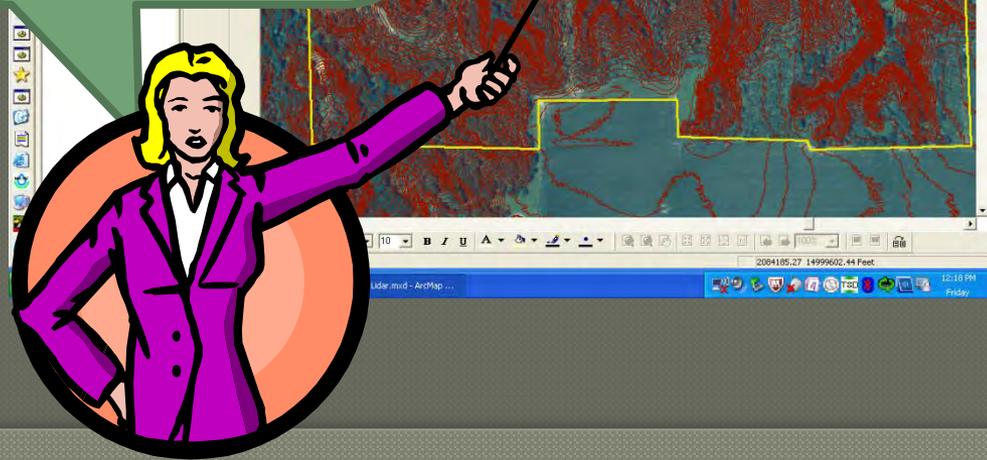
A screenshot of the ArcMap software interface. The title bar reads "Lidar.mxd - ArcMap - ArcEditor". The menu bar includes File, Edit, View, Insert, Selection, Tools, Window, and Help. The ArcPad Data Manager is visible at the top. The main map area displays a Lidar point cloud with a yellow boundary line and a black line. Labels on the map include "T15-R1WSec.2", "T15-R1WSec.1", and "T15-R1WSec.12". The Layer List on the left shows the following layers:

- Polk_contours
- Fence
- WELL
- POND
- contour_l_ne143
- solimu_a_ne143
- Field layer
- plss_a_ne143
 - <call other values>
- ortho_1-1_in_s_ne143
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
- Base Layer

The software interface includes a toolbar with various navigation and editing tools, and a status bar at the bottom showing coordinates (2083688.52 14999591.79 Feet) and a scale of 100%.

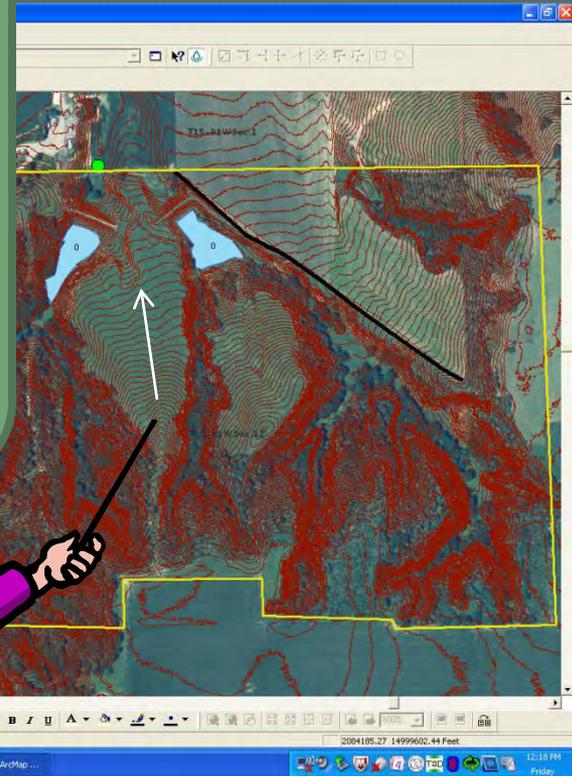
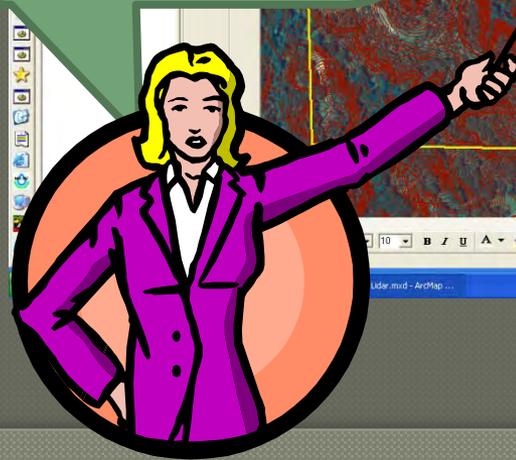
Let's look at one of my favorite layers. This is the new 2 ft contour layer.

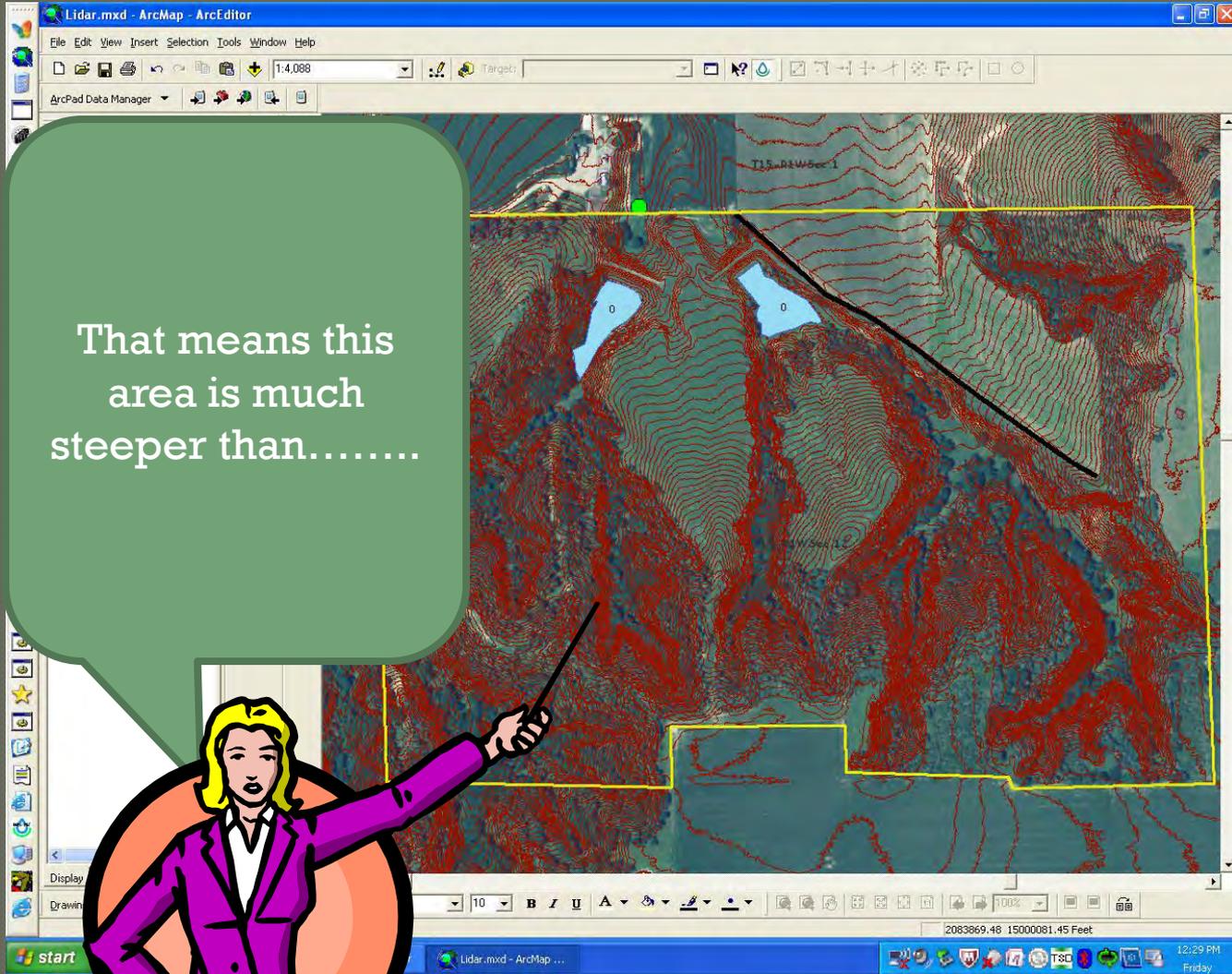
Each red line on this map represents a 2 ft change in elevation.



The closer the lines are together, the steeper the slope is on the ground.

This area slants to the north. Water runs down the hill in the direction of the arrow.

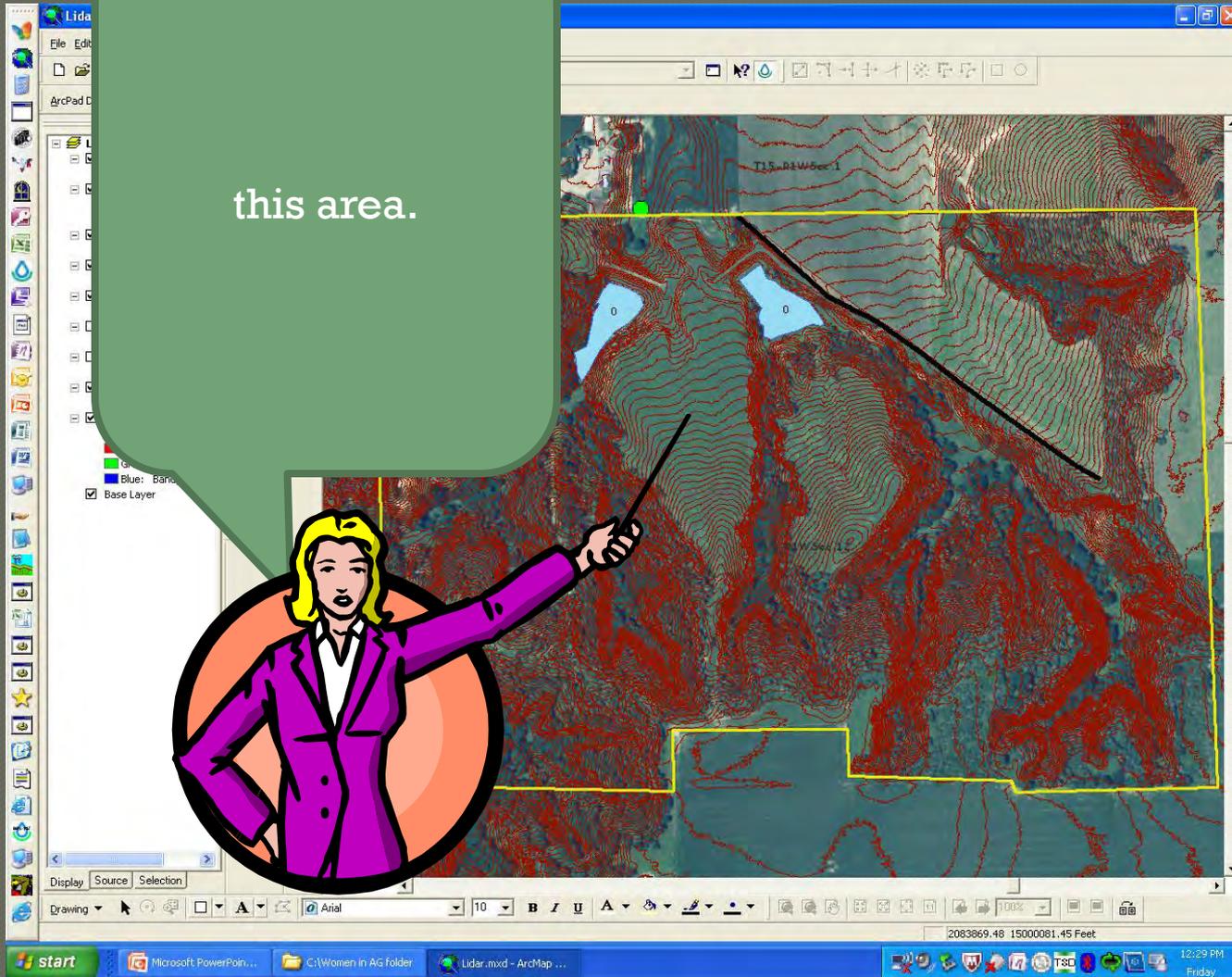


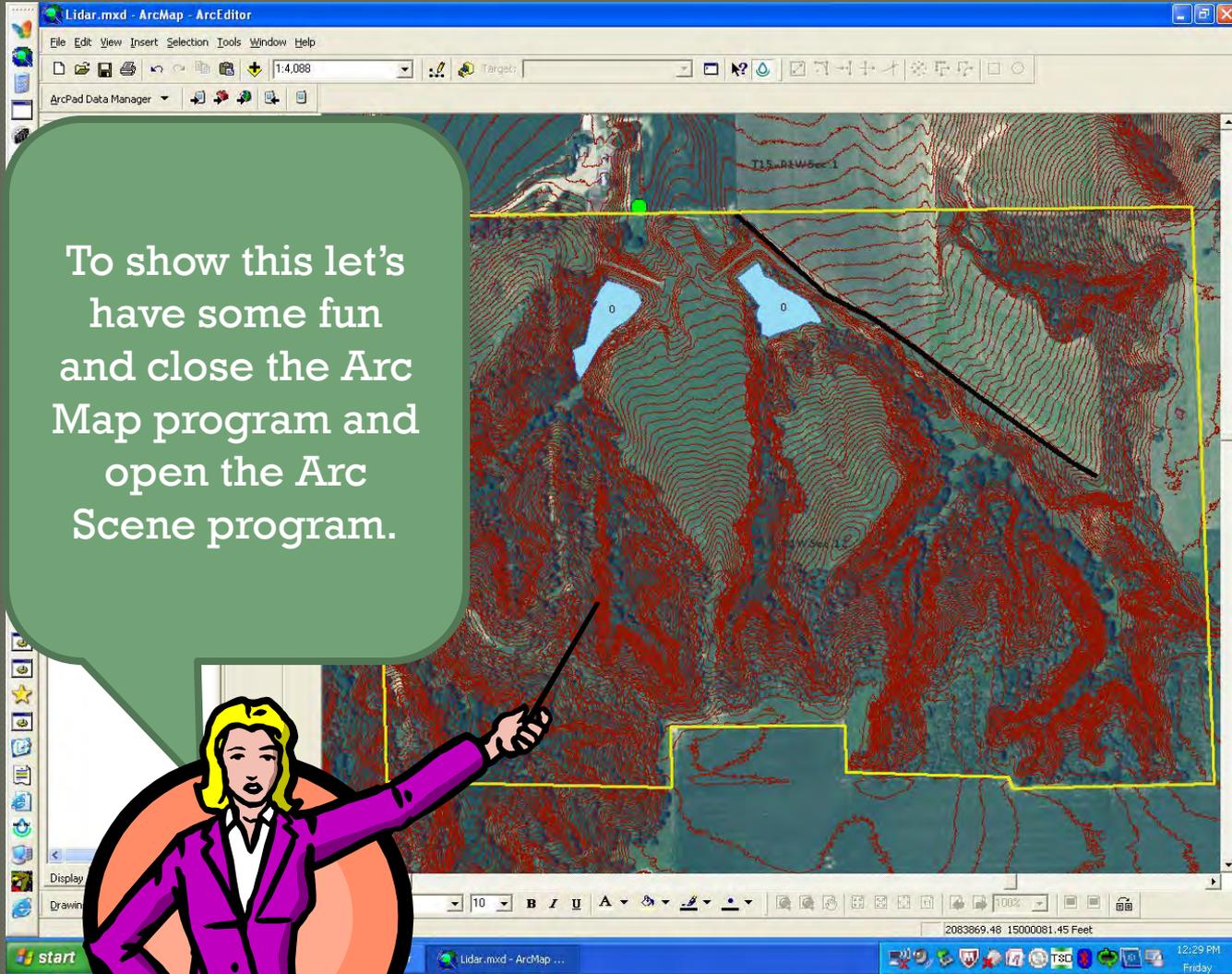


That means this area is much steeper than.....

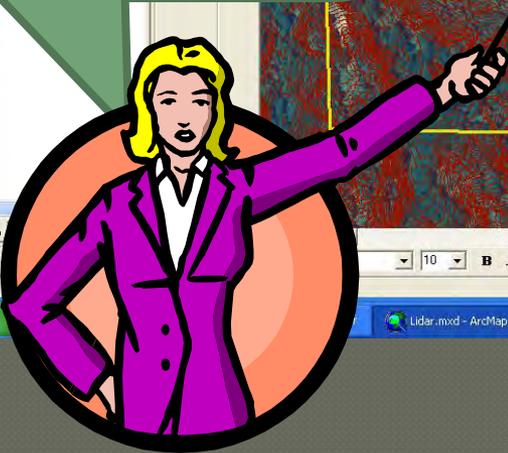


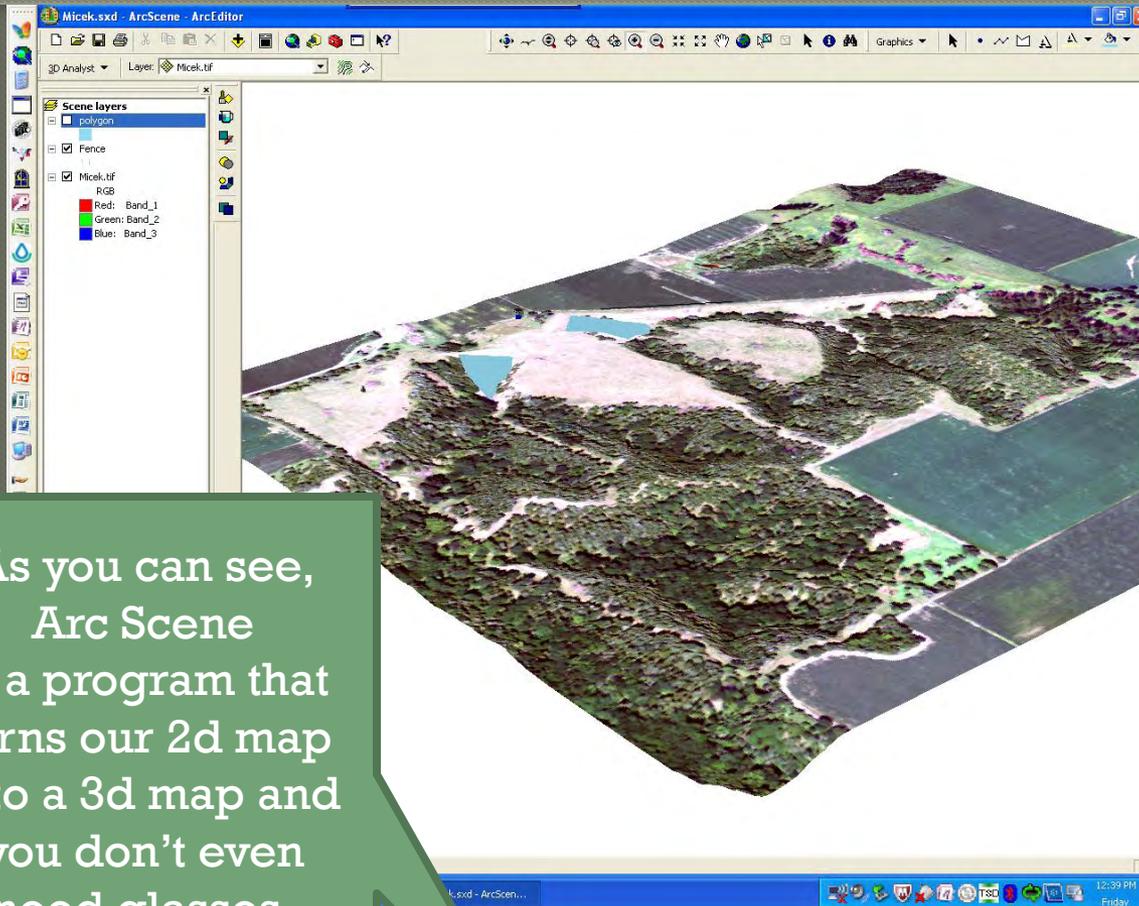
this area.





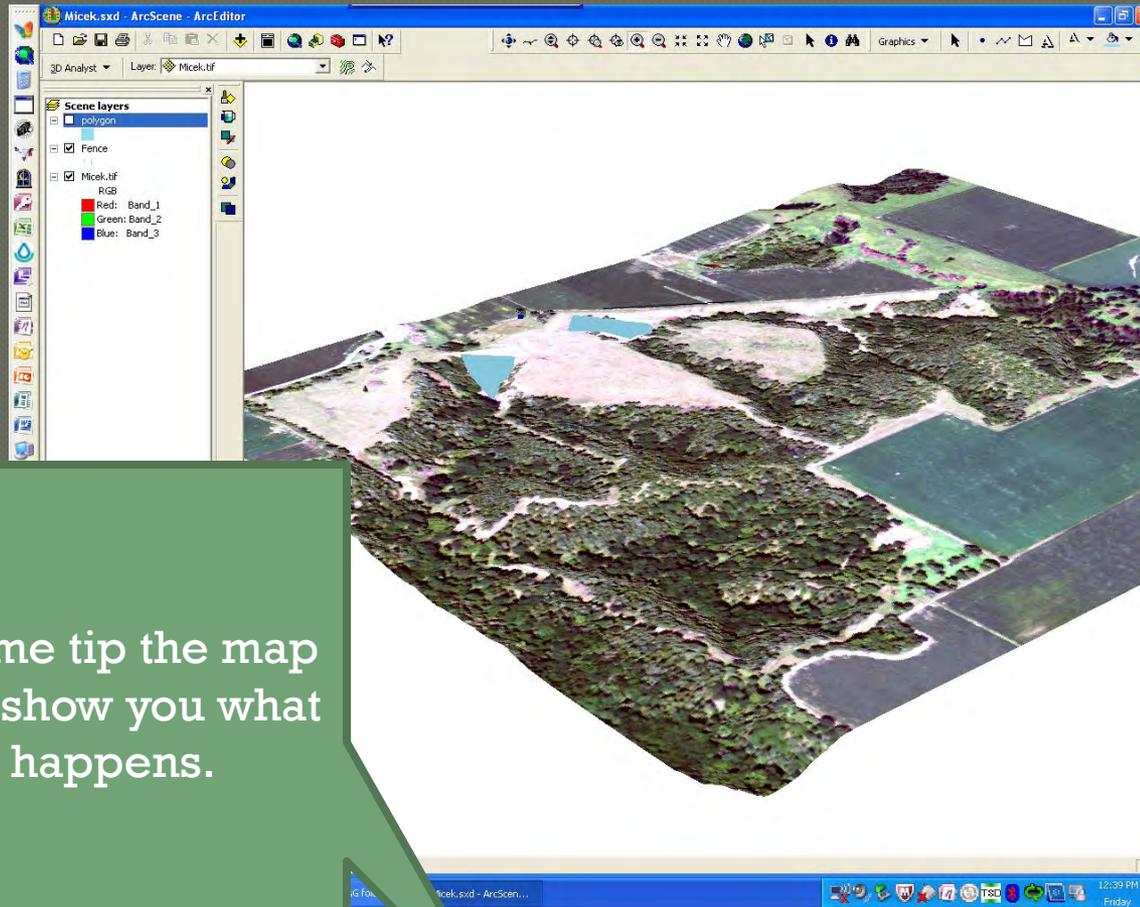
To show this let's have some fun and close the Arc Map program and open the Arc Scene program.





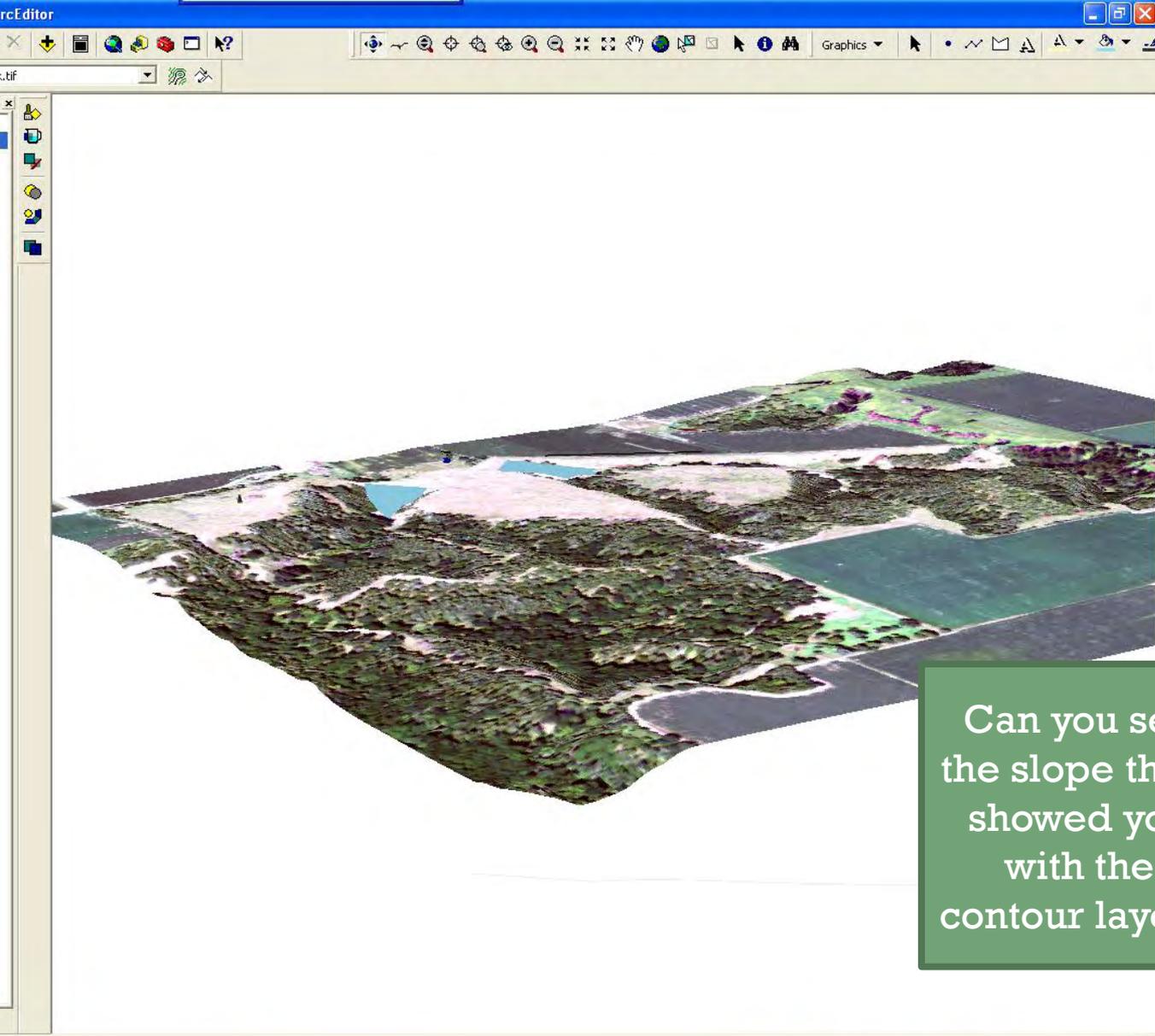
As you can see,
Arc Scene
is a program that
turns our 2d map
into a 3d map and
you don't even
need glasses.





Let me tip the map
and show you what
happens.





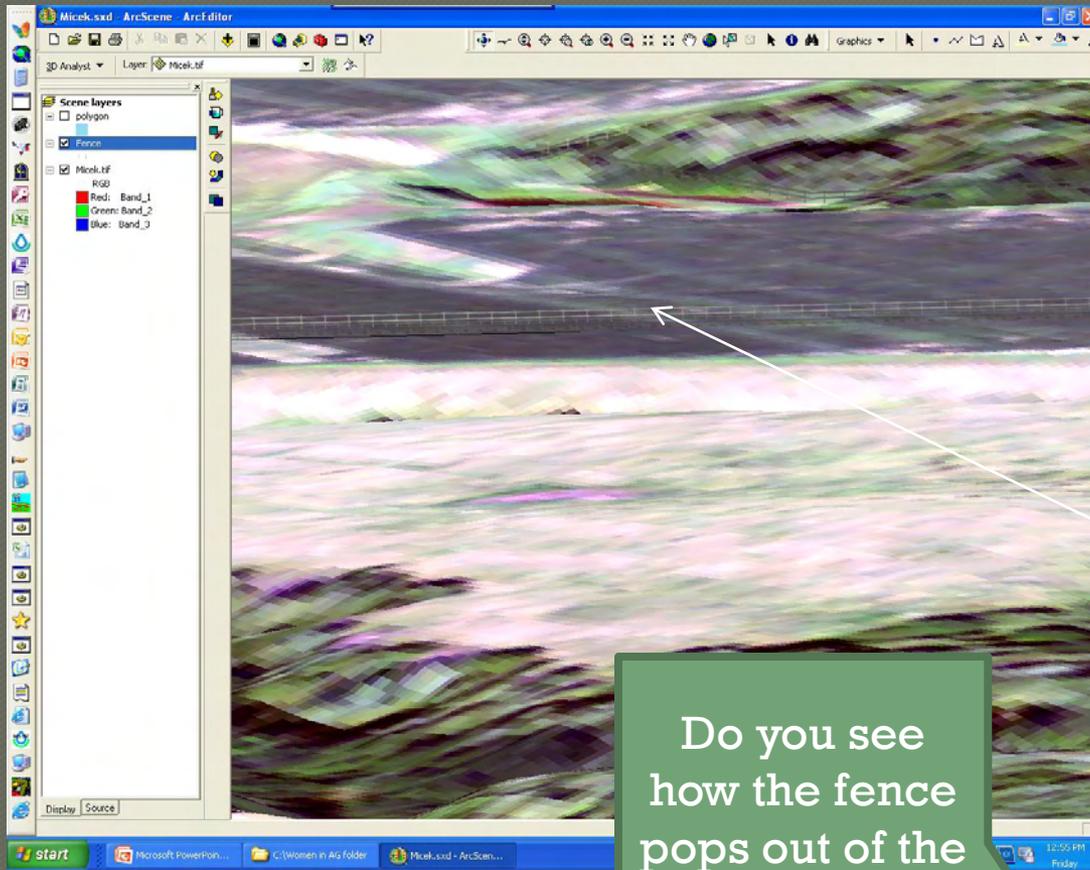
Can you see the slope that I showed you with the contour layer ?





Now I will zoom in and show you the fence. Keep your eye on the area by the arrow.





Do you see
how the fence
pops out of the
ground.



3d is something new to the office. It is a great planning tool and is fun to use. I'm still learning how to size objects, and when you zoom in, the photo's loose some of their clarity.



If you are interested in learning more about your farm , call ahead to your local NRCS office and make an appointment to learn more about your farm. All maps we create are free of charge, and if you like they can be emailed to you so you can make as many copies as you like.



Today I showed you how we create planning maps.

It's as easy as baking a layer cake.
Just let us know what flavors you would like.

