Agenda

- Yesterday:
  - The National Science Analysis
  - Preparing Data for Analysis
  - Application of Products
  - Basics of Belief Nets
- Today:
  - Exercise #1: Pivot Tables
  - Exercise #2: Naïve Networks
  - Exercise #3: Bayes Networks
  - Wrap-up



Exercise 1

National Cohesive Wildland Fire Management Strategy

Science Analysis Report: Application to the Southeast Region

January, 2014

Agenda

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  - The National Science Analysis
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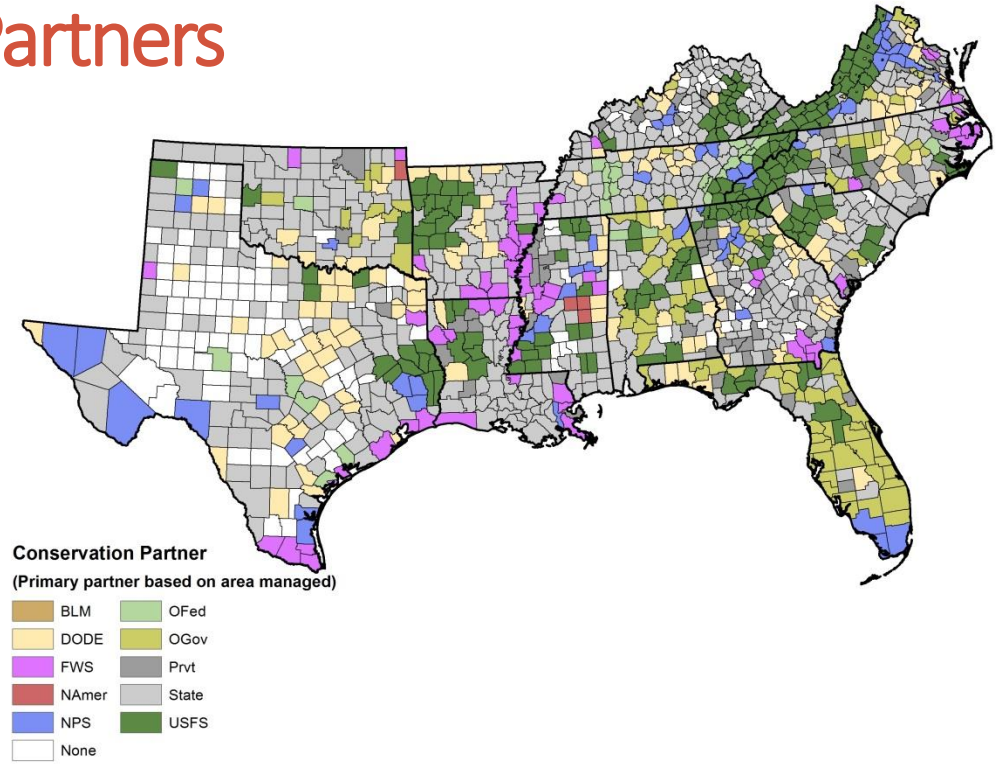
The Value of Using Pivot Tables

- Examine specific datasets to explore relationships
- Explore assumptions about certain variables
- Ability to handle MANY records
- Quickly visualize lots of information
- Quickly change the variables or portions of data
- Explore multiple factors

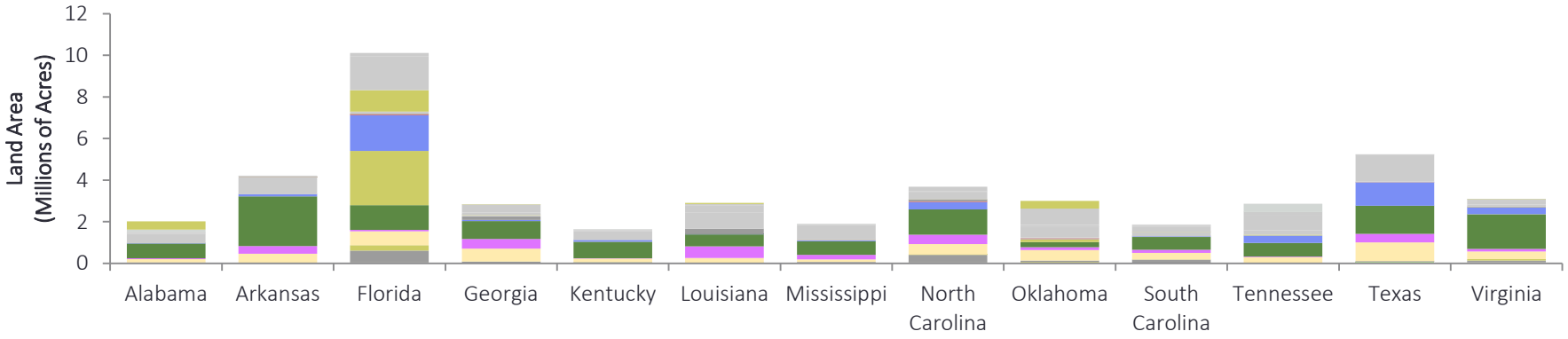
- Pivot Tables are great! They may even change the way you use spreadsheets!

Example: Conservation Partners

What is the total land management (acreage) for all Conservation Partners by State?

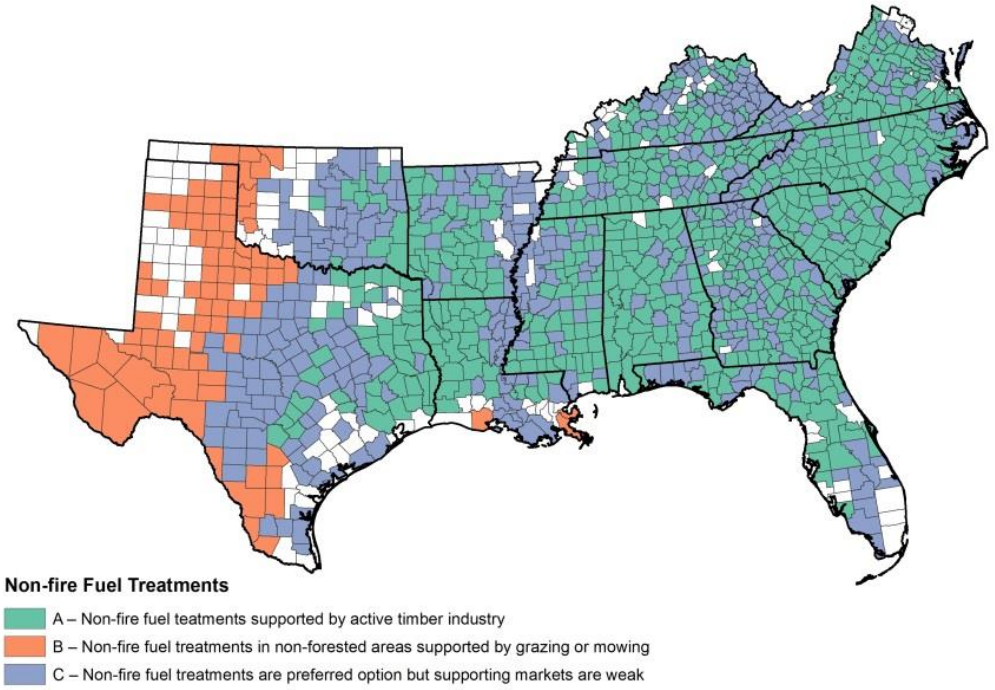


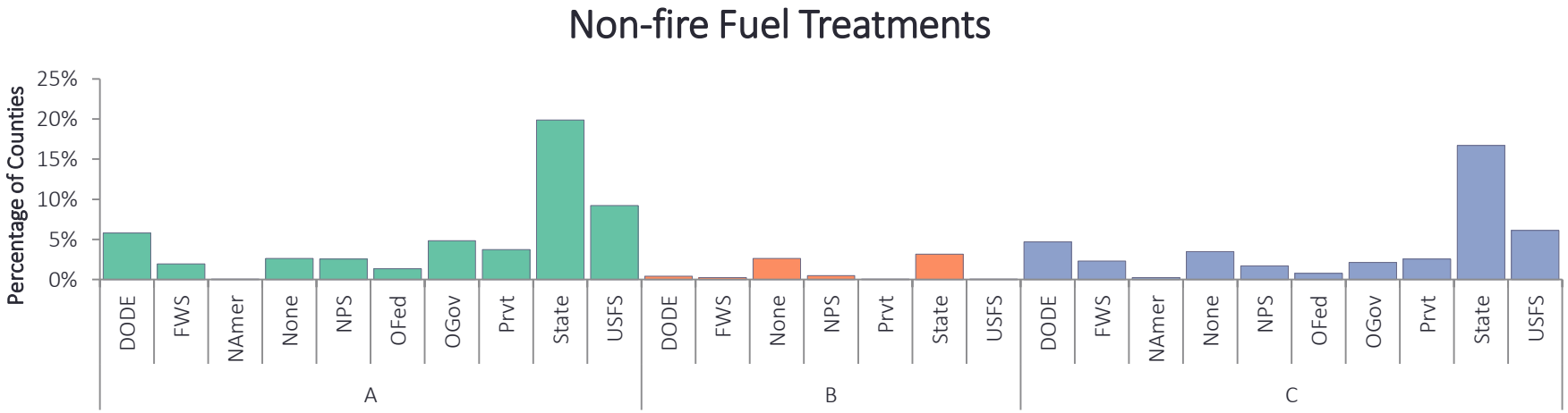
Total Conservation Land Area for States in the Southeast



Example: Policy Options

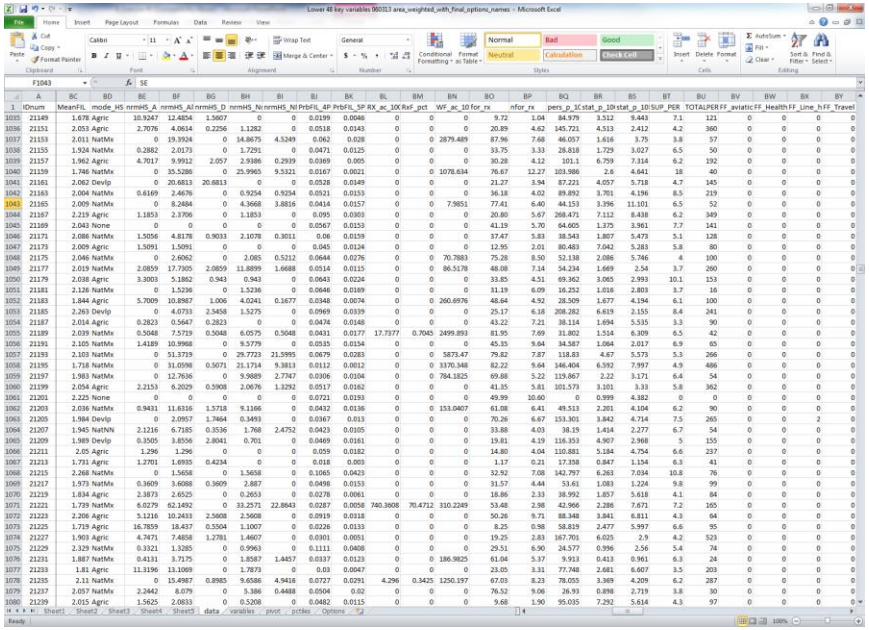
What are the Policy Options for each Primary Conservation Partner?

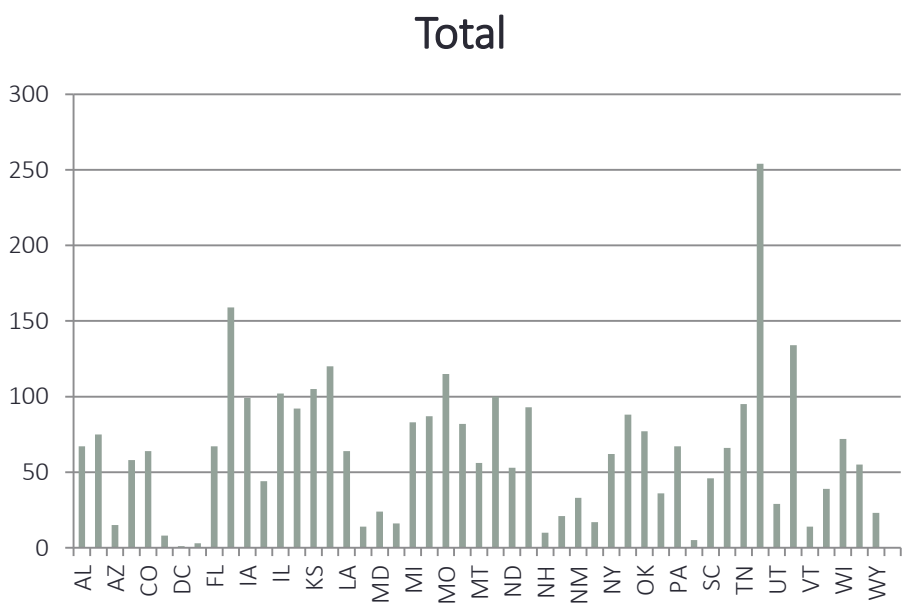




Software and Knowledge

- Microsoft Excel has a good Pivot Table interface, others programs have it as well, such as Microsoft Access
- No high level knowledge needed, other than basics of using spreadsheets

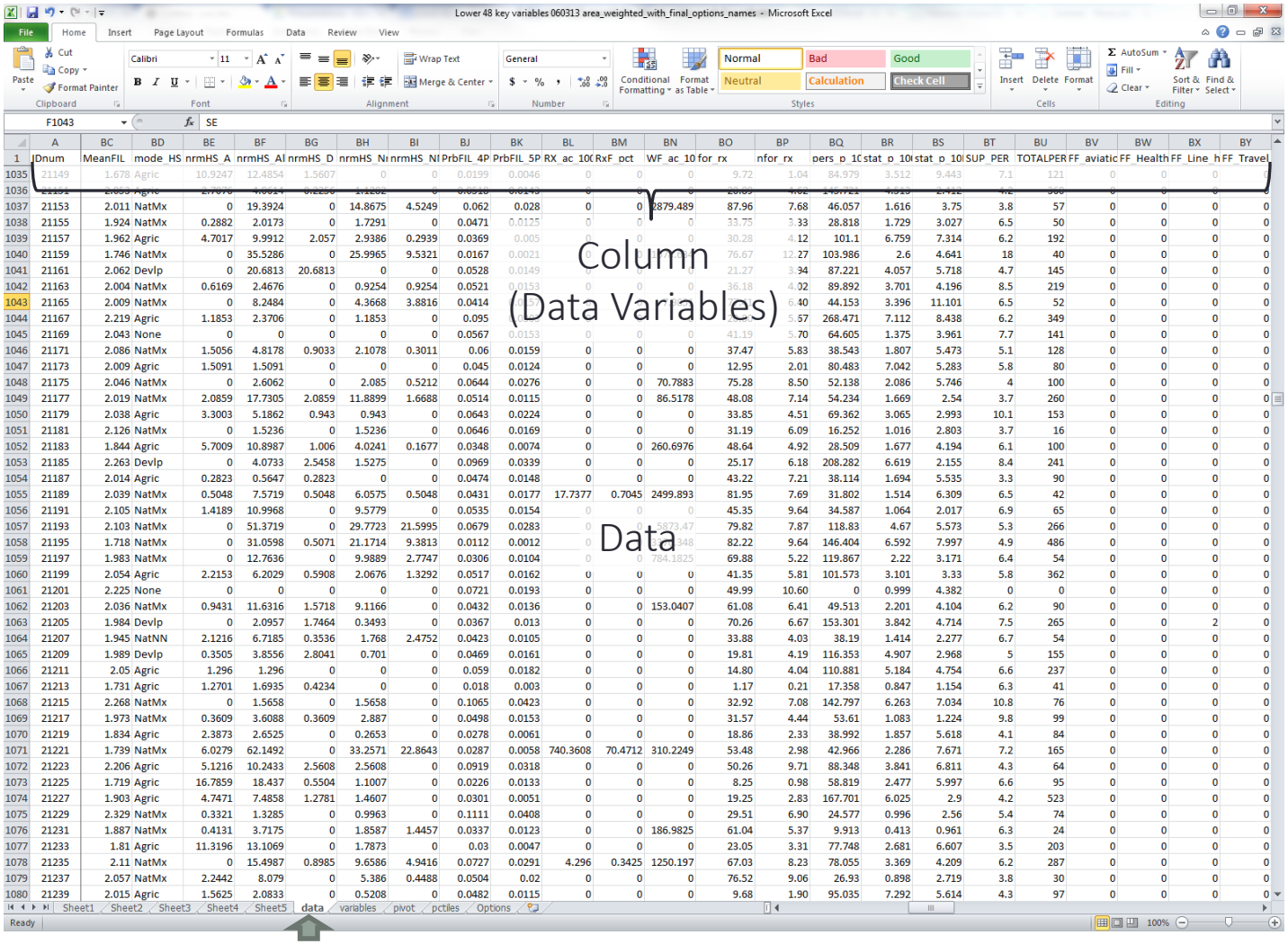




Spreadsheet Elements

Top Banner

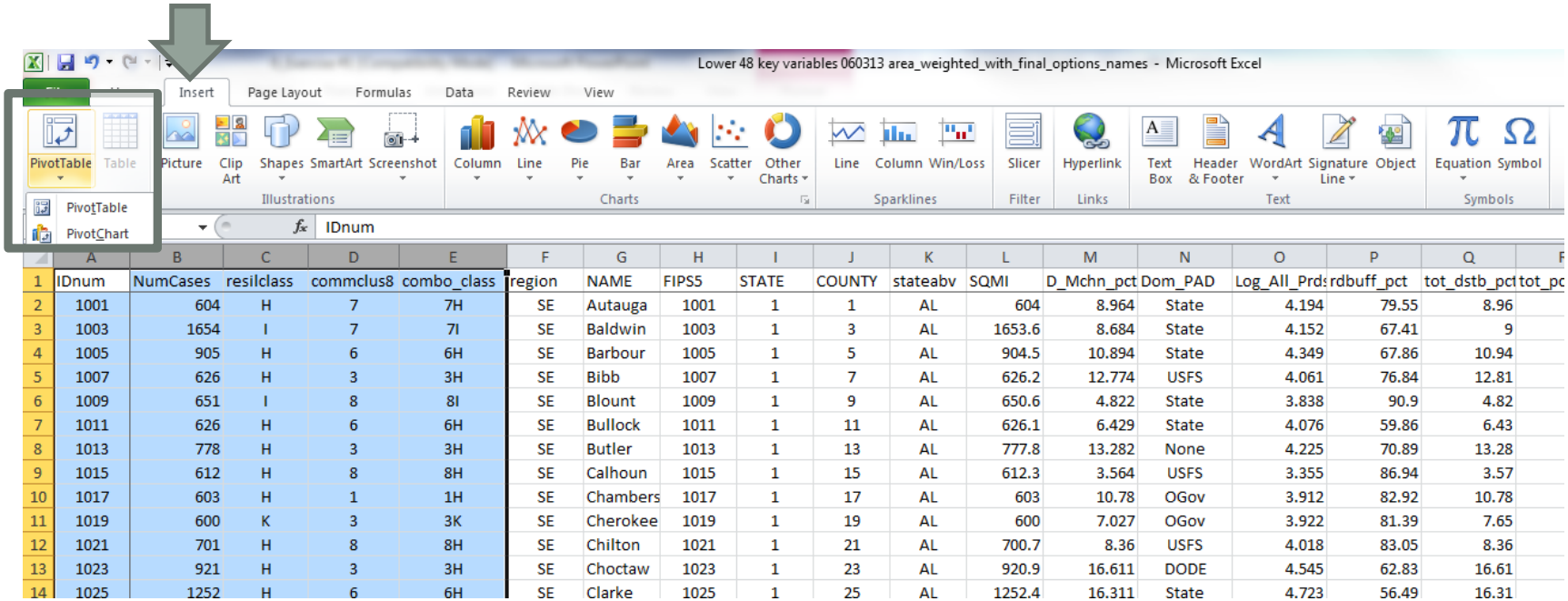
Rows
(1 for each
County)



Sheet

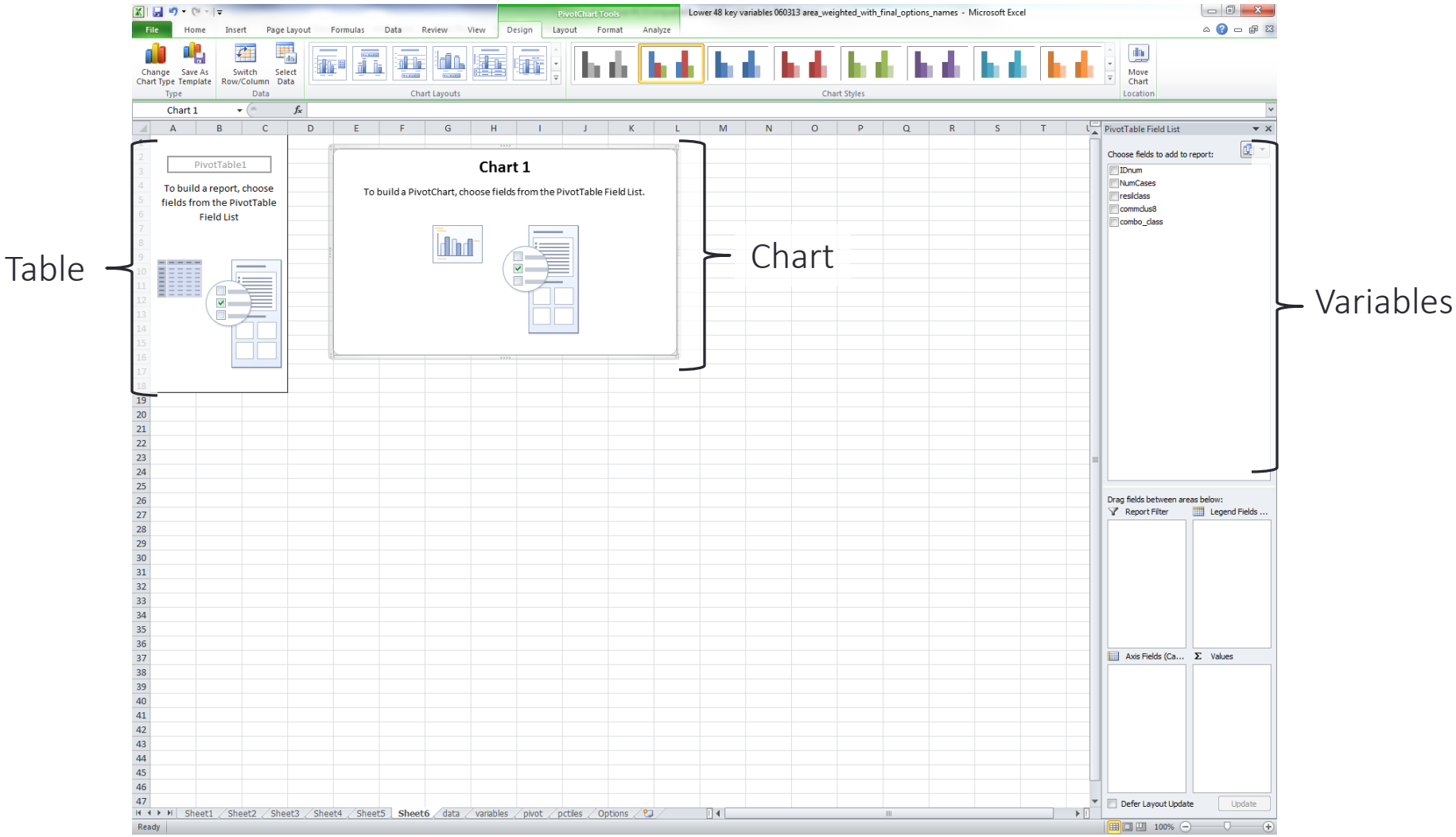
Enabling a Pivot Table

- Select Data
- Top Banner> Insert> PivotTable

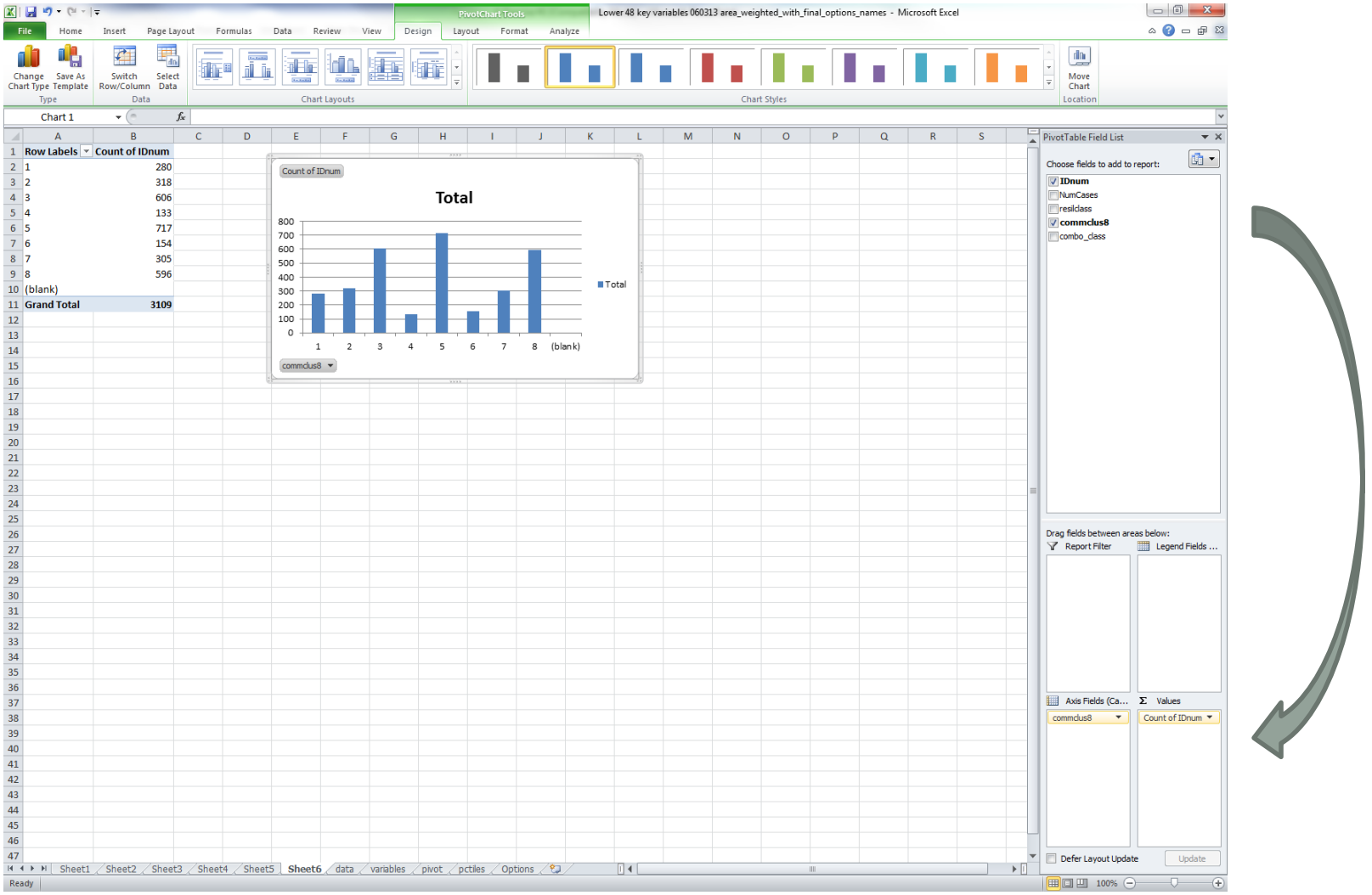


	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	IDnum	NumCases	resilclass	commclus8	combo_class	region	NAME	FIPS5	STATE	COUNTY	stateabv	SQMI	D_Mchn_pct	Dom_PAD	Log_All_Prds	rdbuff_pct	tot_dstb_pct
2	1001	604	H	7	7H	SE	Autauga	1001	1	1	AL	604	8.964	State	4.194	79.55	8.96
3	1003	1654	I	7	7I	SE	Baldwin	1003	1	3	AL	1653.6	8.684	State	4.152	67.41	9
4	1005	905	H	6	6H	SE	Barbour	1005	1	5	AL	904.5	10.894	State	4.349	67.86	10.94
5	1007	626	H	3	3H	SE	Bibb	1007	1	7	AL	626.2	12.774	USFS	4.061	76.84	12.81
6	1009	651	I	8	8I	SE	Blount	1009	1	9	AL	650.6	4.822	State	3.838	90.9	4.82
7	1011	626	H	6	6H	SE	Bullock	1011	1	11	AL	626.1	6.429	State	4.076	59.86	6.43
8	1013	778	H	3	3H	SE	Butler	1013	1	13	AL	777.8	13.282	None	4.225	70.89	13.28
9	1015	612	H	8	8H	SE	Calhoun	1015	1	15	AL	612.3	3.564	USFS	3.355	86.94	3.57
10	1017	603	H	1	1H	SE	Chambers	1017	1	17	AL	603	10.78	OGov	3.912	82.92	10.78
11	1019	600	K	3	3K	SE	Cherokee	1019	1	19	AL	600	7.027	OGov	3.922	81.39	7.65
12	1021	701	H	8	8H	SE	Chilton	1021	1	21	AL	700.7	8.36	USFS	4.018	83.05	8.36
13	1023	921	H	3	3H	SE	Choctaw	1023	1	23	AL	920.9	16.611	DODE	4.545	62.83	16.61
14	1025	1252	H	6	6H	SE	Clarke	1025	1	25	AL	1252.4	16.311	State	4.723	56.49	16.31

Pivot Table and Chart Interface



Drag and Drop Variables to Populate Table and Chart



EXERCISE # 1

Tasks and Process

Explore Data using Pivot Tables (Microsoft Excel)

Exercise # 1

INTRODUCTION

A pivot table can be a powerful tool for exploring the relationships or distributions of a few specific data variables of interest. Pivot tables can be used to show specific attributes or thresholds of interest. The results from pivot tables can also be placed into a chart for visually displaying the information or for creating information graphics. This exercise will guide you through the steps of creating a pivot table using county-level data.

TASK(S)

Create a pivot table and resulting chart that shows the average area burned by large fires for each state in the Southeast and filter the table and chart by Primary Conservation Partner.

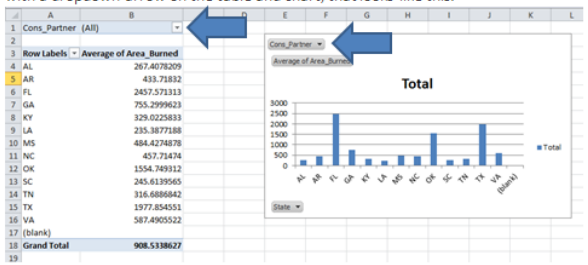
ACTIVITY/PROCESS

1. Open your spreadsheet "Exercise_1.xls"
2. View the columns and rows in the "Data" tab of spreadsheet. Each column contains a different data variable; you should see State, County_ID, Area_Burned, and Cons_Partner. A description of each data variable can be found in the "Description" tab of the spreadsheet. Each row contains the data for a county in the Southeast (1,340 counties).
3. Highlight all the columns in the spreadsheet and in the top banner go to: Insert> PivotTable>PivotChart.
4. Make sure the rows and columns are shown in the Table/Range and click OK.
5. You should see a blank table and chart with a PivotTable Field List to the right. You will use the PivotTable Field List "drag and drop" interface at the right to place variables into the areas below. Start by dragging the State variable into the "Axis Fields" area and the Area Burned variable into the "Values" area. As you drag and drop these variables you should see the table and chart begin to be populated with the States on the x axis and area burned on the y axis
6. Now you should see the State abbreviations across the x axis and number values on the y axis. By default, the Pivot Table sums the values of the variables in the "Values," which means the table and chart are simply showing the number of counties in each state. In order to show the average area burned you will need to change the format of the field setting. To change this click on the down arrow on the variable in the "Values" area and select "Value Field Settings." Change the Summarize value field from "Sum" to "Average" and click OK. Now the Area Burned values in the Pivot Table and Chart should be showing the average area burned for each State.

Explore Data using Pivot Tables (Microsoft Excel)

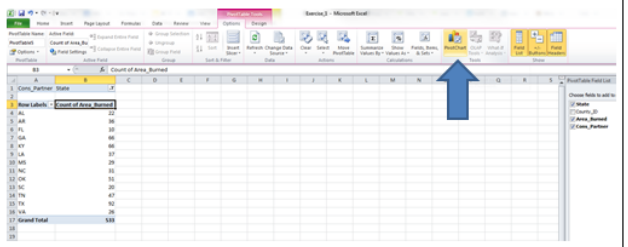
Exercise # 1

7. To filter the data even further by Conservation Partner drag the Cons_Partner variable into the "Report Filter" area. Now you should see the Cons_Partner variable with a dropdown arrow on the table and chart, that looks like this:



Click on the dropdown arrow and select one or multiple Conservation Partners and click OK. After selecting one or multiple Partners (other than All) you should see the table and chart update with that filter being applied.

8. If you wish to create a chart for each Conservation Partner instead of having to re-filter the data, select All in the Cons_Partner Report Filter> click somewhere on the Table of data> in the top banner go to Options> Options again under PivotTable Name and in dropdown click on Show Report Filter Pages> make sure your Report Filter variable is selected and click OK. This should generate a new sheet for each Conservation Partner. To view a chart on one of these sheets in the top banner go to Options> PivotChart (as shown in the picture below) and click OK.



Tasks and Process

- Everyone will pair up in groups of two
- You will need:
  - Microsoft Excel installed on your laptop
  - “Exercise_1.xlsx” file
- Go through the FOUR activities outlined in the Exercise Handout
- If you have questions, please raise your hand and someone will assist you…

LET'S GET STARTED