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Overview

Western Carolina University has launched a new online information tool designed to provide easy access to recent economic trends in the counties of Western North Carolina and across the entire state to everyone from community-minded residents and college students conducting research to industry and business executives exploring possible locations for expansion. Called the North Carolina Data Dashboard, the economics database includes more than 12,000 unique data series from sources such as the Bureau of Economic Analysis and the Federal Reserve Economic Database. The open-access electronic resource will serve as a one-stop information source that includes nearly 12 million independent observations from categories including workforce, product markets, land and infrastructure, said WCU economics professor Angela K. Dills, who holds the university's Gimelstob-Landry Distinguished Professorship in Regional Economic Development and is one of the primary drivers behind the project.

Getting started

- A. To visit the web page through Western's site, please type this in your URL: **NCDataDashboard.org**
- B. You can also reach the site by typing in "Data Dashboard" on Western's main site in the search box found at the top right of the page. Click the magnifying glass.
- C. The URL above will bring you to Western's "North Carolina Data Dashboard" web page. Figure 1-1 shows the top part of the web page.
- D. Below you can see that the data is broken into "sectors". Each sector comes with a brief description of what pertains to that specific sector. The following is a list of sectors currently posted on the website. * Please note, that sectors and/or the webpage are subject to change as new information is acquired*
 1. Land Sector: Explore the data pertaining to the natural resources and land of the area
 2. Labor Sector: This sector features labor statistics, cost of living and wages in North Carolina
 3. Earning Sector: See the details on the products and industries thriving in North Carolina
 4. Demographics Sector: View the population and how they cause change in the economy
 5. Industry by County GDP: View industry-specific GDP measures by county and by prosperity zone
- E. After deciding which sector to explore first, access the information pertaining to that sector by clicking on "Discover The Data" (Figure 1-2).
- F. Clicking "Discover The Data" redirects you to the NC Data Dashboard profile on Tableau's Public server-site. In the next couple sections, we discuss how to maneuver your way through the site and the information displayed.
- G. The "North Carolina Data Dashboard – Profile" link directs you to the North Carolina Data Dashboard, where you can click on the other sectors. If multiple worksheets appear, chose those that have "NC" at the beginning of the title and "Section" at the end.

You may browse any of the worksheets, but this guide is focuses on those with "NC" in front of the title and "Section" at the end.

Figure 1-1

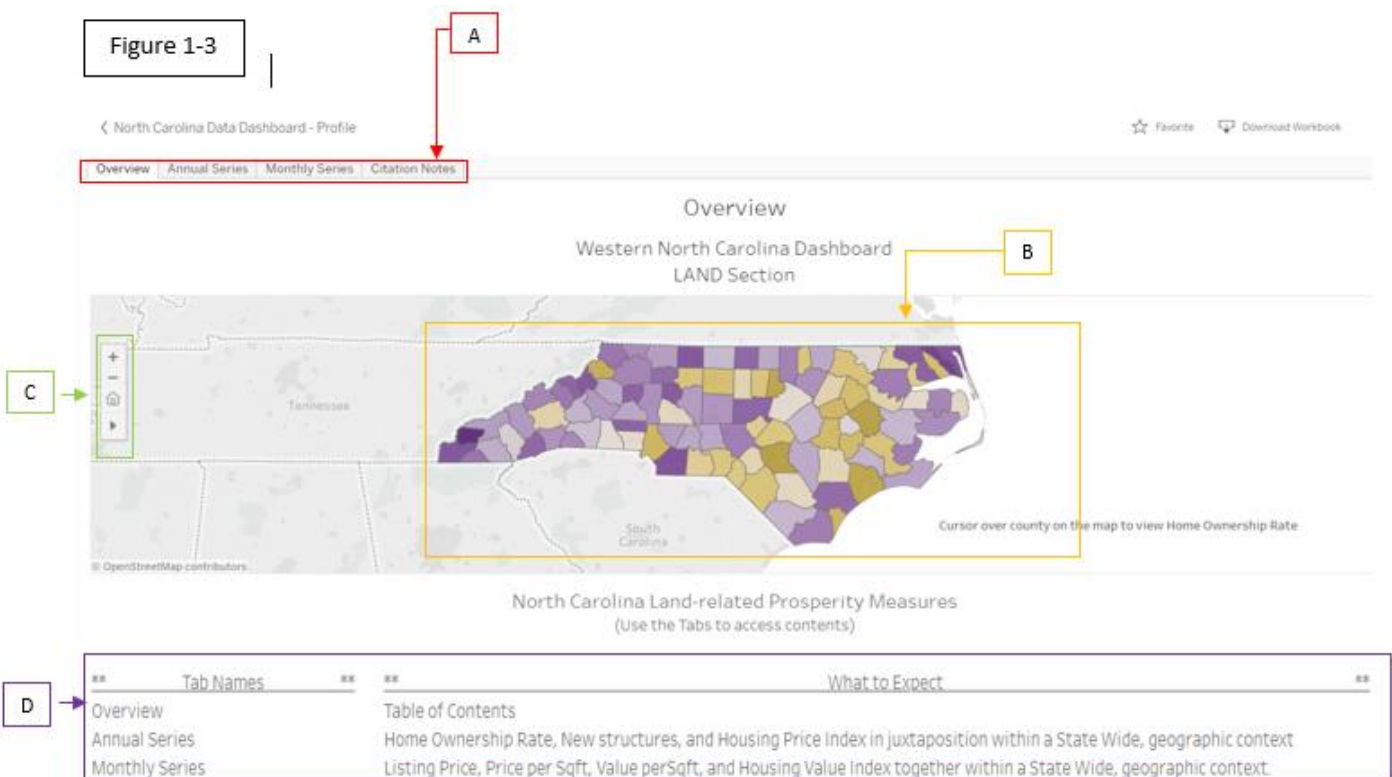
The screenshot shows the top navigation bar of the Western Carolina University website. The header is purple with the university logo on the left and links for 'News & Events', 'Give to WCU', 'Quick Links', and 'Social Media' on the right. Below the header, a purple banner reads 'Community and Economic Engagement' with a 'MENU' icon on the right. A breadcrumb trail indicates the current page: 'Community & Alumni Engagement > Community and Economic Engagement > North Carolina Data Dashboard'. The main heading is 'North Carolina Data Dashboard'. The text describes WCU's role as a steward and catalyst for economic and community development. It mentions partnerships with the 'Center for the Study of Free Enterprise' and the 'Gimelstob-Landry Professorship within the College of Business'. A central image shows a sunset over a mountain range. To the right, there are two call-to-action boxes: 'Take Me to the Data! EXPLORE MORE' and 'Why A Data Dashboard?' with a sub-heading 'The vision of the North Carolina Data Dashboard is to provide a one-stop, multi-purpose information source for anyone who...'

Figure 1-2

The screenshot shows the 'Land Sector' section of the website. On the left is a photograph of a waterfall cascading over rocks in a lush, green forest. To the right of the image is the section title 'Land Sector' in a large, dark font. Below the title is a paragraph of text: 'NC is renowned for its natural beauty, from our mountains in WNC to the coastal region. In this sector, we'll explore the data pertaining to the natural resources and land of the area.' At the bottom of the text block is a button that reads 'DISCOVER THE DATA' followed by a right-pointing arrow. A blue arrow points upwards from the bottom center of the image towards the 'DISCOVER THE DATA' button.

The Overview page

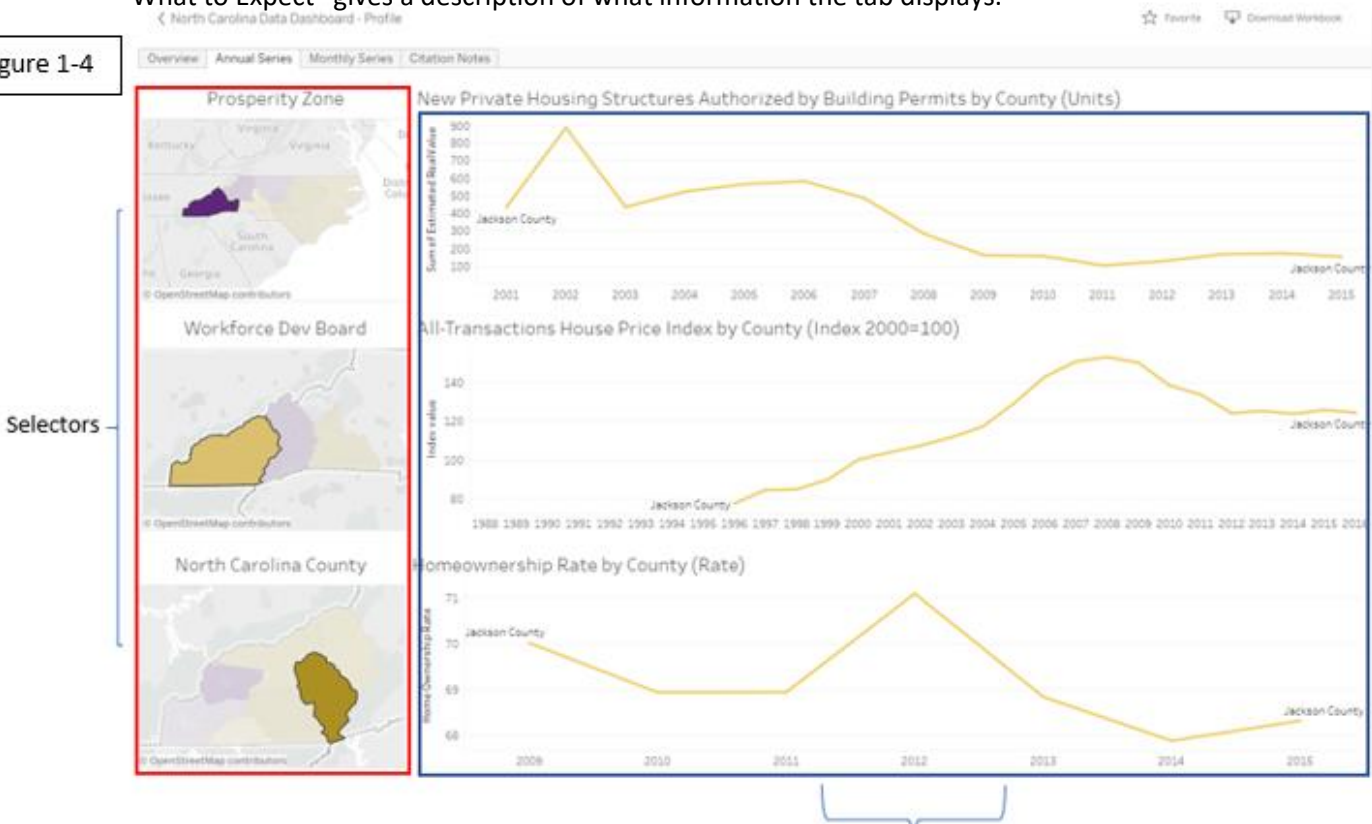
- A. What is the overview page and how to access it:
1. The overview tab is the first screen displayed when a sector has been chosen. Figure 1-3 (see below) is a screenshot of the land overview page and components.
 2. To access the overview page for a sector, select the sector you want from the NC data dashboard webpage and the browser automatically goes to the overview page. If the page automatically displays, within the Tableau page, search the tabs and click on the overview. Doing so directs you to the overview page of that sector.
- On the overview page you will find
1. An interactive map: This map is of North Carolina and each of the counties located within
 2. Informational tabs: These tabs will expand on that specific topic of information
 3. Table of contexts: This will explain what information each tab depicts
- B. The convention of the tab labeling:
1. The tab's name describes what data are presented.
 2. The first tab is always the overview tab. The last tab is always the citation notes tab.
- C. After selecting a tab:
1. Once a tab has been chosen, you are directed to that tab's page. The layout on each page may differ somewhat from this example to better display that specific tab's data.
 2. What are selectors and visualization? Selectors allow the user to choose which pieces of information the dashboard displays. The visualizations present the actual data (maps, graphs).
 3. Each selector and visual have labels attached. These labels inform the user what information is being displayed.
- D. Conventions of the tabs:
1. The tabs are set up so that each subsequent tab goes into more depth with the information from the last tab, starting with the left and moving downright.
 2. All tabs provide the same form of information. For example, population count, counties and prosperity zones will remain constant throughout.



[How to navigate in a NCDD workbook](#)

- * The remainder of this guide uses the land sector as the example. Though the information displayed for each sector differs, the navigational concepts are constant with each sector*
 - * Figure 1-3 is a screenshot of what the overview page of the land sector will be. Each letter below is matched up with the letters in figure 1-3.
- A. Click on these information tabs to access that specific tab’s information
 - To return to the map page, click the “Overview tab”
 - Each sector has its own number of tabs and titles
 - B. North Carolina is the only state that can be chosen to view economic activity
 - Hover the mouse over each county and a small box will appear with information about that county
 - To unselect a county, click anywhere outside the state of North Carolina where the area is shaded grey
 - When a county is clicked and then a tab, double check if the information display is for the county chosen. Tableau may have reset the search to the default search. Reasons why:
 1. There is currently no data associated with the county and the specific tab that was chosen.
 2. There are multiple counties that Tableau is comparing on the graph. Other counties are needed to create a better understanding of the information, and the county you chose was unclicked by Tableau. To fix this, look to the right of the screen and look under the tab “GeoArea Name” (GeoArea = County). Search for your county and click on the box. A check should appear in the box. If your county is not in the tab, there is currently no information on that county associated with the information tab chosen.
 - C. This sidebar is used to control aspects of the map:
 - Click on the magnifying glass. Search for a county by typing it in the search bar and then hitting enter on your keyboard or by clicking on the county on the drop box. The map may zoom in on the county. To zoom back out, click the minus button on the map.
 - The plus and minus buttons zoom in on the map or zoom further away from the map. The plus sign zooms in while the minus sign zooms out.
 - D. On the left side, “Tab Names” shows the tabs that are present at the top of the page. On the right side, “What to Expect” gives a description of what information the tab displays.

Figure 1-4



How to “Select” data to be displayed

A. Selectors and their effects:

-What are selectors? Selectors are used to manipulate the data\visualizations on the dashboard. For example, in Figure 1-4 (see above) it shows three selectors; “Prosperity Zone”, “Workforce Dev Board” and “North Carolina County”. These selectors allow you to manipulate the visualizations in the data dashboard.

-To unselect specific variables, click on the grey area anywhere on the map. To select multiple variables, hold “Ctrl” and click on the variables you want to select.

-If everything is unselected, all the information is presented; generally, these displays are too filled with the lines to read. The selectors allow the user to focus on geographic areas or choices of data such as industry. The most general selector is at the top and each selector gets more specific when you trail down.

-For example, since Jackson County is the default, we can see in figure 1-4 that a Prosperity Zone is selected, and since Jackson County is on the western side that is what is chosen. For the second selector, decide which Workforce Dev Board to select. This selector is a little more specific than the previous one. It zooms in on the western side of the previous choice, so next decide which region to look at. To select Jackson County, choose the southwestern region of the map. Lastly, choose which county to view information on: click on Jackson County. Each time a decision is made with one selector, a more specific decision on the next selector is made until the answer to the question is received.

-By default, the visualizations display Jackson County whenever a new sector tab is opened

How the information is displayed

A. Tableau uses a variety of tools to simplify a large amount of data. Hovering the mouse over the graph will provide an interactive data box. The main tools used to display information are:

- Line graphs
- Bar graphs
- Decision trees
- Map of North Carolina
- Data Hierarchy Level

B. The layout principles used when designing/building the NCDD Dashboard:

-The layout addresses three key aspect of selection: When, What and Where

-There are two categories of components: Selectors and Visualizations.

-Layout: Selectors are located on the left-side of the screen, with general selectors on the top and more specific selectors further down in order. Visualizations are located on the right side of the screen and their appearance changes as you click on a variety of selectors to find specific information. This layout is true for all the worksheets. Figure 1-4 (Land Section – Annual Series tab) shows an example of the placement of the two categories of components.

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Please note that the tools may shift to other parts of the screen, depending on which sector and information tab was chosen

[How to read the graphs](#)

- A. The two main graphs that are used are line and bar graphs
- B. The lines and bars are color coded according to the information they are associated with. The legend provides a crosswalk of colors and pieces of information (for example, blue might be Jackson County in a graph)
- C. The labels on the x-and y-axes of the graphs describe the presented information. For example, the x-axis presents the date, while the y-axis present dollar amounts.
- D. Hovering the mouse over the lines or bars will make a box of information appear. Clicking on the line isolates the information.

[How to download sheets for personal use](#)

- A. On the top right of overview page, there is a download workbook link that, when clicked, will start a download.
- B. Once the download is complete, click on the file and Tableau will open it. You can view the datastores that were used and manipulate them. This will not affect the files on the site. You can download the data to a tab or csv file.

[FAQ](#)

-Who are the leads for this project?

Answer: Dr. Lopez, Dr. Dills, Brad Berg

-Where is the information acquired?

Answer:

-<https://www.bea.gov/>

-<https://www.federalreserve.gov/>

-<https://www.zillow.com/>

-<https://www.census.gov/>

-What software are you using?

Answer:

Microsoft SQL Server Management Studio 17

Tableau

Erwin Data Modeler3