Extract the files in CarteretCounty-NVivoWorkshop.zip to a convenient folder.

Open NVivo.

As a first comment, I want to note that I am using NVivo Pro. I know some of you may be following along with the trial version. Different versions of NVivo version may look a little different, but the functionality should be the same.

We will be working with a data collection that is a part of one of the sample datasets that comes with some versions of NVIVO. It is drawn from a two year study (2008-2009) undertaken by researchers from the Duke University Marine Lab in Beaufort, N.C. This study documented community perceptions of development and land-use change on coastal communities in the Down East area of Carteret County. We will be exploring the responses to a survey, files containing the full text of a few in-depth interviews, and a sample of social media data taken from Twitter using the CarteretCounty hashtag.

Create a new blank project by clicking the "New project" button and give it the title "Development in Carteret County". Leaving all the other boxes at their default values, click "**Next**" and then "**Create project**". (You can close the "quick start" window if it pops up)

We have a project! Now let's import files.

Importing Data

I'm going to start by importing a survey that is saved in MS Excel format. It's in a standard data file format with each row being a case (a person who responded to the survey) and each column a question in the survey. The first row of the Excel file contains column headers.

This is a common setup for data being exported from survey software like Qualtrics and is also how data needs to be organized for importing into other data analysis software such as SPSS.

On the Import menu, go to the "Survey" tab and choose the "Excel" option. Open NVivo_Survey_Responses.xlsx

Note that you need to change the date format to "Day Month Year", do so and click "**Next**". Leave everything on this screen the same and click "**Next" again.**

Observe that NVivo has done a good job of deciding which questions are open ended and which are closed ended. In essence open ended questions are ones where the respondent typed in an answer in their own words, and a closed ended question is one where the respondent chose a response from a list of options or entered a number or a date.

The open ended questions are set aside for further analysis and coding; the closed ended questions are classed automatically as attributes of the cases, in this project, the closed ended questions are personal characteristics of the people who responded to the survey or survey administration variables such as the date the survey was submitted.

Click "Finish".

Skim through the survey responses and read some of the question responses.

On the left sidebar, go to cases, click on case classifications. Each case can now be clicked on so you can examine the personal attributes and closed-ended responses of each respondent.

Now let's import some more files. This time I'm going to import -> file, because I want to import the word documents containing in-depth interviews that were done with a few respondents.

On the Import menu, click "Files"

You can select multiple files, so select the three MS Word interview documents using control-click and click "**Open**".

Check the box to create a case for each imported file, create a new classification to group cases, and call it "interview subjects". NVivo automatically assumes that each document contains a single interview.

You need to create a new case classification because these are different people, with different types of characteristics. If you were importing a second file of data from the same survey , or multiple blocks of similar interviews, it would make sense to use the same case classification, but these people were not survey subjects that we can tell, and didn't have the survey attributes recorded.

Importing exactly same kind of thing recorded in the same way: same classification. Different kinds of things, like interviews and survey responses – new classification.

We will also import the twitter data using the Excel option, on the survey tab. Although this is not a survey, the data is set up in a similar way.

On the Import menu, click the "Excel" option. Open "CarteretCounty on Twitter.xlsx"

Go through the wizard as before. Note that the wizard correctly detects the tweet text itself as the 'open ended' qualitative data. Look at the date and verify that it matches the selected format. The tweeter's bio is also qualitative data.

On the last step, create a new classification to group cases; I called it "Tweeters". It's important to create new classifications as these files are all set up differently – they don't have attributes in common, they aren't the same people. So you can't reuse the same case classification.

Exploring Our Data

Since this is a study of attitudes towards development, let's start by exploring the survey data to get an overall picture of what people are thinking. The survey had a question asking what respondents thought of the pace of development overall. NVivo has some limited quantitative analysis capabilities to facilitate handling survey data. We're going to create a chart.

On the Explore menu, click "Chart" and select "Charts"…, then choose Coding, click "Next". We are interested in charting one of the closed ended questions, which NVivo classifies as case attributes. So choose the second option, "Coding by case attribute for a file", click "Next".

Under "Chart items" click "Select" next to "File" and choose the file "NVivo_Survey_Responses"

Under "Chart items" click "Select" next to the X-Axis attribute. In the right-hand box you should see "Survey Respondent". Click the "+" sign to expand the options and choose "Pace of development" and click "OK".

Click finish and examine the chart showing what the survey respondents think about the pace of development.

Coding Our Data

Now let's create a couple of codes for a priori coding. We'll start by making sure we have some place to put them. NVivo has already set up containers for the case information that it automatically extracted from the data. Now we want to get into the qualitative content and start coding the themes we are finding in the data, so we will create a folder called "themes".

On the left menu, under "Coding" right-click on "Codes" and choose "New folder…". Call your new folder "Themes".

The first thematic code I'm going to create is "Pace of development". We already have a quantitative analysis of whether people thing the pace is too fast or too slow. But we can get more insight into why people feel these things by looking at the content of their comments around development.

Right-click on the "Themes" folder and choose "New code…" and type in "Pace of development" (without quotes.)

You'll notice that NVivo lets you create hierarchies of codes – you can have top level codes and child codes. For example, I might have 'too fast' and 'too slow' as child codes under Pace of Development, and if I select the grouping option, I could choose to analyze the child codes together with their parent or separately. In this research project, I'm not ready to create any child codes under 'pace of development' until I get a better feel for what's being said.

Using the same actions, add two more a priori codes, "Natural Beauty" and "Regulation".

Let's delve into coding! We'll start by looking at one of the in depth interviews.

On the left sidebar, go to Data and click on Files. Double-click on "Interview with Maria and Daniel on January 20th." Read through the interview to get a feel for the data. Find a sentence or paragraph that seems to relate to the environment and highlight it using your mouse.

On the far left sidebar, make sure that "Themes" under "Codes" is selected. You should have a panel to the right of that showing the three codes you have created.

Click on the highlighted text and drag it on top of "Environment: under "Codes" on the left sidebar.

Highlight some more text, and this time **right-click** on the highlighted text and choose "Code selection" and then browse to your existing codes under "Themes" and choose one.

Using the same right click action, you can also select the "Code In Vivo" option, which will create a new code using your selected text, then code to it.

A third way to apply a code is to use the "Code to:" dropdown menu at the bottom of the document.

Choose another selection of text, right-click, and after choosing "Code selection", click on "Themes" and select a theme. On the right, click "Child code" under "Create new". Give your new, emergent code a name and code to this new code.

Open the survey file by clicking on "Files" under "Data" in the left sidebar, and double-clicking "NVivo_Survey_Responses". Click on "Themes" under "Coding" again to bring up your codes, and code a few survey responses to new or existing codes. Do the same with the file of tweets,

Sometimes you may have thoughts while reading your data that are too complex to capture in a code but which you want to record for later. These can be kept in memos and annotations. Highlight the text of one of the tweets, right-click, and choose "New annotation". Type in a note to yourself. The annotation (Annotation 1 for this file) will remain visible as long as you keep this file open. You can add multiple annotations to a file or keep adding to the existing one.

Click a code, show browse sources.

Some forms of exploratory analysis

Go to the Explore tab, choose word frequency

Select the interview files

Search within selected

Stemmed words

Show word cloud, cluster analysis

Add query to project.

Run word frequency query again for a single question in the survey (Nodes>survey responses)

Make sure to uncheck 'files'

Word cloud again

Finally I'd like to show you a few things about how to chart and visualize your coding data once you've finished coding.

Code Coverage

In order to show these particular features I need to work with a project that has been much more heavily coded than the one I'm showing here. So I'm going to open a version of the sample project data that has already been coded. You should be able to access this project using the "Sample Project" button on the start screen in most versions of NVivo.

On the Explore tab, choose:

Explore > Chart > Charts > Coding > Coding for a file > <choose the file>

X-Axis: Selected codes and cases <choose nodes you want graphed>

Y-Axis: Percentage Covered

Options for customizing graphs in NVivo are limited, so if you want to change the appearance of your charts and graphs, build your chart then export the data to Excel.

Display your chart, click the "Summary" tab on the right
Right click in the data window, choose export list, and save the data to an Excel file

Cluster Analysis

Explore > cluster analysis > codes > nodes: [choose some nodes that may relate to each other]

Clustered by: coding similarity

Note this shows areas where the same text gets coded with multiple codes. Codes that tend to appear on the same or neighbouring text are considered to be closer together. You can change the graph display options on the bar above the graph.

Coding Stripes

Open one of the interview files from under Quick Access on the left sidebar

Under Document Tools

Coding stripes > All coding

Highlight > All coding

Highlight > Coding for Selected Items > Community

This project was very heavily coded, so highlighting all coding isn't very helpful – among other things the "Autocoding" feature tagged each interview subject's answers.

The coloured bars on the right map where each code was applied, and the first line shows coding density.

And that's the basics of how you use NVivo! It's a great tool for organizing your thoughts about qualitative research sources. I've shown how you might use it for analyzing a multi-modal project of digitized interviews, survey data and social media data, but it can also be used to keep track of sources in a literature review, or for documentary research, as well as many other applications. If you are working primarily with unstructured textual data of any sort it's probably a good choice for your research.