Preface

This is a user guide for Diversity Outreach and Recruiting Event Site Selection (DORESS), a piece of software created by RAND to assist the Air Force in identifying diversity outreach and recruiting event sites. By combining user preferences based on Department of Defense and Air Force policy priorities with information on student populations and Air Force locations, DORESS helps users find sites at which to locate events.

The tool should be useful for civilians and airmen involved in Air Force recruiting of enlisted airmen, officer candidates, or civilians. This includes people who are funding or organizing events that are specifically diversity-related, as well as those with general recruiting responsibilities.

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RAND Project AIR FORCE

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## Abbreviations

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<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>AP</td>
<td>Advanced Placement</td>
</tr>
<tr>
<td>DORESS</td>
<td>Diversity Outreach and Recruiting Event Site Selection</td>
</tr>
<tr>
<td>IB</td>
<td>international baccalaureate</td>
</tr>
<tr>
<td>NCES</td>
<td>National Center for Education Statistics</td>
</tr>
<tr>
<td>ROTC</td>
<td>Reserve Officers’ Training Corps</td>
</tr>
<tr>
<td>STEM</td>
<td>science, technology, engineering, and math</td>
</tr>
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Introduction

Diversity Outreach and Recruiting Event Site Selection (DORESS) is a tool for identifying Air Force diversity outreach and recruiting event locations. Users select the type of students they are interested in based on policy priorities, and DORESS returns information on where those students are located as well as on nearby Air Force resources that may be useful for recruiting. This can help the Air Force be more intentional regarding where it invests resources for diversity, enabling it to pick sites based on policy justifications combined with data.

This is also a first step toward enabling the Air Force to evaluate the productivity of funded events based on return-on-investment measures tied to specific policy priorities. For instance, if Air Force leadership decides to make outreach to black students from selective colleges a particular priority, DORESS can provide guidance on what areas and colleges have high numbers of those students and what existing Air Force resources are nearby. After selecting sites and putting on an event, users can then compare the event’s return on investment, in terms of outreach to that population, with the return on investment of other events.

There are three different ways you can use DORESS, which we refer to as allocation, evaluation, and event planning. In allocate mode, you go in without a clear sense of where you want to place resources, and DORESS provides overall state rankings for your population of interest and, within those states, ranks zip codes and gives information on counties. In evaluate mode, you ask DORESS to look up your population of interest within a particular zip code, and DORESS reports how that zip code compares with nearby zip codes within however many miles you wish to see. After you get these results in either allocate or evaluate mode, DORESS can continue to assist you in planning events by showing you where Air Force recruiting offices, Air Force bases, and Air Force Reserve Officers’ Training Corps (ROTC) detachments are located that you may wish to draw on to assist with these events, as well as which high schools and colleges are nearby and how many students at those schools are in your population of interest.

This guide will provide examples and walk you through all three of these functions, as well as show you more generally how to use DORESS and change what the map output looks like. Chapter One provides general information on interacting with various aspects of DORESS, such as running the software, using the drop-down menus, and changing the appearance of the map via the layers screen. Chapter Two walks through each screen of the “wizard”—the interface through which you’ll use DORESS—from the selection screen to the map. Chapter Three provides an example allocation, evaluation, and event planning scenario for a sample population: black students from highly ranked high schools. Appendix A provides technical details regarding how population weighting works for advanced queries, which are queries in which multiple populations are included. Appendix B provides a brief overview on how to use the Google Earth layer we’ve included.
Chapter One: Running DORESS, Drop-Down Menus, and Layers

This chapter explains various aspects of the program, including how to run it, navigating the drop-down menus, and changing the appearance of maps via the layers section.

Running DORESS

You might either download DORESS or receive it on a DVD. If you download it, you’ll be downloading a zipped version, and you’ll need to unzip it with a program such as WinZip. After you unzip it, run the program by selecting the DORESS.jar file. If you have a DVD with DORESS, you’ll run the program by selecting the DORESS.jar program. This will not install anything on your computer.

If you are getting error messages when you run DORESS, we suggest both checking to make sure the files are unzipped and updating your version of Java to the latest one, which you can do at https://www.java.com.

You can also run DORESS via the command line if you’re having difficulties:
1. Click the Windows button.
2. Search for “run” in the search box and then select it.
3. Type cmd into the window next to “Open:” in the run box and then click “enter.” This will open up the command line window.
4. Type cd followed by your DORESS directory, or the folder in which DORESS is located on your computer. (For instance, cd “C:\DORESS-2013-12-20\DORESS-2013-12-20”).
5. Type java –jar DORESS.jar. Your window should look like Figure 1.1 below.

Figure 1.1: Opening DORESS via the Command Line

Navigating the Drop-Down Menus

DORESS has several drop-down menus that can be accessed from the map screen.
File

- Selecting **view AF resources in Google Earth** will open Google Earth and display Air Force resources (Air Force bases, Air Force ROTC detachments, and Air Force recruiting offices). If you don’t have Google Earth installed, you will get an error message instead. You can install Google Earth at http://www.google.com/earth/index.html. For more information on Google Earth, see Appendix B.
- Selecting **View User Guide and Documentation** pulls up this user guide.
- Selecting **Exit** exits DORESS.

Get Maps from…

**OpenStreetMap** and **MapQuest** provide two different map views. The default setting is the MapQuest view. If you select **Don’t display imagery**, you’ll get a plain green map background that looks like the map shown in Figure 1.2.

![Figure 1.2: Map with “Don’t Display Imagery” Selected](image)

Help

Selecting **About** brings up some information about DORESS.
Layers

The “Layers” screen, which you can view by clicking on the three-screen icon ( ) above the map on the left side, gives you a number of other options that change the appearance of the map. For each of these options, as shown in Figure 1.3, you can turn on the option by clicking on the light bulb so that it’s green instead of gray. If you don’t see all of the options in Figure 1.3, click on the boundaries of the window and drag to expand it.

![Figure 1.3: Layers](image_url)

The map in Figure 1.4 has all of the layers turned on except for high schools. We’ll now go through the layers one by one. Each of these are marked on the map as well, except for #6, which is high schools.
1. (Number of) miles around (zip code): This turns on a red circle around the area you’ve selected with a radius corresponding to the number of miles you’ve set as the “max range.” In this case, we’re looking at a circle with a 10-mile radius whose center in the middle of 90815.

2. Zip (zip code): This turns on the pink outline and shading of the zip code you have selected. When you select a different zip code, the outline and shading will switch to that zip code.

3. Population totals: When population totals are turned on, the number of people per county who fit into the population queried will be displayed. In this example, the query for black and Hispanic STEM (science, technology, engineering, and math) students from highly ranked colleges produces an estimate of 8,609 for Los Angeles County. This is the sum of black STEM students from highly ranked colleges and Hispanic STEM students from highly ranked colleges.

4. Population charts by county: These pie charts by county show the relative size of the population totals for your query results. In this instance, these are the query results for black and Hispanic STEM students from highly ranked colleges in Orange County and Los Angeles County. As shown on the chart colors at the bottom, red symbolizes Hispanic STEM students from highly ranked colleges and green symbolizes black STEM college students from highly ranked colleges. In Orange County, about 1/10 of the
combined black and Hispanic STEM college students from highly ranked schools consists of black STEM college students.¹

5. Colleges: Turning this on displays the names of all of the colleges in our database. As explained in Chapter Two, this includes only certain types of bachelor’s degree–granting colleges.

6. High schools: Turning the “high school” layer displays all public high schools. We’ve left this off in the map because unless you’ve zoomed very far in, high school names tend to overwhelm everything else on the map. *(Because this is not turned on, there is no “6” on the map.)*

7. Air Force bases: Turning this on creates plane icons for each Air Force base, which are labeled with the name of the base and the name of the command it’s under. You can see the Air Force base icon labeled Los Angeles AFB (AFSPC). AFSPC stands for Air Force Space Command, the command that the Los Angeles Air Force Base is in support of.

8. Air Force ROTC detachments: Turning this on creates blue stars representing each Air Force ROTC detachment. If the colleges are also turned on, you’ll see which school the ROTC detachment is associated with.

9. Air Force recruiting office: Turning this on creates red stars representing each Air Force recruiting office.

10. Counties: Turning this on creates outlines reflecting counties.

11. States: Turning this on creates outlines reflecting states.

¹ The exact relationship between the population size and the size of the circle is that the radius of each circle is some constant \( k \times \log \) (population). This means that, on the scale most queries will result in, if one county’s results are twice as big as another’s, the area of first county’s circle will be between about 10 and 20 percent bigger. The size of the constant varies depending on size of the population.
Chapter Two: DORESS Walkthrough

This chapter describes in more depth each part of the DORESS wizard and the default map output.

Screen One: Explanation of DORESS

The first screen, shown in Figure 2.1, explains what the objectives and benefits of DORESS are. Click “Next” to continue. The “Progress” bar on the left-hand side is descriptive, not interactive: It will tell you what stage you’re currently in, but you can’t click on it.

Figure 2.1: DORESS Wizard “Objective and Benefits” Screen
Screen Two: Search by Category

In the search selection screen, shown in Figure 2.2, you can select either “quick” or “advanced.”

- In a quick search, you can select one population (for instance, students from highly ranked high schools or students from other high schools).
- In an advanced search, you can select multiple populations (for instance, both students from highly ranked high schools and students from other high schools).

In both cases, you can then select to search specifically for any subgroups from that population (for instance, female black and Hispanic students or male and female students of all races and ethnicities).

Figure 2.2: DORESS Wizard “Selection” Screen
Screen Three: Selection Criteria

In the next screen, shown in Figure 2.3, you pick which students you are interested in for the purpose of allocating resources. This has three components: populations, racial and ethnic groups, and gender. The selection criteria screen is the same for quick and advanced searches, except that you can pick more than one population in the advanced search but are limited to one in the quick search.

Figure 2.3: DORESS Wizard “Selection Criteria” Screen

Population

There are six different population categories you can choose from. These are different sets of high school and college students. In the quick search, you are limited to one population: in the advanced search, you can pick multiple populations. Some of these populations overlap, some do not.² The categories are as follows:

² “Students from selective colleges” overlaps with both “STEM students from highly ranked colleges” and “STEM students from other colleges.” “Students from other colleges” also overlaps with both “STEM students from highly ranked colleges” and “STEM students from other colleges.” Other categories do not overlap with each other.
1. Students from selective colleges: These are full-time undergraduate students at schools that are primarily baccalaureate-granting or above. This category excludes students from schools that do not award four-year degrees, schools that are private and for-profit, and schools that are not part of Title IV. It also excludes certain specialized colleges, including teachers colleges, tribal colleges, colleges of art and music, medical schools, and service academies, as well as colleges without tenure systems. Additionally, this category includes only students from schools in roughly the top quarter in terms of SAT scores (math plus verbal for the 25th percentile of entering students), or schools that do not disclose SAT scores but have ACT scores or admissions rates that would suggest similar levels of selectivity.

2. Students from other colleges: These are full-time undergraduate students at schools that are primarily baccalaureate-granting or above. This category excludes students from schools that do not award four-year degrees, schools that are private and for-profit, and schools that are not part of Title IV. It also excludes certain specialized colleges, including teachers colleges, tribal colleges, colleges of art and music, medical schools, and service academies, as well as colleges without tenure systems. Additionally, this category includes only students from schools that are roughly in the bottom three quarters in terms of SAT scores (math plus verbal for the 25th percentile of entering students), or schools that do not disclose SAT scores but have ACT scores or admissions rates that would suggest similar levels of selectivity. **You should select “advanced” and then both “students from selective colleges” and “students from other colleges” if you want to capture the entire college student population.**

3. STEM students from highly ranked colleges: These are full-time undergraduate students at schools that are primarily baccalaureate-granting or above. This category excludes students from schools that do not award four-year degrees, schools that are private and for-profit, and schools that are not part of Title IV. It also excludes certain specialized colleges, including teachers colleges, tribal colleges, colleges of art and music, medical schools, and service academies, as well as colleges without tenure systems. Additionally, this category includes only students who are both (1) STEM majors (biological sciences/life sciences, mathematics, physical sciences, and engineering) and (2) from schools with *U.S. News & World Report*–ranked STEM programs. The *U.S. News & World Report* rankings include Best Undergraduate Engineering Programs, Best Engineering Schools, and Top Science Schools. This category doesn’t include students in only those specific programs, but rather all STEM undergraduates at schools with any *U.S. News & World Report*–ranked STEM program. So, for instance, a biology undergraduate at a school that is ranked as having a graduate aeronautical engineering program would appear in this category.

4. STEM students from other colleges: These are full-time undergraduate students at schools that are primarily baccalaureate-granting or above. This category excludes students from schools that do not award four-year degrees, schools that are private and for-profit, and schools that are not part of Title IV. It also excludes certain specialized colleges, including teachers colleges, tribal colleges, colleges of art and music, medical schools, and service academies, as well as colleges without tenure systems. Additionally, this category includes only students who are both (1) STEM majors (biological sciences/life sciences, mathematics, physical sciences, and engineering) and (2) from schools without *U.S. News & World Report*–ranked STEM programs. (For more on those
You should select “advanced” and then both “STEM students from highly ranked colleges” and “STEM students from other colleges” if you want to capture the entire STEM college student population.

5. Students from highly ranked high schools: This is a subcategory of all public high school students, including those at charter schools, specialized high schools, and certain public-private partnerships. It does not include private high schools, which are not recipients of public funding. This category includes only high school students from schools that appeared in high school rankings from the Washington Post, the Daily Beast, or U.S. News & World Report. The criteria for inclusion among these high schools include graduation rates, difficulty of curricula (AP or IB classes or tests), acceptance into college, and test scores.

6. Students from other high schools: This is a subcategory of all public high school students, including those at charter schools, specialized high schools, and certain public-private partnerships. It does not include private high schools, which are not recipients of public funding. This category excludes high school students from schools that appeared in high school rankings from the Washington Post, the Daily Beast, or U.S. News & World Report. The criteria for inclusion among these high schools include graduation rates, difficulty of curricula (AP or IB classes or tests), acceptance into college, and test scores. You should select “advanced” and then both “students from highly ranked high schools” and “students from other high schools” if you want to capture the entire high school student population.

Race and Ethnicity

For each population, you must select at least one racial or ethnic group. In some cases, you can select multiple groups. However, some racial and ethnic groups are subgroups of other racial and ethnic groups. The subgroups are shown indented under their parent population, and if you select both the subgroup and its parent group, DORESS will treat your query as if you’ve only selected the bigger group.

The groups are as follows. Keep in mind that, while these are the formal definitions, it isn’t necessarily the case that students were given these definitions when filling out surveys asking about their racial/ethnic group:

1. All races and ethnicities: This includes all students, including those whose racial/ethnic information is missing.
2. White: This includes white non-Hispanic students.
3. Minority: This includes all students except white non-Hispanic students and students for whom racial/ethnic information is missing.

When your query encompasses multiple racial/ethnic or gender groups, each person in each group is weighted equally. This means that bigger groups will wind up influencing the results more than smaller groups. For instance, if you run a query on college students who are either Asian or Hawaiian Native/Pacific Islander, because there are so many more Asian college students than Hawaiian Native/Pacific Islander college students, the states and zip codes that score the best will do so because they have relatively large Asian populations, not large Hawaiian Native/Pacific Islander populations.
4. American Indian/Alaskan Native: The National Center for Education Statistics (NCES) definition is “A person having origins in any of the original peoples of North and South America (including Central America) who maintain cultural identification through tribal affiliation or community attachment.”

5. Asian: The NCES definition is “A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.”

6. Black: The NCES definition is “A person having origins in any of the black racial groups of Africa.”

7. Hispanic: The NCES definition is “A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.” This group includes people from all racial groups who are Hispanic: They would be counted in the Hispanic group and not in any other racial group.

8. Hawaiian Native/Pacific Islander: The NCES definition is “A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.”

9. Two or more races: This includes students who identify as being non-Hispanic and being of two more racial groups. A student who is both Hispanic and identifies as two or more races will be coded as Hispanic.

**Gender**

You must select either “male and female,” “male,” or “female.” All students are included in either “male” or “female,” and all students are included in “male and female.”

**Screen Four: Modify Priorities of Populations (Advanced Selection Only)**

If you select the advanced option instead of the quick option, you will be shown the “Modify Priorities of Populations” screen seen, shown in Figure 2.4, which allows you to change the relative weights of the populations. If you have only selected one population (for instance, high school students from highly ranked schools), you will still be shown this screen, but there will be nothing you can modify. But if you have selected multiple populations (for instance, students from selective colleges and students from other colleges), you can modify the weighting by determining which one you want to be more important. You can do this by selecting the population you want and then using the up and down buttons to select which one you want to be more important. Appendix A goes into more depth regarding weighting procedures.
Screen Five: Result Type Selection

In the “Result Type Selection” screen, shown in Figure 2.5, you choose between two options for the kind of output you’d like. You will have the option of changing this again in the results page.

1. Evaluate a site: Here, you enter a zip code to search, and DORESS generates output for that zip code and surrounding areas.
2. Allocate funding: This gives ranked results for all states and then, within each state, ranks each zip code.
Screen Six: Results

*Evaluate Mode*

If you selected “evaluate mode,” your results will look like Figure 2.6. (The map itself may look different, depending on what layers you have selected and how zoomed in you are.) This is the result of a query for information on minority students from selective colleges and minority students from other colleges, both male and female, for the zip code 60626.
In Figure 2.6,

1. This box shows what your query is. In this case, it’s minority students from selective colleges and minority students from other colleges, male and female.
2. This shows whether you’re in allocate mode or evaluate mode. In this case, we’re in evaluate mode.
3. This shows the zip code that DORESS is evaluating. It also shows the number of miles around the zip code that are being evaluated. You can change both of these from this screen.
4. Since we’re in evaluate mode, this shows the information about the area around the zip code you selected in the previous screen. It outputs results that show the rankings of zip codes in terms of the criteria you’ve selected for zip codes within 25 miles of your chosen zip code. It also shows the national ranking of each zip code that is shown. For instance, 60626 has the rank 74 nationally. If there are zip codes that don’t have any of the population being inquired about, they will not show up here.

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This distance is measured in terms of the distance from the center of one zip code to the center of the other zip codes.
5. Selecting “Wizard” will take you to the previous screen, where you can enter a different zip code and switch modes. You can also use the back button to change what indicators you want your results to be based on.

6. The map will center in on whatever combination of states and zip codes you have selected. For instance, right now it’s centered on Chicago, IL, zip code 60626.

7. This is the layers button. If you select it, you can change certain map appearance options. For more on this, see Chapter One. To change the level of magnification, use the +/- buttons next to the layers button.

8. The light-pink borders outline the zip code selected, in this case 60626.

9. The pie charts reflect the size of each selected population, by county. In this case, green corresponds to minority students from selective colleges and red to minority students from other colleges. (The legend is shown at the bottom of the map.) For more on how to turn this off and on and how the size of the pie charts are calculated, see Chapter One.

10. Selecting “zip datasheet” will give you information on the zip code selected, including the high schools, colleges, and Air Force resources in and nearby that zip code, and how many each school has of your population of interest. It will look like Figure 2.7.

11. This feature switches the output from allocate to evaluate mode using the current zip code selected.
Allocate Mode

If you selected “allocate funding” and zoom in, your results will look something like Figure 2.8. (The map itself may look different, depending on what layers you have selected, as described in Chapter One.) This is the result of an advanced selection of minority students from selective colleges and minority students from other colleges, both male and female, in which the students from selective colleges are weighted as a higher priority than the students from other colleges.
In Figure 2.8,

1. This shows what your query is. In this case, it’s minority students from selective colleges and minority students from other colleges.
2. This shows whether you’re in allocate mode or evaluate mode. Here, we’re in allocate mode.
3. Since we’re in allocate mode, this shows the states sorted from highest to lowest by whatever criteria you’ve chosen. In this case, we’ve chosen minority students from selective colleges and minority students from other colleges. The top state is California, followed by New York, Florida, and Texas. You can select any of the states, and additional information about them will appear in the lower-left panel. By holding down the CTRL key, you can also select multiple states. Scroll down to see lower-ranked states.
4. This provides additional information about the state you have selected in #3. It shows the top 25 zip codes in order of ranking by your selection criteria. If there are fewer than 25 zip codes that have the population you’ve selected, all of the zip codes that have that population will be displayed.
5. Selecting “Wizard” will take you to the previous screen, where you can enter in a different zip code and switch modes. You can also use the back button to change what indicators you want your results to be based on.
6. The map will center in on whatever combination of states and zip codes you have selected. For instance, right now it’s centered on California zip code 92617.

7. This is the layers button. If you select it, you can change certain map appearance options. For more on this, see Chapter One. To change the level of magnification, use the -/+ buttons next to the layers button.

8. The light-pink borders outline the zip code selected, in this case 92617.

9. The pie chart represents county data for the student types we’re searching for. For instance, since the pie chart is about half red and one quarter green, there are about as many minority students from selective colleges as minority students from other colleges. (The legend is shown at the bottom of the map.) The size of the overall pie chart also contains information: A bigger pie chart means the county has more total students in whatever the populations of interest are. For more on the exact relationship between number of students and pie chart size and how to turn this on or off, see Chapter One.

10. This feature switches the output from allocate to evaluate mode using the current zip code selected.
This chapter will walk you through how to use DORESS for a particular scenario: recruiting black students from highly ranked high schools for enlistment or recruiting into commissioning programs (Air Force ROTC, Officer Training School, or the Air Force Academy). The criteria for inclusion among these high schools include graduation rates, difficulty of curricula (Advanced Placement [AP] or international baccalaureate [IB] classes or tests), acceptance into college, and test scores for their population demographics; students themselves are not ranked.

You can read more about this population and where we got the data in Chapter Two. The rankings data were published in 2012 from 2011 and 2012 data. The data on the number of students are from the 2012–2013 school year and come from the National Center for Education Statistics (NCES).

We’ll go through how to use DORESS for allocating resources when you don’t have any specific geographical preferences, evaluating a specific area, and planning an event after you’ve chosen the general area.

Setting Up

Regardless of whether you want evaluation or allocation results—that is, whether you want results based on state or results based on distance from a particular zip code—the initial setup is the same. Because we’re interested in black male and female students from highly ranked high schools, we select those boxes below (Figure 3.1). This can be done in either a quick or an advanced selection, but below is the quick-selection screen.
Evaluating a Specific Area

If you already have a particular geographic area in mind, you should select “evaluate a site” from the result type selection screen. This will evaluate the zip code you enter as well as the nearby zip codes, and you will able to adjust how far away you’d like to look. This would be useful, for example, when someone on a particular base or running an Air Force ROTC program has expressed interest in doing an event. This is not the result type you should use if you want to evaluate on the state level—we’ll go through that in the next section, on allocation.

We’re now going to look for black high school students from highly ranked schools close to the Pentagon, which is located in zip code 20301. You can get information on this area by selecting “evaluate a site” in the “result type selection” screen and then entering that zip code. Even if the population you’re looking for doesn’t exist in that exact zip code, DORESS will still provide information on the general area.

Entering that zip code results in the screen shown in Figure 3.2. (The exact map will vary depending on how zoomed in you are and what map options you have selected.)
Figure 3.2: Evaluate Mode for Black Students from Highly Ranked High Schools

The “Zip Datasheet” tab shows student populations and Air Force resources within 25 miles of the chosen zip code, including how many students in your population of interest attend each school. (You can change both the zip code and the number of miles to search from this screen.) At this point, we recommend zooming in, selecting the layers button ( ) at the top of the map, and turning on “Population Totals.” (For more about the different layer options, see Chapter One.) This will turn on population labels for each county, which show the number of people in each county who are part of the searched-for population—in this case, black high school students from highly ranked schools (Figure 3.3).
We see from these results that there is significant variation by county in terms of the number of black students from highly ranked high schools, and that Montgomery and Ann Arundel County in Maryland and Fairfax and Prince William in Virginia have by far the highest populations in the area. These are all within about 25 miles (or slightly more) of the Pentagon zip code we searched for.

Based on these results, we’re going to choose to do a recruiting event in Montgomery County. The next section discusses how to do a query in “allocate funding” mode.

Allocation

If you’re interested in recruiting a particular population but have no initial geographical preferences, or your preferences are tied to a particular state (or multiple states), you should select allocate mode to get results for the whole country, broken down by state. You can do this by selecting “allocate funding” in the “result type selection” screen. (If you’re starting out from the map output, you can get back to the result type selection screen by selecting the “Wizard” button.) We’ll continue to use the same population—black high school students from highly
ranked schools. The results will look like those in Figure 3.4. There will be some variation depending on your map settings, as described in Chapter One.

Figure 3.4: Allocate Mode for Black Students from Highly Ranked High Schools

You can see from Figure 3.4 that the states with the biggest populations of black students from highly ranked high schools are Florida, Georgia, and Maryland. Within Florida, the highest-rank zip codes are in Miami, Tampa, Hollywood, Fort Lauderdale, and Orlando. Any of these areas might be good places to target diversity recruiting resources. You can also get zip code results for multiple states by holding down the CTRL key and selecting more than one state. We will further explore how to plan an event once you’ve already selected an area in the next section.

Planning an Event

In the “Evaluating a Specific Area” section, we got results on where in the Washington, D.C., area our population of interest, black students from highly ranked high schools, was located. Now we can start planning a recruiting event. Because Montgomery County has the most students of interest, we’re going to look further at that area. To do this, select the “Nearby Zip
Codes” tab, click on “County” to sort by county, and scroll down to the Montgomery County zip codes. Clicking on a zip code will show where it is in the map: 20855 is in the middle of Montgomery County, so enter that into the “Search Zip” box and change the maximum range to 10 miles to look closer in. The beginning of the output, copied and pasted into a Word document, is shown in Figure 3.5.

**Figure 3.5: Zip Datasheet for 20855 for Black Students from Highly Ranked High Schools**

Within 10 miles of zipcode 20855
Montgomery (MD)

28 zip codes, containing selected populations:

<table>
<thead>
<tr>
<th>Population Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students from Highly-Ranked High Schools, Black, Male and Female</td>
<td>5975</td>
</tr>
</tbody>
</table>

Nearby Resources:
Resource: **AF Recruiting Office**

<table>
<thead>
<tr>
<th>Name</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAITHERSBURG RO (Google Search)</td>
<td>3</td>
</tr>
<tr>
<td>ROCKVILLE RO (Google Search)</td>
<td>4</td>
</tr>
</tbody>
</table>

(2 AF Recruiting Offices)

Resource: **High School**

<table>
<thead>
<tr>
<th>Name</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAMES HUBERT BLAKE HIGH (Google Search)</td>
<td>8</td>
</tr>
<tr>
<td>Students from Highly-Ranked High Schools, Black, Male and Female: 797</td>
<td></td>
</tr>
<tr>
<td>SPRINGBROOK HIGH (Google Search)</td>
<td>10</td>
</tr>
<tr>
<td>Students from Highly-Ranked High Schools, Black, Male and Female: 711</td>
<td></td>
</tr>
</tbody>
</table>

Next to each high school, you can see how many students there are in your population of interest: For instance, James Hubert Blake High is a highly ranked high school with 797 black students.\(^5\) Clicking on “Google Search” will bring up more information on each high school. This tab also generally contains results on nearby colleges and Air Force resources, including bases, recruiting stations, and Air Force ROTC detachments. In this case, there are no nearby colleges, bases, or Air Force ROTC detachments, but there are two nearby recruiting stations: one in Gaithersburg and one in Rockville. These may be useful resources to enlist in your

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\(^5\) Keep in mind that the rankings are from 2012, and the number-of-students data are from the 2012–2013 school year.
recruiting event. If you want to find a nearby Air Force base or Air Force ROTC detachment, you can expand your search by increasing the number of miles: You’ll find that Bolling Air Force Base, the Pentagon, and Air Force ROTC detachments at Howard University and University of Maryland College Park are all within 20 miles.
Appendix A: The Weighting System

This describes the weighting system for queries involving multiple populations. There are two broad points to keep in mind:

1. DORESS weights (both for states and zip codes) are based on ranks rather than absolute counts. This is to keep larger populations (such as high school students) from automatically being more important than smaller populations (such as college students) when your query includes populations of different sizes.

2. Populations that are listed higher in the “Modify Priorities of Populations” screen are weighted more highly. For instance, if there are three populations listed, the first will be weighted at three times the importance of the third, and the second at twice the importance of the third.

Table A.1 shows an example using a query of minority students from selective colleges and minority high school students from highly ranked high schools. In this query, we’ve made the college student population a higher priority on the “Modify Priorities of Populations” screen.

Table A.1: Example of Weighting State Ranks in an Advanced Search

<table>
<thead>
<tr>
<th>States by Overall Ranking</th>
<th>Students from Selective Colleges</th>
<th>Students from Highly Ranked High Schools</th>
<th>2* College Students + High School Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Florida</td>
<td>3</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Texas</td>
<td>4</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>New York</td>
<td>2</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Virginia</td>
<td>7</td>
<td>4</td>
<td>18</td>
</tr>
</tbody>
</table>

The first column shows the top five states in the overall query results in the order they appear. The second column shows how they perform just on the “students from selective colleges” component, and the third column shows how they perform on the “students from highly ranked high schools” component. The final column is two times the second column (since we made college students a higher priority on the “Modify Priorities of Populations” screen) plus the third column. As with the component scores, the lowest score corresponds to the highest rank. The last column of numbers are not relevant in a cardinal sense—it’s not meaningful that California is “3” and Florida is “8.” They are only relevant in an ordinal sense: California’s number is lowest, so it’s ranked first.

It doesn’t come up in this scenario, but ties are settled alphabetically: The state that comes first alphabetically is ranked higher. In the case of zip code ties, the winner is the one whose state comes first alphabetically. If they’re in the same state, the tie is decided on the basis of county or if counties are the same, on the basis of city name.
Appendix B: Google Earth

This is a brief guide to using Google Earth with the layer we’ve created as part of the DORESS software package. It will go over what we’ve included in that layer and provide some basics on how to interact with the program. Google Earth will start, incorporating the layer we’ve created, if you select “View AF Resources in Google Earth” from the File menu in DORESS. If you haven’t already, you’ll need to download Google Earth for this to work. You can do that from http://www.google.com/earth. You can also find additional documentation if you still have questions at https://support.google.com/earth/.

On the layer we’ve created for Google Earth, all of the same Air Force resources are displayed as in DORESS, but only a few student populations are present. If you want anything more or less granular, you’ll need to use the DORESS interface. When you select “View AF Resources in Google Earth” and you have Google Earth installed, you’ll get the screen shown in Figure B.1.

Figure B.1: Google Earth Initial Screen
Here, like in DORESS itself, sideways planes represent Air Force bases, red stars represent Air Force ROTC programs, and blue stars represent recruiting stations. The circles represent high schools and college student populations: yellow for minority students from both highly ranked and other high schools, purple for minority students from high-ranking high schools, green for students from both selective and other colleges, and blue for minority STEM students from both highly ranked and other colleges. The size of all of the circles here representing student populations is proportionate to the size of those student populations, and the data for all of these is consistent with the data in DORESS.

Figure B.2 shows a more zoomed-in view from the D.C. area with the “sightseeing tour” box on the left-hand size unchecked and the “Tour Guide” section at the bottom of the screen hidden.

You can see in the figure the airplanes at the Pentagon and Bolling Air Force Base, the red star for the University of Maryland College Park’s Air Force ROTC detachment, and the blue stars for the recruiting stations. There’s also a red star for Howard’s Air Force ROTC detachment, but it’s hidden under the green circle representing Howard’s student body. If you select the circle representing Howard, Google Earth will also show you the red star underneath it. This is always the case for when some graphics cover others: If you click the top graphic, you’ll
be shown all of the options. You can see an example of this in Figure B.3 for Howard University. The red star is for Howard’s Air Force ROTC program, the green circle represents its college student population, the blue circle its STEM majors, and if you select the pushpin labeled “A,” you’ll get some information about Howard. The purple and orange circles represent nearby high schools.

**Figure B.3: Howard University and Nearby Locations**

![Map of Howard University and Nearby Locations](image)

Google Earth has two major disadvantages over the DORESS interface. The first is that only certain student groups are displayed on the map: total high school students, high school students from highly ranked schools, total college students, and total minority STEM students. If you want a different student population, you need to go through the DORESS interface. The second is that you can’t automatically aggregate these data: You can only look at it for particular schools, not for whole areas as with DORESS. If you wanted to know, for instance, how many college students there are in a particular zip code, or within a particular distance of that zip code, you’d have to add the individual school numbers up in Google Earth. In DORESS, you can just perform a query, and those numbers will be aggregated automatically in the “Zip Datasheet” tab. (For more about this, see Chapter One or Chapter Two.)

However, Google Earth is a significantly more flexible program with a lot more available content than DORESS. If you’ve already been using it and have locations that are relevant for recruiting marked, adding this layer to your existing maps may be particularly useful. If you haven’t been using it, there is content available that you may want to explore: For instance, there are files available online that will add congressional district boundaries or county boundaries. (We are not including links because of concerns that they may become out-of-date quickly.)
Below are a few more basic notes on how to get started in Google Earth. The purpose of this isn’t to be comprehensive. We’ve found Google Earth to be fairly intuitive, and, as mentioned previously, there is significant documentation already available.

- **Turning off certain places or populations:** If you want to not see certain populations or places, you can deselect them from the boxes on the left-hand column. Under temporary places/layers, there are checkboxes for each of the student populations included as well as for resources. Under resources, there are boxes for AF Recruiting Office, AF ROTC Detachment, and AF Bases. You can uncheck any of these, and that category will no longer be displayed on the map. You can also expand any of these categories and uncheck them individually: For instance, if you no longer want a particular recruiting station displayed because you know it’s recently closed, you can uncheck that.

- **Looking at a particular location:** Type the location in the top, left-hand corner “search” box. Unlike DORESS, you have a lot of freedom in terms of how you search for a location. You can enter an address, zip code, city, state, or country, or even the name of a particular location (such as a high school, college, or military base), and it will not only generally find it but also zoom into an appropriate level of magnification. If you search for something more generic (the author tried hotels), it will find one or more near the location where you’re beginning from and then offer some possible options to choose from in the search box, similarly to how Google Maps operates.

- **Turning on or off standard locations:** Under “layers,” you’ll see the primary database. This is what comes standard with Google Earth, and it includes things such as roads, weather, and places, which includes places such as airports. You can turn these on or off with the checkboxes as well.
References

The *Daily Beast*, “America’s Best High Schools 2012,” 2012. As of July 25, 2013:


http://www.usnews.com/rankings

http://apps.washingtonpost.com/local/highschoolchallenge/schools/2013/list/national/