

Hawaii Physical Geography: Tutorial

⚠ This is a preview of the published version of the quiz

Started: May 18 at 1:51pm

Quiz Instructions

This quiz serves as a tutorial for the Hawaii Geovisualization Physical Geography lab. The idea is by reading and answering the questions - you will be more confident in working on the real labs that follow.

PREREQUISITE WARNING: This tutorial quiz must be completed with a perfect score for you to gain access to the rest of the Hawaii labs. You can take this quiz as many as 7 times. However, we hope that you find this tutorial easy enough to get all the answers correct the first time.

Heads up: some of the questions have a **very large question pool** (dozens or even over 100 similar questions), and so you will see a different question for questions using these pools each time you take a quiz. We do this because we want you to learn how to obtain information from the game environment for yourself (and not get the answer through random repeat taking the quiz or help from outside sources), or you will have confusion and problems in the later labs.

If you are new to video games: it is not cheating in this class for you to get "help" from someone more experienced in playing video games. In some cases, this might be the child of a parent student. In other cases, it might be a friend to show you the ropes. Simply having someone else "manipulate the avatar" or "manipulate in game camera" is a great place to get comfortable. That way, you can concentrate on getting the physical geography information you need to complete the lab. And also, after a bit, you'll feel a lot more comfortable on your own.

Question 1

0.25 pts

All of the geovisualization (games) are available for purchase. The total cost for all of the geovisualizations less than what an on ground student would pay for a physical lab manual. The cost of a single geoviz like Hawaii is \$15. This was explicitly indicated in the syllabus link on ASUs registration site. There are no other costs for GPH 111 or GPH 112 other than these geovisualizations. *[If you are using a game downloaded by a friend, this is a violation of the law; besides, an older version of the game could result in you having wrong answers since these labs are periodically updated to match game updates.]*

This is the website for the Hawai'i (Big island) Physical Geography:

https://gamejolt.com/games/2BC_bigIslandofhawaii/469026

https://gamejolt.com/games/2BC_bigIslandofhawaii/469026

You cannot use your phone, a chromebook, or a tablet. You must have a Mac or a Windows operating system computer.

THIS QUESTION: go to the website and look at the Recommended Requirements for a computer to work with the geovisualization. What answer matches those recommended requirement?

THIS IS THE ANSWER:

OS: Windows 10, macOS Catalina

System type: 64-bit operating system (x86-64)

Processor: Intel Core i5-7400, or equivalent x86-64 (ARM not supported)

Graphics: Radeon Pro 555, Nvidia GeForce GTX 1050, or equivalent

System Memory: 8 GB RAM

Storage: 500 MB Hard drive space

- OS: Windows 10, macOS Catalina System type: 64-bit operating system (x86-64) Processor: Intel Core i5-7400, or equivalent x86-64 (ARM not supported) Graphics: Radeon Pro 555, Nvidia GeForce GTX 1050, or equivalent System Memory: 8 GB RAM Storage: 500 MB Hard drive space
- A chromebook
- A tablet
- Any smart phone

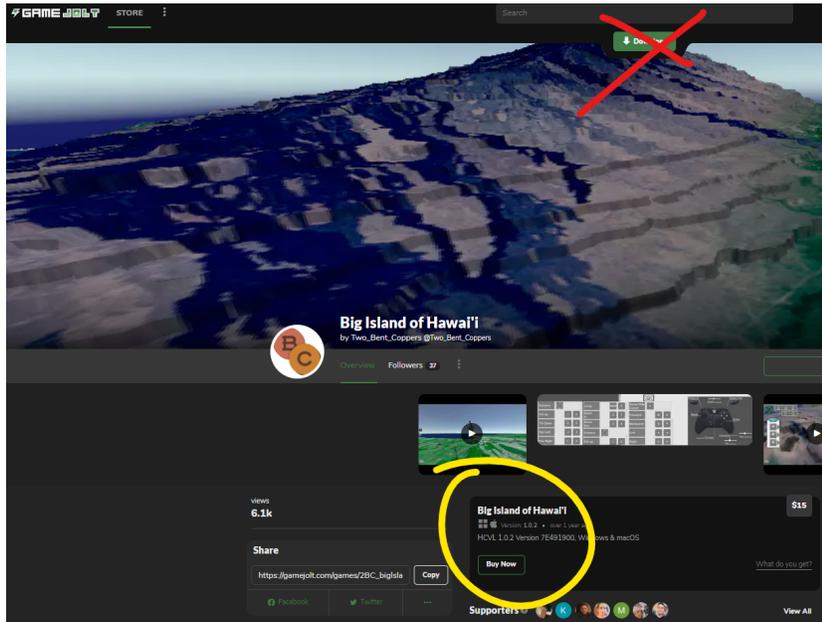
Question 2

0.25 pts

You do not need to register with Gamejolt to obtain the geovisualization.

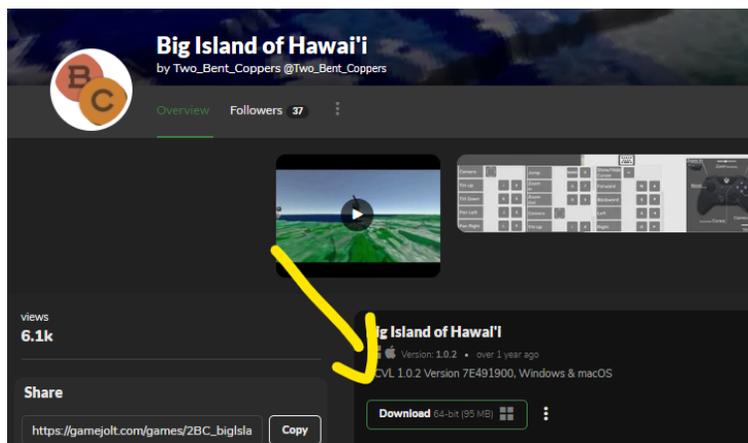
The geovisualization does not do anything special when it installs on your computer. It can be removed simply by trashing it. The geovisualization does not gather any data from your computer, and you do not have to be connected to the internet when you "play" it. The idea is that there is zero security risk associated with running the program on your computer. The geovisualization program is equivalent to a map with physical geography data where you use the avatar and in-game camera to explore those data to interpret physical geography.

The first thing you'll need to do is click on the "Buy Now" button below the title picture. The "Download" button at the top won't work until that has been done - you'll get an error message until then.

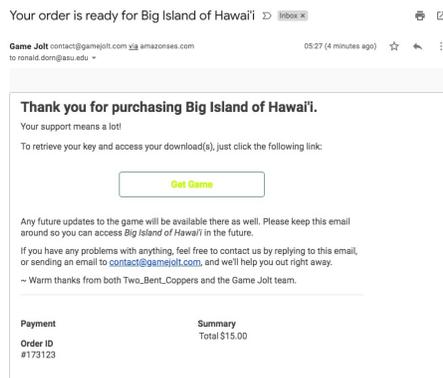


Then, once purchased, BE SURE THAT YOU SCROLL DOWN AND CLICK ON THE DOWNLOAD LINK. SOMETIMES, STUDENTS STOP WITH THE SITE REGISTRATION LINK - AND NEVER SCROLL DOWN TO DOWNLOAD.

Look carefully at the bottom of this image. Hit that download button! After you download, please SAVE THE ZIPPED FILE. Do not trash it. Keep it safe in case you need to do the installation all over again.



After you purchase, you will be sent an email like this one. Please do not delete that email. It has important information in case you need to download again.



IF YOU ARE USING A MAC with the M1 processors chips, [you will need to follow these installation instructions.](#)

If you need to re-download a game, please [read this guidance from Two Bent Coppers.](#)

THIS QUESTION: Did you save the email from Gamejolt, so you can re-download the program again if you need to?

- Yes. I saved the email.
- No. Did not save the email

Question 3

0.25 pts

The most common troubleshooting issues that students report for a Mac and for a Windows are covered here and the question in this tutorial quiz will give you a correct answer for either the Mac or the Windows solution. If you have another issue read the bottom paragraph carefully.

FOR MAC

Sometimes, students with Macs will get an error saying that the "geovisualization game" is from an unidentified developer. The developer is authorized to develop for Mac, but this error sometimes pops up. There are a few ways to figure this out. On the .exe file for the game in

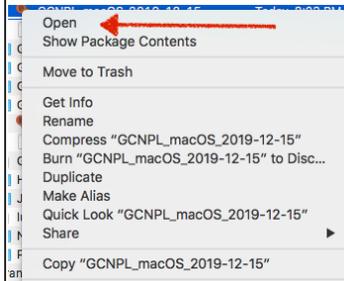
FOR WINDOWS:

If you are not used to downloading programs, here are some hints:

- 1) You don't need any code. Just double click on the zipped file.

question, try using the Apple Command Key and the letter O at the same time to open.

Opening for the first time a geovisualization video game on Mac: the biggest issue most will face will be for Mac users will be if your computer says the the application is from an unidentified developer. To solve this problem, just "control-click" the app icon.



That means, you hold down the control button on the keyboard, and you double click on the icon. Then, simply choose Open from the shortcut menu.

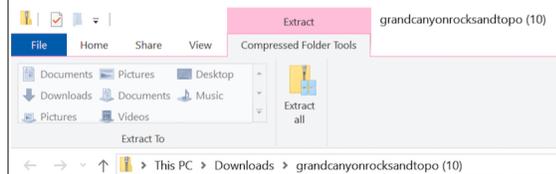


Then, when you open the game again, you won't have any problems.

You can also try following the instructions here: <https://support.apple.com/guide/mac-help/open-a-mac-app-from-an-unidentified-developer-mh40616/mac> (<https://support.apple.com/guide/mac-help/open-a-mac-app-from-an-unidentified-developer-mh40616/mac>).

A geography peer mentor in our class created [this PDF file](#) that is a flow of what he did to purchase the Mac version.

2) After you double click on the zipped file, you still need to extract ALL:



3) Then, you should see the real folder in your downloads, and inside the real extracted folder, you should see the .exe file with the Two Bent Coppers logo:



Now, the game should play. But if you get a message **"Windows protected your PC. Windows SmartScreen Prevented an unrecognized app from starting. Running this app might put your PC at Risk"** - the solution is easy. Click on More Info Link, and click run anyway button.

4) If you want to move your Windows game on your computer, you will need to move the entire folder. So if you move it from downloads to a GPH 112 folder on your computer, just move EVERYTHING in the folder.

Other issues might arise. If so, please post your issue to the [discussion board](#) and contact your instructor. When you post your issue to the discussion board on troubleshooting game issues - make sure you indicate (a) your computer type; (b) your operating system; (c) your RAM; (d) space available on your computer. Also, it is very helpful to take a screenshot of what you are experiencing (ideally, not with your phone). By posting your issue (ideally with a screenshot of what you are seeing) -- everybody can learn from your experiences and also of the solution.

QUESTION: For your computer's operating system (Mac or Windows), what is the most common troubleshooting issue to arise experienced by other students?

- For a Mac, use the Apple Command Key and the letter O at the same time to open. For Windows, you need to extract ALL after you double click on the zipped file
- I'm using my phone, so it doesn't matter

Question 4**0.25 pts**

Most students will want to toggle between a game and other applications. There are two ways to do this: before you open the game and while the game is playing. The best way to toggle is to change the resolution of the game (lower than full screen). So this question focuses on changing the game before you start playing.

BEFORE YOU OPEN THE GAME IN WINDOWS: hold down the SHIFT KEY when you double click on the application. You will be given access to the Unity presets to make the game windowed. Just pick any lower resolution, and the game will be a window on your desktop.

BEFORE YOU OPEN THE GAME IN MAC: hold down the OPTION KEY when you open the game. You will be given access to the Unity presets to make the game windowed. Just pick any lower resolution, and the game will be a window on your desktop.

WHILE THE GAME IS PLAYING: Hold down the (MAC - hold down Apple command button and hit tab; WINDOWS - hold down the Windows Icon Key and hit tab (or, **some windows keyboards its Alt Key and Tab**), and the game will move to the task bar.

THIS QUESTION: For your computer's operating system, select the answer that explains how you can toggle between the geovisualization and another program before you open the geovisualization?

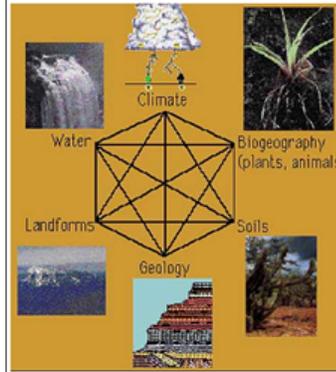
- I will be using my phone for the games, so this doesn't matter
- For MAC: hold down the OPTION KEY when you double click to open the game. You will be given access to the Unity presets to make the game windowed. Just pick any lower resolution, and the game will be a window on your desktop. For WINDOWS: before you open the game, hold down the SHIFT KEY when you double click on the application. You will be given access to lower the resolution (to make it windowed). Just pick any lower resolution and the game will be a window on your desk top.

Question 5**0.25 pts**

This is a three part tutorial question - that deals with frustrations that students sometimes have when the Hawai'i geovisualization starts.

Question Part 1: Why does it take so long for the game to boot up after I click start? Sometimes, I wait for several minutes.	The real-world data being displayed is enormous in size. When your avatar stands on top of a volcano, you are visualizing that data. Everytime you move the camera, those data are reprocessed for accurate display. It just takes time for your computer to do the processing. This is not like a movie that is a frame. Its a real-time display of a lot of data.
Question Part 2: I noticed that my computer fan clicks on soon after the game starts up, and then after a few minutes, the fan goes off. Why is this and should I worry?	Processing all of the Hawai'i data should heat up your processor and graphics card. That's why the fan clicks on. But once the initial processing is done, and your fan has cooled your processor, it will typically click off. This is the way computers are designed to work. Don't worry.
Question Part 3: If the other 'games' are much quicker to boot up (lightning, 2 Grand Canyon geovisualizations), why not switch the suggested order to have Hawai'i last?	The Hawai'i lab exemplifies what is unique about physical geography as a science. Its not just geology (volcanoes). Its not just weather and climate (atmospheric science). Its not just ecology (biology). Physical geography is about

how all of the different processes interact to produce the spatial landscape you analyze in this lab.



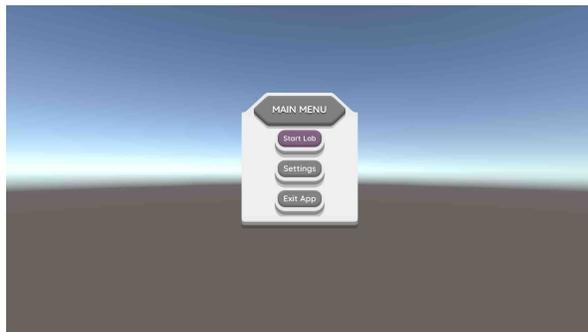
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3. The Hawai'i lab exemplifies what is unique about physical geography as a science. Its not just geology (volcanoes). Its not just weather and climate (atmospheric science). Its not just ecology (biology). Physical geography is about how all of the different processes interact to produce the spatial landscape you analyze in this lab.

Please do not click this answer

Question 6

0.5 pts

Waiting for the geovisualization to build can be frustrating. The expectation is that programs should run fast. Please be patient. It could take a bit of time for the virtual world to be built after you click the "Start Lab" button. The reason is that lower-end computers need more time to process all the data for the entirety of the Big Island of Hawai'i for you to play. If you try to rush things by clicking buttons, you will probably crash your computer and have to restart everything. Just be patient.



The Hawaii geovisualization has a huge amount of data for your avatar to interrogate. There is specially processed **Landsat data** (http://www.shadedrelief.com/Big_Island/). There's meteorological data (rainfall, dewpoint) from **NOAA** (<https://www.ncei.noaa.gov/products>). There's elevation data. Unlike a program like Google Earth or a videogame, these data are not smoothed to make things look pretty. Data exist as pixels (picture element in a raster image), and

because these data are real -- they are displayed at the appropriate real resolution of 30 meters - smoothing out data imparts some level of error that could lead to misinterpretations in the game, so we choose keep the data as it is, in its highest resolution.

This is a screenshot of the Hawai'i geovisualization when it starts up. Look carefully at the green color that the rabbit avatar is looking at. Notice that you are seeing squares. These squares are the pixels. You'll learn about how to interpret the green color later.



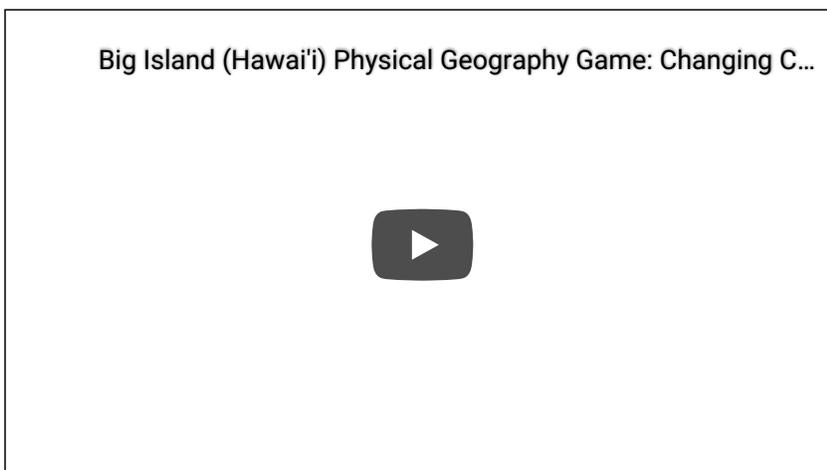
Question: What is the resolution of the real data displayed in the Hawai'i geovisualization and why does it take so long for the data to load?

- The world looks too pixelated, this data must have a resolution of over 1 kilometer
- The real scientific data you interact with exist as a pixel of 30 m resolution. The game takes so long to build, because there's a huge amount of data at that resolution for the entire Big island of Hawai'i

Question 7

0.25 pts

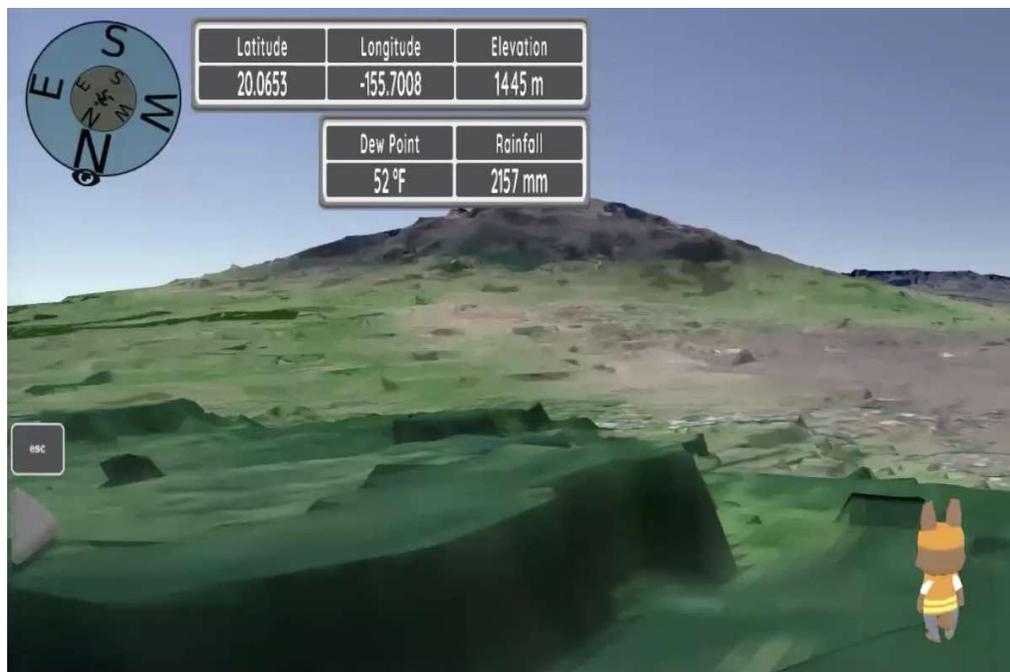
This is a 4 minute Youtube that Professor Dorn made about when the game starts up, and **at 3 minutes, I show how to change the color ramps** that are used to display the physical geography data. Watching this video is not required to do this question, but it might help you.



The question for this tutorial is all about understanding what you see in the upper left hand corner of the game. The information in the five boxes is for where the avatar is standing.

- Latitude - positive means northern hemisphere
- Longitude - negative means western hemisphere
- Metric - elevation and rainfall in meters and millimeters

- Imperial - dew point temperature is in °F, for the same of familiarity
- Outer compass ring: direction the camera faces
- Inner compass ring: direction the avatar faces



Question: To obtain specific physical geography information in a geovisualization, you move the avatar to the specific location pixel and obtain quantitative (numerical) data from the information in the readout boxes.

- False
- True

Question 8

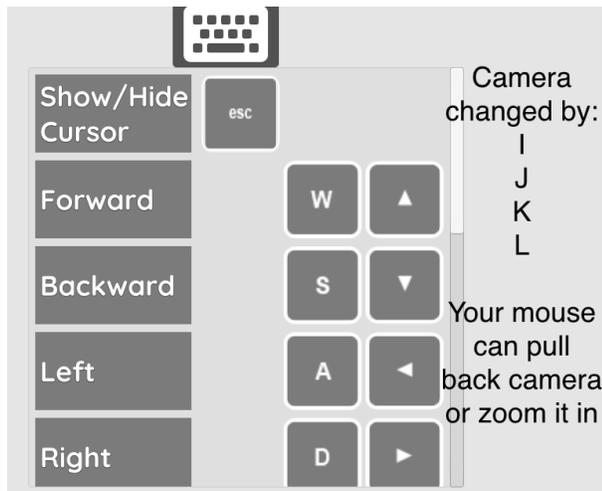
0.5 pts

Moving around and changing camera angles takes getting used to if you are new to playing video games.

To make the avatar jump - you hit the space bar.

To make the avatar move forward or backward or turn - look at the short keys below.

Try making the avatar move forward and jump at the same time (for example, hitting the up arrow and the space bar both).



Learning how to manipulate the in-game camera will really help you a lot. The game starts with the camera close to the avatar and behind the avatar. But pulling the game camera further back will help you see a bigger area. You can use IJKL on your keyboard, or your mouse pad. Many students find it much easier to plug in a USB mouse or a trackball (using the ball and the ring around the ball). If you have a windows computer, you can also try a game controller.

QUESTION: How do you make the avatar move forward and jump at the same time?

- Hitting the escape button
- Using your mouse
- Hitting the up arrow (or w key) and the space bar on your keyboard

Question 9

0.5 pts

Moving back and forth between the geovisualization and another program on your computer will be very helpful. You already know that one key is shrinking the game window so you can toggle back and forth between programs. A second key is the ESC (escape) button on your keyboard. Hitting escape will make the game cursor appear and then disappear. Try it.

QUESTION: How do you make the game cursor disappear or reappear?

- the delete key on your keyboard
- the control button on your keyboard
- hit the escape button on your keyboard
- the option key on your keyboard

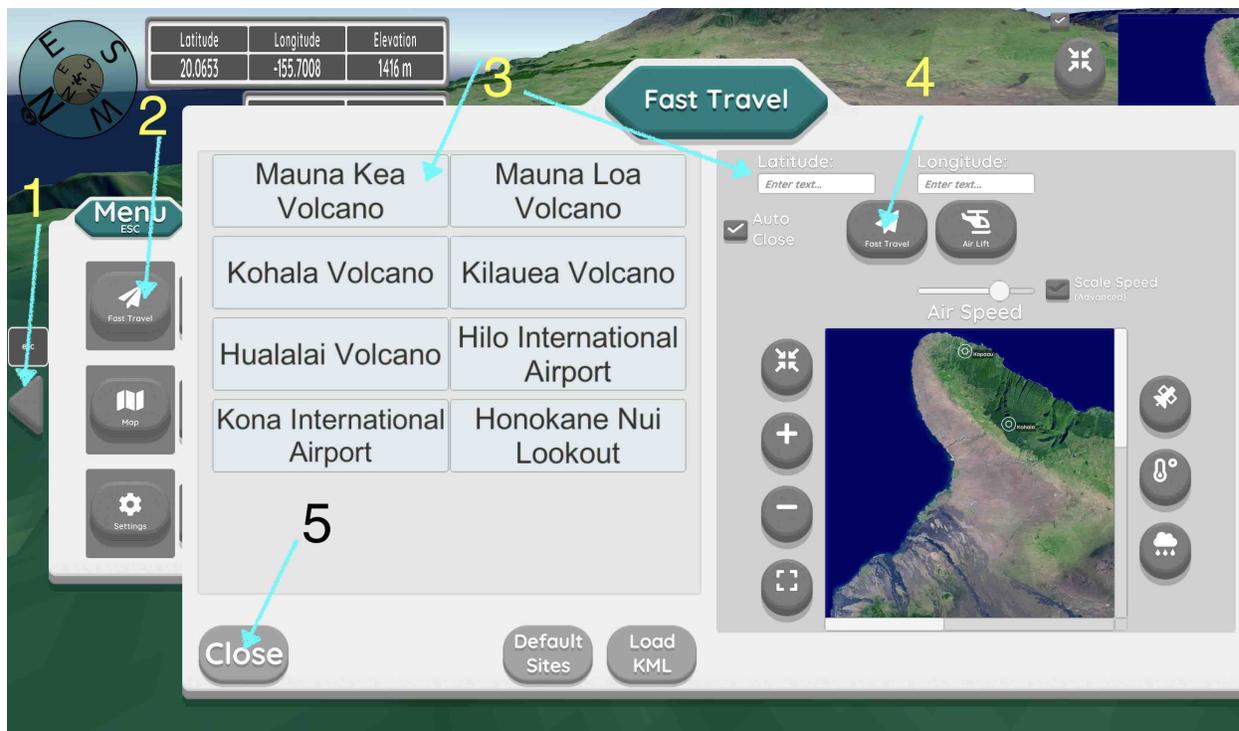
Question 10

0.5 pts

QUESTION: In Fast Travel enter latitude 19.2793 and longitude -155.8376, and go to this location. Write down the elevation you see in meters. What is it?

You will be using "Fast Travel" a lot if you want to do the lab quickly.

- First - you open the menu using the arrow on the left side of the geoviz.
- Second - you click on Fast Travel
- Third - you enter the coordinates
- Fourth - click on the fast travel paper airplane icon and go



WARNING: There is a giant pool of questions and answers ... literally hundreds of questions in the pool. We are doing this giant pool in order to encourage students to actually go through this tutorial. In our experience, we know that students who skip the tutorial ... end up spending a lot more time being frustrated than those who go through all of these questions.

- 1475
- 875
- 1686
- 1416
- 1176

Question 11

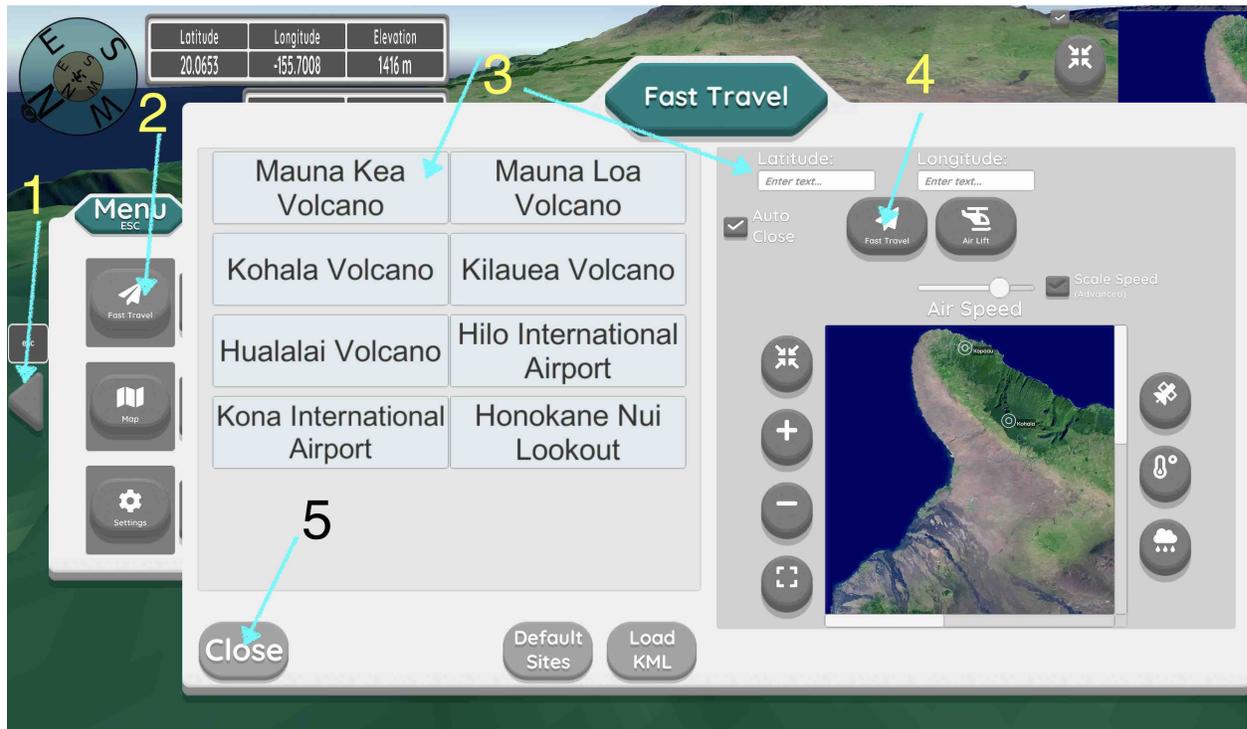
0.5 pts

Question: Fast travel to latitude 19.4806 and longitude -155.5814 and look at the rainfall at this location. Select the answer that matches the rainfall readout (in millimeters) you see in the geovisualization.

DETAILS: will be using "Fast Travel" a lot if you want to do the lab quickly.

- First - you open the menu using the arrow on the left side of the geoviz.
- Second - you click on Fast Travel
- Third - you enter the coordinates

- Fourth - click on the fast travel paper airplane icon and go



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- 926
- 539
- 1811
- 1688
- 732

Question 12

0.5 pts

QUESTION: Use Fast Travel to go to latitude 19.4981 and longitude -155.6077. Look at the dew point measurement in °F and select the answer that matches that measurement.

More detail: You will be using "Fast Travel" a lot if you want to do the lab quickly.

- First - you open the menu using the arrow on the left side of the geoviz.
- Second - you click on Fast Travel
- Third - you enter the coordinates
- Fourth - click on the fast travel paper airplane icon and go



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- 27
- 47
- 50
- 11

Question 13

0.5 pts

Sometimes, your avatar will run into a hole and cannot get out. Really. We're not making this up. You can try to jump out, but it is often not possible. Fortunately, you can use Fast Travel to get out.

This youtube video shows you how you can use Fast Travel using the INSET MAP in fast travel to pop out of the hole close to where you jumped in: [Getting out of holes \(https://www.youtube.com/watch?v=e7Nn_JR5RLs\)](https://www.youtube.com/watch?v=e7Nn_JR5RLs)



Question: After watching the video, what are the steps you take to use the inset Fast Travel map to pop out of the hole close to where you got stuck?

- Step 1: Open up the Menu and find Fast Travel. Step 2: Use the slider bars to move the inset map close to where you are stuck. Step 3: click on the inset map to a nearby spot. Step 4: Click on the map and make sure the Latitude & Longitude coordinates were entered automatically in the data entries. Step 5. Click on the Fast Travel paper airplane icon. Step 6. Close.
- Uninstall the game and throw away your computer

Question 14

0.5 pts

If you want an overview of an area (or if you have a child "helping you" play the game), you may want to use the Helicopter option of fast travel. This YouTube video shows what the helicopter travel model looks like for Hawaii:

<https://www.youtube.com/watch?v=BfbKM--NO4I>
(<https://www.youtube.com/watch?v=BfbKM--NO4I>)



(<https://www.youtube.com/watch?v=BfbKM--NO4I>)

You first have to put the avatar in the location where you want the helicopter to "pick you up". Then, you select the location you want the helicopter to "go to" and in Fast Travel just select the helicopter icon. You can change the speed of the helicopter. You can also hit the space bar to have the helicopter "drop" the avatar -- something that kids often find amusing.

You will use this feature quite frequently at the beginning of each lab, so it will be helpful to play around with the helicopter feature, but we'll go into more detail within those labs themselves if you are unsure right now.

Big Island Flyover



QUESTION: Where do you find the helicopter travel option?

- In the Settings menu
- In the Fast Travel menu

Quiz saved at 1:52pm

Submit Quiz